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## 1.0 INTRODUCTION

The procedures contained in this manual include all the specifications, instructions and graphics needed to diagnose **2002 LH 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 module; i.e., if the DRBIII® shows a “no response” or “Bus +/- Signal 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 manual for the proper removal and installation procedure.

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

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

### 1.1 SYSTEM COVERAGE

This diagnostic procedures manual covers all 2002 Chrysler Concorde, Dodge Intrepid, Chrysler LHS and 300M models.

### 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

### 1.3 FUSES AND LIGHT BULBS

When replacing a blown fuse, it is important to use only a fuse having the correct amperage rating. The use of a fuse with a rating other than indicated may result in a dangerous electrical system overload. If a properly rated fuse continues to blow, it indicates a problem in the circuit that must be corrected.

When replacing HALOGEN bulbs, do not touch the new bulb with your fingers. Oil contamination will severely shorten bulb life. If the bulb comes in contact with an oily surface, clean the bulb with rubbing alcohol.

## 2.0 IDENTIFICATION OF SYSTEM

The vehicle systems that are part of the “body” system are:

- Airbag System
- Audio
- Chimes
- Climate Control Systems (Automatic and Manual)
- Door Ajar
- Electrically Heated Systems
- Exterior Lighting
- Instrument Cluster
- Interior Lighting
- Memory System
- Overhead Console
- Power Door Locks
- Remote Keyless Entry
- Speed Proportional Steering
- Vehicle Communications
- Vehicle Theft Security System
- Wiper/Washer

## 3.0 SYSTEM DESCRIPTION AND FUNCTIONAL OPERATION

The body system on the 2002 LH consists of a combination of modules that communicate over the PCI bus (Programmable Communication Interface multiplex system). Through the PCI bus, informa-

## GENERAL INFORMATION

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tion 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 its 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 Vehicle Communication section of this general information.

Always begin by reading the diagnostic trouble codes using the DRB. Next, look for the symptom in the Diagnostic Information and Procedures section of the Table Of Content located in the front of the book. This will direct you to the specific test(s) that must be performed.

### **Important Note:**

If the Powertrain Control Module has been changed and the correct VIN and mileage have not been programmed, a DTC will be set in the Airbag module. In addition, if the vehicle is equipped with a Sentry Key Immobilizer Module (SKIM), Secret Key data must be updated to enable starting. Refer to the 2002 LH Powertrain Diagnostic Manual for more information. Erase codes in all modules.

### **3.1 AIRBAG SYSTEM**

The Airbag System is equipped with a new type of Airbag Control Module (ACM) called an Occupant Restraint Controller (ORC). The ACM is secured to a bracket on the floor panel transmission tunnel below the instrument panel inside the vehicle. The ACM mounting bracket also serves as the instrument panel center support. The ACM contains a microprocessor, the impact sensor, and energy storage capacitors. The microprocessor contains the airbag system logic. The airbag system logic includes On-Board Diagnostics ACM capability, and communicates with the instrument cluster circuitry on the Programmable Communication Interface (PCI) data bus to control the airbag indicator lamp. The microprocessor in the ACM monitors the impact sensor signal and the airbag system electrical circuits to determine the system readiness. If the ACM detects a monitored system fault, it sends messages to the Mechanical Instrument Cluster (MIC) over the PCI data bus to turn on the airbag warning lamp. A pre-programmed decision algorithm in the ACM microprocessor determines when the deceleration rate is severe enough to require airbag system protection. When the programmed conditions are met, the ACM sends an electrical signal to deploy the airbag system components. The

impact sensor is an accelerometer that senses the rate of vehicle deceleration, which provides verification of the direction and severity of an impact. The impact sensor is calibrated for the specific vehicle, and is only serviced as a unit with the ACM. The ACM also contains an energy-storage capacitor. This capacitor stores enough electrical energy to deploy the airbags, for two minutes following a battery disconnect or failure during an impact. The purpose of the capacitor is to provide airbag system protection in severe secondary impact if the initial impact has damaged or disconnected the battery, but not severe enough to deploy the airbags. The ACM cannot be repaired or adjusted and, if damaged or faulty, it must be replaced

**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 IN 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 OCCUPANT RESTRAINT CONTROLLER IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT.**

The airbag warning lamp 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 MIC performs a lamp check by turning the AIRBAG warning lamp on for 6-8 seconds. If the lamp remains 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 ACM system or the MIC lamp circuit may be internally shorted to ground.

#### **3.1.1 DRIVER AIRBAG (DAB)**

The airbag protective trim cover is the most visible part of the driver side airbag system. The airbag is mounted directly to the steering wheel.

Located under the trim cover are the horn switch, the airbag cushion, and the airbag cushion supporting components. The airbag includes a housing to which the cushion and inflator are attached and sealed. The airbag cannot be repaired, and must be replaced if deployed or in any way damaged. The inflator assembly is mounted to the back of the airbag module. The inflator seals the hole in the airbag cushion so it can discharge the gas it produces directly into the cushion when supplied with the proper electrical signal. 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. Upon airbag deployment, this cover will split at a predetermined breakout line.

**THE AIRBAG MODULE INFLATOR ASSEMBLY CONTAINS SODIUM AZIDE AND POTASSIUM NITRATE. THESE MATERIALS ARE POISONOUS AND EXTREMELY FLAMMABLE. CONTACT WITH ACID, WATER, OR HEAVY METALS MAY PRODUCE HARMFUL AND IRRITATING GASES (SODIUM HYDROXIDE IS FORMED IN THE PRESENCE OF MOISTURE) OR COMBUSTIBLE COMPOUNDS. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93°C (200° F).**

### 3.1.2 CLOCKSPrING

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

### 3.1.3 PASSENGER AIRBAG (PAB)

The airbag door in the instrument panel top cover above the glove box is the most visible part of the passenger side airbag system. Located under the airbag door is the airbag cushion and its supporting components. The airbag includes a housing to which the cushion and inflator are attached and sealed. The airbag cannot be repaired, and must be replaced if deployed or in any way damaged. The inflator assembly is mounted to the back of the airbag module. The inflator includes a small canister of highly compressed argon gas. The inflator

seals the hole in the airbag cushion so it can discharge the compressed gas it contains directly into the cushion when supplied with the proper electrical signal. The airbag door has a living hinge at the top, which is secured to the instrument panel top cover. The door also has predetermined breakout lines concealed beneath its decorative cover. Upon airbag deployment, the airbag door will split at the breakout lines and the door will pivot out of the way.

**WARNING: THE PASSENGER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 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 CHRYSLER MOPAR PARTS CATALOG.**

### 3.1.4 SIDE IMPACT AIRBAG CONTROL MODULES (SIACM)

The 2002 LH uses two identical side impact airbag control modules (SIACM) that share the same part number. They are located on the left and right B-post with the connector pointed forward. For proper PCI bus operation each SIACM must have a unique module identification. To provide the unique module identification the SIACM software looks for a ground on cavity # 5. If cavity # 5 is grounded the SIACM communicates as a left SIACM otherwise it communicates as a right SIACM. The SIACM perform self diagnostics and circuit tests to determine if the system is functioning properly. If the test find a problem the SIACM will set both active and stored diagnostic trouble codes. If a DTC is active the SIACM will request

that the airbag warning lamp be turned on. The results of the system test are transmitted on the PCI Bus to the ACM once each second or on change in lamp state. If the warning lamp status message from either SIACM contains a lamp on request the ACM will set an active DTC. At the same time as the DTC is set the ACM sends a PCI Bus message to the mechanical instrument cluster (MIC) requesting the airbag warning lamp be turned on. Observe all ACM warning and caution statements when servicing or handling the SIACM. SIACM are not repairable and must be replaced if they are dropped.

### 3.1.5 SEAT AIRBAG

The Left and Right seat airbags are located in the outboard end of the front seat backs. The airbag contains a bag, an inflator (a small canister of highly compressed argon gas) and a mounting bracket. The seat airbag cannot be repaired and must be replaced if deployed or in any way damaged. When supplied with the proper electrical signal the inflator seals the hole in the airbag cushion so it can discharge the compressed gas it contains directly into the cushion. Upon deployment, the seat back trim cover will tear open and allow the seat airbag to fully deploy between the seat and the door.

**Note: It will be necessary to remove the seat back trim to gain access to the seat airbag module connector when diagnosing the seat airbag system.**

**THE SEAT AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 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 CHRYSLER MOPAR PARTS CATALOG.**

### 3.1.6 SPECIAL TOOLS

Some airbag diagnostic test use special tools, 8310 and 8443 airbag load tool, 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, seat airbag, clockspring, or seat belt tensioner (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 component 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 or shorted conditions.

### 3.1.7 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.

Active diagnostic trouble codes for the airbag system are not permanent and will change the moment the reason for the code is corrected. In certain test procedures within this manual, diagnostic trouble codes are used as a diagnostic tool.

#### 3.1.7.1 ACTIVE CODES

The code becomes active as soon as the malfunction is detected or key-off, whichever occurs first. An active trouble code indicates an on-going malfunction. This means that the malfunction is currently there every time the airbag control module checks that circuit/function. It is impossible to erase

an active code; active codes automatically erase by themselves when the reason for the code has been 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.

An "Interrogate Right SIACM or Interrogate Left SIACM" diagnostic trouble code indicates an active trouble code in the respective module.

### 3.1.7.2 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. However, the code currently may not be present as an active code, although another active code could be.

When a trouble code occurs, the airbag warning lamp 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 as long as the malfunction exists. When and if the malfunction ceases to exist, an ignition cycle count will be initiated for that code. If the ignition cycle count reaches 100 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 100, then the ignition cycle counter will be reset and the diagnostic trouble code will continue to be a stored code.

Maintain a safe distance from all airbags while performing the following inspection. 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.

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

There are radio systems available that communicate on the PCI bus. They use the bus for three reasons. First is to communicate trouble codes, second is to control the remote radio switches located on the back of the steering wheel, and third is for use with the driver memory selection system. The radio stores two sets of station presets and can be recalled by pressing the optional memory select button (located on the drivers door). The midline will have 6 speakers and a 120 watt external amplifier. The Infinity I will have 7 speakers and a 240 watt external amplifier or with a indash 4-disk CD Player. The Infinity II will have 9 speakers and a 360 watt external amplifier with a indash 4-disk CD Player.

When troubleshooting output shorts or "output" error messages, the following applies:

On radios with out 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.

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

These functions are inputs to the body controller and can be read with the DRBIII® under "body" systems, sensor displays. The switches are a multiplexed signal to the BCM. The remote radio control circuit is a five 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 body controller and it sends a specific message to the radio on the PCI bus line. The radio then responds to the message.

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

The new in-dash CD-changer is designed to fit into the existing cubby bin in the center stack. This

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new cartridge-less CD-changer is controlled by your radio, and allows you to individually load up to four discs at one time. However, due to its compact design, the CD-changer can only carry out one operation at a time. For example, you can not load a new disc while playing another at the same time. Each operation happens sequentially.

The radio unit installed with your system provides control over all features of the CD-changer with the exception of the CD load and eject functions, which are controlled by buttons located on the front of the CD-changer. The radio also supplies the power, ground, PCI Bus, left and right speaker output thru a single DIN cable. All features you would expect, such as Disc Up/Down, Track Up/Down, Random and Scan are controlled by the radio, which also displays all relevant CD-changer information on the radio display.

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

### 3.3 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 communications network (the Programmable Communication Interface or PCI bus). This network consists of the powertrain control module (PCM), the memory heat seat/mirror module (MHSM), sentry key immobilizer module (SKIM), the electro/mechanical instrument cluster (MIC), the optional overhead travel information system (OTIS), airbag control module (ORC), optional antilock brakes (ABS), the radio and remote CD-player, optional left and rightside impact airbag control modules (SIACM), and the optional automatic temperature control (ATC) head. The (BCM) is operational when battery power is supplied to the module, ignition switch power is needed for ignition switched functions.

The body control module provides the following features:

Automatic headlamp and fog lamp  
A/C switch status/evaporator temperature status  
BCM diagnostic support  
Central lock and unlock (VTSS only)  
Chime  
Climate Control (Automatic and Manual) system support  
Door ajar switch status  
Door Lock Inhibit (key in ignition or headlamps/park lamps on)  
Electronic Odometer Support  
Fog Lamp Control  
Headlamp multiplexing control  
Headlamp, Park & tail lamps with battery save feature  
Headlamp Time Delay  
Illuminated Entry with "fade to off"  
Interior lighting with battery save feature  
Mechanical Instrument Cluster (fuel level, dim data, odometer & warning chime) support  
Memory system (LHS and 300M)  
Overhead travel information system  
Power door lock multiplexing control  
Rear Window Defogger Control  
Remote Keyless Entry with Panic Mode  
Remote power deck lid release  
Remote radio control  
Rolling door lock control (customer programmable)  
Sentry key immobilizer  
Speed proportional steering  
Vehicle Theft Security System  
Wiper Control (speed sensitive with return to park)

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 Temperature
- Injector on Time and Distance Pulses
- Vehicle Speed
- Charging System Failure, Engine Temperature Limp-In, VTSS Arming Status
- Engine Model
- "Check Engine" lamp status

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

The LH has several customer programmable features which can be disabled or enabled by the customer.

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FEATURE	DEFAULT	PROGRAMMING METHOD	FEEDBACK
Rolling Door Locks	Enabled	<p>Close all doors</p> <p>Place vehicle key in the ignition and cycle between off and run four times ending in the off position</p> <p>Customer depresses the driver power door lock switch to lock the doors</p> <p>Body Controller will toggle the enable/disable state of rolling locks</p>	BCM provides a single chime to indicate completion of the programming
RKE-Horn Chirp	Enabled	<p>Continually press the lock button for a minimum of 4 seconds to a maximum of 10 seconds</p> <p>Within the 4-10 second range, press the unlock button while continuing to press the lock button</p> <p>Release both buttons</p> <p>Body Controller will toggle on/off state of horn chirp feature</p>	None
RKE-Rear Release Toggle	Press Twice	<p>Continually press the unlock button for a minimum of 4 seconds to a maximum of 10 seconds</p> <p>Within the 4-10 second range, press the rear release button while continuing to press the unlock buttons</p> <p>Release both buttons</p> <p>RKE will toggle state of one press/two press rear release</p>	
RKE Program New FOB (Using an already programmed FOB)	Not Applicable	<p>Turn vehicle ignition switch on. With programmed FOB continually press the unlock button for a minimum of 4 seconds to a maximum of 10 seconds</p> <p>Within the 4-10 second range, press the panic button while continuing to press the unlock button</p> <p>Release both buttons</p> <p>Press any button of FOB(s) to be Learned. (Note: RKE system erases all FOBs when program mode is entered So any existing FOBs must also be Programmed.</p>	<p>BCM will sound a second chime when programming mode is started</p> <p>BCM will sound a second chime after each FOB has been learned, a 32 second time out period has elapsed, or the vehicle ignition has been turned off</p> <p>Turn off ignition or wait for 32 seconds to exit programming mode</p>

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### 3.4 CHIME SYSTEM

The chime system is comprised of an audible chime located internal to the BCM; and is dependent on various inputs to the BCM to operate. These inputs include key-in ignition switch, exterior lamps, seat belt switch, and requests from the MIC to chime when some indicators are turned on.

### 3.5 DOOR AJAR SYSTEM

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

### 3.6 CLIMATE CONTROL SYSTEMS

#### 3.6.1 AUTOMATIC TEMPERATURE CONTROL (ATC)

The body control module (BCM) provides automatic temperature control support both through PCI bus communications and through processing inputs to determine control for actuators and the blower motor. The BCM interfaces with the ATC control head over the PCI bus. Information on button activation, blower setting, and temperature setting are supplied to the BCM. In turn, the BCM supplies the ATC control head with mode information and indication lamp status. The BCM controls blower motor speed by providing a varying duty cycle of a fixed frequency output (pulse width modulation). There are 14 distinct blower speeds, plus a blower off signal. The body control module also controls the HVAC mode, temperature (blend air), and recirculation doors. This system is either fully automatic or fully manual control (no semi-automatic functions); however, the temperature blend door control is always automatically controlled based on sensor reading and comfort setting. The in-car sensor and the aspirator motor are now housed in the ATC control head.

#### 3.6.2 MANUAL TEMPERATURE CONTROL

The body control module interfaces with the a/c-heater control head via hardwired circuits. Information for the temperature setting is supplied to the body control module via a potentiometer. The

rear defogger switch, A/C switch and the mode setting is supplied via a resistive multiplexed circuit. The system on/off status is supplied by a dedicated circuit. The BCM drives the A/C and rear defogger indicator lamps via hardwire to the A/C-heater control head.

#### 3.6.3 HVAC BLEND, MODE, AND RECIRCULATION DOOR OPERATION

The trouble codes that indicate a stall failure or a feedback signal failure work together to show what is wrong with the HVAC system. The stall trouble codes mean that the body control module cannot force an actuator to the end of the HVAC unit door. Internal problems in the body control module will set other short-related codes. Having only stall trouble codes indicates that there is a problem with an open or short circuit in the wiring, a bad actuator, a bad HVAC unit door or connecting linkage. It is important that the operation of the HVAC door be checked if an actuator is removed. This can be checked by rotating each unit door shaft to confirm that the door will stop at both ends of travel. The actuator itself has no stops. It must have the HVAC unit door to stop travel to pass a stall test.

A feedback signal failure can occur on the blend or mode door. The body control module monitors the feedback signal to check the position of the actuator. The body control module not only checks the level of the signal but also how much the voltage changes.

A feedback failure can occur if there is a short or open circuit in the wiring, a bad actuator, a bad body control module, a bad HVAC unit door or connecting linkage. The easiest way to diagnose this is to use the DRB to actuate the blend or mode door. Note that the feedback voltage of the actuator should smoothly change as the actuator is moved. A sudden change in the feedback voltage to a 5.0-volt or a 0.0-volt level indicates the actuator is bad. A fixed feedback voltage that is less than 5.0 volts or greater than 0.0 volts without a stall failure, or a short failure indicates that the actuator, the HVAC unit door, or a connecting mechanical linkage is jammed thereby preventing movement. A feedback signal voltage that stays on 5.0 volts or 0.0 volts indicates a wiring or body control module problem. The feedback voltage should always be less than 5.0 volts and greater than 0.0 volts.

The feedback trouble code can also occur from lack of actuator travel. This can be checked by confirming that the feedback signal smoothly changes when the actuator is moved with the DRB. If the signal is OK, the door travel is not correct. The actuator must be removed and the HVAC unit door mechanically checked for proper operation. Typical problems that prevent door movement in-

clude screws dropped in the HVAC unit or warped doors. Replace any part that is found defective.

### 3.6.4 REAR WINDOW DEFOGGER

When the BCM receives a rear defogger request from the climate control head (either ATC or manual) the BCM will activate the rear window defogger relay for 15 minutes. If the BCM receives another rear defogger request while the relay is still activated, the relay will be de-activated. If the relay is allowed to time out (full 15 minutes), further requests during the same ignition on period will cause the BCM to activate the relay for 7.5 minutes

## 3.7 EXTERIOR LIGHTING SYSTEM

### 3.7.1 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 10 minutes.

### 3.7.2 HEADLAMP DELAY

The headlamp time delay operates when the ignition switch is turned off while the headlamps are still on, and the headlamps are then turned off within 45 seconds after the ignition is off. This will provide a 90-second time delay before turning off the headlamps.

### 3.7.3 HEADLAMP SWITCH

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

### 3.7.4 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.

### 3.7.5 AUTO HEADLAMPS

The headlamps and park/tail lamps will be activated by the BCM when the headlamp switch is in the auto mode. To activate the auto headlamps the BCM requires that: (1) the headlamp switch is in the 'A' position, (2) the engine is running, and (3) the light level sensed through the sun load sensor falls below the calibrated level.

## 3.8 INTERIOR LIGHTING

### 3.8.1 COURTESY LAMP CONTROL

The body controller has direct control over the majority 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.
- 2) The courtesy lamp switch on the instrument panel is closed.
- 3) A Remote Keyless entry unlock message is received. If the interior lamps are left on after the ignition is turned off, the BCM will turn them off after 1 hour or until either the dome lamp switch or door ajar switch changes state.

### 3.8.2 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.

## 3.9 MECHANICAL INSTRUMENT CLUSTER

The instrument cluster displays four gauges, a vacuum fluorescent (VF) odometer, a VF PRNDL and up to (18) indicators. One reset button is used to switch the display from trip to total. Holding the button when the display is in the trip mode will reset the trip mileage. The cluster also supplies the power for the panel illumination. Most of the information that is displayed is received over the PCI bus from several modules.

With ignition in "lock", the cluster will wake up and display the door ajar and odometer display when a door is opened. The cluster will also wake up to control the panel illumination. In "off" (unlock) the PRNDL and several indicators will be functional but all gauges will not function. On transition from "off" (unlock) to run, the cluster will perform a check of all micro-controlled indicators, the odometer and the PRNDL for approx. 2 seconds. Other bulb checks with longer bulb check duration will be performed based on bus messages from other modules. If the cluster receives no PCI bus messages for (20) seconds after the transition to "run", the cluster will display "no bus" in the odometer.

A self test can be initiated by holding down the odometer reset button and switching the ignition from "lock" to "off" (unlock). This test will activate

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the gauges, turn on the indicator lights along with the odometer and PRNDL segments.

### 3.10 MEMORY SYSTEM

The memory system consists of power left front seat, power mirrors and radio presets. The memory heated seat/mirror module (MHSMM) also includes the heated seat function. The module is located under the left front seat and receives input from: left manual 8-way seat switch, left seat position sensors, memory switch, both heated seat switches, both heated seat negative temperature coefficients (NTC's) thermistors), PCI bus circuits, and the power mirror sensors. The module uses these inputs to perform the following functions: position the drivers memory seat, both exterior mirrors, actuate the drivers and passenger heated seat heater and send the memory location over the PCI bus.

When a memory button is pressed (either # 1 or # 2) on the memory switch the MHSMM sends a message to the BCM which in turn sends a recall message to the MHSMM and the PCI radio. They will in turn position the drivers seat and both mirrors along with setting the radio presets. If the drivers seat or either exterior mirrors are inoperative from their own respected switches, use the service information and schematic to diagnose the problem. This manual addresses the memory problems only and it is assumed there is not a basic component failure.

#### 3.10.1 POWER SEAT

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

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

The MHSMM 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 seat mounted memory switch or the RKE transmitter. When initiated, the MHSMM adjusts the four seat motors to match the memorized seat position data.

For safety, the memory seat recall is disabled by the MHSMM when the vehicle is out of park posi-

tion. 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 MHSMM 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.

#### 3.10.2 MEMORY SEAT GLIDE

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 ignition off. The seat returns to its original position when the operator returns and turns on the ignition or extends the seat belt. If any seat movement is initiated, whether manual or by memory recall, after the ignition has been turned off, that will cancel any ensuing glide to enter movement until the next ignition cycle.

This feature can be enabled/disabled by the owner by holding the memory set button and simultaneously pressing the horizontal rearward switch. To reinstate the feature, repeat the process. This can also be done using the DRB which will also inform as to which state it is in.

#### 3.10.3 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.

#### 3.10.4 MEMORY MIRRORS

Each outside mirror has a vertical and a horizontal position sensor. The MHSMM provides a 5-volt reference to each position sensor. The sensors share a common ground circuit. The MHSMM monitors the position of the mirrors by measuring the voltage of each signal. When a memory position is set, the MHSMM monitors and stores the position of the outside mirrors. The MHSMM adjusts the mirrors to the appropriate positions when a memory recall message is received from the RKE or is requested from the memory switch.

The power mirror switch during non-memory operation operates both mirrors independently of the MHSMM.

### 3.10.5 HEATED SEATS

The controls for the heated seats are located on the side of each seat. The system offers two seat temperature settings of approximately 98.6 F (LO) and approximately 107.6 F (HI).

As the temperature in the seat rises, the Negative Temperature Coefficient (NTC) resistance decreases and the voltage reading detected by the MHSMM increases. The seat heater output is deactivated once the voltage reading reaches its upper threshold for either setting, high or low.

As the temperature decreases, the voltage reading decreases until the lower 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 pre-programmed into the MHSMM memory.

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

### 3.11 COMPASS/MINI-TRIP COMPUTER OR ELECTRONIC VEHICLE INFORMATION CENTER

The Compass/Mini-Trip Computer (CMTC) or Electronic Vehicle Information Center (EVIC) is located in the overhead console. The CMTC or EVIC supplements the standard vehicle instrumentation. The CMTC and EVIC use a vacuum fluorescent (VF) display to supply the vehicle operator with a compass heading, outdoor temperature, average fuel economy, distance to empty, instantaneous fuel economy, trip odometer, elapsed ignition on time, distance to service, warning messages, and service messages.

The difference between a CMTC and an EVIC is that only the EVIC provides additional memory and feature programming. The EVIC is capable of displaying memory system messages when the vehicle is equipped with memory systems. The EVIC also provides the interface to enable and disable vehicle programmable features when the vehicle is equipped with certain 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.

Both the CMTC and 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 CMTC/EVIC. Display information, except for the internal compass function, is received

over the PCI bus. The CMTC/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.

### VEHICLE INFORMATION DISPLAY

The CMTC/EVIC provides the following functions:

- Compass direction
- Outside temperature
- Elapsed ignition on time
- Distance to empty
- Average fuel economy
- Instantaneous 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)
  - 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 CMTC/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 CMTC/EVIC.

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

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

The CMTC/EVIC receives the following messages from the Powertrain Control Module (PCM):

- Trip Odometer data
- Vehicle Speed

## GENERAL INFORMATION

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The CMTC/EVIC transmits the following messages to the BCM:

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

### 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
  - Instantaneous Fuel Economy
  - Trip Odometer
  - Time Elapsed
  - Distance to Service Message
  - Individual Tire Pressure (When equipped with TPM.)
  - 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. (When equipped.)

### 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.

### 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 CMTC/EVIC will send a PCI bus beep request to the BCM. If the RESET button is pressed again within 3 seconds, the CMTC/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 CMTC/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 CMTC/EVIC into the self-diagnostic mode.

### COMPASS/TEMPERATURE (C/T) BUTTON

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

#### 3.11.1 TRAVELER DISPLAY FUNCTIONS

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

### COMPASS/TEMPERATURE

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

The CMTC/EVIC module internally senses and calculates the compass direction.

### COMPASS OPERATION

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

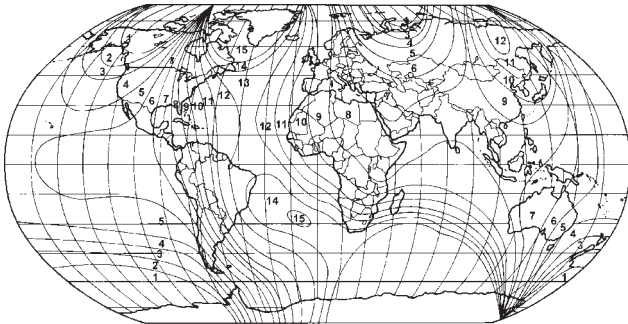
Auto activation of the fast Auto-Cal mode will also occur when the CMTC/EVIC is subjected to high magnetic field strength levels, which cause all compass readings to be erroneous for a continuous period of five (5) minutes. During fast Auto-Cal, CAL will be displayed along with the temperature.

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

### 3.11.2 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 CMTC/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 CMTC/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 CMTC/EVIC returns to normal operation.



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### 3.11.3 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 CMTC/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 CMTC/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 CMTC/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.

### 3.11.4 DIAGNOSIS AND TESTING

#### SELF-CHECK DIAGNOSTICS

The CMTC/EVIC is capable of performing a diagnostic self check on its internal functions. CMTC/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.
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 CMTC/EVIC will return to normal operation.

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

### 3.11.5 AMBIENT TEMPERATURE SENSOR

The ambient air temperature is monitored by the BCM and displayed by the CMTC/EVIC. The BCM receives a hardwire input from the ambient temperature sensor (ATS).

## GENERAL INFORMATION

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 CMTC/EVIC via the PCI Bus. The ATS cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

### 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 PCM, and the CMTC/EVIC display.

If the CMTC/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 CMTC/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 CMTC/EVIC VFD can be tested.

The ATS is supported by the PCM. Ambient Temperature Sensor DTCs will be recorded in the PCM. 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 CMTC/EVIC passes the self test, and the ATS, the circuits, and PCI bus communications are confirmed to be OK, but the CMTC/EVIC temperature display is inoperative or incorrect, replace the PCM.

### 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.

### 3.11.6 HOMELINK® UNIVERSAL TRANSMITTER

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

### 3.12 TIRE PRESSURE MONITORING SYSTEM (TPM)

If equipped with the Tire Pressure Monitoring System (TPM), each of the vehicle's five wheels will have a valve stem with an integral pressure sensor and radio transmitter. Radio signals from the tire pressure sensor/transmitters are received and interpreted by the Electronic Vehicle Information Center (EVIC).

A sensor/transmitter in a mounted wheel will broadcast its detected pressure once per minute when the vehicle speed is greater 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.

#### 3.12.1 TRAINING THE EVIC

The EVIC can be trained to recognize the source locations of pressure sensor/transmitter signals. Use the following training procedure:

1. Locate "RETRAIN TIRE SENSORS" on the EVIC menu.
2. Press STEP button to select YES and MENU button to confirm.

When this mode is enabled by selecting "YES", the EVIC will initiate the training procedure.

3. The EVIC 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.

4. 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.
5. Once all 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" until another button is pressed.

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.

### 3.12.2 PRESSURE THRESHOLDS

The EVIC will monitor the tire pressure signals from the five tire sensor/transmitters 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)

### 3.12.3 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 tire 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 driver 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.

### 3.12.4 SYSTEM FAULTS

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

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

1. If the EVIC detects a non-transmitting Sensor/Transmitter in a road wheel for 10 minutes at a vehicle speed above 40 Km/H (25 MPH), it will:
  - a. Store an active fault code.
  - b. Request a chime.
  - c. Display "SERVICE TIRE PRESS SYSTEM".
  - d. Display a dashed line at the wheel location on the graphic display if the display is activated.
2. When the EVIC detects:
  - A low pressure sensor/transmitter battery status for 7 consecutive ignition cycles,
  - Any sensor transmitting at a shorter than expected interval or,
  - 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 "SERVICE TIRE PRESS SYSTEM".

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 the Sensor/Transmitter is "awake" and transmitting as expected by the EVIC.

#### SPARE WHEEL AUTO-LOCATE

If the spare tire is mounted on the vehicle, the EVIC will detect the relocation 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).

#### REMOVE MAGNET FROM SPARE

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.

#### 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 to the graphic display and show dashed lines instead of the tire pressure for the wheel(s) affected by the radio interference.

#### 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.

### 3.12.5 DIAGNOSING AND CLEARING SYSTEM FAULTS

**NOTE: The TPM System relearn procedure must be performed before servicing the system.**

All Tire Pressure Monitoring System Faults are specific to one location. If a "BATTERY LOW", "SENSOR FAILURE" fault is detected, the location 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 Tire Pressure Monitoring System symptoms in the EVIC section.

### 3.12.6 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 request a beep to indicate the start of the test.
4. The EVIC will clear the sensor signal counters
5. The vehicle graphic will be displayed with transmission counters at each corner and for the spare. (Same display as for pressures but with counters in place of the tire 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 signal per minute from each wheel except the spare).

The test will continue until any EVIC button is pressed or until the ignition is cycled to OFF.

### 3.13 POWER DOOR LOCK SYSTEM

The door lock switches provide a variable amount of voltage through the multiplexed (MUX) circuit to the BCM. Depending upon that input and various conditions that must be met (i.e. door lock inhibit, etc.), the BCM will determine the action to be taken and activate the proper relay for approximately 250 to 350 msec. If the vehicle is equipped with the vehicle theft security system it will have the central locking feature which locks and unlocks all doors from the cylinder lock switches. These switches are on separate multiplexed circuits to the BCM and have trouble codes relating to each of them.

**RKE Remote Keyless Entry** - This feature allows locking and unlocking of the vehicle door(s) by remote control using a hand-held transmitter (sometimes referred to as a fob) to activate a radio receiver (RKE module). This module plugs into the body control module which is directly connected to the junction block. With this feature RKE can now be added to a non-equipped vehicle by installing a module. If the vehicle is equipped with the vehicle theft security system, RKE will also arm and disarm that system. A 4-button transmitter is used which provides lock, unlock, decklid release and panic features. Decklid release is only operable while the vehicle is in the park position. The module is capable of retaining up to 4 transmitter codes. Rolling code, which increases security, is also included in this system. If the transmitter goes out of synchronization it is easily put back in by pressing

the lock button when the transmitter is within range. An external antenna has been added which plugs into the module to provide greater range. RKE will also turn on the interior lamps when a valid unlock command is received and will extinguish the interior lamps when a lock command is received and all doors are closed.

On a vehicle equipped with the memory system, when the unlock button on a specified transmitter (either #1 or #2) is pressed the BCM will send a recall message to both the MHSMM and the PCI radio. They will in turn position the driver seat and both mirrors along with setting the radio presets.

**Door Lock Inhibit** - When the key is in the ignition and the driver front door is open, all door lock switches are disabled. The unlock switches are still functional. This protects against locking the vehicle with the keys still in the ignition.

**Automatic (rolling) Door Locks** - This feature can be enabled or disabled by using either the DRBIII® or the customer programmable method. When enabled, all doors will lock when the vehicle reaches a speed of 15 mph (24 kmh) and all doors are closed. If a door is opened and the vehicle slows to below 15 mph (24 kmh), the locks will operate again once all doors are closed and the speed is above 15 mph (24 kmh).

**Decklid Release** - Decklid release is a function of the body control module. Trouble codes are provided to assist in the diagnosis of this system.

Customer programmable features are: Horn chirp, one or two press decklid release, programming a new transmitter (using a previously programmed transmitter) and rolling door locks.

### 3.14 SENTRY KEY IMMOBILIZER SYSTEM (SKIS)

The SKIS is an immobilizer system designed to prevent unauthorized vehicle operation. The system consists of a Sentry Key Immobilizer Module (SKIM) and ignition key(s) called Sentry Key(s) which are equipped with a transponder chip. The SKIM communicates over the Programmable Communication Interface multiplex system (PCI) bus network to the Body Control Module (BCM), Powertrain Control Module (PCM), and/or the DRB scan tool. For programming the Sentry Key Transponder and other technical information refer to Powertrain information.

### 3.15 SPEED PROPORTIONAL STEERING (IF EQUIPPED)

The Speed Proportional Steering automatically adjusts steering effort based on the vehicle speed. The amount of effort required to turn the steering wheel is determined by a 500-Hz Pulse Width

## GENERAL INFORMATION

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Modulated (PWM) output signal. The desired duty cycle of the PWM is selected from a calibration table internal to the Body Control Module (BCM).

To obtain the desired solenoid current the duty cycle of the solenoid can be compensated according to a current measuring feedback circuit. The speed proportional steering system is always active with the ignition on.

The 500Hz PWM output signal is capable of generating a duty cycle from 0% (full off - minimum steering assist) to approximately 50% duty cycle (full on - maximum steering assist) in small increments. The duty cycle is determined by vehicle speed and is continuously modified by solenoid current feedback information. With the engine running and vehicle speed between 0 km/h (0 mph) and approximately 32 km/h (20 mph) the duty cycle will be about 50%. Between approximately 32 km/h (20 mph) and 100 km/h (60 mph) the duty cycle will gradually decrease to 0% based upon vehicle speed. Above approximately 100 km/h (60 mph) there is no assist provided by the speed proportional steering system. Maximum solenoid current will be limited to one amp but the system operates at about 0.5 amp. Speed Proportional Steering Solenoid resistance is 5.7-6.3 ohms at 20° C (68° F).

The Speed Proportional Steering System can detect three failure modes relating to the Speed Proportional Steering PWM driver located in the BCM. If any DTC is set, the solenoid is shut off, unless the condition goes away before approximately 10 seconds. Once the DTC is set, the solenoid will remain off for the remainder of the ignition cycle.

1. An open or shorted to ground circuit fault is detected by monitoring the feedback circuit. If the BCM detects that the feedback circuit has zero current when the software indicates the solenoid circuit should have current, the DTC will be set. This test is performed every 250 milliseconds.
2. A short to voltage fault is detected by monitoring the feedback circuit. The DTC will be set when the BCM has sensed that there was current on the solenoid feedback circuit when the solenoid was turned off.
3. An over temperature or thermal shutdown DTC will be set by default if the internal diagnostic pin of the solenoid driver is at a low level, but the feedback measurement does not show a high PWM output current.

### 3.16 VEHICLE 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 through the BCM. The BCM acts as a splice to connect each module and the Data Link Connector (DLC) together. The following modules are used on 2002 LH:

- Airbag Control Module
- Left Side Impact Airbag Control Module
- Right Side Impact Airbag Control Module
- Controller Antilock Brake
- Powertrain Control Module - Next Generation Controller (NGC)
- Radio (If equipped)
- CD Changer (If equipped)
- Overhead Travel Information System (If equipped)
- Memory Heated Seat and Memory Mirror (If equipped)
- Automatic Temperature Control (If equipped)
- Body Control Module
- Sentry Key Immobilizer Module (If equipped)
- Mechanical Instrument Cluster

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

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

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

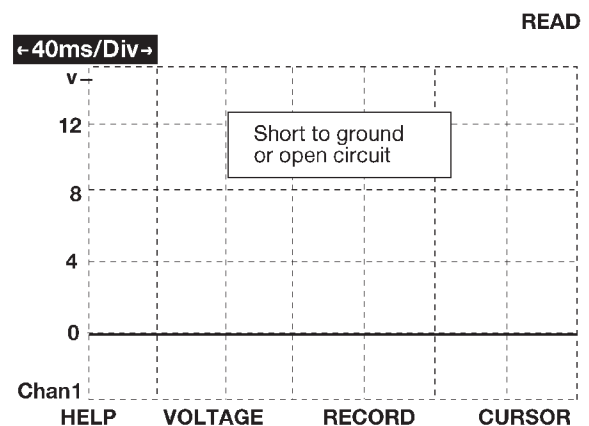
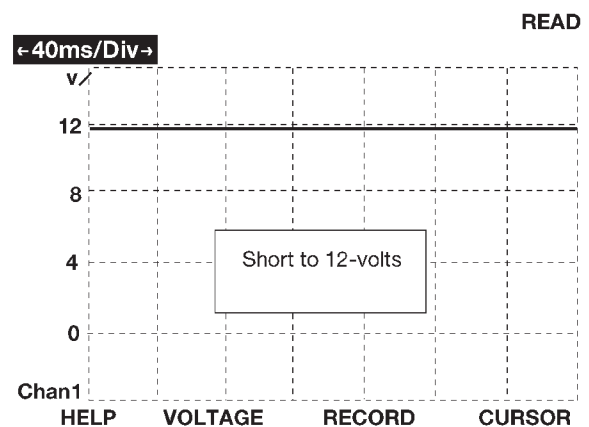
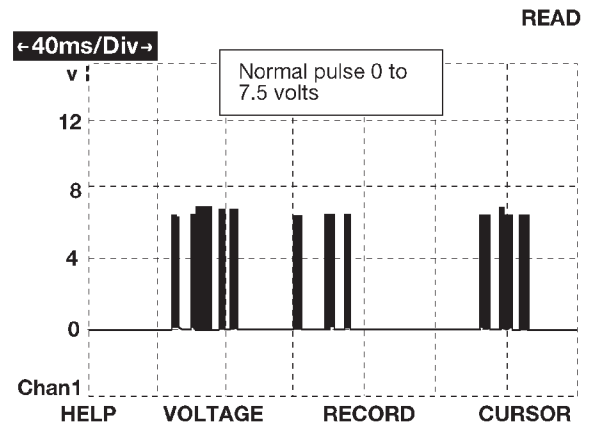
- All gauges on the EMIC stay at zero
- All telltales on EMIC illuminate
- EMIC backlighting at full intensity
- No response received from any module on the PCI bus (except PCM)

- 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 modules PCI circuit or power supply and ground circuits. The DRBIII® may display "BUS +/- SIGNALS 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 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.

**NOTE:** Communication over the bus is essential to the proper operation of the vehicles on-board diagnostic systems and the DRBIII®. Problems with the operation of the bus or DRBIII® must be corrected before proceeding with diagnostic testing. If there is a problem, refer to the Communications category of this manual.



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## GENERAL INFORMATION

**NOTE:** New for 2002 model year, LH vehicles will integrate the Transmission Control Module and Powertrain Control Module into a single control module. This new module is the Next Generation Controller for DaimlerChrysler and will be referred to as the Powertrain Control Module (PCM). The Transmission Control System is part of the Powertrain Control Module.

New Diagnostic procedures and New DTC numbers are some of the changes you will see which reflect the new combined module technology. The PCM will have four color coded connectors C1 through C4, (C1-BLK, C2-GRAY, C3-WHITE, C4-GREEN), each PCM connector will have 38 pins each. Two new tools are used for probing and repairing the New PCM connectors. A New tool to release the pins from the PCM connectors Miller #3638 is introduced, you must use the Miller tool #3638 to release the connector pins or harness and connector damage will occur. Also a New tool for probing connectors Miller #8815 is introduced, you must use the Miller tool #8815 to probe the PCM pins or harness and connector damage will occur. There is also a new Verification test and module replacement procedure for the new PCM.

### 3.16.1 BUS FAILURE MESSAGE

Odometer Displays "No Bus" - The Mechanical Instrument Cluster (MIC) cannot communicate over the bus and does not know why.

### 3.17 VEHICLE THEFT SECURITY SYSTEM

This passive system is designed to protect against vehicle theft. The vehicle theft security system (VTSS) is part of the body control module (BCM), which monitors vehicle doors and the ignition for unauthorized operation. The alarm activates by sounding the horn, flashing the headlamps, park and tail lamps, and the VTSS indicator lamp. Passive arming occurs upon normal vehicle exit by turning the ignition off, opening the driver's door, locking the doors with the power lock, and closing the driver's door or locking the doors with RKE. Manual arming occurs by using the key to lock the doors after closing them. 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 slow rate. If the indicator lamp remains steadily lit during the arming process, this can indicate a possible loss of communi-

cation with the PCM or loss of trunk knock out switch. When something triggers the alarm, the system will signal the headlamps, park lamps, and horn for about 3 minutes.

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

Tamper Alert - The VTSS indicator lamp will flash twice quickly to indicate a tamper condition has occurred.

Manual Override - The system will not arm if the doors are locked using the manual lock control (by hand) or if the locks are actuated by an inside occupant after the door is 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 either front 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.

**NOTE:** A Powertrain Control Module from a vehicle equipped with a vehicle theft security system cannot be used in a vehicle that is not equipped with a vehicle theft security system. 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 WIPER SYSTEM

The wiper system provides the driver with the normal wiper (low and high speeds), intermittent wipe, wipe after wash, headlamp washers and pulse wipe functions. The driver selects the wiper function via the resistive multiplexed stalk switch mounted on the steering column. The BCM uses

input signal from the wiper stalk switch, wiper motor park switch, and the washer switch to control the wipe system. The Body Control Module (BCM) then controls the relays and timing functions to provide the driver selected features.

### 3.18.1 SYSTEM FEATURES

#### Speed Sensitive Intermittent Wipe Mode

There are 6 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 (6 KMH), the delay time is doubled providing a range of 1 second to 36 seconds.

#### Pulse Wipe

When the wiper is in the off position and the driver presses the wash button for more than 62 milliseconds, but less than 1/2 second, 2 wipe cycle in low speed mode will be provided.

#### 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 for over 1/2 second and then releases it, the wiper will continue to run for 2 additional wipe cycles.

The wiper system utilizes the BCM to control the on/off and hi/low relays for low and hi speed wiper functions, intermittent wiper delay as the switch position changes, pulse wipe, 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 (6 KMH).

### 3.19 USING THE DRBIII®

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

### 3.20 DRBIII® ERROR MESSAGES

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

```
ver:2.14
date: 26 Jul 93
file: key_iff.cc
date: Jul26 1993
line: 548
err: Oxi
User-Requested COLD boot
```

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

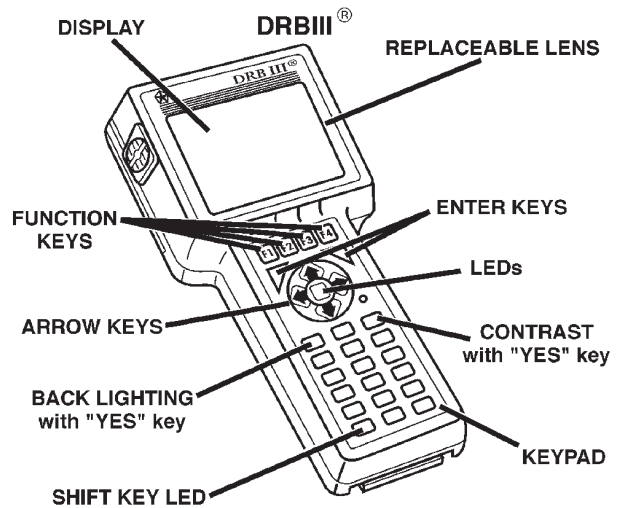
### 3.21 DRBIII® DOES NOT POWER UP (BLANK SCREEN)

If the LED's do not light or no sound is emitted at start up, check for loose cable connections or a bad cable. Check the vehicle battery voltage (data link connector cavity 16). A minimum of 11 volts is required to adequately power the DRBIII®. Check for proper grounds at DLC cavities 4 and 5.

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

### 3.22 DISPLAY IS NOT VISIBLE

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



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## 4.0 DISCLAIMERS, SAFETY, WARNINGS

### 4.1 DISCLAIMERS

All information, illustrations, and specifications contained in this manual are based on the latest

## GENERAL INFORMATION

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 EXHAUSE SYSTEM TO THE SHOP EXHAUST REMOVAL SYSTEM.**

Set the parking brake and block the wheel before testing or repairing the vehicle. It is especially important to block the wheels on front-wheel drive vehicles; the parking brake does not hold 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 the service manual procedures. Following these procedures is very important to safety of individuals performing diagnostic tests.

#### 4.2.2 VEHICLE PREPARATION FOR TESTING

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

#### 4.2.3 SERVICING SUB-ASSEMBLIES

Some components of the body system are intended to be serviced as an assembly only. Attempting to remove or repair certain system sub-components 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 functions for the measurement. Do not try voltage or current measurement that may exceed the rated capacity.
- Do not exceed the limits shown in the table below:

FUNCTION	INPUT LIMIT
Volts	0 - 500 peak volts AC 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 the load.
- 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 WRANINGS

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

**WARNING: 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 DRBIII® 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  
Sentry Key Tester  
Test Light  
8310 Airbag System Load Tool  
8443 SRS Airbag Load Tool

### 6.0 GLOSSARY OF TERMS

**ABS** antilock brake system  
**ACM** airbag control module  
**AECM** airbag electronic control module (ACM)

**ASDM** airbag system diagnostic module (ACM)  
**ATC** automatic temperature control  
**BCM** body control module  
**CAB** controller antilock brake  
**DAB** driver airbag  
**DLC** data link connector  
**DTC** diagnostic trouble code  
**DR** driver  
**EBL** electric back lite (rear window defogger)  
**EVIC** electronic vehicle information center  
**HVAC** heater ventilation, air conditioning  
**MHSM** memory heated seat mirror module  
**MIC** mechanical instrument cluster  
**MTC** manual temperature control  
**NGC** next generation controller  
**OBD** on board diagnostics  
**ODO** odometer  
**ORC** occupant restraint controller  
**OTIS** overhead travel information system  
**PAB** passenger airbag  
**PASS** passenger  
**PCI** Programmable Communication Interface (vehicle communication bus)  
**PCM** powertrain control module  
**PDC** power distribution center  
**PRO** proportional  
**PWM** pulse width modulated  
**RKE** remote keyless entry  
**SAB** seat airbag  
**SIACM** side impact airbag control module  
**SKIM** sentry key immobilizer module  
**SKIS** sentry key immobilizer system  
**SQUIB** also called initiator (located in side airbag)  
**SRS** supplemental restraint system  
**STG** short to ground  
**TCM** transmission control module

## GENERAL INFORMATION

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**TPM**

tire pressure monitor

**VTSS**

vehicle theft security system

**VFD**

vacuum fluorescent display

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# 7.0

## DIAGNOSTIC INFORMATION AND PROCEDURES

### Symptom List:

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

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

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### 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.

#### **INTERNAL 2**

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

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

#### **OUTPUT DRIVER 1**

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

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

#### **OUTPUT DRIVER 2**

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

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

**ACCELEROMETER 1 — Continued****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

LEFT SIDE IMPACT AIRBAG CONTROL MODULE - LSIACM

RIGHT SIDE IMPACT AIRBAG CONTROL MODULE - RSIACM

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. Ensure the battery is fully charged. <b>WARNING: IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> From the list below, select the appropriate module reporting this diagnostic trouble code. SELECT ONE:</p> <p>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.</p> <p>LEFT SIACM - ACTIVE or STORED DTC WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING. Replace the Left Side Impact Airbag Control Module in accordance with Service Instructions. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>RIGHT SIACM - ACTIVE or STORED DTC WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING. Replace the Right Side Impact Airbag Control Module in accordance with Service information. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	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 immediately if the indicator status is OPEN .

### AIRBAG WARNING INDICATOR SHORT

**When Monitored:** With ignition on the ACM monitors the PCI Bus for a message from the MIC containing the airbag warning indicator status. The 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 immediately if the indicator status is SHORT.

## POSSIBLE CAUSES

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

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

**AIRBAG WARNING INDICATOR TEST — Continued**

TEST	ACTION	APPLICABILITY
2	<p>With the DRBIII®, ensure PCI Bus communications with the Instrument Cluster. Is the Instrument Cluster communicating on the PCI Bus?</p> <p>Yes → Go To 3</p> <p>No → Refer to category COMMUNICATION CATEGORY and select the related symptom INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>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?</p> <p>YES Go To 4</p> <p>NO Replace Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> If there are no possible causes remaining, view repair.</p> <p>Repair Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b> 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. <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b> Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. <b>NOTE: Check connectors - Clean and repair as necessary.</b> 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 ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom: CALIBRATION MISMATCH

### When Monitored and Set Condition:

#### CALIBRATION MISMATCH

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

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

#### POSSIBLE CAUSES

PCM, PCI COMMUNICATION FAILURE  
COMPARE VEHICLE IDENTIFICATION NUMBERS  
ORC CALIBRATION MISMATCH  
STORED CODE OR INTERMITTENT CONDITION  
ACTIVE CODE PRESENT

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

**CALIBRATION MISMATCH — Continued**

TEST	ACTION	APPLICABILITY
3	<p>With the DRB select ENGINE MISCELLANEOUS, select MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module.</p> <p>Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match?</p> <p>Yes → Go To 4</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>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.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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 for 10 seconds, 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. <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:  ACM - ACTIVE DTC Go To 2  ACM - STORED DTC Go To 5  <b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b>	All
2	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	<p>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?</p> <p>YES Go To 4</p> <p>NO Replace Mechanical Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING.</b> If there are no possible causes remaining, view repair.</p> <p>Repair Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b> 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. <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b> Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. <b>NOTE: Check connectors - Clean and repair as necessary.</b> 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 ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom: CONFIGURATION ERROR

### When Monitored and Set Condition:

#### CONFIGURATION ERROR

**When Monitored:** With ignition on the Side Impact Airbag Control Module monitors the unused squib terminals for the a valid squib circuit resistance.

**Set Condition:** When the SIACM detects a valid squib circuit resistance across the unused terminals.

#### POSSIBLE CAUSES

SELECT MODULE REPORTING DTC  
 MISS WIRED LEFT SIACM CONNECTOR  
 MISS WIRED RIGHT SIACM CONNECTOR  
 LEFT SIDE IMPACT AIRBAG CONTROL MODULE - LSIACM  
 RIGHT SIDE IMPACT AIRBAG CONTROL MODULE - LSIACM  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.  <b>NOTE: Ensure that the battery is fully charged.</b>  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            SELECT ONE:</p> <p>LEFT SIACM - ACTIVE DTC            Go To 2</p> <p>LEFT SIACM - STORED DTC            Go To 4</p> <p>RIGHT SIACM - ACTIVE DTC            Go To 3</p> <p>RIGHT SIACM - STORED DTC            Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

**CONFIGURATION ERROR — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>  Disconnect the Left SIACM connector.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>  Using the wiring diagram/schematic as a guide, inspect the Left SIACM connector wiring.  Is the connector correctly wired?</p> <p>Yes → Replace the Left Side Impact Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE SIDE IMPACT AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>  Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Rewire the Left Side Impact Airbag Control Module connector.  Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
3	<p><b>WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>  Disconnect the Right SIACM connector.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>  Using the wiring diagram/schematic as a guide, inspect the Right SIACM connector wiring.  Is the connector correctly wired?</p> <p>Yes → Replace the Right Side Impact Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE SIDE IMPACT AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>  Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Rewire the Right Side Impact Airbag Control Module connector.  Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b>  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.  <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b>  Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>  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 ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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. <b>NOTE: Ensure that the battery is fully charged.</b> <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:  ACM - ACTIVE DTC Go To 2  ACM - STORED DTC Go To 5  <b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b>	All

**DRIVER SQUIB 1 CIRCUIT OPEN — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>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.</b></p> <p>Disconnect the Driver Airbag.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Driver Airbag connectors.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCs.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT OPEN?</p> <p>Yes → Go To 3</p> <p>No → Replace the Driver Airbag in accordance with the Service Information.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Clockspring connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Clockspring connector.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCs.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT OPEN?</p> <p>Yes → Go To 4</p> <p>No → Replace the Clockspring in accordance with the Service Information.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the Airbag Control Module connector.</p> <p>Disconnect the Load Tool from the Clockspring connector.</p> <p>Measure the resistance of the Driver Squib 1 Line 1 and Line 2 circuit between the ACM adaptor and the Clockspring connector.</p> <p>Is the resistance below 1.0 ohms on both circuits?</p> <p>Yes → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Repair open or high resistance in the Driver Squib 1 Line 1 or Line 2 circuit.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**DRIVER SQUIB 1 CIRCUIT OPEN — Continued**

TEST	ACTION	APPLICABILITY
5	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>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.  <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.  <b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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. <b>NOTE: Ensure that the battery is fully charged.</b> <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:  ACM - ACTIVE DTC Go To 2  ACM - STORED DTC Go To 5  <b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b>	All
2	<b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Disconnect the Driver Airbag. <b>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.</b> <b>NOTE: Check connectors - Clean and repair as necessary.</b> Connect the appropriate Load Tool to the Driver Airbag connectors. <b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b> 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	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>  Disconnect the Clockspring connector.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>  Connect the appropriate Load Tool to the Clockspring connector.  <b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b>  With the DRBIII®, read the active Airbag DTCs.  Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT SHORT?</p> <p>Yes → Go To 4</p> <p>No → Replace Clockspring.  Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>  Disconnect the Airbag Control Module connector.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>  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?</p> <p>Yes → Repair the Driver Squib 1 Line 1 circuit shorted to Driver Squib 1 Line 2 circuit.  Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>  Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b>  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.  <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b>  Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>  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 ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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. <b>NOTE: Ensure that the battery is fully charged.</b> <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED ACM DTC:  ACM - ACTIVE DTC Go To 2  ACM - STORED DTC Go To 5  <b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b>	All

**DRIVER SQUIB 1 SHORT TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>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.</b></p> <p>Disconnect the Driver Airbag.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Driver Airbag connectors.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCS.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 SHORT TO BATTERY?</p> <p>Yes → Go To 3</p> <p>No → Replace the Driver Airbag in accordance with the Service Information.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Clockspring connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Clockspring connector.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCs.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 SHORT TO BATTERY ?</p> <p>Yes → Go To 4</p> <p>No → Replace the Clockspring in accordance with the Service Information.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Disconnect the Airbag Control Module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the Airbag Control Module connector.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>Disconnect the Load Tool from the Clockspring connector.</p> <p>Measure the voltage on the Driver Squib 1 Line 1 and Line 2 circuits between the Clockspring connector and ground.</p> <p>Is there any voltage present?</p> <p>Yes → Repair the Driver Squib 1 Line 1 or Line 2 circuits shorted to battery.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**DRIVER SQUIB 1 SHORT TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
5	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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. <b>NOTE: Ensure that the battery is fully charged.</b> <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:  ACM - ACTIVE DTC Go To 2  ACM - STORED DTC Go To 5  <b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b>	All

**DRIVER SQUIB 1 SHORT TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>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.</b></p> <p>Disconnect the Driver Airbag Module.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Driver Airbag connectors.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCs.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 SHORT TO GROUND?</p> <p>Yes → Go To 3</p> <p>No → Replace the Driver Airbag in accordance with the Service Information.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Clockspring connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Clockspring connector.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCs.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 SHORT TO GROUND?</p> <p>Yes → Go To 4</p> <p>No → Replace the Clockspring.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the Airbag Control Module connector.</p> <p>Disconnect the Load Tool from the Clockspring connector.</p> <p>Measure the resistance of the Driver Squib 1 Line 1 and Line 2 circuits between Clockspring connector and ground.</p> <p>Is the resistance below 10K ohms on either circuit?</p> <p>Yes → Repair Driver Squib 1 Line 1 or Line 2 circuits shorted to ground.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**DRIVER SQUIB 1 SHORT TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
5	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### INTERROGATE LEFT SIACM

#### When Monitored and Set Condition:

#### INTERROGATE LEFT SIACM

**When Monitored:** With ignition on, the ACM monitors the PCI Bus for a Left SIACM status message containing the airbag warning lamp "On or OFF" request. The status message is sent to the ACM once each second or upon any change in the active DTCs.

**Set Condition:** The Code will set, if the ACM receives an Lamp On status message from the Left SIACM. **NOTE:** This indicates that there was an active diagnostic trouble code in the Left SIACM.

#### POSSIBLE CAUSES

INTERROGATE LEFT SIACM  
 ACM, NO ACTIVE LEFT SIACM DTCS  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure that the battery is fully charged.</b>            Ensure the battery is fully charged.  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            SELECT ACTIVE or STORED DTC:</p> <p style="padding-left: 40px;">ACM - ACTIVE DTC Go To 2</p> <p style="padding-left: 40px;">ACM - STORED DTC Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p>Turn the ignition on.            With the DRBIII® read the Left SIACM active DTCs.            Did the DRBIII® show any active DTCs?</p> <p style="padding-left: 40px;">Yes → Refer to symptom list for problems related to Left SIACM. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p style="padding-left: 40px;">No → Go To 3</p>	All

## INTERROGATE LEFT SIACM — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### INTERROGATE RIGHT SIACM

#### When Monitored and Set Condition:

#### INTERROGATE RIGHT SIACM

**When Monitored:** With ignition on, the ACM monitors the PCI Bus for a Right SIACM status message containing the airbag warning indicator On - OFF request. The status message is sent to the ACM once each second or upon any change in the active DTCs.

**Set Condition:** The Code will set, if the ACM receives an Lamp On status message from the Right SIACM. **NOTE:** This indicates that there is an active diagnostic trouble code in the Right SIACM.

#### POSSIBLE CAUSES

INTERROGATE RIGHT SIACM  
 NO ACTIVE RIGHT SIACM DTCS  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure that the battery is fully charged.</b>            Ensure the battery is fully charged.  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC            Go To 2</p> <p>ACM - STORED DTC            Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p>Turn the ignition on.            With the DRBIII® read the Right SIACM active DTCs.            Did the DRBIII® show any active DTCs?</p> <p>Yes → Refer to symptom list for problems related to Right SIACM.            Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

## INTERROGATE RIGHT SIACM — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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 6.0 volts for the ACM or 6.7 volts for the SIACM.

#### POSSIBLE CAUSES

AIRBAG SYSTEM COMPONENT SHORTED TO GROUND  
 IGNITION SWITCH RUN-START CIRCUIT OPEN  
 FUSED IGNITION SWITCH OUTPUT RUN-START CIRCUIT OPEN  
 ACM, FUSED IGNITION OUTPUT RUN-START CIRCUIT OPEN  
 MODULE RUN - START SHORTED TO GROUND  
 RSIACM, LOW IGNITION RUN - START VOLTAGE  
 LSIACM - LOW IGNITION RUN - START VOLTAGE  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.  <b>NOTE: Ensure that the battery is fully charged.</b>  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            From the list below, select the appropriate module and DTC type for the this diagnostic trouble code.            SELECT ONE:</p> <p>ACM - ACTIVE DTC                Go To 2</p> <p>ACM - STORED DTC                Go To 6</p> <p>LEFT SIACM - ACTIVE DTC                Go To 7</p> <p>RIGHT SIACM - ACTIVE DTC                Go To 8</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

## LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn ignition off. Remove and inspect the Airbag Run-Start Fuse. <b>NOTE: Check connectors - Clean and repair as necessary.</b> Is the Fuse open?</p> <p>Yes → Go To 3</p> <p>No → Go To 4</p>	All
3	<p><b>WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the Airbag Run-Start Fuse and ground. While monitoring the ohmmeter, disconnect each airbag system component on the Run - Start circuit one at a time. <b>NOTE: Refer to the service information and system schematics to identify component(s) on the run - start circuit.</b> Is the resistance above 10K ohms:</p> <p>Yes - after removing a component? Replace the shorted airbag system component in accordance with Service Instructions and replace the airbag Run - Start fuse. <b>WARNING: IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No - after all components are removed? Repair the Fused Ignition Run - Start circuit shorted to ground and replace Airbag Run-Start Fuse. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>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 6.0 volts?</p> <p>Yes → Go To 5</p> <p>No → Repair the open Ignition Switch Output Run-Start circuit. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Disconnect the Airbag Control Module connector. <b>NOTE: Check connectors - Clean and repair as necessary.</b> Reinstall the previously removed Airbag Run-Start Fuse. <b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b> Measure the voltage of the Fused Ignition Switch Output Run-Start Circuit between the Airbag Control Module connector ground. Is the voltage above approximately 6.0 volts?</p> <p>Yes → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Repair open Fused Ignition Switch Output Run-Start circuit. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**LOSS OF IGNITION RUN - START — Continued**

TEST	ACTION	APPLICABILITY
6	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>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.  <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.  <b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All
7	<p><b>WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p style="padding-left: 40px;">Repair</p> <p style="padding-left: 80px;">Replace the Left Side Impact Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>  Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
8	<p><b>WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p style="padding-left: 40px;">Repair</p> <p style="padding-left: 80px;">Replace the Right Side Impact Airbag Control Module in accordance with Service information. <b>WARNING: IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>  Perform AIRBAG VERIFICATION TEST - VER 1.</p>	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 6.0 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. <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:  ACM - ACTIVE DTC Go To 2  ACM - STORED DTC Go To 8  <b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b>	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	<p>Remove the Airbag Run fuse.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Measure the resistance of the Fused Ignition Switch Output Run circuit between the Run Fuse and ground.</p> <p>Is the resistance below 10.0 ohms ?</p> <p>Yes → Go To 4</p> <p>No → Replace the defective fuse.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Measure the resistance of the Fused Ignition Switch Output Run circuit between the ACM connector and ground.</p> <p>Is the resistance below 10K ohms ?</p> <p>Yes → Repair the Fused Ignition Switch Output Run circuit for a short to ground and replace Airbag Run Fuse.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions and replace the Run Only Fuse. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition on.</p> <p>Measure the voltage of the Ignition Switch Output Run circuit between the Airbag Run circuit fuse and ground.</p> <p>Is the voltage above approximately 6.0 volts?</p> <p>Yes → Go To 6</p> <p>No → Repair the open Ignition Switch Output Run circuit.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
6	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Reinstall the airbag Run fuse.</p> <p><b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>Measure the voltage of the Fused Ignition Switch Output Run circuit at the Airbag Control Module connector.</p> <p>Is the voltage above approximately 6.0 volts?</p> <p>Yes → Go To 7</p> <p>No → Repair the an open or high resistance in the Fused Ignition Switch Output Run circuit.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

## LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
7	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
8	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### MODULE NOT CONFIGURED FOR SAB

#### When Monitored and Set Condition:

#### MODULE NOT CONFIGURED FOR SAB

**When Monitored:** With ignition on, the ORC monitors the PCI Bus for a message containing an "A" in the 4 th position of the VIN. This character identifies the type of safety equipment and should match the VIN. The PCM transmits the VIN every 3.5 seconds.

**Set Condition:** The code will set, if the ORC detects a Side Impact Airbag Module active on the PCI Bus and the 4 th character of the VIN message is not an "A".

#### POSSIBLE CAUSES

PCM, PCI COMMUNICATION FAILURE  
 CHECK PCM VIN  
 ACM, NOT CONFIGURED FOR SIDE AIRBAGS  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

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

## MODULE NOT CONFIGURED FOR SAB — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRB read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match?</p> <p>Yes → Go To 4</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b> 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. <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b> Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. <b>NOTE: Check connectors - Clean and repair as necessary.</b> 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 ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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	<p><b>NOTE: Ensure that the battery is fully charged.</b>  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            Turn the ignition on.            SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC            Go To 2</p> <p>ACM - STORED DTC            Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p>With the DRBIII®, ensure PCI Bus communications with the Instrument Cluster.            Is the Instrument Cluster communicating on the PCI Bus?</p> <p>Yes → Go To 3</p> <p>No → Refer to category COMMUNICATION CATEGORY and select the related symptom INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN.</p>	All

## NO CLUSTER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b></p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### NO LEFT SIACM MESSAGE

#### When Monitored and Set Condition:

#### NO LEFT SIACM MESSAGE

**When Monitored:** With ignition on, the ACM monitors the PCI Bus for the Left Side Impact Airbag Control Module status message. The Left SIACM transmits the status message to the ACM at 1 - second intervals.

**Set Condition:** If the ACM fails to see the Left SIACM status message on the PCI Bus for 10 seconds the code will set.

#### POSSIBLE CAUSES

NO LEFT SIACM MESSAGE  
 ACM, NO LEFT SIACM MESSAGE  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure the battery is fully charged.</b>            Turn the ignition on.  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC            Go To 2</p> <p>ACM - STORED DTC            Go To 4</p>	All
2	<p>With the DRBIII® select PASSIVE RESTRAINTS, SIDE AIRBAG then LEFT SIDE from the DRB menu.            Does the DRBIII® show NO RESPONSE or BUS +/- SIGNAL OPEN?</p> <p>Yes → Refer to the Communication category for the related symptom.            Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>            If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>            Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**NO LEFT SIACM MESSAGE — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### NO ODOMETER MESSAGE

#### When Monitored and Set Condition:

#### NO ODOMETER MESSAGE

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

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

#### POSSIBLE CAUSES

PCM, PCI COMMUNICATION FAILURE  
 NO ODOMETER MESSAGE  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT  
 ORC, NO ODOMETER MESSAGE

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

## NO ODOMETER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRB select ENGINE, MISCELLANEOUS, SELECT MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module.</p> <p>Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match?</p> <p>Yes → Go To 4</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b></p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>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.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

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**Symptom:**  
**NO PCI TRANSMISSION**

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**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 LEFT SIDE IMPACT AIRBAG CONTROL MODULE - LSIACM RIGHT SIDE IMPACT AIRBAG CONTROL MODULE - RSIACM STORED CODE OR INTERMITTENT CONDITION ACTIVE CODE PRESENT
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## NO PCI TRANSMISSION — Continued

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure that the battery is fully charged.</b>  <b>IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b>  Turn the ignition on.  From the list below, select the appropriate module and DTC type for the this diagnostic trouble code.  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>  Select the appropriate module and type of DTC</p> <p>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.</p> <p>ACM - STORED  Go To 2</p> <p>LEFT SIACM - ACTIVE  WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.  Replace the Left Side Impact Airbag Control Module in accordance with Service Instructions.  Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>LEFT SIACM - STORED  Go To 2</p> <p>RIGHT SIACM - ACTIVE  WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.  Replace the Right Side Impact Airbag Control Module in accordance with Service information.  Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>RIGHT SIACM - STORED  Go To 2</p>	All

**NO PCI TRANSMISSION — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom: NO RIGHT SIACM MESSAGE

### When Monitored and Set Condition:

#### NO RIGHT SIACM MESSAGE

**When Monitored:** With ignition on, the ACM monitors the PCI Bus for the Right Side Impact Airbag Control Module status message. The Right SIACM transmits the status message to the ACM at 1 - second intervals.

**Set Condition:** If the ACM fails to see the Right SIACM status message on the PCI Bus for 10 seconds the code will set.

#### POSSIBLE CAUSES

NO RIGHT SIACM MESSAGE  
ACM, NO RIGHT SIACM MESSAGE  
STORED CODE OR INTERMITTENT CONDITION  
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure the battery is fully charged.</b> Turn the ignition on. <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC Go To 2</p> <p>ACM - STORED DTC Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p>With the DRBIII® select SIDE AIRBAG and the RIGHT SIDE AIRBAG from the DRBIII® menu. Does the DRBIII® show NO RESPONSE or BUS +/- SIGNAL OPEN?</p> <p>Yes → Refer to the COMMUNICATION category for the related symptom. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

**NO RIGHT SIACM MESSAGE — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b></p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b> 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. <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b> Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. <b>NOTE: Check connectors - Clean and repair as necessary.</b> 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 ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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	<p><b>NOTE: Ensure the battery is fully charged.</b> Turn the ignition on. <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC Go To 2</p> <p>ACM - STORED DTC Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

**PASSENGER SQUIB 1 CIRCUIT OPEN — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>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.</b></p> <p>Disconnect the Passenger Airbag.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Passenger Airbag connector.</p> <p><b>WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRBIII®, read the active Airbag DTCs.</p> <p>Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT OPEN?</p> <p>Yes → Go To 3</p> <p>No → Replace the Passenger Airbag in accordance with the Service Information.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the Airbag Control Module connector.</p> <p>Disconnect the Load Tool from the Passenger Airbag connector.</p> <p>Measure the resistance of the Passenger Squib 1 Line 1 and Line 2 circuit between the ACM Adaptor and the Passenger Airbag connector.</p> <p>Is the resistance below 1.0 ohms on both circuits?</p> <p>Yes → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Repair open or high resistance in Passenger Squib 1 Line 1 or Line 2 circuits.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b></p>	All

**PASSENGER SQUIB 1 CIRCUIT OPEN — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"><li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li><li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li><li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li></ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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	<p><b>NOTE: Ensure that the battery is fully charged.</b>            Turn the ignition on.  <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b>            SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC            Go To 2</p> <p>ACM - STORED DTC            Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>  <b>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.</b>            Disconnect the Passenger Airbag.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>            Connect the appropriate Load Tool to the Passenger Airbag connector.  <b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b>            With the DRBIII®, read the active airbag DTCs.            Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT SHORT?</p> <p>Yes → Go To 3</p> <p>No → Replace Passenger Airbag in accordance with the Service Information.            Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**PASSENGER SQUIB 1 CIRCUIT SHORT — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adapter to the Airbag Control Module connector.</p> <p>Disconnect the Load Tool from the Passenger airbag connector.</p> <p>Measure the resistance between Passenger Squib 1 Line 1 and Squib 1 Line 2 circuit at the Passenger Airbag connector.</p> <p>Is the resistance below 10K ohms?</p> <p>Yes → Repair Passenger Squib 1 Line 1 circuit short to Passenger Squib 1 Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b></p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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	<p><b>NOTE: Ensure that the battery is fully charged.</b> Turn the ignition on. <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC Go To 2</p> <p>ACM - STORED DTC Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> <b>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.</b> Disconnect the Passenger Airbag connector. <b>NOTE: Check connectors - Clean and repair as necessary.</b> Connect the appropriate Load Tool to the Passenger Airbag connector. <b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b> With the DRBIII®, read the active Airbag DTCs. Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT SHORT TO BATTERY?</p> <p>Yes → Go To 3</p> <p>No → Replace Passenger Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

## PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the Airbag Control Module connector.</p> <p><b>WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>Disconnect the Load Tool from the Passenger Airbag connector.</p> <p>Measure the voltage on the Passenger Squib 1 Line 1 and Line 2 circuits between the Passenger Airbag connector and ground.</p> <p>Is there any voltage present?</p> <p>Yes → Repair Passenger Squib 1 Line 1 or Line 2 circuit short to battery. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	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	<p><b>NOTE: Ensure that the battery is fully charged.</b>            Turn the ignition on.  <b>NOTE: Connect the appropriate Load Tool to the Passenger Airbag connector.</b>            SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC            Go To 2</p> <p>ACM - STORED DTC            Go To 4</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b>  <b>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.</b>            Disconnect the Passenger Airbag connector.  <b>NOTE: Check connectors - Clean and repair as necessary.</b>            Connect the appropriate Load Tool to the Passenger Airbag connector.  <b>WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b>            With the DRBIII®, read the active Airbag DTCs.            Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT SHORT TO GROUND?</p> <p>Yes → Go To 3</p> <p>No → Replace the Passenger Airbag in accordance with the Service Information.            Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

## PASSENGER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module connector</p> <p><b>NOTE: Check connectors - Clean repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the Airbag Control Module connector.</p> <p>Disconnect the Load Tool from the Passenger Airbag connector.</p> <p>Measure the resistance of the Passenger Squib 1 Line 1 or Line 2 circuit between the Passenger Airbag Module Connector and ground.</p> <p>Is the resistance below 10K ohms on either circuit?</p> <p>Yes → Repair Passenger Squib 1 Line 1 and Line 2 circuits for a short to ground. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### SEAT SQUIB CIRCUIT OPEN

#### When Monitored and Set Condition:

#### SEAT SQUIB CIRCUIT OPEN

**When Monitored:** With the ignition is On, the SIACM monitors the resistance of the Seat Squib circuits.

**Set Condition:** When the SIACM detects an open circuit or high resistance on the Seat Squib circuits.

#### POSSIBLE CAUSES

SEAT AIRBAG OPEN  
 SEAT SQUIB LINE 1 OR LINE 2 CIRCUIT OPEN  
 SIACM, SEAT SQUIB CIRCUIT OPEN  
 STORED CODE OR INTERMITTENT CONDITION  
 ACTIVE CODE PRESENT

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

**SEAT SQUIB CIRCUIT OPEN — Continued**

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

## SEAT SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom: SEAT SQUIB CIRCUIT SHORT

### When Monitored and Set Condition:

#### SEAT SQUIB CIRCUIT SHORT

**When Monitored:** When the ignition is on, the SIACM monitors the resistance between the Seat Squib circuits.

**Set Condition:** When the SIACM detects a low resistance between the Seat Squib circuits.

### POSSIBLE CAUSES

SEAT AIRBAG SHORT  
SEAT SQUIB LINE 1 SHORT TO LINE 2  
SIACM, SEAT SQUIB CIRCUIT SHORT  
STORED CODE OR INTERMITTENT CONDITION  
ACTIVE CODE PRESENT

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

**SEAT SQUIB CIRCUIT SHORT — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED SEAT BACK PADDED SIDE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.</b></p> <p>Disconnect the Seat Airbag connector.</p> <p><b>NOTE: Check connectors - Clean repair as necessary.</b></p> <p>Connect the appropriate Load Tool to the Seat Airbag connector.</p> <p><b>WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>With the DRB, read the SIACM active DTC's.</p> <p>Does the DRB show SEAT SQUIB CIRCUIT SHORT?</p> <p>Yes → Go To 3</p> <p>No → Replace Seat Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
3	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED SEAT BACK PADDED SIDE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.</b></p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>Connect the appropriate Load Tool adaptor to the SIACM connector.</p> <p>Disconnect the Side Impact Airbag Control Module connector</p> <p>Measure the resistance between the Seat Squib Line 1 and Line 2 circuits at the Seat Airbag connector.</p> <p>Is the resistance below 10K ohms?</p> <p>Yes → Repair Seat Squib Line 1 shorted to Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Side Impact Airbag Control Module in accordance with Service Instructions. <b>WARNING: IF THE SIDE IMPACT AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**SEAT SQUIB CIRCUIT SHORT — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

**Symptom:**  
**SEAT SQUIB SHORT TO BATTERY**

**When Monitored and Set Condition:**

**SEAT SQUIB SHORT TO BATTERY**

**When Monitored:** When the ignition is on, the SIACM monitors the voltage of the Seat Squib circuits.

**Set Condition:** When the SIACM detects high voltage on the Seat Squib circuits.

**POSSIBLE CAUSES**

SEAT AIRBAG SHORT TO BATTERY  
 SEAT SQUIB LINE 1 OR LINE 2 SHORTED TO BATTERY  
 SIACM, SEAT 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. <b>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</b> SELECT ONE:  LEFT SIACM - ACTIVE DTC Go To 2  LEFT SIACM - STORED DTC Go To 4  RIGHT SIACM - ACTIVE DTC Go To 2  RIGHT SIACM - STORED DTC Go To 4  <b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b>	All

## SEAT SQUIB SHORT TO BATTERY — Continued

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

**SEAT SQUIB SHORT TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom: SEAT SQUIB SHORT TO GROUND

### When Monitored and Set Condition:

#### SEAT SQUIB SHORT TO GROUND

**When Monitored:** When the ignition is on, the SIACM monitors the resistance of the Seat Squib circuits.

**Set Condition:** When the SIACM detects a short to ground on the Seat Squib circuits.

### POSSIBLE CAUSES

SEAT AIRBAG SHORT TO GROUND  
SEAT SQUIB LINE 1 OR LINE 2 SHORTED TO GROUND  
SIACM, SEAT SQUIB SHORT TO GROUND  
STORED CODE OR INTERMITTENT CONDITION  
ACTIVE CODE PRESENT

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

**SEAT SQUIB SHORT TO GROUND — Continued**

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

**SEAT SQUIB SHORT TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>With the DRBIII®, record and erase all DTCs from all modules.</p> <p>All active codes must be resolved before diagnosing any stored codes.</p> <p>Maintain a safe distance from all airbags while performing the following steps.</p> <p>With the DRBIII® monitor active codes as you work through the system.</p> <p><b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop.</p> <p><b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>You have just attempted to simulate the condition that initially set the trouble code message.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p style="padding-left: 40px;">Yes → Select appropriate symptom from Symptom List.</p> <p style="padding-left: 40px;">No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

## Symptom:

### VEHICLE BODY STYLE UNKNOWN

#### When Monitored and Set Condition:

#### VEHICLE BODY STYLE UNKNOWN

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

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

#### POSSIBLE CAUSES

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

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

## VEHICLE BODY STYLE UNKNOWN — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRB select ENGINE, MISCELLANEOUS, SELECT MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module.</p> <p>Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match?</p> <p>Yes → Go To 4</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p><b>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.</b></p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</b></p>	All
5	<p><b>NOTE: Ensure the battery is fully charged.</b></p> <p>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. <b>NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.</b></p> <p>Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. <b>NOTE: Check connectors - Clean and repair as necessary.</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>- Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals.</li> <li>- Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire.</li> <li>- Refer to Wiring Diagrams and Technical Service Bulletins that may apply.</li> </ul> <p>Did the DTC become active ?</p> <p>Yes → Select appropriate symptom from Symptom List.</p> <p>No → No problem found at this time. Erase all codes before returning vehicle to customer.</p>	All

**Symptom:****\*AIRBAG INDICATOR ON WITHOUT ACM TROUBLE CODES****POSSIBLE CAUSES**

AIRBAG INDICATOR ON WITHOUT ACM TROUBLE CODES

INSTRUMENT CLUSTER PROBLEMS

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.            Make sure that all active DTC's have been repaired before performing this procedure.            With the DRBIII® select PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY, WARNING LAMP STATUS and read the WARNING LAMP STATUS.            Does the DRBIII® show LAMP REQ BY ACM: ON?</p> <p>Yes → 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.</p> <p>No → Refer to INSTRUMENT CLUSTER CATEGORY symptom list for problems related to Instrument Cluster.            Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

## Symptom: ALL OUTPUTS SHORT

### When Monitored and Set Condition:

#### ALL OUTPUTS SHORT

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: The radio has sensed a short on the output for more than 10 seconds.

### POSSIBLE CAUSES

DETERMINE FAULT

SPEAKER SECTION OF 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 intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Power Amplifier C2 harness connector. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display ALL OUTPUTS SHORT?  Yes → Go To 3  No → Replace the Power Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

**ALL OUTPUTS SHORT — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Power Amplifier C2 harness connector.            Disconnect the Radio C1 harness connector.            Measure the resistance between ground and any speaker (+) circuit in the Radio C1 connector.            Is the resistance below 1000.0 (1K) ohms?</p> <p>Yes → Repair the speaker (+) circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Power Amplifier C2 harness connector.            Disconnect the Radio C1 harness connector.            Measure the resistance between ground and any speaker (-) circuit in the Radio C1 connector.            Is the resistance below 1000.0 (1K) ohms?</p> <p>Yes → Repair the speaker (-) circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Power Amplifier C2 harness connector.            Disconnect the Radio C1 harness connector.            Measure the resistance between each speaker (+) circuit and each speaker (-) circuit in the radio C1 connector.            Is the resistance below 1000.0 (1K) ohms for any of the measurements?</p> <p>Yes → Repair the speaker circuits shorted together.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair            Replace the Radio.            Perform BODY VERIFICATION TEST - VER 1.</p>	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**

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

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**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.

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**POSSIBLE CAUSES**

INTERNAL FAILURE
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TEST	ACTION	APPLICABILITY
1	<b>NOTE: If a DTC is set, erase the DTC and attempt to reset the DTC. If DTC resets, follow this test.</b> 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	<b>NOTE: Erase DTC and attempt to reset. If DTC resets, follow this test.</b> 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**

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**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	<p>With the DRBIII®, erase the audio DTC's.</p> <p>Start the engine and allow the engine to reach normal operating temperature.</p> <p>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.</p> <p>The CD Changer will operate between -23° C and 65° C (-10° F and +145° F).</p> <p>With the DRBIII®, read DTC's.</p> <p>Does the DRBIII® display CD CHANGER TEMPERATURE HIGH?</p> <p>Yes → Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:**  
**CD READ FAILURE**

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**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
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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	<p>With the DRBIII®, erase the audio DTC's.</p> <p>Start the engine and allow the engine to reach normal operating temperature.</p> <p>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.</p> <p>The radio CD player will operate between -23° C and 70° C (-10° F and +156° F).</p> <p>With the DRBIII®, read DTC's.</p> <p>Does the DRBIII® display CD TEMPERATURE HIGH?</p> <p>Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	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  
 FIXED MAST ANTENNA  
 RADIO - NO ANTENNA CONNECTION - FIXED MAST  
 BAD POWER AMPLIFIER CONNECTIONS  
 REAR WINDOW DEFOGGER/ANTENNA MODULE  
 REAR WINDOW DEFOGGER ANTENNA (GRID)  
 RADIO 12V OUTPUT OPEN  
 POOR CASE GROUND CONNECTION  
 RADIO - NO ANTENNA CONNECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the radio antenna coax connector. Inspect the radio antenna coax connection. Was the antenna coax connection clean and tight?  Yes → Go To 2 No → Repair bad antenna connection as needed. Perform BODY VERIFICATION TEST - VER 1.	All
2	Inspect the vehicle to identify the type of antenna. Is this vehicle equipped with a Fixed Mast Antenna?  Yes → Go To 3 No → Go To 4	All
3	Refer to Audio System and use the Service Information to test the Fixed Mast Antenna. Is the Fixed Mast Antenna ok?  Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Refer to Audio System and perform the antenna ohmmeter test in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

**NO ANTENNA CONNECTION — Continued**

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Power Amplifier harness connectors. Inspect the Power Amplifier connections. Are the connections clean and tight?  Yes → Go To 5  No → Repair as needed. Perform BODY VERIFICATION TEST - VER 1.	All
5	Refer to Audio System and use the service information to test the Rear Window Defogger/Antenna Module. Was the Rear Window Defogger/Antenna Module ok?  Yes → Go To 6  No → Replace the Rear Window Defogger/Antenna Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	Refer to Audio System and use the service information to test the Rear Window Defogger Antenna (Grid). Is the Rear Window Defogger Antenna (Grid) ok?  Yes → Go To 7  No → Repair or replace the Rear Window Defogger Antenna (Grid) as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Rear Window Defogger/Antenna Module harness connector. Turn the ignition and Radio on. Measure the voltage of the Radio 12V Output circuit. Is the voltage above 10.0 volts?  Yes → Go To 8  No → Repair the Radio 12V Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the Rear Window Defogger/Antenna Module harness connector. Measure the resistance between ground and case ground. Is the resistance below 5.0 ohms?  Yes → Go To 9  No → Repair the case ground connection. If ok, replace the Rear Window Defogger/Antenna Module. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair.  Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

### POWER AMP SHUTDOWN

#### When Monitored and Set Condition:

#### POWER AMP SHUTDOWN

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: The radio has sensed a short on the output for more than 10 seconds.

#### POSSIBLE CAUSES

DETERMINE FAULT

SPEAKER SECTION OF 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 intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Power Amplifier C2 harness connector. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display POWER AMP SHUTDOWN?  Yes → Go To 3  No → Replace the Power Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

**POWER AMP SHUTDOWN — Continued**

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Amplifier C2 harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and any speaker (+) circuit in the Radio C1 connector. 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 C2 harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and any speaker (-) circuit in the Radio C1 connector. 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 C2 harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit in the radio C1 connector. 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:

### REMOTE RADIO SWITCH OPEN

#### When Monitored and Set Condition:

#### REMOTE RADIO SWITCH OPEN

When Monitored: Continuously.

Set Condition: The BCM senses voltage above 4.82 volts on its radio control mux input.

#### POSSIBLE CAUSES

OPEN CLOCKSPrING  
 OPEN RADIO CONTROL MUX CIRCUIT  
 OPEN RADIO CONTROL MUX RETURN CIRCUIT  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Turn the ignition on. Connect a jumper wire between cavity 4 and cavity 5 at the Clockspring C1 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 2	All
2	Turn the ignition off. Disconnect the Clockspring C1 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 C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Radio Control MUX circuit for an open between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1.	All

**REMOTE RADIO SWITCH OPEN — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Clockspring C1 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 C1 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the Radio Control MUX Return circuit for an open between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****REMOTE RADIO SWITCH SHORTED TO GROUND****When Monitored and Set Condition:****REMOTE RADIO SWITCH SHORTED TO GROUND**

When Monitored: Continuously.

Set Condition: The code will set if the BCM detects a stuck switch or a short to ground on the Radio Control MUX circuit for more than 20 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	<p><b>WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.</b>  <b>CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidentally deployed.</b>            Remove the Driver Airbag Module.            Disconnect the Left Remote Radio Switch harness connector.            Turn the ignition on, reconnect the battery.            With the DRBIII®, enter Body Computer then Sensors and monitor the Radio Control SW voltage.            Is the voltage approximately 5.0 volts?</p> <p>Yes → Replace the Left Remote Radio Switch in accordance with the service information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All

**REMOTE RADIO SWITCH SHORTED TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
2	<p><b>WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.</b></p> <p><b>CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidentally deployed.</b></p> <p>Remove the Driver Airbag Module.</p> <p>Disconnect the Right Remote Radio Switch harness connector.</p> <p>Turn the ignition on, reconnect the battery.</p> <p>With the DRBIII®, enter Body Computer then Sensors and monitor the Radio Control SW voltage.</p> <p>Is the voltage approximately 5.0 volts?</p> <p>Yes → Replace the Right Remote Radio Switch in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Clockspring C3 harness connector.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, enter Body Computer then Sensors and monitor the Radio Control SW voltage.</p> <p>Is the voltage approximately 5.0 volts?</p> <p>Yes → Go To 4</p> <p>No → Go To 5</p>	All
4	<p>Turn the ignition off.</p> <p>Disconnect the Clockspring C3 harness connector.</p> <p><b>NOTE: Ensure both remote radio switches are disconnected.</b></p> <p>Measure the resistance between ground and the Radio Control MUX circuit at the clockspring C3 harness connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>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.</p> <p>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.</p>	All
5	<p>Turn the ignition off.</p> <p>Disconnect the Clockspring C1 harness connector.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, enter Body Computer then Sensors and monitor the Radio Control SW voltage.</p> <p>Is the voltage approximately 5.0 volts?</p> <p>Yes → Replace the Clockspring in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All

**REMOTE RADIO SWITCH SHORTED TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the Clockspring C1 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 C1 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 in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*NO SOUND FROM ALL SPEAKERS**

POSSIBLE CAUSES	
INTERMITTENT SHORT - FUSE #18 OR #19	
FUSED B+ CIRCUIT SHORT TO GROUND	
INTERMITTENT SHORT - FUSE #4	
RADIO - FUSED IGNITION SWITCH OUTPUT CIRCUIT 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 RADIO 12V OUTPUT CIRCUIT TO AMPLIFIER	
RADIO 12V OUTPUT CIRCUIT SHORTED TO GROUND	
RADIO (NO SPEAKER OUTPUT)	
RADIO (NO RADIO 12V OUTPUT)	
POWER AMPLIFIER (NO OUTPUT)	

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect fuse #18 and #19 in the Junction Block. Is either fuse open?  Yes → Go To 2 No → Go To 3	All
2	Replace fuse #18 or #19 in the Junction Block. Turn the radio on. Remove and inspect fuse #18 or #19 in the Junction Block. Is either fuse open?  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 fuse #18 or #19 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
3	Turn the ignition off. Remove and inspect fuse #4 in the Junction Block. Is the fuse open?  Yes → Go To 4 No → Go To 6	All

**\*NO SOUND FROM ALL SPEAKERS — Continued**

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Replace fuse #4 in the Junction Block. Turn the ignition on. Turn the radio on. Turn the ignition off. Remove and inspect fuse #4 in the Junction Block. Is the fuse open?  Yes → Go To 5  No → Replace fuse #4 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
5	Turn the ignition off. Disconnect the Radio C1 harness connector. Replace fuse #4 in the Junction Block. Cycle the ignition switch from on to off. Remove and inspect fuse #4 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
6	Turn the ignition off. Disconnect the Radio 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 7  No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. 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 8  No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the Radio C1 harness connector. <b>NOTE: If the radio is case grounded, ensure good continuity to ground is present.</b> Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated?  Yes → Go To 9  No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**\*NO SOUND FROM ALL SPEAKERS — Continued**

TEST	ACTION	APPLICABILITY
9	<p><b>NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.</b>            Turn the ignition off.            Disconnect the Power Amplifier 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?</p> <p>Yes → Go To 10</p> <p>No → Repair the Fused B+ circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p><b>NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.</b>            Turn the ignition off.            Disconnect the Power Amplifier C2 harness connector.            Using a 12-volt test light connected to 12-volts, probe both Ground circuits.            Is the test light illuminated for both circuits?</p> <p>Yes → Go To 11</p> <p>No → Repair the Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
11	<p><b>NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.</b>            Turn the ignition off.            Disconnect the Radio C1 harness connector.            Disconnect the Power Amplifier C2 harness connector.            Measure the resistance of the Radio 12V Output circuit between the Radio connector and the Power Amplifier connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 12</p> <p>No → Repair the Radio 12V Output circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
12	<p><b>NOTE: If vehicle is not equipped with a power amplifier, answer no to the question.</b>            Turn the ignition off.            Disconnect the Radio C1 harness connector.            Disconnect the Power Amplifier C2 harness connector.  <b>NOTE: If vehicle is equipped with a rear window defogger/antenna module, it will be necessary to disconnect the module before continuing.</b>            Measure the resistance between ground and the Radio 12V Output circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Radio 12V Output circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 13</p>	All

**\*NO SOUND FROM ALL SPEAKERS — Continued**

TEST	ACTION	APPLICABILITY
13	<p><b>NOTE: If vehicle is not equipped with a power amplifier, answer no to the question.</b></p> <p>While back probing, measure the voltage of any speaker (+) circuit in the Radio C1 connector.</p> <p>Turn the ignition and radio on.</p> <p>Is the voltage approximately 5.5 volts?</p> <p>Yes → Go To 14</p> <p>No → Replace the Radio.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
14	<p>Turn the ignition off.</p> <p>Disconnect the Power Amplifier C2 harness connector.</p> <p>Turn the ignition and Radio on.</p> <p>Measure the voltage of the Radio 12V Output circuit in the Power Amplifier connector.</p> <p>Is the voltage above 10.0 volts?</p> <p>Yes → Replace the Power Amplifier in accordance with the service information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Radio.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*ONE REMOTE RADIO SWITCH INOPERATIVE****POSSIBLE CAUSES**

OPEN RADIO CONTROL MUX CIRCUIT AT THE SWITCH

OPEN RADIO CONTROL MUX RETURN CIRCUIT AT THE SWITCH

REMOTE RADIO SWITCH

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: If any DTCs are set, diagnose the DTC before continuing.</b>  <b>WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.</b>  <b>CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidentally deployed.</b></p> <p>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?</p> <p>Yes → Go To 2</p> <p>No → Repair the Radio Control MUX circuit for an open between the inoperative switch and the splice.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p><b>NOTE: If any DTCs are set, diagnose the DTC before continuing.</b>  <b>WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.</b>  <b>CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidentally deployed.</b></p> <p>Remove the Driver Airbag Module.  Disconnect both remote radio switch harness connectors.  Disconnect the Clockspring C3 harness connector.  Measure the resistance of the Radio Control MUX Return circuit between the inoperative remote radio switch and the Clockspring C3 connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the Radio Control MUX Return circuit for an open between the inoperative switch and the clockspring.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Remote Radio Switch in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*REMOTE RADIO SWITCHES INOPERATIVE WITH IGNITION ON****POSSIBLE CAUSES**

INTERMITTENT SHORT - FUSE #5

FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND

OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT

BODY CONTROL MODULE

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 3	All
2	Replace fuse #5 in the Junction Block. Turn the ignition on. Remove and inspect fuse #5 in the Junction Block. Is the fuse open?  Yes → Repair the Fused Ignition Switch Output circuit for a short to ground. Refer to the wiring diagrams located in the service information to help isolate the short to ground condition. Perform BODY VERIFICATION TEST - VER 1.  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
3	<b>NOTE: Ensure fuse #5 is installed in the Junction Block.</b> Turn the ignition off. Disconnect the BCM 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 → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.  No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*CHIME INOPERATIVE****POSSIBLE CAUSES**

ACTUATE CHIME WITH DRBIII®

BODY CONTROL MODULE - CHIME INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Close the 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 in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*CHIME SOUNDS WITH DRIVER DOOR OPEN KEY REMOVED****POSSIBLE CAUSES**

KEY-IN IGN SW STATUS  
 KEY-IN IGNITION SWITCH SHORTED  
 KEY-IN IGNITION SW SENSE SHORT TO GROUND  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure the exterior lamps turn on and off properly and are off before continuing this test.</b>            With the DRB III select: Body Computer, Input Output.            Read the Key-In Ign Sw.            Remove the key from the ignition switch.            Does the DRB III show Key-In Ign OPEN?</p> <p>Yes → Replace and program the Body Control Module in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Ignition Switch connector.            Did the chime turn off?</p> <p>Yes → Check the Ignition Lock Cylinder for damage. If OK replace the Ignition Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn ignition off.            Disconnect the Ignition Switch connector.            Disconnect the Body Control Module C2 connector.            Measure the resistance of the Key-in Ignition Switch Sense circuit to ground at the Ignition Switch connector.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Key-In Ignition Switch Sense wire for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace and program the Body Control Module in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*KEY IN IGNITION AND DRIVER'S DOOR OPEN CHIME INOPERATIVE****POSSIBLE CAUSES**

OBSERVE THE KEY-IN IGNITION SWITCH STATUS

KEY-IN IGNITION SWITCH OPEN

KEY-IN IGNITION SWITCH GROUND CIRCUIT OPEN

KEY-IN IGNITION SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE - INCORRECT KEY-IN IGNITION SWITCH STATUS

TEST	ACTION	APPLICABILITY
1	<p>The driver's door ajar switch must be operational for the result of this test to be valid.  <b>NOTE: Ensure that the Key is still in the Ignition Switch.</b>            With the DRBIII® enter Body Computer Input Outputs and read the Key-In Ign Sw.            Does the DRB display: KEY-IN IGN SW: CLOSED?</p> <p>Yes → Replace and program the Body Control Module in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>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 harness connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Connect the ignition switch connector if disconnected.            Turn the ignition on.            With the ignition switch connector connected, back jumper the Key-In Ignition Switch Sense circuit to ground at the ignition switch connector.            With the DRBIII®, enter Body Computer Input/Outputs and observe the Key-In Ign Sw status.            Does the DRBIII display Key-In Ign SW: Closed?</p> <p>Yes → Replace the Ignition Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

**\*KEY IN IGNITION AND DRIVER'S DOOR OPEN CHIME INOPERATIVE****— Continued**

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch connector and the Body Control Module C2 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 BODY VERIFICATION TEST - VER 1.	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 BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*VEHICLE SPEED WARNING CHIME PROBLEM****POSSIBLE CAUSES**

INCORRECT COUNTRY CODE PROGRAMMED IN THE BODY CONTROL MODULE  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The high speed warning chime is for Gulf Coast Countries only.            With the DRBIII® in Miscellaneous check the Body Control Module country code setting.            Is the country code correct?</p> <p>Yes → Replace and program the Body Control Module in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Program the correct country code setting.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom: ATC MESSAGES NOT RECEIVED

### When Monitored and Set Condition:

#### ATC 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 Automatic Temperature Control (ATC) module for at least 18 seconds.

#### POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE AUTOMATIC TEMPERATURE CONTROL MODULE  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Automatic Temp Control. Was the DRB able to I/D or communicate with the ATC?  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:**
**BATTERY POWER TO MODULE DISCONNECTED**
**When Monitored and Set Condition:**
**BATTERY POWER TO MODULE DISCONNECTED**

When Monitored: With the ignition on.

Set Condition: The BCM receives ignition on voltage, but no battery power feed.

**POSSIBLE CAUSES**

VERIFYING ACTIVE DTC

FUSED B+ CIRCUIT - JUNCTION BLOCK

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>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?</p> <p>Yes → Go To 2</p> <p>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.</p>	All
2	<p>Turn the ignition off. Remove the BCM from the Junction Block. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused B+ circuit in the Junction Block Body Control Module connector cavity 7. Is the test light illuminated?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### EATX BUS COMMUNICATION FAILURE

#### When Monitored and Set Condition:

#### EATX BUS COMMUNICATION FAILURE

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

Set Condition: The BCM does not receive any messages from the Powertrain Control Module (Transmission information) for at least 18 seconds.

#### POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE TCM

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Transmission. Was the DRB able to I/D or communicate with the TCM?  Yes → Go To 2  No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the 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:**  
**EEPROM CHECKSUM FAILURE**

**When Monitored and Set Condition:**

**EEPROM CHECKSUM FAILURE**

When Monitored: Continuously.

Set Condition: The BCM fails EEPROM checksum test.

**POSSIBLE CAUSES**

EEPROM 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 → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

## Symptom: HEAD STATUS RX FAILURE

### When Monitored and Set Condition:

#### HEAD STATUS RX FAILURE

When Monitored: With the ignition on.

Set Condition: The BCM does not detect the correct voltage on the fused ignition switch input.

#### POSSIBLE CAUSES

FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND  
INTERMITTENT SHORT TO GROUND  
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect Fuse #14 from the Junction Block. Is the fuse open?  Yes → Go To 2  No → Go To 3	All
2	Turn the ignition off. Replace Fuse #14 in the Junction Block. Turn the ignition on. Inspect Fuse #14 in the Junction Block. Is the fuse open?  Yes → Refer to the wiring diagrams located in the service information to help isolate the short to ground condition. Perform BODY VERIFICATION TEST - VER 1.  No → 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

**HEAD STATUS RX FAILURE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Reinstall the fuse in the Junction Block. Remove the Body Control Module from the Junction Block. <b>NOTE: Ensure all of the Junction Block connectors are completely connected before continuing.</b> Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit in the Junction Block Body Control Module connector cavity 5. Is the voltage above 10.0 volts?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### INTERNAL BASE/PREM SELECT CIRCUIT

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#### When Monitored and Set Condition:

#### INTERNAL BASE/PREM SELECT CIRCUIT

When Monitored: With the ignition on.

Set Condition: Invalid base/premium select reading internal to the module.

#### POSSIBLE CAUSES

INTERNAL BASE/PREM SELECT CIRCUIT

TEST	ACTION	APPLICABILITY
1	<p>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?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:**  
**MHSMM MESSAGES NOT RECEIVED**

**When Monitored and Set Condition:**

**MHSMM 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 Memory Heated Seat/Mirror Module (MHSMM) for at least 18 seconds.

**POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE MEMORY HEATED SEAT/MIRROR MODULE  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Memory Seat Module. Was the DRB able to I/D or communicate with the MHSMM?  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: MIC MESSAGES NOT RECEIVED

### When Monitored and Set Condition:

#### MIC 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 Instrument Cluster (MIC) for at least 14 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**

ATTEMPT TO COMMUNICATE WITH THE RADIO

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	<p>Turn the ignition and Radio on. With the DRB, attempt to communicate with the Radio. Was the DRB able to I/D or communicate with the Radio?</p> <p>Yes → Go To 2</p> <p>No → Refer to the symptom list for problems related to no communication with the Radio. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>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 each DIN cable circuit between the Radio C2 connector (DIN cable) 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 Radio Din cable metal connector. Is the DIN cable circuits shorted together or open?</p> <p>Yes → Replace the CD Changer (DIN) cable. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

# NO PCI MESSAGES FROM CD CHANGER — Continued

TEST	ACTION	APPLICABILITY
3	<p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>With the DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Disconnect the CD Changer harness connector (DIN cable).</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the CD Changer DIN Cable connector.</p> <p>Reconnect the Radio C2 (DIN Cable) harness connector.</p> <p>Turn the ignition on.</p> <p>Turn the Radio on.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Go To 4</p> <p>No → Replace the Radio.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off.</p> <p>Disconnect the CD Changer harness connector (DIN cable).</p> <p>Turn the ignition on.</p> <p>Turn the Radio on.</p> <p>Using a 12-volt test light connected to ground, probe the ignition switch output circuit in the CD Changer DIN Cable connector.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 5</p> <p>No → Replace the Radio.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.</p> <p>Disconnect the CD Changer harness connector (DIN cable).</p> <p>Using a 12-volt test light connected to 12-volts, probe each CD Changer ground circuit in the CD Changer connector (DIN cable).</p> <p>Is the test light illuminated for each circuit?</p> <p>Yes → Go To 6</p> <p>No → Replace the Radio.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the CD Changer.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**OTIS MESSAGES NOT RECEIVED**

**When Monitored and Set Condition:**

**OTIS 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 Overhead Travel Information System (OTIS) for at least 14 seconds.

**POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE OTIS  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then OTIS. Was the DRB able to I/D or communicate with the OTIS?  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: POST FAILURE

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### When Monitored and Set Condition:

#### POST FAILURE

When Monitored: At battery connect.

Set Condition: The BCM fails ROM checksum test.

### POSSIBLE CAUSES

POST FAILURE

TEST	ACTION	APPLICABILITY
1	<p>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?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

## Symptom:

### SBEC BUS COMMUNICATION FAILURE

#### When Monitored and Set Condition:

#### SBEC BUS COMMUNICATION FAILURE

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

Set Condition: The BCM does not receive any messages from the Powertrain Control Module (PCM) for at least 12 seconds.

#### POSSIBLE CAUSES

VERIFYING ACTIVE DTC  
SBEC BUS COMMUNICATION FAILURE  
ATTEMPT TO COMMUNICATE WITH THE PCM  
POWERTRAIN CONTROL MODULE  
PCI BUS CIRCUIT OPEN  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>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?</p> <p>Yes → Go To 2</p> <p>No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent open or shorted wiring condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition on. With the DRB, enter Body Computer, System Tests then PCM Monitor. Does the DRB display: PCM is active on BUS?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition on. With the DRB, attempt to communicate with the PCM. Was the DRB able to communicate with the PCM?</p> <p>Yes → Go To 4</p> <p>No → Refer to the communication category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**SBEC BUS COMMUNICATION FAILURE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Disconnect the PCM harness connectors.  <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b>  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 Pinout Box.  Turn the ignition on.  Observe the voltage display on the DRB Lab Scope.  Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Powertrain Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Disconnect the PCM harness connectors.  <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b>  Disconnect the BCM C3 harness connector.  Measure the resistance of the PCI bus circuit from the BCM C3 harness connector to the appropriate terminal of special tool #8815.  Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**SKIM MESSAGES NOT RECEIVED**

**When Monitored and Set Condition:**

**SKIM 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 Sentry Key Immobilizer Module (SKIM) for at least 12 seconds.

**POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE SENTRY KEY IMMOBILIZER MODULE  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the SKIM. Was the DRB able to I/D or communicate with the SKIM?  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:

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM AUTOMATIC TEMPERATURE CONTROL MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN GROUND CIRCUIT OPEN AUTOMATIC TEMPERATURE CONTROL HEAD PCI BUS CIRCUIT OPEN 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 off. Disconnect the Automatic Temperature Control Head 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 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 Temperature Control Head harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits (cavities 1 and 3). Is the test light illuminated for both circuits?  Yes → Go To 4  No → Repair the ground circuit(s) for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM AUTOMATIC TEMPERATURE CONTROL MODULE — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>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.</b></p> <p>Disconnect the Automatic Temperature Control Head 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 ATC Head 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?</p> <p>Yes → Replace the Automatic Temperature Control Head in accordance with the service information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the ATC Head harness connector.            Disconnect the BCM C1 harness connector.            Measure the resistance of the PCI bus circuit between the ATC Head connector and the BCM C1 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM BODY CONTROL MODULE**

### POSSIBLE CAUSES

OPEN GROUND CIRCUIT AT THE JUNCTION BLOCK CONNECTOR C2  
 OPEN GROUND CIRCUIT AT THE JUNCTION BLOCK CONNECTOR C3  
 OPEN FUSED B+ CIRCUIT (JUNCTION BLOCK)  
 OPEN GROUND CIRCUIT AT THE JUNCTION BLOCK BODY CONTROL MODULE CONN CAV 1  
 OPEN GROUND CIRCUIT AT THE JUNCTION BLOCK BODY CONTROL MODULE CONN CAV 20  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Junction Block C2 harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit (Junction Block Connector C2 cavity 8). 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	Turn the ignition off. Disconnect the Junction Block C3 harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit (Junction Block Connector C3 cavity 4). 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. Remove the Body Control Module from the Junction Block. Using a 12-volt test light connected to ground, probe the Fused B+ circuit (cavity 7) in the Junction Block Body Control Module connector. Is the test light illuminated?  Yes → Go To 4  No → Replace the Junction Block in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM BODY CONTROL MODULE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Reconnect the Junction Block C2 harness connector.  Remove the Body Control Module from the Junction Block.  Using a 12-volt test light connected to 12-volts, probe the ground circuit (in Junction Block Body Control Module connector cavity 1).  Is the test light illuminated?</p> <p>Yes → Go To 5</p> <p>No → Replace the Junction Block in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.  Reconnect the Junction Block C3 harness connector.  Remove the Body Control Module from the Junction Block.  Using a 12-volt test light connected to 12-volts, probe the ground circuit (in Junction Block Body Control Module connector cavity 20).  Is the test light illuminated?</p> <p>Yes → Go To 6</p> <p>No → Replace the Junction Block in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM INSTRUMENT CLUSTER**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM FUSED B+ CIRCUIT OPEN GROUND CIRCUIT OPEN INSTRUMENT CLUSTER PCI BUS CIRCUIT OPEN 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 off. Disconnect the Instrument Cluster C1 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit (cavity 1). 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 Instrument Cluster C1 and C2 harness connectors. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits?  Yes → Go To 4  No → Repair the Ground circuit(s) for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM INSTRUMENT CLUSTER — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>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.</b></p> <p>Disconnect the Instrument Cluster C1 harness connector.</p> <p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>With the DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the MIC C1 connector.</p> <p>Turn the ignition on.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.</p> <p>Disconnect the Instrument Cluster C1 harness connector.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Measure the resistance of the PCI bus circuit between the MIC C1 connector and the BCM C1 connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM MEMORY HEATED SEAT/MIRROR MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM FUSED B+ CIRCUIT OPEN GROUND CIRCUIT OPEN MEMORY HEATED SEAT/MIRROR MODULE PCI BUS CIRCUIT OPEN 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 off. Disconnect the Memory Heated Seat/Mirror Module C4 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Is the test light illuminated?  Yes → Go To 3  No → Check Circuit Breaker #2 in the Junction Block for an open. If ok, 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 Memory Heated Seat/Mirror Module C4 harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated?  Yes → Go To 4  No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM MEMORY HEATED SEAT/MIRROR MODULE — Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>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.</b></p> <p>Disconnect the Memory Heated Seat/Mirror 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 MHSMM 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?</p> <p>Yes → Replace the Memory Heated Seat/Mirror Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Disconnect the Memory Heated Seat/Mirror Module C1 harness connector.  Disconnect the BCM C4 harness connector.  Measure the resistance of the PCI bus circuit between the MHSMM C1 connector and the BCM C4 connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM OTIS/EVIC**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN GROUND CIRCUIT OPEN OVERHEAD TRAVEL INFORMATION SYSTEM (OTIS) PCI BUS CIRCUIT OPEN 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 off. Disconnect the OTIS 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 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 OTIS 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

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM OTIS/EVIC —**  
**Continued**

TEST	ACTION	APPLICABILITY
4	<p><b>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.</b></p> <p>Disconnect the OTIS 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 OTIS 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?</p> <p>Yes → Replace the Overhead Travel Information System (OTIS) in accordance with the service information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the OTIS harness connector.            Remove the BCM from the Junction Block.            Measure the resistance of the PCI bus circuit between the OTIS connector and the Junction Block Body Control Module connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. If ok, replace the Junction Block.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*BUS +/- SIGNALS OPEN OR 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  
 SENTRY KEY IMMOBILIZER MODULE (SKIM)  
 PCI BUS CIRCUIT OPEN  
 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 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. Refer to the wiring diagrams in the service information. Perform SKIS VERIFICATION.	All

**\*BUS +/- SIGNALS OPEN OR NO RESPONSE FROM SENTRY KEY IMMOBILIZER MODULE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>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?</p> <p>Yes → Go To 5</p> <p>No → Repair the Fused B+ circuit for an open. Refer to the wiring diagrams in the service information. Perform SKIS VERIFICATION.</p>	All
5	<p><b>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.</b> 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?</p> <p>Yes → Replace the Sentry Key Immobilizer Module (SKIM) in accordance with the service information. Perform SKIS VERIFICATION.</p> <p>No → Go To 6</p>	All
6	<p>Turn the ignition off. Disconnect the SKIM harness connector. Disconnect the BCM C1 harness connector. Measure the resistance of the PCI bus circuit between the SKIM connector and the BCM C1 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform SKIS VERIFICATION.</p> <p>No → Repair the PCI Bus circuit for an open. Perform SKIS VERIFICATION.</p>	All

## Symptom:

**\*NO RESPONSE FROM ACM**

POSSIBLE CAUSES
CHECKING FOR VOLTAGE AT ACM
ACM GROUND CIRCUIT OPEN
AIRBAG CONTROL MODULE
PCI BUS CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Ensure that the battery is fully charged.</p> <p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module harness connector.</p> <p>Turn the ignition on and then reconnect the Battery.</p> <p>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.</p> <p>NOTE: One open circuit will not cause a NO RESPONSE condition.</p> <p>Is the test light illuminated on both circuits?</p> <p>Yes → Go To 2</p> <p>No → Repair the Fused Ignition Switch Output Run and Fused Ignition Switch Output Run/Start circuits for an open. Replace the fuse(s) if necessary.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
2	<p><b>Ensure that the battery is fully charged.</b></p> <p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</p> <p><b>NOTE: Make sure test light is connected to the Battery positive terminal.</b></p> <p>Is the test light illuminated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Ground circuit for an open.</p> <p>Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

# **\*NO RESPONSE FROM ACM — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>Note: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.</b></p> <p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module harness connector.</p> <p>Turn the ignition on and then reconnect the Battery.</p> <p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>With the DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the ACM connector.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Airbag Control Module in accordance with the service information. <b>WARNING: Make sure the battery is disconnected and wait 2 minutes before proceeding.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Airbag Control Module harness connector.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Measure the resistance of the PCI bus circuit between the ACM connector and the BCM C1 connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE

POSSIBLE CAUSES
NO RESPONSE FROM CAB REPLACE FUSE #17 FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND GROUND CIRCUIT OPEN OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT CONTROLLER ANTILOCK BRAKE (CAB) MODULE PCI BUS CIRCUIT OPEN BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. <b>Note: As soon as one or more module communicates with the DRB, answer the question.</b> With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Body Control Module (BCM). Was the DRB able to I/D or establish communications with either of the modules?  Yes → Go To 2  No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform ABS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect fuse #17 in the junction block. Is the fuse open?  Yes → Go To 3  No → Go To 4	All
3	Turn the ignition off. Replace Fuse #17 in the junction block. Turn the ignition on. Remove and inspect fuse #17 in the junction block. Is the fuse open?  Yes → Repair the Fused Ignition Switch Output circuit for a short to ground. Refer to the wiring diagrams located in the service information to help isolate the short to ground condition. Perform ABS VERIFICATION TEST - VER 1.  No → Check the Fused Ignition Switch Output circuit for an intermittent short to ground, refer to the wiring diagrams located in the service information. Perform ABS VERIFICATION TEST - VER 1.	All

**\*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the CAB harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits?</p> <p>Yes → Go To 5</p> <p>No → Repair the ground circuit(s) for an open. Perform ABS VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. <b>NOTE: Ensure fuse #17 is installed in the junction block.</b> 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?</p> <p>Yes → Go To 6</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open. Perform ABS VERIFICATION TEST - VER 1.</p>	All
6	<p><b>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.</b> 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?</p> <p>Yes → Replace the Controller Antilock Brake (CAB) in accordance with the service information. Perform ABS VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All

## **\*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued**

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the CAB harness connector. Disconnect the BCM C3 harness connector. Measure the resistance of the PCI bus circuit between the CAB connector and the BCM C3 connector. Is the resistance below 5.0 ohms?  Yes → Replace the Body Control Module in accordance with the service information. Perform ABS VERIFICATION TEST - VER 1.  No → Repair the PCI Bus circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All

# Symptom:

## \*NO RESPONSE FROM LEFT SIACM

### POSSIBLE CAUSES

INTERROGATE ACM  
GROUND CIRCUIT OPEN  
FUSED IGNITION SWITCH OUTPUT RUN/START CIRCUIT OPEN  
LEFT SIDE IMPACT AIRBAG CONTROL MODULE  
PCI BUS CIRCUIT OPEN  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p><b>Note: Ensure the battery is fully charged.</b> Turn the ignition on. With the DRBIII®, select Passive Restraints. With the DRBIII®, select Airbag and read the active DTC's. Is the Loss Of Ignition Run/Start DTC set?</p> <p>Yes → Refer to the symptom list and perform the Loss Of Ignition Run/Start symptom. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p><b>Ensure that the battery is fully charged.</b> <b>Warning: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Disconnect the Left Side Impact Airbag Control Module harness connector. Using a 12-volt test light connected to 12-volts, probe both Ground circuits. <b>NOTE: Make sure test light is connected to the Battery positive terminal.</b> Is the test light illuminated for each circuit?</p> <p>Yes → Go To 3</p> <p>No → Repair the Ground circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>Note: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
3	<p><b>Warning: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Disconnect the Left Side Impact Airbag Control Module harness connector. Turn the ignition on and then reconnect the Battery. Measure the voltage of the Fused Ignition Switch Output Run/Start circuit. Is the voltage above 6.0 volts?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused Ignition Switch Output Run/Start circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>Note: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

## \*NO RESPONSE FROM LEFT SIACM — Continued

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.</b></p> <p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Left Side Impact Airbag Control Module harness connector.</p> <p>Turn the ignition on and then reconnect the Battery.</p> <p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>With the DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Left Side Impact Airbag Control Module connector.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Left Side Impact Airbag Control Module (LSIACM) in accordance with the Service Information. <b>WARNING: Make sure the battery is disconnected and wait 2 minutes before proceeding.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Left Side Impact Airbag Control Module harness connector.</p> <p>Disconnect the BCM C4 harness connector.</p> <p>Measure the resistance of the PCI bus circuit between the Left SIACM connector and the BCM C4 connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**Symptom:**

**\*NO RESPONSE FROM PCM (PCI BUS)**

**POSSIBLE CAUSES**

PCM PCI NO RESPONSE  
POWERTRAIN CONTROL MODULE  
PCI BUS CIRCUIT OPEN  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p><b>NOTE: As soon as one or more module communicates with the DRB, answer the question.</b></p> <p>With the DRB, enter Body then Body Computer.</p> <p>With the DRB, enter Anti-Lock Brakes.</p> <p>With the DRB, enter Body then Electro/Mechanical Cluster (MIC).</p> <p>With the DRB, enter Passive Restraints then Airbag.</p> <p>Were you able to establish communications with any of the modules?</p> <p>Yes → Go To 2</p> <p>No → Refer to symptom PCI Bus Communication Failure in the Communications category.</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All

**\*NO RESPONSE FROM PCM (PCI BUS) — Continued**

TEST	ACTION	APPLICABILITY
2	<p>With the DRB read PCM Diagnostic Trouble Codes. This is to ensure power and grounds to the PCM are operational.</p> <p><b>NOTE: If the DRB will not read PCM DTC's, follow the NO RESPONSE TO PCM (PCM SCI only) symptom path.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the PCM harness connectors.</p> <p><b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b></p> <p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>Select DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Pinout Box.</p> <p>Turn the ignition on.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the PCM harness connectors.</p> <p><b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b></p> <p>Disconnect the BCM C3 harness connector.</p> <p>Measure the resistance of the PCI Bus circuit from the BCM C3 harness connector to the appropriate terminal of special tool #8815.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All

**Symptom:**

**\*NO RESPONSE FROM PCM (PCM SCI ONLY)**

POSSIBLE CAUSES
CHECK PCM POWERS AND GROUNDS
PCM SCI TRANSMIT CIRCUIT SHORTED TO VOLTAGE
PCM SCI RECEIVE CIRCUIT SHORTED TO VOLTAGE
PCM SCI CIRCUITS SHORTED TOGETHER
PCM SCI TRANSMIT CIRCUIT SHORTED TO GROUND
PCM SCI RECEIVE CIRCUIT SHORTED TO GROUND
PCM SCI RECEIVE CIRCUIT OPEN
PCM SCI TRANSMIT CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Perform the symptom Checking PCM Power and Ground Circuits in the Driveability category.</p> <p><b>NOTE: With the DRBIII® in the generic scan tool mode, attempt to communicate with the PCM.</b></p> <p><b>NOTE: If the DRBIII® can communicate with the PCM in the generic scan tool mode, it may not be necessary to perform this step.</b></p> <p>Did the vehicle pass this test?</p> <p>Yes → Go To 2</p> <p>No → Repair as necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the DRBIII® from the DLC.</p> <p>Disconnect the PCM harness connectors.</p> <p>Turn the ignition on.</p> <p>Measure the voltage of the PCM SCI Transmit circuit at the Data Link harness connector (cav 7).</p> <p>Is the voltage above 1.0 volt?</p> <p>Yes → Repair the PCM SCI Transmit circuit for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the DRBIII® from the DLC.</p> <p>Disconnect the PCM harness connectors.</p> <p>Turn the ignition on.</p> <p>Measure the voltage of the PCM SCI Receive circuit at the Data Link harness connector (cav 12).</p> <p>Is the voltage above 1.0 volt?</p> <p>Yes → Repair the PCM SCI Receive circuit for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Go To 4</p>	All

## \*NO RESPONSE FROM PCM (PCM SCI ONLY) — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Disconnect the DRBIII® from the DLC.  Disconnect the PCM harness connectors.  Measure the resistance between the PCM SCI Transmit circuit and the PCM SCI Receive circuit at the Data Link harness connector (cavs 7 and 12).  Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the short between the PCM SCI Transmit and the PCM SCI Receive circuits.  Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Disconnect the PCM harness connectors.  Disconnect the DRBIII® from the DLC.  Measure the resistance between ground and the PCM SCI Transmit circuit at the Data Link harness connector (cav 7).  Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the PCM SCI Transmit circuit for a short to ground.  Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn the ignition off.  Disconnect the PCM harness connector.  Disconnect the DRBIII® from the DLC.  Measure the resistance between ground and the PCM SCI Receive circuit in the Data Link harness connector (cav 12).  Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the PCM SCI Receive circuit for a short to ground.  Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off.  Disconnect the PCM harness connector.  Disconnect the DRBIII® from the DLC.  <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b>  Measure the resistance of the PCM SCI Receive circuit from the Data Link harness connector (cav 12) to the appropriate terminal of special tool #8815.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the PCM SCI Receive circuit for an open.  Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All

**\*NO RESPONSE FROM PCM (PCM SCI ONLY) — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the PCM harness connector.            Disconnect the DRBIII® from the DLC.  <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b>            Measure the resistance of the PCM SCI Transmit circuit from the Data Link harness connector (cav 7) to the appropriate terminal of special tool #8815.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the PCM SCI Transmit circuit for an open.            Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All
9	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace and program the Powertrain Control Module in accordance with the Service Information.            Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All

## Symptom:

### \*NO RESPONSE FROM RADIO

POSSIBLE CAUSES
<p>NO RESPONSE FROM RADIO</p> <p>REPLACE FUSE #4</p> <p>RADIO SHORTED TO GROUND</p> <p>FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND</p> <p>JUNCTION BLOCK SHORTED TO GROUND</p> <p>OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT</p> <p>OPEN FUSED B+ CIRCUIT</p> <p>RADIO GROUND CIRCUIT OPEN</p> <p>RADIO INTERNALLY OPEN</p> <p>PCI BUS CIRCUIT OPEN</p> <p>BODY CONTROL MODULE</p>

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p><b>Note: As soon as one or more module communicates with the DRB, answer the question.</b></p> <p>With the DRB, attempt to communicate with the Airbag Control Module.</p> <p>With the DRB, attempt to communicate with the Body Control Module (BCM).</p> <p>Was the DRB able to I/D or establish communications with either of the modules?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Remove and inspect fuse #4 in the junction block.</p> <p>Is the fuse open?</p> <p>Yes → Go To 3</p> <p>No → Go To 6</p>	All
3	<p>Turn the ignition off.</p> <p>Replace Fuse #4 in the junction block.</p> <p>Turn the ignition on.</p> <p>Turn the Radio on.</p> <p>Remove and inspect Fuse #4 in the junction block.</p> <p>Is the fuse open?</p> <p>Yes → Go To 4</p> <p>No → Check the Fused Ignition Switch Output circuit for an intermittent short to ground, refer to the wiring diagrams in the service information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*NO RESPONSE FROM RADIO — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.            Replace Fuse #4 in the junction block.            Disconnect the Radio C1 harness connector.            Turn the ignition on.            Remove and inspect fuse #4 in the junction block.            Is the fuse open?</p> <p>Yes → Go To 5</p> <p>No → Replace the Radio.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>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?</p> <p>Yes → Repair the Fused Ignition Switch Output circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block in accordance with the service information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.  <b>NOTE: Ensure fuse #4 is installed in the junction block.</b>            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?</p> <p>Yes → Go To 7</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.            Disconnect the Radio C1 harness connector.            Using a 12-volt test light connected to ground, probe the Fused B+ circuit.            Is the test light illuminated?</p> <p>Yes → Go To 8</p> <p>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.</p>	All
8	<p>Turn the ignition off.            Disconnect the Radio C1 harness connector.            Using a 12-volt test light connected to 12-volts, probe the ground circuit.            Is the test light illuminated?</p> <p>Yes → Go To 9</p> <p>No → Repair the ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## \*NO RESPONSE FROM RADIO — Continued

TEST	ACTION	APPLICABILITY
9	<p><b>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.</b></p> <p>Disconnect the Radio C1 harness connector.</p> <p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>With the DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Radio connector.</p> <p>Turn the ignition on.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 10</p>	All
10	<p>Disconnect the Radio C1 harness connector.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Measure the resistance of the PCI bus circuit between the Radio connector and the BCM C1 connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

# Symptom:

## \*NO RESPONSE FROM RIGHT SIACM

### POSSIBLE CAUSES

INTERROGATE ACM  
GROUND CIRCUIT OPEN  
FUSED IGNITION SWITCH OUTPUT RUN/START CIRCUIT OPEN  
RIGHT SIDE IMPACT AIRBAG CONTROL MODULE  
PCI BUS CIRCUIT OPEN  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p><b>Note: Ensure the battery is fully charged.</b> Turn the ignition on. With the DRBIII®, select Passive Restraints. With the DRBIII®, select Airbag and read the active DTC's. Is the Loss Of Ignition Run/Start DTC set?</p> <p>Yes → Refer to the symptom list and perform the Loss Of Ignition Run/Start symptom. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p><b>Ensure that the battery is fully charged.</b> <b>Warning: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Disconnect the Right Side Impact Airbag Control Module harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. <b>NOTE: Make sure test light is connected to the Battery positive terminal.</b> Is the test light illuminated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Ground circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>Note: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All
3	<p><b>Warning: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b> Disconnect the Right Side Impact Airbag Control Module harness connector. Turn the ignition on and then reconnect the Battery. Measure the voltage of the Fused Ignition Switch Output Run/Start circuit. Is the voltage above 6.0 volts?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused Ignition Switch Output Run/Start circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p><b>Note: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</b></p>	All

## \*NO RESPONSE FROM RIGHT SIACM — Continued

TEST	ACTION	APPLICABILITY
4	<p><b>NOTE: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.</b></p> <p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Right Side Impact Airbag Control Module harness connector.</p> <p>Turn the ignition on and then reconnect the Battery.</p> <p>Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes.</p> <p>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.</p> <p>With the DRBIII® select Pep Module Tools.</p> <p>Select lab scope.</p> <p>Select Live Data.</p> <p>Select 12 volt square wave.</p> <p>Press F2 for Scope.</p> <p>Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10.</p> <p>Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Right Side Impact Airbag Control Module connector.</p> <p>Observe the voltage display on the DRB Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Right Side Impact Airbag Control Module (RSIACM) in accordance with the Service Information. <b>WARNING: Make sure the battery is disconnected and wait 2 minutes before proceeding.</b> Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p><b>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</b></p> <p>Disconnect the Right Side Impact Airbag Control Module harness connector.</p> <p>Disconnect the BCM C4 harness connector.</p> <p>Measure the resistance of the PCI bus circuit between the Right SIACM connector and the BCM C4 connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information. Perform AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.</p>	All

**Symptom:**

**\*NO RESPONSE FROM TRANSMISSION CONTROL MODULE**

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

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p><b>Note: As soon as one or more module communicates with the DRB, answer the question.</b></p> <p>With the DRB, attempt to communicate with the Instrument Cluster.</p> <p>With the DRB, attempt to communicate with the Body Control Module (BCM).</p> <p>Was the DRB able to I/D or establish communications with both of the modules?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Communications category and perform the appropriate symptom.</p> <p>Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the PCM harness connectors.</p> <p><b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b></p> <p>Turn the ignition on.</p> <p>Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output (Run/St) circuit in the Pinout Box.</p> <p><b>Note: The light must illuminate brightly, if it does not light, or lights dimly, the circuit must be repaired. If there is any doubt, compare the brightness when testing the circuit, to the brightness when connected directly to the battery positive post.</b></p> <p>Is the test light illuminated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused Ignition Switch Output (Run/St) circuit for an open. Refer to the wiring diagrams located in the Service Information.</p> <p>Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

**\*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the PCM harness connectors. <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b> Remove the starter relay from the PDC. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output (Start) circuit in the Pinout Box. <b>Note: The light must illuminate brightly, if it does not light, or lights dimly, the circuit must be repaired. If there is any doubt, compare the brightness when testing the circuit, to the brightness when connected directly to the battery positive post.</b> Observe the test light while momentarily turning the ignition switch to the Start position. Is the test light illuminated?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused Ignition Switch Output (Start) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p> <p><b>Note: Reinstall the original Starter Relay.</b></p>	All
4	<p>Turn the ignition off. Disconnect the PCM harness connectors. <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b> Using a 12-volt test light connected to ground, probe the Fused B(+) circuit in the Pinout Box. <b>Note: The light must illuminate brightly, if it does not light, or lights dimly, the circuit must be repaired. If there is any doubt, compare the brightness when testing the circuit, to the brightness when connected directly to the battery positive post.</b> Is the test light illuminated?</p> <p>Yes → Go To 5</p> <p>No → Repair the Fused B(+) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

**\*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off. Disconnect the PCM harness connectors. <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b> Using a 12-volt test light connected to 12-volts, probe each ground circuit in the Pinout Box. <b>NOTE: The light must illuminate brightly, if it does not light, or lights dimly, the circuit must be repaired. If there is any doubt, compare the brightness when testing the circuit, to the brightness when connected directly to the battery negative post.</b> Is the light illuminated at all ground circuits?</p> <p>Yes → Go To 6</p> <p>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 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
6	<p><b>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.</b> Disconnect the PCM harness connectors. <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b> 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. Select 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 Pinout Box. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace and program the Powertrain Control Module in accordance with the service information. WITH THE DRBIII® PERFORM QUICK LEARN AND REPROGRAM PINION FACTOR. Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All

## \*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
7	<p>Turn the ignition off.            Disconnect the PCM harness connectors.  <b>CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.</b>            Disconnect the BCM C3 harness connector.            Measure the resistance of the PCI Bus circuit from the BCM C3 harness connector to the appropriate terminal of special tool #8815.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module in accordance with the service information.            Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open.            Perform 42LE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

**Symptom:**
**\*ODOMETER DISPLAYS NO BUS**
**POSSIBLE CAUSES**

ATTEMPT TO START THE VEHICLE

ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>Attempt to start the vehicle. Does the vehicle start and continue to run?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Communication category and perform the symptom PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition on. <b>NOTE: Ensure the DRB can communicate with the PCM and BCM before continuing, if not refer to the appropriate symptom.</b> With the DRB, enter, Body then Electro/Mech Cluster. Was the DRB able to I/D or communicate with the Instrument Cluster?</p> <p>Yes → Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*PCI BUS COMMUNICATION FAILURE

POSSIBLE CAUSES
<p>WIRING HARNESS INTERMITTENT</p> <p>OPEN PCI BUS CIRCUIT AT THE DATA LINK CONNECTOR (DLC)</p> <p>HIGH VOLTAGE ON THE PCI BUS CIRCUITS AT THE BCM CONNECTORS</p> <p>MODULE (PCI BUS SHORT TO VOLTAGE)</p> <p>PCI BUS CIRCUIT SHORTED TO VOLTAGE</p> <p>LOW RESISTANCE TO GROUND ON THE PCI BUS CIRCUITS AT THE BCM CONNECTORS</p> <p>MODULE (PCI BUS SHORT TO GROUND)</p> <p>PCI BUS CIRCUIT SHORTED TO GROUND</p>

TEST	ACTION	APPLICABILITY
1	<p><b>Note: Determine which modules this vehicle is equipped with before beginning.</b></p> <p><b>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.</b></p> <p>Turn the ignition on.</p> <p>Using the DRB, attempt to communicate with the following control modules:</p> <p>Body Control Module (BCM)</p> <p>Instrument Cluster (MIC)</p> <p>Controller Antilock Brake (CAB)</p> <p>Was the DRB able to communicate with one or more Module(s)?</p> <p>Yes → Go To 2</p> <p>No → Go To 3</p>	All
2	<p>Turn the ignition off.</p> <p><b>Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</b></p> <p><b>Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b></p> <p><b>Note: If the DRB can not communicate with a single module, refer to the category list for the related symptom.</b></p> <p>Were any problems found?</p> <p>Yes → Repair wiring harness/connectors as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

# **\*PCI BUS COMMUNICATION FAILURE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.  Disconnect the BCM C1 harness connector.  Disconnect the DRB from the Data Link Connector (DLC).  Measure the resistance of the PCI Bus circuit between the Data Link Connector (DLC) and the BCM C1 connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the PCI Bus circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p><b>NOTE: Reconnect the BCM C1 harness connector.</b>  Turn the ignition on.  Measure the voltage of the PCI Bus circuit at the Data Link Connector (DLC).  Is the voltage above 4.0 volts?</p> <p>Yes → Go To 5</p> <p>No → Go To 7</p>	All
5	<p><b>Note: Determine which modules this vehicle is equipped with before beginning.</b>  Turn the ignition off.  Disconnect the BCM harness connectors and remove the Body Control Module from the Junction Block.  Turn the ignition on.  Measure the voltage of each PCI Bus circuit at the BCM C1, C3, C4 connectors and at the Junction Block Body Control Module connector cavity 10.  Is the voltage steadily above 4.0 volts for any measurement?</p> <p>Yes → Go To 6</p> <p>No → Replace the Body Control Module in accordance with the service information.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.  Disconnect the module that corresponds to the PCI Bus circuit that measured steadily above 4.0 volts.  Turn the ignition on.  <b>NOTE: If the PCI Bus circuit for the Memory Heated Seat/Mirror Module was above 4.0 volts and is equipped with side airbags, disconnect each module one at a time.</b>  Measure the voltage of the PCI Bus circuit that previously measured above 4.0 volts.  Is the voltage steadily above 4.0 volts with the module disconnected?</p> <p>Yes → Repair the PCI Bus circuit that measured over 4.0 volts for a short to voltage.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the module that caused the short to voltage on the PCI Bus circuit.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## \*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
7	<p><b>Note: Determine which modules this vehicle is equipped with before beginning.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the negative battery cable.</p> <p>Disconnect the BCM harness connectors and remove the Body Control Module from the Junction Block.</p> <p>Measure the resistance between ground and each of the PCI Bus circuits at the BCM C1, C3, C4 connectors and at the Junction Block Body Control Module connector cavity 10.</p> <p>Is the resistance below 1000.0 ohms for any of the measurements?</p> <p>Yes → Go To 8</p> <p>No → Replace the Body Control Module in accordance with the service information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Turn the ignition off.</p> <p>Disconnect the negative battery cable.</p> <p>Disconnect the module that corresponds to the PCI Bus circuit that resistance measured below 1000.0 ohms.</p> <p><b>NOTE: If the PCI Bus circuit for the Memory Heated Seat/Mirror Module was below 1000.0 ohms and is equipped with side airbags, disconnect each module one at a time.</b></p> <p>Measure the resistance between ground and the PCI Bus circuit that previously measured below 1000.0 ohms.</p> <p><b>NOTE: If the PCI Bus circuit for the Instrument Cluster (MIC) was below 1000.0 ohms and is equipped with a Compass/Mini Trip Computer (CMTC), disconnect the CMTC before the MIC.</b></p> <p>Is the resistance below 1000.0 ohms with the module disconnected?</p> <p>Yes → Repair the PCI Bus circuit that resistance measured below 1000.0 ohms for a short to ground.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the module that caused the short to ground on the PCI Bus circuit.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*DRIVER DOOR AJAR CKT OPEN****POSSIBLE CAUSES**

OPEN DRIVER DOOR AJAR SWITCH GROUND CKT

OPEN DRIVER DOOR AJAR SWITCH SENSE CKT

OPEN DRIVER DOOR LOCK MOTOR/AJAR SWITCH

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Driver Door Lock Motor/Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, check the Driver Door Ajar Switch Ground circuit. Does the light illuminate?  Yes → Go To 2  No → Repair the Driver Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the BCM harness connector. Disconnect the Driver Door Lock Motor/Ajar Switch connector. Measure the resistance of the Driver Door Ajar Switch Sense circuit between the BCM connector and the Driver Door Lock Motor/Ajar Switch connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Driver Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Door Lock Motor/Ajar Switch connector. Connect a jumper wire between Driver Door Ajar Switch Sense circuit and the Driver Door Ajar Switch Ground circuit. With the DRBIII® in Inputs/Outputs, read the DR DOOR AJAR SW state. Does the DRBIII® display DR 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 → Replace and program the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*DRIVER DOOR AJAR CKT STG****POSSIBLE CAUSES**

DRIVER DOOR AJAR SWITCH SENSE CKT SHORTED TO GROUND

DRIVER DOOR LOCK MOTOR/AJAR SWITCH SHORTED TO GROUND

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the BCM harness connector. Disconnect the Driver Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Driver Door Ajar Switch 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 → Go To 2	All
2	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 → Replace and program the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*LEFT REAR DOOR AJAR CKT OPEN****POSSIBLE CAUSES**

GROUND CKT OPEN

LEFT REAR DOOR AJAR SWITCH SENSE CKT OPEN

LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH OPEN

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Left Rear Door Ajar Switch Ground circuit. Does the test light illuminate?  Yes → Go To 2  No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. Disconnect the BCM C4 harness connector. Measure the resistance of the Left Rear Door Ajar Switch Sense circuit between the Left Rear Door Lock Motor/Ajar Switch connector and the BCM C4 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Left Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the BCM C4 harness connector. Using a 12-volt Test Light connected to 12-volts, check the Left Rear Door Ajar Switch Sense circuit at the BCM C4 connector. Open the Left Rear Door. Does the test light illuminate when the Left Rear Door is opened"?  Yes → Replace and program the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Left Rear Door Lock Motor/Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

**\*LEFT REAR DOOR AJAR CKT STG**

### POSSIBLE CAUSES

LEFT REAR DOOR AJAR SWITCH SENSE CKT SHORTED TO GROUND

LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH SHORTED TO GROUND

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Disconnect the BCM C4 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 Left Rear Door Ajar Switch Sense circuit.  Does the Test Light illuminate?</p> <p>Yes → Repair the Left Rear Door Ajar Switch Sense circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>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?</p> <p>Yes → Replace the Left Rear Door Lock Motor/Ajar Switch in accordance with the Service Information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*PASS DOOR AJAR CKT OPEN****POSSIBLE CAUSES**

OPEN PASSENGER DOOR AJAR SWITCH GROUND CKT

OPEN PASSENGER DOOR AJAR SWITCH SENSE CKT

OPEN PASSENGER DOOR LOCK MOTOR/AJAR SWITCH

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Passenger Door Lock Motor/Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, check the Passenger Door Ajar Switch Ground circuit. Does the light illuminate?  Yes → Go To 2  No → Repair the Passenger Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the BCM harness connector. Disconnect the Passenger Door Lock Motor/Ajar Switch connector. Measure the resistance of the Passenger Door Ajar Switch Sense circuit between the BCM connector and the Passenger Door Lock Motor/Ajar Switch connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Passenger Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Door Lock Motor/Ajar Switch connector. Connect a jumper wire between Passenger Door Ajar Switch Sense circuit and the Passenger Door Ajar Switch Ground circuit. With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. 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 → Replace and program the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

**\*PASS DOOR AJAR CKT STG**

### POSSIBLE CAUSES

PASSENGER DOOR AJAR SWITCH SENSE CKT SHORTED TO GROUND

PASSENGER DOOR LOCK MOTOR SHORTED TO GROUND

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Disconnect the BCM harness connector.  Disconnect the Passenger Door Lock Motor/Ajar Switch harness connector.  Using a 12-volt Test Light connected to 12-volts, check the Passenger Door Ajar Switch Sense circuit.  Does the Test Light illuminate?</p> <p>Yes → Repair the Passenger Door Ajar Switch Sense circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>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?</p> <p>Yes → Replace the Passenger Door Lock Motor/Ajar Switch in accordance with the Service Information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*RIGHT REAR DOOR AJAR CKT OPEN****POSSIBLE CAUSES**

OPEN RIGHT REAR DOOR AJAR SWITCH GROUND CKT

OPEN RIGHT REAR DOOR AJAR SWITCH SENSE CKT

OPEN RIGHT REAR DOOR LOCK MOTOR/AJAR SWITCH

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Right Rear Door Lock Motor/Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, check the Right Rear Door Ajar Switch Ground circuit. Does the light illuminate?  Yes → Go To 2  No → Repair the Right Rear Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the BCM harness connector. Disconnect the Right Rear Door Lock Motor/Ajar Switch connector. Measure the resistance of the Right Rear Door Ajar Switch Sense circuit between the BCM connector and the Right Rear Door Lock Motor/Ajar Switch connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Right Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Door Lock Motor/Ajar Switch connector. Connect a jumper wire between the Right Rear Door Ajar Switch Sense circuit and the Right Rear Door Ajar Switch Ground circuit. With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. Does the DRBIII® display RR DOOR AJAR SW: Closed?  Yes → Replace the Right Rear Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.  No → Replace and program the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*RIGHT REAR DOOR AJAR CKT STG****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

TEST	ACTION	APPLICABILITY
1	<p>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?</p> <p>Yes → Replace the Right Rear Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>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 Right Rear Door Ajar Switch Sense circuit. Does the Test Light illuminate?</p> <p>Yes → Repair the Right Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DRIVER HEATED SEAT SWITCH OPEN/SHORTED TO GROUND****When Monitored and Set Condition:****DRIVER HEATED SEAT SWITCH OPEN/SHORTED TO GROUND**

When Monitored: Ignition on.

Set Condition: If the switch is open or grounded the MHSMM will have a loss of switch feed back and this code will set immediately. Once the condition is resolved the switch will return to it's normal operation. Note: This DTC can also be set when the ignition switch is cycled with the IOD fuse removed.

**POSSIBLE CAUSES**

FUSED IGNITION SWITCH OUTPUT ST-RUN OPEN  
 DRIVER HEATED SEAT SWITCH  
 DRIVER SEAT HEATER SWITCH MUX CIRCUIT OPEN  
 DRIVER SEAT HEATER SWITCH MUX CIRCUIT SHORT TO GROUND  
 ERASE AND READ MHSMM DTC  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>Does the DRBIII® display any communication DTCs in the Memory Heated Seat Mirror Module also?</p> <p>Yes → Go To 2</p> <p>No → Go To 3</p>	All
2	<p>With the DRBIII®, erase MHSMM DTC's.</p> <p>Start the engine and let it run for one minute while operating the heated seat switch.</p> <p>With the DRBIII®, read MHSMM DTC's.</p> <p>Did the Driver Heated Seat Switch Open-Shorted to Ground trouble code reset?</p> <p>Yes → Go To 4</p> <p>No → The condition required to set the DTC is not present at this time. Check for intermittent problems. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Driver Heated switch connector.</p> <p>Turn the ignition on.</p> <p>Measure the voltage of the Fused Ignition Switch Output circuit.</p> <p>Is the voltage above 10.0 volts?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## DRIVER HEATED SEAT SWITCH OPEN/SHORTED TO GROUND — Continued

TEST	ACTION	APPLICABILITY
4	<p>Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the voltage between the Driver Seat Heater Switch Mux circuit and ground. Is the voltage above 10.0 volts?</p> <p>Yes → Replace the Memory Heated Seat Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Disconnect the Driver Heated Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Driver Seat Heater Switch Mux circuit between the MHSMM connector and the Driver Heated Seat Switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the open Driver Seat Heater Switch Mux wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Driver Heated Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Driver Seat Heater Switch Mux circuit to ground. Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Seat Heater Switch Mux wire for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Driver Heated Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom List:**

**DRIVER HEATED SEAT SWITCH STUCK IN HIGH STATE**  
**DRIVER HEATED SEAT SWITCH STUCK IN LOW STATE**

**Test Note:** All symptoms listed above are diagnosed using the same tests.  
 The title for the tests will be **DRIVER HEATED SEAT SWITCH STUCK IN HIGH STATE**.

**When Monitored and Set Condition:****DRIVER HEATED SEAT SWITCH STUCK IN HIGH STATE**

When Monitored: Ignition on.

Set Condition: If the switch is stuck active for 30 seconds this code will set and the MHSMM will ignore the input until it's state has changed. The code will remain in the module memory for 20 key cycles.

**DRIVER HEATED SEAT SWITCH STUCK IN LOW STATE**

When Monitored: Ignition on.

Set Condition: If the switch is stuck active for 30 seconds this code will set and the MHSMM will ignore the input until it's state has changed. The code will remain in the module memory for 20 key cycles.

**POSSIBLE CAUSES**

DRIVER HEATED SEAT SWITCH

DRIVER SEAT HEATER SWITCH MUX CIRCUIT SHORT TO VOLTAGE

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Driver Heated Seat Switch connector. With the DRBIII®, erase DTC's. Turn the ignition on. With the DRBIII®, read DTC's. Does the DRBIII® display Driver Heated Seat Switch Open Shorted to Ground trouble code appear?  Yes → Replace the Driver Heated Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All

**DRIVER HEATED SEAT SWITCH STUCK IN HIGH STATE — Continued**

TEST	ACTION	APPLICABILITY
2	Disconnect the Driver Heated Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the voltage between the Driver Seat Heater Switch Mux circuit and ground. Is there any voltage present?  Yes → Repair the Driver Seat Heater Switch Mux wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:****DRIVER SEAT HEAT OUTPUT OPEN****When Monitored and Set Condition:****DRIVER SEAT HEAT OUTPUT OPEN**

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is set immediately after the Memory Heated Seat/Mirror Module loses the seat heat element output.

**POSSIBLE CAUSES**

DRIVER SEAT HEATER B+ DRIVER WIRE OPEN

HEATED SEAT DRIVER CIRCUIT OPEN

DRIVER SEAT HEATER GROUND CKT

DRIVER HEATED SEAT CUSHION OPEN

DRIVER SEAT BACK HEATER OPEN

DRIVER SEAT HEATER SYSTEM OPEN

TEST	ACTION	APPLICABILITY
1	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Memory Heated Seat Mirror Module C3 connector.</p> <p>Measure the total resistance of the Driver Seat Heater Circuit by connecting one lead of the ohmmeter to the Driver Seat Heater B+ Driver CKT in the MHSMM C3 connector and the other to ground.</p> <p>Is the resistance below 8.5 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C3 connector.</p> <p>Measure the resistance of the Driver Seat Heater B+ Driver circuit between the MHSMM C3 connector and the Driver Heated Seat Cushion connector, harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the open Driver Seat Heater B+ Driver wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**DRIVER SEAT HEAT OUTPUT OPEN — Continued**

TEST	ACTION	APPLICABILITY
3	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Back 2-way connector.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the Heated Seat Driver circuit between the Driver Heated Seat Back harness side connector and the Driver Heated Seat Cushion 4-way harness side connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the open Heated Seat Driver circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Back 2-way connector.</p> <p>Measure the resistance of the Ground circuit in the Driver Heated Seat Back connector (harness side) to body ground.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the open ground circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
5	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the seat cushion heater by connecting one lead to the Heated Seat Driver terminal and the other to the Seat Heater B+ Driver terminal in the Heated Seat Cushion 4 way Cushion Side connector.</p> <p>Is the resistance below 2.5 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Driver Heated Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Back 2-way connector.</p> <p>Measure the resistance of the SEAT BACK HEATER ELEMENT by connecting one lead to the Heated Seat Driver terminal and the other to the Ground terminal in the Heated Seat Back Side connector.</p> <p>Is the resistance below 2.5 ohms?</p> <p>Yes → Test Complete.</p> <p>No → Replace the Driver Heated Seat Back. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DRIVER SEAT HEAT OUTPUT SHORT TO GND****When Monitored and Set Condition:****DRIVER SEAT HEAT OUTPUT SHORT TO GND**

When Monitored: Ignition on, during the heated seat operation.

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

**POSSIBLE CAUSES**

HEATED SEAT DRIVER CIRCUIT SHORT TO GROUND  
 DRIVER SEAT BACK HEATER SHORT GROUND  
 DRIVER HEATED SEAT CUSHION SHORT TO GROUND  
 DRIVER SEAT HEATER B+ DRIVER WIRE SHORT TO GROUND  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>With the DRBIII®, erase DTC's.</p> <p>Turn the ignition off, wait 20 seconds, then turn ignition on.</p> <p>Turn the Driver Seat Heater on.</p> <p>Using the DRBIII select: Body Memory Seat Module Read DTC's</p> <p>Does the DRBIII® still show the Driver Seat Heat Output Short to Gnd trouble code?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C3 connector.</p> <p>Measure the resistance of the Driver Seat Heater B+ Driver circuit to ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Seat Heater B+ Driver wire for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

**DRIVER SEAT HEAT OUTPUT SHORT TO GND — Continued**

TEST	ACTION	APPLICABILITY
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the Driver Seat Heater B+ Driver circuit in the Driver Heated Seat Cushion connector cushion side to body ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Replace the Driver Heated Seat Cushion.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Back 2-way connector.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the Heated Seat Driver ckt in the Driver Heated Seat Back connector to body ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Heated Seat Driver circuit for a short to ground.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Back 2-way connector.</p> <p>Measure the resistance of the Heated Seat Driver circuit, in the Heated Seat Back connector seat back side to body ground. .</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Replace the Driver Heated Seat Back.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:****DRIVER THERMISTOR OUT OF RANGE HIGH****When Monitored and Set Condition:****DRIVER THERMISTOR OUT OF RANGE HIGH**

When Monitored: Ignition on, during the heated seat operation.

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

**POSSIBLE CAUSES**

DRIVER SEAT TEMPERATURE SENSOR

DRIVER SEAT TEMP SENSOR INPUT CKT SHORT TO VOLTAGE

DRIVER SEAT TEMPERATURE 5 VOLT SUPPLY WIRE SHORT TO VOLTAGE

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Turn ignition on.</p> <p>Turn the Driver Heated Seat Switch on.</p> <p>Measure the voltage between Seat Temperature 5 Volt Supply circuit and ground.</p> <p>Is the voltage above 5.5 volts?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage of the Seat Temperature 5 Volt Supply circuit in the cushion side connector to ground.</p> <p>Is there ANY voltage on the Seat Temperature 5 Volt Supply circuit?</p> <p>Yes → Repair the Driver Seat Temperature 5 Volt Supply ckt for a short to voltage.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

**DRIVER THERMISTOR OUT OF RANGE HIGH — Continued**

TEST	ACTION	APPLICABILITY
3	<p>If there are no possible causes remaining, view "Repair".</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between Driver Seat Temperature Sensor Input circuit and ground.</p> <p>Is there ANY voltage on the Driver Seat Temperature Sensor Input circuit?</p> <p>Yes → Repair the Driver Seat Temperature Sensor Input circuit for a short to voltage.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Driver Seat Cushion.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DRIVER THERMISTOR OUT OF RANGE LOW****When Monitored and Set Condition:****DRIVER THERMISTOR OUT OF RANGE LOW**

When Monitored: Ignition on, during the heated seat operation.

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

**POSSIBLE CAUSES**

DRIVER SEAT TEMP SENSOR INPUT OPEN  
 DRIVER SEAT TEMP SENSOR INPUT SHORT TO GROUND  
 DRIVER SEAT HEATER SENSOR OPEN  
 DRIVER SEAT TEMP SENSOR SHORT TO GROUND  
 SEAT TEMPERATURE 5 VOLT WIRE OPEN  
 DRIVER SEAT TEMPERATURE 5 VOLT SUPPLY SHORT TO GROUND  
 MEMORY HEATED SEAT MIRROR MODULE  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Turn ignition on.</p> <p>Turn the Driver Heated Seat Switch on.</p> <p>Measure the voltage of the Seat Sensor 5 Volt Supply circuit to ground.</p> <p>Is the voltage below 4.5 volts?</p> <p>No → Go To 2</p> <p>Yes → Go To 7</p>	All
2	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 connector.</p> <p>Turn ignition off.</p> <p>Measure the resistance of the Driver Seat Temperature Sensor Input circuit from the MHSMM connector to the driver heated seat cushion connector harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the open Driver Seat Temperature Sensor Input circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**DRIVER THERMISTOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
3	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Turn ignition off.</p> <p>Measure the resistance of the Driver Seat Temp Sensor Input in heated seat cushion connector to body ground.</p> <p>Is the resistance below 1000.0 ohms, should be infinite?</p> <p>Yes → Replace the Driver Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 connector.</p> <p>Turn ignition off.</p> <p>Measure the resistance of the Driver Seat Temperature Sensor Input circuit to ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Seat Temperature Sensor Input circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Turn ignition off.</p> <p>Measure the resistance between the Driver Seat Temperature 5 Volt Supply circuit and the Driver Seat Temperature Sensor Input circuit in the heated seat cushion connector, cushion side.</p> <p>Is the resistance below 70000 (70K) ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Driver Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**DRIVER THERMISTOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
7	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Turn ignition off.</p> <p>Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground.</p> <p>Is the resistance below 1000.0 ohms? Should be infinite.</p> <p>Yes → Repair the Driver Seat Temperature 5 Volt Supply for a short to Ground.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.</p> <p>Disconnect the Driver Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Turn ignition off.</p> <p>Measure the resistance of the Seat Sensor 5 Volt Supply wire between the MHSMM connector and the driver heated seat cushion connector, harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the open Seat Temperature 5 Volt Supply circuit.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
9	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****PASSENGER HEATED SEAT SWITCH OPEN/SHORTED TO GROUND**

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**When Monitored and Set Condition:****PASSENGER HEATED SEAT SWITCH OPEN/SHORTED TO GROUND**

When Monitored: Ignition on.

Set Condition: If the switch is open or grounded the MHSMM will have a loss of switch feed back and this code will set immediately. Once the condition is resolved the switch will return to it's normal operation. Note: This DTC can also be set when the ignition switch is cycled with the IOD fuse removed.

**POSSIBLE CAUSES**

FUSED IGNITION SWITCH OUTPUT ST-RUN OPEN  
PASSENGER SEAT HEATER SWITCH MUX CIRCUIT OPEN  
ERASE AND READ MHSMM DTC  
PASSENGER HEATED SEAT SWITCH  
PASSENGER SEAT HEATER SWITCH MUX CIRCUIT SHORT TO GROUND  
MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Does the DRBIII® display any communication DTCs in the Memory Heated Seat Mirror Module also?  Yes → Go To 2 No → Go To 3	All
2	With the DRBIII®, erase MHSMM DTC's. Start the engine and let it run for one minute while operating the heated seat switch. With the DRBIII®, read MHSMM DTC's. Did the Passenger Heated Seat Switch Open-Shorted to Ground trouble code reset?  Yes → Go To 3 No → The condition required to set the DTC is not present at this time. Check for intermittent problems. Note: If IOD fuse was removed and ignition cycled this DTC may set. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## PASSENGER HEATED SEAT SWITCH OPEN/SHORTED TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Heated switch connector. Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit. Is the voltage above 10.0 volts?  Yes → Go To 4  No → Repair the Fused Ignition Switch Output circuit for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
4	Reconnect any previously disconnected components. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage between the Passenger Seat Heater Switch Mux circuit and ground. Is the voltage above 10.0 volts?  Yes → Replace the Memory Heated Seat Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 5	All
5	Disconnect the Passenger Heated Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Passenger Seat Heater Switch Mux circuit between the MHSMM connector and the Passenger Heated Seat Switch connector. Is the resistance below 5.0 ohms?  Yes → Go To 6  No → Repair the open Passenger Seat Heater Switch Mux wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
6	Disconnect the Passenger Heated Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Passenger Seat Heater Switch Mux circuit to ground. Is the resistance below 1000.0 ohms?  Yes → Repair the Passenger Seat Heater Switch Mux wire for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 7	All
7	If there are no possible causes remaining, view repair.  Repair Replace the Passenger Heated Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom List:**

**PASSENGER HEATED SEAT SWITCH STUCK IN HIGH STATE**  
**PASSENGER HEATED SEAT SWITCH STUCK IN LOW STATE**

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**Test Note:** All symptoms listed above are diagnosed using the same tests.  
The title for the tests will be **PASSENGER HEATED SEAT SWITCH STUCK IN HIGH STATE**.

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**When Monitored and Set Condition:****PASSENGER HEATED SEAT SWITCH STUCK IN HIGH STATE**

When Monitored: Ignition on.

Set Condition: If the switch is stuck active for 30 seconds this code will set and the MHSMM will ignore the input until it's state has changed. The code will remain in the module memory for 20 key cycles.

**PASSENGER HEATED SEAT SWITCH STUCK IN LOW STATE**

When Monitored: Ignition on.

Set Condition: If the switch is stuck active for 30 seconds this code will set and the MHSMM will ignore the input until it's state has changed. The code will remain in the module memory for 20 key cycles.

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**POSSIBLE CAUSES**

PASSENGER HEATED SEAT SWITCH

PASSENGER SEAT HEATER SWITCH MUX CIRCUIT SHORT TO VOLTAGE

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Passenger Heated Seat Switch connector. With the DRBIII®, erase DTC's. Turn the ignition on. With the DRBIII®, read DTC's. Does the DRBIII® display Passenger Heated Seat Switch Open Shorted to Ground trouble code appear?  Yes → Replace the Passenger Heated Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All

**PASSENGER HEATED SEAT SWITCH STUCK IN HIGH STATE — Continued**

TEST	ACTION	APPLICABILITY
2	Disconnect the Passenger Heated Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the voltage between the Passenger Seat Heater Switch Mux circuit and ground. Is there any voltage present?  Yes → Repair the Passenger Seat Heater Switch Mux wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:****PASSENGER SEAT HEAT OUTPUT OPEN****When Monitored and Set Condition:****PASSENGER SEAT HEAT OUTPUT OPEN**

When Monitored: Ignition on, during the heated seat operation.

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

**POSSIBLE CAUSES**

PASSENGER SEAT HEATER GROUND CIRCUIT OPEN

HEATED SEAT DRIVER CIRCUIT OPEN

PASSENGER SEAT HEATER B+ DRIVER WIRE OPEN

PASSENGER HEATED SEAT CUSHION OPEN

PASSENGER SEAT BACK HEATER OPEN

PASSENGER SEAT HEATER SYSTEM OPEN

TEST	ACTION	APPLICABILITY
1	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Memory Heated Seat Mirror Module C3 connector.</p> <p>Measure the total resistance of the Passenger Seat Heater Circuit by connecting one lead of the ohmmeter to the Passenger Seat Heater B+ Driver circuit and the other to ground.</p> <p>Is the resistance below 8.5 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Back 2-way (green) connector.</p> <p>Measure the resistance of the Passenger Seat Heater Ground circuit between the Heated Seat Back connector and ground, harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the open Passenger Seat Heater Ground circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**PASSENGER SEAT HEAT OUTPUT OPEN — Continued**

TEST	ACTION	APPLICABILITY
3	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Passenger Heated Seat Back 2-way green connector.</p> <p>Measure the resistance of the Heated Seat Driver circuit between the Passenger Heated Seat Back harness side connector and the Passenger Heated Seat Cushion 4-way harness side connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the open Heated Seat Driver circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C3 connector.</p> <p>Measure the resistance of the Passenger Seat Heater B+ Driver circuit between the MHSMM C3 connector and the Passenger Heated Seat Cushion connector, harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the open Passenger Seat Heater B+ Driver wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
5	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the Cushion Seat Heater by connecting one lead to the Heated Seat Driver terminal and the other to the Passenger Seat Heater B+ Driver terminal in the Heated Seat Cushion 4 way connector, cushion side .</p> <p>Is the resistance below 2.5 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Passenger Heated Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**PASSENGER SEAT HEAT OUTPUT OPEN — Continued**

TEST	ACTION	APPLICABILITY
6	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Back 2-way green connector.</p> <p>Measure the SEAT BACK HEATER ELEMENT by connecting one lead to the Heated Seat Driver terminal and the other to the Ground circuit in the Heated Seat Back 2-way connector, seat back side.</p> <p>Is the resistance below 2.5 ohms?</p> <p>Yes → Test Complete.</p> <p>No → Replace the Passenger Heated Seat Back.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****PASSENGER SEAT HEAT OUTPUT SHORT TO GND****When Monitored and Set Condition:****PASSENGER SEAT HEAT OUTPUT SHORT TO GND**

When Monitored: Ignition on, during the heated seat operation,

Set Condition: This code is set immediately after the Memory Heated Seat/Mirror Module detects an output shorted to ground.

**POSSIBLE CAUSES**

HEATED SEAT DRIVER CIRCUIT SHORT TO GROUND

PASSENGER HEATED SEAT CUSHION SHORT TO GROUND

PASSENGER SEAT BACK HEATER SHORT GROUND

PASSENGER SEAT HEATER B+ DRIVER WIRE SHORT TO GROUND

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Using the DRBIII, select: Body Memory Seat Module Read DTC's</p> <p>Does the DRBIII® still show Passenger Seat Heat Output Short to Gnd?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C3 connector.</p> <p>Measure the resistance of the Passenger Seat Heater B+ Driver circuit to body ground.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Passenger Seat Heater B+ Driver wire for a short to ground..</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**PASSENGER SEAT HEAT OUTPUT SHORT TO GND — Continued**

TEST	ACTION	APPLICABILITY
4	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Back 2-way green connector.</p> <p>Measure the resistance of the Heated Seat Driver circuit, in the Heated Seat Back connector, seat back side to body ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Replace the Passenger Heated Seat Back. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Back 2-way green connector.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the Heated Seat Driver circuit in the Heated Seat Cushion connector, cushion side to body ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Heated Seat Driver circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance of the Passenger Seat Heater B+ Driver circuit in the Heated Seat Cushion connector, cushion side to body ground..</p> <p>Is the resistance below 1000 ohms?</p> <p>Yes → Replace the Passenger Heated Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:****PASSENGER THERMISTOR OUT OF RANGE HIGH****When Monitored and Set Condition:****PASSENGER THERMISTOR OUT OF RANGE HIGH**

When Monitored: Ignition on, during the heated seat operation.

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

**POSSIBLE CAUSES**

PASSENGER SEAT TEMP SENSOR INPUT CKT SHORT TO VOLTAGE

PASSENGER SEAT TEMPERATURE 5 VOLT SUPPLY WIRE SHORT TO VOLTAGE

PASSENGER SEAT TEMPERATURE SENSOR

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Turn ignition on.</p> <p>Turn the Passenger Heated Seat Switch on.</p> <p>Measure the voltage between the Passenger Seat Temperature 5 Volt Supply circuit and ground in the harness side connector.</p> <p>Is the voltage above 5.5 volts?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage of the Seat Temperature 5 Volt Supply circuit in the cushion side connector to ground.</p> <p>Is there ANY voltage on the Seat Temperature 5 Volt Supply circuit??</p> <p>Yes → Repair the Passenger Seat Temperature 5 Volt Supply circuit for a short to voltage.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

**PASSENGER THERMISTOR OUT OF RANGE HIGH — Continued**

TEST	ACTION	APPLICABILITY
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between Passenger Seat Temperature Sensor Input circuit, in the harness side connector and body ground.</p> <p>Is there any voltage on the Driver Seat Temperature Sensor Input circuit?</p> <p>Yes → Repair the Passenger Seat Temperature Sensor Input circuit for a short to voltage.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Passenger Seat Cushion.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****PASSENGER THERMISTOR OUT OF RANGE LOW****When Monitored and Set Condition:****PASSENGER THERMISTOR OUT OF RANGE LOW**

When Monitored: Ignition on, during the heated seat operation.

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

**POSSIBLE CAUSES**

PASSENGER SEAT TEMP SENSOR INPUT OPEN

PASSENGER SEAT TEMP SENSOR INPUT SHORT TO GROUND

PASSENGER SEAT TEMPERATURE 5 VOLT SUPPLY WIRE OPEN

PASSENGER SEAT TEMPERATURE 5 VOLT SUPPLY SHORT TO GROUND

PASSENGER SEAT HEATER SENSOR OPEN

PASSENGER SEAT TEMP SENSOR SHORT TO GROUND

MEMORY HEATED SEAT MIRROR MODULE

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between Seat Sensor 5 Volt Supply circuit and body ground.</p> <p>Is the voltage below 4.5 volts?</p> <p>No → Go To 2</p> <p>Yes → Go To 7</p>	All
2	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 connector.</p> <p>Measure the resistance of the Passenger Seat Temperature Sensor Input circuit from the MHSMM connector to the passenger heated seat cushion connector, harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the open Passenger Seat Temperature Sensor Input circuit.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**PASSENGER THERMISTOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 connector.</p> <p>Measure the resistance of the Passenger Seat Temperature Sensor Input circuit to body ground.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Passenger Seat Temperature Sensor Input circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance between the Seat Temperature 5 Volt Supply circuit and the Seat Temperature Sensor Input circuit in the heated seat cushion connector, cushion side.</p> <p>Is the resistance below 70000 (70K) ohms?</p> <p>Yes → Go To 5</p> <p>No → Replace the Passenger Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Measure the resistance between the Seat Temp Sensor Input in the heated seat cushion connector, cushion side and body ground.</p> <p>Is the resistance below 1000.0 ohms (should be infinite)?</p> <p>Yes → Replace the Passenger Seat Cushion. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**PASSENGER THERMISTOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
7	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Measure the resistance of the Seat Sensor 5 volt Supply circuit to ground.</p> <p>Is the resistance below 1000.0 ohms (should be infinite)?</p> <p>Yes → Repair the Passenger Seat Temperature 5 volt Supply for a short to Ground.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p>Turn ignition off.</p> <p>NOTE: Raise the seat to the highest position to gain access to the connectors. The MHSMM is located at the front of the drivers seat and the Seat Heater connectors are at the rear of each seat.</p> <p>Disconnect the Passenger Heated Seat Cushion 4-way connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Measure the resistance of the Passenger Seat Temperature 5 volt Supply wire between the MHSMM connector and the passenger heated seat cushion connector, harness side.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the open Passenger Seat Temperature 5 Volt Supply wire.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
9	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	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	<p><b>Note: Ensure that the Key is still in the Ignition Switch.</b>            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 ?</p> <p>Yes → Test complete.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>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?</p> <p>Yes → Replace the Ignition Switch.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>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 ?</p> <p>Yes → Go To 4</p> <p>No → Repair the ground circuit for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	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 C2 harness connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch connector and the BCM C2 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 MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	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 MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## ELECTRICALLY HEATED SYSTEMS

### Symptom:

### **\*REAR WINDOW DEFOGGER INOPERATIVE MANUAL AIR CONDITIONING**

#### POSSIBLE CAUSES

REAR DEFOG OPERATES OK  
DEFOGGER GRID GROUND CIRCUIT OPEN  
REAR WINDOW DEFOGGER GRID OPEN  
REAR WINDOW DEFOGGER RELAY-OPEN  
REAR DEFOGGER RELAY OUTPUT CKT OPEN  
REAR WINDOW DEFOGGER RELAY CONTROL CIRCUIT OPEN  
REAR WINDOW DEFOGGER RELAY OUTPUT SHORT TO GROUND  
FUSED (B+) SHORT TO GROUND  
FUSED B+ CIRCUIT OPEN  
CONTROL HEAD - REAR DEFOGGER SWITCH  
BODY CONTROL MODULE - REAR DEFOGGER RELAY CONTROL OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® in Sensors read the Mode SW MUX voltage. Push and hold the Rear Window Defogger Switch and observe the DRB. Does the DRBIII® display Mode SW MUX approximately .25 volts?  Yes → Go To 2  No → Replace the Control Head. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Measure the resistance of the Defogger Grid ground circuit from the left end of the glass grid to ground.. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the open Ground circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. Press the Rear Window Defogger Switch On. Using a 12-volt Test Light connected to ground, probe the Rear Defogger Relay Output circuit at the right side of the grid. Did the test light illuminate?  Yes → Repair the open Rear Window Defogger Grid. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 4	All

**\*REAR WINDOW DEFOGGER INOPERATIVE MANUAL AIR CONDITIONING — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Measure the voltage between both Fused B(+) circuits and ground. Is the voltage above 10.0 volts on both Fused B(+) circuits?</p> <p>Yes → Go To 5</p> <p>No → Go To 9</p>	All
5	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Connect a jumper wire between Rear Window Defogger Relay Output circuit and Fused B+ in the relay connector.</p> <p><b>Note: Do not leave the jumper connected for a long period of time.</b></p> <p>Measure the voltage between the Rear Window Defogger Relay Output circuit at the right side of the window grid and ground. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 6</p> <p>No → Repair the open Rear Defogger Relay Output circuit between the relay connector and the rear defogger grid. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Connect a test light between the Fused B+ and the Rear Window Defogger Relay Control circuits in the relay connector. Press the Rear Window Defogger Switch on and observe the test light. Does the test light illuminate when the switch is on?</p> <p>Yes → Replace the Rear Window Defogger Relay. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off. Disconnect the Body Control Module C4 connector. Remove the Rear Window Defogger Relay located in the right side of trunk.</p> <p><b>Note: Check connectors - Clean/repair as necessary.</b></p> <p>Connect a jumper wire between the Rear Window Defogger Relay Control circuit in the BCM C4 connector and ground. Measure the resistance between the Rear Window Defogger Relay Control circuit in the relay connector and ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the open Rear Window Defogger Relay Control Circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**\*REAR WINDOW DEFOGGER INOPERATIVE MANUAL AIR CONDITIONING — Continued**

TEST	ACTION	APPLICABILITY
9	<p>Test the PDC EBL fuse. Is the fuse open?</p> <p>Yes → Go To 10</p> <p>No → Repair the open Fused B+ circuit from the PDC to the relay connector. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
10	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Measure the resistance of both Fused B+ circuits to ground. Is the resistance of either or both Fused B+ circuits below 5.0 ohms?</p> <p>Yes → Repair the Fused B(+) circuit for a short to ground and replace the fuse. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Replace the PDC "EBL" fuse. Ensure the Rear Window Defogger Relay is installed. Turn the ignition on. Turn the Rear Window Defogger on. Did the Rear Window Defogger operate okay without blowing the fuse?</p> <p>Yes → Check for an intermittent condition. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the Rear Window Defogger Relay Output circuit for a short to ground and replace the fuse. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*REAR WINDOW DEFOGGER INOPERATIVE WITH ATC****POSSIBLE CAUSES**

REAR DEFOG OPERATES OK  
 DEFOGGER GRID GROUND CIRCUIT OPEN  
 REAR WINDOW DEFOGGER GRID OPEN  
 REAR WINDOW DEFOGGER RELAY-OPEN  
 REAR DEFOGGER RELAY OUTPUT CKT OPEN  
 REAR WINDOW DEFOGGER RELAY CONTROL CIRCUIT OPEN  
 REAR WINDOW DEFOGGER RELAY OUTPUT SHORT TO GROUND  
 FUSED B+ CIRCUIT OPEN  
 FUSED B+ SHORT TO GROUND  
 BODY CONTROL MODULE - REAR DEFOGGER RELAY CONTROL OPEN  
 ATC HEAD-REAR DEFOG SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® in Inputs Outputs read the EBL SW state. Push and hold the Rear Window Defogger switch on and off and observe the DRB. Does the DRBIII® display EBL SW Open Closed?  Yes → Go To 2  No → Replace the Automatic Temperature Control Head. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Measure the resistance of the Defogger Grid ground circuit from the left end of the glass grid to ground.. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the open Ground circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. Press the Rear Window Defogger Switch On. Using a 12-volt Test Light connected to ground, probe the Rear Defogger Relay Output circuit at the right side of the grid. Did the test light illuminate?  Yes → Repair the open Rear Window Defogger Grid. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 4	All

## ELECTRICALLY HEATED SYSTEMS

### \*REAR WINDOW DEFOGGER INOPERATIVE WITH ATC — Continued

TEST	ACTION	APPLICABILITY
4	<p>Remove the Rear Window Defogger Relay (located in the right side of trunk). Measure the voltage between both Fused B(+) circuits and ground. Is the voltage above 10.0 volts on both Fused B(+) circuits?</p> <p>Yes → Go To 5</p> <p>No → Go To 9</p>	All
5	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Connect a jumper wire between Rear Window Defogger Relay Output circuit and Fused B+ in the relay connector.</p> <p><b>Note: Do not leave the jumper connected for a long period of time.</b> Measure the voltage between the Rear Window Defogger Relay Output circuit at the right side of the window grid and ground. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 6</p> <p>No → Repair the open Rear Defogger Relay Output circuit between the relay connector and the rear defogger grid. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Connect a test light between the Fused B+ and the Rear Window Defogger Relay Control circuits in the relay connector. Press the Rear Window Defogger Switch on and observe the test light. Does the test light illuminate when the switch is on?</p> <p>Yes → Replace the Rear Window Defogger Relay. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off. Disconnect the Body Control Module C4 connector. Remove the Rear Window Defogger Relay located in the right side of trunk.</p> <p><b>NOTE: Check connectors - Clean or repair as necessary.</b> Connect a jumper wire between the Rear Window Defogger Relay Control circuit in the BCM C4 connector and ground. Measure the resistance between the Rear Window Defogger Relay Control circuit in the relay connector and ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the open Rear Window Defogger Relay Control Circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**\*REAR WINDOW DEFOGGER INOPERATIVE WITH ATC — Continued**

TEST	ACTION	APPLICABILITY
9	<p>Test the PDC EBL fuse. Is the fuse open?</p> <p>Yes → Go To 10</p> <p>No → Repair the open Fused B+ circuit from the PDC to the relay connector. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
10	<p>Remove the Rear Window Defogger Relay located in the right side of trunk. Measure the resistance of both Fused B+ circuits to ground. Is the resistance of either or both Fused B+ circuits below 5.0 ohms?</p> <p>Yes → Repair the Fused B+ circuit for a short to ground and replace the fuse. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Replace the PDC EBL fuse. Ensure the Rear Window Defogger Relay is installed. Turn the ignition on. Turn the Rear Window Defogger on. Did the Rear Window Defogger operate okay without blowing the fuse?</p> <p>Yes → Check for an intermittent condition. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the Rear Window Defogger Relay Output circuit for a short to ground and replace the fuse. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## Symptom: HEADLAMP SWITCH INPUT FAILURE

### When Monitored and Set Condition:

#### HEADLAMP SWITCH INPUT FAILURE

When Monitored: Ignition in run position.

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

#### POSSIBLE CAUSES

HEADLAMP SWITCH RETURN WIRE  
HEADLAMP SWITCH MUX WIRE SHORT TO BATTERY  
HEADLAMP MUX WIRE  
HEADLAMP SWITCH  
HEADLAMP SWITCH  
HEADLAMP SWITCH MUX WIRE SHORTED TO GROUND  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Ensure the headlamp switch is in the OFF position. With the DRBIII® read the Headlamp Switch Voltage. Does the DRBIII® display Headlamp Switch Voltage: above 4.8 volts?</p> <p>Yes → Go To 2 No → Go To 7</p>	All
2	<p>Turn the ignition off. Disconnect the Headlamp Switch connector. Turn the ignition on. Measure the voltage between the Headlamp Switch Mux circuit and ground. Is the voltage above 5.3 volts?</p> <p>Yes → Go To 3 No → Go To 5</p>	All
3	<p>Turn the ignition off. Disconnect the Headlamp Switch connector. Disconnect the Body Control Module C2 connector. Measure the Headlamp Switch Return circuit from the Body Control Module C2 connector to the headlamp switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4 No → Repair the open Headlamp Switch Return circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**HEADLAMP SWITCH INPUT FAILURE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.            Disconnect the Headlamp Switch connector.            Disconnect the Body Control Module C2 connector.            Turn the ignition on.            Measure the voltage between the Headlamp Switch Mux circuit and ground.            Is there any voltage in the Headlamp Switch Mux circuit?</p> <p>Yes → Repair the Headlamp Switch Mux circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.            Disconnect the Headlamp Switch connector.            Disconnect the Body Control Module C2 connector.            Measure the Headlamp Switch Mux circuit from the Body Control Module C2 connector to the headlamp switch connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the open Headlamp Switch Mux circuit.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Headlamp Switch connector.            Ensure the Body Control Module C2 connector is connected.            Connect a jumper wire between the Headlamp Switch Mux circuit and the Headlamp Switch Return circuit in the Headlamp Switch connector.            with the DRBIII® read the Headlamp Switch Voltage            Does the DRBIII® display Headlamp Switch Volts: 0.0 volts?</p> <p>Yes → Replace the Headlamp Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Disconnect the Headlamp Switch connector.            With the DRBIII® read the Headlamp Switch voltage.            Does the DRBIII® display voltage between 4.8 and 5.2 volts?</p> <p>Yes → Replace the Headlamp Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p>Turn the ignition off.            Disconnect the Headlamp Switch connector.            Disconnect the Body Control Module C2 connector.            Measure the Headlamp Switch Mux circuit from the headlamp switch connector to ground.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Headlamp Switch Mux circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## EXTERIOR LIGHTING

### Symptom:

#### **\*AUTO HEADLAMPS AND OR FOG LAMPS NOT OPERATING PROPERLY**

POSSIBLE CAUSES
SENSOR GROUND WIRE OPEN
SUN SENSOR SIGNAL WIRE OPEN
SUN SENSOR SIGNAL WIRE SHORT TO GROUND
SUN SENSOR SIGNAL WIRE SHORT TO VOLTAGE
SUN SENSOR SHORTED
SUN SENSOR VTSS LED
BODY CONTROL MODULE - AUTO HEADLAMPS
BODY CONTROL MODULE SENSOR SHORT TO GROUND
BODY CONTROL MODULE SUN SENSE OPEN
HEADLAMP SWITCH - AUTO FOG
HEADLAMP SWITCH - AUTO HEAD

TEST	ACTION	APPLICABILITY
1	<p><b>Note: This test assumes that the headlamps and fog lamps operate properly in the manual mode.</b></p> <p>Turn the Headlamp Switch to the Auto position and fog lamps off. With the DRBIII® read the Headlamp Switch Voltage. Is the voltage approximately 2.3 volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p><b>Note: This test assumes that the headlamps and fog lamps operate properly in the manual mode.</b></p> <p>Turn the Headlamp Switch to the Auto position. Pull the Fog Lamp Switch ON. With the DRBIII® read the Headlamp Switch Voltage. Is the voltage approximately 3.7 volts?</p> <p>Yes → Go To 3</p> <p>No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*AUTO HEADLAMPS AND OR FOG LAMPS NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
3	<p>With the DRBIII® read the AUTO HEADLAMP SENSE VOLTS under sensors while shining a shop light on the Sun Sensor and then remove the light and cover up the sensor. The Auto Headlamp Sense voltage should change from approximately 0.0 to 5.0 volts, Choose outcome.</p> <p>A. Voltage in range Go To 4</p> <p>B. Stays above 4.8 volts Go To 5</p> <p>C. Stays below 0.5 volts Go To 10</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Disconnect the Sun Sensor VTSS LED 4-way connector. Connect a jumper wire between the Sun Sensor Signal and the Sensor Ground circuits in the sensor connector. With the DRBIII® in sensors read Auto Headlamp sensor volts. Does the DRBIII® show Auto head sensor volts under .5 volts?</p> <p>Yes → Replace the Sun Sensor VTSS LED. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Disconnect the Sun Sensor VTSS LED connector. Disconnect the BCM C2 connector. Measure the resistance of the Sun Sensor Signal circuit between the Sun Sensor VTSS LED connector and the BCM C2 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Repair the open Sun Sensor Signal wire Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Disconnect the Sun Sensor VTSS LED connector. Disconnect the BCM C2 connector. Measure the voltage of the Sun Sensor Signal circuit. Is there ANY voltage on the Sun Sensor Signal circuit?</p> <p>Yes → Repair the Sun Sensor Signal wire for a short to voltage Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All

## \*AUTO HEADLAMPS AND OR FOG LAMPS NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
8	Disconnect the Sun Sensor VTSS LED connector. Disconnect the BCM C1 connector. Measure the resistance of the Sensor Ground circuit between the Sun Sensor connector and the BCM connector. Is the resistance below 5.0 ohms?  Yes → Go To 9  No → Repair the open Sensor Ground circuit from the Sun Sensor connector to the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair.  Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the Sun Sensor VTSS LED 4-way connector. With the DRBIII® read the Auto Headlamp sensor volts. Does the DRBIII® display Auto Headlamp sensor above 4.8 volts?  Yes → Replace the Sun Sensor VTSS LED Perform BODY VERIFICATION TEST - VER 1.  No → Go To 11	All
11	Disconnect the Sun Sensor VTSS LED connector. Disconnect the BCM C2 connector. Measure the resistance of the Sun Sensor Signal circuit to ground. Is the resistance below 1000.0 ohms?  Yes → Repair the Sun sensor Signal circuit 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 Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*FOG LAMPS WILL NOT TURN OFF****POSSIBLE CAUSES**

FOG LAMP RELAY OUTPUT CIRCUIT SHORT TO VOLTAGE

BODY CONTROL MODULE

FOG LAMP RELAY

HEADLAMP SWITCH

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® read Body Control Module DTCs. If the DTC Headlamp Switch Input Failure is present, return to the Symptom List and select the repair for that symptom.</p> <p>Turn the headlamp switch to the off position.</p> <p>With the DRBIII®, read the Headlamp Switch Voltage.</p> <p>Does the DRBIII® display Headlamp Switch Voltage between 4.3 and 4.8 Volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Headlamp Switch.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the fog lamp relay from the Junction Block.</p> <p>Did the fog lamps turn off?</p> <p>Yes → Go To 3</p> <p>No → Repair the relay output circuit for a short to voltage.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Note: The Fog Lamp Relay must be removed to start this test.</p> <p>Reinstall the Fog Lamp Relay and listen for or feel for the relay to click.</p> <p>Did the relay Click?</p> <p>Yes → Go To 4</p> <p>No → Replace the Fog Lamp Relay.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

## EXTERIOR LIGHTING

### Symptom:

**\*FOG LAMPS WILL NOT TURN ON**

POSSIBLE CAUSES
FOG LAMP RELAY OUTPUT CKT OPEN
FOG LAMP RELAY CTL CKT OPEN
OPEN FUSED B(+) TO FOG RELAY
FOG LAMP RELAY OUTPUT CKT SHORT
FOG LAMP RELAY
FOG LAMP RELAY
BODY CONTROL MODULE
HEADLAMP SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the Headlamp Switch on and pull the Fog Lamp Switch on. With the DRBIII® read the Headlamp Switch Voltage. Is the voltage approximately 3.0 volts?  Yes → Go To 2  No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	<b>NOTE: Ensure the headlamps High and Low beams operate properly before proceeding. If they do not, return to the symptom list under Exterior Lighting.</b> With the DRBIII®, actuate the Fog Lamp Relay. Listen to or touch the Fog Lamp Relay. Did the relay Click during the actuation?  Yes → Go To 3  No → Go To 6	All
3	Remove the Fog Lamp Relay from the Junction Block. Measure the voltage of the Fused B+ circuit to ground. Is the voltage above 10.0 volts?  Yes → Go To 4  No → Replace the junction block. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the fog lamp relay from the Junction Block. Connect a jumper wire between Fused B+ circuit and the Fog Lamp Relay Output circuit. Did the Fog Lamps turn on?  Yes → Go To 5  No → Repair the open fog lamp relay output circuit. Perform BODY VERIFICATION TEST - VER 1.	All

**\*FOG LAMPS WILL NOT TURN ON — Continued**

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view repair.  Repair Replace the Fog Lamp Relay Perform BODY VERIFICATION TEST - VER 1.	All
6	Check Junction Block fuse #16. Is fuse #16 open?  Yes → Go To 7 No → Go To 8	All
7	Remove the fog lamp relay from the Junction Block. Measure the resistance of the Fog Lamp Relay Output circuit in the relay connector. Is the resistance below 0.5 ohms?  Yes → Repair the relay output circuit for a short to ground and replace the fuse. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All
8	Remove the Fog Lamp Relay from the Junction Block. Measure the voltage of the Fused B+ circuit to ground. Is the voltage above 10.0 volts?  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 between the relay connector and the junction block BCM connector. Is the resistance below 5.0 ohms?  Yes → Go To 10 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
10	Remove the Fog Lamp Relay from the Junction Block. Connect a 12-volt test light between the Fog Lamp Relay Control and the Fused B+ in the Low Beam Relay connector. With the DRBIII®, actuate the Fog Lamp Relay. Did the test light flash during actuation?  Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 11	All
11	If there are no possible causes remaining, view repair.  Repair Replace Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

## EXTERIOR LIGHTING

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### Symptom:

#### \*HEADLAMP TIME DELAY INOPERATIVE

#### POSSIBLE CAUSES

IGNITION VOLTAGE LOW  
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the Ignition Voltage. Does the DRBIII® display voltage above 10.0 volts?  Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.  No → Refer to the Communication category and perform the symptom, Fused Ignition Switch Output to the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*HIGH BEAM HEADLAMPS WILL NOT TURN OFF****POSSIBLE CAUSES**

HIGH BEAM RELAY OUTPUT SHORT TO VOLTAGE

HIGH BEAM RELAY

MULTIFUNCTION SWITCH

SWITCHED HIGH BEAM RELAY CONTROL CIRCUIT SHORT TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	Remove the High Beam Relay from the junction block. Did the High Beam Headlamps turn off?  Yes → Go To 2  No → Repair the High Beam Relay Output for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the High Beam Relay. Measure the voltage of the Switched High Beam Relay Control circuit in the relay connector. Is the voltage above 1.0 volts?  Yes → Go To 3  No → Replace the High Beam Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the High Beam Relay from the junction block. Disconnect the Multifunction Switch connector. Measure the voltage of the Switched High Beam Relay Control circuit to ground. Is the voltage above 1.0 volts?  Yes → Repair the Switched High Beam Relay Control circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.	All

## EXTERIOR LIGHTING

### Symptom:

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

POSSIBLE CAUSES
<p>OPEN FUSED B+</p> <p>RELAY GROUND OPEN</p> <p>FUSED LOW BEAM RELAY OUTPUT CIRCUIT SHORT TO GROUND</p> <p>SWITCHED HIGH BEAM RELAY CONTROL CIRCUIT SHORT TO GROUND</p> <p>HIGH BEAM RELAY CIRCUIT OPEN</p> <p>HIGH BEAM RELAY</p> <p>HIGH BEAM RELAY</p> <p>FUSED LOW BEAM RELAY OUTPUT CIRCUIT OPEN</p> <p>HIGH BEAM RELAY</p> <p>HIGH BEAM RELAY CONTROL CIRCUIT OPEN</p> <p>MULTIFUNCTION SWITCH</p>

TEST	ACTION	APPLICABILITY
1	<p>Turn the Headlamps on. Gain access to the High Beam Headlamp Relay in the junction block. Cycle the high beam switch on the multifunction switch and listen to or feel the High Beam Relay for a click. Does the relay click?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p>Remove the High Beam Relay. Measure the voltage of the Fused B+ circuit at the High Beam relay connector. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 3</p> <p>No → Repair the open fused B+ circuit from PDC fuse C. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Remove the High Beam Relay from the junction block. Connect a jumper wire between Fused B+ and the High Beam Relay Output circuit. Did the High Beam Headlamps come on?</p> <p>Yes → Replace the High Beam Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the High Beam Relay Output circuit from the junction block to the headlamps. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Check fuse 11 in the junction block. Is fuse 11 open?</p> <p>Yes → Go To 5</p> <p>No → Go To 7</p>	All

**\*HIGH BEAM HEADLAMPS WILL NOT TURN ON — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Remove fuse 11 Disconnect the Multifunction Switch connector. Measure the resistance of the Fused Low Beam Relay Output circuit to ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Fused Low Beam Relay output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Remove the High Beam Relay from the junction block. Disconnect the Multifunction Switch connector. Measure the resistance of the Switched High Beam Relay Control circuit to ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Switched High Beam Relay Control circuit for a short to ground and replace the fuse. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the High Beam Relay. Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Remove the High Beam Relay from the junction block. Measure the resistance of the ground circuit in the relay connector. Is the resistance below 0.5 ohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the open ground to the junction block. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Disconnect the Multifunction Switch connector. Turn the headlamps on. Measure the voltage of the Fused Low Beam Relay Output circuit in the multifunction switch connector. If there are no possible causes remaining, view repair.</p> <p>Yes → Replace the High Beam Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Disconnect the Multifunction Switch connector. Turn the headlamps on. Measure the voltage of the Fused Low Beam Relay Output circuit in the multifunction switch connector. If there are no possible causes remaining, view repair.</p> <p>Yes → Go To 10</p> <p>No → Repair the open Fused Low Beam Relay Output circuit from fuse 11. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## EXTERIOR LIGHTING

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### **\*HIGH BEAM HEADLAMPS WILL NOT TURN ON — Continued**

TEST	ACTION	APPLICABILITY
10	Disconnect the Multifunction Switch connector. Turn the headlamps on. Ensure the High Beam Relay is installed. Connect a jumper wire between the Fused Low Beam Relay Output and the Switched High Beam Relay Control circuits in the multifunction switch connector. Did the High Beam Headlamps come on?  Yes → Repair the open Switched High Beam Relay Control circuit. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*LOW BEAM HEADLAMPS WILL NOT TURN OFF****POSSIBLE CAUSES**

HEADLAMP SWITCH

LOW BEAM RELAY OUTPUT SHORT TO BATTERY

BODY CONTROL MODULE

JUNCTION BLOCK

LOW BEAM RELAY

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® read Body Control Module DTCs. If the DTC Headlamp Switch Input Failure is present, return to the Symptom List and select the repair for that symptom.</p> <p>Turn the headlamp switch to the off position.</p> <p>With the DRBIII®, read the Headlamp Switch Voltage.</p> <p>Does the DRBIII® display Headlamp Switch Voltage between 4.3 and 4.8 Volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Headlamp Switch.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the Low Beam Relay from the junction block.</p> <p>Did the Low Beams turn off?</p> <p>Yes → Go To 3</p> <p>No → Repair the Low Beam Relay Output circuit for a short to battery.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Substitute a known good relay in place of the Low Beam Relay.</p> <p>Does the system operate normally?</p> <p>Yes → Replace the Low Beam Relay</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.</p> <p>Remove the Low Beam Headlamp Relay.</p> <p>Remove the Body Control Module from the junction block.</p> <p>Measure the resistance of the Low Beam Relay Control circuit to all other junction block Body Control Module 20 way internal connector terminals and ground.</p> <p>Is the resistance below 100.0 ohms on ANY of the measurements?</p> <p>Yes → Replace the Junction Block</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

## EXTERIOR LIGHTING

### Symptom:

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

#### POSSIBLE CAUSES

HEADLAMP SWITCH  
JUNCTION BLOCK  
LOW BEAM HEADLAMP RELAY  
LOW BEAM RELAY  
LOW BEAM HEADLAMP RELAY  
JUNCTION BLOCK  
BODY CONTROL MODULE  
OPEN FUSED B+ TO JUNCTION BLOCK  
B+ CIRCUIT FUSE  
FUSED B+ CIRCUIT SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Turn the Headlamps on. With the DRBIII® read the Headlamp Switch voltage. Does the DRBIII® display Headlamp Switch voltage between 1.4 and 1.8 volts?  Yes → Go To 2  No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® actuate the Headlamp Relay. Listen to or touch the Low Beam Relay. Does the relay click during actuation?  Yes → Go To 3  No → Go To 5	All
3	Remove the Low Beam Relay. Measure the voltage of the Fused B+ circuit in the Low Beam Relay. Is the voltage above 10.0 volts?  Yes → Go To 4  No → Replace the Junction Block Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the Low Beam Headlamp Relay from the junction block. Ensure fuses 10 and 12 are OK and are installed in the junction block. Connect a jumper wire between the Fused B+ and the Low Beam Relay Output terminals in the relay connector. Did the low beam headlamps come on?  Yes → Replace the Low Beam Relay. Perform BODY VERIFICATION TEST - VER 1.  No → Repair the open in the Low Beam Relay Output circuit to the headlamps. Perform BODY VERIFICATION TEST - VER 1.	All

**\*LOW BEAM HEADLAMPS WILL NOT TURN ON — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Remove the Low Beam Headlamp Relay.            Measure the voltage of the Fused B+ circuit in the Low Beam Relay.            Is the voltage above 10.0 volts?</p> <p>Yes → Go To 6</p> <p>No → Go To 8</p>	All
6	<p>Remove the Low Beam Relay from the junction block.            Connect a 12 volt test light between the Low Beam Relay Control cavity 60,86 circuit, and the Fused B+ circuit in the Low Beam Relay connector.            With the DRBIII® actuate the Headlamp Relay.            Did the test light flash during actuation?</p> <p>Yes → Replace the Low Beam Headlamp Relay.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off.            Remove the Low Beam Relay from the junction block.            Remove the Body Control Module from the junction block.            Measure the Low Beam Relay control circuit from the relay to the junction block Body Control Module connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Remove and test the PDC Fuse D.            Is the Fuse open?</p> <p>Yes → Go To 9</p> <p>No → Repair the open Fused B+ circuit between the Low Beam Headlamp Relay connector in the junction block and the PDC Fuse D connector.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>Remove Fuse D from the PDC            Measure the resistance of the Fused B+ circuit in the fuse connector to ground.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Fused B+ circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the fuse and retest the system.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## EXTERIOR LIGHTING

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### Symptom:

**\*PARK LAMPS WILL NOT TURN OFF**

#### POSSIBLE CAUSES

HEADLAMP SWITCH

PARK LAMP OUTPUT SHORT TO VOLTAGE

BODY CONTROL MODULE

PARK LAMP RELAY

TEST	ACTION	APPLICABILITY
1	Turn the headlamp switch to the OFF position. With the DRBIII®, read the Headlamp Switch Voltage. Does the DRBIII® display Headlamp Switch Voltage within 4.5 volts?  Yes → Go To 2  No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Park Lamp Relay from the junction block. Did the Park Lamps turn off?  Yes → Go To 3  No → Repair the Parklamp Relay output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the Park Lamp Relay to begin this test. Reinstall the Park Lamp Relay and listen for or feel for the relay to click. Did the relay click?  Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Parklamp Relay Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*PARK LAMPS WILL NOT TURN ON****POSSIBLE CAUSES**

HEADLAMP SWITCH

PARK LAMP RELAY OUTPUT CIRCUIT OPEN

JUNCTION BLOCK

PARK LAMP RELAY

PARK LAMP RELAY

BODY CONTROL MODULE

JUNCTION BLOCK

JUNCTION BLOCK

OPEN FUSE

OPEN FUSED B+ CIRCUIT

BODY CONTROL MODULE

PARK LAMP RELAY OUTPUT CIRCUIT SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Turn the Headlamp Switch to the PARK position. With the DRBIII®, read the Headlamp Switch voltage. Is the voltage approximately 0.5 volts?  Yes → Go To 2  No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, actuate the Park Lamp Relay. Listen to or touch the Park Lamp Relay. Did the relay click during the actuation?  Yes → Go To 3  No → Go To 5	All
3	Remove the Park Lamp Relay from the junction block. Connect a jumper wire between the Fused B+ circuit and the Park Lamp Relay Output circuit in the relay connector. Did the Park Lamps come on?  Yes → Go To 4  No → Repair the Park Lamp Relay Output circuit to the park lamps. Perform BODY VERIFICATION TEST - VER 1.	All

## EXTERIOR LIGHTING

### \*PARK LAMPS WILL NOT TURN ON — Continued

TEST	ACTION	APPLICABILITY
4	<p>Remove the Park Lamp Relay. Measure the voltage of the Fused B+ circuit in the Park Lamp Relay. Is the voltage above 10.0 volts?</p> <p>Yes → Replace the Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Remove the Park Lamp Relay. Measure the voltage of the Fused B+ circuit in the Park Lamp Relay Control circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 6</p> <p>No → Go To 8</p>	All
6	<p>Remove the Park Lamp Relay from the junction block. Connect a 12 volt test light between the Park Lamp Relay Control circuit and the Fused B+ circuit in the Park Lamp Relay connector. With the DRBIII®, actuate the Park Lamp Relay. Did the test light flash during actuation?</p> <p>Yes → Replace the Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off. Remove the Park Lamp Relay from the junction block. Remove the Body Control Module from the junction block. Measure the resistance between the Park Lamp Relay Control circuit from the relay to the junction block Body Control Module connector. Is the resistance below 0.5 ohms?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Check junction block fuse 7 Is fuse 7 open?</p> <p>Yes → Go To 9</p> <p>No → Repair the open Fused B+ circuit from the PDC. Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>Measure the resistance of the Fused B+ circuit from cavity 53,85 in the junction block connector to ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 10</p>	All

**\*PARK LAMPS WILL NOT TURN ON — Continued**

TEST	ACTION	APPLICABILITY
10	Remove the Park Lamp Relay from the junction block. Measure the resistance of the Park Lamp Relay Output circuit from the relay to ground. Is the resistance below 5.0 ohms?  Yes → Go To 11  No → Replace the fuse and recheck the system. Perform BODY VERIFICATION TEST - VER 1.	All
11	Remove the Park Lamp Relay from the junction block. Remove the Body Control Module from the junction block. Measure the resistance of the Park Lamp Relay Output circuit from relay to ground. Is the resistance below 5.0 ohms?  Yes → Repair the Park Lamp Relay Output circuit for a short to ground and replace the fuse. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

### A/C CONTROL A/C SWITCH FAILURE (MANUAL A/C)

## When Monitored and Set Condition:

### A/C CONTROL A/C SWITCH FAILURE (MANUAL A/C)

When Monitored: With the ignition on.

Set Condition: The BCM detects the A/C switch stuck in the depressed position for at least 30 seconds.

## POSSIBLE CAUSES

CONTROL HEAD - SHORT TO GROUND  
 MODE SWITCH MUX CIRCUIT SHORT TO GROUND  
 MODE SWITCH MUX CIRCUIT SHORT TO SENSOR GROUND  
 BODY CONTROL MODULE - MODE SWITCH MUX SHORT TO GROUND  
 CONTROL HEAD - BUTTON STICKS  
 CONTROL HEAD - MODE MUX INCORRECT  
 CONTROL HEAD - OPEN SWITCH  
 CONTROL HEAD SWITCHES OKAY

TEST	ACTION	APPLICABILITY
1	Put the control switch in the Recirc/Bi-Level (full left) position. With the DRBIII®, erase Body Computer DTC's. With the DRBIII®, read the Mode Switch MUX voltage. Is the voltage below 0.5 volts?  Yes → Go To 2 No → Go To 6	All
2	Disconnect the Manual Temp Control Head C1 harness connector. With the DRBIII®, read the Mode Switch MUX voltage. Does the DRBIII® display Mode Switch MUX: 4.8 volts or greater?  Yes → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All
3	Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the Mode Switch MUX circuit. Is the resistance below 100.0 ohms?  Yes → Repair the Mode Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 4	All

**A/C CONTROL A/C SWITCH FAILURE (MANUAL A/C) — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.            Disconnect the Manual Temp Control Head C1 harness connector.            Disconnect the Body Control Module C1 harness connector.            Measure the resistance between the Sensor Ground circuit and the Mode Switch MUX circuit in the Manual Temp Control Head C1 connector.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Mode Switch MUX circuit for a short to the Sensor Ground circuit.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Press and release the Rear Defogger and the A/C select buttons on the control head several times.            Does either of the buttons seem to stick at times?</p> <p>Yes → Replace the Control Head.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Put the control switch in the Recirc/Bi-Level (full left) position.            Ensure the A/C and the Rear Defogger switches are off.            Turn the ignition on.            With the DRBIII®, read the Mode Switch MUX voltage.            Is the voltage approximately 4.2 to 4.5 volts?</p> <p>Yes → Go To 8</p> <p>No → Replace the Control Head.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>With the DRBIII®, read the Mode Switch MUX voltage.            Press and hold the A/C button and observe the DRB voltage (should be approximately 0.45 volts).            Press and hold the Rear Defogger button and observe the DRB voltage (should be approximately 0.25 volts).            Were the voltage readings correct when the switches were pressed?</p> <p>Yes → There is no problem at this time with the Control Head Switches.            Retry the system and recheck for DTC's.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Control Head.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****A/C CONTROL BLEND DOOR INPUT OPEN OR SHORTED TO GROUND (MANUAL A/C)**

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**When Monitored and Set Condition:****A/C CONTROL BLEND DOOR INPUT OPEN OR SHORTED TO GROUND (MANUAL A/C)**

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally low voltage (below 1.0 volts) on its blend request input.

**POSSIBLE CAUSES**

FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN  
TEMPERATURE SELECT CKT SHORTED TO GROUND  
TEMPERATURE SELECT CKT SHORTED TO SENSOR GROUND  
TEMPERATURE SELECT CIRCUIT OPEN  
CONTROL HEAD - TEMP SELECT OPEN/SHORT  
BODY CONTROL MODULE - TEMP SELECT OPEN/SHORT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase Body Controller DTC's. Disconnect the Manual Temp Control Head 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 2  No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the Temperature Select circuit. Is the resistance below 100.0 ohms?  Yes → Repair the Temperature Select circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

## A/C CONTROL BLEND DOOR INPUT OPEN OR SHORTED TO GROUND (MANUAL A/C) — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Manual Temp Control Head C1 harness connector.            Disconnect the Body Control Module C1 harness connector.            Measure the resistance between the Sensor Ground circuit and the Temperature Select circuit.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Temperature Select circuit for a short to the Sensor Ground circuit.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Manual Temp Control Head C1 harness connector.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance of the Temperature Select circuit between the BCM C2 connector and the Manual Temp Control Head C1 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Temperature Select circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Reconnect the Manual Temp Control Head C1 harness connector.            Disconnect the Body Control Module C2 harness connector.            Turn the ignition on.            Measure the voltage of the Temperature Select circuit in the BCM C2 connector.            Move the temperature control from cold to hot and observe the voltmeter.            Does the voltage change smoothly from approximately 1.0 volts (full cold) to 10.0 volts (full hot)?</p> <p>Yes → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Control Head.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**A/C CONTROL BLEND DOOR INPUT SHORTED TO BATTERY  
(MANUAL A/C)**

## When Monitored and Set Condition:

**A/C CONTROL BLEND DOOR INPUT SHORTED TO BATTERY (MANUAL A/C)**

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally high voltage on its blend request input.

### POSSIBLE CAUSES

CONTROL HEAD - SHORT TO VOLTAGE

TEMPERATURE SELECT CKT SHORTED TO VOLTAGE

BODY CONTROL MODULE - TEMPERATURE SELECT SHORT TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase Body Controller DTC's. Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Turn the ignition on. Measure the voltage of the Temperature Select circuit. Is the voltage above 0.3 volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Disconnect the Body Control Module C2 harness connector. Turn the ignition on. Measure the voltage of the Temperature Select circuit. Is there any voltage present?</p> <p>Yes → Repair the Temperature Select circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****A/C CONTROL EBL SWITCH FAILURE (MANUAL A/C)****When Monitored and Set Condition:****A/C CONTROL EBL SWITCH FAILURE (MANUAL A/C)**

When Monitored: With the ignition on.

Set Condition: The BCM detects the EBL switch stuck in the depressed position for at least 30 seconds.

**POSSIBLE CAUSES**

CONTROL HEAD - SHORT TO GROUND  
 MODE SWITCH MUX CIRCUIT SHORT TO GROUND  
 MODE SWITCH MUX CIRCUIT SHORT TO SENSOR GROUND  
 BODY CONTROL MODULE - MODE SWITCH MUX SHORT TO GROUND  
 CONTROL HEAD - BUTTON STICKS  
 CONTROL HEAD - MODE MUX INCORRECT  
 CONTROL HEAD - OPEN SWITCH  
 CONTROL HEAD SWITCHES OKAY

TEST	ACTION	APPLICABILITY
1	Put the control switch in the Recirc/Bi-Level (full left) position. With the DRBIII®, erase Body Computer DTC's. With the DRBIII®, read the Mode Switch MUX voltage. Is the voltage below 0.5 volts?  Yes → Go To 2 No → Go To 6	All
2	Disconnect the Manual Temp Control Head C1 harness connector. With the DRBIII®, read the Mode Switch MUX voltage. Does the DRBIII® display Mode Switch MUX: 4.8 volts or greater?  Yes → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All
3	Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the Mode Switch MUX circuit. Is the resistance below 100.0 ohms?  Yes → Repair the Mode Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 4	All

**A/C CONTROL EBL SWITCH FAILURE (MANUAL A/C) — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Disconnect the Manual Temp Control Head C1 harness connector.  Disconnect the Body Control Module C1 harness connector.  Measure the resistance between the Sensor Ground circuit and the Mode Switch MUX circuit in the Manual Temp Control Head C1 connector.  Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Mode Switch MUX circuit for a short to the Sensor Ground circuit.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Press and release the Rear Defogger and the A/C select buttons on the control head several times.  Does either of the buttons seem to stick at times?</p> <p>Yes → Replace the Control Head.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Put the control switch in the Recirc/Bi-Level (full left) position.  Ensure the A/C and the Rear Defogger switches are off.  Turn the ignition on.  With the DRBIII®, read the Mode Switch MUX voltage.  Is the voltage approximately 4.2 to 4.5 volts?</p> <p>Yes → Go To 8</p> <p>No → Replace the Control Head.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>With the DRBIII®, read the Mode Switch MUX voltage.  Press and hold the A/C button and observe the DRB voltage (should be approximately 0.45 volts).  Press and hold the Rear Defogger button and observe the DRB voltage (should be approximately 0.25 volts).  Were the voltage readings correct when the switches were pressed?</p> <p>Yes → There is no problem at this time with the Control Head Switches.  Retry the system and recheck for DTC's.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Control Head.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**

**A/C CONTROL MODE DOOR INPUT OPEN OR SHORTED TO BATTERY (MANUAL A/C)**

**When Monitored and Set Condition:**

**A/C CONTROL MODE DOOR INPUT OPEN OR SHORTED TO BATTERY (MANUAL A/C)**

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally high voltage on its mode request input.

**POSSIBLE CAUSES**

MODE SWITCH MUX CIRCUIT SHORTED TO BATTERY

MODE SWITCH MUX CIRCUIT OPEN

CONTROL HEAD - MODE MUX OPEN

BODY CONTROL MODULE - MODE SWITCH MUX OPEN

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase Body Controller DTC's.            Turn the ignition off.            Disconnect the Manual Temp Control Head C1 harness connector.            Disconnect the Body Control Module C2 harness connector.            Turn the ignition on.            Measure the voltage of the Mode Switch MUX circuit.            Is there any voltage present?</p> <p>Yes → Repair the Mode Switch MUX circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off.            Disconnect the Manual Temp Control Head C1 harness connector.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance of the Mode Switch MUX circuit between the Manual Temp Control Head C1 connector and the BCM C2 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the Mode Switch MUX circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**A/C CONTROL MODE DOOR INPUT OPEN OR SHORTED TO BATTERY  
(MANUAL A/C) — Continued**

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Reconnect the BCM C2 harness connector. Turn the ignition on. Measure the voltage of the Mode Switch MUX circuit. Is the voltage above 4.9 volts?  Yes → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****A/C CONTROL MODE DOOR INPUT SHORTED TO GROUND (MANUAL A/C)****When Monitored and Set Condition:****A/C CONTROL MODE DOOR INPUT SHORTED TO GROUND (MANUAL A/C)**

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally low voltage on its mode request input.

**POSSIBLE CAUSES**

CONTROL HEAD - SHORT TO GROUND

MODE SWITCH MUX CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - MODE SWITCH MUX SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase Body Controller DTC's. Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Measure the resistance between ground and the Mode Switch MUX circuit. Is the resistance below 100.0 ohms?  Yes → Go To 2  No → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the Mode Switch MUX circuit. Is the resistance below 100.0 ohms?  Yes → Repair the Mode 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:**  
**ATC A/C SWITCH FAILURE**

**When Monitored and Set Condition:**

**ATC A/C SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC AUTO SWITCH FAILURE**

**When Monitored and Set Condition:**

**ATC AUTO SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC BILEVEL SWITCH FAILURE**

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**When Monitored and Set Condition:****ATC BILEVEL SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC DEFROST SWITCH FAILURE**

**When Monitored and Set Condition:**

**ATC DEFROST SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC EBL SWITCH FAILURE**

**When Monitored and Set Condition:**

**ATC EBL SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC FLOOR SWITCH FAILURE**

**When Monitored and Set Condition:**

**ATC FLOOR SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC MIX SWITCH FAILURE**

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**When Monitored and Set Condition:****ATC MIX SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

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**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

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TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC OFF SWITCH FAILURE**

**When Monitored and Set Condition:**

**ATC OFF SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**ATC PANEL SWITCH FAILURE**

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**When Monitored and Set Condition:****ATC PANEL SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****ATC RECIRCULATION SWITCH FAILURE****When Monitored and Set Condition:****ATC RECIRCULATION SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****ATC TEMPERATURE DOWN SWITCH FAILURE**

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**When Monitored and Set Condition:****ATC TEMPERATURE DOWN SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****ATC TEMPERATURE UP SWITCH FAILURE****When Monitored and Set Condition:****ATC TEMPERATURE UP SWITCH FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM interfaces with the ATC head over the PCI Bus. If an ATC switch is held in the closed position for longer than 5 to 10 minutes, a switch failed code will be set.

**POSSIBLE CAUSES**

ATC HEAD SWITCH STUCK

ATC HEAD - ERASE DTC- RESET

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB select Automatic Temp Control, Input/output and observe the switch state. Do any of the switch states read Closed?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Using the DRB, erase the trouble code and Reset Module (under miscellaneous). Perform BODY VERIFICATION TEST - VER 1.	All

### **Symptom:**

#### **BLEND DOOR FEEDBACK FAILURE**

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### **When Monitored and Set Condition:**

#### **BLEND DOOR FEEDBACK FAILURE**

When Monitored: Continuously.

Set Condition: The BCM detects a loss of signal on the mode feedback and/or blend feedback inputs.

#### **POSSIBLE CAUSES**

5 VOLT SUPPLY CIRCUIT SHORT TO GROUND  
5 VOLT SUPPLY CIRCUIT OPEN  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
BLEND DOOR ACTUATOR SHORTED TO SENSOR GROUND  
MODE DOOR ACTUATOR SHORTED TO SENSOR GROUND  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO BATTERY  
COMMON DOOR DRIVER WIRE OPEN  
BLEND AIR DOOR DRIVER WIRE OPEN  
BODY CONTROL MODULE-COMMON DOOR DRIVER  
BODY CONTROL MODULE-BLEND DOOR DRIVER  
BLEND DOOR ACTUATOR  
SENSOR GROUND WIRE OPEN  
BODY CONTROL MODULE  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO GROUND  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT OPEN  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO SENSOR GROUND  
BODY CONTROL MODULE - FEEDBACK SIGNAL OPEN/SHORTED  
BLEND DOOR ACTUATOR  
5 VOLT SUPPLY CIRCUIT SHORT TO VOLTAGE  
BODY CONTROL MODULE- 5 VOLTS SUPPLY HIGH

**BLEND DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
1	<p>Gain access to the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Turn the ignition on. While backprobing measure the voltage of the 5 volt supply circuit (cavity #6) in the inline connector. What voltage is present?</p> <p>Zero volts. Go To 2</p> <p>4.5 to 5.5 Volts Go To 7</p> <p>Over 5.5 Volts Go To 19</p>	All
2	<p>Turn the ignition off. Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the 5 volt supply circuit. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the 5 volt supply wire between the BCM connector and the inline (C202/3) connector (I/P harness side). Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the 5 volt supply circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected. Disconnect the Body Control Module C1 harness connector Disconnect the Body Control Module C2 harness connector. Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector. Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off.            Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Disconnect the Body Control Module C1 harness connector            Disconnect the Body Control Module C2 harness connector.            Disconnect the Blend Door Actuator harness connector.            Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.            Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Blend Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Disconnect the Body Control Module C1 harness connector            Disconnect the Body Control Module C2 harness connector.            Disconnect the Mode Door Actuator harness connector.            Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.            Is the resistance below 2000.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to the sensor ground circuit.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Turn the ignition on.            With the DRBIII®, read the Temp Air Door voltage.            What voltage is present?</p> <p>Above 5.6 volts.            Repair the Blend Door Feedback Signal circuit for a short to voltage.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>From 0.3 to 5.5 volts.            Go To 8</p> <p>Less than 0.3 volts            Go To 15</p>	All

**BLEND DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Turn off all lights and close the driver door latch so the courtesy lamps will go off.</p> <p>Measure the resistance between ground and the sensor ground circuit (cavity #5) in the inline connector (I/P harness side).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Go To 14</p>	All
9	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C1 harness connector</p> <p>Measure the resistance of the Common Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 1).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 10</p> <p>No → Repair the Common Door Driver circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C1 harness connector</p> <p>Measure the resistance of the Blend Air Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 3).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Repair the Blend Air Door Driver circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
11	<p>Turn the ignition off.</p> <p>Ensure the C202/3 inline connector is connected at this time.</p> <p>With the DRBIII®, erase DTC's.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Backprobe one voltmeter lead to the Common Door Driver ckt in the BCM C1 connector and the other to chassis ground.</p> <p>Reconnect the BCM C1 harness connector.</p> <p>Turn the ignition on.</p> <p>Push (move) the mode control as follows: Recirc switch Off: Panel Switch On: then Recirc Switch ON while observing the voltmeter.</p> <p>Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 12</p> <p>No → Replace the Body Control Module (common door driver open). Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
12	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Blend Air Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Move the temperature control from cold (LO) to hot (HI) while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 13</p> <p>No → Replace the Body Control Module (blend air door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
13	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>If the wiring to the actuator is okay and the blend door is not binding, replace the Blend Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
14	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Sensor Ground circuit from the inline connector (cavity #5) (I/P harness side) to the BCM C1 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module (sensor ground open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Sensor Ground circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
15	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance between ground and the Blend Door Feedback Signal circuit.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Blend Door Feedback Signal circuit for a short to ground.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 16</p>	All

**BLEND DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
16	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C2 harness connector.</p> <p>Measure the resistance of the Blend Door Feedback Signal circuit between the BCM C2 connector and the Inline connector (cavity #10).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 17</p> <p>No → Repair the Blend Door Feedback Signal circuit for an open. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
17	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C2 harness connector.</p> <p>Disconnect the Body Control Module C1 harness connector.</p> <p>Measure the resistance between the Sensor Ground circuit in the BCM C1 connector and the Blend Door Feedback Signal circuit in the BCM C2 connector.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Blend Door Feedback Signal circuit for a short to the Sensor Ground circuit. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 18</p>	All
18	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Reconnect the Body Control Module C1 &amp; C2 harness connectors.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, read the Temp Air Door voltage.</p> <p>Connect a jumper wire between the Blend Door Feedback Signal circuit (cavity #10) and the 5 volt supply circuit (cavity #6) at the in-line connector C202/3 (I/P harness side).</p> <p>Does the DRBIII® display voltage at approximately 5.0 volts?</p> <p>Yes → Ensure the wiring to the actuator is okay. If the wiring is okay, replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
19	<p>Disconnect the Body Control Module C2 harness connector. Turn the ignition on. Measure the voltage of the 5 volt supply circuit. Is there any voltage present?</p> <p>Yes → Repair the 5 volt supply circuit for a short to voltage. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****BLEND DOOR OUTPUT SHORTED TO BATTERY****When Monitored and Set Condition:****BLEND DOOR OUTPUT SHORTED TO BATTERY**

**When Monitored:** Whenever the BCM attempts to move one of the HVAC actuators.

**Set Condition:** When the BCM detects one or more of the following outputs shorted to battery: mode door driver, blend door driver, recirculation door driver or the common door driver. (NOTE: all shorted to battery codes will be set when one output is shorted.)

**POSSIBLE CAUSES**

BLEND AIR DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 MODE DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 RECIRCULATION DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 COMMON DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 BODY CONTROL MODULE - DRIVER SHORTED INTERNAL  
 BLEND DOOR ACTUATOR - SHORTED  
 MODE DOOR ACTUATOR - SHORTED  
 RECIRCULATION DOOR ACTUATOR - SHORTED  
 DRIVER CIRCUITS SHORTED TOGETHER

TEST	ACTION	APPLICABILITY
1	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Blend Air Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Blend Air Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Mode Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Mode Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

**BLEND DOOR OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Recirculation Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Recirculation Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Common Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Common Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Common Door Driver (cavity 10), the Mode Door Driver (cav 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Mode Door Driver (cavity 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Blend Door Driver (cavity 3) and the Recirc Door Driver (cav 2) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the door driver circuits?</p> <p>Yes → Go To 6</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Blend Door Actuator harness connector. Measure the resistance between the Blend Air Door Driver circuit (cavity 3) and the other driver circuits (cavities 2, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?</p> <p>Yes → Go To 7</p> <p>No → Replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
7	Disconnect the Body Control Module C1 harness connector. Disconnect the Mode Door Actuator harness connector. Measure the resistance between the Mode Door Driver circuit (cavity 9) and the other driver circuits (cavities 2, 3 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 8  No → Replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Body Control Module C1 harness connector. Disconnect the Recirculation Door Actuator harness connector. Measure the resistance between the Recirculation Door Driver circuit (cavity 2) and the other driver circuits (cavities 3, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 9  No → Replace the Recirculation Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair.  Repair Repair the Door Driver circuits that are shorted together. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****BLEND DOOR OUTPUT SHORTED TO GROUND****When Monitored and Set Condition:****BLEND DOOR OUTPUT SHORTED TO GROUND**

When Monitored: Whenever the BCM attempts to move one of the HVAC actuators.

Set Condition: When the BCM detects one or more of the following outputs shorted to ground: mode door driver, blend door driver, recirculation door driver or the common door driver.

**POSSIBLE CAUSES**

BLEND AIR DOOR DRIVER CIRCUIT SHORT TO GROUND

BLEND AIR DOOR DRIVER CKT SHORT TO SENSOR GROUND

BLEND AIR DOOR DRIVER WIRE SHORT TO SENSOR GROUND

BLEND DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn all lights off. Close the driver door latch to turn courtesy lamps off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between ground and the Blend Air Door Driver circuit. Is the resistance below 5.0 ohms?  Yes → Repair the Blend Air Door Driver circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Blend Air Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**BLEND DOOR OUTPUT SHORTED TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Blend Door Actuator harness connector. Measure the resistance between the Blend Air Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Blend Air Door Driver circuit for a short to the Sensor Ground circuit. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****BLEND DOOR STALL TEST FAILURE**

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**When Monitored and Set Condition:****BLEND DOOR STALL TEST FAILURE**

When Monitored: During HVAC motor calibration.

Set Condition: The BCM is unable to detect the end of travel for the blend door.

**POSSIBLE CAUSES**

5 VOLT SUPPLY CIRCUIT SHORT TO GROUND  
5 VOLT SUPPLY CIRCUIT OPEN  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
BLEND DOOR ACTUATOR SHORTED TO SENSOR GROUND  
MODE DOOR ACTUATOR SHORTED TO SENSOR GROUND  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO BATTERY  
COMMON DOOR DRIVER WIRE OPEN  
BLEND AIR DOOR DRIVER WIRE OPEN  
BODY CONTROL MODULE-COMMON DOOR DRIVER  
BODY CONTROL MODULE-BLEND DOOR DRIVER  
BLEND DOOR ACTUATOR  
SENSOR GROUND WIRE OPEN  
BODY CONTROL MODULE  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO GROUND  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT OPEN  
BLEND DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO SENSOR GROUND  
BODY CONTROL MODULE - FEEDBACK SIGNAL OPEN/SHORTED  
BLEND DOOR ACTUATOR  
5 VOLT SUPPLY CIRCUIT SHORT TO VOLTAGE  
BODY CONTROL MODULE- 5 VOLTS SUPPLY HIGH

**BLEND DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
1	<p>Gain access to the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Turn the ignition on. While backprobing measure the voltage of the 5 volt supply circuit (cavity #6) in the inline connector. What voltage is present?</p> <p>Zero volts. Go To 2</p> <p>4.5 to 5.5 Volts Go To 7</p> <p>Over 5.5 Volts Go To 19</p>	All
2	<p>Turn the ignition off. Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the 5 volt supply circuit. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the 5 volt supply wire between the BCM connector and the inline (C202/3) connector (I/P harness side). Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the 5 volt supply circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected. Disconnect the Body Control Module C1 harness connector Disconnect the Body Control Module C2 harness connector. Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector. Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off.            Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Disconnect the Body Control Module C1 harness connector            Disconnect the Body Control Module C2 harness connector.            Disconnect the Blend Door Actuator harness connector.            Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.            Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Blend Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Disconnect the Body Control Module C1 harness connector            Disconnect the Body Control Module C2 harness connector.            Disconnect the Mode Door Actuator harness connector.            Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.            Is the resistance below 2000.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to the sensor ground circuit.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Turn the ignition on.            With the DRBIII®, read the Temp Air Door voltage.            What voltage is present?</p> <p>Above 5.6 volts.            Repair the Blend Door Feedback Signal circuit for a short to voltage.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>From 0.3 to 5.5 volts.            Go To 8</p> <p>Less than 0.3 volts            Go To 15</p>	All

**BLEND DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Turn off all lights and close the driver door latch so the courtesy lamps will go off.            Measure the resistance between ground and the sensor ground circuit (cavity #5) in the inline connector (I/P harness side).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Go To 14</p>	All
9	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Common Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 1).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 10</p> <p>No → Repair the Common Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Blend Air Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 3).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Repair the Blend Air Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
11	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Common Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Push (move) the mode control as follows: Recirc switch Off: Panel Switch On: then Recirc Switch ON while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 12</p> <p>No → Replace the Body Control Module (common door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
12	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Blend Air Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Move the temperature control from cold (LO) to hot (HI) while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 13</p> <p>No → Replace the Body Control Module (blend air door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
13	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>If the wiring to the actuator is okay and the blend door is not binding, replace the Blend Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
14	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Sensor Ground circuit from the inline connector (cavity #5) (I/P harness side) to the BCM C1 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module (sensor ground open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Sensor Ground circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
15	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance between ground and the Blend Door Feedback Signal circuit.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Blend Door Feedback Signal circuit for a short to ground.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 16</p>	All

**BLEND DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
16	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance of the Blend Door Feedback Signal circuit between the BCM C2 connector and the Inline connector (cavity #10).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 17</p> <p>No → Repair the Blend Door Feedback Signal circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
17	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Disconnect the Body Control Module C1 harness connector.            Measure the resistance between the Sensor Ground circuit in the BCM C1 connector and the Blend Door Feedback Signal circuit in the BCM C2 connector.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Blend Door Feedback Signal circuit for a short to the Sensor Ground circuit.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 18</p>	All
18	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Reconnect the Body Control Module C1 &amp; C2 harness connectors.            Turn the ignition on.            With the DRBIII®, read the Temp Air Door voltage.            Connect a jumper wire between the Blend Door Feedback Signal circuit (cavity #10) and the 5 volt supply circuit (cavity #6) at the in-line connector C202/3 (I/P harness side).            Does the DRBIII® display voltage at approximately 5.0 volts?</p> <p>Yes → Ensure the wiring to the actuator is okay. If the wiring is okay, replace the Blend Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**BLEND DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
19	<p>Disconnect the Body Control Module C2 harness connector. Turn the ignition on. Measure the voltage of the 5 volt supply circuit. Is there any voltage present?</p> <p>Yes → Repair the 5 volt supply circuit for a short to voltage. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****COMMON OUTPUT SHORTED TO BATTERY****When Monitored and Set Condition:****COMMON OUTPUT SHORTED TO BATTERY**

**When Monitored:** Whenever the BCM attempts to move one of the HVAC actuators.

**Set Condition:** When the BCM detects one or more of the following outputs shorted to battery: mode door driver, blend door driver, recirculation door driver or the common door driver. (NOTE: all shorted to battery codes will be set when one output is shorted.)

**POSSIBLE CAUSES**

BLEND AIR DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 MODE DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 RECIRCULATION DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 COMMON DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 BODY CONTROL MODULE - DRIVER SHORTED INTERNAL  
 BLEND DOOR ACTUATOR - SHORTED  
 MODE DOOR ACTUATOR - SHORTED  
 RECIRCULATION DOOR ACTUATOR - SHORTED  
 DRIVER CIRCUITS SHORTED TOGETHER

TEST	ACTION	APPLICABILITY
1	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Blend Air Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Blend Air Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Mode Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Mode Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

**COMMON OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Recirculation Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Recirculation Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Common Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Common Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Common Door Driver (cavity 10), the Mode Door Driver (cav 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Mode Door Driver (cavity 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Blend Door Driver (cavity 3) and the Recirc Door Driver (cav 2) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the door driver circuits?</p> <p>Yes → Go To 6</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Blend Door Actuator harness connector. Measure the resistance between the Blend Air Door Driver circuit (cavity 3) and the other driver circuits (cavities 2, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?</p> <p>Yes → Go To 7</p> <p>No → Replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**COMMON OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
7	Disconnect the Body Control Module C1 harness connector. Disconnect the Mode Door Actuator harness connector. Measure the resistance between the Mode Door Driver circuit (cavity 9) and the other driver circuits (cavities 2, 3 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 8  No → Replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Body Control Module C1 harness connector. Disconnect the Recirculation Door Actuator harness connector. Measure the resistance between the Recirculation Door Driver circuit (cavity 2) and the other driver circuits (cavities 3, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 9  No → Replace the Recirculation Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair.  Repair Repair the Door Driver circuits that are shorted together. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****COMMON OUTPUT SHORTED TO GROUND****When Monitored and Set Condition:****COMMON OUTPUT SHORTED TO GROUND**

When Monitored: Whenever the BCM attempts to move one of the HVAC actuators.

Set Condition: When the BCM detects one or more of the following outputs shorted to ground: mode door driver, blend door driver, recirculation door driver or the common door driver.

**POSSIBLE CAUSES**

COMMON DOOR DRIVER CIRCUIT SHORT TO GROUND

COMMON DOOR DRIVER CKT SHORT TO SENSOR GROUND

BLEND DOOR ACTUATOR SHORT TO COMMON DOOR DRIVER CIRCUIT

MODE DOOR ACTUATOR SHORT TO COMMON DOOR DRIVER CIRCUIT

COMMON DOOR DRIVER WIRE SHORT TO SENSOR GROUND

TEST	ACTION	APPLICABILITY
1	Turn all lights off. Close the driver door latch to turn courtesy lamps off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between ground and the Common Door Driver circuit. Is the resistance below 5.0 ohms?  Yes → Repair the Common Door Driver circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Common Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**COMMON OUTPUT SHORTED TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
3	Disconnect the Body Control Module C1 harness connector. Disconnect the Blend Door Actuator harness connector. Measure the resistance between the Common Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 4  No → Replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Body Control Module C1 harness connector. Disconnect the Mode Door Actuator harness connector. Measure the resistance between the Common Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?  Yes → Repair the Common Door Driver circuit for a short to the Sensor Ground circuit. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

### EVAPORATOR TEMPERATURE SENSOR FAILURE

#### When Monitored and Set Condition:

#### EVAPORATOR TEMPERATURE SENSOR FAILURE

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally high or low voltage on the evaporator temperature sensor signal.

#### POSSIBLE CAUSES

EVAPORATOR TEMPERATURE SENSOR SIGNAL CKT SHORT TO VOLTAGE  
 EVAPORATOR TEMPERATURE SENSOR OPEN  
 EVAPORATOR TEMP SENSOR SIGNAL CKT OPEN  
 SENSOR GROUND OPEN  
 BODY CONTROL MODULE - EVAPORATOR TEMP SENSOR STAYS HIGH  
 EVAPORATOR TEMPERATURE SENSOR - CODE RETURNS  
 EVAPORATOR TEMPERATURE SENSOR - CODE WITH A/C OPERATING  
 SYSTEM IS OPERATIONAL  
 EVAPORATOR TEMP SENSOR SIGNAL CIRCUIT SHORT TO GROUND  
 EVAPORATOR TEMP SENSOR SIGNAL CKT SHORT TO SENSOR GROUND  
 BODY CONTROL MODULE - EVAPORATOR TEMP SENSOR STAYS LOW

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® in Sensors, read the Evaporator Temperature Sensor voltage. Does the DRBIII® display EVAP TEMP: 5.2 VOLTS or greater?  Yes → Go To 2 No → Go To 7	All
2	Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. Measure the voltage of the Evaporator Temperature Sensor Signal circuit. Is the voltage above 5.3 volts?  Yes → Repair the Evaporator Temperature Sensor Signal ckt for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

**EVAPORATOR TEMPERATURE SENSOR FAILURE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. Connect a jumper wire between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit. With the DRBIII® in Sensors, read the Evaporator Temperature Sensor voltage. Does the DRBIII® display EVAP TEMP: 4.9 VOLTS or greater?</p> <p>Yes → Go To 4</p> <p>No → Replace the Evaporator Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the Evaporator Temp Sensor Signal circuit between the BCM C2 connector and the Evaporator Temperature Sensor connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Evaporator Temperature Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Disconnect the Body Control Module C1 harness connector. Measure the resistance of the Sensor Ground circuit between the BCM C1 connector and the Evaporator Temp Sensor connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensors, read the Evaporator Temperature Sensor voltage. Does the DRBIII® display EVAP TEMP: 4.9 VOLTS or greater?</p> <p>Yes → Go To 8</p> <p>No → Go To 10</p>	All

**EVAPORATOR TEMPERATURE SENSOR FAILURE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Ensure the Evaporator Temp Sensor is connected at this time.  Turn the ignition off.  With the DRBIII®, read Body Computer DTC's.  Turn the ignition on.  Wait 2 minutes.  With the DRBIII®, read Body Computer DTC's.  Does the DRBIII® display Evaporator Temperature Sensor Failure DTC?</p> <p>Yes → Replace the Evaporator Temperature Sensor.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Ensure the Evaporator Temp Sensor is connected at this time.  Start the engine.  Turn the A/C system on and run for at least 5 minutes (so water will form on the evaporator temperature sensor).  With the DRBIII®, read Body Computer DTC's.  Does the DRBIII® display Evaporator Temperature Sensor Failure DTC?</p> <p>Yes → Replace the Evaporator Temperature Sensor.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → There is no problem found at this time. The evaporator temperature sensor should be fully operational. Refer to the wiring diagrams located in the service information to help isolate a possible intermittent wiring problem.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off.  Disconnect the Evaporator Temperature Sensor harness connector.  Disconnect the Body Control Module C2 harness connector.  Measure the resistance between ground and the Evaporator Temperature Sensor Signal circuit at the BCM C2 connector.  Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Turn the ignition off.  Disconnect the Evaporator Temperature Sensor harness connector.  Disconnect the Body Control Module C1 harness connector.  Disconnect the Body Control Module C2 harness connector.  Measure the resistance between the Evaporator Temp Sensor Signal circuit and the Sensor Ground circuit in the Evaporator Temperature Sensor connector.  Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to the Sensor Ground circuit.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 12</p>	All
12	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**HEAD STATUS RX FAILURE**

**POSSIBLE CAUSES**

CHECK BCM CODES

AUTOMATIC TEMPERATURE CONTROL HEAD

HARNESS/INTERMITTENT WIRING

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.            With the DRBIII®, read the BCM DTCs.            Is the Head Status RX Failure code set?</p> <p>Yes → Refer to the communications category and perform the appropriate symptom.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition on.            With the DRBIII®, erase the ATC Head DTCs.            Cycle the ignition switch from off to on.            With the DRBIII®, read the ATC Head DTCs.            Is the Head Status RX Failure code set?</p> <p>Yes → Replace the Automatic Temperature Control Head.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent wiring problem.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****IN CAR TEMP SENSOR FAILURE (ATC ASPIRATOR FAILURE)**

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**When Monitored and Set Condition:****IN CAR TEMP SENSOR FAILURE (ATC ASPIRATOR FAILURE)**

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally high voltage (above 4.8 volts) or an abnormally low voltage (below 0.31 volts) on the in-car temperature sensor signal.

POSSIBLE CAUSES
FUSED B(+) CIRCUIT OPEN
ASPIRATOR MOTOR DRIVER CIRCUIT SHORT TO BATTERY
ASPIRATOR MOTOR DRIVER CIRCUIT OPEN
ATC HEAD - OPEN ASPIRATOR MOTOR
BODY CONTROL MODULE - ASPIRATOR DRIVER OPEN
ASPIRATOR MOTOR DRIVER CIRCUIT SHORT TO GROUND
BCM-ASPIRATOR STAYS RUNNING
IN-CAR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO BATTERY
IN-CAR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND
IN-CAR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO SENSOR GROUND
IN-CAR TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN
BODY CONTROL MODULE - OPEN IN-CAR TEMP SENSOR SIGNAL
ATC HEAD - IN-CAR SENSOR CODE
SYSTEM IS OPERATIONAL AT THIS TIME
SENSOR GROUND CIRCUIT OPEN
BODY CONTROL MODULE - OPEN SENSOR GROUND

## IN CAR TEMP SENSOR FAILURE (ATC ASPIRATOR FAILURE) — Continued

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.            Completely cover the aspirator inlet (below blower switch) with a piece of tissue paper.  <b>Note: The tissue paper should hold in place because of the air drawn in from the aspirator.</b>            Turn the ignition off.            Stay in the vehicle, close all doors and ensure courtesy lamps are off.            Wait three minutes. Open and close the driver door and observe the aspirator motor. The motor should run for approximately 30 seconds after the courtesy lamps have faded out and then stop.            Disconnect the ATC Head harness connector.            Turn the ignition on.            Measure the voltage of the In-Car Temperature Sensor Signal circuit. The voltage should be between 4.5 volts and 5.2 volts.            Select the appropriate findings.</p> <p style="padding-left: 40px;">Aspirator never ran. Go To 2</p> <p style="padding-left: 40px;">Aspirator timer inop when door opened. Go To 6</p> <p style="padding-left: 40px;">In-Car Temp Sense above 5.3 volts.            Repair the In-Car Temperature Sensor Signal circuit for a short to voltage. If the circuit is okay, replace the BCM.            Perform BODY VERIFICATION TEST - VER 1.</p> <p style="padding-left: 40px;">In-Car Temp Sense below 4.5 volts. Go To 7</p> <p style="padding-left: 40px;">None of the above. Go To 10</p>	All
2	<p>Turn the ignition off.            Disconnect the ATC Head harness connector.            Turn the ignition on.            Measure the voltage of the Fused B(+) circuit.            Is the voltage above 10.0 volts?</p> <p style="padding-left: 40px;">Yes → Go To 3</p> <p style="padding-left: 40px;">No → Repair the Fused B(+) circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off.            Disconnect the ATC Head harness connector.            Turn the ignition on.            Measure the voltage of the Aspirator Motor Driver circuit.            Is the voltage above 10.0 volts?</p> <p style="padding-left: 40px;">Yes → Repair the Aspirator Motor Driver circuit for a short to voltage. If the circuit is okay, replace the BCM.            Perform BODY VERIFICATION TEST - VER 1.</p> <p style="padding-left: 40px;">No → Go To 4</p>	All

## IN CAR TEMP SENSOR FAILURE (ATC ASPIRATOR FAILURE) — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the ATC Head harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the Aspirator Motor Driver circuit between the BCM C2 connector and the ATC Head connector. Is the resistance below 5.0 ohms?  Yes → Go To 5  No → Repair the Aspirator Motor Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Ensure the ATC Head is connected at this time. Disconnect the Body Control Module C2 harness connector. Connect a jumper wire between the Aspirator Motor Driver circuit and ground. Check the operation of the aspirator motor fan. Is the aspirator motor running?  Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.	All
6	<b>Note: Ensure the courtesy lamps operate properly from the drivers door before proceeding. If not, refer to the Interior Lighting category for the related symptom(s).</b> <b>Note: This path is for the aspirator continuing to run with the key off and the doors closed.</b> Disconnect the Body Control Module C2 harness connector. Did the aspirator motor stop running?  Yes → Replace the Body Control Module (aspirator motor driver grounded). Perform BODY VERIFICATION TEST - VER 1.  No → Repair the Aspirator Motor Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the Body Control Module C2 harness connector. Disconnect the ATC Head harness connector. Measure the resistance between ground and the In-Car Temperature Sensor Signal circuit. Is the resistance below 5.0 ohms?  Yes → Repair the In-Car Temperature Sensor Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 8	All

## IN CAR TEMP SENSOR FAILURE (ATC ASPIRATOR FAILURE) — Continued

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the Body Control Module C1 &amp; C2 harness connectors.            Disconnect the ATC Head harness connector.            Measure the resistance between the Sensor Ground circuit and the In-Car Temperature Sensor Signal circuit in the ATC Head connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the In-Car Temperature Sensor Signal circuit for a short to the Sensor Ground circuit.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Turn the ignition off.            Disconnect the Body Control Module C2 harness connector.            Disconnect the ATC Head harness connector.            Backprobe one voltmeter lead to the In-Car Temperature Sensor Signal ckt in the BCM C2 connector and the other lead to ground.            Reconnect the BCM harness connectors.            Turn the ignition on and observe the voltmeter.            Did the voltage go above 4.5 volts?</p> <p>Yes → Repair the In-Car Temperature Sensor Signal circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off.            Disconnect the ATC Head harness connector.            Close the driver door latch and ensure all lights are off.            Wait one minute to allow the BCM to go to sleep.            Measure the resistance between ground and the Sensor Ground circuit.            Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Go To 12</p>	All
11	<p>Ensure the ATC Head is connected at this time.            With the DRBIII®, erase Body Computer DTC's.            Turn the ignition on.            With the DRBIII®, read Body Computer DTC's.            Does the DRBIII® display In-Car Temp Sensor Failure DTC?</p> <p>Yes → Replace the Automatic Temperature Control Head.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → There is no problem found at this time. The aspirator and in-car temp sensor should be fully operational. Refer to the wiring diagrams located in the service information to help isolate a possible intermittent wiring problem.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## IN CAR TEMP SENSOR FAILURE (ATC ASPIRATOR FAILURE) — Continued

TEST	ACTION	APPLICABILITY
12	<p>Turn the ignition off.            Disconnect the Body Control Module C1 harness connector.            Backprobe one ohmmeter lead to the Sensor Ground ckt in the BCM C1 connector and the other lead to ground.            Reconnect the BCM C1 harness connector.            Close the driver door latch and ensure all lights are off.            Wait one minute to allow the BCM to go to sleep.            Measure the resistance between ground and the Sensor Ground circuit.            Is the resistance below 10.0 ohms?</p> <p>Yes → Repair the Sensor Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****MODE DOOR FEEDBACK FAILURE****When Monitored and Set Condition:****MODE DOOR FEEDBACK FAILURE**

When Monitored: Continuously.

Set Condition: The BCM detects a loss of signal on the mode feedback and/or blend feedback inputs.

**POSSIBLE CAUSES**

5 VOLT SUPPLY CIRCUIT SHORT TO GROUND  
5 VOLT SUPPLY CIRCUIT OPEN  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
BLEND DOOR ACTUATOR SHORTED TO SENSOR GROUND  
MODE DOOR ACTUATOR SHORTED TO SENSOR GROUND  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
MODE DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO BATTERY  
COMMON DOOR DRIVER WIRE OPEN  
MODE DOOR DRIVER WIRE OPEN  
BODY CONTROL MODULE-COMMON DOOR DRIVER  
BODY CONTROL MODULE-MODE DOOR DRIVER  
MODE DOOR ACTUATOR  
SENSOR GROUND WIRE OPEN  
BODY CONTROL MODULE  
MODE DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO GROUND  
MODE DOOR FEEDBACK SIGNAL CIRCUIT OPEN  
MODE DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO SENSOR GROUND  
BODY CONTROL MODULE - FEEDBACK SIGNAL OPEN/SHORTED  
MODE DOOR ACTUATOR  
5 VOLT SUPPLY CIRCUIT SHORT TO VOLTAGE  
BODY CONTROL MODULE- 5 VOLTS SUPPLY HIGH

**MODE DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
1	<p>Gain access to the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Turn the ignition on. While backprobing measure the voltage of the 5 volt supply circuit (cavity #6) in the inline connector. What voltage is present?</p> <p>Zero volts. Go To 2</p> <p>4.5 to 5.5 Volts Go To 7</p> <p>Over 5.5 Volts Go To 19</p>	All
2	<p>Turn the ignition off. Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the 5 volt supply circuit. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the 5 volt supply wire between the BCM connector and the inline (C202/3) connector (I/P harness side). Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the 5 volt supply circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected. Disconnect the Body Control Module C1 harness connector Disconnect the Body Control Module C2 harness connector. Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector. Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off.            Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Disconnect the Body Control Module C1 harness connector            Disconnect the Body Control Module C2 harness connector.            Disconnect the Blend Door Actuator harness connector.            Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.            Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Blend Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Disconnect the Body Control Module C1 harness connector            Disconnect the Body Control Module C2 harness connector.            Disconnect the Mode Door Actuator harness connector.            Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.            Is the resistance below 2000.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to the sensor ground circuit.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.            Turn the ignition on.            With the DRBIII®, read the Mode Door voltage.            What voltage is present?</p> <p>Above 5.6 volts.            Repair the Mode Door Feedback Signal circuit for a short to voltage.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>From 0.3 to 5.5 volts.            Go To 8</p> <p>Less than 0.3 volts            Go To 15</p>	All

**MODE DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Turn off all lights and close the driver door latch so the courtesy lamps will go off.            Measure the resistance between ground and the sensor ground circuit (cavity #5) in the inline connector (I/P harness side).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Go To 14</p>	All
9	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Common Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 1).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 10</p> <p>No → Repair the Common Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Mode Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 2).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Repair the Mode Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
11	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Common Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Push (move) the mode control as follows: Recirc switch Off: Panel Switch On: then Recirc Switch ON while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 12</p> <p>No → Replace the Body Control Module (common door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
12	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Mode Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Move the mode control from defrost to panel while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 13</p> <p>No → Replace the Body Control Module (mode door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
13	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>If the wiring to the actuator is okay and the mode door is not binding, replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
14	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Sensor Ground circuit from the inline connector (cavity #5) (I/P harness side) to the BCM C1 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module (sensor ground open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Sensor Ground circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
15	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance between ground and the Mode Door Feedback Signal circuit.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Mode Door Feedback Signal circuit for a short to ground.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 16</p>	All

**MODE DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
16	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance of the Mode Door Feedback Signal circuit between the BCM C2 connector and the Inline connector (cavity #11).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 17</p> <p>No → Repair the Mode Door Feedback Signal circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
17	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Disconnect the Body Control Module C1 harness connector.            Measure the resistance between the Sensor Ground circuit in the BCM C1 connector and the Mode Door Feedback Signal circuit in the BCM C2 connector.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Mode Door Feedback Signal circuit for a short to the Sensor Ground circuit.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 18</p>	All
18	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Reconnect the Body Control Module C1 &amp; C2 harness connectors.            Turn the ignition on.            With the DRBIII®, read the Mode Door voltage.            Connect a jumper wire between the Mode Door Feedback Signal circuit (cavity #11) and the 5 volt supply circuit (cavity #6) at the in-line connector C202/3 (I/P harness side).            Does the DRBIII® display voltage at approximately 5.0 volts?</p> <p>Yes → Ensure the wiring to the actuator is okay. If the wiring is okay, replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR FEEDBACK FAILURE — Continued**

TEST	ACTION	APPLICABILITY
19	<p>Disconnect the Body Control Module C2 harness connector. Turn the ignition on. Measure the voltage of the 5 volt supply circuit. Is there any voltage present?</p> <p>Yes → Repair the 5 volt supply circuit for a short to voltage. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****MODE DOOR OUTPUT SHORTED TO BATTERY****When Monitored and Set Condition:****MODE DOOR OUTPUT SHORTED TO BATTERY**

**When Monitored:** Whenever the BCM attempts to move one of the HVAC actuators.

**Set Condition:** When the BCM detects one or more of the following outputs shorted to battery: mode door driver, blend door driver, recirculation door driver or the common door driver. (NOTE: all shorted to battery codes will be set when one output is shorted.)

**POSSIBLE CAUSES**

BLEND AIR DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 MODE DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 RECIRCULATION DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 COMMON DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 BODY CONTROL MODULE - DRIVER SHORTED INTERNAL  
 BLEND DOOR ACTUATOR - SHORTED  
 MODE DOOR ACTUATOR - SHORTED  
 RECIRCULATION DOOR ACTUATOR - SHORTED  
 DRIVER CIRCUITS SHORTED TOGETHER

TEST	ACTION	APPLICABILITY
1	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Blend Air Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Blend Air Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Mode Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Mode Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

**MODE DOOR OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Recirculation Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Recirculation Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Common Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Common Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Common Door Driver (cavity 10), the Mode Door Driver (cav 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Mode Door Driver (cavity 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Blend Door Driver (cavity 3) and the Recirc Door Driver (cav 2) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the door driver circuits?</p> <p>Yes → Go To 6</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Blend Door Actuator harness connector. Measure the resistance between the Blend Air Door Driver circuit (cavity 3) and the other driver circuits (cavities 2, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?</p> <p>Yes → Go To 7</p> <p>No → Replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
7	Disconnect the Body Control Module C1 harness connector. Disconnect the Mode Door Actuator harness connector. Measure the resistance between the Mode Door Driver circuit (cavity 9) and the other driver circuits (cavities 2, 3 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 8  No → Replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Body Control Module C1 harness connector. Disconnect the Recirculation Door Actuator harness connector. Measure the resistance between the Recirculation Door Driver circuit (cavity 2) and the other driver circuits (cavities 3, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 9  No → Replace the Recirculation Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair.  Repair Repair the Door Driver circuits that are shorted together. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****MODE DOOR OUTPUT SHORTED TO GROUND****When Monitored and Set Condition:****MODE DOOR OUTPUT SHORTED TO GROUND**

When Monitored: Whenever the BCM attempts to move one of the HVAC actuators.

Set Condition: When the BCM detects one or more of the following outputs shorted to ground: mode door driver, blend door driver, recirculation door driver or the common door driver.

**POSSIBLE CAUSES**

MODE DOOR DRIVER CIRCUIT SHORT TO GROUND

MODE DOOR DRIVER CKT SHORT TO SENSOR GROUND

MODE DOOR DRIVER WIRE SHORT TO SENSOR GROUND

MODE DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn all lights off. Close the driver door latch to turn courtesy lamps off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between ground and the Mode Door Driver circuit. Is the resistance below 5.0 ohms?  Yes → Repair the Mode Door Driver circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Mode Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**MODE DOOR OUTPUT SHORTED TO GROUND — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Mode Door Actuator harness connector. Measure the resistance between the Mode Door Driver circuit and the Sensor Ground circuit in the BCM C1 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Mode Door Driver circuit for a short to the Sensor Ground circuit. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**MODE DOOR STALL TEST FAILURE****When Monitored and Set Condition:****MODE DOOR STALL TEST FAILURE**

When Monitored: During HVAC motor calibration.

Set Condition: The BCM is unable to detect the end of travel for the mode door.

**POSSIBLE CAUSES**

5 VOLT SUPPLY CIRCUIT SHORT TO GROUND  
5 VOLT SUPPLY CIRCUIT OPEN  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
BLEND DOOR ACTUATOR SHORTED TO SENSOR GROUND  
MODE DOOR ACTUATOR SHORTED TO SENSOR GROUND  
5 VOLT SUPPLY CIRCUIT SHORT TO SENSOR GROUND  
MODE DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO BATTERY  
COMMON DOOR DRIVER WIRE OPEN  
MODE DOOR DRIVER WIRE OPEN  
BODY CONTROL MODULE-COMMON DOOR DRIVER  
BODY CONTROL MODULE-MODE DOOR DRIVER  
MODE DOOR ACTUATOR  
SENSOR GROUND WIRE OPEN  
BODY CONTROL MODULE  
MODE DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO GROUND  
MODE DOOR FEEDBACK SIGNAL CIRCUIT OPEN  
MODE DOOR FEEDBACK SIGNAL CIRCUIT SHORT TO SENSOR GROUND  
BODY CONTROL MODULE - FEEDBACK SIGNAL OPEN/SHORTED  
MODE DOOR ACTUATOR  
5 VOLT SUPPLY CIRCUIT SHORT TO VOLTAGE  
BODY CONTROL MODULE- 5 VOLTS SUPPLY HIGH

**MODE DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
1	<p>Gain access to the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Turn the ignition on. While backprobing measure the voltage of the 5 volt supply circuit (cavity #6) in the inline connector. What voltage is present?</p> <p>Zero volts. Go To 2</p> <p>4.5 to 5.5 Volts Go To 7</p> <p>Over 5.5 Volts Go To 19</p>	All
2	<p>Turn the ignition off. Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance between ground and the 5 volt supply circuit. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the 5 volt supply wire between the BCM connector and the inline (C202/3) connector (I/P harness side). Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the 5 volt supply circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected. Disconnect the Body Control Module C1 harness connector Disconnect the Body Control Module C2 harness connector. Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector. Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off.</p> <p>Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.</p> <p>Disconnect the Body Control Module C1 harness connector</p> <p>Disconnect the Body Control Module C2 harness connector.</p> <p>Disconnect the Blend Door Actuator harness connector.</p> <p>Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.</p> <p>Is the resistance below 2000.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Blend Door Actuator.</p> <p>Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.</p> <p>Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.</p> <p>Disconnect the Body Control Module C1 harness connector</p> <p>Disconnect the Body Control Module C2 harness connector.</p> <p>Disconnect the Mode Door Actuator harness connector.</p> <p>Measure the resistance between the 5 volt supply circuit in the BCM C2 connector and the sensor ground circuit in the BCM C1 connector.</p> <p>Is the resistance below 2000.0 ohms?</p> <p>Yes → Repair the 5 volt supply circuit for a short to the sensor ground circuit.</p> <p>Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Mode Door Actuator.</p> <p>Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Ensure the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal is connected.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, read the Mode Door voltage.</p> <p>What voltage is present?</p> <p>Above 5.6 volts.</p> <p>Repair the Mode Door Feedback Signal circuit for a short to voltage.</p> <p>Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>From 0.3 to 5.5 volts.</p> <p>Go To 8</p> <p>Less than 0.3 volts</p> <p>Go To 15</p>	All

**MODE DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Turn off all lights and close the driver door latch so the courtesy lamps will go off.            Measure the resistance between ground and the sensor ground circuit (cavity #5) in the inline connector (I/P harness side).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Go To 14</p>	All
9	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Common Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 1).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 10</p> <p>No → Repair the Common Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Mode Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 2).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Repair the Mode Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
11	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Common Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Push (move) the mode control as follows: Recirc switch Off: Panel Switch On: then Recirc Switch ON while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 12</p> <p>No → Replace the Body Control Module (common door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
12	<p>Turn the ignition off.            Ensure the C202/3 inline connector is connected at this time.            With the DRBIII®, erase DTC's.            Disconnect the BCM C1 harness connector.            Backprobe one voltmeter lead to the Mode Door Driver ckt in the BCM C1 connector and the other to chassis ground.            Reconnect the BCM C1 harness connector.            Turn the ignition on.            Move the mode control from defrost to panel while observing the voltmeter.            Did the voltage ever go above 10.0 volts?</p> <p>Yes → Go To 13</p> <p>No → Replace the Body Control Module (mode door driver open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
13	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>If the wiring to the actuator is okay and the mode door is not binding, replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
14	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector            Measure the resistance of the Sensor Ground circuit from the inline connector (cavity #5) (I/P harness side) to the BCM C1 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module (sensor ground open).            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Sensor Ground circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
15	<p>Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance between ground and the Mode Door Feedback Signal circuit.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Mode Door Feedback Signal circuit for a short to ground.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 16</p>	All

**MODE DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
16	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C2 harness connector.</p> <p>Measure the resistance of the Mode Door Feedback Signal circuit between the BCM C2 connector and the Inline connector (cavity #11).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 17</p> <p>No → Repair the Mode Door Feedback Signal circuit for an open. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
17	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C2 harness connector.</p> <p>Disconnect the Body Control Module C1 harness connector.</p> <p>Measure the resistance between the Sensor Ground circuit in the BCM C1 connector and the Mode Door Feedback Signal circuit in the BCM C2 connector.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Mode Door Feedback Signal circuit for a short to the Sensor Ground circuit. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 18</p>	All
18	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Reconnect the Body Control Module C1 &amp; C2 harness connectors.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, read the Mode Door voltage.</p> <p>Connect a jumper wire between the Mode Door Feedback Signal circuit (cavity #11) and the 5 volt supply circuit (cavity #6) at the in-line connector C202/3 (I/P harness side).</p> <p>Does the DRBIII® display voltage at approximately 5.0 volts?</p> <p>Yes → Ensure the wiring to the actuator is okay. If the wiring is okay, replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**MODE DOOR STALL TEST FAILURE — Continued**

TEST	ACTION	APPLICABILITY
19	Disconnect the Body Control Module C2 harness connector. Turn the ignition on. Measure the voltage of the 5 volt supply circuit. Is there any voltage present?  Yes → Repair the 5 volt supply circuit for a short to voltage. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****RECIRC DOOR OUTPUT SHORTED TO BATTERY****When Monitored and Set Condition:****RECIRC DOOR OUTPUT SHORTED TO BATTERY**

**When Monitored:** Whenever the BCM attempts to move one of the HVAC actuators.

**Set Condition:** When the BCM detects one or more of the following outputs shorted to battery: mode door driver, blend door driver, recirculation door driver or the common door driver. (NOTE: all shorted to battery codes will be set when one output is shorted.)

**POSSIBLE CAUSES**

BLEND AIR DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 MODE DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 RECIRCULATION DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 COMMON DOOR DRIVER CIRCUIT SHORT TO BATTERY  
 BODY CONTROL MODULE - DRIVER SHORTED INTERNAL  
 BLEND DOOR ACTUATOR - SHORTED  
 MODE DOOR ACTUATOR - SHORTED  
 RECIRCULATION DOOR ACTUATOR - SHORTED  
 DRIVER CIRCUITS SHORTED TOGETHER

TEST	ACTION	APPLICABILITY
1	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Blend Air Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Blend Air Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Mode Door Driver circuit. Is the voltage above 10.0 volts?  Yes → Repair the Mode Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

**RECIRC DOOR OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Recirculation Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Recirculation Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C1 harness connector. Turn the ignition on. Measure the voltage of the Common Door Driver circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Common Door Driver circuit for a short to battery. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between the Common Door Driver (cavity 10), the Mode Door Driver (cav 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Mode Door Driver (cavity 9), the Recirc Door Driver (cav 2) and the Blend Door Driver (cav 3) in the BCM C1 connector. Measure the resistance between the Blend Door Driver (cavity 3) and the Recirc Door Driver (cav 2) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the door driver circuits?</p> <p>Yes → Go To 6</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Blend Door Actuator harness connector. Measure the resistance between the Blend Air Door Driver circuit (cavity 3) and the other driver circuits (cavities 2, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?</p> <p>Yes → Go To 7</p> <p>No → Replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**RECIRC DOOR OUTPUT SHORTED TO BATTERY — Continued**

TEST	ACTION	APPLICABILITY
7	Disconnect the Body Control Module C1 harness connector. Disconnect the Mode Door Actuator harness connector. Measure the resistance between the Mode Door Driver circuit (cavity 9) and the other driver circuits (cavities 2, 3 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 8  No → Replace the Mode Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Body Control Module C1 harness connector. Disconnect the Recirculation Door Actuator harness connector. Measure the resistance between the Recirculation Door Driver circuit (cavity 2) and the other driver circuits (cavities 3, 9 and 10) in the BCM C1 connector. Is the resistance below 5.0 ohms between any of the driver circuits?  Yes → Go To 9  No → Replace the Recirculation Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair.  Repair Repair the Door Driver circuits that are shorted together. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****RECIRC DOOR OUTPUT SHORTED TO GROUND****When Monitored and Set Condition:****RECIRC DOOR OUTPUT SHORTED TO GROUND**

**When Monitored:** Whenever the BCM attempts to move one of the HVAC actuators.

**Set Condition:** When the BCM detects one or more of the following outputs shorted to ground: mode door driver, blend door driver, recirculation door driver or the common door driver.

**POSSIBLE CAUSES**

RECIRCULATION DOOR DRIVER CIRCUIT SHORT TO GROUND

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn all lights off. Close the driver door latch to turn courtesy lamps off. Disconnect the Body Control Module C1 harness connector. Measure the resistance between ground and the Recirculation Door Driver circuit. Is the resistance below 5.0 ohms?  Yes → Repair the Recirculation Door Driver circuit for a short to ground. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****RECIRCULATION DOOR TEST FAILURE (INOPERATIVE OR STALL)****When Monitored and Set Condition:****RECIRCULATION DOOR TEST FAILURE (INOPERATIVE OR STALL)**

When Monitored: During HVAC motor calibration.

Set Condition: The BCM is unable to detect the end of travel for one or more of the HVAC doors.

**POSSIBLE CAUSES**

RECIRCULATION DOOR ACTUATOR - OPEN

COMMON DOOR DRIVER CIRCUIT OPEN

BODY CONTROL MODULE - COMMON DRIVER OPEN

RECIRCULATION DOOR DRIVER CIRCUIT OPEN

BODY CONTROL MODULE - RECIRCULATION DRIVER OPEN

TEST	ACTION	APPLICABILITY
1	Turn (press) the Recirc Door switch off. With the DRBIII®, erase Body Control Module DTC's. Turn the ignition off. Disconnect the Recirculation Door Actuator harness connector. Measure the voltage of the Common Door Driver circuit. Turn the ignition on. Turn (press) the Recirc Switch on while observing the voltmeter. Did the voltage go to above 9.0 volts for over 6 seconds?  Yes → Go To 2 No → Go To 5	All
2	Turn (press) the Recirc Door switch off. With the DRBIII®, erase Body Control Module DTC's. Turn the ignition off. Disconnect the Recirculation Door Actuator harness connector. Measure the voltage of the Recirculation Door Driver circuit. Turn the ignition on. Turn (press) the Recirc Switch on then off while observing the voltmeter. Did the voltage go to above 9.0 volts for over 6 seconds?  Yes → Go To 3 No → Go To 4	All

## RECIRCULATION DOOR TEST FAILURE (INOPERATIVE OR STALL) — Continued

TEST	ACTION	APPLICABILITY
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Recirculation Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, erase Body Computer DTC's. Turn the ignition off. Disconnect the Body Control Module C1 harness connector. Backprobe one lead of a voltmeter to the Recirculation Door Driver circuit in the C1 connector and the other lead to ground. Reconnect the Body Control Module C1 harness connector. Turn the ignition on. Turn (press) the Recirculate switch on, wait 5 seconds then turn (press) the recirculate switch off while observing the voltmeter. Did the voltmeter read above 9.0 volts for approximately 6 seconds?</p> <p>Yes → Repair the Recirculation Door Driver circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn (press) the Recirc Door switch off. With the DRBIII®, erase Body Control Module DTC's. Turn the ignition off. Disconnect the Recirculation Door Actuator harness connector. Measure the voltage of the Recirculation Door Driver circuit. Turn the ignition on. Turn (press) the Recirc Switch on then off while observing the voltmeter. Did the voltage go to above 9.0 volts for over 6 seconds?</p> <p>Yes → Go To 6</p> <p>No → Go To 6</p>	All

## RECIRCULATION DOOR TEST FAILURE (INOPERATIVE OR STALL) — Continued

TEST	ACTION	APPLICABILITY
6	<p>With the DRBIII®, erase Body Computer DTC's.</p> <p>Turn the ignition off.</p> <p>Disconnect the Body Control Module C1 harness connector.</p> <p>Backprobe one lead of a voltmeter to the Common Door Driver circuit in the C1 connector and the other lead to ground.</p> <p>Reconnect the Body Control Module C1 harness connector.</p> <p>Turn the ignition on.</p> <p>Turn (press) the Recirculate switch off, wait 5 seconds then turn (press) the recirculate switch on and observe the voltmeter.</p> <p>Did the voltmeter read above 9.0 volts for approximately 6 seconds?</p> <p>Yes → Repair the Common Door Driver circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**SUN LOAD SENSOR FAILURE**

**When Monitored and Set Condition:**

**SUN LOAD SENSOR FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM detects an abnormally low voltage on the sun sensor signal.

**POSSIBLE CAUSES**

SUN SENSOR LOW

SUN SENSOR SIGNAL CIRCUIT SHORT TO GROUND

SUN SENSOR SIGNAL CIRCUIT SHORT TO SENSOR GROUND

BODY CONTROL MODULE - SUN SENSE LOW

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: It is advisable to perform the ATC System Test before attempting to diagnose this trouble code.</b></p> <p>Disconnect the Sun Sensor/VTSS LED harness connector.            With the DRBIII®, read the Sun Sensor voltage.            Is the voltage below 0.2 volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Sun Sensor.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Disconnect the Sun Sensor/VTSS LED harness connector.            Disconnect the Body Control Module C1 &amp; C2 harness connectors.            Measure the resistance between ground and the Sun Sensor Signal circuit.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Sun Sensor Signal circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Sun Sensor/VTSS LED harness connector.            Disconnect the Body Control Module C1 &amp; C2 harness connectors.            Measure the resistance between the Sun Sensor Signal circuit and the Sensor Ground circuit in the Sun Sensor connector.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Sun Sensor Signal circuit for a short to the Sensor Ground circuit.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

**SUN LOAD SENSOR FAILURE — 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:****\*ATC BLOWER MOTOR INOPERATIVE****POSSIBLE CAUSES**

OPEN JUNCTION BLOCK FUSE  
 FUSED IGNITION SWITCH OUTPUT SHORT TO GROUND  
 BLOWER MOTOR SHORT TO GROUND  
 BLOWER MOTOR POWER MODULE SHORT TO GROUND  
 GROUND CIRCUIT OPEN  
 FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN  
 BLOWER MOTOR CONTROL CIRCUIT SHORT TO GROUND  
 BODY CONTROL MODULE  
 BLOWER MOTOR OPERATION  
 BLOWER MOTOR POWER MODULE OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect the Blower Motor Fuse #23 in the Junction Block. Is the fuse open?  Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Replace the Junction Block Fuse #23. Turn the ignition on. Operate the blower motor in all speeds. Start the engine and operate the ATC system in all modes and speeds. Recheck the fuse. Did the fuse open again?  Yes → Go To 3 No → 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
3	Turn the ignition off. Disconnect the Blower Motor Power Module harness connector. Measure the resistance between ground and the Fused Ignition Switch Output circuit in the Blower Motor Power Module connector. Is the resistance below 5.0 ohms?  Yes → Repair the Fused Ignition Switch Output circuit for a short to ground and replace the fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

**\*ATC BLOWER MOTOR INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.            Disconnect the Blower Motor Power Module harness connector.            Disconnect the Blower Motor 2-way harness connector at the Blower Motor Power Module.            Replace the Junction Block Fuse #23.            Connect a jumper wire between the Fused Ignition Switch Output circuit in the Blower Motor Power Module connector and the DG wire in the Blower Motor connector.            Connect a jumper wire between the Ground circuit in the Blower Motor Power Module connector and the Black wire in the Blower Motor connector.            Turn the ignition on.            Listen to the blower motor for proper operation.            Did the Blower Motor operate at full speed without blowing the fuse?</p> <p>Yes → Replace the Blower Motor Power Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Blower Motor.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.            Disconnect the Blower Motor Power Module harness connector.            Measure the resistance between ground and the Ground circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.  <b>NOTE: Ensure Fuse #23 is installed in the Junction Block.</b>            Disconnect the Blower Motor Power Module harness connector.            Turn the ignition on.            Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit in the Blower Motor Power Module connector.            Is the test light illuminated?</p> <p>Yes → Go To 7</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.            Disconnect the Blower Motor Power Module harness connector.            Disconnect the Body Control Module C2 harness connector.            Measure the resistance between ground and the Blower Motor Control circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Blower Motor Control circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All

**\*ATC BLOWER MOTOR INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the Body Control Module C2 harness connector.            Ensure the Blower Motor and Blower Motor Power Module are connected at this time.            Turn the ignition on and observe the Blower Motor.            Is the Blower Motor running at full speed?</p> <p>Yes → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Turn the ignition off.            Disconnect the Blower Motor Power Module harness connector.            Disconnect the Blower Motor 2-way harness connector at the Blower Motor Power Module.            Connect a jumper wire between the Fused Ignition Switch Output circuit in the Blower Motor Power Module connector and the DG wire in the Blower Motor connector.            Connect a jumper wire between the Ground circuit in the Blower Motor Power Module connector and the Black wire in the Blower Motor connector.            Turn the ignition on.            Listen to the blower motor for proper operation.            Did the Blower Motor operate at full speed?</p> <p>Yes → Replace the Blower Motor Power Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Blower Motor.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*ATC BLOWER MOTOR SPEEDS INCORRECT****POSSIBLE CAUSES**

GROUND CIRCUIT OPEN

BLOWER MOTOR CONTROL CIRCUIT OPEN

BLOWER MOTOR CONTROL CIRCUIT SHORT TO VOLTAGE

BLOWER MOTOR POWER MODULE

GROUND CIRCUIT OPEN - JUNCTION BLOCK

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Blower Motor Power Module harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms?  Yes → Go To 2  No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Blower Motor Power Module harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the Blower Motor Control circuit between the BCM C2 connector and the Blower Motor Power Module connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Blower Motor Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Blower Motor Power Module harness connector. Disconnect the Body 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 4	All

**\*ATC BLOWER MOTOR SPEEDS INCORRECT — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Reconnect the Blower Motor Power Module harness connector.  Disconnect the Body Control Module C2 harness connector.  Connect a jumper wire between ground and the Blower Motor Control circuit in the BCM C2 connector.  Turn the ignition on.  Does the Blower Motor still run on high speed?</p> <p>Yes → Replace the Blower Motor Power Module.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Remove the Body Control Module from the Junction Block.  Measure the resistance between ground and the Ground circuits (terminals 1 &amp; 20) in the Junction Block BCM connector.  Is the resistance below 5.0 ohms for both measurements?</p> <p>Yes → Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the ground circuit for an open to the junction block. If OK, replace the Junction Block.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*ATC HEAD ILLUMINATION INOPERATIVE**

POSSIBLE CAUSES	
IDENTIFY ATC HEAD ILLUMINATION PROBLEM	
GROUND CIRCUIT OPEN	
PANEL LAMPS FEED CIRCUIT OPEN	
ATC HEAD - ILLUMINATION INOPERATIVE	

TEST	ACTION	APPLICABILITY
1	Turn the park lamps on and observe the ATC Head display. Is the problem with the letters and LED lights?  Yes → Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the ATC Head harness connector. Turn off all lights. Measure the resistance between ground and the Ground circuit (cavity 3). Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	<b>Note: This path repairs the background lights.</b> Disconnect the ATC Head harness connector. Turn the park lamps on. Measure the voltage of the Panel Lamps Feed circuit. Rotate the Dimmer Switch Thumb Wheel and observe the voltage. Does the voltage range from below 3.5 volts to above 9.0 volts when the switch is rotated?  Yes → Go To 4  No → Repair the Panel Lamps Feed circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair.  Repair Replace the Automatic Temperature Control Head. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*ATC SYSTEM TEST****POSSIBLE CAUSES**

ATC SYSTEM TEST

TEST	ACTION	APPLICABILITY
1	<p>Ensure there is vehicle communication with the Body Control Module, the Automatic Temp Control Module (head) and the Powertrain Control Module before proceeding. If not, refer to the Communication category for the related symptom.</p> <p>With the DRBIII®, read Engine DTC's. If any climate control related DTC's are present, refer to the appropriate category for the related symptoms.</p> <p>With the DRBIII®, read Body DTC's. If any climate control related codes are present, continue to the next step. If no codes are present, recalibrate the doors &amp; BCM and recheck the system.</p> <p>Record and erase the code(s).</p> <p>Set the temperature control at 75°, start the engine and with the DRB Read DTC's. If no code appears, slowly turn the temperature control from 65° to 85°, then back to 65° while observing the DRB for codes. If a code appears, refer to the Heating &amp; A/C category for the related symptom.</p> <p>If a code still does not appear, turn the ATC control from 60° to 90°, then back to 60°. Push each mode button waiting 20 seconds between each one. Upon seeing the first code appear, stop, erase the code and perform the appropriate test.</p> <p>If no codes appear, re calibrate the doors by pressing and holding the floor, mix and defrost buttons at the same time until the display starts to flash. Observe the DRB for DTC's.</p> <p>When the first code appears, record that code and allow the system to finish calibration.</p> <p><b>NOTE: If multiple codes appear, repair any that relate to a short circuit first. If a short to battery code is set, all 4 Output Shorted to Battery codes will appear. It will then be necessary to isolate each circuit to determine which is at fault.</b></p> <p>Erase the DTC(s) and refer to the Heating &amp; A/C category for the related symptom of the first code that appeared.</p> <p>If no codes have appeared, press repair.</p> <p>Repair</p> <p>Re calibrate the doors, reset the BCM and ATC Head and recheck the ATC system performance.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*ATC TEMPERATURE CONTROL INCORRECT IN SUN OR SHADE**

### POSSIBLE CAUSES

CHECK SUN SENSOR VOLTAGE  
 SUN SENSOR SIGNAL CIRCUIT SHORT TO VOLTAGE  
 SUN SENSOR OPEN/HIGH  
 SENSOR GROUND OPEN  
 SUN SENSOR SIGNAL CIRCUIT OPEN  
 BODY CONTROL MODULE - SUN SENSOR OPEN/HIGH

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: It is advisable to perform the ATC System Test before attempting to diagnose this symptom to ensure there are no DTC's.</b>            Disconnect the Sun Sensor/VTSS LED harness connector.            With the DRBIII®, read the Sun Sensor voltage.            Is the voltage below 4.8 volts?</p> <p>Yes → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Sun Sensor/VTSS LED harness connector.            Turn the ignition on.            Measure the voltage of the Sun Sensor Signal circuit.            Is the voltage above 5.2 volts?</p> <p>Yes → Repair the Sun Sensor Signal circuit for a short to voltage. If okay, replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Sun Sensor/VTSS LED harness connector.            Connect a jumper wire between the Sun Sensor Signal circuit and the Signal Ground circuit in the sensor connector.            With the DRBIII®, read the Sun Sensor voltage.            Does the DRBIII® display Sun Sensor: Below 0.2 volts?</p> <p>Yes → Replace the Sun Sensor.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Sun Sensor/VTSS LED harness connector.            Connect a jumper wire between the Sun Sensor Signal circuit and Ground.            With the DRBIII®, read the Sun Sensor voltage.            Does the DRBIII® display Sun Sensor: Below 0.2 volts?</p> <p>Yes → Repair the Sensor Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All

**\*ATC TEMPERATURE CONTROL INCORRECT IN SUN OR SHADE —**  
**Continued**

TEST	ACTION	APPLICABILITY
5	Disconnect the Sun Sensor/VTSS LED harness connector. Disconnect the Body Control Module C2 harness connectors. Measure the resistance of the Sun Sensor Signal circuit between the BCM C2 connector and the sensor connector. Is the resistance below 5.0 ohms?  Yes → Go To 6  No → Repair the Sun Sensor Signal circuit for an open. 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:

### \*BLEND DOOR INOPERATIVE

#### POSSIBLE CAUSES

ATC HEAD BLEND DOOR BUTTONS OPEN  
 BLEND DOOR INOPERABLE PRE TEST  
 BLEND DOOR ACTUATOR CHECK  
 COMMON DOOR DRIVER CIRCUIT OPEN  
 BLEND AIR DOOR DRIVER CIRCUIT OPEN  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Disregard this test step if this vehicle is NOT equipped with Automatic Temp Control.</b>            Press the Temperature switch all the way to the Low position and then to the High position.            Did the display change smoothly from the Low to the High position?</p> <p>Yes → Go To 2</p> <p>No → Replace the Automatic Temperature Control Head.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p><b>Note: It is very easy for this system to set trouble codes (any connector disconnected, any small bind in a door, etc.). Because of this, it is advisable to perform a System Test before proceeding to prevent a wrong repair.</b>            Has the appropriate System Test been performed to ensure this vehicle has no current DTC's?</p> <p>Yes → Go To 3</p> <p>No → Refer to the Heating &amp; A/C category and select the appropriate System Test.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*BLEND DOOR INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.</p> <p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Using a voltmeter, connect one lead to the Common Door Driver (cavity 1) and the other to the Blend Air Door Driver (cavity 3) in the C202/3 in-line connector (I/P harness side).</p> <p>With the DRBIII®, erase BCM DTC's.</p> <p>Turn the ignition on and observe the voltmeter. The voltmeter should show approximately 0.1 volt for about 10 seconds and then slowly begin to toggle from about 2 volts to approximately 10 volts for approximately 20 to 30 seconds and then go to 0 volts.</p> <p>If it does not toggle at all, repeat the procedure 2 or 3 times starting with key off and clear DTC's then key on. After the ignition is turned on, the BCM will only be active for about 20 or 30 seconds.</p> <p>Did the voltmeter toggle and then go to zero?</p> <p>Yes → If the wiring to the actuator is Okay, replace the Blend Door Actuator. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C1 harness connector.</p> <p>Measure the resistance of the Common Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 1).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Common Door Driver circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.</p> <p>Disconnect the Body Control Module C1 harness connector.</p> <p>Measure the resistance of the Blend Air Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 3).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Blend Air Door Driver circuit for an open. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Calibration must be performed after repair/replacement is completed. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*MANUAL A/C BLOWER MOTOR INOPERATIVE

POSSIBLE CAUSES
<p>JUNCTION BLOCK FUSE #23</p> <p>FUSED IGNITION SWITCH OUTPUT CKT SHORTED TO GROUND</p> <p>BLOWER MOTOR - SHORT TO GROUND</p> <p>FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN TO RESISTOR</p> <p>FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN TO MOTOR</p> <p>BLOWER MOTOR OPEN</p> <p>BLOWER MOTOR INOPERATIVE</p> <p>GROUND CIRCUIT OPEN</p> <p>HEAD- MOTOR DRIVER OPEN</p> <p>BLOWER MOTOR DRIVER CIRCUIT OPEN</p> <p>RESISTOR-OPEN HI BLOWER MOTOR DRIVER</p>

TEST	ACTION	APPLICABILITY
1	<p>Remove and inspect Fuse #23 from the Junction Block.</p> <p>Is the fuse open?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p>Turn the ignition off.</p> <p>Replace Fuse #23 in the Junction Block.</p> <p>Turn the ignition on.</p> <p>Turn the blower on and operate it in all speeds and modes.</p> <p>Does the blower motor operate properly without blowing the fuse?</p> <p>Yes → Check the Fused Ignition Switch Output circuit for an intermittent short to ground. Refer to the wiring diagrams located in the service information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off.</p> <p>Turn the Blower Motor Switch off.</p> <p>Disconnect the Blower Motor 2-way harness connector.</p> <p>Measure the resistance between ground and the Fused Ignition Switch Output circuit (the DG or DB/YL wire in the blower motor 2-way connector).</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Check the Blower Motor Resistor Block for resistance to ground. If ok, repair the Fused Ignition Switch Output circuit for a short to ground and replace the fuse.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Blower Motor and fuse.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*MANUAL A/C BLOWER MOTOR INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Ensure Junction Block Fuse #23 is installed before proceeding.  Turn the Blower Motor Switch off.  Disconnect the Blower Motor Resistor Block harness connector.  Turn the ignition on.  Measure the voltage of the Fused Ignition Switch Output circuit.  Is the voltage above 10.0 volts?</p> <p>Yes → Go To 5</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Reconnect the Blower Motor Resistor Block harness connector.  Turn the ignition on.  While backprobing, measure the voltage of the Fused Ignition Switch Output ckt at the Blower Motor 2-way connector (DG or DB/YL circuit).  Is the voltage above 10.0 volts?</p> <p>Yes → Go To 6</p> <p>No → Replace the Blower Motor Resistor Block.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the Blower Motor Switch off.  Turn the ignition on.  While backprobing, measure the voltage of the Blower Motor Driver circuit at the Blower Motor 2-way connector (BK or BK/TN circuit).  Is the voltage above 10.0 volts?</p> <p>Yes → Go To 7</p> <p>No → Replace the Blower Motor.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the Blower Motor Switch off.  Turn the ignition on.  Backprobe a jumper wire between ground and the Blower Motor Driver ckt at the Blower Motor 2-way connector (BK or BK/TN circuit).  Did the blower motor run on high speed?</p> <p>Yes → Go To 8</p> <p>No → Replace the Blower Motor.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Disconnect the Manual Temp Control Head C2 harness connector.  Connect a jumper wire between the High Blower Motor Driver circuit and ground in the Control Head C2 connector.  Turn the ignition on.  Did the blower motor run on high speed?</p> <p>Yes → Go To 9</p> <p>No → Go To 10</p>	All

**\*MANUAL A/C BLOWER MOTOR INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
9	<p>Turn the ignition off. Disconnect the Manual Temp Control Head C2 harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off. Disconnect the Manual Temp Control Head C2 harness connector. Disconnect the Blower Motor Resistor Block harness connector. Measure the resistance of the High Blower Motor Driver circuit between the Control Head C2 connector and the Blower Motor Resistor Block connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Blower Motor Resistor Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the High Blower Motor Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*MANUAL A/C BLOWER MOTOR SPEEDS INCORRECT****POSSIBLE CAUSES**

CONTROL HEAD - BLOWER SPEEDS INCORRECT

BLOWER MOTOR DRIVER CIRCUIT OPEN

BLOWER MOTOR RESISTOR - OPEN SPEED

TEST	ACTION	APPLICABILITY
1	Disconnect the Manual Temperature Control Head C2 harness connector. Turn the ignition on. Measure the voltage between each of the Blower Motor Driver circuits (cavities 2, 3, 7, and 10). Is the voltage above 10.0 volts on each of the circuits? Yes → Replace the Control Head. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Turn the Blower Switch to the off position. Disconnect the Manual Temperature Control Head C2 harness connector. Disconnect the Blower Motor Resistor Block harness connector. Measure the resistance of each of the 4 Blower Motor Driver circuits between the resistor block connector and the Control Head connector. Is the resistance below 5.0 ohms on each of the circuits? Yes → Go To 3 No → Repair the Blower Motor Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair. Repair Replace the Blower Motor Resistor Block. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*MANUAL A/C CONTROL HEAD ILLUMINATION****POSSIBLE CAUSES**

GROUND CIRCUIT OPEN

PANEL LAMPS DRIVER CIRCUIT OPEN

CONTROL HEAD - LAMPS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Ensure all lights are off (trip driver door latch if necessary to shut courtesy lamps off). Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms?  Yes → Go To 2  No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	<b>Note: Ensure the panel lamps operate properly on the instrument cluster before proceeding. If not, refer to symptom list for problems related to Instrument Cluster.</b> Turn the ignition off. Disconnect the Manual Temp Control Head C1 harness connector. Turn the Park Lamps on. Measure the voltage of the Panel Lamps Driver circuit. Rotate the Dimmer Switch Thumb Wheel and observe the voltage change. Does the voltage range from below 3.5 volts to above 9.0 volts when the switch is rotated?  Yes → Go To 3  No → Repair the Panel Lamps Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair.  Repair Check the bulbs. If Okay, replace the Control Head. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*MANUAL A/C CONTROL HEAD SWITCH INOPERATIVE****POSSIBLE CAUSES**

CONTROL HEAD - OPEN SWITCH

CONTROL HEAD SWITCHES OKAY

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.            With the DRBIII®, read the Mode Switch MUX voltage.            Press and hold the A/C button and observe the DRB voltage (should be approximately 0.45 volts).            Press and hold the Rear Defogger button and observe the DRB voltage (should be approximately 0.25 volts).            Which switch failed?</p> <p>A/C Button Switch                Replace the Control Head.                Perform BODY VERIFICATION TEST - VER 1.</p> <p>EBL Button Switch                Replace the Control Head.                Perform BODY VERIFICATION TEST - VER 1.</p> <p>Both Passed                There is no problem at this time with the Control Head Switches.                Retry the system and recheck for DTC's.                Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*MANUAL A/C SYSTEM TEST

#### POSSIBLE CAUSES

MANUAL A/C SYSTEM TEST

TEST	ACTION	APPLICABILITY
1	<p>Ensure there is vehicle communications with the Body Control Module and the Powertrain Control Module before proceeding. If not, refer to the communication category for the related symptom.</p> <p>With the DRBIII®, read Engine DTC's. If any climate control related DTC's are present, refer to the appropriate category for the related symptoms.</p> <p>With the DRBIII®, read Body DTC's. If any climate control related codes are present, continue to the next step. If no codes are present, recalibrate the doors and recheck the system.</p> <p>Record and erase the code(s).</p> <p>Turn the blower on, set the temperature control at mid position, start the engine and with the DRB Read DTC's.</p> <p>If no code appears, slowly turn the temperature control from cold to hot, then back to cold while observing the DRB. If a code appears, refer to the Heating and A/C category for the related symptom.</p> <p>If a code still does not appear, turn the mode switch to each position, waiting 20 seconds between each one. Momentarily press the A/C and Rear Defog buttons. Upon seeing the first code appear, stop and perform the appropriate test.</p> <p><b>NOTE: If multiple codes appear, repair any that relate to a short circuit first. If a short to battery code is set, all 4 Output Shorted to Battery codes will appear. It will then be necessary to isolate each circuit to determine which is at fault.</b></p> <p>If DTC's have appeared, refer to the Heating and A/C category and select the appropriate symptom.</p> <p>If no codes have appeared, press Repair.</p> <p>Repair</p> <p>Re calibrate the doors, reset the BCM and recheck the climate control system performance.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*MODE DOOR INOPERATIVE****POSSIBLE CAUSES**

ATC HEAD MODE DOOR BUTTONS OPEN  
 MODE DOOR INOPERABLE PRE TEST  
 MODE DOOR ACTUATOR CHECK  
 COMMON DOOR DRIVER CIRCUIT OPEN  
 MODE DOOR DRIVER CIRCUIT OPEN  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Disregard this test step if this vehicle is NOT equipped with Automatic Temp Control.</b>            With the DRBIII®, enter Automatic Temperature Control then Inputs/Outputs. Press and hold each switch (except Temp) and observe the switch state on the DRB. Do the switch states change from Open to Closed when each switch is pressed.</p> <p>Yes → Go To 2</p> <p>No → Replace the Automatic Temperature Control Head.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p><b>Note: It is very easy for this system to set trouble codes (any connector disconnected, any small bind in a door, etc.). Because of this, it is advisable to perform a System Test before proceeding to prevent a wrong repair.</b>            Has the appropriate System Test been performed to ensure this vehicle has no current DTC's?</p> <p>Yes → Go To 3</p> <p>No → Refer to the Heating &amp; A/C category and select the appropriate System Test.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*MODE DOOR INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition on.            Press (turn) the Defrost on.            Turn the ignition off.            Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Using a voltmeter, connect one lead to the Common Door Driver (cavity 1) and the other to the Mode Door Driver (cavity 2) in the C202/3 in-line connector (I/P harness side).            With the DRBIII®, erase BCM DTC's.            Turn the ignition on and observe the voltmeter. The voltmeter should toggle from about 2 volts to approximately 10 volts for approximately 20 to 30 seconds and then go to 0 volts.            If it does not toggle at all, repeat the procedure 2 or 3 times starting with key off and clear DTC's then key on. After the ignition is turned on, the BCM will only be active for about 20 or 30 seconds.            Did the voltmeter toggle and then go to zero?</p> <p>Yes → If the wiring to the actuator is Okay, replace the Mode Door Actuator.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector.            Measure the resistance of the Common Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 1).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Common Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Disconnect the C202 (manual A/C) or C203 (ATC) in-line connector (HVAC) located in the center of the instrument panel above the accelerator pedal.            Disconnect the Body Control Module C1 harness connector.            Measure the resistance of the Mode Door Driver circuit between the BCM C1 connector and the HVAC in line connector (cavity 2).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Mode Door Driver circuit for an open.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.            Calibration must be performed after repair/replacement is completed.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**DIMMING LEVEL SWITCH FAILURE**

**When Monitored and Set Condition:**

**DIMMING LEVEL SWITCH FAILURE**

When Monitored: Continuously.

Set Condition: The BCM detects an open or short circuit condition for 10 seconds on the panel lamps dimmer signal circuit.

**POSSIBLE CAUSES**

CHECKING DIMMING SWITCH POSITIONS

HEADLAMP SWITCH - OPEN

HEADLAMP SWITCH - SHORTED

OPEN HEADLAMP SWITCH RETURN CIRCUIT

PANEL LAMP DIMMER SIGNAL CIRCUIT SHORTED TO GROUND

BCM - HEADLAMP RETURN CIRCUIT OPEN

MEASURE THE VOLTAGE OF THE PANEL LAMP DIMMER SIGNAL CIRCUIT

MEASURE THE VOLTAGE OF THE PANEL LAMP DIMMER SIGNAL CIRCUIT

OPEN PANEL LAMP DIMMER SIGNAL CIRCUIT

PANEL LAMP DIMMER SIGNAL CIRCUIT SHORTED TO THE HEADLAMP SWITCH RETURN CIRCUIT

PANEL LAMP DIMMER SIGNAL CIRCUIT SHORTED TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body Computer then Sensors and observe the dimming level voltage. Is the voltage between 0.4 and 10.2 volts?  Yes → Go To 2 No → Go To 3	All

## DIMMING LEVEL SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn the ignition on.            With the DRB, select Body Computer then Sensors. Read the Dimming Level Volts. Set the Panel Dimmer Switch in the Low position then slowly move the switch to the Hi position, then Funeral Mode position, then to the Dome position.  <b>NOTE: The voltage should increase from approximately 0.6 volts in Low to 5.5 volts in Hi.</b>  <b>NOTE: Funeral mode voltage should be approximately 7.2 volts and Dome mode should be approximately 9.4 volts.</b>            Does the dimmer level volts display correct voltage for the corresponding position as described?</p> <p>Yes → Test Complete.</p> <p>No → Replace the Headlamp Switch.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition on.            With the DRB, select Body Computer then Sensors and observe the dimming level voltage.            Is the voltage above 10.2 volts?</p> <p>Yes → Go To 4</p> <p>No → Go To 9</p>	All
4	<p>Turn the ignition off.            Disconnect the Headlamp Switch harness connector.            Disconnect the BCM C2 harness connector.            Measure the resistance of the Headlamp Switch Return circuit between the Headlamp Switch connector and the BCM C2 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Headlamp Switch Return circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.            Disconnect the Headlamp Switch harness connector.            Disconnect the BCM "C2" harness connector.            Measure the resistance of the Panel Lamp Dimmer Signal circuit between the Headlamp Switch connector and the BCM "C2" connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Panel Lamp Dimmer Signal circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Disconnect the Headlamp Switch harness connector.            Disconnect the BCM "C2" harness connector.            Turn the ignition on.            Using a 12-volt Test Light connected to ground, probe the Panel Lamp Dimmer Signal circuit.            Is the test light illuminated?</p> <p>Yes → Repair the Panel Lamp Dimmer Signal circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All

**DIMMING LEVEL SWITCH FAILURE — Continued**

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Turn the ignition on. Measure the voltage of the Panel Lamp Dimmer Signal circuit. Is the voltage above 10.0 volts?  Yes → Go To 8  No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Turn the ignition on. Connect a jumper wire between the Panel Lamps Dimmer Signal and the Headlamp Switch Return circuit at the Headlamp Switch harness connector. With the DRB, select Body Computer then Sensors and read the dimming level voltage. Is the voltage below 1.0 volt?  Yes → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.  No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
9	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Disconnect the BCM "C2" harness connector. Measure the resistance between ground and the Panel Lamp Dimmer Signal circuit. Is the resistance below 1000.0 ohms?  Yes → Repair the Panel Lamp Dimmer Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 10	All
10	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Disconnect the BCM "C2" harness connector. Measure the resistance between the Panel Lamp Dimmer Signal circuit and the Headlamp Switch Return circuit. Is the resistance below 1000.0 ohms?  Yes → Repair the Panel Lamp Dimmer Signal circuit for a short to the Headlamp Switch Return circuit. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 11	All

**DIMMING LEVEL SWITCH FAILURE — Continued**

TEST	ACTION	APPLICABILITY
11	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Turn the ignition on. Measure the voltage of the Panel Lamp Dimmer Signal circuit. Is the voltage above 10.0 volts?  Yes → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.  No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**  
**FUEL LEVEL SENDING UNIT FAILURE**

**When Monitored and Set Condition:**

**FUEL LEVEL SENDING UNIT FAILURE**

When Monitored: With the ignition on.

Set Condition: The BCM detects excessive voltage on the fuel level sensor signal circuit.

**POSSIBLE CAUSES**

FUEL PUMP MODULE  
 GROUND CIRCUIT OPEN  
 MEASURE THE FUEL LEVEL SENSOR SIGNAL CIRCUIT  
 OPEN FUEL LEVEL SENSOR SIGNAL CIRCUIT  
 BODY CONTROL MODULE  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Gain access to the body harness C308 connector by removing the rear seat cushion. Disconnect the C308 harness connector. Turn the ignition on. Measure the voltage of the Fuel Level Sensor Signal circuit. Is the voltage above 10.0 volts?  Yes → Go To 2 No → Go To 5	All
2	Turn the ignition on. With a 12-volt Test Light connected to ground, probe the fuel level sensor signal circuit at the body harness C308 connector. Is the test light illuminated?  Yes → Go To 3 No → Go To 4	All
3	Turn the ignition off. Disconnect the BCM "C4" harness connector. Turn the ignition on. With a 12-volt Test Light connected to ground, probe the fuel level sensor signal circuit at the body harness C308 connector. Is the test light illuminated?  Yes → Repair the fuel level sensor signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.  No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

## FUEL LEVEL SENDING UNIT FAILURE — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.            Gain access to the body harness C308 connector by removing the rear seat cushion.            Disconnect the C308 harness connector.            Measure the resistance between ground and the Fuel Level Sensor Ground circuit.            Is the resistance below 10.0 ohms?</p> <p>Yes → Replace the Fuel Pump Module.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition on.            With the DRB, enter "Body Computer" then "Sensors" and observe the fuel level voltage.            Is the voltage above 9.0 volts?</p> <p>Yes → Repair the Fuel Level Sensor Signal circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:**  
**NO MESSAGES FROM ABS**

**When Monitored and Set Condition:**

**NO MESSAGES FROM ABS**

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster does not receive an ABS message for 10 seconds.

**POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE ANTILOCK BRAKE CONTROL MODULE  
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the antilock brake control module. Was the DRB able to I/D or communicate with the antilock brake control 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 the Instrument Cluster DTC's. Turn the ignition on and wait approximately 1 minute. With the DRB, read the Instrument Cluster DTC's. Did this DTC reset?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

## INSTRUMENT CLUSTER

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### Symptom: NO MESSAGES FROM AECM

#### When Monitored and Set Condition:

##### NO MESSAGES FROM AECM

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster does not receive an AECM message for 5 seconds.

#### POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE AIRBAG CONTROL MODULE  
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the airbag control module. Was the DRB able to I/D or communicate with the airbag control 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 the Instrument Cluster DTC's. Turn the ignition on and wait approximately 1 minute. With the DRB, read the Instrument Cluster DTC's. Did this DTC reset?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

**Symptom:****NO MESSAGES FROM BCM****When Monitored and Set Condition:****NO MESSAGES FROM BCM**

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster does not receive a BCM message for 5 seconds.

**POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE BODY CONTROL MODULE  
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the body control module. Was the DRB able to I/D or communicate with the body control 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 the Instrument Cluster DTC's. Turn the ignition on and wait approximately 1 minute. With the DRB, read the Instrument Cluster DTC's. Did this DTC reset?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

## INSTRUMENT CLUSTER

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### Symptom: NO MESSAGES FROM EATX

#### When Monitored and Set Condition:

##### NO MESSAGES FROM EATX

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster does not receive an EATX message for 10 seconds.

#### POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE TCM  
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the transmission control module. Was the DRB able to I/D or communicate with the transmission control 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 the Instrument Cluster DTC's. Turn the ignition on and wait approximately 1 minute. With the DRB, read the Instrument Cluster DTC's. Did this DTC reset?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

**Symptom:**  
**NO MESSAGES FROM PCM**

**When Monitored and Set Condition:**

**NO MESSAGES FROM PCM**

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster does not receive a PCM message for 20 seconds.

**POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE POWERTRAIN CONTROL MODULE  
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Attempt to start and idle the engine. Does the engine start and idle?  Yes → Go To 2  No → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase the Instrument Cluster DTC's. Start the engine and wait approximately 1 minute. With the DRB, read the Instrument Cluster DTC's. Did this DTC reset?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

## Symptom:

**\*AIRBAG WARNING INDICATOR NOT OPERATING PROPERLY**

### POSSIBLE CAUSES

AIRBAG TROUBLE CODES

OTHER INSTRUMENT CLUSTER DTC'S

PERFORM INSTRUMENT CLUSTER SELF TEST

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. <b>Note: The DRB must be able to communicate with the airbag module prior to performing this test.</b> With the DRB, read airbag DTC's. Are there any airbag DTC's present?  Yes → Refer to the Airbag category for the related symptom(s). No → Go To 2	All
2	Turn the ignition on. With the DRB, read Instrument Cluster DTC's. Are there any Instrument Cluster DTC's present?  Yes → Refer to the Instrument Cluster category for the related symptom(s). No → Go To 3	All
3	Turn the ignition off then on. This will start the bulb test. Did the airbag warning indicator illuminate for 5 to 10 seconds?  Yes → Test Complete. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*ALL GAUGES NOT OPERATING****POSSIBLE CAUSES**

CHECKING BCM COMMUNICATION

CHECKING I/P FUSES

CHECKING INSTRUMENT CLUSTER COMMUNICATION

FUSED B+ CIRCUIT OPEN

FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN

GROUND CIRCUIT OPEN

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect fuse 7 and 14 from the Junction Block. Is either fuse open?  Yes → Refer to the Service Information (wiring diagrams) for the symptom(s) to diagnose the shorted circuit. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition on. With the DRB, select Body then Body Computer. Is the DRB able to I/D or communicate with the BCM?  Yes → Go To 3  No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRB, select Body then Electro/Mech Cluster (MIC). Is the DRB able to I/D or communicate with the Instrument Cluster?  Yes → Go To 4  No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Does the test light illuminate brightly?  Yes → Go To 5  No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

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### **\*ALL GAUGES NOT OPERATING — Continued**

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output circuit. Does the test light illuminate brightly?  Yes → Go To 6  No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Using a 12-volt test light connected to ground, check the Fused B+ circuit (cavity 1). Does the test light illuminate brightly?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Repair the fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*BRAKE INDICATOR NOT OPERATING PROPERLY****POSSIBLE CAUSES**

CHECK THE PARKING BRAKE LEVER  
 BRAKE PRESSURE SWITCH (LEVEL SWITCH) OPEN  
 CHECK THE BRAKE FLUID LEVEL  
 MONITOR THE BRAKE WARNING INDICATOR WHILE CRANKING ENGINE  
 GROUND CIRCUIT OPEN  
 PARK BRAKE SWITCH OPEN  
 PARK BRAKE SWITCH SHORTED TO GROUND  
 BRAKE PRESSURE SWITCH (LEVEL SWITCH) SHORTED TO GROUND  
 OPEN RED BRAKE WARNING INDICATOR DRIVER CIRCUIT  
 RED BRAKE WARNING INDICATOR DRIVER CIRCUIT OPEN  
 INSTRUMENT CLUSTER  
 RED BRAKE WARNING INDICATOR DRIVER CIRCUIT SHORTED TO GROUND  
 INSTRUMENT CLUSTER  
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p><b>Note: Make sure the parking brake lever is not engaged at this time.</b>            Check the parking brake lever for any interference or binding linkage.            Is there a problem with the parking brake operation?</p> <p>Yes → Refer to the service information for the related symptom(s) regarding the parking brake lever.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Is this test being performed because the warning indicator did not light with an empty fluid reservo</p> <p>Yes → Go To 3</p> <p>No → Go To 7</p>	All

## INSTRUMENT CLUSTER

### \*BRAKE INDICATOR NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Brake Pressure Switch (level switch) harness connector. (See BRAKE PRESSURE SWITCH WIRING DIAGRAMS) (See BRAKE PRESSURE SWITCH COMPONENT LOCATION) (See BRAKE PRESSURE SWITCH CONNECTOR PINOUT)            Turn the ignition on and wait 10 seconds.            Connect a jumper wire between the Red Brake Warning Indicator Driver circuit and the Ground circuit.            Did the Brake Warning Indicator illuminate with the jumper wire connected?</p> <p>Yes → Replace the Brake Pressure Switch (level switch).            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Brake Pressure Switch (level switch) harness connector.            Disconnect the Instrument Cluster C2 harness connector.            Measure the resistance of the Red Brake Warning Indicator Driver circuit between the Brake Pressure Switch harness connector and the Instrument Cluster C2 harness connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Red Brake Warning Indicator Driver circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.            Disconnect the Brake Pressure Switch (level switch) harness connector.            Turn the ignition on and wait 10 seconds.            Connect a jumper wire between ground and the Red Brake Warning Indicator Driver circuit.            Did the brake warning indicator illuminate with the jumper wire connected?</p> <p>Yes → Repair the Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Instrument Cluster in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition on.            Is the Brake Warning Indicator on after the bulb check is completed?</p> <p>Yes → Go To 8</p> <p>No → Go To 13</p>	All
8	<p>Check the brake fluid level in the reservoir.            Is the reservoir full?</p> <p>Yes → Go To 9</p> <p>No → Adjust the brake fluid level as necessary.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*BRAKE INDICATOR NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
9	Disconnect the Park Brake Switch harness connector. Turn the ignition on and observe the Red Brake Warning Indicator. Did the Red Brake Warning Indicator turn off?  Yes → Replace the Park Brake Switch. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 10	All
10	Disconnect the Brake Pressure Switch (level switch) harness connector. Turn the ignition on and observe the Red Brake Warning Indicator. Did the Red Brake Warning Indicator turn off?  Yes → Replace the Brake Pressure Switch (Level Switch). Perform BODY VERIFICATION TEST - VER 1.  No → Go To 11	All
11	Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Disconnect the Brake Pressure Switch (level switch) harness connector. Disconnect the Park Brake Switch harness connector. Measure the resistance between ground and the Red Brake Warning Indicator Driver circuit. Is the resistance above 100 kohms?  Yes → Go To 12  No → Repair the Red Brake Warning Indicator Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
12	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
13	Turn the ignition on and wait 10 seconds. Engage the Parking Brake Lever. Did the Red Brake Warning Indicator turn on with the Parking Brake Lever engaged?  Yes → Go To 14  No → Go To 15	All
14	Release the Parking Brake Lever. Crank the engine while observing the Red Brake Warning Indicator. Did the Red Brake Warning Indicator turn on while the engine was cranking?  Yes → Test Complete.  No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

## \*BRAKE INDICATOR NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
15	<p>Turn the ignition off.            Disconnect the Parking Brake Switch harness connector.            Turn the ignition on and wait 10 seconds.            Connect a jumper wire between ground and the Red Brake Warning Indicator Driver circuit.            Is the Red Brake Warning Indicator on?</p> <p>Yes → Replace the Park Brake Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 16</p>	All
16	<p>Turn the ignition off.            Disconnect the Parking Brake Switch harness connector.            Disconnect the Instrument Cluster C2 harness connector.            Measure the resistance of the Red Brake Warning Indicator Driver circuit between the Park Brake Switch harness connector and the Instrument Cluster C2 harness connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 17</p> <p>No → Repair the Red Brake Warning Indicator Driver circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
17	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Instrument Cluster in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*CHARGING INDICATOR NOT OPERATING PROPERLY****POSSIBLE CAUSES**

INSTRUMENT CLUSTER

CHECK THE CHARGING SYSTEM OPERATION

ENGINE TROUBLE CODES

PERFORM INSTRUMENT CLUSTER SELF TEST

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the ENGINE DTC's. Are there any PCM DTC's present?  Yes → Refer to the Driveability category for the related symptom(s) involving the charging system. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off then on. This will start the bulb test. Did the charging indicator illuminate for 3 to 10 seconds?  Yes → Go To 3  No → Replace the Instrument cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	Check the charging system operation. Follow the Service Information procedure. Is the charging system operating properly?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Refer to service information for the related symptom(s) regarding the charging system. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

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### Symptom:

#### **\*CHECK ENGINE INDICATOR NOT OPERATING PROPERLY**

#### POSSIBLE CAUSES

INSTRUMENT CLUSTER

ATTEMPT TO COMMUNICATE WITH THE PCM

ENGINE TROUBLE CODES

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body, Body Computer, System Test then PCM Monitor. Is the PCM active on the bus?  Yes → Go To 2  No → Refer to the Communications category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRB, read engine DTC's. Are there any PCM DTC's present?  Yes → Refer to the Driveability category for the related symptom(s) . Perform BODY VERIFICATION TEST - VER 1.  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*CLUSTER AND PANEL ILLUMINATION PROBLEMS****POSSIBLE CAUSES**

CHECKING FOR INSTRUMENT CLUSTER DTC

CHECKING THE PANEL LAMP DRIVER CIRCUIT FOR A SHORT TO GROUND

INSTRUMENT CLUSTER

PANEL LAMP DRIVER CIRCUIT SHORTED TO GROUND

PANEL LAMP DRIVER CIRCUIT SHORTED TO VOLTAGE

CHECKING FOR A SHORT TO GROUND

CHECKING FOR A SHORT TO VOLTAGE

OBSERVE THE DIMMING LEVEL VOLTAGE

ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body then Electro/Mech Cluster (MIC). Was the DRB able to I/D or communicate with the Instrument Cluster?  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. <b>Note: Check the Instrument Cluster (MIC) for any DTCs.</b> With the DRB, select Body Computer then Sensors and observe the dimming level voltage. Rotate the dimmer switch to the low position, then to the high position and observe the dimming level voltage Does the dimming level voltage change between approximately 0.2 and 3.0 volts?  Yes → Go To 3 No → Refer to symptom list for problems related to the Dimming Level Switch Failure DTC. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the park lamps on. Rotate the dimmer switch to the low position, then to the high position and observe the panel lamps. Do the panel lamps stay at full intensity with the dimmer switch in any position?  Yes → Go To 4 No → Go To 6	All

## \*CLUSTER AND PANEL ILLUMINATION PROBLEMS — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the park lamps on.            Ensure the ignition key is off while disconnecting the following Modules/Components.            Disconnect the following Modules/Components one at a time in an orderly manner (be sure to turn the ignition off before disconnecting any Module).            After the disconnection, rotate the dimmer switch to the low position, then to the high position and observe the panel lamps.            Disconnect the Ash Receiver Lamp harness connector if equipped.            Disconnect the Clock harness connector if equipped.            Disconnect the PRND3L Illumination harness connector if equipped.            Disconnect the Radio C2 harness connector if equipped.            Disconnect the Traction Control Switch harness connector if equipped.            Disconnect the Headlamp Switch harness connector.            Disconnect the Automatic/Manual Temperature Control Module harness connector.            Did the panel lamps function properly after disconnecting any one module/component?</p> <p>Yes → Replace the module/component that was most recently disconnected when the panel lamps functioned properly.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Instrument Cluster C1 harness connector.            Turn the ignition on.            Measure the voltage of the Panel Lamp Driver circuit in the Instrument Cluster C1 harness connector.            Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Panel Lamp Driver circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Instrument Cluster.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition on.            With the DRB, read Instrument Cluster DTC's.            Is the Panel Lamps Driver Output Circuit Shorted DTC set?</p> <p>Yes → Go To 7</p> <p>No → Replace the Instrument Cluster.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.            Disconnect the Instrument Cluster C1 harness connector.            Measure the resistance between ground and the Panel Lamps Driver circuit            Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 8</p> <p>No → Replace the Instrument Cluster.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*CLUSTER AND PANEL ILLUMINATION PROBLEMS — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Ensure the ignition key is off while disconnecting the following Modules/Components.            Disconnect the following Modules/Components one at a time in an orderly manner (be sure to turn the ignition off before disconnecting any Module).            After the disconnection, measure the resistance between ground and the Panel Lamp Driver circuit.            Disconnect the Ash Receiver Lamp harness connector if equipped.            Disconnect the Clock harness connector if equipped.            Disconnect the PRND3L Illumination harness connector if equipped.            Disconnect the Radio C2 harness connector if equipped.            Disconnect the Traction Control Switch harness connector if equipped.            Disconnect the Headlamp Switch harness connector.            Disconnect the Automatic/Manual Temperature Control Module harness connector.            Did the resistance increase to above 10.0 ohms after disconnecting any one module/component?</p> <p>Yes → Replace the module/component that was most recently disconnected when the resistance increased to above 10.0 ohms.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Panel Lamp Driver circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## INSTRUMENT CLUSTER

### Symptom:

#### \*CRUISE ON INDICATOR NOT OPERATING PROPERLY

#### POSSIBLE CAUSES

INSTRUMENT CLUSTER

ATTEMPT TO COMMUNICATE WITH THE PCM

CHECK THE OPERATION OF THE SPEED CONTROL SYSTEM

DEFECTIVE BULB OR SOCKET

ENGINE TROUBLE CODES

TEST	ACTION	APPLICABILITY
1	Turn the ignition off then on. This will start the bulb test. Did the cruise on indicator illuminate for 3 to 10 seconds?  Yes → Go To 2  No → Go To 4	All
2	Turn the ignition on. With the DRB, 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.  No → Go To 3	All
3	Drive vehicle, turn the speed control system on. Does the speed control system operate properly?  Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.  No → Refer to the Driveability category for the related symptom(s) involving the speed control system.	All
4	Turn the ignition on. With the DRB, select Body, Body Computer, System Test then PCM Monitor. Is the PCM active on the bus?  Yes → Go To 5  No → Refer to the Communications category for the related symptom(s).	All
5	Turn the ignition off. Remove and inspect the cruise on bulb and socket. Is there a problem with the bulb or socket?  Yes → Repair or replace the defective bulb or socket as needed.  No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**

**\*DECKLID AJAR INDICATOR NOT OPERATING PROPERLY**

POSSIBLE CAUSES	
INSTRUMENT CLUSTER	
DECKLID AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND	
DECKLID RELEASE SOLENOID/AJAR SWITCH SHORTED TO GROUND	
INSTRUMENT CLUSTER	
OPEN DECKLID AJAR SWITCH SENSE CIRCUIT	
OPEN DECKLID AND OBSERVE THE DECKLID AJAR INDICATOR	
OPEN DECKLID RELEASE SOLENOID/AJAR SWITCH	
OPEN FUSED B+ CIRCUIT	

TEST	ACTION	APPLICABILITY
1	<p>Ensure the decklid is properly aligned and fully closed. Turn the ignition on. Is the decklid ajar indicator illuminated?</p> <p>Yes → Go To 2</p> <p>No → Go To 4</p>	All
2	<p><b>Note: Only perform this test if the decklid ajar indicator is on at all times.</b> Turn the ignition off. Disconnect the decklid release solenoid/ajar switch harness connector. Observe the decklid ajar indicator. Is the decklid ajar indicator illuminated?</p> <p>Yes → Go To 3</p> <p>No → Replace the decklid release solenoid/ajar switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p><b>Note: Only perform this test if the decklid ajar indicator is on at all times.</b> Turn the ignition off. Disconnect the decklid release solenoid/ajar switch harness connector. Disconnect the Instrument Cluster "C2" harness connector. Measure the resistance between ground and the decklid ajar switch sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the decklid ajar switch sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Open the decklid and observe the decklid ajar indicator. Is the decklid ajar indicator illuminated?</p> <p>Yes → The decklid ajar indicator is operating properly at this time, check for a intermittent wiring condition.</p> <p>No → Go To 5</p>	All

## \*DECKLID AJAR INDICATOR NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off.            Disconnect the decklid release solenoid/ajar switch harness connector.            Connect a jumper wire between the decklid ajar switch sense circuit and ground.            With the jumper wire connected to ground, monitor the decklid ajar indicator.            Is the decklid ajar indicator illuminated?</p> <p>Yes → Replace the decklid release solenoid/ajar switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn the ignition off.            Disconnect the decklid release solenoid/ajar switch harness connector.            Disconnect the Instrument Cluster C2 harness connector.            Measure the resistance of the decklid ajar switch sense circuit between the decklid release solenoid/ajar switch connector and the Instrument Cluster "C2" connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Repair the decklid ajar switch sense circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.            Disconnect the Instrument Cluster C1 harness connector.            Measure the voltage of the Fused B+ circuit (cavity 3).            Is the voltage above 10.0 volts?</p> <p>Yes → Replace the Instrument Cluster in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Fused B+ circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*DOOR AJAR INDICATOR NOT OPERATING PROPERLY****POSSIBLE CAUSES**

CHECK THE DOOR AJAR STATES

INSTRUMENT CLUSTER

PERFORM INSTRUMENT CLUSTER SELF TEST

CHECK THE DOOR AJAR STATES

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Close all doors. Turn the ignition off then on. This will start the bulb test. Did the door ajar indicator illuminate for 3 to 10 seconds?  Yes → Go To 2  No → Replace the Instrument cluster. Perform BODY VERIFICATION TEST - VER 1.	All
2	With all the doors closed, monitor the door ajar indicator. Does the door ajar indicator stay on with all the doors closed?  Yes → Go To 3  No → Go To 4	All
3	Close all doors. With the DRB, select Body, Body Computer then Inputs/Outputs and read both door ajar states. Does the DRB display both door ajar states "Open"?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Refer to the Interior Lighting category for the related symptom(s) regarding the door ajar switches. Perform BODY VERIFICATION TEST - VER 1.	All
4	Open both driver and passenger doors. With the DRB, select Body, Body Computer then Inputs/Outputs and read both door ajar states. Does the DRB display both door ajar states "Closed"?  Yes → Go To 5  No → Refer to the Interior Lighting category for the related symptom(s) regarding the door ajar switches. Perform BODY VERIFICATION TEST - VER 1.	All
5	With the doors open, is the door ajar indicator on?  Yes → Test Complete.  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

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### Symptom:

**\*ENGINE COOLANT TEMPERATURE INDICATOR NOT OPERATING PROPERLY**

#### POSSIBLE CAUSES

CHECKING TEMPERATURE GAUGE

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Start the engine and allow the engine to reach operating temperature. Does the engine temperature gauge operate properly?  Yes → Go To 2  No → Refer to symptom list for problems related to engine coolant temperature gauge. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off, then on. This will start the bulb test. Did the engine coolant temperature indicator illuminate for 3 to 10 seconds then turn off?  Yes → Test Complete.  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*FUEL GAUGE NOT OPERATING PROPERLY****POSSIBLE CAUSES**

BODY CONTROL MODULE  
 INSTRUMENT CLUSTER  
 INSTRUMENT CLUSTER  
 VISUAL CONDITION NOT GOOD  
 CHECK FOR FUEL LEVEL SENDING UNIT RELATED BCM DTCS  
 DETERMINE IF FULL GAUGE IS INACCURATE  
 FUEL GAUGE DISPLAYS EMPTY  
 FUEL LEVEL SENSOR SIGNAL CIRCUIT SHORTED TO GROUND  
 OBSERVE THE FUEL GAUGE  
 INSPECT THE FUEL PUMP MODULE AND THE FUEL TANK  
 INSTRUMENT CLUSTER SELF TEST

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select BODY, BODY COMPUTER, then read DTCs. Is the Fuel Level Sending Unit Failure DTC set?  Yes → Refer to symptom list for problems related to fuel level sending unit failure DTC. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition to the Lock position. During the self test all gauges should move from their lowest calibration point to their highest calibration point then back down to its lowest. Calibration points for the Fuel Gauge: E, 1/4, 1/2, F, 1/2, 1/4, E. While holding the Trip/Reset button down on the Instrument Cluster, turn the ignition forward one position (Unlock/Off position) to start the MIC self test, then release the button. Did the Fuel Gauge pass the self test?  Yes → Go To 3  No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

### \*FUEL GAUGE NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>NOTE: Make sure the Fuel Tank is not empty before proceeding.</b></p> <p>Turn the ignition on. Observe the Fuel Gauge. What does the Fuel Gauge display?</p> <p>Empty at all times Go To 4</p> <p>Between empty and full Go To 5</p> <p>Full at all times Go To 7</p>	All
4	<p>Turn the ignition off. Gain access to the body harness connector C308 by removing the rear seat cushion. Disconnect the C308 harness connector. Turn the ignition on. Connect a jumper wire between ground and the Fuel Level Sensor Signal circuit. With the jumper wire connected to ground, observe the Fuel Gauge. Does the Fuel Gauge display FULL?</p> <p>Yes → Remove the Fuel Pump Module from the Fuel Tank. Inspect for a stuck float arm. If OK, replace the Fuel Pump Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the BCM C4 harness connector.</p> <p><b>Note: To perform this test, add or remove 5 gallons of fuel and take a measurement, then repeat and take another measurement.</b></p> <p>Measure the resistance between ground and the Fuel Level Sensor Signal circuit. Match the resistance to these specifications (float arm height in mm): 151.4mm (sensor full stop) - 60+/-10 ohms, 141.0mm (stop on gauge) - 130+/-15 ohms, 105.8mm (3/4 position) - 340+/-30 ohms. Continued: match the resistance to these specifications: 74.5mm (1/2 position) - 550+/-30 ohms, 43.0mm (1/4 position) - 760+/-30 ohms, 11.1mm (empty on gauge) - 920+/-30 ohms, 1.4mm (sensor empty stop) - 1050+/-10 ohms. Does the resistance of the Fuel Pump Module match the resistance specifications both times?</p> <p>Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All

**\*FUEL GAUGE NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
6	<p>Turn the ignition off.  Remove the Fuel Tank from the vehicle.  Remove the Fuel Pump Module from the Fuel Tank.  Inspect the Fuel Pump Module for a bent or sticking arm and the Fuel Tank for any foreign materials.  Is the Fuel Tank and Fuel Pump Module visual condition good?</p> <p>Yes → Replace the Fuel Pump Module.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair or replace as necessary.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.  Gain access to the body harness connector C308 by removing the rear seat cushion.  Disconnect the C308 harness connector.  Turn the ignition on.  With the DRB, select BODY, BODY COMPUTER, then SENSORS and observe the fuel level voltage.  Is the voltage above 9.0 volts?</p> <p>Yes → Go To 8</p> <p>No → Go To 9</p>	All
8	<p>Turn the ignition on.  With the C308 harness connector disconnected, observe the Fuel Gauge.  Did the Fuel Gauge drop to empty?</p> <p>Yes → Check the Fuel Pump Module Jumper harness between the C308 and the Fuel Pump Module. If OK, replace the Fuel Pump Module.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Instrument Cluster in accordance with the Service Information.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>Turn the ignition off.  Disconnect the BCM C4 harness connector.  Measure the resistance between ground and the Fuel Level Sensor Signal circuit.  Is the resistance above 100 kohms?</p> <p>Yes → Replace the BCM.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Fuel Level Sensor Signal circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## **INSTRUMENT CLUSTER**

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### **Symptom:**

#### **\*LOW FUEL INDICATOR NOT OPERATING PROPERLY**

<b>POSSIBLE CAUSES</b>
CHECK THE FUEL GAUGE OPERATION
PERFORM INSTRUMENT CLUSTER SELF TEST

TEST	ACTION	APPLICABILITY
1	Start the engine and observe the Fuel Gauge. Does the Fuel Gauge operate properly?  Yes → Go To 2  No → Refer to symptom list for problems related to the Fuel Gauge. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off then on. This will start the bulb test. Did the Low Fuel Indicator illuminate for 3 to 10 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:****\*LOW WASHER FLUID INDICATOR NOT OPERATING PROPERLY****POSSIBLE CAUSES**

INSTRUMENT CLUSTER

CHECK THE WASHER FLUID RESERVOIR

OPEN GROUND CIRCUIT

OPEN WASHER FLUID SWITCH SENSE CIRCUIT

PERFORM INSTRUMENT CLUSTER SELF TEST

WASHER FLUID LEVEL SENSOR

WASHER FLUID LEVEL SENSOR

WASHER FLUID SWITCH SENSE CIRCUIT SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Check the level of the washer fluid reservoir. Is the washer fluid reservoir full?  Yes → Go To 2  No → Add washer fluid as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Did the low washer fluid indicator fail to turn on when the reservoir was low?  Yes → Go To 3  No → Go To 7	All
3	Turn the ignition off then on. This will start the bulb test. Did the low washer indicator illuminate for 3 to 10 seconds?  Yes → Go To 4  No → Replace the Instrument cluster. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the washer fluid level sensor harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 10.0 ohms?  Yes → Go To 5  No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

## **\*LOW WASHER FLUID INDICATOR NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off.            Disconnect the washer fluid level sensor harness connector.            Disconnect the Instrument Cluster "C2" harness connector.            Measure the resistance of the washer fluid switch sense circuit between the washer fluid level sensor connector and the Instrument Cluster "C2" connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the washer fluid switch sense circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Disconnect the washer fluid level sensor harness connector.            Turn the ignition on.            Connect a jumper wire between the washer fluid switch sense circuit and the ground circuit.            With the DRB, select Body, Electro/Mech Cluster (MIC) then Inputs/Outputs and observe the washer fluid switch status.            Does the DRB display Wash Fluid: Closed?</p> <p>Yes → Replace the washer fluid level sensor.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Instrument Cluster            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p><b>Note: Perform this test if the low washer fluid indicator is on all the time.</b>            Turn the ignition off.            Disconnect the washer fluid level sensor harness connector.            Turn the ignition on and wait one minute.            Monitor the low washer fluid indicator.            Did the low washer fluid indicator turn off?</p> <p>Yes → Replace the washer fluid level sensor.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p><b>Note: Perform this test if the low washer fluid indicator is on all the time.</b>            Turn the ignition off.            Disconnect the washer fluid level sensor harness connector.            Disconnect the Instrument Cluster C2 harness connector.            Measure the resistance between ground and the washer fluid switch sense circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the washer fluid switch sense circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Instrument Cluster            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*ODOMETER NOT OPERATING PROPERLY****POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER

ATTEMPT TO COMMUNICATE WITH THE TCM

OBSERVE THE INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body then Electro/Mech Cluster (MIC). Was the DRB able to I/D or communicate with the Instrument Cluster?  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 DRB, select Transmission. Was the DRB able to I/D or communicate with the TCM?  Yes → Go To 3  No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. While observing the odometer turn the ignition to the run position. Did all odometer segments illuminated?  Yes → Test Complete.  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

### Symptom:

### **\*OIL PRESSURE WARNING INDICATOR NOT OPERATING PROPERLY**

#### POSSIBLE CAUSES

INSTRUMENT CLUSTER - SENSE CIRCUIT SHORTED TO GROUND  
ENGINE OIL PRESSURE LESS THAN 27.6 KPA (4 PSI) COLD  
OIL PRESSURE SWITCH - OPEN  
OIL PRESSURE SWITCH SENSE CIRCUIT SHORTED TO GROUND  
ENGINE OIL PRESSURE LESS THAN 27.6 KPA (4 PSI) WARM  
OIL PRESSURE SWITCH SENSE CIRCUIT OPEN  
INSTRUMENT CLUSTER - SENSE CIRCUIT OPEN  
OIL PRESSURE SWITCH - SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	<b>NOTE: Ensure the oil level is within specifications before continuing.</b> Turn the ignition on. Observe the Oil Pressure Warning Indicator. Is the Oil Pressure Warning Indicator on?  Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Engine Oil Pressure Switch harness connector. Turn the ignition on. Observe the Oil Pressure Warning Indicator. Is the Oil Pressure Warning Indicator off?  Yes → Go To 3 No → Go To 6	All
3	Turn the ignition off. Remove the Engine Oil Pressure Switch. Install a mechanical oil pressure gauge in place of the Engine Oil Pressure Switch. Start and idle the engine. Read the mechanical oil pressure gauge. Is the gauge reading 27.6 kPa (4.0 PSI) or greater at idle?  Yes → Go To 4 No → Refer to the Service Information for the related symptom(s) regarding low engine oil pressure. Perform BODY VERIFICATION TEST - VER 1.	All

**\*OIL PRESSURE WARNING INDICATOR NOT OPERATING PROPERLY**

— Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Remove the Engine Oil Pressure Switch.  Install a mechanical oil pressure gauge in place of the Engine Oil Pressure Switch.  Start and idle the engine.  Allow the engine to reach normal operating temperature.  Read the mechanical oil pressure gauge.  Is the gauge reading 27.6 kPa (4.0 PSI) or greater at idle?</p> <p>Yes → Go To 5</p> <p>No → Refer to the Service Information for the related symptom(s) regarding low engine oil pressure.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Engine Oil Pressure Switch.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.  Disconnect the Engine Oil Pressure Switch harness connector.  Disconnect the Instrument Cluster C2 harness connector.  Measure the resistance between ground and the Engine Oil Pressure Switch Sense circuit.  Is the resistance above 100 kohms?</p> <p>Yes → Replace the Instrument Cluster in accordance with the Service Information.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Oil Pressure Switch Sense circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.  Disconnect the Engine Oil Pressure Switch harness connector.  Connect a jumper wire between ground and the Oil Pressure Switch Sense circuit.  Turn the ignition on.  Is the Oil Pressure Warning Indicator on?</p> <p>Yes → Replace the Engine Oil Pressure Switch.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p>Turn the ignition off.  Disconnect the Engine Oil Pressure Switch harness connector.  Disconnect the Instrument Cluster C2 harness connector.  Measure the resistance of the Oil Pressure Switch Sense circuit between the Engine Oil Pressure Switch harness connector and the Instrument Cluster C2 harness connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the Oil Pressure Switch Sense circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## INSTRUMENT CLUSTER

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### **\*OIL PRESSURE WARNING INDICATOR NOT OPERATING PROPERLY**

— Continued

TEST	ACTION	APPLICABILITY
9	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:****\*PRND3L INDICATOR MALFUNCTION****POSSIBLE CAUSES**

INSTRUMENT CLUSTER

ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER

MONITOR THE PRND3L INDICATORS WHILE SHIFTING GEARS

OBSERVE THE PRND3L LAMPS WITH THE IGNITION ON

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body then Electro/Mech Cluster (MIC). Was the DRB able to I/D or communicate with the Instrument Cluster?  Yes → Go To 2  No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Observe the PRND3L lamps while cycling the ignition from off to on. <b>Note: This should turn on all PRND3L indicators at the same time.</b> Did all the PRND3L indicators illuminate?  Yes → Go To 3  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRB, select Transmission, Monitor Display, Shift Lever then SLP and monitor the shift lever status. <b>Note: Engage the parking brake.</b> Move the gear shift lever through all the different positions. Does the SLP reading match the state of the transmission gear?  Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.  No → Refer to symptom list for problems related to the Transaxle. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

### Symptom:

#### \*SEAT BELT INDICATOR NOT OPERATING PROPERLY

POSSIBLE CAUSES
BODY CONTROL MODULE (SEATBELT SWITCH SENSE CIRCUIT SHORTED TO GROUND)
CHECK THE SEATBELT SWITCH STATUS
PERFORM INSTRUMENT CLUSTER SELF TEST
SEATBELT SWITCH SENSE CIRCUIT SHORTED TO GROUND
SEATBELT SWITCH SHORTED TO GROUND
WIRING HARNESS INTERMITTENT DEFECT
BODY CONTROL MODULE (OPEN SEATBELT SWITCH SENSE CIRCUIT)
CHECK THE SEATBELT SWITCH STATUS
OPEN GROUND CIRCUIT
OPEN SEATBELT SWITCH
SEATBELT SWITCH SENSE CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition off then on. This will start the bulb test. Is the seatbelt indicator illuminated?  Yes → Go To 2  No → Replace the Instrument cluster. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. Buckle the driver's seatbelt and monitor the seatbelt indicator. Did the seatbelt indicator turn off?  Yes → Go To 3  No → Go To 9	All
3	Turn the ignition on and wait 10 seconds. Unbuckle the seatbelt and observe the seatbelt indicator. Did the seatbelt indicator turn on?  Yes → Go To 4  No → Go To 5	All
4	Turn the ignition off. <b>Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</b> <b>Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b> Were any problems found?  Yes → The seatbelt indicator is operational. Check wiring harness/connectors as necessary.  No → Test Complete.	All

**\*SEAT BELT INDICATOR NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Unbuckle the driver's seatbelt. Turn the ignition on. With the DRB, select Body Computer then Inputs/Outputs and observe the seatbelt switch state. Does the DRB display Seatbelt Switch: Closed?</p> <p>Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn the ignition off. Disconnect the seatbelt switch harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off. Disconnect the seatbelt switch harness connector. Connect a jumper wire between the seatbelt switch sense circuit and the ground circuit. With the DRB, select Body Computer then Inputs/Outputs and observe the seatbelt switch state. Does the DRB display Seatbelt Switch: Closed?</p> <p>Yes → Replace the seatbelt switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p>Turn the ignition off. Disconnect the seatbelt switch harness connector. Disconnect the BCM C4 harness connector. Measure the resistance of the seatbelt switch sense circuit between the seatbelt switch connector and the BCM "C4" connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the seatbelt switch sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>Buckle the driver's seatbelt. Turn the ignition on. With the DRB, select Body Computer then Inputs/Outputs and observe the seatbelt switch state. Does the DRB display Seatbelt Switch: Open?</p> <p>Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 10</p>	All

## \*SEAT BELT INDICATOR NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
10	<p>Disconnect the seatbelt switch harness connector.            With the DRB, select Body Computer then Inputs/Outputs and observe the seatbelt switch state.            Does the DRB display Seatbelt Switch: Open?</p> <p>Yes → Replace the seatbelt switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Turn the ignition off.            Disconnect the seatbelt switch harness connector.            Disconnect the BCM C4 harness connector.            Measure the resistance between ground and the seatbelt switch sense circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the seatbelt switch sense circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the BCM in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*SPEEDOMETER GAUGE NOT OPERATING PROPERLY****POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE PCM

ENGINE TROUBLE CODES

INSTRUMENT CLUSTER SELF TEST

OBSERVE THE VEHICLE SPEED DISPLAY IN THE PCM

OBSERVE THE VEHICLE SPEED DISPLAY IN THE INSTRUMENT CLUSTER

POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body, Body Computer, System Test then PCM Monitor. Is the PCM active on bus?  Yes → Go To 2  No → Refer to the Communications category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. During the self test all gauges should move from their lowest calibration point to their highest calibration point then back down to its lowest. Calibration points for the Speedometer: 0 MPH (0 KM/H), 20 MPH (40 KM/H) , 60 MPH (100 KM/H), 120 MPH (210 KM/H), 60 MPH (100 KM/H), 20 MPH (40 KM/H), 0 MPH (0 KM/H). While holding the trip/reset button down on the instrument cluster, turn the ignition forward one position (unlock/off position) to start the MIC self test, release the button. Did the Speedometer pass the self test?  Yes → Go To 3  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB read ENGINE DTC's. Are there any engine DTC's present?  Yes → Refer to symptom list for problems related to DRIVABILITY. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 4	All

## \*SPEEDOMETER GAUGE NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
4	<p>Raise all four wheels off the ground and properly support the vehicle. Start the engine. <b>Note: If the vehicle is equipped with traction control, the traction control must be disabled.</b> With the DRB, enter Engine then Sensors and observe the vehicle speed display. Place the gear shift lever in drive and observe the vehicle speed while accelerating. Does the DRB display vehicle speed increasing proportionally as you accelerate?</p> <p>Yes → Go To 5</p> <p>No → Refer to the Driveability category for the related symptom(s) to the vehicle speed sensor. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Raise all four wheels off the ground and properly support the vehicle. Start the engine. <b>Note: If the vehicle is equipped with traction control, the traction control must be disabled.</b> With the DRB, select Body, Electro/Mech Cluster (MIC), Monitor Display then Engine Info and observe the vehicle speed display. Place the gear shift lever in drive and observe the vehicle speed while accelerating. Does the DRB display vehicle speed increasing proportionally as you accelerate?</p> <p>Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the PCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*TACHOMETER NOT OPERATING PROPERLY****POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE PCM

ENGINE TROUBLE CODES

INSTRUMENT CLUSTER SELF TEST

OBSERVE THE RPM DISPLAY IN THE INSTRUMENT CLUSTER

OBSERVE THE RPM DISPLAY IN THE PCM

POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body, Body Computer, System Test then PCM Monitor. Is the PCM active on bus?  Yes → Go To 2  No → Refer to the Communications category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. During the self test all gauges should move from their lowest calibration point to their highest calibration point then back down to its lowest. Calibration points for the Tachometer: 0 RPM, 500 RPM, 2000 RPM, 6000 RPM, 2000 RPM, 500 RPM, 0 RPM. While holding the trip/reset button down on the instrument cluster, turn the ignition forward one position (unlock/off position) to start the MIC self test, release the button. Did the Tachometer pass the self test?  Yes → Go To 3  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB, read ENGINE DTC's. Are there any engine DTC's present?  Yes → Refer to symptom list for problems related to DRIVABILITY. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 4	All
4	Start the engine. With the DRB, select Engine then Sensors and observe the engine RPM display. Does the DRB display engine RPM above 400 RPM?  Yes → Go To 5  No → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

## INSTRUMENT CLUSTER

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### **\*TACHOMETER NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Start the engine. With the DRB, select Body, Electro/Mech Cluster (MIC), Monitor Display then Engine Info and observe the engine RPM display. Does the DRB display engine RPM above 400 RPM?</p> <p>Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the PCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*TEMPERATURE GAUGE NOT OPERATING PROPERLY****POSSIBLE CAUSES**

ATTEMPT TO COMMUNICATE WITH THE PCM

ENGINE TROUBLE CODES

INSTRUMENT CLUSTER SELF TEST

POWERTRAIN CONTROL MODULE

OBSERVE THE TEMPERATURE DISPLAY IN THE INSTRUMENT CLUSTER

OBSERVE THE TEMPERATURE DISPLAY IN THE PCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body, Body Computer, System Test then PCM Monitor. Is the PCM active on the bus?  Yes → Go To 2  No → Refer to the Communications category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. During the self test all gauges should move from their lowest calibration point to their highest calibration point then back down to its lowest. Calibration points for the Temperature Gauge: "C", Mid., H Norm., "H", H Norm., Mid., "C". While holding the trip/reset button down on the instrument cluster, turn the ignition forward one position (unlock/off position) to start the MIC self test, release the button. Did the Temperature Gauge pass the self test?  Yes → Go To 3  No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB, read ENGINE DTC's. Are there any engine DTC's present?  Yes → Refer to symptom list for problems related to DRIVABILITY. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 4	All
4	Start the engine. With the DRB, select Engine then Sensors and observe the engine temperature display. Does the DRB display approximately the correct engine temperature?  Yes → Go To 5  No → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

## **\*TEMPERATURE GAUGE NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Start the engine.            With the DRB, select Body, Electro/Mech Cluster (MIC), Monitor Display then Engine Info and observe the engine temperature display.            Does the DRB display approximately the correct engine temperature?</p> <p>Yes → Replace the Instrument Cluster.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the PCM in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**

**COURTESY LAMP OUTPUT SHORT TO BATTERY**

**When Monitored and Set Condition:**

**COURTESY LAMP OUTPUT 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 Courtesy Lamp Driver circuit for 5 seconds.

**POSSIBLE CAUSES**

SHORTED BULB

COURTESY LAMP DRIVER CIRCUIT SHORTED TO VOLTAGE

BODY CONTROL MODULE

COURTESY LAMPS DRIVER CIRCUIT SHORTED TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Whenever a step is completed, cycle the ignition key off then on to see if the problem is isolated. This will clear the code and allow the remaining courtesy lamps to light.</b></p> <p>Disconnect the Junction Block C11 Headliner Harness Connector from the front of the junction block.</p> <p>Cycle the ignition switch off than back on.</p> <p>Did the remaining courtesy lamps, door lamps come on?</p> <p>Yes → Go To 2</p> <p>No → Go To 3</p>	All
2	<p>Ensure the Junction Block C11 Headliner Harness connector on the front of the junction block is connected before proceeding.</p> <p>Turn on all overhead, map and rear rearing lamps by their own individual switches. This will disconnect each lamp from the Courtesy Lamp Driver Circuit.</p> <p>Did any lamp fail to light when it was turned on by it's own switch?</p> <p>Yes → Replace the shorted courtesy lamp bulb. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Courtesy Lamp Driver circuit in the headliner harness for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## COURTESY LAMP OUTPUT SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.</p> <p>Disconnect the Junction Block C11 Headliner Harness Connector from the front of the junction block.</p> <p>Remove the Body Control Module from the junction block.</p> <p>Measure the voltage of the Courtesy Lamps Driver circuit at the driver door courtesy lamp socket. One contact will have battery voltage but the courtesy lamps driver circuit should not.</p> <p>Is there any voltage on the Courtesy Lamps Driver Circuit?</p> <p>Yes → Repair the Courtesy Lamps Driver Circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom List:****\*COURT LMPS INOP****\*COURTESY LAMPS INOPERATIVE FROM DRIVERS DOOR**

**Test Note:** All symptoms listed above are diagnosed using the same tests.  
 The title for the tests will be **\*COURT LMPS INOP**.

**POSSIBLE CAUSES**

COURTESY LAMPS INOPERATIVE FROM DRIVER DOOR

TEST	ACTION	APPLICABILITY
1	If this condition still exists, proceed with diagnosis.  For this condition: Refer to symptom DRIVER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR category.	All

## INTERIOR LIGHTING

### Symptom:

#### \*COURTESY LAMPS INOPERATIVE - ALL LAMPS

POSSIBLE CAUSES
FUSE 19 OPEN
JUNCTION BLOCK
BODY CONTROL MODULE
COURTESY LAMPS DRIVER CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Gain access to the junction block C11 Headliner Harness connector but do not disconnect. While backprobing, measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts?  Yes → Go To 2  No → Replace the Junction Block Perform BODY VERIFICATION TEST - VER 1.	All
2	Check Junction Block Fuse 19 Is Fuse 19 open?  Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All
3	Backprobe a jumper wire from the Courtesy Lamps Driver circuit in the Junction Block C11 connector to ground. Did the overhead courtesy lamps come on?  Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.  No → Repair the open Courtesy Lamp Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:**

**\*COURTESY LAMPS INOPERATIVE - DOOR LAMPS**

**POSSIBLE CAUSES**

OPEN FUSED B+ CIRCUIT

COURTESY LAMP DRIVER CIRCUIT OPEN

JUNCTION BLOCK

TEST	ACTION	APPLICABILITY
1	<p>Remove the lens from the driver door courtesy lamp. Measure the voltage of the Fused B+ circuit at the bulb. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 2</p> <p>No → Repair the open Fused B+ circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p><b>NOTE: Ensure the overhead lamps are operational before proceeding. This test is for the door courtesy lamps being inoperable only.</b></p> <p>Disconnect the Junction Block C6 connector on the rear of the junction block. Connect a jumper wire from the Courtesy Lamps Driver circuit in the Junction Block C6 connector to ground. Did the door courtesy lamps come on?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the open Courtesy Lamps Driver circuit from the door lamp to the junction block. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*COURTESY LAMPS INOPERATIVE - OVERHEAD LAMPS

#### POSSIBLE CAUSES

JUNCTION BLOCK OPEN

COURTESY LAMP DRIVER CIRCUIT OPEN

FUSE 19 OPEN

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>Gain access to the Junction Block C11 Headliner Harness connector but do not disconnect. While backprobing, measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Check Junction Block Fuse 19 Is Fuse 19 open?</p> <p>Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Backprobe a jumper wire from the Courtesy Lamps Driver circuit in the Junction Block C11 connector to ground. Did the overhead courtesy lamps come on?</p> <p>Yes → The condition that caused the 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.</p> <p>No → Repair the open Courtesy Lamps Driver circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**

**\*COURTESY LAMPS INOPERATIVE FROM DOME LAMP SWITCH ONLY**

**POSSIBLE CAUSES**

HEADLAMP SWITCH DIMMER

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Ensure all doors are closed and the courtesy lamp switch is turned off.            With the DRBIII®, read the Courtesy Lamp status.            Rotate the Courtesy Switch to the ON position.            Does the DRBIII® display: Courtesy Lamps ON?</p> <p>Yes → Replace the Headlamp Switch            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*COURTESY LAMPS INOPERATIVE FROM LEFT REAR DOOR****POSSIBLE CAUSES**

COURTESY LAMPS INOPERATIVE FROM LEFT REAR DOOR

TEST	ACTION	APPLICABILITY
1	If this condition still exists, proceed with diagnosis.  For this condition: Refer to symptom LEFT REAR DOOR AJAR CIRCUIT OPEN in the DOOR AJAR category.	All

**Symptom:**

**\*COURTESY LAMPS INOPERATIVE FROM PASSENGER DOOR**

**POSSIBLE CAUSES**

COURTESY LAMPS INOPERATIVE FROM PASSENGER DOOR

TEST	ACTION	APPLICABILITY
1	<p>If this condition still exists, proceed with diagnosis.</p> <p>For this condition: Refer to symptom PASSENGER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR category.</p>	All

**Symptom:****\*COURTESY LAMPS INOPERATIVE FROM RIGHT REAR DOOR****POSSIBLE CAUSES**

COURTESY LAMPS INOPERATIVE FROM RIGHT REAR DOOR

TEST	ACTION	APPLICABILITY
1	If this condition still exists, proceed with diagnosis.  For this condition: Refer to symptom RIGHT REAR DOOR AJAR CIRCUIT OPEN in the DOOR AJAR category.	All

**Symptom:**

**\*COURTESY LAMPS STAY ON AT ALL TIMES**

**POSSIBLE CAUSES**

COURTESY LAMPS DRIVER HEADLINER CIRCUIT SHORT TO GROUND  
 COURTESY LAMPS DRIVER CIRCUIT BODY HARNESS SHORT TO GROUND  
 DOOR LOCK MOTOR/AJAR SWITCH  
 SHORTED DOOR AJAR SWITCH SENSE WIRE  
 SHORTED DRIVER DOOR AJAR SWITCH SENSE WIRE  
 DRIVER DOOR LOCK MOTOR/AJAR SWITCH  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Close the driver door.            With the DRBIII® select: Body,Body Computer,Input/Output            Read the: Dr Door Ajar Switch- state.            Does the DRBIII® show: OPEN?</p> <p>Yes → Go To 2            No → Go To 7</p>	All
2	<p>Close all the passenger doors.            With the DRBIII® select: Body, Body Controller, Input/Output            Read the: Door Ajar Switch - state.            Does the DRBIII® show: OPEN?</p> <p>Yes → Go To 3            No → Go To 5</p>	All
3	<p>Ensure that the Courtesy Lamps Switch is off.            Close all the passenger doors.            Close the Driver Door Lock Latch Assembly, for the door ajar switch to open.            Disconnect the Junction Block C11 connector from the front of the junction block.            Observe the Door Courtesy Lamps.            Did the Door Courtesy Lamps turn off?</p> <p>Yes → Repair the Courtesy Lamps Driver circuit in the headliner harness for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

## \*COURTESY LAMPS STAY ON AT ALL TIMES — Continued

TEST	ACTION	APPLICABILITY
4	<p>Ensure the Courtesy Lamp Switch is off.  Close all the passenger doors.  Close the Driver Door Lock Latch Assembly.  Disconnect the Junction Block C11 connector from the front of the junction block.  Observe the Door Courtesy Lamps.  Did the Door Courtesy Lamps turn off?</p> <p>Yes → Repair the Courtesy Lamps Driver circuit in the Body Harness for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Close all the passenger doors.  With the DRBIII® select: Body, Body Computer, Input/Output  Read the: Door Ajar Switch - state  Gain access to and disconnect each passenger Door Lock Motor/Ajar switch and observe the DRBIII®.  When disconnecting each switch, did the DRBIII® change states to read: Door Ajar Sw - OPEN?</p> <p>Yes → Replace the applicable Door Lock Motor /Ajar switch.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Disconnect the Body Control Module C4 connector.  Gain access to and disconnect all passenger Door Lock Motor/Ajar switch connectors.  Measure the resistance of each passenger Door Ajar Switch Sense circuits in the Body Control Module C4 connector to ground.  Is the resistance below 1000.0 ohms in any of the passenger Door Ajar Switch Sense circuits?</p> <p>Yes → Using the schematic, determine which door ajar switch sense circuit is shorted to ground and repair as necessary.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off.  Remove the driver inner door panel.  Disconnect the Driver Door Lock Motor/Ajar Switch connector  Disconnect the Body Control Module C4 connector.  Measure the resistance of the Driver Door Ajar Switch Sense circuit at the Body Control Module C4 connector to ground.  Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Driver Door Ajar Switch Sense wire for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All

**\*COURTESY LAMPS STAY ON AT ALL TIMES — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.            Disconnect the Body Control Module C4 connector.            Ensure the Driver Door Lock Motor/Ajar Switch is connected.            Ensure the door latch is in the latched position during this test.            Measure the resistance of the Driver Door Ajar Switch Sense circuit in the Body Control Module C4 connector to ground.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Driver Door Lock Motor/Ajar Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom: CHARGING VOLTAGE HIGH MESSAGE

### When Monitored and Set Condition:

#### CHARGING VOLTAGE HIGH MESSAGE

When Monitored: With the engine running.

Set Condition: When the Memory Heated Seat Mirror Module receives a high charging system voltage message over the PCI Bus.

#### POSSIBLE CAUSES

PCM TROUBLE CODES  
STORED CODE COMMUNICATION PROBLEMS  
MEMORY HEATED SEAT MIRROR MODULE  
INTERMITTENT PROBLEM

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII® read Engine DTCs. Are there any related Charging System DTC's set in the Powertrain Control Module?  Yes → Refer to the POWERTRAIN symptom list for related CHARGING SYSTEM diagnostic trouble codes. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	With the DRBIII®, erase the DTC from Memory Heated Seat Mirror Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRB check for the same DTC to reset in the MHSM. Did the same DTC reset?  Yes → Go To 3  No → Test complete. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**CHARGING VOLTAGE HIGH MESSAGE — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</b></p> <p><b>Note: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b></p> <p><b>Note: Refer to any technical service bulletins that may apply.</b></p> <p>Were any problems found?</p> <p>No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>Yes → Repair as necessary. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## Symptom: CHARGING VOLTAGE LOW MESSAGE

### When Monitored and Set Condition:

#### CHARGING VOLTAGE LOW MESSAGE

When Monitored: With the engine running.

Set Condition: When the Memory Heated Seat Mirror Module receives a low charging system voltage message over the PCI Bus.

### POSSIBLE CAUSES

PCM TROUBLE CODES

STORED CODE COMMUNICATION PROBLEMS

MEMORY HEATED SEAT MIRROR MODULE

INTERMITTENT PROBLEM

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII® read Engine DTCs. Are there any Charging System DTC's set in the Powertrain Control Module?  Yes → Refer to POWERTRAIN symptom list for related CHARGING SYSTEM diagnostic trouble codes. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	With the DRBIII®, erase the DTC from Memory Heated Seat Mirror Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRB check for the same DTC to reset in the MHSM. Did the same DTC reset?  Yes → Go To 3  No → Test complete. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**CHARGING VOLTAGE LOW MESSAGE — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</b></p> <p><b>Note: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b></p> <p><b>Note: Refer to any technical service bulletins that may apply.</b></p> <p>Were any problems found?</p> <p>No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>Yes → Repair as necessary. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### DRIVER MIRROR HORIZONTAL SENSOR OUT OF RANGE HIGH

## When Monitored and Set Condition:

### DRIVER MIRROR HORIZONTAL SENSOR OUT OF RANGE HIGH

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is greater than the mirror out of range high value stored in EEPROM.

## POSSIBLE CAUSES

DRIVER MIRROR HORIZONTAL POSITION SIGNAL WIRE SHORT TO VOLTAGE

DRIVER MEMORY MIRROR

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Driver Mirror Horizontal Position Signal circuit. Is the voltage above 4.5 volts?</p> <p>Yes → Go To 2</p> <p>No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
2	<p>Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Driver Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Horizontal Position Signal circuit in the driver power mirror harness side connector. Is there any voltage present?</p> <p>Yes → Repair the Driver Mirror Horizontal Position Signal wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Driver Memory Mirror. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DRIVER MIRROR HORIZONTAL SENSOR OUT OF RANGE LOW****When Monitored and Set Condition:****DRIVER MIRROR HORIZONTAL SENSOR OUT OF RANGE LOW**

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is less than the mirror out of range low value stored in EEPROM.

**POSSIBLE CAUSES**

MHSMM 5 VOLT SUPPLY

5 VOLT SUPPLY TO MIRROR

DRIVER MIRROR 5 VOLT SUPPLY OPEN

DRIVER MIRROR HORIZONTAL POSITION SIGNAL WIRE OPEN

DRIVER MIRROR HORIZONTAL POSITION SIGNAL WIRE SHORT TO GROUND

MIRROR HORIZONTAL CIRCUIT CHECK

DRIVER MEMORY MIRROR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Driver Mirror Horizontal Position Signal circuit in the Memory Heat Seat Mirror Module C1 connector. Is the voltage between 4.5 and 5.0 volts?  Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Horizontal Position Signal circuit between the driver power mirror harness side connector and the MHSMM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Driver Mirror Horizontal Position Signal wire for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## DRIVER MIRROR HORIZONTAL SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Memory Heated Seat Mirror Module C1 connector.            Disconnect the Driver Power Mirror connector.            Measure the resistance of the Driver Mirror Horizontal Position Signal circuit to ground at the driver power mirror harness side connector.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Mirror Horizontal Position Signal wire for a short to ground.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Driver Power Mirror connector.            Turn the ignition on.            Measure the voltage of the 5 volt supply circuit in the driver power mirror harness side connector.            Is the voltage between 4.5 and 5.0 volts?</p> <p>Yes → Replace the Driver Memory Mirror.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Driver Power Mirror connector.            Disconnect the MHSMM C2 harness connector.            Measure the resistance of the Driver Mirror Sensor 5 volt supply circuit between the driver power mirror harness side connector and the MHSMM C2 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the Driver Mirror Horizontal Position Signal wire for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DRIVER MIRROR VERTICAL SENSOR OUT OF RANGE HIGH****When Monitored and Set Condition:****DRIVER MIRROR VERTICAL SENSOR OUT OF RANGE HIGH**

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is greater than the mirror out of range high value stored in EEPROM.

**POSSIBLE CAUSES**

DRIVER MIRROR VERTICAL POSITION SIGNAL WIRE SHORT TO VOLTAGE

DRIVER MEMORY MIRROR

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Driver Mirror Vertical Position Signal circuit. Is the voltage above 4.5 volts?  Yes → Go To 2  No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Driver Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Vertical Position Signal circuit in the driver power mirror harness side connector. Is there any voltage present?  Yes → Repair the Driver Mirror Vertical Position Signal wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Driver Memory Mirror. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## Symptom:

### DRIVER MIRROR VERTICAL SENSOR OUT OF RANGE LOW

## When Monitored and Set Condition:

### DRIVER MIRROR VERTICAL SENSOR OUT OF RANGE LOW

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is less than the mirror out of range low value stored in EEPROM.

## POSSIBLE CAUSES

MHSMM 5 VOLT SUPPLY

5 VOLT SUPPLY TO MIRROR

DRIVER MIRROR 5 VOLT SUPPLY OPEN

DRIVER MIRROR VERTICAL POSITION SIGNAL WIRE OPEN

DRIVER MIRROR VERTICAL POSITION SIGNAL WIRE SHORT TO GROUND

MIRROR VERTICAL CIRCUIT CHECK

DRIVER MEMORY MIRROR

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Driver Mirror Vertical Position Signal circuit in the Memory Heat Seat Mirror Module C1 connector. Is the voltage between 4.5 and 5.0 volts?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Vertical Position Signal circuit between the driver power mirror harness side connector and the MHSMM C1 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the Driver Mirror Vertical Position Signal wire for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**DRIVER MIRROR VERTICAL SENSOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Memory Heated Seat Mirror Module C1 connector.            Disconnect the Driver Power Mirror connector.            Measure the resistance of the Driver Mirror Vertical Position Signal circuit to ground at the driver power mirror harness side connector.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Mirror Vertical Position Signal wire for a short to ground.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Driver Power Mirror connector.            Turn the ignition on.            Measure the voltage of the 5 volt supply circuit in the driver power mirror harness side connector.            Is the voltage between 4.5 and 5.0 volts?</p> <p>Yes → Replace the Driver Memory Mirror.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Driver Power Mirror connector.            Disconnect the MHSMM C2 harness connector.            Measure the resistance of the Driver Mirror Sensor 5 volt supply circuit between the driver power mirror harness side connector and the MHSMM C2 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the Driver Mirror Vertical Position Signal wire for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**EEPROM REFRESH FAILURE**

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**When Monitored and Set Condition:**

**EEPROM REFRESH FAILURE**

When Monitored: With the ignition in the on position.

Set Condition: The Memory Heated Seat Mirror Module has a internal EEPROM failure.

POSSIBLE CAUSES
EEPROM REFRESH FAILURE

TEST	ACTION	APPLICABILITY
1	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:****FRONT RISER DOWN POSITION STUCK****When Monitored and Set Condition:****FRONT RISER DOWN POSITION STUCK**

When Monitored: Ignition On.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

**POSSIBLE CAUSES**

SEAT FRONT DOWN SWITCH SENSE WIRE SHORT TO VOLTAGE  
 DRIVER POWER SEAT SWITCH  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Seat Front Down Switch Sense circuit. Is there any voltage present?  Yes → Go To 2  No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Seat Front Down Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Seat Front Down Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## MEMORY SEAT

### Symptom:

#### FRONT RISER SENSOR OUT OF RANGE HIGH

### When Monitored and Set Condition:

#### FRONT 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 Seat Module has stored in EEPROM.

#### POSSIBLE CAUSES

SEAT SENSOR GROUND WIRE OPEN  
FRONT RISER SENSOR SIGNAL SHORT TO MOTOR  
FRONT RISER POS SIGNAL CKT SHORT TO VOLTAGE  
FRONT RISER SENSOR HIGH  
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY  
MEMORY HEATED SEAT MIRROR MODULE  
MEMORY HEATED SEAT MIRROR MODULE

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?  No → Go To 2 Yes → Go To 4	All
2	Turn ignition off. Disconnect the Memory Heated Seat Mirror Module C2 connector. Disconnect the Driver Power Seat Front Riser Sensor connector. Measure the resistance of the Seat Position Sensor Ground wire between the MHSMM connector and the sensor connector. Is the resistance below 5.0 ohms?  Yes → Go To 3 No → Repair the open Seat Sensor Ground Wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**FRONT RISER SENSOR OUT OF RANGE HIGH — Continued**

TEST	ACTION	APPLICABILITY
4	<p>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?</p> <p>Yes → Replace the Seat Track Assembly.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>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?</p> <p>Yes → Repair the seat sensor 5 volt supply ckt for a short to battery.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Disconnect the Driver Power Seat Front Riser Sensor connector.            Disconnect the Memory Heated Seat Mirror 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?</p> <p>No → Go To 7</p> <p>Yes → Repair the Front Riser Position Signal circuit for a short to voltage.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
7	<p>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 select: Body Memory Seat Sensors            Read the Front Riser Position Sensor voltage            Is the voltage above 0.2 volts?</p> <p>Yes → Go To 8</p> <p>No → Replace the Seat Track Assemble.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	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 code is immediately set when the seat motor potentiometer feeds a value lower than the Memory Seat Module has stored in EEPROM.

## POSSIBLE CAUSES

FRONT RISER POSITION SIGNAL CKT OPEN

FRONT RISER POSITION SIGNAL CKT SHORT TO GROUND

SEAT SENSOR 5 VOLT SUPPLY OPEN

SEAT SENSOR 5 VOLT SUPPLY SHORT TO GROUND

FRONT RISER SENSOR LOW

MEMORY HEATED SEAT MIRROR MODULE

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>Ensure the Memory Heated Seat Mirror Module is fully connected before proceeding. Disconnect the Driver Power Seat Front Riser Sensor connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage of the Seat Sensor 5 Volt Supply circuit.</p> <p>Is the voltage above 4.5 volts?</p> <p>No → Go To 2</p> <p>Yes → Go To 5</p>	All
2	<p>Turn ignition off.</p> <p>Disconnect the Memory Heated Seat Mirror Module C2 connector.</p> <p>Disconnect the Driver Power Seat Front Riser Sensor connector.</p> <p>Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Front Riser Sensor connector and the Module C1 connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the open Seat Sensor 5 Volt Supply circuit.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**FRONT RISER SENSOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
3	Disconnect the Memory Heated Seat Mirror Module C2 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to body ground. Is the resistance below 100.0 ohms?  Yes → Repair the Seat Sensor 5 Volt Supply for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 4	All
4	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
5	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 Heated Seat Mirror Module is fully connected before proceeding. With the DRB III select: Body Memory Seat Sensors Turn ignition on. Read the Front Riser Position Sensor voltage. Is the voltage above 4.5 volts?  Yes → Replace the Seat Track Assemble. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 6	All
6	Turn ignition off. Disconnect the Driver Power Seat Front Riser Sensor connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Front Riser Position Signal circuit between the Sensor connector and the Module connector. Is the resistance below 5.0 ohms?  Yes → Go To 7  No → Repair the open Front Riser Position Signal circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
7	Turn ignition off. Disconnect the Memory Heated Seat Mirror 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 MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 8	All

## FRONT RISER SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST -  VER 1.</p>	All

**Symptom:**  
**FRONT RISER UP POSITION STUCK**

**When Monitored and Set Condition:**

**FRONT RISER UP POSITION STUCK**

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

**POSSIBLE CAUSES**

SEAT FRONT UP SWITCH SENSE WIRE SHORT TO VOLTAGE  
 DRIVER POWER SEAT SWITCH  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Seat Front Up Switch Sense circuit. Is there any voltage present?  Yes → Go To 2  No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Seat Front Up Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Seat Front Up Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## Symptom:

### HORIZONTAL FORWARD POSITION STUCK

#### When Monitored and Set Condition:

#### HORIZONTAL FORWARD POSITION STUCK

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

#### POSSIBLE CAUSES

HORIZONTAL FORWARD SWITCH SENSE WIRE SHORT TO VOLTAGE

DRIVER POWER SEAT SWITCH

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Seat Horizontal Forward Switch Sense circuit. Is there any voltage present?  Yes → Go To 2 No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Horizontal Forward Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Horizontal Forward Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:**  
**HORIZONTAL REARWARD POSITION STUCK**

**When Monitored and Set Condition:**

**HORIZONTAL REARWARD POSITION STUCK**

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

**POSSIBLE CAUSES**

SEAT HORIZONTAL REARWARD SWITCH SENSE WIRE SHORT TO VOLTAGE  
 DRIVER POWER SEAT SWITCH  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Seat Horizontal Rearward Switch Sense circuit. Is there any voltage present?  Yes → Go To 2  No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Seat Horizontal Rearward Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Seat Horizontal Rearward Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## MEMORY SEAT

### 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  
HORIZONTAL POSITION SENSOR HIGH  
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY  
CHECKING SEAT HORIZONTAL POS SIGNAL SHORT TO VOLTAGE  
SEAT HORIZONTAL POSITION SIGNAL SHORT TO MOTOR  
MEMORY HEATED SEAT MIRROR MODULE  
MEMORY HEATED SEAT MIRROR MODULE

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?  No → Go To 2 Yes → Go To 4	All
2	Turn ignition off. Disconnect the Driver Power Seat Horizontal Position Sensor connector Disconnect the Memory Heated Seat Mirror Module C2 connector. Measure the resistance of the Seat Position Sensor Ground wire between the MHSMM connector and the sensor connector. Is the resistance below 5.0 ohms?  Yes → Go To 3 No → Repair the open Seat Sensor Ground Wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**HORIZONTAL SENSOR OUT OF RANGE HIGH — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Ensure all seat and sensor connectors are connected and horizontal motor is operational.            With the DRBIII select: Body Memory Seat 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?</p> <p>Yes → Replace the Seat Track Assembly.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>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?</p> <p>Yes → Repair the seat sensor 5 volt supply ckt for a short to battery.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Disconnect the Memory 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?</p> <p>No → Go To 7</p> <p>Yes → Repair the Horizontal Position Signal ckt for a short to voltage.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn ignition off.            Disconnect the Driver Power Seat Horizontal Position Sensor connector            Ensure the Memory Heated Seat Mirror Module is fully connected before proceeding.            Turn ignition on.            With the DRB III select: Body Memory Seat Sensors            Read the Horizontal Position Sensor voltage            Is the voltage above 0.2 volts?</p> <p>Yes → Go To 8</p> <p>No → Replace the Seat Track Assemble.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## MEMORY SEAT

### 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

SEAT SENSOR 5 VOLT SUPPLY OPEN

HORIZONTAL SENSOR LOW

HORIZONTAL POSITION SIGNAL CKT SHORT TO GROUND

SEAT HORIZONTAL POSITION SIGNAL CKT OPEN

MEMORY HEATED SEAT MIRROR MODULE

MEMORY HEATED SEAT MIRROR MODULE

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?  No → Go To 2 Yes → Go To 5	All
2	Disconnect the Memory Heated Seat Mirror Module C2 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 100.0 ohms?  Yes → Repair the Seat Sensor 5 Volt Supply for a short to Ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All

**HORIZONTAL SENSOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Power Seat Horizontal Position Sensor connector. Disconnect the Memory Heated Seat Mirror Module C2 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Sensor connector and the MHSMM connector. Is the resistance below 5.0 ohms?  Yes → Go To 4  No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
5	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 Assembly. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 6	All
6	Turn ignition off. Disconnect the Memory Heated Seat Mirror 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 Circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 7	All
7	Turn ignition off. Disconnect the Memory Heated Seat Mirror 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 Module connector. Is the resistance below 5.0 ohms?  Yes → Go To 8  No → Repair the open Seat Horizontal Position Signal circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## HORIZONTAL SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST -  VER 1.</p>	All

**Symptom:**  
**IGNITION STATUS MESSAGE NOT RECEIVED**

**When Monitored and Set Condition:**

**IGNITION STATUS MESSAGE NOT RECEIVED**

When Monitored: With the ignition in the on position.

Set Condition: If the Memory Heated Seat Mirror Module does receive this Bus message from the BCM. Note: This DTC can also be set when the ignition switch is cycled with the IOD fuse removed.

**POSSIBLE CAUSES**

BCM RESPONSE

STORED CODE/COMMUNICATION PROBLEMS

MEMORY HEATED SEAT MIRROR MODULE

INTERMITTENT PROBLEM

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII® select Body Control Module. Is there a response from the Body Control Module?  Yes → Go To 2  No → Refer to symptom *NO RESPONSE FROM BODY CONTROL MODULE in the COMMUNICATION category Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Memory Heated Seat Mirror Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Now be sure that there is still communication with the Body Control module, if not repair as necessary. With the DRB check for the same DTC to reset in the MHSMM. Did the same DTC reset?  Yes → Go To 3  No → Test complete. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**IGNITION STATUS MESSAGE NOT RECEIVED — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>NOTE: Visually inspect the related wiring harness including the PCI bus wire. Look for any chafed, pierced, pinched, or partially broken wires.</b></p> <p><b>Note: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b></p> <p><b>Note: Refer to any technical service bulletins that may apply.</b></p> <p>Were any problems found?</p> <p>No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>Yes → Repair as necessary. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**LOSS OF ENGINE RPM MESSAGE**

**When Monitored and Set Condition:**

**LOSS OF ENGINE RPM MESSAGE**

When Monitored: With the Engine running.

Set Condition: When the Memory Heated Seat Mirror Module does not receive the engine RPM Bus message.

**POSSIBLE CAUSES**

STORED CODE/COMMUNICATION PROBLEMS

MEMORY HEATED SEAT MIRROR MODULE

INTERMITTENT PROBLEM

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase the DTC from Memory Heated Seat Mirror Module. Turn the ignition switch to the Off position then start the engine and let run for one minute.</p> <p>With the DRBIII® check for the same DTC to reset in the MHSMM. Did the same DTC reset?</p> <p>Yes → Go To 2</p> <p>No → Test complete. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
2	<p><b>NOTE: Visually inspect the related wiring harness including the PCI bus wire. Look for any chafed, pierced, pinched, or partially broken wires.</b></p> <p><b>Note: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b></p> <p><b>Note: Refer to any technical service bulletins that may apply.</b></p> <p>Were any problems found?</p> <p>No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>Yes → Repair as necessary. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## Symptom: MEMORY POSITION #1 STUCK

### When Monitored and Set Condition:

#### MEMORY POSITION #1 STUCK

When Monitored: Ignition on.

Set Condition: If the switch is active for 30 seconds the MHSMM will ignore the input until the state has changed. Once the stuck position is removed the seat will return to normal operation. The code will remain in memory for 20 ignition cycles.

#### POSSIBLE CAUSES

MEMORY POSITION 1 SWITCH SENSE CIRCUIT SHORT TO GROUND

MEMORY SET SWITCH

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Memory Set Switch connector. With the DRBIII® read the Mem Pos 1 Sw status. Does the DRBIII® display Open?  Yes → Replace the Memory Set Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Memory Set Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Memory Position 1 Switch Sense circuit to ground. Is the resistance below 1000.0 - 1K ohms?  Yes → Repair the Memory Position 1 Switch Sense circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:**  
**MEMORY POSITION #2 STUCK**

**When Monitored and Set Condition:**

**MEMORY POSITION #2 STUCK**

When Monitored: Ignition on.

Set Condition: If the switch is active for 30 seconds the MHSMM will ignore the input until the state has changed. Once the stuck position is removed the seat will return to normal operation. The code will remain in memory for 20 ignition cycles.

**POSSIBLE CAUSES**

MEMORY POSITION 2 SWITCH SENSE CIRCUIT SHORT TO GROUND

MEMORY SET SWITCH

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Memory Set Switch connector. With the DRBIII® read the Mem Pos 2 Sw status. Does the DRBIII® display Open?  Yes → Replace the Memory Set Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Memory Set Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Memory Position 2 Switch Sense circuit to ground. Is the resistance below 1000.0 (1K) ohms?  Yes → Repair the Memory Position 2 Switch Sense circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## Symptom: MEMORY SET "S" POSITION STUCK

### When Monitored and Set Condition:

#### MEMORY SET "S" POSITION STUCK

When Monitored: Ignition on.

Set Condition: If the switch is active for 30 seconds the MHSMM will ignore the input until the state has changed. Once the stuck position is removed the seat will return to normal operation. The code will remain in memory for 20 ignition cycles.

#### POSSIBLE CAUSES

MEMORY SET SWITCH SENSE CIRCUIT SHORT TO GROUND

MEMORY SET SWITCH

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Memory Set Switch connector. With the DRBIII® read the Mem Set Sw status. Does the DRBIII® display Open?  Yes → Replace the Memory Set Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Memory Set Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Memory Set Switch Sense circuit to ground. Is the resistance below 1000 ohms?  Yes → Repair the Memory Set Switch Sense circuit for a short to ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:****PASSENGER MIRROR HORIZONTAL SENSOR OUT OF RANGE HIGH****When Monitored and Set Condition:****PASSENGER MIRROR HORIZONTAL SENSOR OUT OF RANGE HIGH**

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is greater than the mirror out of range high value stored in EEPROM.

**POSSIBLE CAUSES**

PASSENGER MIRROR HORIZONTAL POSITION SIGNAL WIRE SHORT TO VOLTAGE  
 PASSENGER MEMORY MIRROR  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the voltage of the Passenger Mirror Horizontal Position Signal circuit. Is the voltage above 4.5 volts?  Yes → Go To 2  No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Passenger Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Horizontal Position Signal circuit in the passenger power mirror harness side connector. Is there any voltage present?  Yes → Repair the Passenger Mirror Horizontal Position Signal wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair If there are no possible causes remaining, replace the Passenger Memory Mirror. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## Symptom:

### **PASSENGER MIRROR HORIZONTAL SENSOR OUT OF RANGE LOW**

## When Monitored and Set Condition:

### **PASSENGER MIRROR HORIZONTAL SENSOR OUT OF RANGE LOW**

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is less than the mirror out of range low value stored in EEPROM.

### **POSSIBLE CAUSES**

MHSMM 5 VOLT SUPPLY

5 VOLT SUPPLY TO MIRROR

MIRROR HORIZONTAL CIRCUIT CHECK

PASSENGER MIRROR 5 VOLT SUPPLY OPEN

PASSENGER MIRROR HORIZONTAL POSITION SIGNAL WIRE OPEN

PASSENGER MIRROR HORIZONTAL POSITION SIGNAL WIRE SHORT TO GROUND

PASSENGER MEMORY MIRROR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Horizontal Position Signal circuit in the Memory Heat Seat Mirror Module C1 connector. Is the voltage between 4.5 and 5.0 volts?  Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Horizontal Position Signal circuit between the passenger power mirror harness side connector and the MHSMM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Passenger Mirror Horizontal Position Signal wire for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## PASSENGER MIRROR HORIZONTAL SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Memory Heated Seat Mirror Module C1 connector.            Disconnect the Passenger Power Mirror connector.            Measure the resistance of the Passenger Mirror Horizontal Position Signal circuit to ground at the passenger power mirror harness side connector.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Mirror Horizontal Position Signal wire for a short to ground.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Passenger Power Mirror connector.            Turn the ignition on.            Measure the voltage of the 5 volt supply circuit in the Passenger power mirror harness side connector.            Is the voltage between 4.5 and 5.0 volts?</p> <p>Yes → Replace the Passenger Memory Mirror.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Passenger Power Mirror connector.            Disconnect the MHSMM C2 harness connector.            Measure the resistance of the Passenger Mirror Sensor 5 volt supply circuit between the passenger power mirror harness side connector and the MHSMM C2 connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the Passenger Mirror Vertical Position Signal wire for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### PASSENGER MIRROR VERTICAL SENSOR OUT OF RANGE HIGH

## When Monitored and Set Condition:

### PASSENGER MIRROR VERTICAL SENSOR OUT OF RANGE HIGH

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is greater than the mirror out of range high value stored in EEPROM.

## POSSIBLE CAUSES

PASSENGER MIRROR VERTICAL POSITION SIGNAL WIRE SHORT TO VOLTAGE

PASSENGER MEMORY MIRROR

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the voltage of the Passenger Mirror Vertical Position Signal circuit. Is the voltage above 4.5 volts?  Yes → Go To 2  No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Passenger Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Vertical Position Signal circuit in the passenger power mirror harness side connector. Is there any voltage present?  Yes → Repair the Passenger Mirror Vertical Position Signal wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Passenger Memory Mirror. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:****PASSENGER MIRROR VERTICAL SENSOR OUT OF RANGE LOW****When Monitored and Set Condition:****PASSENGER MIRROR VERTICAL SENSOR OUT OF RANGE LOW**

When Monitored: Ignition on.

Set Condition: This code is set when the mirror sensor feedback to the MHSMM is less than the mirror out of range low value stored in EEPROM.

**POSSIBLE CAUSES**

MHSMM 5 VOLT SUPPLY

5 VOLT SUPPLY TO MIRROR

MIRROR VERTICAL CIRCUIT CHECK

PASSENGER MIRROR 5 VOLT SUPPLY OPEN

PASSENGER MIRROR VERTICAL POSITION SIGNAL WIRE OPEN

PASSENGER MIRROR VERTICAL POSITION SIGNAL WIRE SHORT TO GROUND

PASSENGER MEMORY MIRROR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Vertical Position Signal circuit in the Memory Heat Seat Mirror Module C1 connector. Is the voltage between 4.5 and 5.0 volts?  Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Memory Heated Seat Mirror Module C1 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Vertical Position Signal circuit between the passenger power mirror harness side connector and the MHSMM C1 connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Passenger Mirror Vertical Position Signal wire for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## PASSENGER MIRROR VERTICAL SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.  Disconnect the Memory Heated Seat Mirror Module C1 connector.  Disconnect the Passenger Power Mirror connector.  Measure the resistance of the Passenger Mirror Vertical Position Signal circuit to ground at the passenger power mirror harness side connector.  Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Passenger Mirror Vertical Position Signal wire for a short to ground.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.  Disconnect the Passenger Power Mirror connector.  Turn the ignition on.  Measure the voltage of the 5 volt supply circuit in the passenger power mirror harness side connector.  Is the voltage between 4.5 and 5.0 volts?</p> <p>Yes → Replace the Passenger Memory Mirror.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Disconnect the Passenger Power Mirror connector.  Disconnect the MHSMM C2 harness connector.  Measure the resistance of the Passenger Mirror Sensor 5 volt supply circuit between the passenger power mirror harness side connector and the MHSMM C2 connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the Passenger Mirror Vertical Position Signal wire for an open.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**PRNDL DISP MSG NOT RECEIVED**

**When Monitored and Set Condition:**

**PRNDL DISP MSG NOT RECEIVED**

When Monitored: Ignition in the on position.

Set Condition: Memory Heated Seat Mirror Module does not receive a PRNDL Bus message from TCM. Note: This DTC can also be set when the ignition switch is cycled with the IOD fuse removed.

**POSSIBLE CAUSES**

EATX RESPONSE

STORED CODE/COMMUNICATION PROBLEMS

MEMORY HEATED SEAT MIRROR MODULE

INTERMITTENT PROBLEM

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII® select Transmission Control Module. 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 MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Memory Heated Seat Mirror Module. Start the engine and let run for one minute. Now be sure that there is still communication with the Transmission Control module, if not repair as necessary. With the DRB check for the same DTC to reset in the MHSMM. Did the same DTC reset?  Yes → Go To 3  No → Test complete. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**PRNDL DISP MSG NOT RECEIVED — Continued**

TEST	ACTION	APPLICABILITY
3	<p><b>NOTE: Visually inspect the related wiring harness including the PCI bus wire. Look for any chafed, pierced, pinched, or partially broken wires.</b></p> <p><b>Note: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</b></p> <p><b>Note: Refer to any technical service bulletins that may apply.</b></p> <p>Were any problems found?</p> <p>No → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>Yes → Repair as necessary. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****REAR RISER DOWN POSITION STUCK****When Monitored and Set Condition:****REAR RISER DOWN POSITION STUCK**

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

**POSSIBLE CAUSES**

SEAT REAR DOWN SWITCH SENSE WIRE SHORT TO VOLTAGE  
 DRIVER POWER SEAT SWITCH  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Seat Rear Down Switch Sense circuit. Is there any voltage present?  Yes → Go To 2  No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat/Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Seat Rear Down Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Seat Rear Down Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## MEMORY SEAT

### 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

SEAT SENSOR GROUND WIRE OPEN  
REAR RISER SENSOR HIGH  
REAR RISER POSITION SIGNAL SHORT TO VOLTAGE  
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY  
REAR RISER POSITION SIGNAL SHORT TO MOTOR  
MEMORY HEATED SEAT MIRROR MODULE  
MEMORY HEATED SEAT MIRROR MODULE

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 to ground. Is the resistance below 5.0 ohms?  No → Go To 2 Yes → Go To 4	All
2	Turn ignition off. Disconnect the Memory Heated Seat Mirror Module C2 connector. Disconnect the Driver Power Seat Rear Riser Sensor connector. Measure the resistance of the Seat Position Sensor Ground wire between the MHSM module connector and the sensor connector. Is the resistance below 5.0 ohms?  Yes → Go To 3 No → Repair the open Seat Position Sensor Ground Wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**REAR RISER SENSOR OUT OF RANGE HIGH — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Ensure all seat and sensor connectors are connected and front riser motor is operational.</p> <p>With the DRBIII® select: Body Memory Seat Sensors</p> <p>Monitor the Rear Riser Position sensor while operating the seat rear riser to both limits.</p> <p>Did the voltage ever go above 8.0 volts ONLY when the motor was in operation?</p> <p>Yes → Replace the Seat Track Assembly. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Disconnect the Memory Seat Module C1 connector.</p> <p>Disconnect the Driver Power Seat Rear Riser Sensor connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between Rear Riser Position Signal circuit and ground.</p> <p>Is there ANY voltage on the Rear Riser Position Signal circuit?</p> <p>No → Go To 6</p> <p>Yes → Repair the Rear Riser Position Signal circuit for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Driver Power Seat Rear Riser Sensor connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between the Seat Sensor 5 volt supply circuit and ground.</p> <p>Is the voltage above 5.5 volts?</p> <p>Yes → Repair the seat sensor 5 volt supply circuit for a short to battery. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn ignition off.</p> <p>Disconnect the Driver Power Seat Rear Riser Sensor connector.</p> <p>Ensure the Memory Seat Module is fully connected before proceeding.</p> <p>Turn ignition on.</p> <p>With the DRBIII® select: Body Memory Seat Sensors</p> <p>Read the Rear Riser Position Sensor voltage</p> <p>Is the voltage above 0.2 volts?</p> <p>Yes → Go To 8</p> <p>No → Replace the Seat Track Assembly Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## MEMORY SEAT

### 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

REAR RISER POS SIGNAL CKT SHORT TO GROUND

REAR RISER POSITION SIGNAL CKT OPEN

SEAT SENSOR 5 V SUPPLY SHORT TO GROUND

SEAT SENSOR 5 VOLT SUPPLY OPEN

REAR RISER SENSOR LOW

MEMORY HEATED SEAT MIRROR MODULE

MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Ensure the Memory Heated Seat Mirror 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?  No → Go To 2 Yes → Go To 5	All
2	Turn ignition off. Disconnect the Memory Heated Seat Mirror Module C2 connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 100.0 ohms?  Yes → Repair the Seat Sensor 5 Volt Supply for a short to Ground. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All

**REAR RISER SENSOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn ignition off.            Disconnect the Driver Power Seat Rear Riser Sensor connector.            Disconnect the Memory Heated Seat Mirror Module C2 connector.            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?</p> <p>Yes → Go To 4</p> <p>No → Repair the open Seat Sensor 5 Volt Supply circuit.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
5	<p>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 DRBIII® select: Body Memory Seat Sensors            Turn ignition on.            Read the Rear Riser Position Sensor voltage            Is the voltage above 4.5 volts?</p> <p>Yes → Replace the Seat Track Assembly.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn ignition off.            Disconnect the Memory Heated 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 ohms?</p> <p>Yes → Repair the Rear Riser Position Signal Circuit for a short to ground.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn ignition off.            Disconnect the Memory Heated Seat Mirror 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?</p> <p>Yes → Go To 8</p> <p>No → Repair the open Rear Riser Position Signal circuit.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## REAR RISER SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST -  VER 1.</p>	All

**Symptom:**  
**REAR RISER UP POSITION STUCK**

**When Monitored and Set Condition:**

**REAR RISER UP POSITION STUCK**

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

**POSSIBLE CAUSES**

SEAT REAR UP SWITCH SENSE WIRE SHORT TO VOLTAGE  
 DRIVER POWER SEAT SWITCH  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Seat Rear Up Switch Sense circuit. Is there any voltage present?  Yes → Go To 2  No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Seat Rear Up Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Seat Rear Up Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## Symptom: RECLINER DOWN POSITION STUCK

### When Monitored and Set Condition:

#### RECLINER DOWN POSITION STUCK

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

#### POSSIBLE CAUSES

SEAT RECLINER DOWN SWITCH SENSE WIRE SHORT TO VOLTAGE  
DRIVER POWER SEAT SWITCH  
MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Recliner Down Switch Sense circuit. Is there any voltage present?  Yes → Go To 2  No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Recliner Down Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Recliner Down Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	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 VOLTAGE  
 RECLINER POSITION SENSOR HIGH  
 RECLINER POSITION SIGNAL SHORT TO MOTOR  
 SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY  
 MEMORY HEATED SEAT MIRROR MODULE  
 MEMORY HEATED SEAT MIRROR MODULE

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?  No → Go To 2 Yes → Go To 4	All
2	Turn ignition off. Disconnect the Memory Heated Seat Mirror Module C2 connector. Disconnect the Driver Power Seat Recliner Sensor connector. Measure the resistance of the Seat Position Sensor Ground wire between the MHSMM connector and the sensor connector. Is the resistance below 5.0 ohms?  Yes → Go To 3 No → Repair the open Seat Position Sensor Ground Wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## RECLINER SENSOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
4	<p>Ensure all seat and sensor connectors are connected and recliner motor is operational.</p> <p>With the DRBIII® select: Body Memory Seat Sensors</p> <p>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?</p> <p>Yes → Replace the Seat Track Assembly. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Disconnect the Memory Seat Module C1 connector.</p> <p>Disconnect the Driver Power Seat Recliner Sensor connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between Recliner Position Signal circuit and ground. Is there any voltage on the Recliner Position Signal circuit?</p> <p>No → Go To 6</p> <p>Yes → Repair the Recliner Position Signal circuit for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Driver Power Seat Recliner Sensor connector.</p> <p>Turn ignition on.</p> <p>Measure the voltage between the Seat Sensor 5 volt supply circuit and ground. Is the voltage above 5.5 volts?</p> <p>Yes → Repair the seat sensor 5 volt supply ckt for a short to battery. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn ignition off.</p> <p>Disconnect the Driver Power Seat Recliner Position Sensor connector</p> <p>Ensure the Memory Seat Module is fully connected before proceeding.</p> <p>Turn ignition on.</p> <p>With the DRBIII® select: Body Memory Seat Sensors</p> <p>Read the Recliner Position Sensor voltage</p> <p>Is the voltage above 0.2 volts?</p> <p>Yes → Go To 8</p> <p>No → Replace the Seat Track Assembly. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	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**

RECLINER POSITION SIGNAL CKT OPEN  
 RECLINER POSITION SIGNAL CKT SHORT TO GROUND  
 SEAT SENSOR 5 V SUPPLY SHORT TO GROUND  
 SEAT SENSOR 5 VOLT SUPPLY OPEN  
 RECLINER POSITION SENSOR LOW  
 MEMORY HEATED SEAT MIRROR MODULE  
 MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	<p>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?</p> <p>No → Go To 2</p> <p>Yes → Go To 5</p>	All
2	<p>Turn ignition off.            Disconnect the Memory Heated Seat Mirror Module C2 connector.            Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Seat Sensor 5 Volt Supply for a short to Ground.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

## RECLINER SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Disconnect the Recliner Position Sensor connector.  Disconnect the Memory Heated Seat Mirror Module C2 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?</p> <p>Yes → Go To 4</p> <p>No → Repair the open Seat Sensor 5 Volt Supply circuit.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn ignition off.  Disconnect the Memory Heated Seat Mirror 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 1000.0 ohms?</p> <p>Yes → Repair the Recliner Position Signal circuit for a short to ground.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn ignition off.  Disconnect the Memory 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?</p> <p>Yes → Go To 7</p> <p>No → Repair the open Recliner Position Signal circuit.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
7	<p>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 DRBIII® select: Body Memory Seat Sensors  Turn ignition on.  Read the Recliner Position Sensor voltage  Is the voltage above 4.5 volts?</p> <p>Yes → Replace the Seat Track Assembly.  Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All

**RECLINER SENSOR OUT OF RANGE LOW — Continued**

TEST	ACTION	APPLICABILITY
8	If there are no possible causes remaining, view repair.  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

## Symptom: RECLINER UP POSITION STUCK

### When Monitored and Set Condition:

#### RECLINER UP POSITION STUCK

When Monitored: Ignition on.

Set Condition: If the seat switch is active for 30 seconds, this code will set and the MHSMM will ignore the input until the state has changed. Once the stuck condition is removed, the seat will resume to normal operation. Code will remain for 20 ignition cycles.

#### POSSIBLE CAUSES

RECLINER UP SWITCH SENSE WIRE SHORT TO VOLTAGE  
DRIVER POWER SEAT SWITCH  
MEMORY HEATED SEAT MIRROR MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Power Seat Switch connector. Measure the voltage of the Recliner Up Switch Sense circuit. Is there any voltage present?  Yes → Go To 2 No → Replace the Power Seat Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Seat Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Turn the ignition on. Measure the voltage of the Recliner Up Switch Sense circuit to ground.. Is there any voltage present?  Yes → Repair the Recliner Up Switch Sense wire for a short to voltage. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.  No → Go To 3	All
3	If there are no possible causes remaining, view "Repair".  Repair Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All

**Symptom:****\*DRIVER MIRROR INOPERATIVE FROM MEMORY****POSSIBLE CAUSES**

DRIVER MIRROR LEFT DRIVER CIRCUIT OPEN  
 DRIVER MIRROR SENSOR GROUND WIRE OPEN  
 DRIVER MIRROR-COMMON DRIVER CIRCUIT OPEN  
 DRIVER MIRROR-UP DRIVER CIRCUIT OPEN  
 MEMORY HEATED SEAT MIRROR MODULE  
 MEMORY HEATED SEAT MIRROR MODULE- SENSOR GROUND

TEST	ACTION	APPLICABILITY
1	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.            Disconnect memory heated seat mirror module harness connector C2.            Turn the ignition on.            While pressing the driver mirror switch to the left position, measure the voltage of the driver mirror left driver circuit in memory heated seat mirror module connector C2.            Is the voltage above 10.0 volts when the switch is pressed?</p> <p>Yes → Go To 2</p> <p>No → Repair the driver mirror left driver circuit for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
2	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.            Disconnect memory heated seat mirror module harness connector C2.            Turn the ignition on.            While pressing the driver mirror switch to the down position, measure the voltage of the driver mirror common driver circuit in memory heated seat mirror module connector C2.            Is the voltage above 10.0 volts when the switch is pressed?</p> <p>Yes → Go To 3</p> <p>No → Repair the driver mirror common driver circuit for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## \*DRIVER MIRROR INOPERATIVE FROM MEMORY — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.</p> <p>Disconnect memory heated seat mirror module harness connector C2.</p> <p>Turn the ignition on.</p> <p>While pressing the driver mirror switch to the up position, measure the voltage of the driver mirror up driver circuit in memory heated seat mirror module connector C2.</p> <p>Is the voltage above 10.0 volts when the switch is pressed?</p> <p>Yes → Go To 4</p> <p>No → Repair the driver mirror up driver circuit for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the driver power mirror connector.</p> <p>Reconnect the Memory Heated Seat Mirror Module if disconnected in a previous test.</p> <p>Measure the resistance of the Driver Mirror Sensor Ground.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Go To 6</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the driver power mirror connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 harness connector.</p> <p>Measure the resistance of the Driver Mirror Sensor Ground wire between the Driver Power Mirror connector and the Memory Heated Seat Mirror Module connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the driver mirror sensor ground wire for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*MEMORY SWITCH INOPERATIVE****POSSIBLE CAUSES**

GROUND CIRCUIT OPEN

MEMORY POSITION 1 SWITCH SENSE WIRE OPEN

MEMORY POSITION 2 SWITCH SENSE CIRCUIT OPEN

MEMORY SET SWITCH SENSE WIRE OPEN

MEMORY SET SWITCH

MEMORY HEATED SEAT MIRROR MODULE - POSITION 1

MEMORY HEATED SEAT MIRROR MODULE - POSITION 2

MEMORY HEATED SEAT MIRROR MODULE - SET SWITCH

TEST	ACTION	APPLICABILITY
1	Disconnect the Memory Set Switch connector. Turn the ignition off. Measure the resistance of the Ground circuit. Is the resistance below 5.0 ohms?  Yes → Go To 2  No → Repair the open ground circuit. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Memory Set Switch connector. Measure the voltage of the Memory Position 1 Switch Sense circuit at the Memory Set Switch connector. Is the voltage above 0.5 volts?  Yes → Go To 3  No → Go To 8	All
3	Disconnect the Memory Set Switch connector. Measure the voltage of the Memory Position 2 Switch Sense circuit at the Memory Set Switch connector. Is the voltage above 0.5 volts?  Yes → Go To 4  No → Go To 7	All
4	Disconnect the Memory Set Switch connector. Measure the voltage of the Memory Set Switch Sense circuit. Is the voltage above 0.5 volts?  Yes → Go To 5  No → Go To 6	All

## \*MEMORY SWITCH INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Set Switch. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off. Disconnect the Memory Set Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Memory Set Switch Sense wire between the MHSMM connector and the Memory Set Switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the open Memory Set Switch Sense wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off. Disconnect the Memory Set Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Memory Position 2 Switch Sense wire between the MHSMM connector and the Memory Set Switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the open Memory Position 2 Switch Sense wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
8	<p>Turn the ignition off. Disconnect the Memory Set Switch connector. Disconnect the Memory Heated Seat Mirror Module C1 connector. Measure the resistance of the Memory Position 1 Switch Sense wire between the MHSMM connector and the Memory Set Switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the open Memory Position 1 Switch Sense wire. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*PASSENGER MIRROR INOPERATIVE FROM MEMORY****POSSIBLE CAUSES**

PASSENGER MIRROR LEFT DRIVER CIRCUIT OPEN  
 PASSENGER MIRROR SENSOR GROUND WIRE OPEN  
 PASSENGER MIRROR-COMMON DRIVER CIRCUIT OPEN  
 PASSENGER MIRROR-UP DRIVER CIRCUIT OPEN  
 MEMORY HEATED SEAT MIRROR MODULE  
 MEMORY HEATED SEAT MIRROR MODULE- SENSOR GROUND

TEST	ACTION	APPLICABILITY
1	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b>            Turn the ignition off.            Disconnect memory heated seat mirror module harness connector C2.            Turn the ignition on.            While pressing the passenger mirror switch to the left position, measure the voltage of the passenger mirror left driver circuit in memory heated seat mirror module connector C2.            Is the voltage above 10.0 volts when the switch is pressed?</p> <p>Yes → Go To 2</p> <p>No → Repair the passenger mirror left driver circuit for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
2	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b>            Turn the ignition off.            Disconnect memory heated seat mirror module harness connector C2.            Turn the ignition on.            While pressing the passenger mirror switch to the down position, measure the voltage of the passenger mirror common driver circuit in memory heated seat mirror module connector C2.            Is the voltage above 10.0 volts when the switch is pressed?</p> <p>Yes → Go To 3</p> <p>No → Repair the passenger mirror common driver circuit for an open.            Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

## \*PASSENGER MIRROR INOPERATIVE FROM MEMORY — Continued

TEST	ACTION	APPLICABILITY
3	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.</p> <p>Disconnect memory heated seat mirror module harness connector C2.</p> <p>Turn the ignition on.</p> <p>While pressing the passenger mirror switch to the up position, measure the voltage of the passenger mirror up driver circuit in memory heated seat mirror module connector C2.</p> <p>Is the voltage above 10.0 volts when the switch is pressed?</p> <p>Yes → Go To 4</p> <p>No → Repair the passenger mirror up driver circuit for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
4	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the passenger power mirror connector.</p> <p>Reconnect the Memory Heated Seat Mirror Module if disconnected in a previous test.</p> <p>Measure the resistance of the Passenger Mirror Sensor Ground.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Go To 6</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Memory Heated Seat Mirror Module.</p> <p>Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All
6	<p><b>Note: If the seat is unbolted for testing, connect a jumper wire from the seat frame to a known good ground.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the passenger power mirror connector.</p> <p>Disconnect the Memory Heated Seat Mirror Module C1 harness connector.</p> <p>Measure the resistance of the Passenger Mirror Sensor Ground wire between the Passenger Power Mirror connector and the Memory Heated Seat Mirror Module connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Memory Heated Seat Mirror Module. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p> <p>No → Repair the passenger mirror sensor ground wire for an open. Perform MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**BUS MESSAGES MISSING**

**When Monitored and Set Condition:**

**BUS MESSAGES MISSING**

**When Monitored:** With the ignition on, while the EVIC is performing a series of tests on the microprocessor, compass coil, and internal circuitry.

**Set Condition:** The code will be set, if during the self test the EVIC does not receive PCI bus messages from the BCM, MIC or PCM.

**POSSIBLE CAUSES**

BCM COMMUNICATION FAILURE  
 PCM COMMUNICATION FAILURE  
 MIC COMMUNICATION FAILURE  
 OVERHEAD - BUS MESSAGES MISSING

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII®, select BODY, BODY COMPUTER Is there a response from the Body Computer?  Yes → Go To 2  No → Refer to symptom BUS (+) BUS (-) SIGNALS OPEN FROM BCM in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition on. With the DRBIII®, select BODY, BODY COMPUTER, SYSTEM TEST. Does the DRB display PCM ACTIVE ON THE BUS?  Yes → Go To 3  No → Refer to symptom NO RESPONSE FROM PCM (PCI BUS) in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition on. With the DRBIII®, select BODY, ELECTRO/MECH CLUSTER. Is there a response from the Mechanical Instrument Cluster?  Yes → Go To 4  No → Refer to symptom BUS (+) BUS (-) SIGNALS OPEN FROM MIC in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair.  Repair Replace the Overhead Console. Perform BODY VERIFICATION TEST - VER 1.	All

### Symptom List:

**CMTC INTERNAL FAILURE**

**EVIC INTERNAL FAILURE**

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

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### When Monitored and Set Condition:

#### **CMTC INTERNAL FAILURE**

**When Monitored:** When a SELF TEST command is received from the DRBIII, the CMTC performs a series of tests on the microprocessor, compass coil and internal circuitry.

**Set Condition:** The code will be set, if during the self test the CMTC detects a problem with the microprocessor, compass coil or the internal circuitry.

#### **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:** The code will be set, if during the self test the EVIC detects a problem with the microprocessor, compass coil or the internal circuitry.

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POSSIBLE CAUSES
CMTC / EVIC INTERNAL FAILURE

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### Repair Instructions:

#### **CMTC / EVIC INTERNAL FAILURE**

When the trouble code FAILED SELF TEST is displayed, replace the CMTC or EVIC as required. If the vehicle is equipped with TPM, the EVIC must be retrained.

Perform BODY VERIFICATION TEST - VER 1.

**Symptom:**  
**COMPASS TEST FAILURE**

**POSSIBLE CAUSES**

ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	<p>Perform the EVIC self test. Turn the ignition off. Depress and hold the RESET and C/T buttons while turning the ignition on. <b>NOTE: This test may also be performed using the DRBIII®.</b> Does the EVIC or DRBIII® display "FAILED SELF TEST"?</p> <p>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.</p> <p>No → Test Complete.</p>	All

**Symptom:**  
**DEMAGNETIZE COMPASS****POSSIBLE CAUSES**

DEMAGNETIZE COMPASS

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: A blank compass display indicates that vehicle demagnetizing is required.</b></p> <p><b>NOTE: After demagnetizing, the vehicle will enter Auto Fast-Cal when the ignition is turned on.</b></p> <p><b>NOTE: Ensure that the correct compass variance is stored in the compass memory. See "Setting Compass Variance" in the Service Information.</b></p> <p>Refer to the Service Information for the Demagnetizing Procedure.</p> <p>View repair for Verification Test.</p> <p>Repair</p> <p>When the Demagnetizing Procedure is complete perform the Verification Test.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**NO BCM MESSAGES RECEIVED**

**POSSIBLE CAUSES**

INTERMITTENT CONDITION  
 NO RESPONSE - PCI BUS - BCM  
 COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase DTCs.            Turn the ignition on.            With the DRBIII®, read DTCs.            Does the DRBIII® display NO BCM MESSAGES RECEIVED?</p> <p>Yes → Go To 2</p> <p>No → The conditions necessary to set this code are not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors between the BCM and the Overhead Travel Information Center connector.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>With the DRBIII®, select: "Body Computer",            Does the DRBIII® display BUS (+) BUS (-) SIGNALS OPEN?</p> <p>Yes → Refer to symptom BUS (+) BUS (-) SIGNALS OPEN FROM BCM in the COMMUNICATION category.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the CMTC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:**  
**NO PCM MESSAGES RECEIVED**

POSSIBLE CAUSES
INTERMITTENT CONDITION NO RESPONSE - PCI BUS - PCM COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase DTCs. Start the engine. With the DRBIII®, read DTCs. Does the DRBIII® display NO PCM MESSAGES RECEIVED?</p> <p>Yes → Go To 2</p> <p>No → The conditions necessary to set this code are not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors between the PCM and the Overhead Travel Information Center connector. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>With the DRBIII® select Body Computer, System Test, then PCM Monitor. Does the DRBIII® display PCM ACTIVE ON THE BUS?</p> <p>Yes → Replace the CMTC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to symptom NO RESPONSE FROM PCM in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.</p>	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 List:**

- \***DISPLAY SEGMENTS FAIL TO ILLUMINATE**
- \***DISTANCE TO EMPTY INOPERATIVE OR WRONG**
- \***ELAPSED TIME INOPERATIVE OR WRONG**
- \***MILEAGE AND DISTANCE FUNCTIONS**

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**Test Note:** All symptoms listed above are diagnosed using the same tests. The title for the tests will be **\*DISPLAY SEGMENTS FAIL TO ILLUMINATE**.

POSSIBLE CAUSES
COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Diagnose and repair any BCM, PCM, MIC, or Communication DTCs before proceeding.</b></p> <p><b>NOTE: Diagnose and repair any conditions affecting injector pulse, pinion factor, and tire size or inflation before proceeding with this test.</b></p> <p>If all the possible causes above are operating correctly, view repair.</p> <p>Repair</p> <p>Replace the Compass/Mini-Trip Computer in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	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	<p><b>NOTE: Diagnose and repair any BCM, PCM, or COMMUNICATION DTCs before proceeding.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the Overhead Console harness connector.</p> <p>Measure the voltage between the Fused B+ circuit and ground.</p> <p>Is the voltage above 10.5 volts?</p> <p>Yes → Go To 2</p> <p>No → Repair the Fused B+ circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the Overhead Console harness connector.</p> <p>Turn the ignition on.</p> <p>Measure the voltage between the Fused Ignition Switch Output circuit and ground.</p> <p>Is the voltage below 10.5 volts?</p> <p>Yes → Repair the Fused Ignition Switch Output circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Overhead Console harness connector.</p> <p>Measure the resistance between ground and the EVIC ground circuit.</p> <p>Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Ground circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*EVIC SELF TEST

POSSIBLE CAUSES
BUS MESSAGES MISSING
FAILED SELF TEST
EVIC SELF TEST

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, select "Body", "EVIC", "System Test" and then "Self Test".  This test will verify internal functions of the EVIC module. Test Failures (if any) will be displayed following the test.  Press any DRBIII key to start the EVIC self test.  Select the test results.</p> <p>TEST FAILURE: FAILED SELF TEST  Refer to EVIC INTERNAL FAILURE for the related symptom(S).</p> <p>TEST FAILURE: BUS MESSAGES MISSING  Refer to BUS MESSAGES MISSING for the related symptom(S).</p> <p>TEST SUCCESSFUL  Self test complete with no problem found.</p>	All

**Symptom:****\*OTIS SCREEN DISPLAYS FAIL****POSSIBLE CAUSES**

OTIS SCREEN DISPLAYS "FAIL"

TEST	ACTION	APPLICABILITY
1	Verify the problem still exists. Using the DRBIII, select "Auto Self Test" and observe the OTIS screen. Does the OTIS screen display "FAIL"?  Yes → Replace the Overhead Travel Information System Module. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

## Symptom:

### \*TEMPERATURE DISPLAY INOPERATIVE OR WRONG

#### POSSIBLE CAUSES

AMBIENT TEMPERATURE SENSOR  
 AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO VOLTAGE  
 AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN  
 AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND  
 AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND CIRCUIT  
 AMBIENT TEMPERATURE SENSOR GROUND CIRCUIT OPEN  
 POWERTRAIN CONTROL MODULE  
 COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: Ensure that the CMTC is communicating on the PCI Bus before proceeding with this test.</b></p> <p><b>NOTE: The Ambient Temperature Sensor is hardwired to the PCM. Ambient temperature information is transmitted to the CMTC via the PCI Bus.</b></p> <p>Turn the ignition off.</p> <p>Disconnect the Ambient Temperature Sensor harness connector.</p> <p>Measure the resistance of the Ambient Temperature Sensor using the following temperature/resistance values:</p> <p>10°C (50°F) Sensor Resistance = 17.99 - 21.81 Kilohms</p> <p>20°C (68°F) Sensor Resistance = 11.37 - 13.61 Kilohms</p> <p>25°C (77°F) Sensor Resistance = 9.12 - 10.88 Kilohms</p> <p>30°C (86°F) Sensor Resistance = 7.37 - 8.75 Kilohms</p> <p>40°C (104°F) Sensor Resistance = 4.90 - 5.75 Kilohms</p> <p>50°C (122°F) Sensor Resistance = 3.33 - 3.88 Kilohms</p> <p>Is the Ambient Temperature Sensor resistance measurement between the min/max specifications?</p> <p>Yes → Go To 2</p> <p>No → Replace the Ambient Temperature Sensor. NOTE: After any repair for an Ambient Temperature Sensor problem, the vehicle must be driven over 5 kilometers (3 miles) above 40 km/h (25 MPH) to update the CMTC display.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*TEMPERATURE DISPLAY INOPERATIVE OR WRONG — Continued**

TEST	ACTION	APPLICABILITY
2	<p>Turn the ignition off.            Ensure that the Interior lights are off.            Ensure that the Exterior lights are off.            Disconnect the DRBIII®.            Ensure that all doors are closed.            Disconnect the Ambient Temperature Sensor harness connector.            Measure the voltage between the Ambient Temperature Sensor Signal circuit and ground.            Is there any voltage present?</p> <p>Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Ambient Temperature Sensor harness connector.            Turn the ignition on.            Measure the voltage between the Ambient Temperature Sensor Signal circuit and the Sensor ground circuit.            Is the voltage above 4.5 volts?</p> <p>Yes → Replace the Compass/Mini-Trip Computer in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Ambient Temperature Sensor harness connector.            Disconnect the PCM C2 harness connector.            Measure the resistance between ground and the Ambient Temperature Sensor Signal circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Ambient Temperature Sensor harness connector.            Disconnect the PCM C2 harness connector.            Measure the resistance of the Sensor Signal circuit to the Sensor Ground circuit in the Sensor connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to the Ambient Temperature Sensor Ground circuit.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All

**\*TEMPERATURE DISPLAY INOPERATIVE OR WRONG — Continued**

TEST	ACTION	APPLICABILITY
6	<p>Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the PCM C2 harness connector. Measure the resistance of the Ambient Temperature Sensor Signal circuit between the Sensor connector and the PCM C2 connector. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Ambient Temperature Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the PCM C2 harness connector. Measure the resistance of the Sensor Ground circuit between the Sensor connector and the PCM C2 connector. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Ambient Temperature Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DECKLID RELEASE SOLENOID OUTPUT FAILURE****When Monitored and Set Condition:****DECKLID RELEASE SOLENOID OUTPUT FAILURE**

When Monitored: During decklid release solenoid actuation.

Set Condition: The BCM detects a short or a open on the decklid release control.

**POSSIBLE CAUSES**

CHECKING DTC PRIORITY

GROUND CIRCUIT OPEN

DECKLID RELEASE CONTROL CIRCUIT SHORTED TO VOLTAGE

DECKLID RELEASE SOLENOID OPEN

DECKLID RELEASE CONTROL CIRCUIT SHORTED TO GROUND

DECKLID RELEASE CONTROL CIRCUIT OPEN

BODY CONTROL MODULE - DECKLID CONTROL CIRCUIT SHORT TO VOLTAGE

BODY CONTROL MODULE - DECKLID RELEASE CONTROL INOPERABLE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII, erase DTC's. Press the decklid release switch several times. With the DRBIII, read DTC's. Did this DTC reset?</p> <p>Yes → Go To 2</p> <p>No → Visually inspect the related wiring harness looking for any chafed, pierced, pinched, or frayed wires. Also check the related connectors looking for any bent, pushed out, or corroded terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Disconnect the Decklid Release Solenoid/Ajar Switch harness connector. Turn the ignition on. Using a 12-volt Test Light connected to ground, check the Decklid Release Control circuit. Is the test light illuminated?</p> <p>Yes → Go To 3</p> <p>No → Go To 5</p>	All

**DECKLID RELEASE SOLENOID OUTPUT FAILURE — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Decklid Release Solenoid/Ajar Switch harness connector.            Remove the Body Control Module from the Junction Block            Turn the ignition on.            Measure the voltage of the Decklid Release Control circuit in the Decklid Release Solenoid connector.            Is there any voltage present?</p> <p>Yes → Repair the Decklid Release Control circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace and program the Body Control Module in accordance with the Service Information.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off.            Disconnect the Decklid Release Solenoid/Ajar Switch harness connector.            Measure the resistance between ground and the ground circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Disconnect the Decklid Release Solenoid/Ajar Switch harness connector.            Connect a 12-volt Test Light between the decklid release control ckt and the ground circuit (cavs 1 and 3).            Press the decklid release switch and observe the test light.            Did the test light illuminate when the switch was pressed?</p> <p>Yes → Replace the Decklid Release Solenoid.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off.            Disconnect the Decklid Release Solenoid/Ajar Switch harness connector.            Remove the Body Control Module from the Junction Block.            Measure the resistance between ground and the Decklid Release Control circuit.            Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Decklid Release Control circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All

**DECKLID RELEASE SOLENOID OUTPUT FAILURE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off. Disconnect the Decklid Release Solenoid/Ajar Switch harness connector. Remove the Body Control Module from the Junction Block. Measure the resistance of the Decklid Release Control circuit between the Decklid Release Solenoid/Ajar Switch connector and the Junction Block Body Control Module connector (cavity 8). Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the Decklid Release Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****DECKLID RELEASE SWITCH FAILURE****When Monitored and Set Condition:****DECKLID RELEASE SWITCH FAILURE**

When Monitored: Continuously.

Set Condition: The BCM monitors voltage present on the decklid release switch output circuit. If voltage is present for over 30 seconds, this DTC will set.

**POSSIBLE CAUSES**

CHECKING DTC PRIORITY

DEFECTIVE DECKLID RELEASE SWITCH

DECKLID RELEASE SWITCH OUTPUT CIRCUIT SHORTED TO VOLTAGE

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII, erase DTC's. Cycle the ignition switch from off to on and wait at least 30 seconds. With the DRBIII, read DTC's. Did this DTC reset?</p> <p>Yes → Go To 2</p> <p>No → Visually inspect the related wiring harness looking for any chafed, pierced, pinched, or frayed wires. Also check the related connectors looking for any bent, pushed out, or corroded terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Disconnect the Decklid Release Switch harness connector. With the DRBIII, erase DTC's. Cycle the ignition switch from off to on and wait at least 30 seconds. With the DRBIII, read DTC's. Did this DTC reset?</p> <p>Yes → Go To 3</p> <p>No → Replace the Decklid Release Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the Decklid Release Switch harness connector. Disconnect the BCM "C1" harness connector. Turn the ignition on. Measure the voltage of the Decklid Release Switch Output circuit. Is there any voltage present?</p> <p>Yes → Repair the Decklid Release Switch Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

**DECKLID RELEASE SWITCH FAILURE — 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:****DRIVER DOOR CENTRAL LOCK (ARM)/UNLOCK (DISARM) SWITCH FAILURE****When Monitored and Set Condition:****DRIVER DOOR CENTRAL LOCK (ARM)/UNLOCK (DISARM) SWITCH FAILURE**

When Monitored: Continuously

Set Condition: The BCM detects a signal on the input for over 10 seconds.

**POSSIBLE CAUSES**

CHECKING DTC PRIORITY

BINDING DRIVER CYLINDER LOCK SWITCH

DRIVER CYLINDER LOCK SWITCH SHORTED TO VOLTAGE

DRIVER CYLINDER LOCK SWITCH MUX CIRCUIT SHORTED TO VOLTAGE

BODY CONTROL MODULE - DRIVER CYLINDER LOCK SWITCH FAILURE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase DTC's. Insert the key in the Driver Cylinder Lock Switch and rotate the key to the lock and unlock positions several times. With the DRBIII®, read DTC's. Did this DTC reset?</p> <p>Yes → Go To 2</p> <p>No → Visually inspect the related wiring harness looking for any chafed, pierced, pinched, or frayed wires. Also check the related connectors looking for any bent, pushed out, or corroded terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Insert the key in the Driver Cylinder Lock Switch and rotate the key to the lock and unlock positions. Does the key bind in any position?</p> <p>Yes → Repair or replace the Driver Cylinder Lock Switch as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Driver Cylinder Lock Switch harness connector. Turn the ignition on. With the DRBIII, enter "Body Computer" then "Sensors" and observe the Dr Door Disarm SW voltage Is there any voltage present?</p> <p>Yes → Go To 4</p> <p>No → Replace the Driver Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## DRIVER DOOR CENTRAL LOCK (ARM)/UNLOCK (DISARM) SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Driver Cylinder Lock Switch harness connector. Disconnect the BCM "C4" harness connector. Turn the ignition on. Measure the voltage of the Driver Cylinder Lock Switch Mux circuit. Is there any voltage present?  Yes → Repair the Driver Cylinder Lock Switch Mux circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 5	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:****PASSENGER DOOR CENTRAL LOCK (ARM)/UNLOCK (DISARM) SWITCH FAILURE**

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**When Monitored and Set Condition:****PASSENGER DOOR CENTRAL LOCK (ARM)/UNLOCK (DISARM) SWITCH FAILURE**

When Monitored: Continuously

Set Condition: The BCM detects a signal on the input for over 10 seconds.

**POSSIBLE CAUSES**

CHECKING DTC PRIORITY

PASSENGER CYLINDER LOCK SWITCH BINDING

PASSENGER CYLINDER LOCK SWITCH SHORTED TO VOLTAGE

PASSENGER CYLINDER LOCK SWITCH MUX CIRCUIT SHORTED TO VOLTAGE

BODY CONTROL MODULE - PASSENGER CYLINDER LOCK SWITCH FAILURE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTC's. Insert the key in the Passenger Cylinder Lock Switch and rotate the key to the lock and unlock positions several times. With the DRBIII®, read DTC's. Did this DTC reset?  Yes → Go To 2  No → Visually inspect the related wiring harness looking for any chafed, pierced, pinched, or frayed wires. Also check the related connectors looking for any bent, pushed out, or corroded terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Insert the key in the Passenger Cylinder Lock Switch and rotate the key to the lock and unlock positions. Does the key bind in any position?  Yes → Repair or replace the Passenger Cylinder Lock Switch as necessary. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All

# **PASSENGER DOOR CENTRAL LOCK (ARM)/UNLOCK (DISARM) SWITCH FAILURE — Continued**

TEST	ACTION	APPLICABILITY
3	Disconnect the Passenger Cylinder Lock Switch harness connector. Turn the ignition on. With the DRBIII, enter "Body Computer" then "Sensors" and observe the Pas Door Disarm SW voltage Is there any voltage present?  Yes → Go To 4  No → Replace the Passenger Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Passenger Cylinder Lock Switch harness connector. Disconnect the BCM "C4" harness connector. Turn the ignition on. Measure the voltage of the Passenger Cylinder Lock Switch Mux circuit. Is there any voltage present?  Yes → Repair the Passenger Cylinder Lock Switch Mux circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 5	All
5	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:**  
**RKE FOB BATTERY LOW**

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**When Monitored and Set Condition:**

**RKE FOB BATTERY LOW**

When Monitored: Anytime an RKE message is received from the transmitter.

Set Condition: RKE receiver detects an RKE FOB battery low signal (less than 3 volts) for 5 consecutive button presses.

POSSIBLE CAUSES
BATTERIES LOW
TRANSMITTER - LOW VOLTAGE OUTPUT

TEST	ACTION	APPLICABILITY
1	<p>To determine which transmitter set the code, press any button on each transmitter. If a chime in the BCM is heard when a button is pressed, that is the problem transmitter.</p> <p>Test the voltage of each battery in the problem transmitter..</p> <p>Is the voltage at or above 3.0 in each battery?</p> <p>Yes → Replace the RKE Transmitter. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the batteries. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****RKE PROGRAM MODE ENTERED WITHOUT PROGRAM REQUEST****When Monitored and Set Condition:****RKE PROGRAM MODE ENTERED WITHOUT PROGRAM REQUEST**

When Monitored: Continuously.

Set Condition: The BCM receives an indication from the RKE module that it has entered program mode without the BCM requesting so.

**POSSIBLE CAUSES**

RKE PROGRAM MODE ENTERED WITHOUT PROGRAM REQUEST

TEST	ACTION	APPLICABILITY
1	<p><b>Note: This DTC will only set if the BCM receives an indication from the RKE module that it has entered program mode without the BCM requesting so.</b></p> <p>Replace the Remote Keyless Entry Module and program a transmitter..</p> <p>With the DRBIII, clear DTCs.</p> <p>Operate the Door Locks several times with the RKE transmitter.</p> <p>With the DRBIII®, read DTC's.</p> <p>Did this DTC reset?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:****RKE UNABLE TO ENTER PROGRAM MODE**

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**When Monitored and Set Condition:****RKE UNABLE TO ENTER PROGRAM MODE**

When Monitored: While attempting to program RKE.

Set Condition: Lack of response from the RKE module while attempting to put it in program mode.

**POSSIBLE CAUSES**

RKE UNABLE TO ENTER PROGRAM MODE

TEST	ACTION	APPLICABILITY
1	<p><b>Note: This DTC will only set when attempting to enter the program RKE mode.</b></p> <p>Replace the Remote Keyless Entry Module.</p> <p>With the DRB, Clear DTC's</p> <p>With the DRB, attempt to enter the RKE program mode.</p> <p>With the DRB, check DTC's.</p> <p>Did this DTC reset?</p> <p>Yes → Replace the Body Control Module.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:**

**\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ANY SWITCH**

**POSSIBLE CAUSES**

OPEN CIRCUIT BREAKER #2  
 OBSERVE THE DOOR LOCK SWITCH VOLTAGE STATUS WITH SWITCH IN THE LOCK POSITION  
 FUSED B(+) OPEN CIRCUIT OPEN FROM PDC  
 FUSED B(+) TO RELAY COIL CIRCUIT OPEN FROM PDC FUSE  
 PASSENGER POWER DOOR LOCK SWITCH-SHORTED TO VOLTAGE  
 RELAY GROUND CIRCUIT OPEN  
 DOOR LOCK RELAY-OPEN/SHORTED COIL  
 DOOR LOCK RELAY-SHORTED TERMINALS  
 FUSED B+ CKT OPEN  
 DOOR LOCK AND UNLOCK RELAYS GROUND OPEN  
 PASSENGER DOOR SWITCH MUX CKT SHORTED TO VOLTAGE  
 PASSENGER DOOR SW MUX CIRCUIT SHORTED TO GROUND  
 DRIVER POWER DOOR LOCK SWITCH-SHORTED TO VOLTAGE  
 LOCK OR UNLOCK RELAY OUTPUT CIRCUIT OPEN  
 PASSENGER DOOR LOCK SWITCH SHORTED TO GROUND  
 DRIVER DOOR SWITCH MUX CIRCUIT SHORTED TO GROUND  
 DRIVER DOOR SWITCH MUX CKT SHORTED TO VOLTAGE  
 DRIVER DOOR LOCK SWITCH SHORTED TO GROUND  
 JUNCTION BLOCK-LOCK RELAY CONTROL CKT OPEN  
 BODY CONTROL MODULE - LOCK RELAY CONTROL OPEN  
 BODY CONTROL MODULE -CONTROL SHORT TO VOLTAGE  
 BODY CONTROL MODULE- CONTROL SHORTED

TEST	ACTION	APPLICABILITY
1	Lower the drivers window. Remove the ignition key. Unlock all doors. With the DRBIII®, actuate the Door Lock Relay. Do the doors lock during the actuation test?  Yes → Go To 2 No → Go To 15	All

## **\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ANY SWITCH — Continued**

TEST	ACTION	APPLICABILITY
2	<p>With the DRB, observe the Door Lock Switch Voltage. Is the voltage above 0.2 volts?</p> <p>Yes → Go To 3</p> <p>No → Go To 8</p>	All
3	<p>Disconnect the Passenger Power Door Lock harness connector. With the DRB enter "Body Computer" then "Sensors" and observe the Door Lock Switch Voltage. Is the voltage above 0.2 volts?</p> <p>Yes → Go To 4</p> <p>No → Replace the Passenger Power Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Passenger Power Door Lock Switch harness connector. Disconnect the BCM "C4" harness connector. Turn the ignition on. Measure the voltage of the Passenger Door Switch MUX circuit. Is the voltage above 0.2 volts?</p> <p>Yes → Repair the Passenger Door Switch MUX ckt for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Disconnect the Driver Power Door Lock harness connector. With the DRB enter "Body Computer" then "Sensors" and observe the Door Lock Switch Voltage. Is the voltage above 0.2 volts?</p> <p>Yes → Go To 6</p> <p>No → Replace the Driver Power Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off. Disconnect the Driver Power Door Lock Switch harness connector. Disconnect the BCM "C4" harness connector. Turn the ignition on. Measure the voltage of the Driver Door Switch MUX circuit. Is the voltage above 0.2 volts?</p> <p>Yes → Repair the Driver Door Switch MUX ckt for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ANY SWITCH — Continued**

TEST	ACTION	APPLICABILITY
8	<p>With the DRBIII, observe the Door Lock Switch voltage Press and hold the Driver Power Door Lock Switch in the lock position and observe the DRB. Is the voltage above 1.7 volts with the switch pressed in the lock position?</p> <p>Yes → Replace the Body Control Module - Control open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Turn the ignition off. Disconnect the Driver Power Door Lock Switch harness connector. Measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 10</p> <p>No → Repair the open Fused B+ circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off. Disconnect the Passenger Power Door Lock Switch harness connector. Disconnect the BCM "C4" harness connector. Measure the resistance of the Passenger Door Switch MUX circuit to ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Passenger Door Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Turn the ignition off. Disconnect the Driver Power Door Lock Switch harness connector. Disconnect the BCM "C4" harness connector. Measure the resistance of the Driver Door Switch MUX circuit to ground. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Driver Door Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 12</p>	All
12	<p>Turn the ignition off. Ensure the Passenger Door Lock Switch is connected before proceeding. Disconnect the BCM "C4" harness connector. Measure the resistance of the Passenger Door Switch MUX circuit in the BCM C4 connector to ground. Is the resistance below 1000.0 ohms?</p> <p>Yes → Replace the Passenger Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 13</p>	All

## **\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ANY SWITCH — Continued**

TEST	ACTION	APPLICABILITY
13	<p>Turn the ignition off.            Ensure the Driver Door Lock Switch is connected before proceeding.            Disconnect the BCM "C4" harness connector.            Measure the resistance of the Driver Door Switch MUX circuit in the BCM C4 connector to ground.            Is the resistance below 1000.0 ohms?</p> <p>Yes → Replace the Driver Door Lock Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 14</p>	All
14	<p>If there are no possible causes remaining, view repair.</p> <p>Repair            Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
15	<p>Remove the Door Lock Relay from the Junction Block.            Using a 12-volt test light connected to ground, check the Fused B(+) circuit in the Door Lock Relay connector (cavity 83).            Does the test light illuminate brightly?</p> <p>Yes → Go To 16</p> <p>No → Repair the Fused B(+) circuit from the PDC Headlamp Lo fuse for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
16	<p>Remove the Door Lock Relay from the Junction Block.            Connect a 12-volt Test Light between cavities 83 and 85 of the Door Lock Relay connector.            Using the DRB, enter "Body Computer" then "Actuator Tests" and actuate the Door Lock Relay.            Does the test light flash on and off as the relay is actuated?</p> <p>Yes → Go To 17</p> <p>No → Go To 24</p>	All
17	<p>Remove Circuit Breaker #2 from the Junction Block.            Measure the resistance across the circuit breaker terminals.            Is the resistance below 1.0 ohm?</p> <p>Yes → Go To 18</p> <p>No → Replace Circuit Breaker #2.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
18	<p>Ensure circuit breaker #2 is installed before proceeding.            Remove the Door Lock Relay from the Junction Block.            Using a 12-volt test light connected to ground, check the Fused B(+) circuit in the Door Lock Relay connector (cavity 82).            Does the test light illuminate brightly?</p> <p>Yes → Go To 19</p> <p>No → Repair the Fused B(+) circuit from the PDC fuse for an open            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ANY SWITCH —**  
**Continued**

TEST	ACTION	APPLICABILITY
19	<p>Turn the ignition off.  Remove the Door Lock Relay from the Junction Block.  Using a 12-volt test light connected to 12-volts, check the Ground circuit.(cavity 84) in the relay connector.  Does the test light illuminate brightly?</p> <p>Yes → Go To 20</p> <p>No → Repair the Ground circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
20	<p>Remove the Door Lock Relay from the Junction Block.  Measure the resistance across terminals 85 (2) and 86 (1) of the Door Lock Relay.  Is the resistance between 50.0 and 90.0 ohms?</p> <p>Yes → Go To 21</p> <p>No → Replace the Door Lock Relay.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
21	<p>Remove the Door Lock Relay from the Junction Block.  Measure the resistance between terminals 86 (1) and 30 (3), 86 (1) and 87 (5), 86 (1) and 87a (2) of the Door Lock Relay.  Is the resistance below 1000.0 ohms for any of the measurements?</p> <p>Yes → Replace the Door Lock Relay.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 22</p>	All
22	<p>Remove the Door Lock Relay and Door Unlock Relay from the Junction Block.  Measure the resistance across terminals 30 (3) and 87a (4) of each relay.  Is the resistance below 1.0 ohm in both relays?</p> <p>No → Replace the Relays as necessary.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>Yes → Go To 23</p>	All
23	<p>Remove the Door Lock Relay and Door Unlock Relay from the Junction Block.  Measure the resistance between the Lock Relay Output (cavity 81) in the Door Lock Relay connector and the Unlock Relay Output (cavity 76) in the Door Unlock Relay connector.  Is the resistance below 10.0 ohms?</p> <p>No → Using the wiring diagram/schematic as a guide, repair the open Lock or Unlock Relay Output circuit as necessary  Perform BODY VERIFICATION TEST - VER 1.</p> <p>Yes → Test Complete.</p>	All
24	<p>Turn the ignition off.  Remove the Body Control Module from the Junction Block.  Measure the resistance of the Door Lock Relay Control circuit between the Door Lock Relay connector cavity 85 and Junction Block Body Control Module connector cavity 15.  Is the resistance below 1.0 ohm?</p> <p>Yes → Go To 25</p> <p>No → Replace the Junction Block.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ANY SWITCH —  
Continued**

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

**Symptom:**

**\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ONE SWITCH**

**POSSIBLE CAUSES**

FUSED B(+) CIRCUIT OPEN

FUSED B(+) CIRCUIT OPEN

DOOR CYLINDER LOCK SWITCH MUX CIRCUIT SHORT TO GROUND

DOOR SWITCH MUX CIRCUIT SHORT TO GROUND

DOOR CYLINDER LOCK SWITCH MUX CIRCUIT OPEN

DOOR SWITCH MUX CIRCUIT OPEN

POWER DOOR LOCK SWITCH OPEN

DOOR CYLINDER LOCK SWITCH OPEN

BODY CONTROL MODULE - DOOR CYLINDER LOCK SWITCH SENSE OPEN

BODY CONTROL MODULE - DOOR LOCK SWITCH SENSE OPEN

TEST	ACTION	APPLICABILITY
1	<p>Operate the door locks from the door lock switches and the door cylinder lock switches (if equipped).</p> <p>Is the problem with a Door Cylinder Lock Switch (VTSS)?</p> <p>Yes → Go To 2</p> <p>No → Go To 7</p>	All
2	<p>Disconnect the inoperative Door Cylinder Lock Switch connector.</p> <p>Measure the voltage between the Fused B(+) circuit and ground.</p> <p>Is the voltage above 10.0 volts?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused B(+) circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Disconnect the inoperative Door Cylinder Lock Switch connector.</p> <p>Disconnect the BCM C4 connector.</p> <p>Measure the resistance between ground and the Cylinder Lock Switch Mux circuit.</p> <p>Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Door Cylinder Lock Switch Mux circuit for a short to ground.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

## **\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ONE SWITCH — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Disconnect the inoperative Door Cylinder Lock Switch connector.  Disconnect the BCM C4 connector.  Measure the resistance of the Cylinder Lock Switch Mux circuit between the Switch connector and the BCM C4 connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Door Cylinder Lock Switch Mux circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Disconnect the inoperative Door Cylinder Lock Switch connector.  Connect a jumper wire between the appropriate Cylinder Lock Switch Mux circuit and Fused B(+).  With the DRBIII® in Sensors, read the appropriate Door Arm/Disarm Switch voltage.  Is the voltage above 9.0 volts?</p> <p>Yes → Replace the appropriate Door Cylinder Lock Switch.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Disconnect the inoperative Power Door Lock Switch connector.  Measure the voltage between the Fused B(+) circuit and ground.  Is the voltage above 10.0 volts?</p> <p>Yes → Go To 8</p> <p>No → Repair the Fused B(+) circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Disconnect the inoperative Door Lock Switch connector.  Disconnect the BCM C4 connector.  Measure the resistance between ground and the Door Switch Mux circuit.  Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Door Switch Mux circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Disconnect the inoperative Power Door Lock Switch connector.  Disconnect the Body Control Module C4 connector.  Measure the resistance of the Door Switch Mux circuit between the Door Lock Switch connector and the BCM C4 connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 10</p> <p>No → Repair the Door Switch Mux circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*ALL DOORS FAILING TO LOCK AND UNLOCK FROM ONE SWITCH —**  
**Continued**

TEST	ACTION	APPLICABILITY
10	Disconnect the inoperative Power Door Lock Switch connector. Connect a jumper wire between the Door Switch Mux circuit and Fused B(+). With the DRBIII®, read the Door Lock Sw Volts status. Is the voltage above 9.0 volts?  Yes → Replace the Power Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 11	All
11	If there are no possible causes remaining, view repair.  Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

**\*ALL DOORS FAILING TO LOCK FROM ANY SWITCH**

### POSSIBLE CAUSES

FUSED B(+) CIRCUIT IN JUNCTION BLOCK  
 LOCK RELAY OUTPUT CIRCUIT SHORT TO GROUND  
 DOOR LOCK RELAY-OPEN/SHORTED COIL  
 DOOR LOCK RELAY-SHORTED TERMINALS  
 DOOR UNLOCK RELAY GROUND OPEN  
 DOOR UNLOCK RELAY GROUND CIRCUIT OPEN  
 JUNCTION BLOCK-LOCK RELAY CONTROL CKT OPEN  
 BODY CONTROL MODULE - LOCK RELAY CONTROL OPEN

TEST	ACTION	APPLICABILITY
1	Remove the Door Lock Relay from the Junction Block. Using a 12-volt test light connected to ground, check both Fused B(+) circuits in the Door Lock Relay connector (cavities 82 and 83). Does the test light illuminate brightly in both cavities?  Yes → Go To 2  No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Door Lock Relay from the Junction Block. Connect a 12-volt Test Light between cavities 83 and 85 of the Door Lock Relay connector. Using the DRB, enter "Body Computer" then "Actuator Tests" and actuate the Door Lock Relay. Does the test light flash on and off as the relay is actuated?  Yes → Go To 3  No → Go To 8	All
3	Remove the Door Lock Relay from the Junction Block. Measure the resistance across terminals 85 (2) and 86 (1) of the Door Lock Relay. Is the resistance between 50.0 and 90.0 ohms?  Yes → Go To 4  No → Replace the Door Lock Relay. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the Door Lock Relay from the Junction Block. Measure the resistance between terminals 86 (1) and 30 (3), 86 (1) and 87 (5), 86 (1) and 87a (2) of the Door Lock Relay. Is the resistance below 1000.0 ohms for any of the measurements?  Yes → Replace the Door Lock Relay. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 5	All

**\*ALL DOORS FAILING TO LOCK FROM ANY SWITCH — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Remove all 3 power door lock relays (door lock, door unlock and driver door unlock) from the Junction Block.</p> <p>Measure the resistance between ground and the Lock Relay Output (cavity 81) circuit in the Lock Relay connector..</p> <p>Is the resistance below 1000.0 ohms (should be infinite)?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Remove the Door Unlock Relay from the Junction Block.</p> <p>Measure the resistance across terminals 30 (3) and 87a (4) of the relay.</p> <p>Is the resistance below 1.0 ohm?</p> <p>No → Replace the Door Unlock Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>Yes → Go To 7</p>	All
7	<p>Turn the ignition off.</p> <p>Remove the Door Unlock Relay from the Junction Block.</p> <p>Measure the resistance between ground and the Ground circuit (cavity 79 in the Unlock Relay connector)..</p> <p>Is the resistance below 5.0 ohm?</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>Yes → Test Complete.</p>	All
8	<p>Turn the ignition off.</p> <p>Remove the Door Lock Relay from the Junction Block.</p> <p>Remove the Body Control Module from the Junction Block.</p> <p>Measure the resistance of the Door Lock Relay Control circuit between the Door Lock Relay connector cavity 85 and Junction Block Body Control Module connector cavity 15.</p> <p>Is the resistance below 1.0 ohm?</p> <p>Yes → Go To 9</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>If there are no possible causes remaining, view repair</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

**\*ALL DOORS FAILING TO LOCK FROM ONE SWITCH**

### POSSIBLE CAUSES

DOOR LOCK SWITCH OR DOOR CYLINDER LOCK SWITCH OPERATION

TEST	ACTION	APPLICABILITY
1	<p>Lower the driver door window.            Operate the power door lock switch or the door cylinder lock switch in the lock position.            Is a Power Door Lock Switch or a Door Cylinder Lock Switch inoperative in the lock position?</p> <p>Yes → Replace the Power Door Lock Switch or Door Cylinder Lock Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

**Symptom:****\*ALL DOORS FAILING TO UNLOCK FROM ANY SWITCH****POSSIBLE CAUSES**

FUSED B(+) CIRCUIT IN JUNCTION BLOCK  
 UNLOCK RELAY OUTPUT CIRCUIT SHORT TO GROUND  
 DOOR UNLOCK RELAY - OPEN/SHORTED COIL  
 DOOR UNLOCK RELAY-SHORTED TERMINALS  
 DOOR LOCK RELAY GROUND OPEN  
 DOOR LOCK RELAY GROUND CIRCUIT OPEN  
 JUNCTION BLOCK - UNLOCK RELAY CONTROL CKT OPEN  
 BODY CONTROL MODULE - UNLOCK RELAY CONTROL OPEN

TEST	ACTION	APPLICABILITY
1	<p>Remove the Door Unlock Relay from the Junction Block.            Using a 12-volt test light connected to ground, check both Fused B(+) circuits in the Door Unlock Relay connector (cavities 77 and 78).            Does the test light illuminate brightly in both cavities?</p> <p>Yes → Go To 2</p> <p>No → Replace the Junction Block.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the Door Unlock Relay from the Junction Block.            Connect a 12-volt Test Light between cavities 78 and 80 of the Door Unlock Relay connector.            Using the DRBIII, enter "Body Computer" then "Actuator Tests" and actuate the Door Unlock Relay.            Does the test light flash on and off as the relay is actuated?</p> <p>Yes → Go To 3</p> <p>No → Go To 8</p>	All
3	<p>Remove the Door Unlock Relay from the Junction Block.            Measure the resistance across terminals 85 (2) and 86 (1) of the Door Unlock Relay.            Is the resistance between 50.0 and 90.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Replace the Door Unlock Relay.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Remove the Door Unlock Relay from the Junction Block.            Measure the resistance between terminals 86 (1) and 30 (3), 86 (1) and 87 (5), 86 (1) and 87a (2) of the Door Lock Relay.            Is the resistance below 1000.0 ohms for any of the measurements?</p> <p>Yes → Replace the Door Unlock Relay.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All

## \*ALL DOORS FAILING TO UNLOCK FROM ANY SWITCH — Continued

TEST	ACTION	APPLICABILITY
5	<p>Remove all 3 power door lock relays (door lock, door unlock and driver door unlock) from the Junction Block.</p> <p>Measure the resistance between ground and the Unlock Relay Output (cavity 76) circuit in the Unlock Relay connector..</p> <p>Is the resistance below 1000.0 ohms (should be infinite)?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Remove the Door Lock Relay from the Junction Block.</p> <p>Measure the resistance across terminals 30 (3) and 87a (4) of the relay.</p> <p>Is the resistance below 1.0 ohm?</p> <p>No → Replace the Door Lock Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>Yes → Go To 7</p>	All
7	<p>Turn the ignition off.</p> <p>Remove the Door Lock Relay from the Junction Block.</p> <p>Measure the resistance between ground and the Ground circuit (cavity 84 in the Lock Relay connector)..</p> <p>Is the resistance below 5.0 ohm?</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>Yes → Test Complete.</p>	All
8	<p>Turn the ignition off.</p> <p>Remove the Door Unlock Relay from the Junction Block.</p> <p>Remove the Body Control Module from the Junction Block.</p> <p>Measure the resistance of the Door Unlock Relay Control circuit between the Door Unlock Relay connector cavity 80 and Junction Block Body Control Module connector cavity 18.</p> <p>Is the resistance below 1.0 ohm?</p> <p>Yes → Go To 9</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>If there are no possible causes remaining, view repair</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*ALL DOORS FAILING TO UNLOCK FROM ONE SWITCH****POSSIBLE CAUSES**

DOOR LOCK SWITCH OR DOOR CYLINDER LOCK SWITCH OPERATION

TEST	ACTION	APPLICABILITY
1	<p>Operate the power door lock switch or the door cylinder lock switch in the unlock position. Is a Power Door Lock Switch or a Door Cylinder Lock Switch inoperative in the unlock position?</p> <p>Yes → Replace the Power Door Lock Switch or Door Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

## Symptom:

### \*AUTOMATIC (ROLLING) DOOR LOCKS INOPERATIVE

POSSIBLE CAUSES
<p>CHECK THE DOOR AJAR SWITCH STATUS</p> <p>WITH THE DRB CHECK FOR PCM DTC'S</p> <p>WITH THE DRB ENABLE AUTO DOOR LOCKS</p> <p>BODY CONTROL MODULE</p>

TEST	ACTION	APPLICABILITY
1	<p>Ensure all doors are closed.</p> <p>With the DRBIII, enter "Body Computer" then "Input/Output" and observe all of the Door Ajar states.</p> <p>Does the DRBIII display CLOSED for any door ajar state?</p> <p>Yes → Refer to symptom for the appropriate DOOR AJAR CIRCUIT SHORTED in the DOOR AJAR category.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>With the DRBIII read "Engine" DTC's.</p> <p>Does the DRBIII display any TPS or VSS related DTC's?</p> <p>Yes → Refer to symptom list for problems related to DRIVEABILITY.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>With the DRBIII, enter "Body Computer" then "Miscellaneous" and observe the auto door lock status.</p> <p>Does the DRBIII display AUTO DOOR LOCKS: ENABLED</p> <p>Yes → Go To 4</p> <p>No → With the DRBIII, enable the Auto Door Locks.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*DECKLID RELEASE INOPERATIVE****POSSIBLE CAUSES**

GROUND CIRCUIT OPEN  
 DECKLID RELEASE SOLENOID OPEN  
 FUSED B+ CIRCUIT OPEN  
 DECKLID RELEASE SWITCH OPEN  
 DECKLID RELEASE SWITCH OUTPUT CIRCUIT OPEN  
 DECKLID RELEASE CONTROL CIRCUIT OPEN  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Decklid Release Solenoid/Ajar Switch harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms?  Yes → Go To 2 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Decklid Release Solenoid/Ajar Switch harness connector. Connect a 12-volt Test Light between the decklid release control ckt and the ground circuit (cavs 1 and 3). Press the decklid release switch and observe the test light. Did the test light illuminate when the switch was pressed?  Yes → Replace the Decklid Release Solenoid. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Decklid Release Switch harness connector. Using a 12-volt test light connected to ground, check the Fused B(+) circuit. Does the test light illuminate brightly?  Yes → Go To 4 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

**\*DECKLID RELEASE INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Disconnect the Decklid Release Solenoid/Ajar Switch harness connector.            Connect a 12-volt Test Light between the decklid release control ckt and the ground circuit (cavs 1 and 3).            Disconnect the Decklid Release Switch harness connector.            Connect a jumper wire between the Fused B+ circuit and the Decklid Release Switch Output circuit on the Decklid Release Switch harness connector.            Observe the test light with the jumper wire connected.            Is the test light illuminated brightly?</p> <p>Yes → Replace the Decklid Release Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Decklid Release Switch harness connector.            Disconnect the BCM "C1" harness connector.            Measure the resistance of the Decklid Release Switch Output circuit between the BCM "C1" connector and the Decklid Release Switch connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Decklid Release Switch Output circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Disconnect the Decklid Release Solenoid/Ajar Switch harness connector.            Remove the Body Control Module from the Junction Block.            Measure the resistance of the Decklid Release Control circuit between the Decklid Release Solenoid/Ajar Switch connector and the Junction Block Body Control Module connector (cavity 8).            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Repair the Decklid Release Control circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*DOOR LOCK INHIBIT INOPERATIVE****POSSIBLE CAUSES**

CHECK THE DRIVER DOOR AJAR SWITCH STATUS

OBSERVE THE KEY-IN IGNITION SWITCH STATUS

IGNITION SWITCH OPEN

KEY-IN IGNITION SWITCH GROUND CIRCUIT OPEN

KEY-IN IGNITION SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE - INCORRECT KEY-IN IGNITION SWITCH STATUS

TEST	ACTION	APPLICABILITY
1	<p>Open the Driver's front door. With the DRBIII, enter "Body Computer" then "Input/Output" and observe the Driver Door Ajar status. Does the DRBIII display DRDOOR AJAR: CLOSED?</p> <p>Yes → Go To 2</p> <p>No → Refer to symptom DRIVER DOOR AJAR OPEN CIRCUIT in the DOOR AJAR category. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p><b>NOTE: Ensure that the Key is still in the Ignition Switch.</b> 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 ?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>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?</p> <p>Yes → Replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

**\*DOOR LOCK INHIBIT INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	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 5  No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the Body Control Module "C2" harness connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch connector and the BCM "C2" connector. Is the resistance below 5.0 ohms?  Yes → Go To 6  No → Repair the Key-In Ignition Switch Sense circuit for an open. 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:****\*DRIVER DOOR FAILS TO LOCK FROM ANY SWITCH****POSSIBLE CAUSES**

DRIVER DOOR UNLOCK RELAY GROUND CIRCUIT OPEN

DRIVER DOOR UNLOCK RELAY

TEST	ACTION	APPLICABILITY
1	<p>Remove the Driver Door Unlock Relay from the Junction Block. Measure the resistance between ground and the Ground circuit in the Driver Door Unlock Relay connector (cavity 79). Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Driver Door Unlock Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*DRIVER DOOR FAILS TO UNLOCK FROM ANY SWITCH****POSSIBLE CAUSES**

DRIVER DOOR UNLOCK RELAY FUSED B(+) OPEN

RELAY CONTROL CIRCUIT CHECK

JUNCTION BLOCK - DRIVER DOOR UNLOCK RELAY CONTROL CKT OPEN

BODY CONTROL MODULE - DRIVER DOOR UNLOCK RELAY DRIVER OPEN

TEST	ACTION	APPLICABILITY
1	<p>Remove the Driver Door Unlock Relay from the Junction Block. Using a 12-volt test light connected to ground, check both Fused B(+) circuits in the Driver Door Unlock Relay connector (cavities 87 and 88). Does the test light illuminate brightly in both connectors?</p> <p>Yes → Go To 2</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the Driver Door Unlock Relay from the Junction Block. Connect a 12-volt Test Light between cavities 88 and 90 in the Driver Door Unlock Relay connector. Using the DRBIII, enter "Body Computer" then "Actuator Tests" and actuate the Drv Door Unlock Relay. Does the test light flash on and off as the relay is actuated?</p> <p>Yes → Replace the Driver Door Unlock Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off. Remove the Driver Door Unlock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. Measure the resistance of the Driver Door Unlock Relay Control circuit between the Driver Door Unlock Relay connector cavity 90 and Junction Block Body Control Module connector cavity 13. Is the resistance below 1.0 ohm?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*ONE DOOR FAILS TO LOCK AND UNLOCK FROM ANY SWITCH****POSSIBLE CAUSES**

DOOR LOCK MOTOR - OPEN  
 LOCK RELAY OUTPUT CIRCUIT OPEN  
 DRIVER DOOR LOCK MOTOR - OPEN  
 DRIVER UNLOCK RELAY OUTPUT CIRCUIT OPEN  
 LOCK RELAY OUTPUT CIRCUIT OPEN  
 UNLOCK RELAY OUTPUT CIRCUIT OPEN  
 DRIVER DOOR UNLOCK RELAY OPEN

TEST	ACTION	APPLICABILITY
1	<p>Operate the door locks to determine which door lock is not operating properly. Is there a problem with the Driver Door Lock?</p> <p>Yes → Go To 2</p> <p>No → Go To 6</p>	All
2	<p><b>NOTE: This test is for a motor that is completely inoperative. If the motor either locks OR unlocks refer to symptom list for problems related to DRIVER DOOR FAILING TO-.</b></p> <p>Disconnect the Driver Door Lock Motor/Ajar Switch connector. Connect a 12-volt Test Light between the Driver Door Unlock Relay Output and the Door Lock Relay Output circuits in the door lock motor connector. Press the Door Lock Switch in the Lock and Unlock positions and observe the test light. Does the Test Light flash on and off as the switch is pressed?</p> <p>Yes → Replace the Driver Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Driver Door Lock Motor/Ajar Switch connector. Remove the Door Lock Relay in the Junction Block. Measure the resistance of the Lock Relay Output circuit between the Lock Relay Output connector and the Driver Door Lock Motor connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the Lock Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## **\*ONE DOOR FAILS TO LOCK AND UNLOCK FROM ANY SWITCH — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Disconnect the Driver Door Lock Motor/Ajar Switch connector. Remove the Driver Door Unlock Relay in the Junction Block. Measure the resistance of the Driver Door Unlock Relay Output circuit between the Driver Door Unlock Relay connector and the Driver Door Lock Motor connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Driver Door Unlock Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Driver Door Unlock Relay - carrier open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Door Lock Motor/Ajar Switch connector. Connect a 12-volt Test Light between the Unlock Relay Output and the Lock Relay Output circuits in the door lock motor connector. Press the Door Lock Switch in the Lock and Unlock positions and observe the test light. Does the Test Light flash on and off as the switch is pressed?</p> <p>Yes → Replace the Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Disconnect the appropriate Door Lock Motor/Ajar Switch connector. Using a 12-volt test light connected to ground, check the Lock Relay Output circuit. With the DRBIII®, actuate the Door Lock Relay and observe the Test Light. Did the Test Light flash as the relay was actuated?</p> <p>Yes → Go To 8</p> <p>No → Repair the Lock Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Disconnect the appropriate Door Lock Motor/Ajar Switch connector. Using a 12-volt test light connected to ground, check the Unlock Relay Output circuit. With the DRBIII®, actuate the Door Unlock Relay and observe the Test Light. Did the Test Light flash as the relay was actuated?</p> <p>Yes → Test Complete.</p> <p>No → Repair the Unlock Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*REMOTE KEYLESS ENTRY PROBLEM****POSSIBLE CAUSES**

REPROGRAM KEY FOBS

TESTING THE REMOTE KEYLESS ENTRY MODULE

TEST	ACTION	APPLICABILITY
1	<p>Secure a known good transmitter. Note: Make sure the transmitter batteries are approximately 3.2 volts each.</p> <p>With the DRBIII, enter "Body", "Body Computer", "Miscellaneous" then "Program RKE" and follow the instructions on the DRB.</p> <p>Press the lock or unlock button on the transmitter.</p> <p>Did the RKE respond correctly?</p> <p>Yes → Replace and reprogram the original RKE transmitter. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Remote Keyless Entry (RKE) Module and reprogram all vehicle transmitters following the instructions on the DRBIII. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### \*RKE HORN CHIRP INOPERATIVE

POSSIBLE CAUSES
CHECK THE HORN OPERATION
CHECK THE RKE HORN CHIRP STATUS
JUNCTION BLOCK-HORN RELAY CONTROL CIRCUIT OPEN
BODY CONTROL MODULE - HORN RELAY CONTROL OPEN

TEST	ACTION	APPLICABILITY
1	<p>Press the horn button on the steering wheel. Does the horn sound?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Service Information for Horn system diagnosis. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>With the DRBIII, enter "Body Computer", "Miscellaneous" then "RKE Horn Chirp" and observe the horn chirp status. Does the DRBIII display HORN CHIRP: DISABLED?</p> <p>Yes → With the DRBIII, enable the Horn Chirp. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off. Remove the Body Control Module from the Junction Block. Momentarily connect a jumper wire between ground and the Horn Relay Control circuit (cavity 18 of the Junction Block - Body Control Module connector). Did the horn sound?</p> <p>Yes → Go To 4</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****SPEED PRO STEERING CKT SHORT TO VOLTAGE****When Monitored and Set Condition:****SPEED PRO STEERING CKT SHORT TO VOLTAGE**

When Monitored: With ignition on.

Set Condition: BCM detects current flowing through the speed pro steering solenoid even though it is attempting to drive it.

**POSSIBLE CAUSES**

SPEED PRO STEERING SOLENOID (-) CIRCUIT SHORT TO VOLTAGE  
 SPEED PRO STEERING SOLENOID (+) CIRCUIT SHORT TO VOLTAGE  
 SPEED PRO STEERING SOLENOID (+) CIRCUIT SHORTED TO (-) CIRCUIT  
 OPEN/SHORTED SPEED PRO STEERING SOLENOID  
 SPEED PROPORTIONAL STEERING CHECK SHORT VOLTAGE  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Start the engine.            While turning the Steering Wheel, monitor the amount of force it takes to turn the Steering Wheel.            With the DRBIII®, de-activate the Speed Pro Steering Solenoid for 15 seconds.            Again turn the Steering Wheel and monitor the amount of force it takes to turn the Steering Wheel.            Was the Steering Wheel harder to turn with the Speed Pro Steering Solenoid de-activated?</p> <p>Yes → System is operating properly at this time. Erase DTC, inspect the wiring and connectors and repair as necessary.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Measure the resistance of the Speed Pro Steering Solenoid.            Is the resistance between 5.7 and 6.3 ohms at 20 C (68° F)?</p> <p>Yes → Go To 3</p> <p>No → Replace the Speed Pro Steering Solenoid.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p>	All

## SPEED PRO STEERING CKT SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.  Disconnect the Speed Pro Steering Solenoid harness connector.  Start the engine.  Measure the voltage of the Speed Pro Steering Solenoid (+) circuit in the Speed Pro Steering Solenoid harness connector.  Is there any voltage present?</p> <p>Yes → Repair the Seed Pro Steering Solenoid (+) circuit for a short to voltage.  Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.  Disconnect the Speed Pro Steering Solenoid harness connector.  Start the engine.  Measure the voltage of the Speed Pro Steering Solenoid (-) circuit in the Speed Pro Steering Solenoid harness connector.  Is there any voltage present?</p> <p>Yes → Repair the Speed Pro Steering Solenoid (-) circuit for a short to voltage and replace the Body Control Module (BCM will be damaged).  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Disconnect the Speed Pro Steering Solenoid harness connector.  Remove the Body Control Module from the Junction Block.  Measure the resistance of the Speed Pro Steering Solenoid (+) circuit to the Speed Pro Steering Solenoid (-) circuit in the Junction Block BCM Internal connector.  Is the resistance below 100.0 ohms</p> <p>Yes → Repair the Speed Pro Steering Solenoid (+) circuit for a short to the Speed Pro Steering Solenoid (-) circuit.  Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****SPEED PRO STEERING SOLENOID CKT OPEN/SHORTED TO GROUND****When Monitored and Set Condition:****SPEED PRO STEERING SOLENOID CKT OPEN/SHORTED TO GROUND**

When Monitored: With ignition on.

Set Condition: BCM detects no current flowing through the speed pro steering solenoid when it attempts to drive it.

**POSSIBLE CAUSES**

SPEED PRO STEERING SOLENOID (-) CIRCUIT OPEN  
 SPEED PRO STEERING SOLENOID (-) CIRCUIT SHORT GROUND  
 SPEED PRO STEERING SOLENOID (+) CIRCUIT OPEN  
 SPEED PRO STEERING SOLENOID (+) CIRCUIT SHORT GROUND  
 SPEED PRO STEERING SOLENOID (+) CIRCUIT SHORT TO (-) CIRCUIT  
 OPEN/SHORTED SPEED PRO STEERING SOLENOID  
 SPEED PROPORTIONAL STEERING CHECK OPEN/SHORT  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Start the engine.            While turning the Steering Wheel, monitor the amount of force it takes to turn the Steering Wheel            With the DRBIII®, de-activate the Speed Pro Steering Solenoid for 15 seconds.            Again turn the steering wheel and monitor the amount of force it takes to turn the Steering Wheel.            Was the Steering Wheel harder to turn while the Speed Pro Steering Solenoid was de-activated?</p> <p>Yes → System is operating properly at this time. Erase the DTC, inspect the wiring and connectors and repair as necessary.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Measure the resistance of the Speed Pro Steering Solenoid.            Is the resistance between 5.7 and 6.3 ohms at 20 C (68° F)?</p> <p>Yes → Go To 3</p> <p>No → Replace the Speed Pro Steering Solenoid.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p>	All

## SPEED PRO STEERING SOLENOID CKT OPEN/SHORTED TO GROUND

— Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Measure the resistance between ground and the Speed Pro Steering Solenoid (+) circuit in the Speed Pro Steering Solenoid harness connector.            Is the resistance below 100 ohms?</p> <p>Yes → Repair the Speed Pro Steering (+) circuit for a short to ground.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Measure the resistance between ground and the Speed Pro Steering Solenoid (-) circuit in the Speed Pro Steering Solenoid harness connector.            Is the resistance below 100 ohms?</p> <p>Yes → Repair the Speed Pro Steering (-) circuit for a short to ground.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Remove the Body Control Module from the Junction Block.            Measure the resistance of the Speed Pro Steering Solenoid (-) circuit between the Junction Block BCM connector and the Speed Pro Steering Solenoid harness connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the open Speed Pro Steering Solenoid (-) circuit.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Remove the Body Control Module from the Junction Block.            Measure the resistance of the Speed Pro Steering Solenoid (+) circuit to the Speed Pro Steering Solenoid (-) circuit in the Junction Block BCM Internal connector.            Is the resistance below 100.0 ohms</p> <p>Yes → Repair the Speed Pro Steering Solenoid (+) circuit for a short to the Speed Pro Steering Solenoid (-) circuit.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All

**SPEED PRO STEERING SOLENOID CKT OPEN/SHORTED TO GROUND**

— Continued

TEST	ACTION	APPLICABILITY
7	<p>Turn the ignition off. Disconnect the Speed Pro Steering Solenoid harness connector. Remove the Body Control Module from the Junction Block. Measure the resistance of the Speed Pro Steering Solenoid (+) circuit between the Junction Block BCM connector and the Speed Pro Steering Solenoid connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the open Speed Pro Steering Solenoid (+) circuit. Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p>	All
8	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## Symptom:

### SPEED PRO STEERING SOLENOID OVER-TEMPERATURE

#### When Monitored and Set Condition:

#### SPEED PRO STEERING SOLENOID OVER-TEMPERATURE

When Monitored: With ignition on.

Set Condition: BCM detects an over temperature condition on its Speed Proportional Output Driver.

#### POSSIBLE CAUSES

SPEED PRO STEERING SOLENOID INTERMITTENT WIRING SHORT TO GROUND  
 OPEN/SHORTED SPEED PRO STEERING SOLENOID  
 SPEED PROPORTIONAL STEERING CHECK SOLENOID OVER-TEMPERATURE  
 BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Start the engine.            While turning the Steering Wheel, monitor the amount of force it takes to turn the Steering Wheel.            With the DRBIII®, de-activate the Speed Pro Steering Solenoid for 15 seconds.            Again turn the Steering Wheel and monitor the amount of force it takes to turn the Steering Wheel.            Was the Steering Wheel harder to turn while the Speed Pro Steering Solenoid was de-activated?</p> <p>Yes → System is operating properly at this time. Erase the DTC, inspect the wiring and connectors and repair as necessary.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off.            Disconnect the Speed Pro Steering Solenoid harness connector.            Measure the resistance of the Speed Pro Steering Solenoid.            Is the resistance between 5.7 and 6.3 ohms at 20 C (68° F)?</p> <p>Yes → Go To 3</p> <p>No → Replace the Speed Pro Steering Solenoid.            Perform SPEED PRO STEERING VERIFICATION TEST - VER 1.</p>	All

**SPEED PRO STEERING SOLENOID OVER-TEMPERATURE — Continued**

TEST	ACTION	APPLICABILITY
3	Using the wiring diagram/schematic as a guide, inspect the wiring and connectors from the BCM to the Speed Pro Steering Solenoid. Check for chafed, pinched, open or shorted wiring. Were there any problems found?  Yes → Repair the Speed Pro Steering Solenoid wiring and/or connectors as necessary. Perform SPEED PRO STEERING 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 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**

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**Test Note: All symptoms listed above are diagnosed using the same tests.**  
**The title for the tests will be LF SENSOR BATTERY LOW.**

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### 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	<p>Using the procedure in the System Description, retrain the EVIC With the DRBIII®, record and erase DTC's. Drive the vehicle for 10 minutes at 32 km/h (20 mph). With the DRBIII®, read DTCs. Does the DRBIII® display a Sensor Failure or Sensor Low Battery message?</p> <p>Yes → Replace the indicated Tire Pressure Sensor/Transmitter. Perform TIRE PRESSURE VERIFICATION TEST.</p> <p>No → Go To 2</p>	All

## TIRE PRESSURE MONITORING

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### LF SENSOR BATTERY LOW — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition on. Observe the EVIC display. Does the EVIC display SERVICE TIRE PRESS. SYSTEM?  Yes → Replace the EVIC in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST.  No → Test Complete.	All

**Symptom:****\*ALARM TRIPS ON ITS OWN****POSSIBLE CAUSES**ALARM TRIPPED BY  
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read the Alarm Trip By status. Were there any causes displayed?</p> <p>Yes → Check for a possible intermittent condition with the circuit or indicated by the DRBIII®.</p> <p>No → Go To 2</p>	All
2	<p><b>NOTE: The condition that caused the alarm is not present at this time. The following list may help to indentify the cause of the intermittent condition.</b> 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?</p> <p>Yes → Repair as necessary Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Test Complete.</p>	All

## Symptom:

**\*DRIVER DOOR KEY FAILS TO ARM OR TO DISARM VTSS**

POSSIBLE CAUSES
FUSED B+ OPEN
DRIVER CYLINDER LOCK SWITCH MUX CIRCUIT SHORTED TO GROUND
DRIVER CYLINDER LOCK SWITCH MUX CIRCUIT OPEN
DRIVER CYLINDER LOCK SWITCH
BCM--VTSS WON'T ARM OR DISARM WITH DOOR KEY

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® in Sensors, read the DRV DOOR ARM/DISARM SW voltage. Note: The voltage measurements are not the same for the driver and passenger lock cylinders. Rotate the Key in the Driver Cylinder Lock to the lock and unlock positions. Does the DRBIII® display 3.5-4.5 volts in the lock position and 6.0-7.0 volts in the unlock position</p> <p>Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Driver Cylinder Lock Switch harness connector Using a 12-volt test light connected to ground, check the Fused B+ circuit. Does the test light illuminate?</p> <p>Yes → Go To 3</p> <p>No → Repair the Driver Cylinder Lock Switch Fused B+ circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All
3	<p>Disconnect the Body Control Module C4 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 MUX circuit. Does the test light illuminate?</p> <p>Yes → Repair the Driver Cylinder Lock Switch MUX circuit for a short to ground. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C4 harness connector. Disconnect the Driver Cylinder Lock Switch harness connector. Measure the resistance of the Driver Cylinder Lock Switch MUX circuit between the Driver Cylinder Lock Switch connector and the BCM C4 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Driver Cylinder Lock Switch in accordance with the Service Information. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Repair the Driver Cylinder Lock Switch MUX circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All

**Symptom:****\*HAZARD LAMPS FAIL TO FLASH****POSSIBLE CAUSES**

VERIFY HAZARD OPERATION

BCM -- HAZARDS INOPERATIVE WITH VTSS ALARM TRIPPED

TEST	ACTION	APPLICABILITY
1	Turn on the Hazard Lamps on. Do the Hazard Lamps operate properly?  Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.  No → Check and diagnose related Body Control Module Diagnostic Trouble Codes. If no DTCs are present, refer to the Service Information.	All

## Symptom:

**\*HEADLAMP/PARK LAMPS FAIL TO FLASH WITH ALARM TRIPPED**

### 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 and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.  No → Refer to symptom LOW BEAM HEADLAMPS WILL NOT TURN ON in the EXTERIOR LIGHTING category.	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	<p>Push the Horn Button on the Steering Wheel. Does the Horn operate properly?</p> <p>Yes → Go To 2</p> <p>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.</p>	All
2	<p>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?</p> <p>Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Replace the Junction Block in accordance with the Service Information. Perform VTSS VERIFICATION TEST - 1A.</p>	All

## Symptom:

**\*PASSENGER DOOR KEY FAILS TO ARM OR DISARM VTSS**

### POSSIBLE CAUSES

FUSED B+ OPEN

PASSENGER CYLINDER LOCK SWITCH MUX CIRCUIT SHORTED TO GROUND

PASSENGER CYLINDER LOCK SWITCH MUX CIRCUIT OPEN

PASSENGER CYLINDER LOCK SWITCH

BCM--VTSS WON'T ARM OR DISARM WITH DOOR KEY

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® in Sensors, read the PASS DOOR ARM/DISARM SW voltage. Note: The voltage measurements are not the same for the driver and passenger lock cylinders. Rotate the Key in the Passenger Cylinder Lock to the lock and unlock positions. Does the DRBIII® display 3.5-4.5 volts in the unlock position and 6.0-7.0 volts in the lock position</p> <p>Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Passenger Cylinder Lock Switch harness connector Using a 12-volt test light connected to ground, check the Fused B+ circuit. Does the test light illuminate?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused B+ circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All
3	<p>Disconnect the Body Control Module C4 harness connector. Disconnect the Passenger Cylinder Lock Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Passenger Cylinder Lock Switch MUX circuit. Does the test light illuminate?</p> <p>Yes → Repair the Passenger Cylinder Lock Switch MUX circuit for a short to ground. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C4 harness connector. Disconnect the Passenger Cylinder Lock Switch harness connector. Measure the resistance of the Passenger Cylinder Lock Switch MUX circuit between the Passenger Cylinder Lock Switch connector and the BCM C4 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Passenger Cylinder Lock Switch in accordance with the Service Information. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Repair the Passenger Cylinder Lock Switch MUX circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All

**Symptom:****\*VTSS DOES NOT TRIP FROM DRIVERS DOOR****POSSIBLE CAUSES**

BCM-NO VTSS TRIP FROM DRIVER DOOR

CHECK DRBIII® FOR DRIVER DOOR AJAR RESPONSE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the DRVR DOOR AJAR SW status. Open the driver door. Does the DRBIII® display CLOSED?  Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.  No → Refer to symptom DRIVER DOOR AJAR CKT OPEN in the DOOR AJAR category.	All

## Symptom:

**\*VTSS DOES NOT TRIP FROM LEFT REAR DOOR**

### POSSIBLE CAUSES

CHECK DRBIII® FOR LEFT REAR DOOR AJAR RESPONSE

BCM-NO VTSS TRIP FROM LEFT REAR DOOR

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read the LR DOOR AJAR SW status.  Open the left rear door.  Does the DRBIII® display CLOSED?</p> <p>Yes → Replace and program the Body Control Module.  Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Refer to symptom LEFT REAR DOOR AJAR CKT OPEN in the  DOOR AJAR category.</p>	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 and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.  No → Refer to symptom PASSENGER DOOR AJAR CKT OPEN in the DOOR AJAR category.	All

## Symptom:

**\*VTSS DOES NOT TRIP FROM RIGHT REAR DOOR**

### POSSIBLE CAUSES

CHECK DRBIII® FOR RIGHT REAR DOOR AJAR RESPONSE

BCM-NO VTSS TRIP FROM RIGHT REAR DOOR

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read the RR DOOR AJAR SW status.  Open the right rear door.  Does the DRBIII® display CLOSED?</p> <p>Yes → Replace and program the Body Control Module.  Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Refer to symptom RIGHT REAR DOOR AJAR CKT OPEN in the  DOOR AJAR category.</p>	All

**Symptom:****\*VTSS DOES NOT TRIP WITH TRUNK KNOCKOUT SWITCH****POSSIBLE CAUSES**

DECKLID SECURITY SWITCH SENSE CIRCUIT SHORT TO GROUND

BCM -- NO ALARM FROM TRUNK KNOCKOUT SWITCH

TEST	ACTION	APPLICABILITY
1	Disconnect the BCM C4 harness connector. Disconnect the Trunk Knockout Switch harness connector. Using a 12-volt test light connected to 12-volts, check the Decklid Security Switch Sense circuit. Does the test light illuminate?  Yes → Repair the Decklid Security Switch Sense circuit for a short to ground. Perform VTSS VERIFICATION TEST - 1A.  No → Replace and program the Body Control Module. 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	<p>Disconnect the Sun Sensor/VTSS LED harness connector. Measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 2</p> <p>No → Repair the VTSS Fused B+ circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All
2	<p>Disconnect the Sun Sensor VTSS/LED harness connector. Connect a voltmeter positive probe to a 12.0 volt supply and connect the ground probe to the VTSS Indicator Driver circuit at the Sun Sensor/VTSS LED connector. Turn the ignition on. With the DRB in Vehicle Theft, actuate the VTSS Indicator lamp. Is the voltage above 10.0 volts when the VTSS Indicator lamp is actuated?</p> <p>Yes → Replace the Sun Sensor/VTSS LED assembly. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Sun Sensor/ VTSS LED harness connector. Disconnect the BCM C2 harness connector. Measure the resistance of the VTSS Indicator Driver circuit between the Sun Sensor/VTSS LED connector and the BCM C2 connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Repair the VTSS Indicator Driver circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All

**Symptom:****\*VTSS WILL NOT ARM****POSSIBLE CAUSES**

CHECK THE VTSS STATUS

CHECK THE BCM FOR DTCS

BODY CONTROL MODULE - NO ALARM OUTPUT

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, check that the Theft Alarm is enabled. Was the Theft Alarm enabled?</p> <p>Yes → Go To 2</p> <p>No → With the DRBIII®, enable the Vehicle Theft Security System (VTSS). Perform VTSS VERIFICATION TEST - 1A.</p>	All
2	<p>With the DRBIII®, read the active DTC's. Are any VTSS related DTC's present?</p> <p>Yes → Refer to the Symptom List and diagnose the appropriate symptom. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.</p>	All

## Symptom:

### WIPER PARK SWITCH FAILURE/WIPERS RUN CONTINUOUSLY

#### When Monitored and Set Condition:

#### WIPER PARK SWITCH FAILURE/WIPERS RUN CONTINUOUSLY

**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

WIPER MOTOR OPERATION

BCM

TEST	ACTION	APPLICABILITY
1	<p>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 off position.            With the DRBIII®, read BCM DTC's.            Does the DRB display WIPER PARK SWITCH FAILURE?</p> <p>Yes → Go To 2</p> <p>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.</p>	All
2	<p>Turn the ignition off.            Disconnect the Windshield Wiper Motor harness connector.            Disconnect the BCM C3 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?</p> <p>Yes → Repair the Wiper Park Switch Sense circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

## WIPER PARK SWITCH FAILURE/WIPERS RUN CONTINUOUSLY — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.            Disconnect the Windshield Wiper Motor harness connector.            Disconnect the BCM C3 harness connector.            Measure the resistance of the Wiper Park Switch Sense circuit between the BCM C3 harness connector and the Wiper Motor harness connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Repair the Wiper Park Switch Sense circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off.            Disconnect the Windshield Wiper Motor harness connector.            Disconnect the BCM C3 harness connector.            Measure the resistance between ground and the Wiper Park Switch Sense circuit in the BCM C3 harness connector.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Wiper Park Switch Sense circuit for a short to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Windshield Wiper Motor harness connector.  <b>NOTE: Ensure the ignition switch, all lights and accessories are turned off.</b>            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?</p> <p>Yes → Go To 6</p> <p>No → Repair the Wiper Motor Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>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?</p> <p>Yes → Replace the Wiper Motor.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## WINDSHIELD WIPER & WASHER

### Symptom:

#### \*HEADLAMP WASHERS NOT OPERATING PROPERLY

POSSIBLE CAUSES
EXTERIOR LIGHTING SYSTEM NOT OPERATING PROPERLY
WINDSHIELD WIPER/WASHER SYSTEM NOT OPERATING PROPERLY
FUSED B+ CIRCUIT(S) OPEN
HEADLAMP WASHER RELAY
HEADLAMP WASHER PUMP MOTOR
HEADLAMP WASHER RELAY OUTPUT CIRCUIT SHORTED TO VOLTAGE
HEADLAMP WASHER RELAY OUTPUT CIRCUIT SHORTED TO GROUND
HEADLAMP WASHER RELAY OUTPUT CIRCUIT OPEN
HEADLAMP WASHER PUMP MOTOR GROUND CIRCUIT OPEN
HEADLAMP WASHER RELAY CONTROL CIRCUIT SHORTED TO VOLTAGE
HEADLAMP WASHER RELAY CONTROL CIRCUIT SHORTED TO GROUND
HEADLAMP WASHER RELAY CONTROL CIRCUIT OPEN
BCM - RELAY CONTROL OPEN

TEST	ACTION	APPLICABILITY
1	<p><b>NOTE: The exterior lighting must be working properly for the Headlamp Washer Pump Motor to operate properly.</b></p> <p>Turn the ignition on.</p> <p>Turn on the park lamps, fog lamps, low beam headlamps and high beam headlamps and note the operation of the appropriate lamps when selected.</p> <p>Do the appropriate lamps operate properly when turned on?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Exterior Lighting category in the Symptom List for the related symptom(s).</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition on.</p> <p>Turn the low speed windshield wipers on.</p> <p>Push and release the wash button on the Multi-function Switch.</p> <p>Did the windshield wipers and washers operate properly?</p> <p>Yes → Go To 3</p> <p>No → Refer to the Windshield Wiper &amp; Washer category for the related symptom(s).</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*HEADLAMP WASHERS NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Using a 12-volt test light connected to ground, check both Fused B(+) circuits in the Headlamp Washer Relay connector.  Is the test light on for both circuits?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused B(+) circuit(s) for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off.  Install a substitute relay in place of the Headlamp Washer Relay.  Turn the ignition on.  With the DRBIII®, actuate the Headlamp Washer Relay.  Did the Headlamp Washers operate?</p> <p>Yes → Replace the Headlamp Washer Relay.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Disconnect the Headlamp Washer Pump Motor harness connector.  Connect a 12-volt test light between the Headlamp Washer Pump Motor harness connector cavities.  With the DRBIII®, actuate the Headlamp Washer Relay.  Does the test light cycle on and off during actuation?</p> <p>Yes → Replace the Headlamp Washer Pump Motor.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Turn the ignition on.  Measure the voltage of the Headlamp Washer Relay Output circuit in the Headlamp Washer Relay connector.  Is the voltage above 1.0 volt?</p> <p>Yes → Repair the Headlamp Washer Relay Output circuit for a short to voltage.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Disconnect the Headlamp Washer Pump Motor harness connector.  Measure the resistance between ground and the Headlamp Washer Relay Output circuit.  Is the resistance above 100 kohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the Headlamp Washer Relay Output circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## \*HEADLAMP WASHERS NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Disconnect the Headlamp Washer Pump Motor harness connector.  Measure the resistance of the Headlamp Washer Relay Output circuit.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the Headlamp Washer Relay Output circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>Turn the ignition off.  Disconnect the Headlamp Washer Pump Motor harness connector.  Using a 12-volt test light connected to 12-volts, check the Ground circuit in the Headlamp Washer Pump Motor harness connector.  Is the test light on?</p> <p>Yes → Go To 10</p> <p>No → Repair the Headlamp Washer Pump Motor Ground circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Disconnect the BCM C3 harness connector.  Turn the ignition on.  Measure the voltage of the Headlamp Washer Relay Control circuit.  Is the voltage above 1.0 volt?</p> <p>Yes → Repair the Headlamp Washer Relay Control circuit for a short to voltage.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Disconnect the BCM C3 harness connector.  Measure the resistance between ground and the Headlamp Washer Relay Control circuit.  Is the resistance above 100 kohms?</p> <p>Yes → Go To 12</p> <p>No → Repair the Headlamp Washer Relay Control circuit for a short to ground.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
12	<p>Turn the ignition off.  Remove the Headlamp Washer Relay from the PDC.  Disconnect the BCM C3 harness connector.  Measure the resistance of the Headlamp Washer Relay Control circuit between the BCM C3 harness connector and the Headlamp Washer Relay connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 13</p> <p>No → Repair the Headlamp Washer Relay Control circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*HEADLAMP WASHERS NOT OPERATING PROPERLY — Continued**

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

## WINDSHIELD WIPER & WASHER

### Symptom:

**\*WASHER, INOPERATIVE**

#### POSSIBLE CAUSES

IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT OPEN  
FUSED IGNITION SWITCH OUTPUT RUN/ACC SHORT TO GROUND  
WASHER PUMP MOTOR CONTROL CIRCUIT SHORT TO GROUND  
WASHER PUMP SWITCH INTERNALLY SHORTED  
WASHER PUMP SHORTED  
FUSED IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT OPEN  
GROUND CIRCUIT OPEN  
WASHER PUMP CONTROL SWITCH OUTPUT CIRCUIT OPEN  
WASHER PUMP SWITCH OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Using a 12-volt test light connected to ground, probe the Ignition Switch Output ACC/RUN circuit in the junction block fuse #5 connector. Does the test light illuminate brightly?  Yes → Go To 2  No → Repair the open Ignition Switch Output Run/Acc circuit . Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect junction block fuse #5. Is the fuse open?  Yes → Go To 3  No → Go To 7  <b>Note: Reinstall the fuse if it is not open.</b>	All
3	Turn the ignition off. Disconnect the Multi-Function Switch harness connector. Remove junction block fuse #5. Measure the resistance between ground and the fused ignition switch output ACC/RUN circuit. Is the resistance below 100.0 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

**\*WASHER, INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.            Disconnect the Washer Pump harness connector.            Disconnect the BCM C2 harness connector.            Disconnect the Multi-Function Switch harness connector.            Measure the resistance between ground and the Washer Pump Control Switch Output circuit.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair Washer Pump Control Switch Output circuit shorted to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.            Disconnect the Multi-Function Switch harness connector.            Remove the Multi-Function Switch from the Steering Column.            Ensure that the washer switch is in the off position.            Measure the resistance of the Multi-Function Switch between terminal 1 and each of the remaining six terminals in the 7-way connector (component side).            Is the resistance below 100.0 ohms for any of the measurements?</p> <p>Yes → Replace the Right Multi-Function Switch.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Windshield Washer Pump Motor.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off.            Disconnect the Multi-Function Switch harness connector.            Turn the ignition on.            Using a 12-volt test light connected to ground, probe the fused ignition switch output circuit.            Does the test light illuminate?</p> <p>Yes → Go To 8</p> <p>No → Repair the Fused Ignition Switch Output Run/Acc for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Turn the ignition off.            Disconnect the Washer Pump harness connector.            Using a 12-volt test light connected to 12-volts, probe the washer pump ground circuit.            Does the test light illuminate brightly?</p> <p>Yes → Go To 9</p> <p>No → Repair Ground circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All

## WINDSHIELD WIPER & WASHER

### \*WASHER, INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	<p>Turn the ignition off. Disconnect the Windshield Washer Pump Motor harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Washer Pump Motor Control Output circuit at the Windshield Washer Pump Motor harness connector. Monitor the test light while pressing and releasing the washer switch. Does the test light turn on and off while pressing and releasing the washer switch?</p> <p>Yes → Go To 10</p> <p>No → Repair the Washer Pump Motor Control Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off. Disconnect the Multi-Function Switch harness connector. Remove the Multi-Function Switch from the steering column. Measure the resistance of the Multi-Function Switch between terminals 1 and 2. Monitor the ohmmeter while pushing and releasing the washer switch. <b>Note: The resistance reading should change from above 100.0 ohms when the washer switch is released to below 5.0 ohms when the switch is pressed.</b> Did the resistance readings change from above 100.0 ohms to below 5.0 ohms as described in Note?</p> <p>Yes → Test Complete.</p> <p>No → Replace the Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**Symptom:****\*WASHER, RUNS ALL THE TIME WITH IGNITION ON****POSSIBLE CAUSES**

WASHER PUMP MOTOR CONTROL OUTPUT CIRCUIT SHORTED TO VOLTAGE

WASHER PUMP SWITCH SHORT TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	<p>Ensure that the washer switch is in the off position. Turn the ignition on. Disconnect the Multi-Function Switch harness connector. Does the wiper and washers stop working when the multi-function switch is disconnected?</p> <p>Yes → Go To 2</p> <p>No → Repair Washer Pump Motor Control Output circuit short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Ensure that the windshield washer switch is in the off position. Turn the ignition on. Disconnect the Multi-Function Switch harness connector. Did the wiper and washers stop working when the multi-function switch is disconnected?</p> <p>Yes → Replace the Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

## WINDSHIELD WIPER & WASHER

### Symptom:

**\*WIPER, NOT WORKING IN THE LOW SPEED**

#### POSSIBLE CAUSES

WIPER HIGH/LOW RELAY

WIPER HIGH/LOW RELAY CONTROL CIRCUIT SHORTED TO GROUND

MULTI-FUNCTION SWITCH LOW SWITCH OPEN

FUSED B(+) CIRCUIT OPEN

LOW SPEED OUTPUT CIRCUIT OPEN

WIPER MOTOR

BCM

TEST	ACTION	APPLICABILITY
1	<p>Remove the Wiper High/Low Relay. Connect a jumper wire between the Fused B(+) circuit and the Wiper Low Speed Output circuit. Observe windshield wiper operation. Are the windshield wipers operating at low speed?</p> <p>Yes → Go To 2 No → Go To 6</p>	All
2	<p>Turn the ignition off. Install a substitute relay in place of the Wiper High/Low Relay. Turn the ignition on. Turn the Multi-Function Switch to the low wiper setting, then to the high wiper setting. Observe wiper operation for each setting. Do the low speed and high speed wipers operate correctly?</p> <p>Yes → Replace the Wiper HIGH/LOW Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3</p>	All
3	<p>Turn the ignition off. Disconnect the Multi-Function Switch harness connector and remove the Multi-Function Switch from the steering column. Set the multi-function switch to the low speed position. Measure the resistance between terminals 1 and 3 of the Multi-Function Switch connector (component side). Is the resistance between 980.0 and 1060.0 ohms?</p> <p>Yes → Go To 4 No → Replace the Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*WIPER, NOT WORKING IN THE LOW SPEED — Continued**

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Remove the Wiper High/Low Relay from the PDC. Disconnect the BCM C3 harness connector. Measure the resistance between ground and the Wiper High/Low Relay Control circuit. Is the resistance below 100.0 ohms?  Yes → Repair the Wiper High/Low Relay Control circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 5	All
5	If there are no possible causes, view repair  Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	Remove the Wiper High/Low Relay from the PDC. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Does the test light illuminate?  Yes → Go To 7  No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Remove the Wiper High/Low Relay from the PDC. Disconnect the Wiper Motor harness connector. Measure the resistance of the Low Speed Output circuit between the wiper motor and the PDC High/Low Relay connector. Is the resistance below 5.0 ohms?  Yes → Go To 8  No → Repair the Low Speed Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	If there are no possible causes, view repair  Repair Replace the Wiper Motor. Perform BODY VERIFICATION TEST - VER 1.	All

## WINDSHIELD WIPER & WASHER

### Symptom:

#### \*WIPER, ERRATIC OPERATION IN INTERMITTENT SPEEDS

POSSIBLE CAUSES
WIPER ON/OFF RELAY
WIPER PARK SWITCH SENSE CIRCUIT OPEN
WIPER PARK SWITCH SENSE CIRCUIT SHORT TO GROUND
WIPER MOTOR
BCM

TEST	ACTION	APPLICABILITY
1	Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly?  Yes → Replace the Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 2	All
2	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Disconnect the BCM C3 harness connector. Measure the resistance of the Wiper Park Switch Sense circuit between the BCM C3 harness connector and the Wiper Motor harness connector. Is the resistance below 5.0 ohms?  Yes → Go To 3  No → Repair the Wiper Park Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Disconnect the BCM C3 harness connector. Measure the resistance between ground and the Wiper Park Switch Sense circuit. 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 4	All

**\*WIPER, ERRATIC OPERATION IN INTERMITTENT SPEEDS — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Turn the ignition on. With the DRBIII® in Inputs/Outputs, monitor 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®, hold the other end to ground for several seconds. Did wiper park switch input change state when connected to ground then disconnected from ground?</p> <p>Yes → Replace the Wiper Motor. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

## WINDSHIELD WIPER & WASHER

### Symptom:

**\*WIPER, NO WIPE AFTER WASH**

POSSIBLE CAUSES
WIPER OPERATION WASHER PUMP CONTROL SWITCH OUTPUT CIRCUIT OPEN BCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the wiper switch to each intermittent position, then to the low speed and high speed positions. <b>NOTE: Observe wiper operation when selecting each speed of operation.</b> Do the wipers operate correctly at all selected speeds?  Yes → Go To 2  No → Refer to the Wiper category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the BCM C2 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Washer Pump Control Switch Output circuit at the BCM C2 harness connector. Monitor the test light while pressing and releasing the washer switch. Does the test light flash on and off while pressing and releasing the washer switch?  Yes → Go To 3  No → Repair the Washer Pump Control Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair  Repair Replace the BCM. Perform BODY VERIFICATION TEST - VER 1.	All

**Symptom:****\*WIPER, NOT WORKING AT ALL**

POSSIBLE CAUSES
WIPER MUX CIRCUIT SHORTED TO VOLTAGE
FUSED B(+) CIRCUIT
FUSED B(+) CIRCUIT OPEN
GROUND CIRCUIT OPEN
WIPER HIGH/LOW RELAY
COMMON CIRCUIT SHORTED TO GROUND
OPEN COMMON CIRCUIT OPEN
WIPER ON/OFF RELAY
WIPER ON/OFF RELAY CONTROL CIRCUIT OPEN
WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED TO VOLTAGE
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
WINDSHIELD WIPER SWITCH MUX CIRCUIT OPEN
WINDSHIELD WIPER SWITCH MUX CIRCUIT SHORTED TO GROUND
WIPER MOTOR
BCM-ON/OFF RELAY DRIVER
BCM WIPER MUX CIRCUIT OPEN
MULTI-FUNCTION SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Wiper On/Off Relay. Connect a jumper wire between the Fused B+ circuit and Front Wiper relay Common in the PDC. Observe windshield wiper operation. Do the wipers operate with the jumper wire connected?  Yes → Go To 2 No → Go To 14	All
2	With the DRBIII®, read the intermittent wiper switch status while slowly turning the wiper switch from the off position to the high speed position. <b>NOTE: The switch voltage displayed on the DRBIII® should increase from approximately 0.0 volts to 8.5 volts as the switch is turned from the off position to the high speed position.</b> Did the switch voltage change from approximately 0.0 volts to 8.5 volts as described?  Yes → Go To 3 No → Go To 9	All

## WINDSHIELD WIPER & WASHER

### \*WIPER, NOT WORKING AT ALL — Continued

TEST	ACTION	APPLICABILITY
3	<p>Remove the Wiper On/Off Relay from the PDC. Using a 12-volt test light connected to ground, probe both Fused B(+) circuits in the PDC. Does the test light illuminate brightly at each terminal?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused B(+) circuit(s) for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly?</p> <p>Yes → Replace the Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off. Remove the Wiper On/Off Relay from the PDC. Disconnect the BCM C3 harness connector. Connect a jumper wire between the Wiper On/Off Relay Control circuit at the BCM C3 harness connector to ground. Measure the resistance between ground and the Wiper On/Off Relay Control circuit in the PDC. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Wiper On/Off Relay Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off. Remove the Wiper On/Off Relay from the PDC. Disconnect the BCM C3 harness connector. Turn the ignition on. Measure the voltage of the Wiper On/Off Relay Control circuit at the BCM C3 harness connector. Is the voltage above 1.0 volt?</p> <p>Yes → Repair the Wiper On/Off Relay Control circuit shorted to battery. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Turn the ignition off. Disconnect the Multi-Function Switch harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Does the test light illuminate brightly?</p> <p>Yes → Go To 8</p> <p>No → Repair the Fused Ignition Switch Output circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All

**\*WIPER, NOT WORKING AT ALL — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Remove the Wiper On/Off Relay from the PDC.            Using a 12-volt test light connected to 12-volts, probe the wiper on/off relay control circuit at the Wiper On/Off Relay connector in the PDC.            With the DRBIII®, actuate the wiper on/off relay.            Observe the test light.            Does the test light turn on and off during actuation?</p> <p>Yes → Test Complete.</p> <p>No → Replace the Body Control Module.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>Turn the ignition off.            Disconnect the Multi-Function Switch harness connector.            Turn the ignition on.            Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit.            Does the test light illuminate brightly?</p> <p>Yes → Go To 10</p> <p>No → Repair the Fused Ignition Switch Output circuit.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
10	<p>Turn the ignition off.            Disconnect the Multi-Function Switch harness connector.            Disconnect the BCM C3 harness connector.            Turn the ignition on.            Measure the voltage of the Wiper MUX Switch Signal circuit.            Is the voltage above 1.0 volt?</p> <p>Yes → Repair the wiper switch mux signal circuit for a short to voltage.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 11</p>	All
11	<p>Turn the ignition off.            Disconnect the Multi-Function Switch harness connector.            Disconnect the BCM C2 harness connector.            Measure the resistance of the Windshield Wiper Switch MUX circuit between the BCM C2 harness connector and the Multi-Function harness connector.            Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 12</p> <p>No → Repair the Windshield Wiper Switch MUX circuit for an open.            Perform BODY VERIFICATION TEST - VER 1.</p>	All
12	<p>Turn the ignition off.            Disconnect the Multi-Function Switch harness connector.            Disconnect the BCM C2 harness connector.            Measure the resistance of the Wiper MUX Switch Signal circuit between the BCM C2 harness connector and ground.            Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Windshield Wiper Switch MUX circuit shorted to ground.            Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 13</p>	All

## WINDSHIELD WIPER & WASHER

### \*WIPER, NOT WORKING AT ALL — Continued

TEST	ACTION	APPLICABILITY
13	<p>Turn the ignition off.  Disconnect the multi-function switch harness connector.  Turn the ignition on.  With the DRBIII®, read the intermittent wiper switch volts.  Using a 12-volt test light connected to 12-volts, momentarily connect and disconnect the test light to the wiper mux switch signal circuit at the multi-function switch harness connector.  Does the DRBIII® show intermittent wiper switch volts change from 0.0 volts to above 10.0 volts?</p> <p>Yes → Replace the Multi-Function Switch.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
14	<p>Remove the Wiper On/Off Relay from the PDC.  Using a 12-volt test light connected to ground, probe both Fused B(+) circuits in the PDC.  Does the test light illuminate brightly at each terminal?</p> <p>Yes → Go To 15</p> <p>No → Repair the Fused B(+) circuit(s) for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
15	<p>Turn the ignition off.  Disconnect the Windshield Wiper Motor harness connector.  <b>NOTE: Ensure the ignition, all lights and accessories are turned off for at least 30 seconds.</b>  Using a 12-volt test light connected to 12-volts, probe the Ground circuit at the windshield wiper motor harness connector.  Does the test light illuminate brightly?</p> <p>Yes → Go To 16</p> <p>No → Repair the Ground circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
16	<p>Turn the ignition off.  Install a substitute relay in place of the Wiper High/Low Relay  Turn the ignition on.  Turn the Multi-Function Switch to the low wiper setting, then to the high wiper setting. Observe wiper operation for each setting.  Do the low speed and high speed wipers operate correctly?</p> <p>Yes → Replace the Wiper High/Low Relay.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 17</p>	All
17	<p>Turn the ignition off.  Remove the Wiper High/Low Relay from the PDC.  Remove the Wiper On/Off Relay from the PDC.  Measure the resistance of the Common circuit between ground in the PDC.  Is the resistance below 10.0 ohms?</p> <p>Yes → Repair the Common Circuit for a shorted to ground.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 18</p>	All

**\*WIPER, NOT WORKING AT ALL — Continued**

TEST	ACTION	APPLICABILITY
18	Turn the ignition off. Remove the wiper High/Low Relay from the PDC. Remove the wiper On/Off Relay from the PDC. Measure the resistance of the Common circuit between the High/Low Relay and the On/Off relay in the PDC. Is the resistance below 10.0 ohms?  Yes → Go To 19  No → Repair the Common circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
19	Turn the ignition on. Disconnect the Windshield Wiper Motor harness connector. Turn the wiper switch to the low speed position. Using a 12-volt test light connected to ground, probe the low speed output circuit at the wiper motor harness connector. Does the test light illuminate brightly?  Yes → Replace the Wiper Motor. Perform BODY VERIFICATION TEST - VER 1.  No → Test Complete.	All

## WINDSHIELD WIPER & WASHER

### Symptom:

**\*WIPER, NOT WORKING IN THE HIGH SPEED**

POSSIBLE CAUSES
WIPER HIGH/LOW RELAY
MULTI-FUNCTION SWITCH HIGH SWITCH OPEN
WIPER HIGH/LOW RELAY CONTROL CKT SHORT TO VOLTAGE
WIPER HIGH/LOW RELAY CONTROL CIRCUIT OPEN
FUSED B(+) CKT OPEN
HIGH SPEED OUTPUT CIRCUIT OPEN
HIGH SPEED OUTPUT SHORTED TO GROUND
BCM
WIPER MOTOR- HI SPEED RELAY

TEST	ACTION	APPLICABILITY
1	Remove the Wiper High/Low Relay. Connect a jumper wire between the Fused B(+) circuit and the Wiper High Speed output circuit. Observe windshield wiper operation. Are the windshield wipers operating at high speed?  Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Install a substitute relay in place of the Wiper High/Low Relay. Turn the ignition on. Turn the multi-function switch to the low wiper setting, then to the high wiper setting. Observe wiper operation for each setting. Do the low speed and high speed wipers operate correctly?  Yes → Replace the Wiper High/Low Relay. Perform BODY VERIFICATION TEST - VER 1.  No → Go To 3	All
3	Turn the ignition off. Disconnect the Multi-Function Switch harness connector and remove the Multi-Function Switch from the steering column. Set the Multi-Function Switch to the high speed position. Measure the resistance between terminals 1 and 3 in the Multi-Function Switch connector (component side). Is the resistance between 480.0 and 540.0 ohms?  Yes → Go To 4 No → Replace the Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1.	All

**\*WIPER, NOT WORKING IN THE HIGH SPEED — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off.  Remove the Wiper High/Low Relay from the PDC.  Disconnect the BCM C3 harness connector.  Turn the ignition on.  Measure the voltage of the Wiper High/Low Relay Control circuit.  Is there any voltage present?</p> <p>Yes → Repair the Wiper High/Low Relay Control circuit for a short to voltage.  Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.  Remove the Wiper High/Low Relay from the PDC.  Disconnect the BCM C3 harness connector.  Measure the resistance of the Wiper High/Low Relay Control circuit between the PDC connector and the BCM C3 harness connector.  Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Wiper High/Low Relay Control circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>If there are no possible causes, view repair</p> <p>Repair</p> <p>Replace the Body Control Module.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Remove the Wiper High/Low Relay from the PDC.  Using a 12-volt test light connected to ground, probe the fused B(+) circuit in the PDC.  Does the test light illuminate brightly?</p> <p>Yes → Go To 8</p> <p>No → Repair the Fused B(+) circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Turn the ignition off.  Remove the Wiper High/Low Relay.  Disconnect the Wiper Motor harness connector.  Connect a jumper wire between the Wiper High Speed Output circuit at the wiper harness connector and ground.  Using a 12-volt test light connected to 12-volts, probe the High Speed Output circuit at the Wiper High/Low Relay connector.  Does the test light illuminate brightly?</p> <p>Yes → Go To 9</p> <p>No → Repair the High Speed Output circuit for an open.  Perform BODY VERIFICATION TEST - VER 1.</p>	All

## WINDSHIELD WIPER & WASHER

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### **\*WIPER, NOT WORKING IN THE HIGH SPEED — Continued**

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Remove the Wiper High/Low Relay. Disconnect the Wiper Motor harness connector. Measure the resistance between ground and the Wiper High Speed Output circuit. Is the resistance below 100.0 ohms?  Yes → Repair the High Speed Output circuit shorted 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 Wiper Motor. Perform BODY VERIFICATION TEST - VER 1.	All

## Symptom:

**\*WIPER, RUNS ALL THE TIME WITH IGNITION ON**

POSSIBLE CAUSES
<p>WIPER ON/OFF RELAY</p> <p>WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED TO GROUND</p> <p>LOW SPEED OUTPUT CIRCUIT SHORTED TO VOLTAGE</p> <p>HIGH SPEED OUTPUT CIRCUIT SHORTED TO VOLTAGE</p> <p>COMMON CIRCUIT SHORTED TO VOLTAGE</p> <p>BCM</p>

TEST	ACTION	APPLICABILITY
1	<p>Install a substitute relay in place of the Wiper On/Off Relay.</p> <p>Do the Wipers operate correctly?</p> <p>Yes → Replace the Wiper On/Off Relay.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off.</p> <p>Remove the Wiper On/Off Relay from the PDC.</p> <p>Disconnect the BCM C3 harness connector.</p> <p>Measure the resistance between ground and the Wiper On/Off Relay Control circuit.</p> <p>Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Wiper On/Off Relay Control circuit for a shorted to ground.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off.</p> <p>Remove the Wiper High/Low Relay.</p> <p>Disconnect the Wiper Motor harness connector.</p> <p>Turn the ignition on.</p> <p>Measure the voltage of the Low Speed Output circuit at the PDC.</p> <p>Is there any voltage present?</p> <p>Yes → Repair the Low Speed Output circuit for a shorted to battery.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.</p> <p>Remove the Wiper High/Low Relay from the PDC.</p> <p>Disconnect the Wiper Motor harness connector.</p> <p>Turn the ignition on.</p> <p>Measure the voltage of the Wiper High Speed Output circuit at the PDC High/Low Relay connector.</p> <p>Is there any voltage present?</p> <p>Yes → Repair the High Speed Output circuit for a shorted to battery.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All

## WINDSHIELD WIPER & WASHER

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### **\*WIPER, RUNS ALL THE TIME WITH IGNITION ON — Continued**

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Remove the Wiper On/Off and High/Low Relays. Turn the ignition on. Measure the voltage of the Common circuit at the Wiper High/Low Relay connector in the PDC. Is the voltage above 10.0 volts?  Yes → Repair the Common Circuit shorted to battery voltage. 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

## Verification Tests

42LE TRANSMISSION VERIFICATION TEST - VER 1	APPLICABILITY
<p><b>1. NOTE: After completion of the Transmission Verification Test the Powertrain Verification Test must be performed.</b></p> <p>2. Connect the DRBIII® to the Data Link Connector (DLC).</p> <p>3. Reconnect any disconnected components.</p> <p>4. With the DRBIII®, erase all Transmission DTC's, also erase the PCM DTC's.</p> <p>5. With the DRBIII®, display Transmission Temperature. Start and run the engine until the Transmission Temperature is HOT, above 43° C or 110° F.</p> <p>6. Check the transmission fluid and adjust if necessary. Refer to the Service Information for the Fluid Fill procedure.</p> <p><b>7. NOTE: If the Transmission Control Module or Torque Converter has been replaced or if the Transmission has been repaired or replaced it is necessary to perform the DRBIII® Quick Learn Procedure and reset the "Pinion Factor"</b></p> <p><b>8. NOTE: If the Torque Converter or the PCM is replaced on a vehicle whose Torque Converter has less than 3750 miles and less than 360 minutes of PEMCC, then with the DRBIII® restart the TCC Break-In. This is in order to avoid possible shudder.</b></p> <p>9. Road test the vehicle. With the DRBIII®, monitor the engine RPM. Make 15 to 20 1-2, 2-3, 3-4 upshifts. Perform these shifts from a standing start to 45 MPH with a constant throttle opening of 20 to 25 degrees.</p> <p>10. Below 25 MPH, make 5 to 8 wide open throttle kickdowns to 1st gear. Allow at least 5 seconds each in 2nd and 3rd gear between each kickdown.</p> <p>11. For a specific DTC, drive the vehicle to the Symptom's When Monitored/When Set conditions to verify the DTC is repaired.</p> <p>12. If equipped with AutoStick®, upshift and downshift several times using the AutoStick® feature during the road test.</p> <p><b>13. NOTE: Use the EATX OBDII task manager to run Good Trip time in each gear, this will confirm the repair and to ensure that the DTC has not re-matured.</b></p> <p>14. Check for Diagnostic Trouble Codes (DTC's) during the road test. If a DTC sets during the road test, return to the Symptom list and follow the path.</p> <p><b>15. NOTE: Erase P0700 DTC in the PCM to turn the MIL light off after making transmission repairs.</b></p> <p>Were there any Diagnostic Trouble Codes set during the road test?</p> <p>Yes → Repair is not complete, refer to the appropriate symptom.</p> <p>No → Repair is complete.</p>	All

ABS VERIFICATION TEST - VER 1	APPLICABILITY
<p>1. Turn the ignition off.</p> <p>2. Connect all previously disconnected components and connectors.</p> <p>3. Ensure all accessories are turned off and the battery is fully charged.</p> <p>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.</p> <p>5. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTC's from ALL modules.</p> <p>6. If any Diagnostic Trouble Codes are present, return to Symptom list and troubleshoot new or recurring symptom.</p> <p>7. 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.</p> <p><b>8. Caution: Ensure braking capability is available before road testing.</b></p> <p>9. Again, with the DRBIII® read DTC's. If any DTC's are present, return to Symptom list.</p> <p>10. If there are no Diagnostic Trouble Codes (DTC's) present, and the customer's concern can no longer be duplicated, the repair is complete.</p> <p>Are any DTC's present or is the original concern still present?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	All

## Verification Tests — Continued

AIRBAG VERIFICATION TEST - VER 1	APPLICABILITY
<p>1. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery.</p> <p><b>2. WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</b></p> <p>3. Connect the DRBIII® to the Data Link Connector - use the most current software available.</p> <p>4. Use the DRBIII® and erase the stored codes in all airbag system modules.</p> <p>5. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On.</p> <p>6. Wait one minute, and read active codes and if there are none present read the stored codes.</p> <p>7. Note: If equipped with Airbag On-Off switch, read the DTC's in all switch positions.</p> <p>8. Note: Read the DTC's in all airbag system related modules.</p> <p>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.</p> <p>Are any DTC's present or is the original condition still present?</p> <p>YES</p> <p>Repair is not complete, refer to appropriate symptom list.</p> <p>NO</p> <p>Repair is complete.</p>	All

## Verification Tests — Continued

BODY VERIFICATION TEST - VER 1	APPLICABILITY
<p>1. Disconnect all jumper wires and reconnect all previously disconnected components and connectors.</p> <p>2. If the Sentry Key Immobilizer Module (SKIM) or the Powertrain Control Module (PCM) was replaced, proceed to number 6. If the SKIM or PCM was not replaced, continue to the next number.</p> <p>3. If the Body Control Module was replaced, turn the ignition on for 15 seconds (to allow the new BCM to learn VIN) or engine may not start (if VTSS equipped). If the vehicle is equipped with VTSS, use the DRBIII® and enable VTSS.</p> <p>4. Program all other options as needed.</p> <p>5. If any repairs were made to the HVAC System, disconnect the battery or, using the DRBIII®, recalibrate the HVAC doors. Proceed to number 13.</p> <p>6. Obtain the Vehicle's unique PIN assigned to it's original SKIM from either the vehicle's invoice or from Chrysler's Customer Assistance Center (1-800-992-1997).</p> <p>7. NOTE: Once Secured Access Mode is active, the SKIM will remain in that mode for 60 seconds.</p> <p>8. With the DRBIII®, select THEFT ALARM, SKIM, MISCELLANEOUS and select SKIM REPLACED. Enter the 4 digit PIN to put the SKIM in Secured Access Mode.</p> <p>9. The DRBIII® will prompt for the following steps. (1) Program the country code into the SKIM's memory. (2) Program the vehicle's VIN into the SKIM memory. (3) Transfer the vehicle's Secret Key data from the PCM.</p> <p>10. Using the DRBIII®, program all customer keys into the SKIM memory. This requires that the SKIM be in Secured Access Mode, using the 4 digit PIN.</p> <p>11. Note: If the PCM is replaced, the VIN and the unique Secret Key data must be transferred from the SKIM to the PCM. This procedure requires the SKIM to be placed in Secured Access Mode using the 4-digit PIN.</p> <p>12. Note: If 3 attempts are made to enter Secured Access Mode using an incorrect PIN, Secured Access Mode will be locked out for 1 hour which causes the DRBIII® to display "Bus +\ - Signals Open". To exit this mode, turn ignition to Run for 1 hour.</p> <p>13. Ensure that all accessories are turned off and the battery is fully charged.</p> <p>14. Ensure that the Ignition is on.</p> <p>15. With the DRBIII®, record and erase all DTCs from ALL modules. Start and run the engine for 2 minutes. Operate all functions of the system that caused the original concern.</p> <p>16. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTCs from ALL modules.</p> <p>Are any DTC's present or is the original condition still present?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	<p>All</p>

## Verification Tests — Continued

MEMORY HEATED SYSTEM VERIFICATION TEST - VER 1	APPLICABILITY
<ol style="list-style-type: none"> <li>1. Reconnect all previously disconnected components and connectors.</li> <li>2. If any Memory Heated Seat Memory Module Trouble Codes are present, erase at this time.</li> <li>3. If the Memory Seat Module was replaced, use the DRBIII and Reset Guard Bands.</li> <li>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.</li> <li>5. Remove the Ignition Key and close all Doors to allow the Body Control Module to time out, about 30 seconds.</li> <li>6. Verify that both Memory positions can be recalled from the RKE transmitter and the Memory Switch on the Driver's Door.</li> <li>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.</li> <li>8. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII, read DTC's from ALL modules.</li> </ol> <p>Are any DTC's present or is the original complaint still present?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	All
POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
<ol style="list-style-type: none"> <li>1. <b>NOTE: After completing the Powertrain Verification Test the Transmission Verification Test must be performed.</b></li> <li>2. <b>NOTE: If the PCM has been replaced and the correct VIN and mileage have not been programmed, a DTC will be set in the ABS Module, Airbag Module and the SKIM.</b></li> <li>3. <b>NOTE: If the vehicle is equipped with a Sentry Key Immobilizer System, Secret Key data must be updated. Refer to the Service Information for the PCM, SKIM and the Transponder (ignition key) for programming information.</b></li> <li>4. Inspect the vehicle to ensure that all components related to the repair are connected properly.</li> <li>5. Inspect the engine oil for fuel contamination. Replace the oil and filter as necessary.</li> <li>6. Attempt to start the engine.</li> <li>7. If the No Start condition is still present, refer to the symptom list and perform the diagnostic testing as necessary. refer to and Technical Service Bulletins that may apply.</li> <li>8. Run the engine for one warm-up cycle to verify operation.</li> <li>9. With the DRBIII®, confirm that no DTCs or Secondary Indicators are present and that all components are functioning properly.</li> <li>10. If a DTC is present, refer to the appropriate category and select the corresponding symptom.</li> </ol> <p>Are any DTCs present?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	All

## Verification Tests — Continued

SKIS VERIFICATION	APPLICABILITY
<ol style="list-style-type: none"> <li>1. Reconnect all previously disconnected components and connectors.</li> <li>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).</li> <li><b>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 PIN's are entered the SKIM will Lock Out the DRB III for 1 hour.</b></li> <li>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.</li> <li>5. With the DRB III, select Theft Alarm, SKIM and Miscellaneous. Then select desired procedure and follow the steps that will be displayed.</li> <li>6. If the SKIM has been replaced, ensure all of the vehicle ignition keys are programmed to the new SKIM.</li> <li><b>7. NOTE: Prior to returning vehicle to the costumer, perform a module scan to be sure that all DTC's are erased. Erase any DTC's that are found.</b></li> <li>8. With the DRB III erase all DTC's. Perform 5 ignition key cycles leaving the key on for at least 90 seconds per cycle.</li> <li>9. With the DRB III, read the SKIM DTC's.</li> </ol> <p>Are there any SKIM DTC's?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	All

SPEED PRO STEERING VERIFICATION TEST - VER 1	APPLICABILITY
<ol style="list-style-type: none"> <li>1. Connect all previously disconnected components and connectors.</li> <li>2. With the DRBIII®, erase DTC's.</li> <li>3. Cycle the ignition switch from off to on.</li> <li>4. With the DRBIII®, read DTC's. If any DTCs are present return to the Symptom List and perform the appropriate diagnostic procedure. If no DTCs are present, road test the vehicle for at least 15 minutes performing several steering maneuvers.</li> <li>5. Again with the DRBIII®, read DTC's. If any DTCs are present select the appropriate symptom from the Symptom List and perform the appropriate diagnostic procedure.</li> <li>6. If no DTCs are present and the customers complaint cannot be duplicated, the repair is complete.</li> </ol> <p>Were there any DTCs set during the road test?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	All

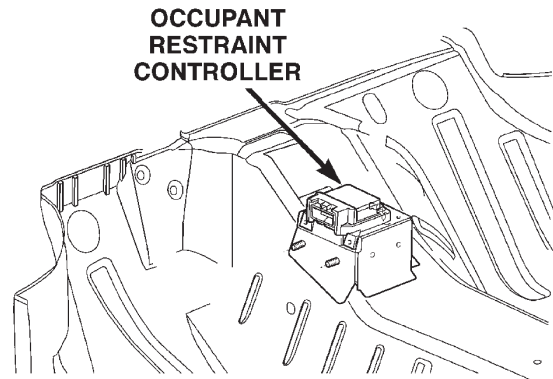
TIRE PRESSURE VERIFICATION TEST	APPLICABILITY
<ol style="list-style-type: none"> <li>1. Perform the EVIC training as instructed in the System Description.</li> <li>2. Using the DRBIII® or the EVIC RESET button, set the EVIC to Diagnostics mode (blank screen).</li> <li><b>3. NOTE: Set the EVIC as follows:</b></li> <li>4. Press and hold the EVIC RESET button for five seconds (EVIC will beep).</li> <li>5. Set the EVIC to display BLOCK COUNTERS.</li> <li><b>6. NOTE: A vehicle graphic will display showing counters at wheel locations.</b></li> <li>7. Drive the vehicle at 40 km/h (25 mph) for at least 2 minutes.</li> <li>8. Observe that the counters increment at least 3 sensor/transmitter receptions for each wheel.</li> </ol> <p>Can the EVIC be trained and do the counters show Sensor/Transmitter receptions?</p> <p>Yes → Repair is complete.</p> <p>No → Refer to Diagnosing System Faults in the Description and Operation for this system.</p>	All

## Verification Tests — Continued

VTSS VERIFICATION TEST - 1A	APPLICABILITY
<ol style="list-style-type: none"> <li>1. Ensure all doors and the decklid are closed.</li> <li>2. Open the driver door.</li> <li>3. Remove the ignition key (but keep in hand).</li> <li>4. Lock the doors with RKE transmitter.</li> <li>5. Close the driver door.</li> <li>6. - If the VTSS Indicator Lamp flashes rapidly and after approximately 15 seconds changes to a slower flash, the system is operational.</li> <li>7. - If the Indicator fails to flash as described, there is a problem with the system. Select the Identifying VTSS symptom from the Symptom List to troubleshoot.</li> </ol> <p>Are any DTC's present or is the original complaint still present?</p> <p style="padding-left: 40px;">Yes → Repair is not complete, refer to the appropriate symptom.</p> <p style="padding-left: 40px;">No → Repair is complete.</p>	All

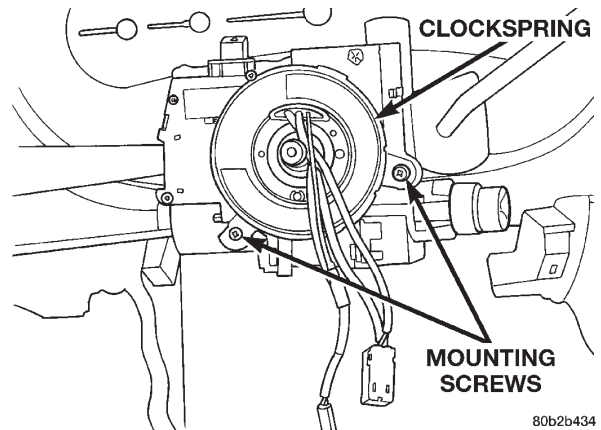
## 8.0 COMPONENT LOCATIONS

### 8.1 AIRBAG SYSTEM

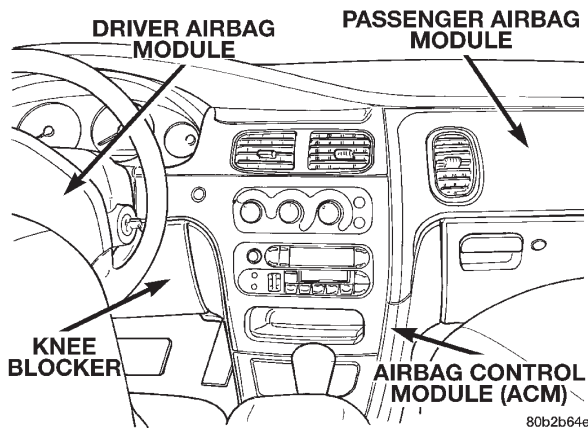


**NOTE: THE OCCUPANT RESTRAINT CONTROLLER (ORC) IS LOCATED IN THE CENTER OF THE VEHICLE UNDER THE LOWER EDGE OF THE INSTRUMENT PANEL.**

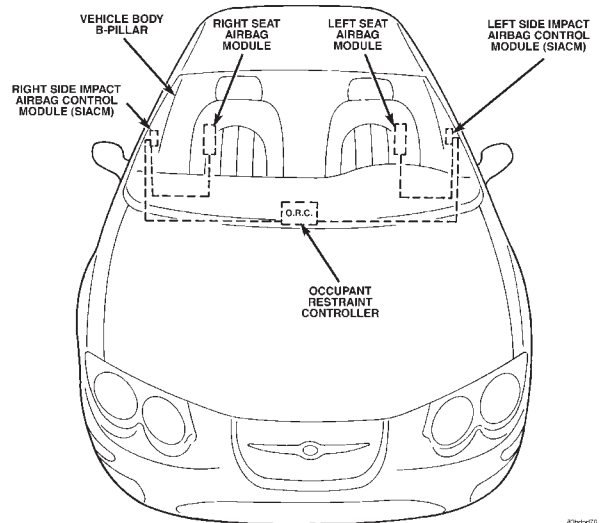
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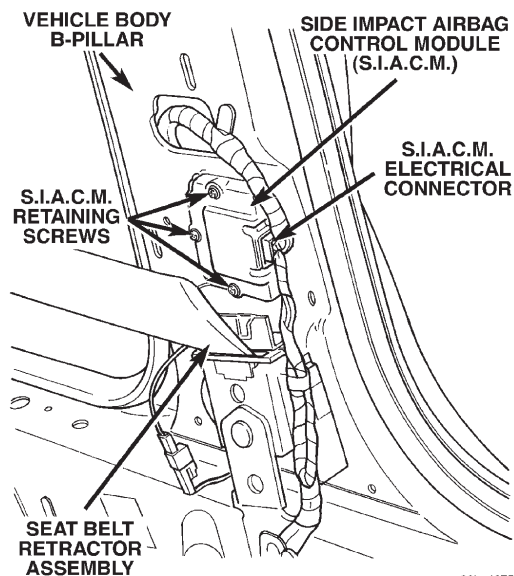
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80b0d70

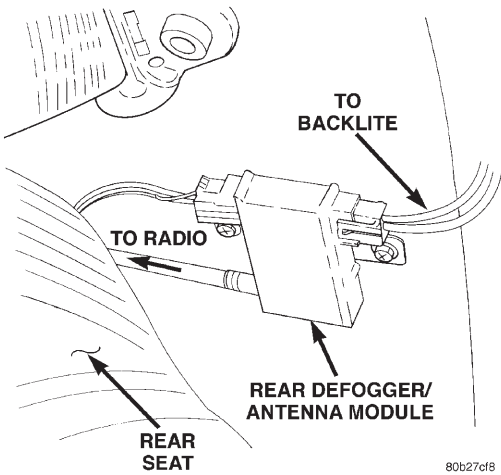


80be4675

# COMPONENT LOCATIONS

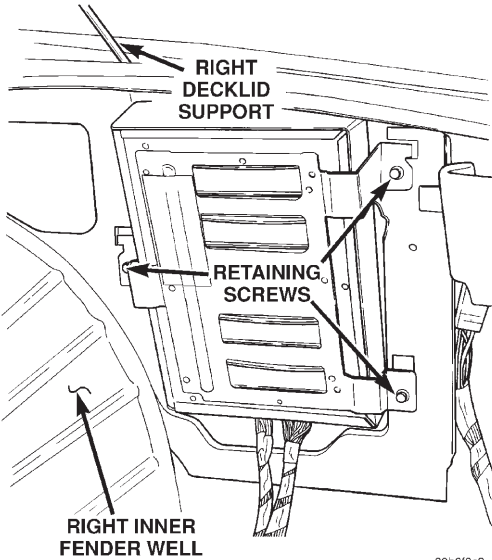
## 8.2 AUDIO

### 8.2.1 ANTENNA MODULE



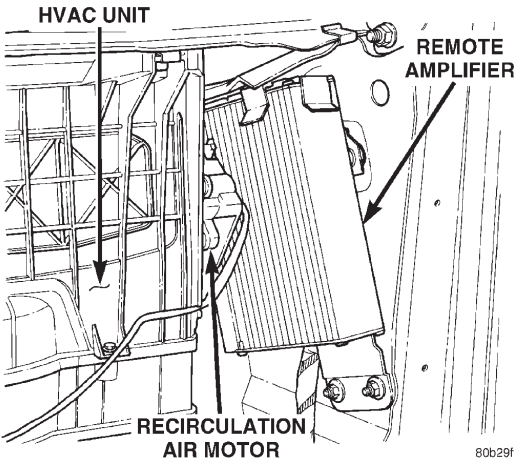
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### 8.2.2 AMPLIFIER (INFINITY 2)



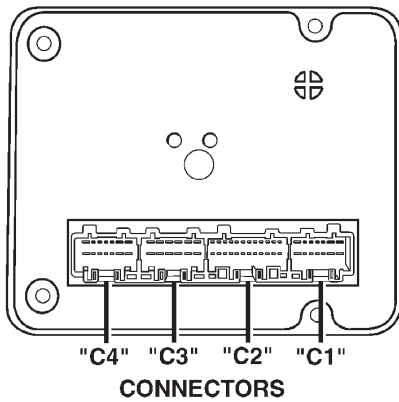
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### 8.2.3 AMPLIFIER (INFINITY 1)

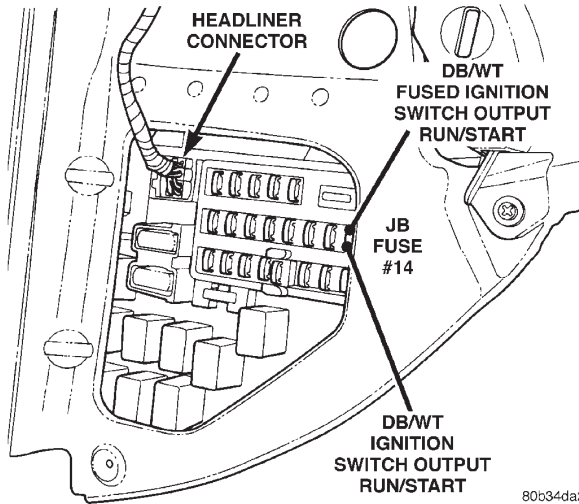
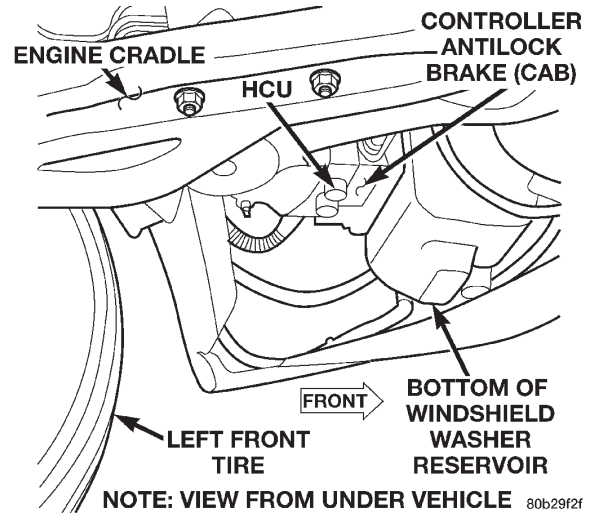


80b29ff1

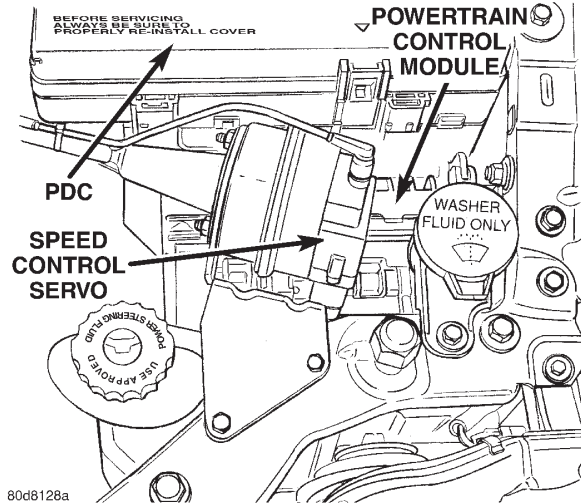
## 8.3 COMMUNICATION



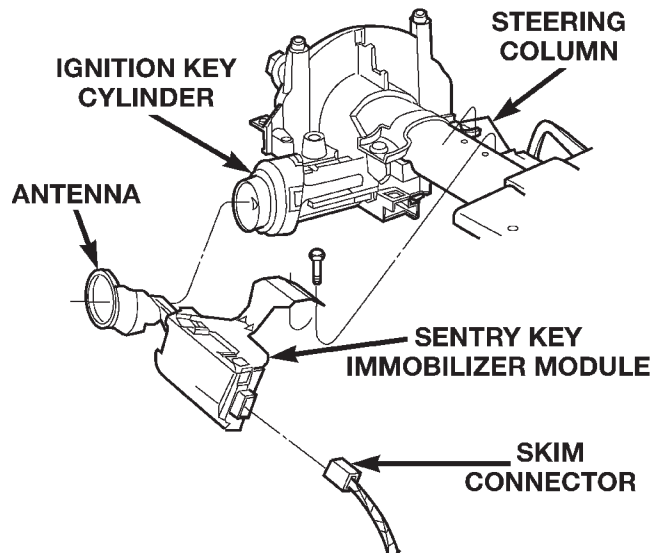
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80b34da2



80d8128a

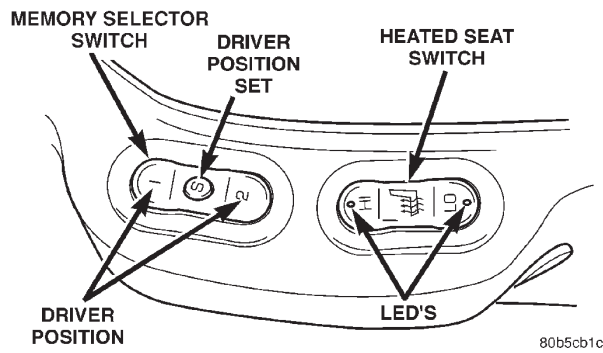


80b5cb46

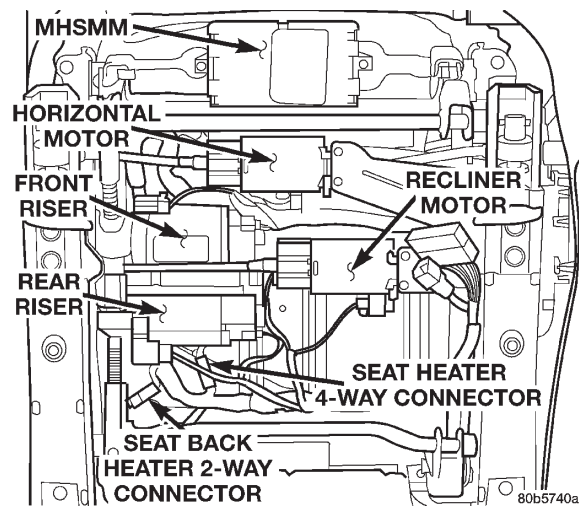
## COMPONENT LOCATIONS

### 8.4 ELECTRICALLY HEATED SYSTEMS

#### 8.4.1 SWITCHES

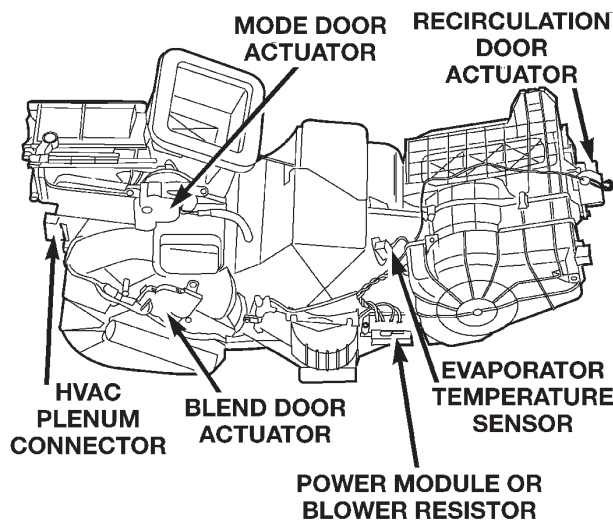


#### 8.4.2 HEATED SEAT MODULE

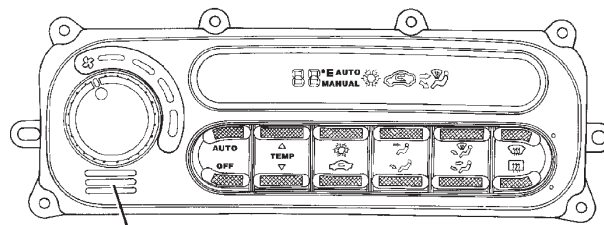


### 8.5 HEATING AND A/C

#### 8.5.1 ACTUATORS



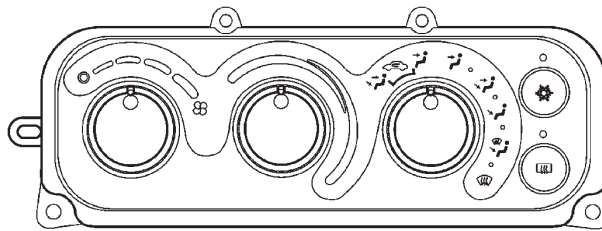
## 8.5.2 AUTOMATIC TEMPERATURE CONTROL HEAD



ASPIRATOR MOTOR  
AND IN-CAR  
TEMPERATURE  
SENSOR

80b27c9b

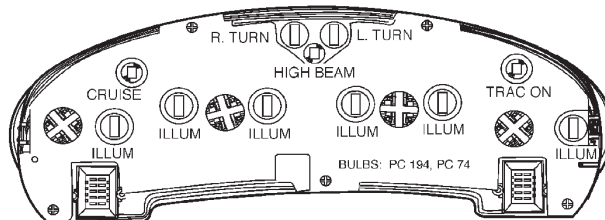
## 8.5.3 MANUAL TEMPERATURE CONTROL HEAD



80b34db1

## 8.6 INSTRUMENT CLUSTER

### 8.6.1 CHRYSLER (TYPICAL)

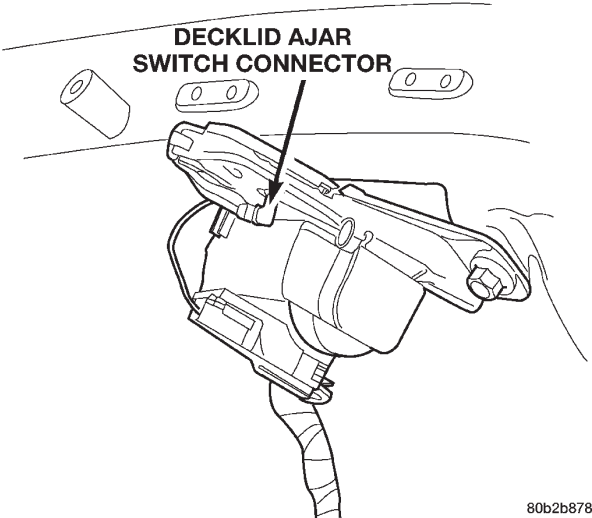


80b242fb

# COMPONENT LOCATIONS

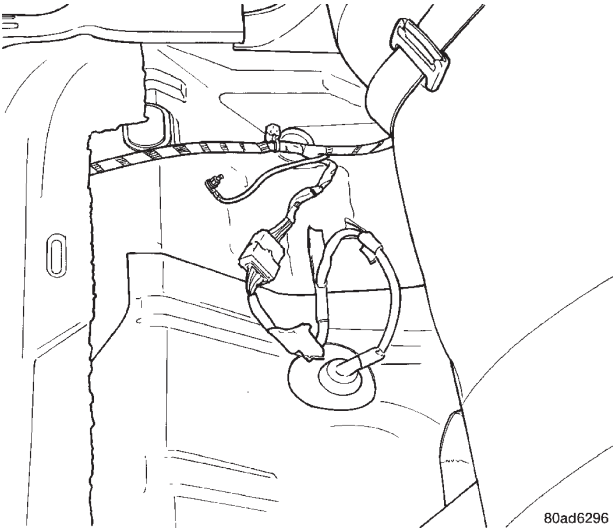
## 8.6 INSTRUMENT CLUSTER (Continued)

### 8.6.2 DECKLID AJAR SWITCH



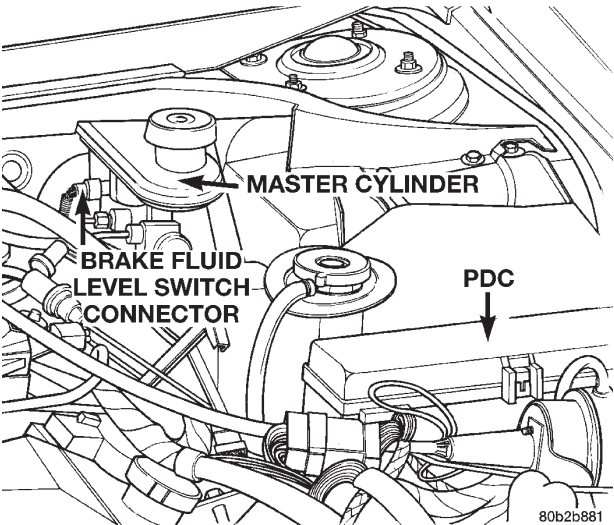
80b2b878

### 8.6.3 FUEL PUMP MODULE (HARNESS CONNECTOR)-C308



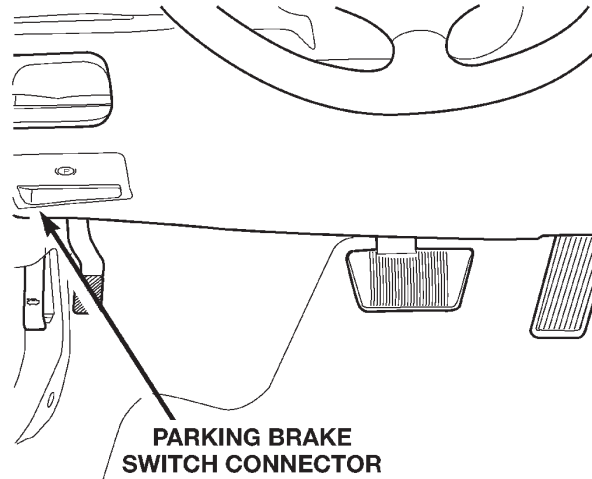
80ad6296

### 8.6.4 BRAKE FLUID LEVEL SWITCH



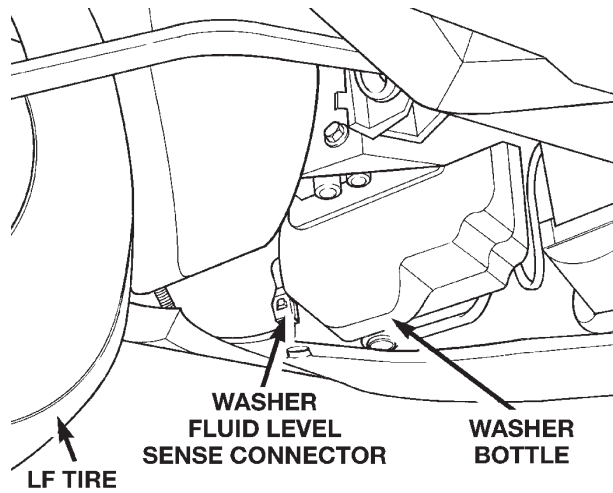
80b2b881

## 8.6.5 PARKING BRAKE SWITCH



80b2b879

## 8.6.6 WASHER FLUID LEVEL

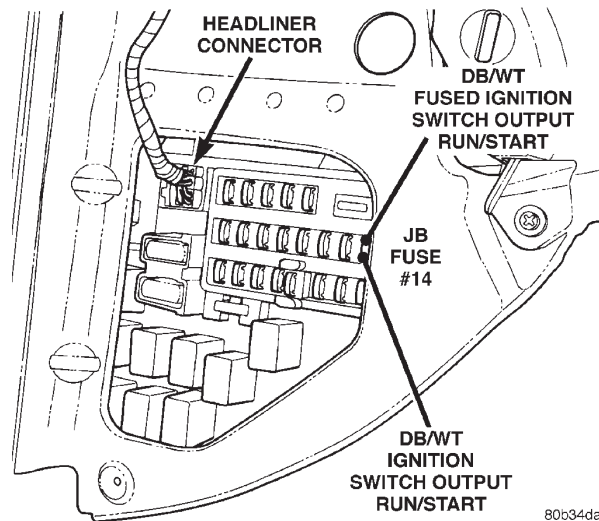


NOTE: VIEW FROM UNDER VEHICLE

80b2b880

## 8.7 INTERIOR LIGHTING

### 8.7.1 HEADLINER CONNECTOR

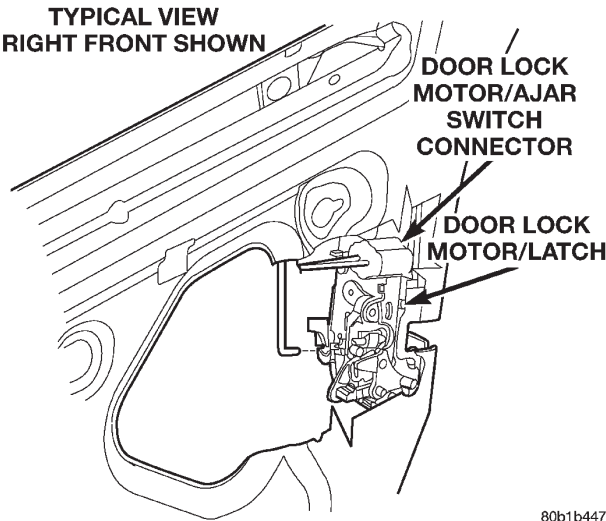


80b34da2

# COMPONENT LOCATIONS

## 8.7 INTERIOR LIGHTING (Continued)

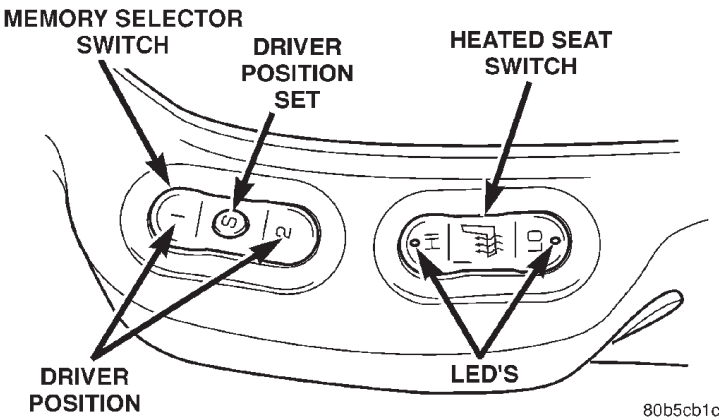
### 8.7.2 DOOR AJAR SWITCH



80b1b447

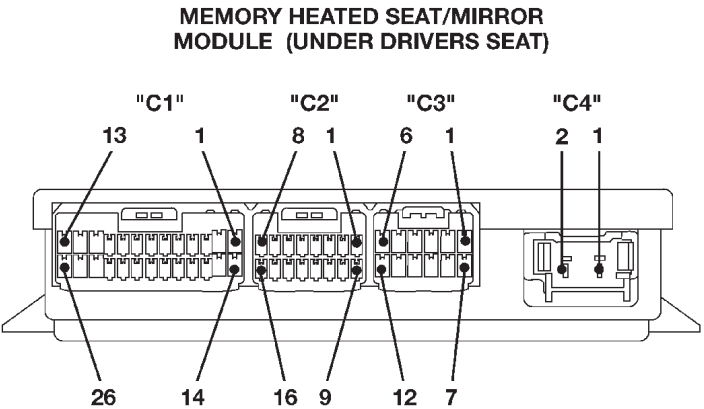
## 8.8 MEMORY SYSTEM

### 8.8.1 MEMORY SWITCH



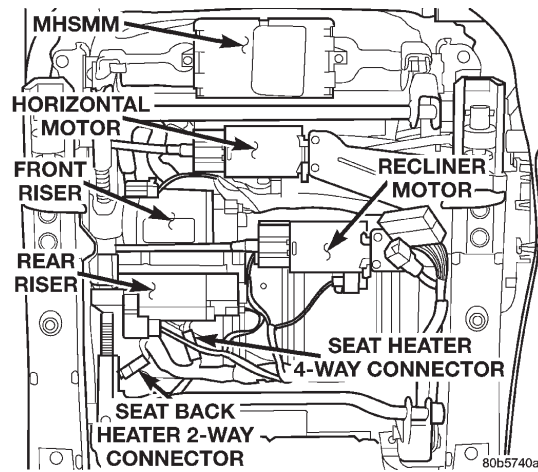
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### 8.8.2 MEMORY MODULE



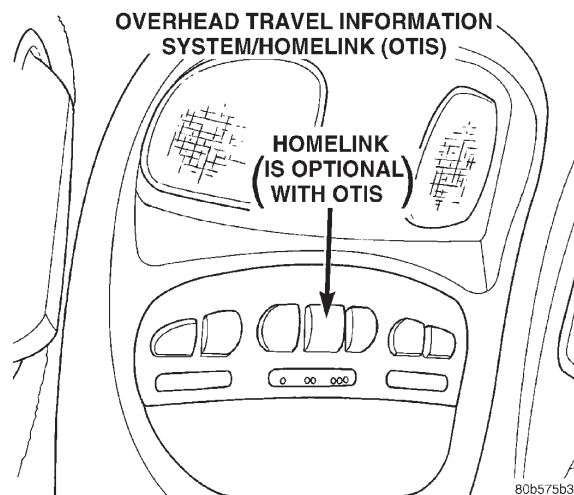
80b46bed

## 8.8.3 MEMORY SEAT MOTORS

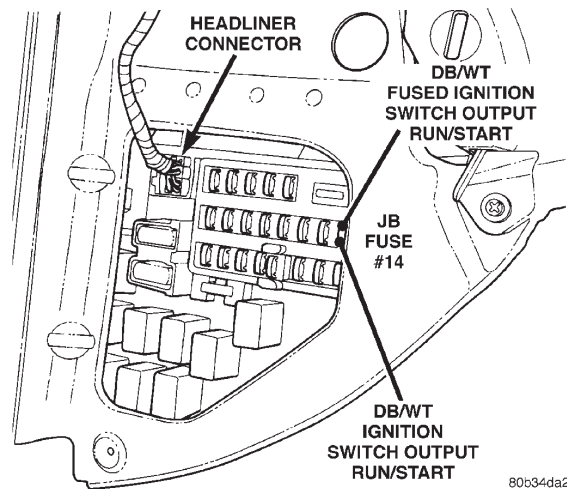


## 8.9 OVERHEAD TRAVEL INFORMATION SYSTEM

### 8.9.1 OTIS MODEL



### 8.9.2 HEADLINER CONNECTOR (J/B C-11)

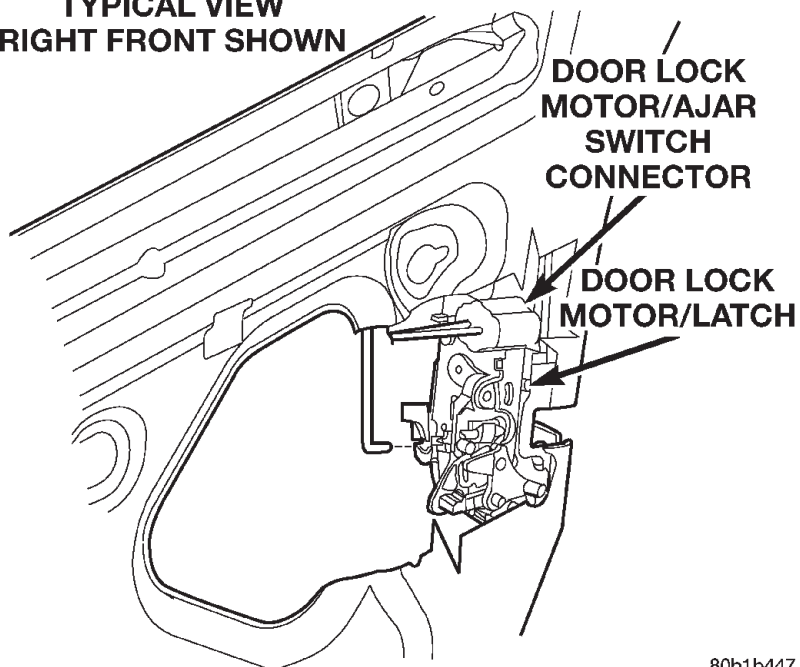


## COMPONENT LOCATIONS

### 8.10 POWER DOOR LOCKS

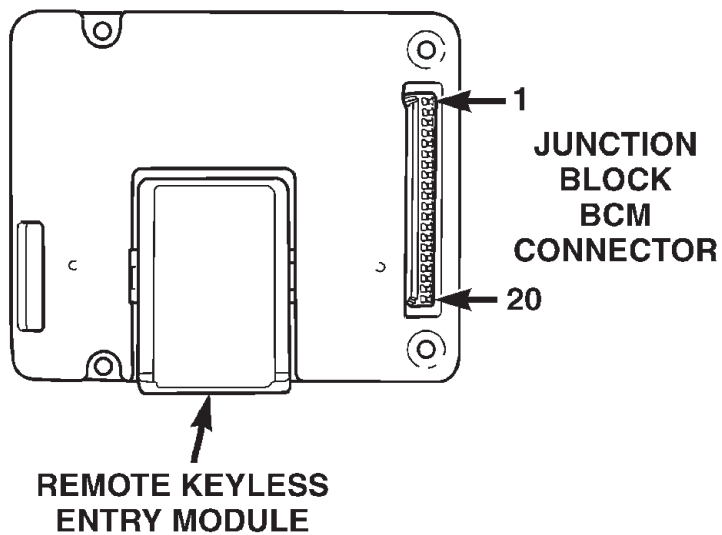
#### 8.10.1 DOOR LOCK MOTOR

**TYPICAL VIEW  
RIGHT FRONT SHOWN**



80b1b447

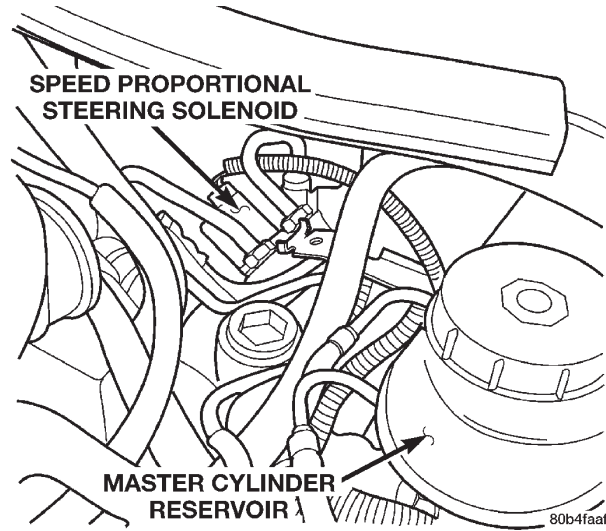
#### 8.10.2 RKE MODULE



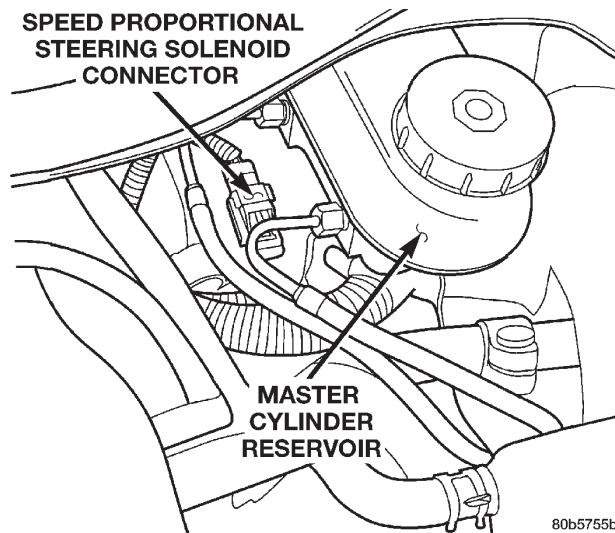
80c4b7ca

## 8.11 SPEED PROPORTIONAL STEERING

### 8.11.1 SOLENOID

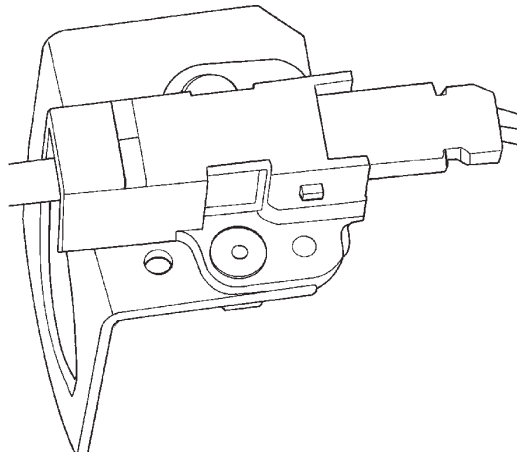


### 8.11.2 CONNECTOR



## 8.12 VEHICLE THEFT SECURITY SYSTEM (VTSS)

### DECKLID SECURITY SWITCH

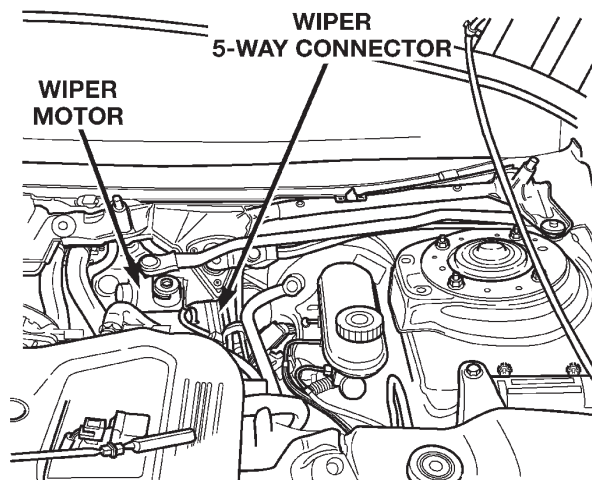


80c070c1

## COMPONENT LOCATIONS

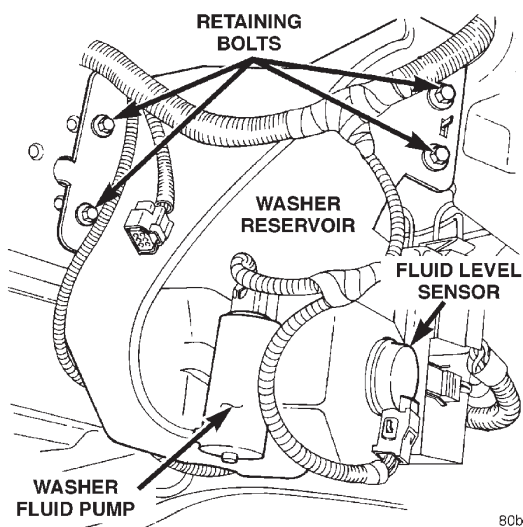
### 8.13 WIPER SYSTEM

#### 8.13.1 WIPER MOTOR



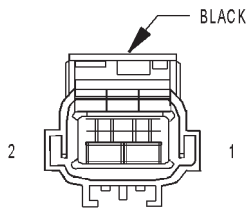
80b171ae

#### 8.13.2 WASHER RESERVOIR



80b2b46f

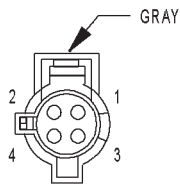
# 9.0 CONNECTOR PINOUTS



A/C COMPRESSOR CLUTCH

A/C COMPRESSOR CLUTCH - BLACK 2 WAY

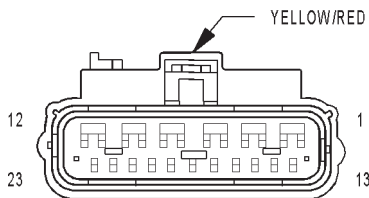
CAV	CIRCUIT	FUNCTION
1	C2 14DB/BK	A/C COMPRESSOR CLUTCH RELAY OUTPUT
2	Z1 14BK	GROUND



A/C PRESSURE TRANSDUCER

A/C PRESSURE TRANSDUCER - GRAY 4 WAY

CAV	CIRCUIT	FUNCTION
1	K4 20BK/LB	SENSOR GROUND
2	K6 20VT/WT	5V SUPPLY
3	C18 20DB	A/C PRESSURE SIGNAL
4	-	-

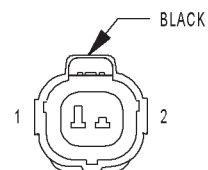


AIRBAG CONTROL MODULE (ORC)

AIRBAG CONTROL MODULE (ORC) - YELLOW/RED 23 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	R42 18BK/YL	PASSENGER SQUIB 1 LINE 1
6	R44 18DG/YL	PASSENGER SQUIB 1 LINE 2
7	-	-
8	-	-
9	-	-
10	-	-
11	R45 18DG/LB	DRIVER SQUIB 1 LINE 1
12	R43 18BK/LB	DRIVER SQUIB 1 LINE 2
13	-	-
14	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
15	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
16	Z2 18BK/LG	GROUND
17	-	-
18	-	-
19	-	-
20	-	-
21	D25 20VT/YL	PCI BUS
22	-	-
23	-	-

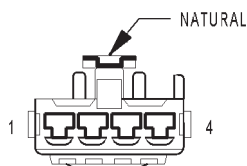
# CONNECTOR PINOUTS



AMBIENT  
TEMPERATURE  
SENSOR

## AMBIENT TEMPERATURE SENSOR - BLACK 2 WAY

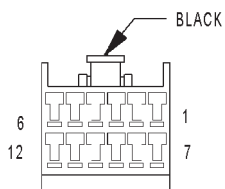
CAV	CIRCUIT	FUNCTION
1	K25 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
2	K4 20BK/LB	SENSOR GROUND



ANALOG CLOCK  
(300M /LHS)

## ANALOG CLOCK (300M/LHS) - NATURAL 4 WAY

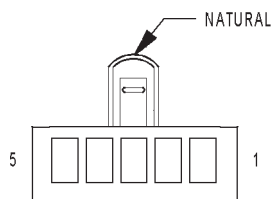
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	Z2 20BK/LG	GROUND
3	E2 20OR	PANEL LAMPS DRIVER
4	-	-



AUTOMATIC  
TEMPERATURE  
CONTROL  
HEAD

## AUTOMATIC TEMPERATURE CONTROL HEAD - BLACK 12 WAY

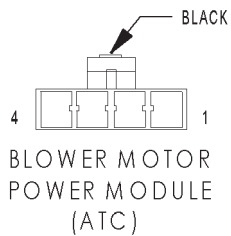
CAV	CIRCUIT	FUNCTION
1	Z2 20BK/LG	GROUND
2	D25 20VT/YL	PCI BUS
3	Z1 20BK	GROUND
4	E2 20OR	PANEL LAMPS DRIVER
5	-	-
6	-	-
7	C10 22RD/TN	IN-CAR TEMPERATURE SENSOR SIGNAL (ATC)
8	C57 20DB/GY	SENSOR GROUND
9	-	-
10	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
11	C9 22YL/DG	ASPIRATOR MOTOR DRIVER
12	M1 20PK	FUSED B (+)



BLEND DOOR  
ACTUATOR

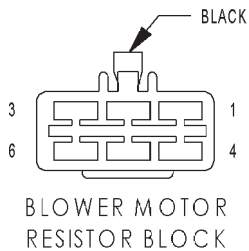
## BLEND DOOR ACTUATOR - NATURAL 5 WAY

CAV	CIRCUIT	FUNCTION
1	C33 22DB/RD	BLEND AIR DOOR DRIVER
2	C57 22DB/GY	SENSOR GROUND
3	C36 22RD/WT	BLEND DOOR FEEDBACK SIGNAL
4	C26 22PK/DB	5V SUPPLY
5	C34 22BR/WT	COMMON DOOR DRIVER



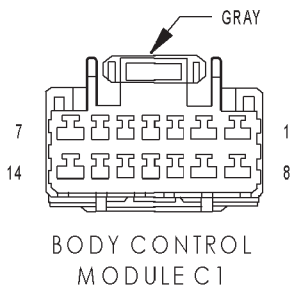
BLOWER MOTOR POWER MODULE (ATC) - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	Z1 12BK	GROUND
3	C56 22RD/LG	BLOWER MOTOR CONTROL
4	C1 12DG	FUSED IGNITION SWITCH OUTPUT (RUN)



BLOWER MOTOR RESISTOR BLOCK - BLACK 6 WAY

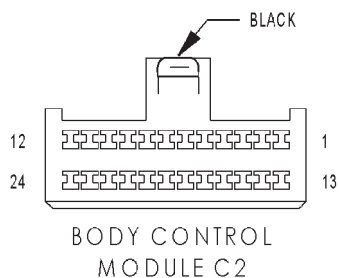
CAV	CIRCUIT	FUNCTION
1	C7 12BK/TN	HIGH BLOWER MOTOR DRIVER
2	C6 16LB	M2 BLOWER MOTOR DRIVER
3	-	-
4	C1 12DG	FUSED IGNITION SWITCH OUTPUT (RUN)
5	C4 18TN	LOW BLOWER MOTOR DRIVER
6	C5 16LG	M1 BLOWER MOTOR DRIVER



BODY CONTROL MODULE C1 - GRAY 14 WAY

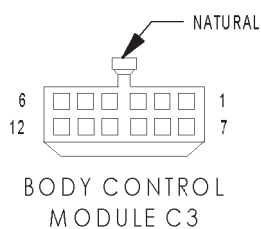
CAV	CIRCUIT	FUNCTION
1	P1 20BK/WT	DECKLID RELEASE SWITCH OUTPUT
2	C32 22GY/DB	RECIRCULATION DOOR DRIVER
3	C33 22DB/RD	BLEND AIR DOOR DRIVER
4	D25 20VT/YL	PCI BUS (ATC)
5	D25 20VT/YL	PCI BUS (RADIO)
6	F13 20DB	FUSED IGNITION SWITCH OUPUT (RUN-ACC)
7	C7 16BK/TN (MTC)	HIGH BLOWER MOTOR DRIVER
8	C57 20DB/GY	SENSOR GROUND
9	C35 22DG/YL	MODE DOOR DRIVER
10	C34 22BR/WT	COMMON DOOR DRIVER
11	D25 20VT/YL	PCI BUS (ORC)
12	D25 20VT/YL	PCI BUS (SKIM)
13	D25 20VT/YL	PCI BUS (MIC)
14	D25 20VT/YL	PCI BUS (DLC)

# CONNECTOR PINOUTS



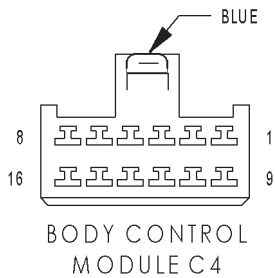
**BODY CONTROL MODULE C2 - BLACK 24 WAY**

CAV	CIRCUIT	FUNCTION
1	C36 22RD/WT	BLEND DOOR FEEDBACK SIGNAL
2	G52 20YL	HEADLAMP SWITCH MUX
3	X20 20GY/WT	RADIO CONTROL MUX
4	D19 20VT/OR (EXCEPT PREMIUM 300M/LHS)	SCI RECEIVE (TCM/BCM)
5	C9 22YL/DG (ATC)	ASPIRATOR MOTOR DRIVER
6	C56 22RD/LG (ATC)	BLOWER MOTOR CONTROL
7	V10 20BR	FRONT WASHER PUMP MOTOR CONTROL
8	V52 20DG/RD	FRONT WIPER MUX SWITCH SIGNAL
9	C37 22YL/WT	MODE DOOR FEEDBACK SIGNAL
10	C38 20DB (EXCEPT BASE)	SUN SENSOR SIGNAL
11	-	-
12	C82 20YL/OR (MTC)	TEMPERATURE SELECT
13	E17 20YL/BK (BASE IN-TREPID)	PARK LAMP RELAY OUTPUT
14	C48 20VT/PK (MTC)	A/C LED INDICATOR SIGNAL
15	C26 22PK/DB	5V SUPPLY
16	X920 20GY/OR	RADIO CONTROL MUX RETURN
17	P58 20WT	RKE EXTERNAL ANTENNA
18	P158 20BK	RKE EXTERNAL ANTENNA
19	L80 20WT	HEADLAMP SWITCH RETURN
20	C12 22LG/BK	EVAPORATOR TEMPERATURE SENSOR SIGNAL
21	E19 20RD	PANEL LAMPS DIMMER SIGNAL
22	C10 22RD/TN (ATC)	IN-CAR TEMPERATURE SENSOR SIGNAL (ATC)
22	C58 22RD/TN (MTC)	A/C MODE SWITCH MUX
23	G69 22BK/OR	VTSS INDICATOR DRIVER
24	G26 22LB	KEY-IN IGNITION SWITCH SENSE



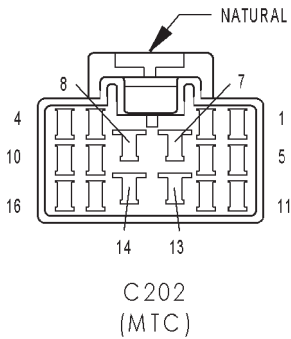
**BODY CONTROL MODULE C3 - NATURAL 12 WAY**

CAV	CIRCUIT	FUNCTION
1	D25 18VT/YL	PCI BUS (PCM)
2	D25 18VT/YL (ABS)	PCI BUS (CAB)
3	V55 20TN/RD	FRONT WIPER PARK SWITCH SENSE
4	V14 20RD/VT	FRONT WIPER ON/OFF RELAY CONTROL
5	Z1 18BK (EXCEPT BUILT-UP-EXPORT)	GROUND
6	-	-
7	-	-
8	-	-
9	V58 20BR/YL (BUILT-UP-EXPORT)	HEADLAMP WASHER RELAY CONTROL
10	-	-
11	-	-
12	V16 20VT	FRONT WIPER HIGH/LOW RELAY CONTROL



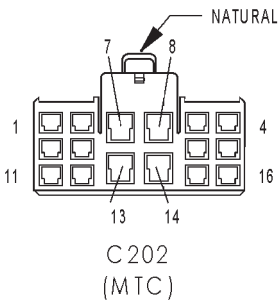
BODY CONTROL MODULE C4 - BLUE 16 WAY

CAV	CIRCUIT	FUNCTION
1	G74 20TN/RD	DOOR AJAR SWITCH SENSE (LR)
2	G74 20TN/RD	DOOR AJAR SWITCH SENSE (PASS)
3	G72 20DG/OR	PASSENGER CYLINDER LOCK SWITCH MUX
4	G75 20TN	DRIVER DOOR AJAR SWITCH SENSE
5	P97 20WT/DG	DRIVER DOOR SWITCH MUX
6	-	-
7	G4 20DB	FUEL LEVEL SENSOR SIGNAL
8	G71 18VT/WT	DECKLID SECURITY SWITCH SENSE
9	D25 20VT/YL	PCI BUS (MHSMM) (SIACM)
10	G74 20TN/RD	DOOR AJAR SWITCH SENSE (RR)
11	-	-
12	P96 20WT/LG	PASSENGER DOOR SWITCH MUX
13	G73 20LG/OR	DRIVER CYLINDER LOCK SWITCH MUX
14	C80 20DB/WT	REAR WINDOW DEFOGGER RELAY CONTROL
15	G10 20LG/RD	SEAT BELT SWITCH SENSE
16	-	-



C202 (MTC) - NATURAL (HVAC HARNESS SIDE)

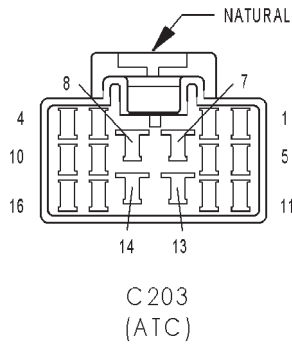
CAV	CIRCUIT
1	C34 20BR/WT
2	C35 22DG/YL
3	C33 22DB/RD
4	C32 20GY/DB
5	C57 20DB/GY
6	C26 22PK/DB
7	C7 12BK/TN
8	C1 12DG
9	C12 20LG/BK
10	C36 22RD/WT
11	C37 22YL/WT
12	C4 18TN
13	C5 16LG
14	C6 16LB
15	-
16	-



C202 (MTC) - NATURAL (I/P HARNESS SIDE)

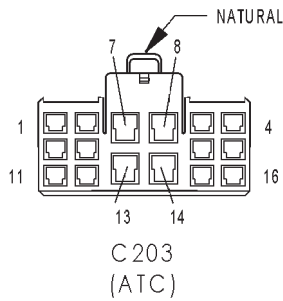
CAV	CIRCUIT
1	C34 22BR/WT
2	C35 22DG/YL
3	C33 22DB/RD
4	C32 22GY/DB
5	C57 20DB/GY
6	C26 22PK/DB
7	C7 12BK/TN
8	C1 12DG
9	C12 22LG/BK
10	C36 22RD/WT
11	C37 22YL/WT
12	C4 18TN
13	C5 16LG
14	C6 16LB
15	-
16	-

# CONNECTOR PINOUTS



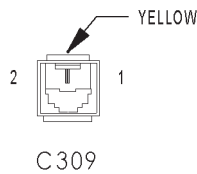
C203 (ATC) - NATURAL (HVAC HARNESS SIDE)

CAV	CIRCUIT
1	C34 20BR/WT
2	C35 22DG/YL
3	C33 22DB/RD
4	C32 20GY/DB
5	C57 20DB/GY
6	C26 22PK/DB
7	-
8	C1 12DG
9	C12 20LG/BK
10	C36 22RD/WT
11	C37 22YL/WT
12	-
13	Z1 12BK
14	-
15	C56 22RD/LG
16	-



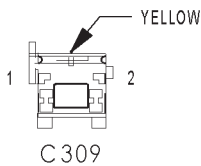
C203 (ATC) - NATURAL (I/P HARNESS SIDE)

CAV	CIRCUIT
1	C34 22BR/WT
2	C35 22DG/YL
3	C33 22DB/RD
4	C32 22GY/DB
5	C57 20DB/GY
6	C26 22PK/DB
7	-
8	C1 12DG
9	C12 22LG/BK
10	C36 22RD/WT
11	C37 22YL/WT
12	-
13	Z1 12BK
14	-
15	C56 22RD/LG
16	-



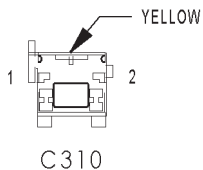
C309 - YELLOW (BODY SIDE)

CAV	CIRCUIT
1	R31 20LG/OR
2	R33 20LG/WT



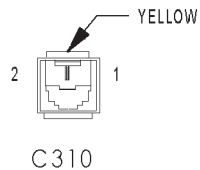
C309 - YELLOW (LEFT SEAT SIDE )

CAV	CIRCUIT
1	R31 20LG/OR
2	R33 20LG/WT



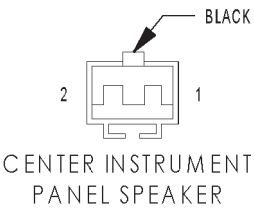
C310 - YELLOW (RIGHT SEAT SIDE)

CAV	CIRCUIT
1	R32 20LB/OR
2	R34 20LB/WT



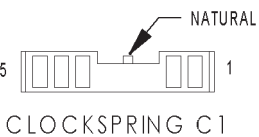
C310 - YELLOW (SAB HARNESS)

CAV	CIRCUIT
1	R32 20LB/OR
2	R34 20LB/WT



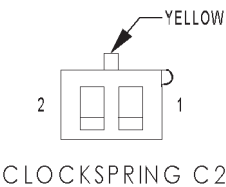
CENTER INSTRUMENT PANEL SPEAKER - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	X89 18PK/BK	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (-)
2	X88 18PK/RD	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (+)



CLOCKSPRING C1 - NATURAL 5 WAY

CAV	CIRCUIT	FUNCTION
1	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL
2	K4 20BK/LB	SENSOR GROUND
3	X3 16BK/RD	HORN RELAY CONTROL
4	X20 20GY/WT	RADIO CONTROL MUX
5	X920 20GY/OR	RADIO CONTROL MUX RETURN



CLOCKSPRING C2 - YELLOW 2 WAY

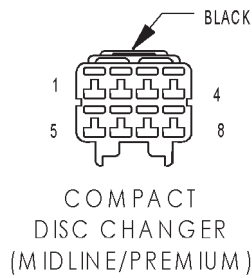
CAV	CIRCUIT	FUNCTION
1	R43 18BK/LB	DRIVER SQUIB 1 LINE 2
2	R45 18DG/LB	DRIVER SQUIB 1 LINE 1



CLOCKSPRING C3 - 4 WAY

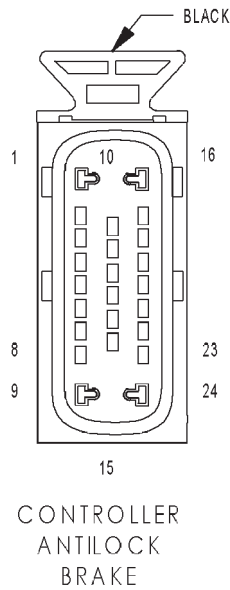
CAV	CIRCUIT	FUNCTION
1	V37 22BK/LG	SPEED CONTROL SWITCH SIGNAL
2	K4 22BK/LB	SENSOR GROUND
3	X920 22GY/OR	RADIO CONTROL MUX RETURN
4	X20 22GY/WT	RADIO CONTROL MUX

# CONNECTOR PINOUTS



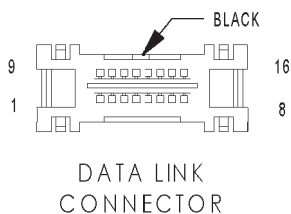
COMPACT DISC CHANGER (MIDLINE/PREMIUM) - BLACK 8 WAY

CAV	CIRCUIT	FUNCTION
1	X160 22GY/YL	B(+)
2	Z141 22BK/YL	GROUND
3	Z14 24BK/BR	GROUND
4	X41 24DG/WT	AUDIO OUT LEFT
5	X112 24RD	IGNITION SWITCH OUTPUT
6	D25 24VT/YL	PCI BUS
7	E14 24OR/TN	PANEL LAMPS DIMMER SIGNAL
8	X40 24GY/WT	AUDIO OUT RIGHT

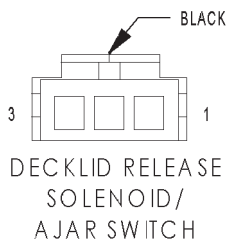


CONTROLLER ANTILOCK BRAKE - BLACK 24 WAY

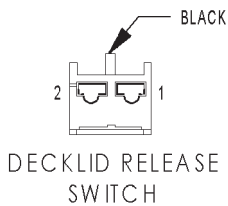
CAV	CIRCUIT	FUNCTION
1	Z1 12BK	GROUND
2	B1 18YL/DB	RIGHT REAR WHEEL SPEED SENSOR (-)
3	B2 18YL	RIGHT REAR WHEEL SPEED SENSOR (+)
4	-	-
5	D25 18VT/YL	PCI BUS
6	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR (-)
7	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR (+)
8	-	-
9	A20 12RD/DB	FUSED B(+)
10	F20 18WT/VT	FUSED IGNITION SWITCH OUTPUT (RUN)
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	Z1 12BK	GROUND
17	-	-
18	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
19	B3 18LG/DB	LEFT REAR WHEEL SPEED SENSOR (-)
20	B4 18LG	LEFT REAR WHEEL SPEED SENSOR (+)
21	-	-
22	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR (-)
23	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR (+)
24	A10 12RD/DG	FUSED B(+)



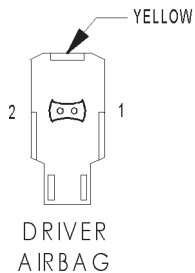
DATA LINK CONNECTOR - BLACK 16 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20VT/YL	PCI BUS
3	-	-
4	Z1 20BK	GROUND
5	Z2 20BK/LG	GROUND
6	-	-
7	D21 20PK/TN	SCI TRANSMIT (PCM)
8	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
9	D19 20VT/OR (EXCEPT PREMIUM LHS/300M)	SCI RECEIVE (TCM/BCM)
10	Y98 18 OR/WT	FLASH ENABLE
11	-	-
12	D20 20LG	SCI RECIEVE (PCM)
13	-	-
14	-	-
15	D15 20WT/DG	SCI TRANSMIT (TCM)
16	F62 16RD	FUSED B (+)



DECKLID RELEASE SOLENOID/AJAR SWITCH - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G78 20TN/BK	DECKLID AJAR SWITCH SENSE
3	P2 20BK/WT	DECKLID RELEASE CONTROL

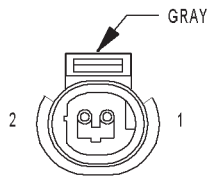


DECKLID RELEASE SWITCH - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	P1 20BK/WT	DECKLID RELEASE SWITCH OUTPUT
2	M1 20PK	FUSED B(+)



DRIVER AIRBAG - YELLOW 2 WAY		
CAV	CIRCUIT	FUNCTION
1	BK	DRIVER SQUIB 1 LINE 2
2	BK	DRIVER SQUIB 1 LINE 1

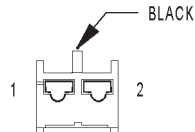
# CONNECTOR PINOUTS



DRIVER  
CYLINDER  
LOCK SWITCH

DRIVER CYLINDER LOCK SWITCH - GRAY 2 WAY

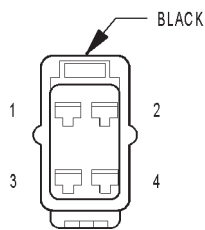
CAV	CIRCUIT	FUNCTION
1	G73 20LG/OR	DRIVER CYLINDER LOCK SWITCH MUX
2	M1 20PK	FUSED B(+)



DRIVER DOOR  
COURTESY LAMP

DRIVER DOOR COURTESY LAMP - BLACK 2 WAY

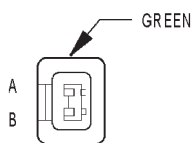
CAV	CIRCUIT	FUNCTION
1	M2 20YL	COURTESY LAMPS DRIVER
2	M1 20PK	FUSED B(+)



DRIVER DOOR  
LOCK MOTOR/  
AJAR SWITCH

DRIVER DOOR LOCK MOTOR/AJAR SWITCH - BLACK 4 WAY

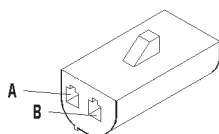
CAV	CIRCUIT	FUNCTION
1	G75 20TN	DRIVER DOOR AJAR SWITCH SENSE
2	Z1 20BK	GROUND
3	P55 16DB	DRIVER DOOR UNLOCK RELAY OUTPUT
4	P33 16OR	DOOR LOCK RELAY OUTPUT



DRIVER HEATED  
SEAT BACK

DRIVER HEATED SEAT BACK - GREEN 2 WAY

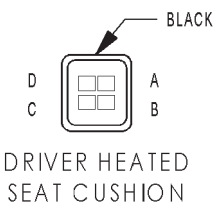
CAV	CIRCUIT	FUNCTION
A	P88 16BR/BK	HEATED SEAT DRIVER
B	Z1 20BK	GROUND



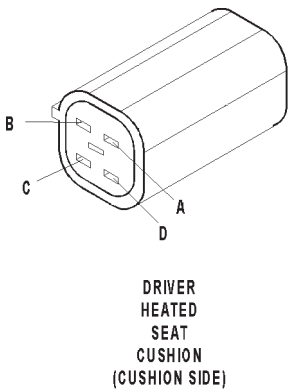
DRIVER  
HEATED  
SEAT  
BACK  
(SEAT BACK SIDE)

DRIVER HEATED SEAT BACK (SEAT BACK SIDE)

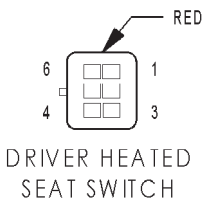
CAV	CIRCUIT	FUNCTION
A	BR	HEATED SEAT DRIVER
B	BR	GROUND



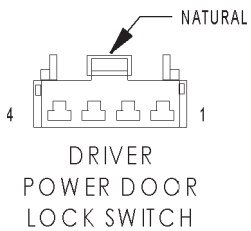
DRIVER HEATED SEAT CUSHION - BLACK 4 WAY		
CAV	CIRCUIT	FUNCTION
A	P131 16RD/DG (MEMORY)	DRIVER SEAT HEATER B(+) DRIVER
A	P131 16RD/TN (EXCEPT MEMORY)	DRIVER SEAT HEATER B(+) DRIVER
B	P88 16BR/BK	HEATED SEAT DRIVER
C	P141 20TN/LB	DRIVER SEAT TEMPERATURE SENSOR INPUT
D	P143 20BK/LG (EXCEPT MEMORY)	DRIVER SEAT TEMPERATURE 5V SUPPLY
D	P143 20BK/DG (MEMORY)	DRIVER SEAT TEMPERATURE 5V SUPPLY



DRIVER HEATED SEAT CUSHION (CUSHION SIDE)		
CAV	CIRCUIT	FUNCTION
A	BL	SEAT HEATER B(+) DRIVER
B	GR	HEATED SEAT DRIVER
C	BK/RD	SEAT TEMPERATURE SENSOR INPUT
D	BK/RD	SEAT TEMPERATURE 5V SUPPLY

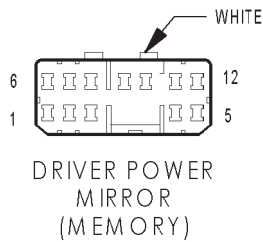


DRIVER HEATED SEAT SWITCH - RED 6 WAY		
CAV	CIRCUIT	FUNCTION
1	P137 20VT/DG	DRIVER SEAT LOW HEAT LED DRIVER
2	-	-
3	Z1 18BK (MEMORY SEATS)	GROUND
3	Z1 20BK (EXCEPT MEMORY SEATS)	GROUND
4	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	P139 20VT/WT	DRIVER SEAT HIGH HEAT LED DRIVER
6	P133 20TN/DG	DRIVER SEAT HEATER SWITCH MUX

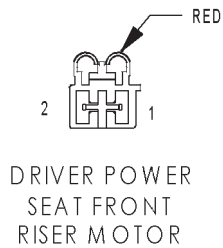


DRIVER POWER DOOR LOCK SWITCH - NATURAL 4 WAY		
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	Z1 20BK	GROUND
4	P97 20WT/DG	DRIVER DOOR SWITCH MUX

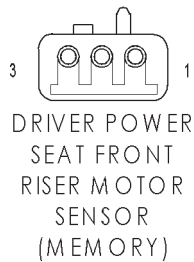
# CONNECTOR PINOUTS



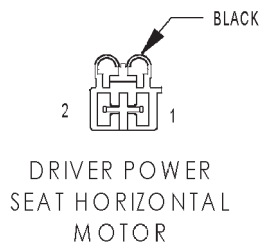
DRIVER POWER MIRROR (MEMORY) - WHITE 12 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	P73 20YL/PK	DRIVER MIRROR COMMON DRIVER (RIGHT/DOWN)
2	P73 20YL/PK (300M/LHS)	DRIVER MIRROR COMMON DRIVER (RIGHT/DOWN)
3	C16 20LB/YL	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	P71 20YL	DRIVER MIRROR UP DRIVER
4	P71 20YL (300M/LHS)	DRIVER MIRROR UP DRIVER
5	P75 20BK/WT	DRIVER MIRROR LEFT DRIVER
5	P75 20BK/WT (300M/LHS)	DRIVER MIRROR LEFT DRIVER
6	P161 20GY/LB	DRIVER MIRROR SENSOR 5V SUPPLY
7	P64 20YL/OR	DRIVER MIRROR VERTICAL POSITION SIGNAL
8	P112 18TN/OR	AUTO DAY NIGHT MIRROR (+)
9	P65 20DB/YL	DRIVER MIRROR HORIZONTAL POSITION SIGNAL
10	P69 20WT/RD	DRIVER MIRROR SENSOR GROUND
11	P114 18TN/WT	AUTO DAY NIGHT MIRROR (-)
12	L61 18LG	LEFT TURN SIGNAL (300M SPECIAL)



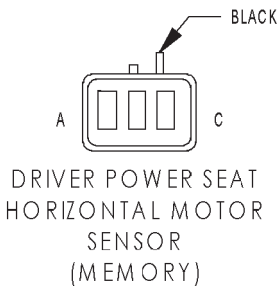
DRIVER POWER SEAT FRONT RISER MOTOR - RED 2 WAY		
CAV	CIRCUIT	FUNCTION
1	P119 16YL/LG (MEMORY SEATS)	SEAT FRONT UP DRIVER
1	P19 16YL/LG (EXCEPT MEMORY SEATS)	DRIVER SEAT FRONT UP
2	P121 16RD/LG (MEMORY SEATS)	SEAT FRONT DOWN DRIVER
2	P21 16RD/LG (EXCEPT MEMORY SEATS)	DRIVER SEAT FRONT DOWN



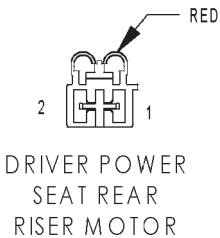
DRIVER POWER SEAT FRONT RISER MOTOR SENSOR (MEMORY) - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	P29 20 BR/WT	SEAT SENSOR 5V SUPPLY
2	P26 20BR	FRONT RISER POSITION SENSOR SIGNAL
3	P28 20BR/RD	SEAT POSITION SENSOR GROUND



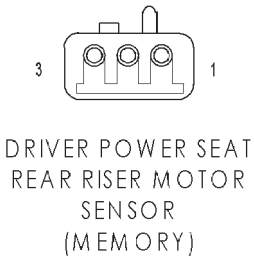
DRIVER POWER SEAT HORIZONTAL MOTOR - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	P115 16YL/DB (MEMORY SEATS)	DRIVER SEAT HORIZONTAL FORWARD DRIVER
1	P15 16YL/LB (EXCEPT MEMORY SEATS)	DRIVER SEAT HORIZONTAL REARWARD DRIVER
2	P117 16RD/LB (MEMORY SEATS)	DRIVER SEAT HORIZONTAL REARWARD DRIVER
2	P17 16RD/LB (EXCEPT MEMORY SEATS)	DRIVER SEAT HORIZONTAL FORWARD DRIVER



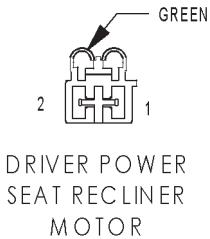
DRIVER POWER SEAT HORIZONTAL MOTOR SENSOR (MEMORY) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
A	P28 20BR/RD	SEAT POSITION SENSOR GROUND
B	P25 20VT/RD	SEAT HORIZONTAL POSITION SIGNAL
C	P29 20BR/WT	SEAT HEATER 5V SUPPLY



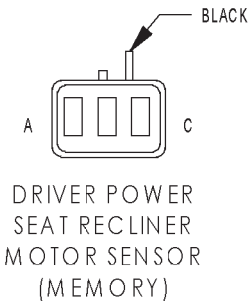
DRIVER POWER SEAT REAR RISER MOTOR - RED 2 WAY		
CAV	CIRCUIT	FUNCTION
1	P111 16YL/WT (MEMORY SEATS)	SEAT REAR UP DRIVER
1	P11 16YL/WT (EXCEPT MEMORY SEATS)	SEAT REAR UP SWITCH SENSE
2	P113 16RD/WT (MEMORY SEATS)	SEAT REAR DOWN DRIVER
2	P13 16RD/WT (EXCEPT MEMORY SEATS)	SEAT REAR DOWN SWITCH SENSE



DRIVER POWER SEAT REAR RISER MOTOR SENSOR (MEMORY) - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	P29 20BR/WT	SEAT SENSOR 5V SUPPLY
2	P27 20LB/RD	REAR RISER POSITION SIGNAL
3	P28 20BR/RD	SEAT POSITION SENSOR GROUND

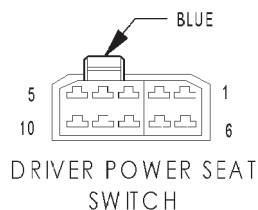


DRIVER POWER SEAT RECLINER MOTOR - GREEN 2 WAY		
CAV	CIRCUIT	FUNCTION
1	P41 16GY/WT	DRIVER SEAT RECLINER DOWN DRIVER
2	P43 16GY/LB	DRIVER SEAT RECLINER UP DRIVER



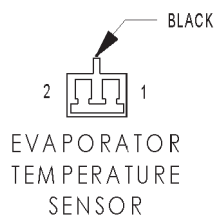
DRIVER POWER SEAT RECLINER MOTOR SENSOR (MEMORY) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
A	P29 20BR/WT	SEAT SENSOR 5V SUPPLY
B	P47 20LB	RECLINER POSITION SIGNAL
C	P28 20BR/RD	SEAT POSITION SENSOR GROUND

# CONNECTOR PINOUTS



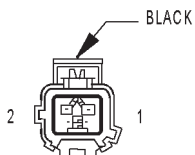
**DRIVER POWER SEAT SWITCH - BLUE 10 WAY**

CAV	CIRCUIT	FUNCTION
1	P9 20RD (MEMORY SEATS)	SEAT SWITCH B(+) SUPPLY
1	F35 16RD (EXCEPT MEMORY SEATS)	FUSED B(+)
2	P41 16GY/WT (EXCEPT MEMORY SEATS)	DRIVER SEAT RECLINER SWITCH UP
2	P48 20GY/WT (MEMORY SEATS)	RECLINER DOWN SWITCH SENSE
3	P17 16RD/LB (EXCEPT MEMORY SEATS)	DRIVER SEAT HORIZONTAL REARWARD
3	P17 18RD/LB (MEMORY SEATS)	SEAT HORIZONTAL REARWARD SWITCH SENSE
4	P43 16GY/LB (EXCEPT MEMORY SEATS)	DRIVER SEAT RECLINER SWITCH DOWN
4	P40 20GY/LB (MEMORY SEATS)	DRIVER SEAT RECLINER UP
5	Z1 18BK (MEMORY SEATS)	GROUND
5	Z1 16BK (EXCEPT MEMORY SEATS)	GROUND
6	P21 18RD/LG (MEMORY SEATS)	SEAT FRONT DOWN SWITCH SENSE
6	P21 16RD/LG (EXCEPT MEMORY SEATS)	DRIVER SEAT FRONT DOWN
7	P13 16RD/WT (EXCEPT MEMORY SEATS)	DRIVER SEAT REAR DOWN
7	P13 18RD/WT (MEMORY SEATS)	SEAT REAR DOWN SWITCH SENSE
8	P11 16YL/WT (EXCEPT MEMORY SEATS)	DRIVER SEAT REAR UP
8	P11 18YL/WT (MEMORY SEATS)	SEAT REAR UP SWITCH SENSE
9	P19 16YL/LG (EXCEPT MEMORY SEATS)	DRIVER SEAT FRONT UP
9	P19 18YL/LG (MEMORY SEATS)	SEAT FRONT UP SWITCH SENSE
10	P15 18YL/LB (MEMORY SEATS)	SEAT HORIZONTAL FORWARD SWITCH SENSE
10	P15 16YL/LB (EXCEPT MEMORY SEATS)	DRIVER SEAT HORIZONTAL FORWARD



**EVAPORATOR TEMPERATURE SENSOR - BLACK 2 WAY**

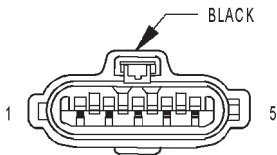
CAV	CIRCUIT	FUNCTION
1	C12 20LG/BK	EVAPORATOR TEMPERATURE SENSOR SIGNAL
2	C57 20DB/GY	SENSOR GROUND



FRONT  
WASHER  
PUMP  
MOTOR

FRONT WASHER PUMP MOTOR - BLACK 2 WAY

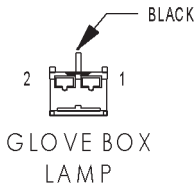
CAV	CIRCUIT	FUNCTION
1	V10 20BR	FRONT WASHER PUMP MOTOR CONTROL
2	Z1 20BK	GROUND



FRONT  
WIPER  
MOTOR

FRONT WIPER MOTOR - BLACK 5 WAY

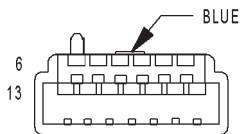
CAV	CIRCUIT	FUNCTION
1	V4 14RD/YL	FRONT WIPER RELAY HIGH SPEED OUTPUT
2	V3 14BR/WT	FRONT WIPER RELAY LOW SPEED OUTPUT
3	-	-
4	V55 20TN/RD	FRONT WIPER PARK SWITCH SENSE
5	Z1 14BK	GROUND



GLOVE BOX  
LAMP

GLOVE BOX LAMP - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	M1 20PK	FUSED B(+)

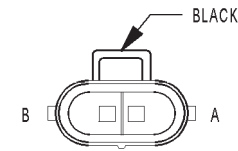


HEADLAMP  
SWITCH

HEADLAMP SWITCH - BLUE 13 WAY

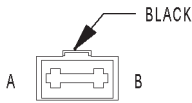
CAV	CIRCUIT	FUNCTION
1	Z1 18BK/LB (BUILT-UP-EXPORT)	GROUND
2	L7 18BK/YL (BUILT-UP-EXPORT)	HEADLAMP SWITCH OUTPUT
3	E19 20RD	PANEL LAMPS DIMMER SIGNAL
4	Z1 20BK	GROUND
5	L95 18DG/YL (BUILT-UP-EXPORT)	REAR FOG LAMP RELAY CONTROL
6	L80 20WT	HEADLAMP SWITCH RETURN
7	-	-
8	L13 18BR/YL (BUILT-UP-EXPORT)	HEADLAMP ADJUST SIGNAL
9	E2 20OR	PANEL LAMPS DRIVER
10	L96 18LG/RD (BUILT-UP-EXPORT)(BASE CON-CORDE)	REAR FOG LAMP SWITCH GROUND
11	L39 20LB	FOG LAMP RELAY OUTPUT
12	G52 20YL	HEADLAMP SWITCH MUX
13	-	-

# CONNECTOR PINOUTS



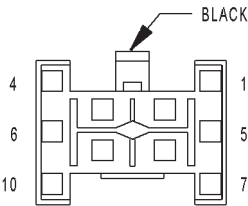
HEADLAMP WASHER  
PUMP MOTOR  
(300M)

HEADLAMP WASHER PUMP MOTOR (300M/BUX) - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
A	Z1 14BK	GROUND
B	V53 14RD/OR	HEADLAMP WASHER PUMP MOTOR CONTROL



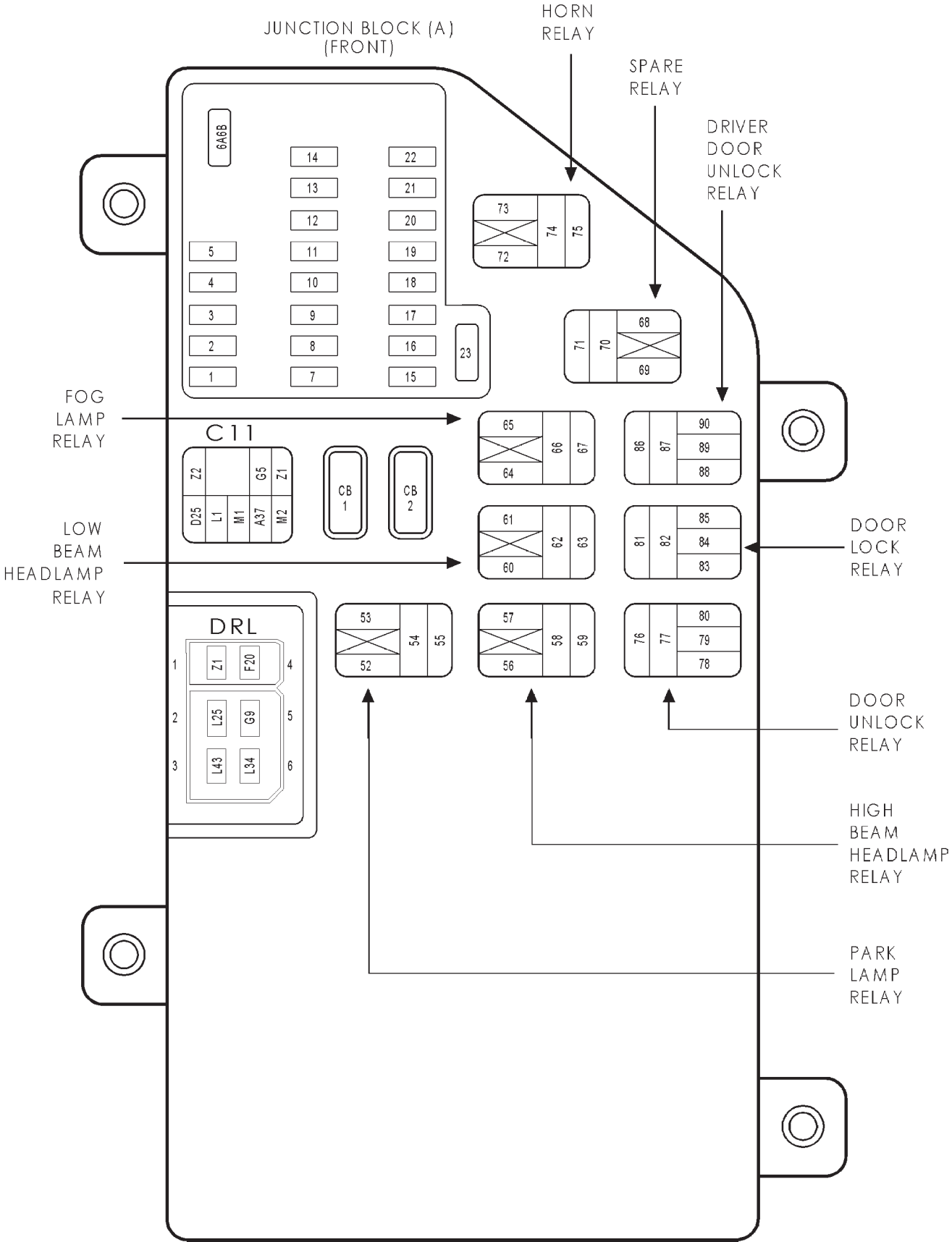
HEATED  
MIRROR FUSE

HEATED MIRROR FUSE - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
A	C16 20LB/YL	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
B	C15 10BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT



IGNITION  
SWITCH

IGNITION SWITCH - BLACK 10 WAY		
CAV	CIRCUIT	FUNCTION
1	A81 14DG/RD	IGNITION SWITCH OUTPUT (OFF-RUN-START)
2	G26 22LB	KEY-IN IGNITION SWITCH SENSE
3	Z2 20BK/LG	GROUND
4	A21 12DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	A1 12RD	FUSED B (+)
6	A31 12BK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
7	A2 12PK/BK	FUSED B (+)
8	-	-
9	A41 14YL	FUSED IGNITION OUTPUT (START)
10	A22 12BK/OR	FUSED IGNITION SWITCH OUTPUT (RUN)



# CONNECTOR PINOUTS

## FUSES (JB)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	10A	INTERNAL	IGNITION SWITCH OUTPUT (OFF-RUN-START)
2	10A	L34 20RD/OR	FUSED HIGH BEAM RELAY OUTPUT
3	10A	L33 20RD	FUSED HIGH BEAM RELAY OUTPUT
4	10A	X12 20RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	10A	F13 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
6	15A	F30 18RD (IGNITION POSITION)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
6	15A	F30 18RD (BATTERY POSITION)	FUSED B(+)
7	20A	F33 18PK/RD	FUSED B(+)
8	10A	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
9	10A	L5 22BK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	10A	L44 20VT/RD	FUSED RIGHT LOW BEAM OUTPUT (RIGHT)
11	20A	L40 18BR/WT	FUSED LOW BEAM RELAY OUTPUT
12	10A	L43 16VT	FUSED RIGHT LOW BEAM OUTPUT (LEFT)
13	10A	F12 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
14	10A	G5 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
15	10A	INTERNAL	INTERNAL
16	20A	INTERNAL	INTERNAL
17	10A	F20 16WT/VT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
18	20A	F62 16RD	FUSED B(+)
19	10A	M1 20PK	FUSED B(+)
20	20A	F32 16PK/DB	FUSED B(+)
21	10A	F18 20LG/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
22	10A	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
23	30A	C1 12DG	FUSED IGNITION SWITCH OUTPUT (RUN)

## CIRCUIT BREAKERS

CB NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	20A	F21 14TN	FUSED IGNITION SWITCH OUTPUT (RUN)
2	20A	F35 16RD	FUSED B(+)

## DOOR LOCK RELAY

CAV	CIRCUIT	FUNCTION
81	INTERNAL	LOCK RELAY OUTPUT
82	INTERNAL	FUSED B(+)
83	INTERNAL	FUSED B(+)
84	INTERNAL	GROUND
85	INTERNAL	DOOR LOCK RELAY CONTROL

## DOOR UNLOCK RELAY

CAV	CIRCUIT	FUNCTION
76	INTERNAL	UNLOCK RELAY OUTPUT
77	INTERNAL	FUSED B(+)
78	INTERNAL	FUSED B(+)
79	INTERNAL	GROUND
80	INTERNAL	DOOR UNLOCK RELAY CONTROL
86	P55 16DB	DRIVER DOOR UNLOCK RELAY OUTPUT
87	INTERNAL	FUSED B(+)
88	INTERNAL	FUSED B(+)
89	INTERNAL	GROUND
90	INTERNAL	DRIVER DOOR UNLOCK RELAY CONTROL

## DRIVER DOOR UNLOCK RELAY

CAV	CIRCUIT	FUNCTION
86	P55 16DB	DRIVER DOOR UNLOCK RELAY OUTPUT
87	INTERNAL	FUSED B(+)
88	INTERNAL	FUSED B(+)
89	INTERNAL	GROUND
90	INTERNAL	DRIVER DOOR UNLOCK RELAY CONTROL

## FOG LAMP RELAY

CAV	CIRCUIT	FUNCTION
-	-	-
64	INTERNAL	FOG LAMP RELAY CONTROL
65	INTERNAL	FUSED B(+)
66	INTERNAL	FUSED B(+)
67	INTERNAL	FOG LAMP RELAY OUTPUT

## HIGH BEAM HEADLAMP RELAY

CAV	CIRCUIT	FUNCTION
-	-	-
56	INTERNAL	GROUND
57	INTERNAL	HIGH BEAM RELAY CONTROL
58	INTERNAL	FUSED B(+)
59	INTERNAL	HIGH BEAM HEADLAMP RELAY OUTPUT

## HORN RELAY

CAV	CIRCUIT	FUNCTION
-	-	-
72	INTERNAL	HORN RELAY CONTROL
73	INTERNAL	FUSED B(+)
74	INTERNAL	FUSED B(+)
75	X2 18DG/RD	HORN RELAY OUTPUT

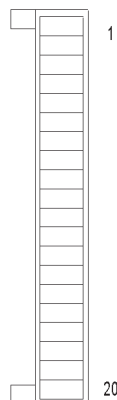
## LOW BEAM HEADLAMP RELAY

CAV	CIRCUIT	FUNCTION
-	-	-
60	INTERNAL	LOW BEAM HEADLAMP RELAY CONTROL
61	INTERNAL	FUSED B(+)
62	INTERNAL	FUSED B(+)
63	INTERNAL	LOW BEAM HEADLAMP RELAY OUTPUT

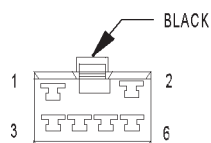
## PARK LAMP RELAY

CAV	CIRCUIT	FUNCTION
-	-	-
52	INTERNAL	PARK LAMP RELAY CONTROL
53	INTERNAL	FUSED B(+)
54	INTERNAL	FUSED B(+)
55	INTERNAL	PARK LAMP RELAY OUTPUT

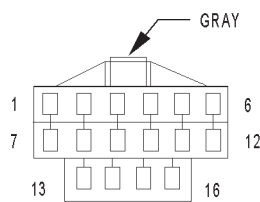
# CONNECTOR PINOUTS



JUNCTION BLOCK  
BODY  
CONTROL  
MODULE-JB



JUNCTION  
BLOCK C1



JUNCTION  
BLOCK C2

## JUNCTION BLOCK BODY CONTROL MODULE-JB - 20 WAY

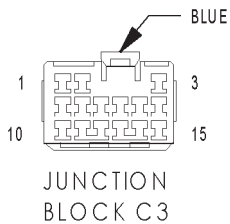
CAV	CIRCUIT	FUNCTION
1	Z20	GROUND
2	M2	COURTESY LAMP DRIVER
3	S76	SPEED PROPORTIONAL STEERING SOLENOID (-)
4	S77	SPEED PROPORTIONAL STEERING SOLENOID (+)
5	G5	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	L7	PARK LAMP RELAY OUTPUT
7	M1	FUSED B(+)
8	P2	DECKLID RELEASE CONTROL
9	-	-
10	D25	PCI BUS (OTIS)
11	-	-
12	-	-
13	P109	DRIVER FRONT DOOR UNLOCK RELAY CONTROL
14	L307	LOW BEAM RELAY CONTROL
15	P38	DOOR LOCK RELAY CONTROL
16	L308	PARK LAMP RELAY CONTROL
17	L26	FOG LAMP RELAY CONTROL
18	X3	HORN RELAY CONTROL
19	P36	DOOR UNLOCK RELAY CONTROL
20	Z2	GROUND

## JUNCTION BLOCK C1 - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	F32 16PK/DB	FUSED B(+)
2	A21 12DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	A31 12BK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	-	-
5	F30 18RD	FUSED B (+)
6	C1 12DG	BLOWER MOTOR FEED

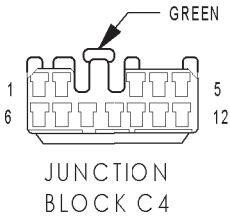
## JUNCTION BLOCK C2 - GRAY 16 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	L39 20LB	FOG LAMP RELAY OUTPUT
3	-	-
4	-	-
5	-	-
6	X3 16BK/RD	HORN RELAY CONTROL
7	F13 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
8	Z20 20BK/OR	GROUND
9	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
10	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
11	L5 22BK/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
12	L40 18BR/WT	FUSED FOG LAMP FEED
13	L60 18TN	RIGHT TURN SIGNAL
14	L60 18TN	RIGHT TURN SIGNAL
15	L61 18LG	LEFT TURN SIGNAL
16	L61 18LG	LEFT TURN SIGNAL



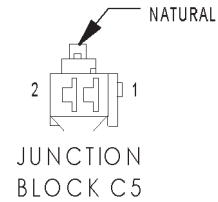
JUNCTION BLOCK C3 - BLUE 15 WAY

CAV	CIRCUIT	FUNCTION
1	A81 14DG/RD	IGNITION SWITCH OUTPUT (OFF-RUN-START)
2	X12 20RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	-	-
4	Z2 18BK/LG	GROUND
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	G9 22GY/BK	RED BRAKE WARNING INDICATOR DRIVER
14	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
15	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)



JUNCTION BLOCK C4 - GREEN 12 WAY

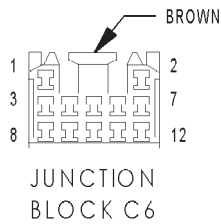
CAV	CIRCUIT	FUNCTION
1	L7 18BK/YL (BUILT-UP-EXPORT	HEADLAMP SWITCH OUTPUT
2	M1 20PK	FUSED B(+)
3	F33 18PK/RD	FUSED B(+)
4	F33 18PK/RD	FUSED B(+)
5	L324 20WT/LG	SWITCHED HIGH BEAM RELAY CONTROL
6	F62 16RD	FUSED B(+)
7	-	-
8	M1 18PK	FUSED B(+)
9	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
10	-	-
11	G5 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	L324 18 WT/LG	SWITCHED HIGH BEAM RELAY CONTROL



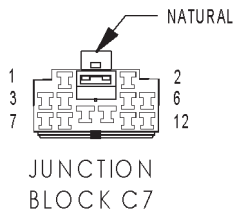
JUNCTION BLOCK C5 - NATURAL 2 WAY

CAV	CIRCUIT	FUNCTION
1	A1 12RD	FUSED B(+)
2	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)

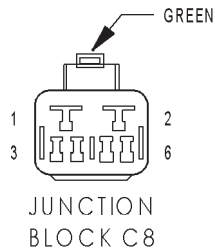
# CONNECTOR PINOUTS



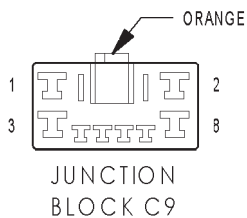
JUNCTION BLOCK C6 - BROWN 12 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	P33 16OR	LOCK RELAY OUTPUT
4	P33 16OR	LOCK RELAY OUTPUT
5	P33 16OR	LOCK RELAY OUTPUT
6	-	-
7	P55 16DB	DRIVER DOOR UNLOCK RELAY OUTPUT
8	M2 20YL	COURTESY LAMPS DRIVER
9	F11 20RD/WT (DODGE/300M)	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
10	L60 16TN	RIGHT TURN SIGNAL
11	L61 16LG	LEFT TURN SIGNAL
12	L1 18VT/BK (LHS)	BACK-UP LAMP FEED
12	L1 20VT/BK (EXCEPT LHS)	BACK-UP LAMP FEED



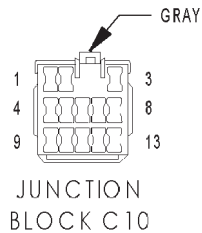
JUNCTION BLOCK C7 - NATURAL 12 WAY		
CAV	CIRCUIT	FUNCTION
1	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
2	P2 20BK/WT	DECKLID RELEASE CONTROL
3	F35 16RD	FUSED B(+)
4	F35 16RD	FUSED B(+)
5	M1 20PK	FUSED B(+)
6	M1 20PK	FUSED B(+)
7	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
8	L7 18BK/YL	PARK LAMP RELAY OUTPUT
9	F21 14TN	FUSED IGNITION SWITCH OUTPUT (RUN)
10	Z1 14BK	GROUND
11	P34 16PK/BK	UNLOCK RELAY OUTPUT
12	P34 16PK/BK	UNLOCK RELAY OUTPUT



JUNCTION BLOCK C8 - GREEN 6 WAY		
CAV	CIRCUIT	FUNCTION
1	A3 14RD/TN	FUSED B(+)
2	A130 16VT/RD	FUSED B(+)
3	L44 16VT/RD	FUSED RIGHT LOW BEAM OUTPUT
4	F12 20DB/WT	FUSED IGNITION SWITCH OUTPUT
5	L33 20RD	FUSED B(+)
6	L39 20LB	FOG LAMP RELAY OUTPUT

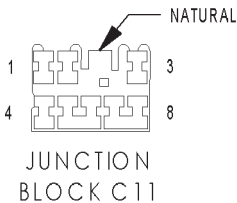


JUNCTION BLOCK C9 - ORANGE 8 WAY		
CAV	CIRCUIT	FUNCTION
1	A13 12PK/WT	FUSED B(+)
2	A34 12LB/RD	FUSED B(+)
3	A7 14RD/BK	FUSED B(+)
4	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
5	F20 18WT/VT (ABS)	FUSED IGNITION SWITCH OUTPUT (RUN)
6	F13 20DB	FUSED IGNITION SWITCH OUTPUT (RUN)
7	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
8	X2 18DG/RD	HORN RELAY OUTPUT



JUNCTION BLOCK C10 - GRAY 13 WAY

CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
2	L61 18LG	LEFT TURN SIGNAL
3	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
4	L34 20GY/OR	FUSED RIGHT HIGH BEAM OUTPUT
5	-	-
6	L1 20VT/BK	BACK-UP LAMP FEED
7	F18 20LG/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
8	S77 18VT/OR (EXCEPT BUILT-UP EXPORT)	SPEED PROPORTIONAL STEERING SOLENOID (+)
9	-	-
10	S76 18LG/PK (EXCEPT BUILT-UP EXPORT)	SPEED PROPORTIONAL STEERING SOLENOID (-)
11	L7 18BK/YL	PARK LAMP RELAY OUTPUT
12	F18 20LG/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
13	L43 16VT	FUSED LEFT LOW BEAM INPUT



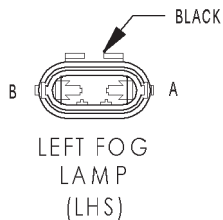
JUNCTION BLOCK C11 - NATURAL 8 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 16BK (SUNROOF) (EXCEPT BASE)	GROUND
2	G5 20DB/WT (SUNROOF)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	Z2 20BK/LG (PREMIUM)	GROUND
4	M2 20PK	COURTESY LAMPS DRIVER
5	A37 16RD (SUNROOF)	FUSED B(+)
6	M1 20PK	FUSED B(+)
7	L1 20VT/BK (PREMIUM)	BACK-UP LAMP FEED
8	D25 20VT/YL (PREMIUM)	PCI BUS



LEFT FOG LAMP (DODGE/300M/BUILT-UP-EXPORT) - GRAY 2 WAY

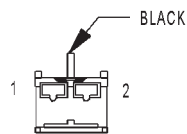
CAV	CIRCUIT	FUNCTION
1	L39 20LB	FOG LAMP RELAY OUTPUT
2	Z1 20BK	GROUND



LEFT FOG LAMP (LHS) - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
A	L39 20LB	FOG LAMP RELAY OUTPUT
B	Z1 20BK	GROUND

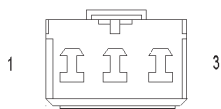
# CONNECTOR PINOUTS



LEFT FRONT  
DOOR SAIL  
SPEAKER

LEFT FRONT DOOR SAIL SPEAKER - BLACK 2 WAY

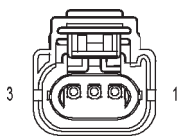
CAV	CIRCUIT	FUNCTION
1	X83 18YL/RD	AMPLIFIED LEFT DOOR SAIL SPEAKER (+)
2	X81 18YL/BK	AMPLIFIED LEFT DOOR SAIL SPEAKER (-)



LEFT FRONT  
DOOR SPEAKER

LEFT FRONT DOOR SPEAKER - 3 WAY

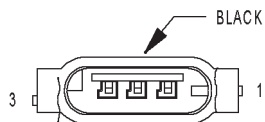
CAV	CIRCUIT	FUNCTION
1	X85 18LG/BK	AMPLIFIED LEFT DOOR SPEAKER (-)
2	X87 18LG/VT	AMPLIFIED LEFT DOOR SPEAKER (+)
3	-	-



LEFT FRONT  
PARK/TURN  
SIGNAL LAMP  
(DODGE)

LEFT FRONT PARK/TURN SIGNAL LAMP (DODGE) - 3 WAY

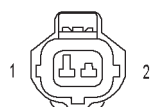
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L61 18LG	LEFT TURN SIGNAL



LEFT FRONT  
PARK/TURN  
SIGNAL LAMP  
(EXCEPT DODGE)

LEFT FRONT PARK/TURN SIGNAL LAMP (EXCEPT DODGE) - BLACK 3 WAY

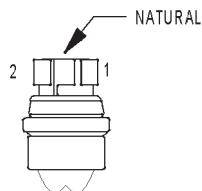
CAV	CIRCUIT	FUNCTION
1	L61 18LG	LEFT TURN SIGNAL
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND



LEFT FRONT  
POSITION  
LAMP

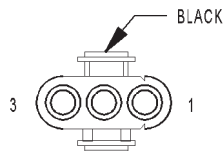
LEFT FRONT POSITION LAMP - 2 WAY

CAV	CIRCUIT	FUNCTION
1	L7 20BK/YL	PARK LAMP RELAY OUTPUT
2	Z1 20BK	GROUND



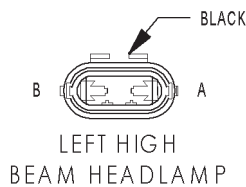
LEFT FRONT SIDE  
MARKER LAMP  
(LHS)

LEFT FRONT SIDE MARKER LAMP (LHS) - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 20BK/YL	PARK LAMP RELAY OUTPUT
2	L61 20LG	LEFT TURN SIGNAL



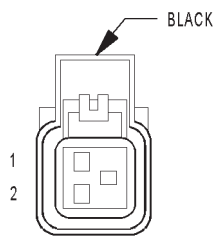
LEFT HEADLAMP  
LEVELING MOTOR  
(BUILT-UP-EXPORT)

LEFT HEADLAMP LEVELING MOTOR (BUILT-UP-EXPORT) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 20BK/YL	PARK LAMP RELAY OUTPUT
2	L13 20BK/YL	HEADLAMP ADJUST SIGNAL
3	Z1 20BK	GROUND



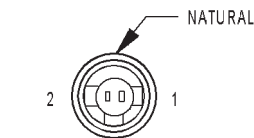
LEFT HIGH  
BEAM HEADLAMP

LEFT HIGH BEAM HEADLAMP - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
A	L33 20RD	FUSED LEFT HIGH BEAM OUTPUT
B	Z1 20BK	GROUND



LEFT HORN

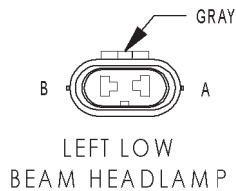
LEFT HORN - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	X2 18DG/RD	HORN RELAY OUTPUT



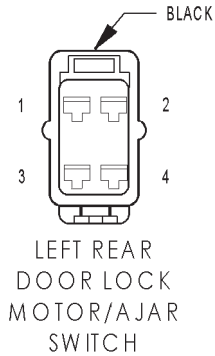
LEFT  
LICENSE LAMP  
(BUILT-UP-EXPORT)

LEFT LICENSE LAMP (BUILT-UP-EXPORT) - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 18BK/YL	PARK LAMP RELAY OUTPUT
2	Z1 18BK	GROUND

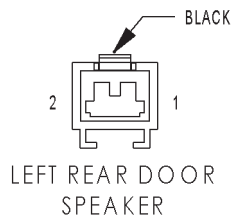
# CONNECTOR PINOUTS



LEFT LOW BEAM HEADLAMP - GRAY 2 WAY		
CAV	CIRCUIT	FUNCTION
A	L43 20VT (BUILT-UP-EXPORT)	FUSED LEFT LOW BEAM OUTPUT
A	L43 16VT (EXCEPT BUILT-UP-EXPORT)	FUSED LEFT LOW BEAM OUTPUT
B	Z1 20BK (BUILT-UP-EXPORT)	GROUND
B	Z1 16BK (EXCEPT BUILT-UP-EXPORT)	GROUND



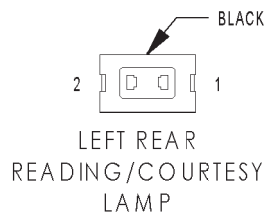
LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH - BLACK 4 WAY		
CAV	CIRCUIT	FUNCTION
1	G74 20TN/RD	DOOR AJAR SWITCH SENSE
2	Z1 20BK	GROUND
3	P34 16PK/BK	UNLOCK RELAY OUTPUT
4	P33 16OR	LOCK RELAY OUTPUT



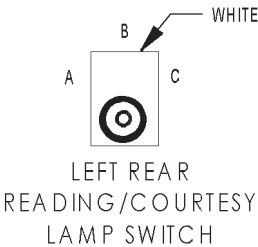
LEFT REAR DOOR SPEAKER - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	X97 18TN/DG	AMPLIFIED LOW LEFT REAR SPEAKER (-)
2	X95 18TN/VT	AMPLIFIED LOW LEFT REAR SPEAKER (+)



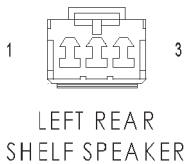
LEFT REAR FOG LAMP (BUILT-UP-EXPORT) - NATURAL 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L95 18DG/YL	REAR FOG LAMP RELAY OUTPUT
2	-	-
3	Z1 18PK	GROUND



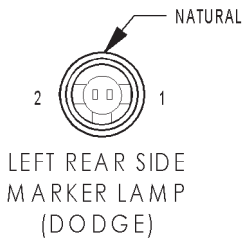
LEFT REAR READING/COURTESY LAMP - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	M52 20LG (EXCEPT BASE)	COURTESY LAMPS DRIVER



LEFT REAR READING/COURTESY LAMP SWITCH - WHITE 3 WAY		
CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	M52 20LG	LEFT REAR READING LAMP SWITCH CONTROL
C	M2 20YL	COURTESY LAMPS DRIVER



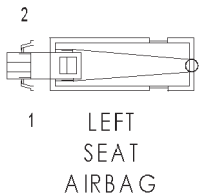
LEFT REAR SHELF SPEAKER - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	X91 18WT/BK (MIDLINE AND PREMIUM AUDIO)	AMPLIFIED HIGH LEFT REAR SPEAKER (-)
1	X57 18BR/LB (BASE AUDIO)	LEFT REAR SPEAKER (-)
2	X93 18WT/RD (MIDLINE AND PREMIUM AUDIO)	AMPLIFIED HIGH LEFT REAR SPEAKER (+)
2	X51 18BR/YL (BASE AUDIO)	LEFT REAR SPEAKER (+)
3	-	-



LEFT REAR SIDE MARKER LAMP (DODGE) - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK	PARK LAMP RELAY OUTPUT

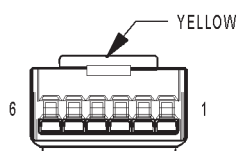


LEFT REMOTE RADIO SWITCH - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	X20 22GY/WT	RADIO CONTROL MUX
2	X920 22GY/OR	RADIO CONTROL MUX RETURN



LEFT SEAT AIRBAG - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	R31 20LG/OR	LEFT SEAT SQUIB LINE 1
2	R33 20LG/WT	LEFT SEAT SQUIB LINE 2

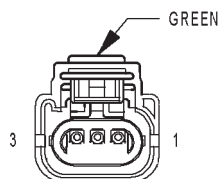
# CONNECTOR PINOUTS



LEFT SIDE  
IMPACT AIRBAG  
CONTROL  
MODULE

LEFT SIDE IMPACT AIRBAG CONTROL MODULE - YELLOW 6 WAY

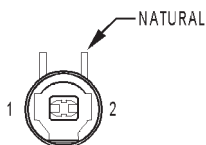
CAV	CIRCUIT	FUNCTION
1	F14 20LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	D25 20VT/YL	PCI BUS
3	R31 20LG/OR	LEFT SEAT SQUIB LINE 1
4	R33 20LG/WT	LEFT SEAT SQUIB LINE 2
5	Z2 20BK/LG	GROUND
6	Z2 20BK/LG	GROUND



LEFT TAIL LAMP  
(300M/BUILT-UP-EXPORT)

LEFT TAIL LAMP (300M/BUILT-UP-EXPORT) - GREEN 3 WAY

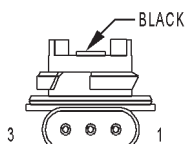
CAV	CIRCUIT	FUNCTION
1	L7 18BK/YL	PARK LAMP RELAY OUTPUT
2	Z1 18BK	GROUND
3	-	-



LEFT TAIL LAMP  
(LHS)

LEFT TAIL LAMP (LHS) - NATURAL 2 WAY

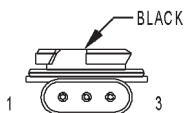
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18PK/YL	PARK LAMP RELAY OUTPUT



LEFT TAIL/  
STOP LAMP  
(CONCORDE)

LEFT TAIL/STOP LAMP (CONCORDE) - BLACK 3 WAY

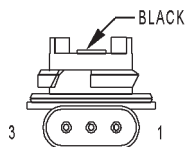
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT



LEFT TAIL/  
STOP LAMP  
(LHS)

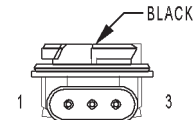
LEFT TAIL/STOP LAMP (LHS) - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND



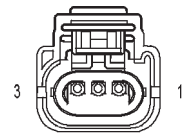
LEFT TAIL/  
STOP LAMP  
NO.1  
(DODGE)

LEFT TAIL/STOP LAMP NO. 1 (DODGE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT



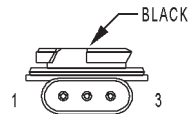
LEFT TAIL/STOP  
LAMP NO. 1  
(LHS/300M/  
BUILT-UP-EXPORT)

LEFT TAIL/STOP LAMP NO. 1 (LHS/300M/BUILT-UP-EXPORT) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND



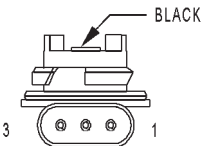
LEFT TAIL/ STOP  
LAMP NO. 2  
(300M)

LEFT TAIL/STOP LAMP NO. 2 (300M) - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18PK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18PK	GROUND



LEFT TAIL/ STOP  
LAMP NO. 2  
(DODGE)

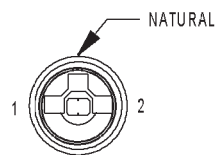
LEFT TAIL/STOP LAMP NO. 2 (DODGE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND



LEFT TAIL/ TURN  
SIGNAL LAMP  
(CONCORDE)

LEFT TAIL/TURN SIGNAL LAMP (CONCORDE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L61 18LG/TN	LEFT TURN SIGNAL
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND

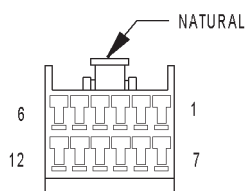
# CONNECTOR PINOUTS



LICENSE LAMP  
(EXCEPT  
BUILT-UP-EXPORT)

LICENSE LAMP (EXCEPT BUILT-UP-EXPORT) - NATURAL 2 WAY

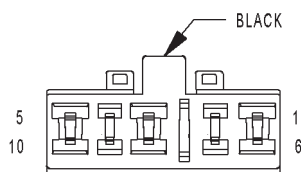
CAV	CIRCUIT	FUNCTION
1	L7 18BK/YL	PARK LAMP RELAY OUTPUT
2	Z1 18BK	GROUND



MANUAL TEMPERATURE  
CONTROL HEAD C1

MANUAL TEMPERATURE CONTROL HEAD C1 - NATURAL 12 WAY

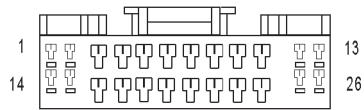
CAV	CIRCUIT	FUNCTION
1	C48 20VT/PK	A/C LED INDICATOR SIGNAL
2	C80 20DB/WT	REAR WINDOW DEFOGGER RELAY CONTROL
3	Z1 20BK	GROUND
4	C57 20DB/GY	SENSOR GROUND
5	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
6	E17 20YL/BK (BASE IN-TREPID)	PARK LAMP RELAY OUTPUT
7	-	-
8	-	-
9	C82 20YL/OR	TEMPERATURE SELECT
10	C58 22RD/TN	A/C MODE SWITCH MUX
11	-	-
12	E2 20OR	PANEL LAMPS DRIVER



MANUAL TEMPERATURE  
CONTROL HEAD C2

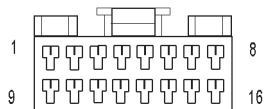
MANUAL TEMPERATURE CONTROL HEAD C2 - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	C4 18TN	LOW BLOWER MOTOR DRIVER
3	C6 16LB	M2 BLOWER MOTOR DRIVER
4	-	-
5	Z1 12BK	GROUND
6	-	-
7	C5 16LG	M1 BLOWER MOTOR DRIVER
8	-	-
9	-	-
10	C7 12BK/TN	HIGH BLOWER MOTOR DRIVER



MEMORY HEATED  
SEAT/MIRROR  
MODULE C1

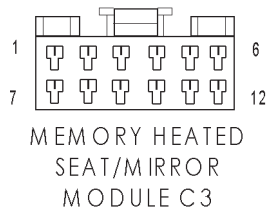
MEMORY HEATED SEAT/MIRROR MODULE C1 - 26 WAY		
CAV	CIRCUIT	FUNCTION
1	P69 20WT/RD	DRIVER MIRROR SENSOR GROUND
2	P25 20VT/RD	SEAT HORIZONTAL POSITION SIGNAL
3	P27 20LB/RD	REAR RISER POSITION SIGNAL
4	P141 20TN/LB	DRIVER SEAT TEMPERATURE SENSOR INPUT
5	P134 20TN/LG	PASSENGER SEAT HEATER MUX SWITCH
6	P67 20YL/RD	PASSENGER MIRROR VERTICAL POSITION SIGNAL
7	P64 20YL/OR	DRIVER MIRROR VERTICAL POSITION SIGNAL
8	P21 18RD/LG	SEAT FRONT DOWN SWITCH SENSE
9	P13 18RDWT	SEAT REAR DOWN SWITCH SENSE
10	P15 18YL/LB	SEAT HORIZONTAL FORWARD SWITCH SENSE
11	P40 20GY/LB	DRIVER SEAT RECLINER UP
12	P23 18PK/RD	MEMORY POSITION 1 SWITCH SENSE
13	P22 18PK/BK	MEMORY SET SWITCH SENSE
14	P66 20WT/BK	PASSENGER MIRROR SENSOR GROUND
15	P26 20BR	FRONT RISER POSITION SIGNAL
16	P47 20LB	RECLINER POSITION SIGNAL
17	P142 20TN/DB	PASSENGER SEAT TEMPERATURE SENSOR INPUT
18	P133 20TN/DG	DRIVER SEAT HEATER MUX SWITCH
19	P68 20DG/RD	PASSENGER MIRROR HORIZONTAL POSITION SIGNAL
20	P65 20DB/YL	DRIVER MIRROR HORIZONTAL POSITION SIGNAL
21	P19 18YL/LG	SEAT FRONT UP SWITCH SENSE
22	P11 18YL/WT	SEAT REAR UP SWITCH SENSE
23	P17 18RD/LB	SEAT HORIZONTAL REARWARD SWITCH SENSE
24	P48 20GY/WT	DRIVER SEAT RECLINER DOWN
25	P24 18PK/WT	MEMORY POSITION 2 SWITCH SENSE
26	D25 20VT/YL	PCI BUS



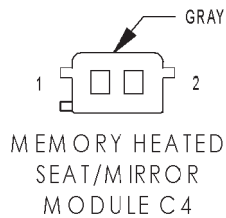
MEMORY HEATED  
SEAT/MIRROR  
MODULE C2

MEMORY HEATED SEAT/MIRROR MODULE C2 - 16 WAY		
CAV	CIRCUIT	FUNCTION
1	P139 20VT/WT	DRIVER SEAT HIGH HEAT LED DRIVER
2	P140 20VT/BK	PASSENGER SEAT HIGH HEAT LED DRIVER
3	P73 20YL/PK	DRIVER MIRROR COMMON DRIVER-RIGHT/DOWN
4	P75 20BK/WT	DRIVER MIRROR LEFT DRIVER
5	P71 20YL	DRIVER MIRROR UP DRIVER
6	P29 20BR/WT	SEAT SENSOR 5V SUPPLY
7	P161 20GY/LB	DRIVER MIRROR SENSOR 5V SUPPLY
8	P162 20GY/WT	PASSENGER MIRROR SENSOR 5V SUPPLY
9	P137 20VT/DG	DRIVER SEAT LOW HEAT LED DRIVER
10	P138 20VT/LG	PASSENGER SEAT LOW HEAT LED DRIVER
11	P70 20WT	PASSENGER MIRROR COMMON DRIVER-RIGHT/DOWN
12	P74 20DB	PASSENGER MIRROR LEFT DRIVER
13	P72 20YL/BK	PASSENGER MIRROR UP DRIVER
14	P144 20BK/LG	PASSENGER SEAT TEMPERATURE 5V SUPPLY
15	P143 20BK/DG	DRIVER SEAT TEMPERATURE 5V SUPPLY
16	P28 20BR/RD	SEAT POSITION SENSOR GROUND

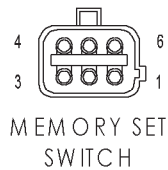
# CONNECTOR PINOUTS



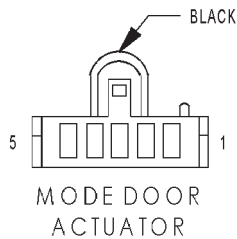
MEMORY HEATED SEAT/MIRROR MODULE C3 - 12 WAY		
CAV	CIRCUIT	FUNCTION
1	P111 16YL/WT	SEAT REAR UP DRIVER
2	P115 16YL/DB	SEAT HORIZONTAL FORWARD DRIVER
3	P119 16YL/LG	SEAT FRONT UP DRIVER
4	P113 16RD/WT	SEAT REAR DOWN DRIVER
5	P121 16RD/LG	SEAT FRONT DOWN DRIVER
6	P130 16RD/TN	PASSENGER SEAT HEATER B(+) DRIVER
7	P43 16GY/LB	DRIVER SEAT RECLINER UP DRIVER
8	P9 20RD	SEAT SWITCH B(+) SUPPLY
9	-	-
10	P41 16GY/WT	DRIVER SEAT RECLINER DOWN DRIVER
11	P117 16RD/LB	SEAT HORIZONTAL REARWARD DRIVER
12	P131 16RD/DG	DRIVER SEAT HEATER B(+) DRIVER



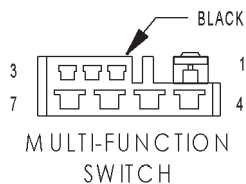
MEMORY HEATED SEAT/MIRROR MODULE C4 - GRAY 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 16BK	GROUND
2	F35 16RD	FUSED B(+)



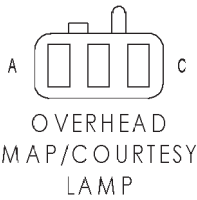
MEMORY SET SWITCH - 6 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	Z1 18BK	GROUND
4	P24 18PK/WT	MEMORY POSITION 2 SWITCH SENSE
5	P22 18PK/BK	MEMORY SET SWITCH SENSE
6	P23 18PK/RD	MEMORY POSITION SWITCH SENSE



MODE DOOR ACTUATOR - BLACK 5 WAY		
CAV	CIRCUIT	FUNCTION
1	C35 22DG/YL	MODE DOOR DRIVER
2	C57 22DB/GY	SENSOR GROUND
3	C37 22YL/WT	MODE DOOR FEEDBACK SIGNAL
4	C26 22PK/DB	5V SUPPLY
5	C34 22BR/WT	COMMON DOOR DRIVER

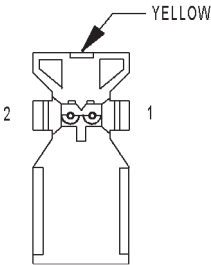


MULTI-FUNCTION SWITCH - BLACK 7 WAY		
CAV	CIRCUIT	FUNCTION
1	F13 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	V10 20BR	FRONT WASHER PUMP MOTOR CONTROL
3	V52 20DG/RD	FRONT WIPER MUX SWITCH SIGNAL
4	L40 18BR/WT	FUSED LOW BEAM RELAY OUTPUT
5	F33 18PK/RD	FUSED B(+)
6	-	-
7	L324 20WT/LG	SWITCHED HIGH BEAM RELAY CONTROL



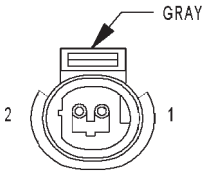
OVERHEAD  
MAP/COURTESY  
LAMP

OVERHEAD MAP/COURTESY LAMP - 3 WAY		
CAV	CIRCUIT	FUNCTION
A	M1 20PK	FUSED B(+)
B	M2 20YL	COURTESY LAMPS DRIVER
C	Z1 20BK (PREMIUM) (BASE/SUNROOF)	GROUND



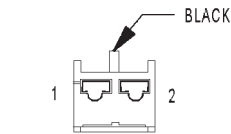
PASSENGER  
AIRBAG

PASSENGER AIRBAG - YELLOW 2 WAY		
CAV	CIRCUIT	FUNCTION
1	R42 18BK/YL	PASSENGER SQUIB 1 LINE 1
2	R44 18DG/YL	PASSENGER SQUIB 1 LINE 2



PASSENGER  
CYLINDER  
LOCK SWITCH

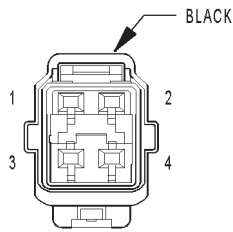
PASSENGER CYLINDER LOCK SWITCH - GRAY 2 WAY		
CAV	CIRCUIT	FUNCTION
1	G72 20DG/OR	PASSENGER CYLINDER LOCK SWITCH MUX
2	M1 20PK	FUSED B(+)



PASSENGER DOOR  
COURTESY LAMP

PASSENGER DOOR COURTESY LAMP - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	M2 20YL	COURTESY LAMPS DRIVER
2	M1 20PK	FUSED B(+)

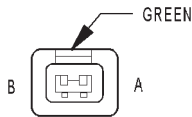
# CONNECTOR PINOUTS



PASSENGER DOOR  
LOCK MOTOR/  
AJAR SWITCH

PASSENGER DOOR LOCK MOTOR/AJAR SWITCH - BLACK 4 WAY

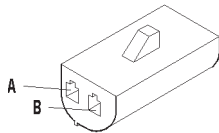
CAV	CIRCUIT	FUNCTION
1	G74 20TN/RD	DOOR AJAR SWITCH SENSE
2	Z1 20BK	GROUND
3	P34 16PK/BK	UNLOCK RELAY OUTPUT
4	P33 16OR	LOCK RELAY OUTPUT



PASSENGER HEATED  
SEAT BACK

PASSENGER HEATED SEAT BACK - GREEN 2 WAY

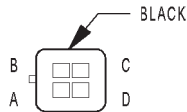
CAV	CIRCUIT	FUNCTION
A	P88 16BR/BK	HEATED SEAT DRIVER
B	Z1 20BK	GROUND



PASSENGER  
HEATED  
SEAT  
BACK  
(SEAT BACK SIDE)

PASSENGER HEATED SEAT BACK (SEAT BACK SIDE)

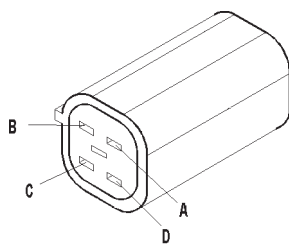
CAV	CIRCUIT	FUNCTION
A	BR	HEATED SEAT DRIVER
B	BR	GROUND



PASSENGER HEATED  
SEAT CUSHION

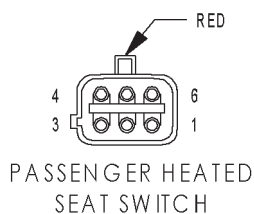
PASSENGER HEATED SEAT CUSHION - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
A	P130 16RD/TN	PASSENGER SEAT HEATER B(+) DRIVER
B	P88 16BR/BK	HEATED SEAT DRIVER
C	P142 20TN/DB	PASSENGER SEAT TEMPERATURE SENSOR INPUT
D	P144 20BK/LG	PASSENGER SEAT TEMPERATURE 5V SUPPLY



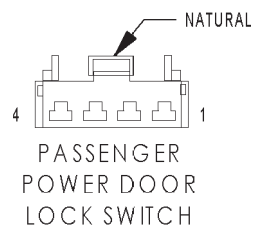
PASSENGER  
HEATED  
SEAT  
CUSHION  
(CUSHION SIDE)

PASSENGER HEATED SEAT CUSHION (CUSHION SIDE)		
CAV	CIRCUIT	FUNCTION
A	BL	SEAT HEATER B(+) DRIVER
B	GR	HEATED SEAT DRIVER
C	BK/RD	SEAT TEMPERATURE SENSOR INPUT
D	BL/RD	SEAT TEMPERATURE 5V SUPPLY



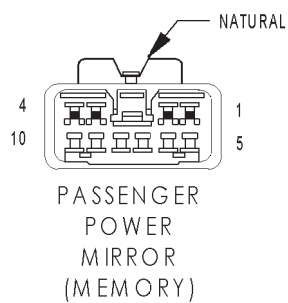
PASSENGER HEATED  
SEAT SWITCH

PASSENGER HEATED SEAT SWITCH - RED 6 WAY		
CAV	CIRCUIT	FUNCTION
1	P138 20VT/LG	PASSENGER SEAT LOW HEAT LED DRIVER
2	-	-
3	Z1 20BK	GROUND
4	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	P140 20VT/BK	PASSENGER SEAT HIGH HEAT LED DRIVER
6	P134 20TN/LG	PASSENGER SEAT HEATER MUX SWITCH



PASSENGER  
POWER DOOR  
LOCK SWITCH

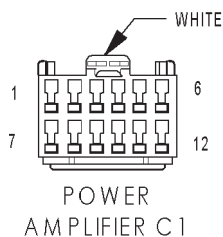
PASSENGER POWER DOOR LOCK SWITCH - NATURAL 4 WAY		
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	Z1 20BK	GROUND
4	P96 20WT/LG	PASSENGER DOOR MUX SWITCH



PASSENGER  
POWER  
MIRROR  
(MEMORY)

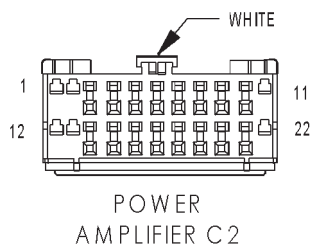
PASSENGER POWER MIRROR (MEMORY) - NATURAL 10 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	P70 20WT	PASSENGER MIRROR COMMON DRIVER (RIGHT/DOWN)
3	C16 20LB/YL	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	P72 20YL/BK	PASSENGER MIRROR UP DRIVER
5	P74 20DB	PASSENGER MIRROR LEFT DRIVER
6	P162 20GY/WT	PASSENGER MIRROR SENSOR 5V SUPPLY
7	P67 20YL/RD	PASSENGER MIRROR VERTICAL POSITION SIGNAL
8	L60 18TN	RIGHT TURN SIGNAL (300M SPECIAL)
9	P68 20DG/RD	PASSENGER MIRROR HORIZONTAL POSITION SIGNAL
10	P66 20WT/BK	PASSENGER MIRROR SENSOR GROUND

# CONNECTOR PINOUTS



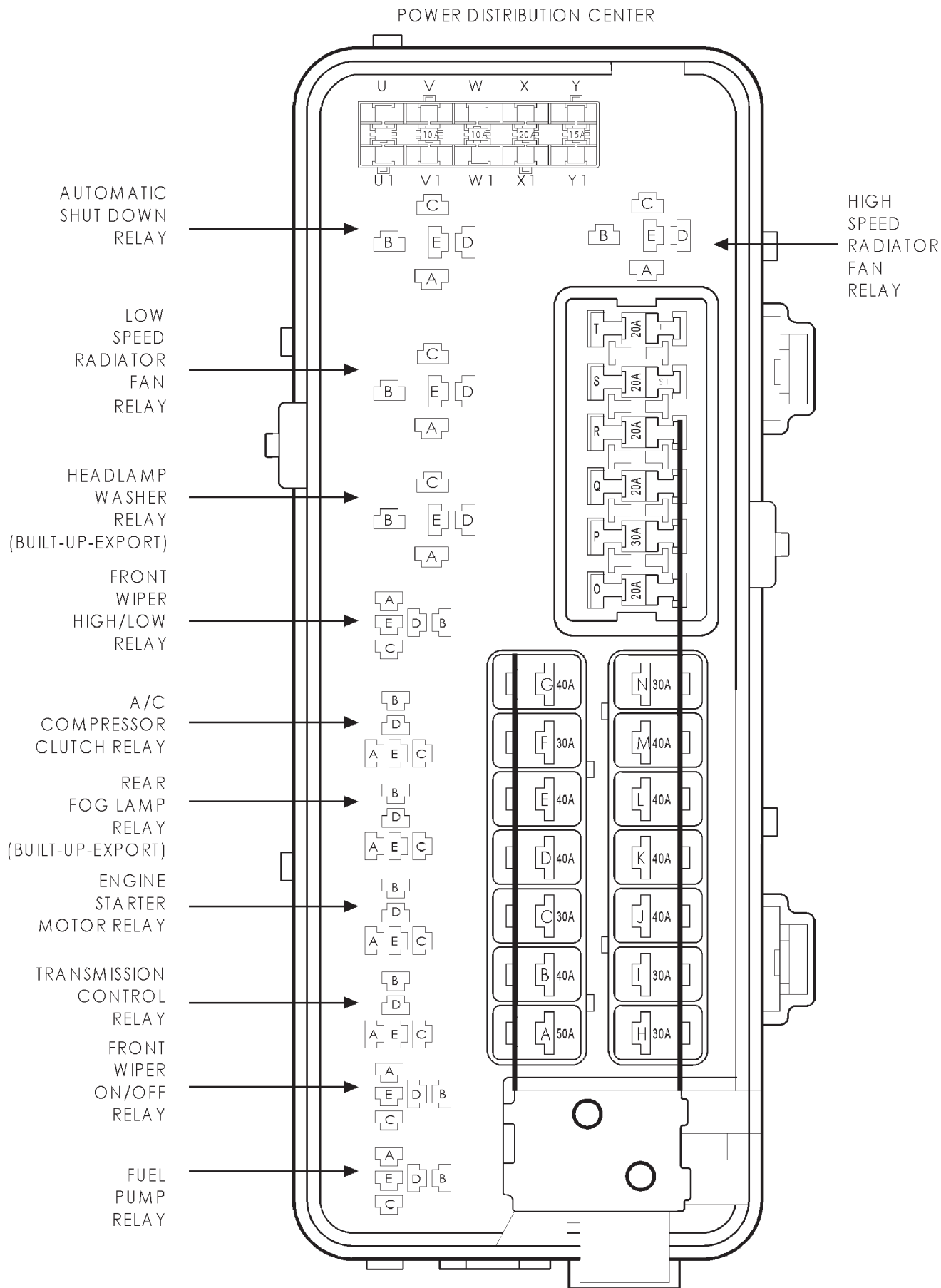
**POWER AMPLIFIER C1 - WHITE 12 WAY**

CAV	CIRCUIT	FUNCTION
1	X87 18LG/VT	AMPLIFIED LEFT DOOR SPEAKER (+)
2	X82 18LB/RD	AMPLIFIED RIGHT DOOR SPEAKER (+)
3	X83 18YL/RD	AMPLIFIED LEFT DOOR SAIL SPEAKER (+)
4	X86 18OR/RD	AMPLIFIED RIGHT DOOR SAIL SPEAKER (+)
5	X95 18WT/VT (PREMIUM II AUDIO)	AMPLIFIED LOW LEFT REAR SPEAKER (+)
6	X98 18TN/VT (PREMIUM II AUDIO)	AMPLIFIED LOW RIGHT REAR SPEAKER (+)
7	X85 18LG/BK	AMPLIFIED LEFT DOOR SPEAKER (-)
8	X80 18LB/BK	AMPLIFIED RIGHT DOOR SPEAKER (-)
9	X81 18YL/BK	AMPLIFIED LEFT DOOR SAIL SPEAKER (-)
10	X84 18OR/BK	AMPLIFIED RIGHT DOOR SAIL SPEAKER (-)
11	X97 18WT/DG (PREMIUM II AUDIO)	AMPLIFIED LOW LEFT REAR SPEAKER (-)
12	X96 18TN/DG (PREMIUM II AUDIO)	AMPLIFIED LOW RIGHT REAR SPEAKER (-)



**POWER AMPLIFIER C2 - WHITE 22 WAY**

CAV	CIRCUIT	FUNCTION
1	F62 16RD/WT	FUSED B(+)
2	Z2 16BK/LG	GROUND
3	X60 20DG/RD	RADIO 12V OUTPUT
4	X54 18VT	RIGHT FRONT SPEAKER (+)
5	X53 18DG	LEFT FRONT SPEAKER (+)
6	X52 18DB/WT	RIGHT REAR SPEAKER (+)
7	X51 18BR/YL	LEFT REAR SPEAKER (+)
8	-	-
9	X88 18PK/RD	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (+)
10	X93 18WT/RD	AMPLIFIED HIGH LEFT REAR SPEAKER (+)
11	X94 18TN/RD	AMPLIFIED HIGH RIGHT REAR SPEAKER (+)
12	F62 16RD	FUSED B(+)
13	Z2 16BK/LG	GROUND
14	-	-
15	X56 18DB/RD	RIGHT FRONT SPEAKER (-)
16	X55 18BR/RD	LEFT FRONT SPEAKER (-)
17	X58 18DB/OR	RIGHT REAR SPEAKER (-)
18	X57 18BR/LB	LEFT REAR SPEAKER (-)
19	-	-
20	X89 18PK/BK	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (-)
21	X91 18WT/BK	AMPLIFIED HIGH LEFT REAR SPEAKER (-)
22	X92 18TN/BK	AMPLIFIED HIGH RIGHT REAR SPEAKER (-)



# CONNECTOR PINOUTS

## FUSES (PDC)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
A	50A	A4 10BK/PK	FUSED B(+)
B	40A	A17 12RD/BR	FUSED B(+)
C	30A	A3 14RD/TN	FUSED B(+)
D	40A	A34 12LB/RD	FUSED B(+)
E	40A	A16 12GY	FUSED B(+)
F	30A	A37 16WT/DB	FUSED B(+)
G	40A	A1 12RD	FUSED B(+)
H	30A	A20 12RD/DB (ABS)	FUSED B(+)
I	30A	A7 14RD/BK	FUSED B(+)
J	40A	A2 12PK/BK	FUSED B(+)
K	40A	A10 12RD/DG (ABS)	FUSED B(+)
L	40A	A13 12PK/WT	FUSED B(+)
M	40A	A5 12RD/OR	FUSED B(+)
N	30A	A14 14RD/WT	FUSED B(+)
O	20A	A15 18PK	FUSED B(+)
P	30A	A53 14RD/YL (BUILT-UP-EXPORT)	FUSED B(+)
Q	20A	A30 14RD/LB	FUSED B(+)
R	20A	A35 18RD (BUILT-UP-EXPORT)	FUSED B(+)
S	20A	F42 16DG/LG	AUTOMATIC SHUT DOWN RELAY OUTPUT
T	20A	F142 16OR/DG	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
V	10A	A41 12YL	FUSED IGNITION SWITCH OUTPUT (START)
W	10A	A14 14RD/WT	FUSED B(+)
X	20A	A130 16VT/RD	FUSED B(+)
Y	15A	A105 18DB/RD	FUSED B(+)

## A/C COMPRESSOR CLUTCH RELAY

CAV	CIRCUIT	FUNCTION
A	F18 20LG/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
B	A17 12RD/BR	FUSED B(+)
C	C28 20DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
D	C2 14DB/BK	A/C COMPRESSOR CLUTCH RELAY OUTPUT
E	-	-

## FRONT WIPER HIGH/LOW RELAY

CAV	CIRCUIT	FUNCTION
A	A5 14RD/OR	FUSED B(+)
B	V5 12DG	FRONT WIPER RELAY COMMON
C	V16 20VT	FRONT WIPER HIGH/LOW RELAY CONTROL
D	V4 14RD/YL	FRONT WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT
E	V3 14BR/WT	FRONT WIPER HIGH/LOW RELAY LOW SPEED OUTPUT

## FRONT WIPER ON/OFF RELAY

CAV	CIRCUIT	FUNCTION
A	A5 14RD/OR	FUSED B(+)
B	V5 12DG	FRONT WIPER RELAY COMMON
C	V14 20RD/VT	FRONT WIPER ON/OFF RELAY CONTROL
D	A5 12RD/OR	FUSED B(+)
E	Z1 14BK	GROUND

## HEADLAMP WASHER RELAY (BUILT-UP-EXPORT)

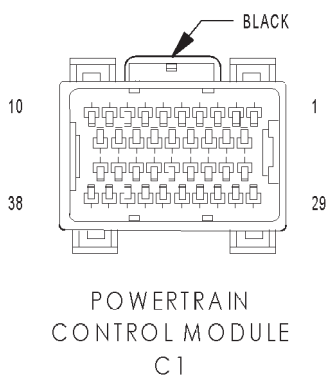
CAV	CIRCUIT	FUNCTION
A	V58 20BR/YL	HEADLAMP WASHER RELAY CONTROL
B	A53 14RD/YL	FUSED B(+)
C	A53 14RD/YL	FUSED B(+)
D	V53 14RD/OR	HEADLAMP WASHER RELAY OUTPUT
E	-	-

## REAR FOG LAMP RELAY (BUILT-UP-EXPORT)

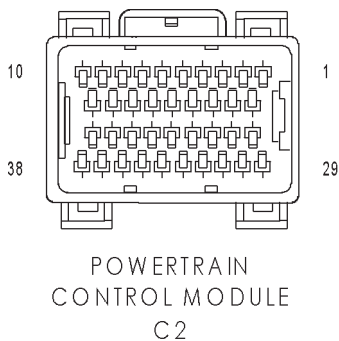
CAV	CIRCUIT	FUNCTION
A	A35 18DB	FUSED B(+)
B	A35 18DB	FUSED B(+)
C	L96 18LG/RD	REAR FOG LAMP SWITCH GROUND
D	L95 18DG/YL	FOG LAMP RELAY OUTPUT
E	-	-

# CONNECTOR PINOUTS

POWERTRAIN CONTROL MODULE C1 - BLACK 38 WAY

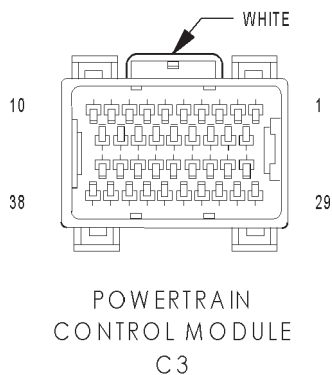


CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	Z12 16BK/TN	GROUND
10	-	-
11	F12 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
13	-	-
14	-	-
15	-	-
16	K236 18GY/PK	SHORT RUNNER VALVE SOLENOID CONTROL
17	-	-
18	Z12 16BK/TN	GROUND
19	-	-
20	-	-
21	C18 20DB	A/C PRESSURE SIGNAL
22	-	-
23	-	-
24	-	-
25	D20 20LG	SCI RECEIVE (PCM)
26	D19 20VT/OR	SCI RECEIVE (TCM)
27	-	-
28	-	-
29	A209 20RD	FUSED B(+)
30	T751 20YL/BK	FUSED IGNITION SWITCH OUTPUT (START)
31	K141 20TN/WT	OXYGEN SENSOR 1/2 SIGNAL
32	K904 18DB/DG	OXYGEN SENSOR RETURN (BANK 1)
33	K341 20PK/WT	OXYGEN SENSOR 2/2 SIGNAL
34	-	-
35	-	-
36	D21 20PK/TN	SCI TRANSMIT (PCM)
37	D15 20WT/DG	SCI TRANSMIT (TCM)
38	D25 18VT/YL	PCI BUS (PCM)



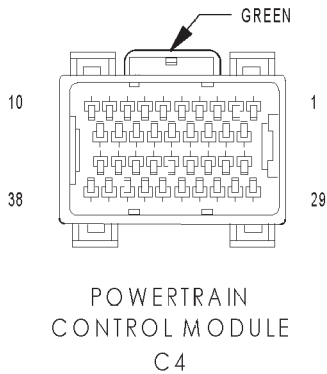
POWERTRAIN CONTROL MODULE C2 - 38 WAY		
CAV	CIRCUIT	FUNCTION
1	K96 16TN/LB	COIL ON PLUG DRIVER NO. 6
2	K95 16TN/DG	COIL ON PLUG DRIVER NO. 5
3	K94 16TN/LG	COIL ON PLUG DRIVER NO. 4
4	K58 18BR/DB	FUEL INJECTOR NO. 6 DRIVER
5	K38 18GY	FUEL INJECTOR NO. 5 DRIVER
6	-	-
7	K93 16 TN/OR	COIL ON PLUG DRIVER NO. 3
8	K35 20GY/YL	EGR SOLENOID CONTROL
9	K92 16TN/PK	COIL ON PLUG DRIVER NO. 2
10	K91 16TN/RD	COIL ON PLUG DRIVER NO.1
11	K14 18LB/BR	FUEL INJECTOR NO. 4 DRIVER
12	K13 18YL/WT	FUEL INJECTOR NO. 3 DRIVER
13	K12 18TN/WT	FUEL INJECTOR NO. 2 DRIVER
14	K11 18WT/DB	FUEL INJECTOR NO. 1 DRIVER
15	-	-
16	K36 18VT/RD	MANIFOLD SOLENOID CONTROL
17	K299 18BR/WT	OXYGEN SENSOR 2/1 HEATER CONTROL
18	K99 18BR/OR	OXYGEN SENSOR 1/1 HEATER CONTROL
19	K20 18DG	GENERATOR FIELD DRIVER (+)
20	K2 20TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
21	K22 20OR/DB	THROTTLE POSITION SENSOR SIGNAL
22	K235 20 LG/PK	EGR SENSOR SIGNAL
23	K1 20DG/RD	MAP SENSOR SIGNAL
24	K45 20BK/VT	KNOCK SENSOR RETURN
25	K42 20DB/LG	KNOCK SENSOR SIGNAL
26	-	-
27	K4 18BK/LB	SENSOR GROUND
28	K60 18YL/BK	IDLE AIR CONTROL MOTOR SENSE
29	K6 20VT/WT	5V SUPPLY
30	K21 20BK/RD	INTAKE AIR TEMPERATURE SIGNAL
31	K41 20BK/DG	OXYGEN SENSOR 1/1 SIGNAL
32	K902 18 BR/DG	OXYGEN SENSOR RETURN (BANK 2)
33	K241 20LG/RD	OXYGEN SENSOR 2/1 SIGNAL
34	K44 20TN/YL	CAMSHAFT POSITION SENSOR SIGNAL
35	K24 20GY/BK	CRANKSHAFT POSITION SENSOR SIGNAL
36	-	-
37	-	-
38	K39 18GY/RD	IDLE AIR CONTROL MOTOR DRIVER

# CONNECTOR PINOUTS

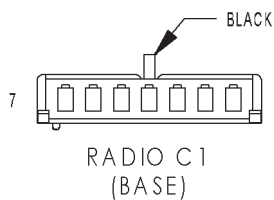


POWERTRAIN CONTROL MODULE C3 - WHITE 38 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	K51 20DBYL	AUTOMATIC SHUT DOWN RELAY CONTROL
4	C27 20DB/PK	HIGH SPEED RADIATOR FAN RELAY CONTROL
5	V35 20LG/RD	SPEED CONTROL VENT SOLENOID CONTROL
6	C24 20DB/PK	LOW SPEED RADIATOR FAN RELAY CONTROL
7	V32 20YL/RD	SPEED CONTROL POWER SUPPLY
8	K106 18WT/DG	NVLD SOLENOID CONTROL
9	K199 18BR/VT	OXYGEN SENSOR 1/2 HEATER CONTROL
10	K399 18BR/GY	OXYGEN SENSOR 2/2 HEATER CONTROL
11	C28 20DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
12	V36 18TN/RD	SPEED CONTROL VACUUM SOLENOID CONTROL
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	F142 16OR/DG	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
19	F142 16OR/DG	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
20	K52 18PK/BK	EVAPORATIVE EMISSION SOLENOID CONTROL
21	-	-
22	-	-
23	K29 20WT/PK	BRAKE SWITCH SENSE
24	-	-
25	-	-
26	T44 20YL	AUTOSTICK DOWNSHIFT SWITCH SENSE
27	T5 20LG/RD	AUTOSTICK UPSHIFT SWITCH SENSE
28	F142 16OR/DG	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
29	K108 18DG/LG	EVAPORATIVE SOLENOID SENSE
30	-	-
31	-	-
32	K25 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
33	-	-
34	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL
35	K107 18OR/RD	NVLD SWITCH SENSE
36	-	-
37	K31 20BR	FUEL PUMP RELAY CONTROL
38	K90 20TN	STARTER RELAY CONTROL

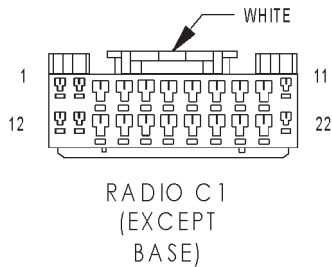


POWERTRAIN CONTROL MODULE C4 - GREEN 38 WAY		
CAV	CIRCUIT	FUNCTION
1	T60 16BR	OVERDRIVE SOLENOID CONTROL
2	T59 16PK	UNDERDRIVE SOLENOID CONTROL
3	-	-
4	-	-
5	-	-
6	T19 16WT	2-4 SOLENOID CONTROL
7	-	-
8	-	-
9	-	-
10	T20 16LB	LOW/REVERSE SOLENOID CONTROL
11	-	-
12	Z14 16BK/YL	GROUND
13	Z13 16BK/RD	GROUND
14	Z13 16BK/RD	GROUND
15	T1 20LG/BK	TRS T1 SENSE
16	T3 20VT	TRS T3 SENSE
17	-	-
18	T15 20LG	TRANSMISSION CONTROL RELAY CONTROL
19	T16 16RD	TRANSMISSION CONTROL RELAY OUTPUT
20	-	-
21	-	-
22	T9 16OR/BK	OVERDRIVE SWITCH SENSE
23	-	-
24	-	-
25	-	-
26	-	-
27	T41 20BK/WT	TRS T41 SENSE
28	T16 16RD	TRANSMISSION CONTROL RELAY OUTPUT
29	T50 16DG	LOW/REVERSE PRESSURE SWITCH SENSE
30	T47 16YL/BK	2-4 PRESSURE SWITCH SENSE
31	-	-
32	T14 20LG/WT	OUTPUT SPEED SENSOR SIGNAL
33	T52 20RD/BK	INPUT SPEED SENSOR SIGNAL
34	T13 20DB/BK	SPEED SENSOR GROUND
35	T54 20VT/PK	TRANSMISSION TEMPERATURE SENSOR SIGNAL
36	-	-
37	T42 20VT/WT	TRS T42 SENSE
38	T16 16RD	TRANSMISSION CONTROL RELAY OUTPUT



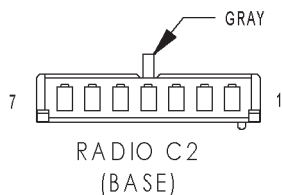
RADIO C1 (BASE) - BLACK 7 WAY		
CAV	CIRCUIT	FUNCTION
1	X60 20DG/RD	RADIO 12 VOLT OUTPUT
2	X51 18BR/YL	LEFT REAR SPEAKER (+)
3	X52 18DB/WT	RIGHT REAR SPEAKER (+)
4	X53 18DG	LEFT FRONT SPEAKER (+)
5	X54 18VT	RIGHT FRONT SPEAKER (+)
6	X57 18BR/LB	LEFT REAR SPEAKER (-)
7	X58 18DB/OR	RIGHT REAR SPEAKER (-)

# CONNECTOR PINOUTS



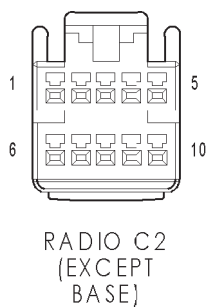
**RADIO C1 (EXCEPT BASE) - WHITE 22 WAY**

CAV	CIRCUIT	FUNCTION
1	-	-
2	X12 20RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	E2 20OR	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X54 18VT	RIGHT FRONT SPEAKER (+)
8	X56 18DB/RD	RIGHT FRONT SPEAKER (-)
9	X55 18BR/RD	LEFT FRONT SPEAKER (-)
10	X53 18DG	LEFT FRONT SPEAKER (+)
11	Z1 18BK	GROUND
12	M1 20PK	FUSED B(+)
13	X60 20DG/RD	RADIO 12V OUTPUT
14	D25 20VT/YL	PCI BUS
15	-	-
16	-	-
17	-	-
18	X51 18BR/YL	LEFT REAR SPEAKER (+)
19	X57 18BR/LB	LEFT REAR SPEAKER (-)
20	X58 18DB/OR	RIGHT REAR SPEAKER(-)
21	X52 18DB/WT	RIGHT REAR SPEAKER(+)
22	-	-



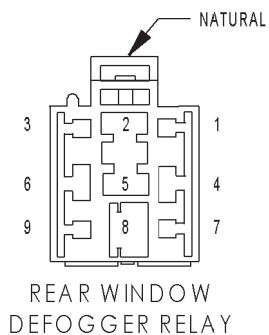
**RADIO C2 (BASE) - GRAY 7 WAY**

CAV	CIRCUIT	FUNCTION
1	-	-
2	X55 18BR/RD	LEFT FRONT DOOR SPEAKER (-)
3	X56 18DB/RD	RIGHT FRONT DOOR SPEAKER (-)
4	E17 20YL/BK	PARK LAMP RELAY OUTPUT
5	E2 20OR	PANEL LAMPS DRIVER
6	X12 20RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
7	M1 20PK	FUSED B(+)

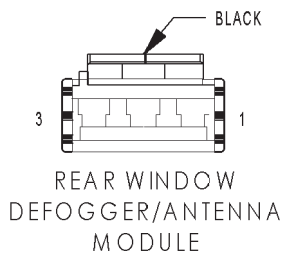


**RADIO C2 (EXCEPT BASE) - 10 WAY**

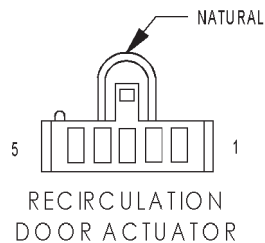
CAV	CIRCUIT	FUNCTION
1	X40 24GY/WT	AUDIO OUT RIGHT
2	Z140 24BK/OR	GROUND
3	-	-
4	D25 24VT/YL	PCI BUS (RADIO)
5	X112 24RD	FUSED IGNITION SWITCH OUTPUT
6	X41 24DG/WT	AUDIO OUT LEFT
7	Z141 22BK/TN	GROUND
8	-	-
9	E14 24OR/TN	PANEL LAMPS DIMMER SIGNAL
10	X160 22GY/YL	B(+)



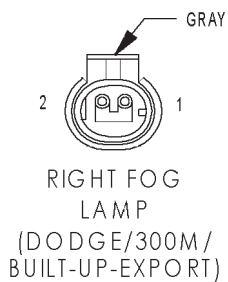
REAR WINDOW DEFOGGER RELAY - NATURAL 9 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	C15 10BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
3	-	-
4	A4 10BK/PK	FUSED B(+)
5	-	-
6	C80 20DB/WT	REAR WINDOW DEFOGGER RELAY CONTROL
7	-	-
8	A4 10BK/PK	FUSED B(+)
9	-	-



REAR WINDOW DEFOGGER/ANTENNA MODULE - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	X60 20DG/RD	RADIO 12V OUTPUT
2	C15 10BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
3	-	-

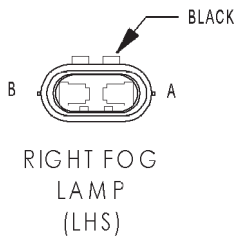


RECIRCULATION DOOR ACTUATOR - NATURAL 5 WAY		
CAV	CIRCUIT	FUNCTION
1	C32 20GY/DB	RECIRCULATION DOOR DRIVER
2	-	-
3	-	-
4	-	-
5	C34 20BR/WT	COMMON DOOR DRIVER

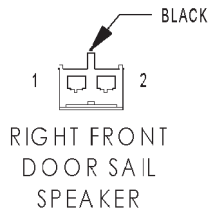


RIGHT FOG LAMP (DODGE/300M/BUILT-UP EXPORT) - GRAY 2 WAY		
CAV	CIRCUIT	FUNCTION
1	L39 20LB	FOG LAMP SWITCH OUTPUT
2	Z1 20BK	GROUND

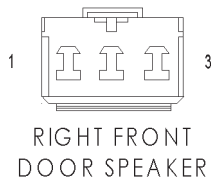
# CONNECTOR PINOUTS



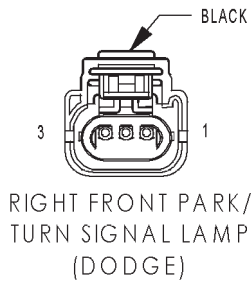
RIGHT FOG LAMP (LHS) - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
A	L39 20LB	FOG LAMP RELAY OUTPUT
B	Z1 20BK	GROUND



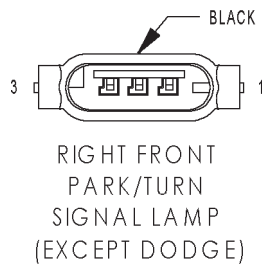
RIGHT FRONT DOOR SAIL SPEAKER - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	X86 18OR/RD	AMPLIFIED RIGHT DOOR SAIL SPEAKER (+)
2	X84 18OR/BK	AMPLIFIED RIGHT DOOR SAIL SPEAKER (-)



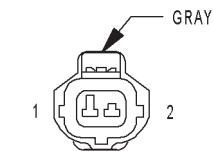
RIGHT FRONT DOOR SPEAKER - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	X80 18LB/BK	AMPLIFIED RIGHT DOOR SPEAKER (-)
2	X82 18LB/RD	AMPLIFIED RIGHT DOOR SPEAKER (+)
3	-	-



RIGHT FRONT PARK/TURN SIGNAL LAMP (DODGE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L60 18TN	RIGHT TURN SIGNAL

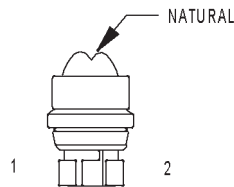


RIGHT FRONT PARK/TURN SIGNAL LAMP (EXCEPT DODGE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND



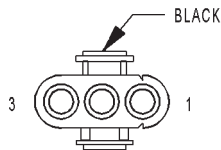
RIGHT FRONT  
POSITION LAMP

RIGHT FRONT POSITION LAMP - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 20BK/YL	PARK LAMP RELAY OUTPUT
2	Z1 20BK	GROUND



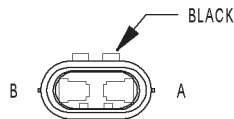
RIGHT FRONT SIDE  
MARKER LAMP  
(LHS)

RIGHT FRONT SIDE MARKER LAMP (LHS) - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 20BK/YL	PARK LAMP RELAY OUTPUT
2	L60 20TN	RIGHT TURN SIGNAL



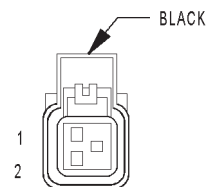
RIGHT HEADLAMP  
LEVELING MOTOR  
(BUILT-UP-EXPORT)

RIGHT HEADLAMP LEVELING MOTOR (BUILT-UP-EXPORT) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 20BK/YL	PARK LAMP RELAY OUTPUT
2	L13 20BR/YL	HEADLAMP ADJUST SIGNAL
3	Z1 20BK	GROUND



RIGHT HIGH  
BEAM HEADLAMP

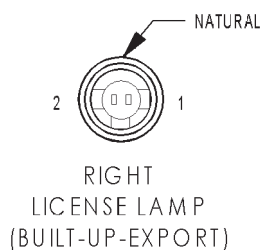
RIGHT HIGH BEAM HEADLAMP - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
A	L34 20RD (BUILT-UP-EXPORT)	FUSED RIGHT HIGH BEAM OUTPUT
A	L34 20RD/OR (EXCEPT BUILT-UP-EXPORT)	FUSED RIGHT HIGH BEAM OUTPUT
B	Z1 20BK	GROUND



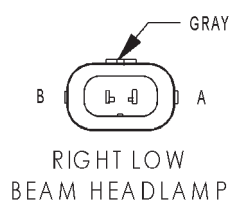
RIGHT HORN

RIGHT HORN - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	X2 18DG/RD	HORN RELAY OUTPUT

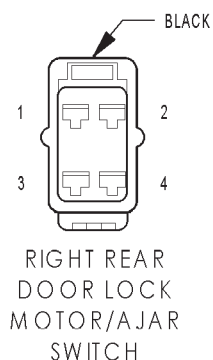
# CONNECTOR PINOUTS



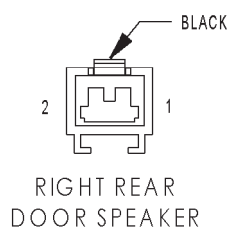
RIGHT LICENSE LAMP (BUILT-UP-EXPORT) - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	L7 18BK/YL	PARK LAMP RELAY OUTPUT
2	Z1 18BK	GROUND



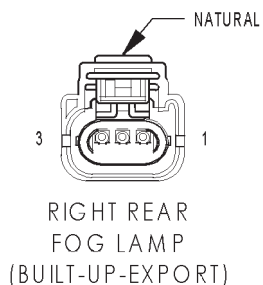
RIGHT LOW BEAM HEADLAMP - GRAY 2 WAY		
CAV	CIRCUIT	FUNCTION
A	L44 20VT/RD (BUILT-UP-EXPORT)	FUSED RIGHT LOW BEAM OUTPUT
A	L44 16VT/RD (EXCEPT BUILT-UP-EXPORT)	FUSED RIGHT LOW BEAM OUTPUT
B	Z1 16BK (EXCEPT BUILT-UP-EXPORT)	GROUND
B	Z1 20BK (BUILT-UP-EXPORT)	GROUND



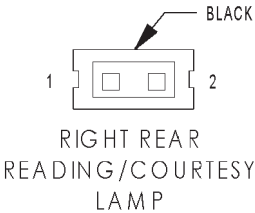
RIGHT REAR DOOR LOCK MOTOR/AJAR SWITCH - BLACK 4 WAY		
CAV	CIRCUIT	FUNCTION
1	G74 20TN/RD	DOOR AJAR SWITCH SENSE
2	Z1 20BK	GROUND
3	P34 16PK/BK	UNLOCK RELAY OUTPUT
4	P33 16OR	LOCK RELAY OUTPUT



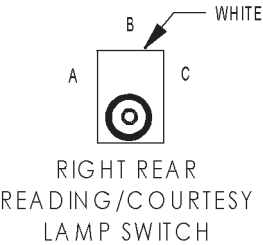
RIGHT REAR DOOR SPEAKER - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	X96 18TN/DG	AMPLIFIED LOW RIGHT REAR SPEAKER (-)
2	X98 18TN/VT	AMPLIFIED LOW RIGHT REAR SPEAKER (+)



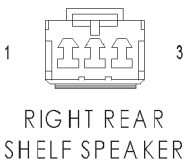
RIGHT REAR FOG LAMP (BUILT-UP-EXPORT) - NATURAL 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L95 18DG/YL	REAR FOG LAMP RELAY OUTPUT
2	-	-
3	Z1 18BK	GROUND



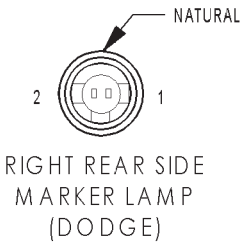
RIGHT REAR READING/COURTESY LAMP - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	M42 20LG (EXCEPT BASE)	COURTESY LAMPS DRIVER



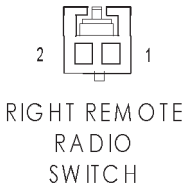
RIGHT REAR READING/COURTESY LAMP SWITCH - WHITE 3 WAY		
CAV	CIRCUIT	FUNCTION
A	Z1 20BK	COURTESY LAMPS DRIVER
B	M42 20LG	COURTESY LAMPS DRIVER
C	M2 20YL	GROUND



RIGHT REAR SHELF SPEAKER - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	X92 18TN/BK (MIDLINE AND PREMIUM AUDIO)	AMPLIFIED HIGH RIGHT REAR SPEAKER (-)
1	X58 18DB/OR (BASE)	RIGHT REAR SPEAKER (-)
2	X94 18TN/RD (MIDLINE AND PREMIUM AUDIO)	AMPLIFIED HIGH RIGHT REAR SPEAKER (+)
2	X52 18DB/WT (BASE)	RIGHT REAR SPEAKER (+)
3	-	-

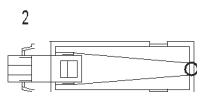


RIGHT REAR SIDE MARKER LAMP (DODGE) - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK	PARK LAMP RELAY OUTPUT



RIGHT REMOTE RADIO SWITCH - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	X20 22GY/WT	RADIO CONTROL MUX
2	X920 22GY/OR	RADIO CONTROL MUX RETURN

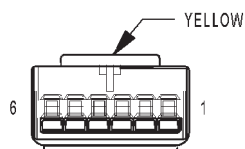
# CONNECTOR PINOUTS



RIGHT  
SEAT  
AIRBAG

## RIGHT SEAT AIRBAG - 2 WAY

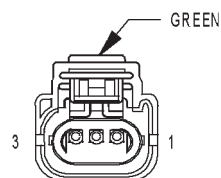
CAV	CIRCUIT	FUNCTION
1	R32 20LB/OR	RIGHT SEAT SQUIB LINE 1
2	R34 20LB/WT	RIGHT SEAT SQUIB LINE 2



RIGHT SIDE  
IMPACT AIRBAG  
CONTROL  
MODULE

## RIGHT SIDE IMPACT AIRBAG CONTROL MODULE - YELLOW 6 WAY

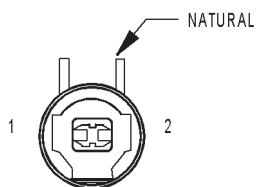
CAV	CIRCUIT	FUNCTION
1	F14 20LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	D25 20VT/YL	PCI BUS
3	R32 20LB/OR	RIGHT SEAT SQUIB LINE 1
4	R34 20LB/WT	RIGHT SEAT SQUIB LINE 2
5	-	-
6	Z2 20BK/LG	GROUND



RIGHT TAIL LAMP  
(300M/BUILT-UP-EXPORT)

## RIGHT TAIL LAMP (300M/BUILT-UP-EXPORT) - GREEN 3 WAY

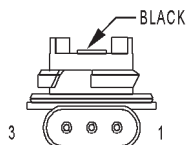
CAV	CIRCUIT	FUNCTION
1	L7 18PK/YL	PARK LAMP RELAY OUTPUT
2	Z1 18BK	GROUND
3	-	-



RIGHT TAIL LAMP  
(LHS)

## RIGHT TAIL LAMP (LHS) - 2 WAY

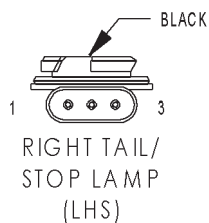
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT



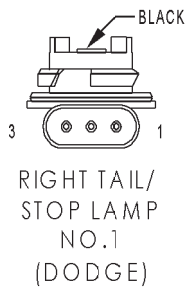
RIGHT TAIL/  
STOP LAMP  
(CONCORDE)

## RIGHT TAIL/STOP LAMP (CONCORDE) - BLACK 3 WAY

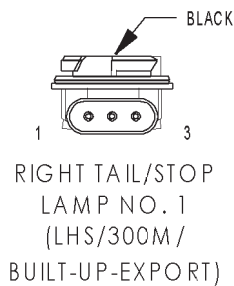
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND



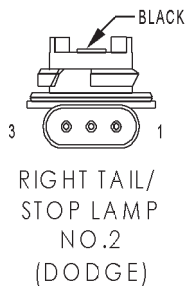
RIGHT TAIL/STOP LAMP (LHS) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT



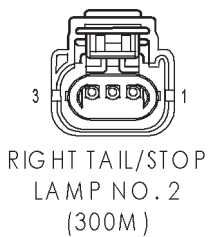
RIGHT TAIL/STOP LAMP NO. 1 (DODGE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT



RIGHT TAIL/STOP LAMP NO. 1 (LHS/300M/BUILT-UP-EXPORT) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND

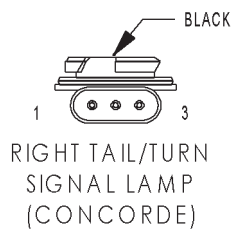


RIGHT TAIL/STOP LAMP NO. 2 (DODGE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18K	GROUND

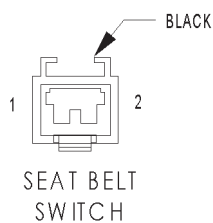


RIGHT TAIL/STOP LAMP NO. 2 (300M) - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND

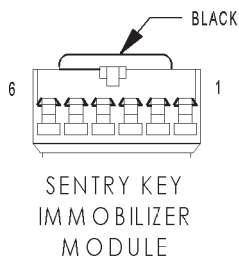
# CONNECTOR PINOUTS



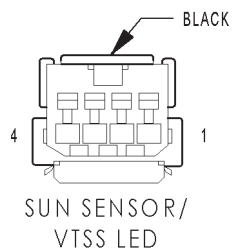
RIGHT TAIL/TURN SIGNAL LAMP (CONCORDE) - BLACK 3 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L7 18BK/YL	PARK LAMP RELAY OUTPUT
3	L60 18LG/TN	RIGHT TURN SIGNAL



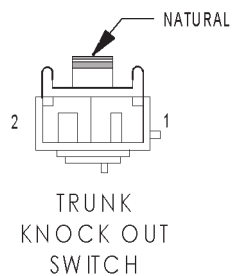
SEAT BELT SWITCH - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	G10 20LG/RD	SEAT BELT SWITCH SENSE
2	Z2 20BK/LG	GROUND



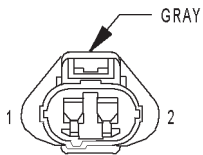
SENTRY KEY IMMOBILIZER MODULE - BLACK 6 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20VT/YL	PCI BUS
3	-	-
4	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	Z2 20BK/LG	GROUND
6	M1 20PK	FUSED B(+)



SUN SENSOR/VTSS LED - BLACK 4 WAY		
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	G69 22BK/OR	VTSS INDICATOR DRIVER
3	C57 20DB/GY	SENSOR GROUND
4	C38 20DB	SUN SENSOR SIGNAL



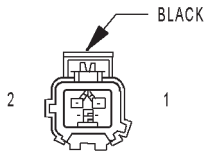
TRUNK KNOCK OUT SWITCH - NATURAL 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G71 20VT/YL	DECKLID SECURITY SWITCH SENSE



WASHER FLUID  
LEVEL SENSOR

WASHER FLUID LEVEL SENSOR - GRAY 2 WAY

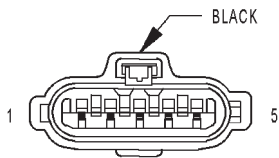
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G29 20BK/TN	WASHER FLUID LEVEL SWITCH SENSE



WINDSHIELD WASHER  
PUMP MOTOR

WINDSHIELD WASHER PUMP MOTOR - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	V10 20BR	FRONT WASHER PUMP MOTOR CONTROL



WINDSHIELD  
WIPER MOTOR

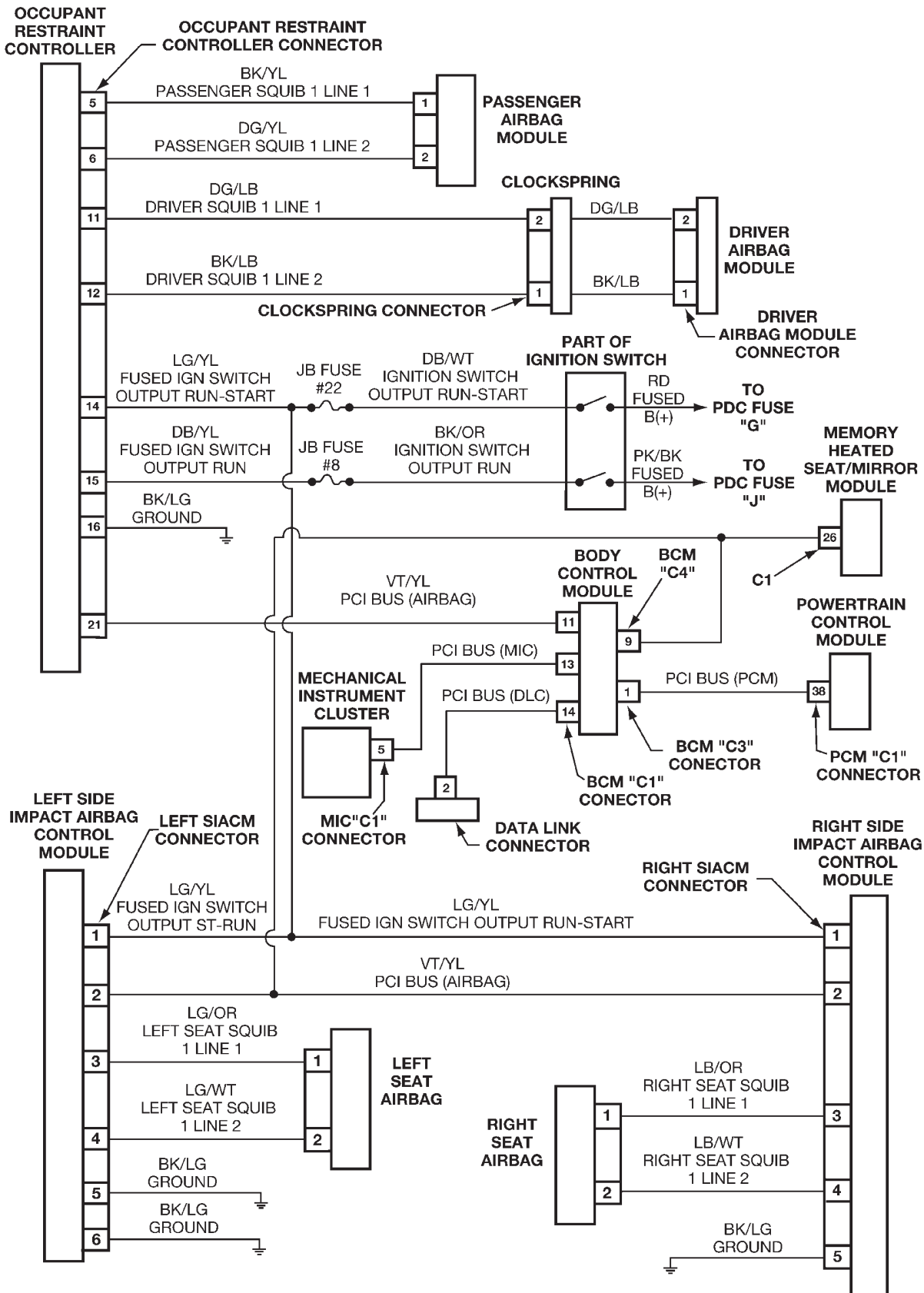
WINDSHIELD WIPER MOTOR - BLACK 5 WAY

CAV	CIRCUIT	FUNCTION
1	V4 14RD/YL	FRONT WIPER RELAY HIGH SPEED OUTPUT
2	V3 14BR/WT	FRONT WIPER RELAY LOW SPEED OUTPUT
3	-	-
4	V55 20TN/RD	FRONT WIPER PARK SWITCH SENSE
5	Z1 14BK	COURTESY LAMPS DRIVER

NOTES

## 10.0 SCHEMATIC DIAGRAMS

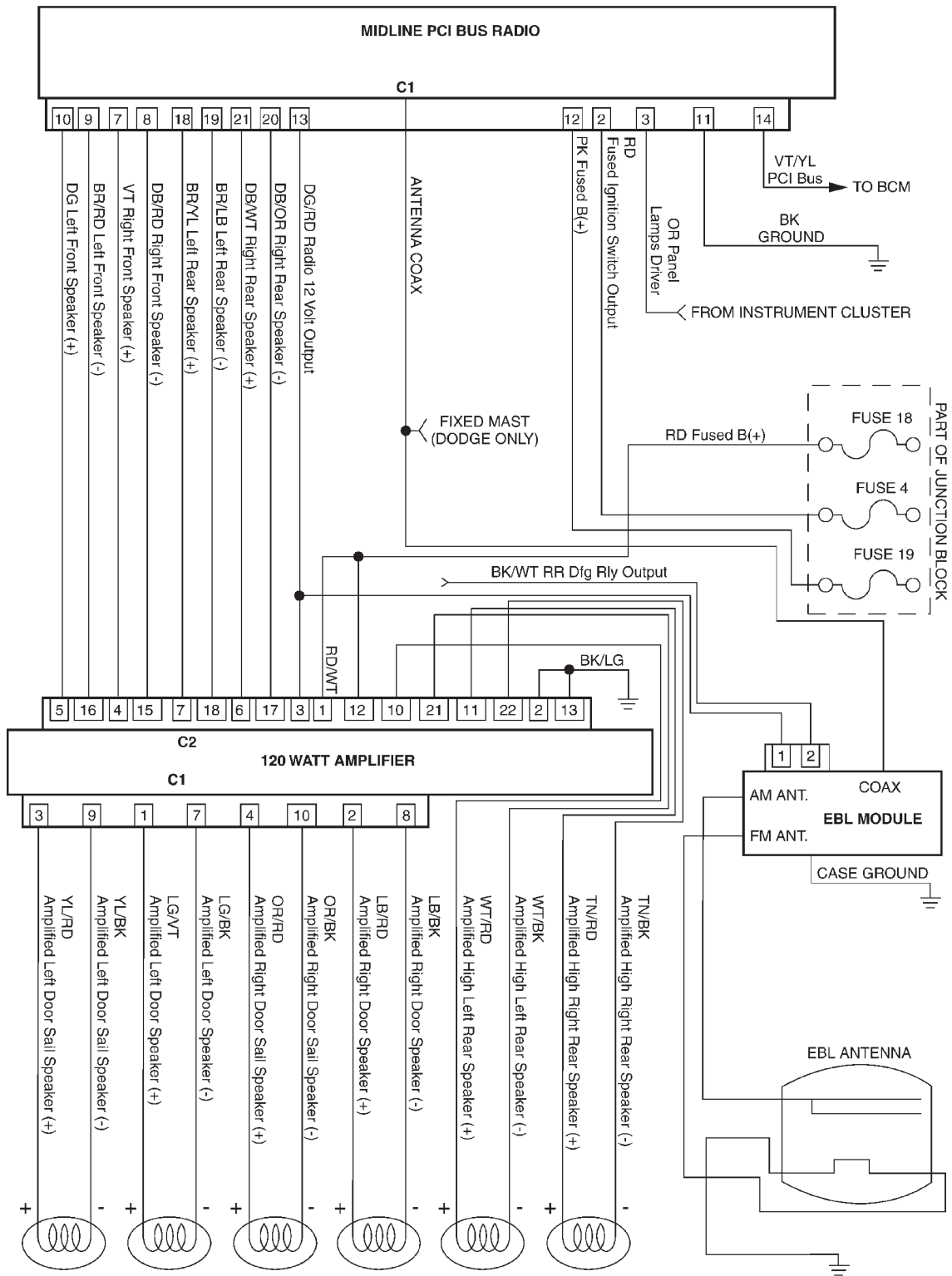
## 10.1 AIRBAG SYSTEMS



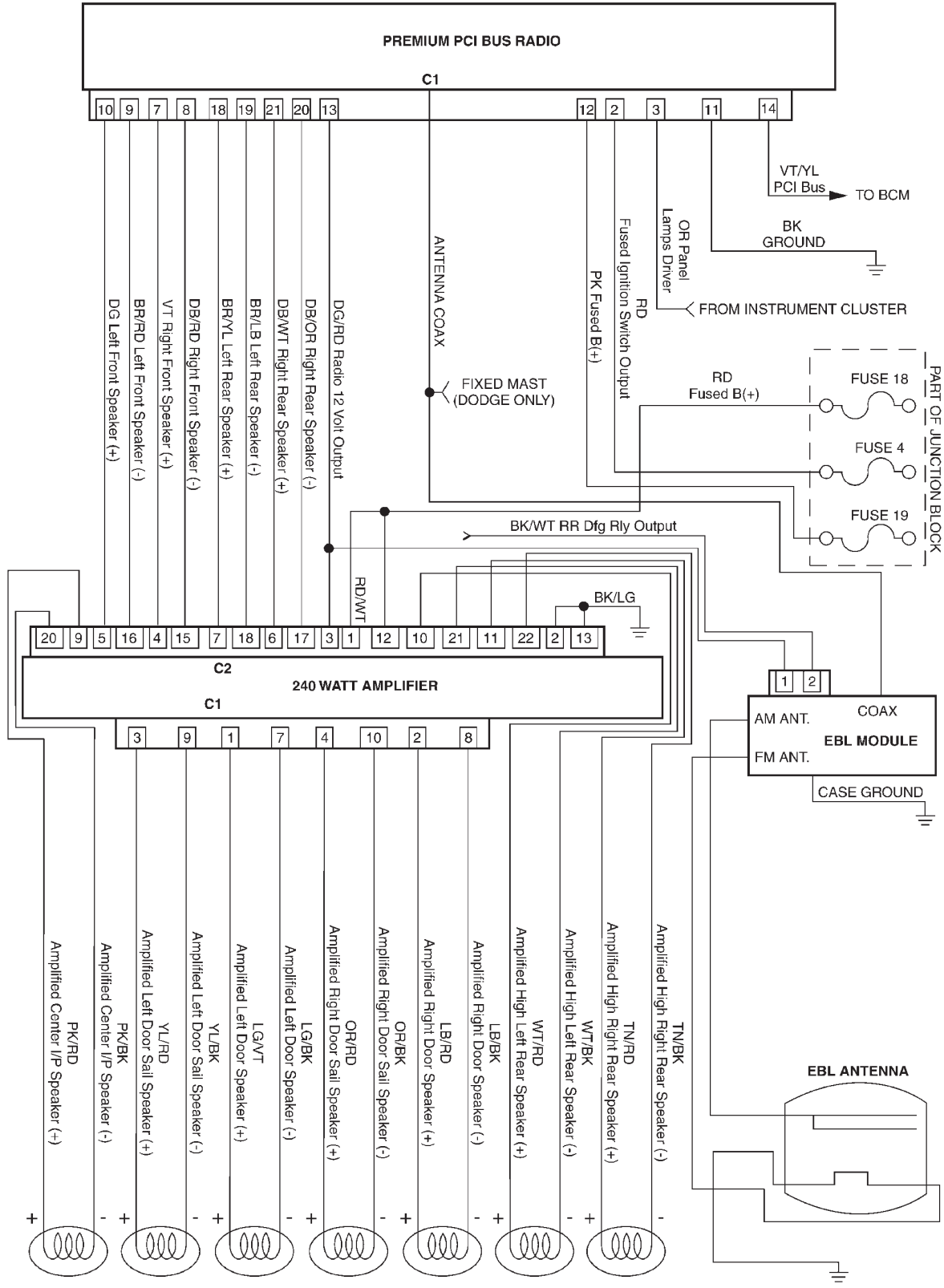
80d95492

# SCHEMATIC DIAGRAMS

## 10.2 AUDIO SYSTEM - MIDLINE

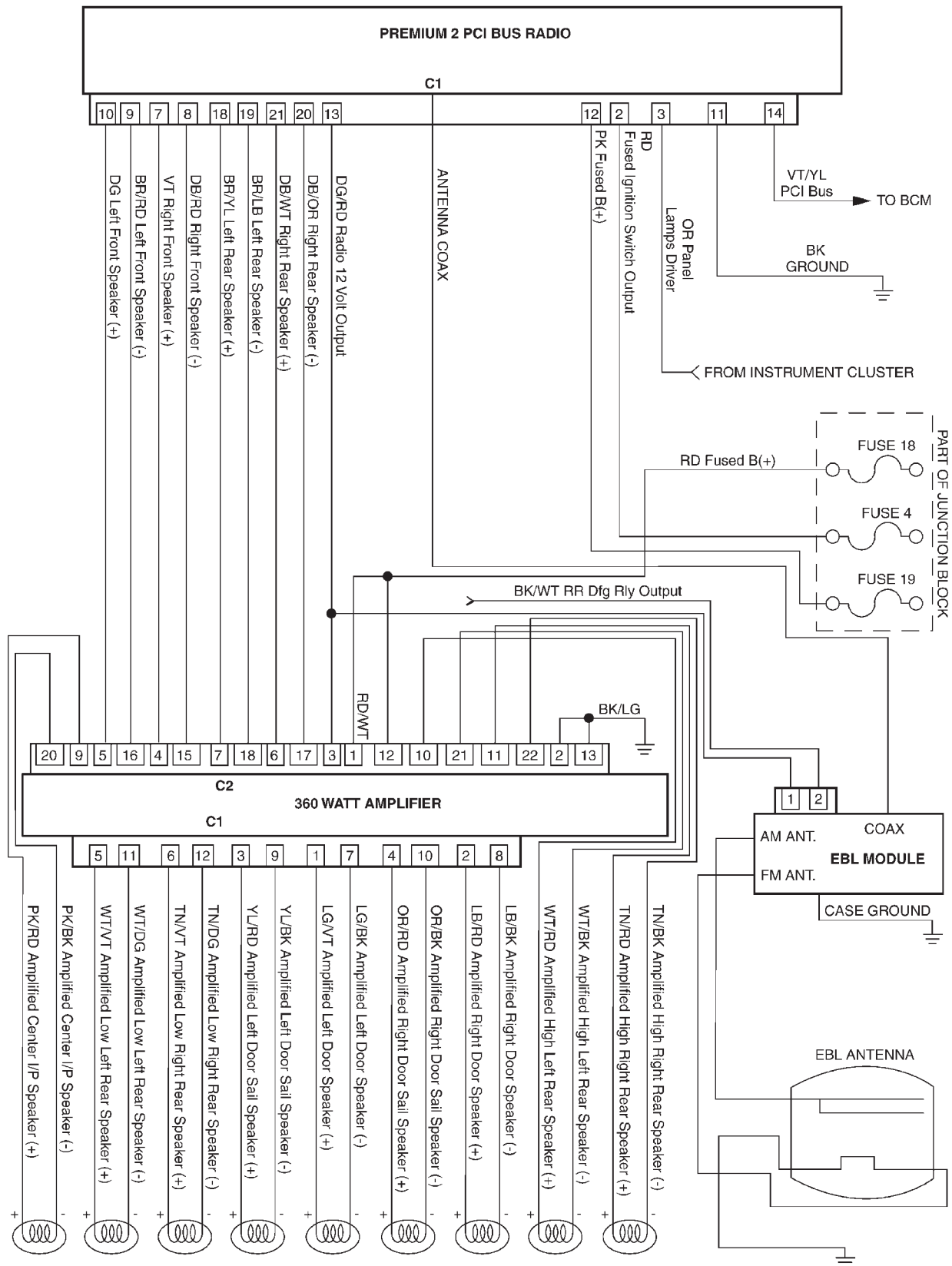


10.3 AUDIO SYSTEM - PREMIUM INFINITY I

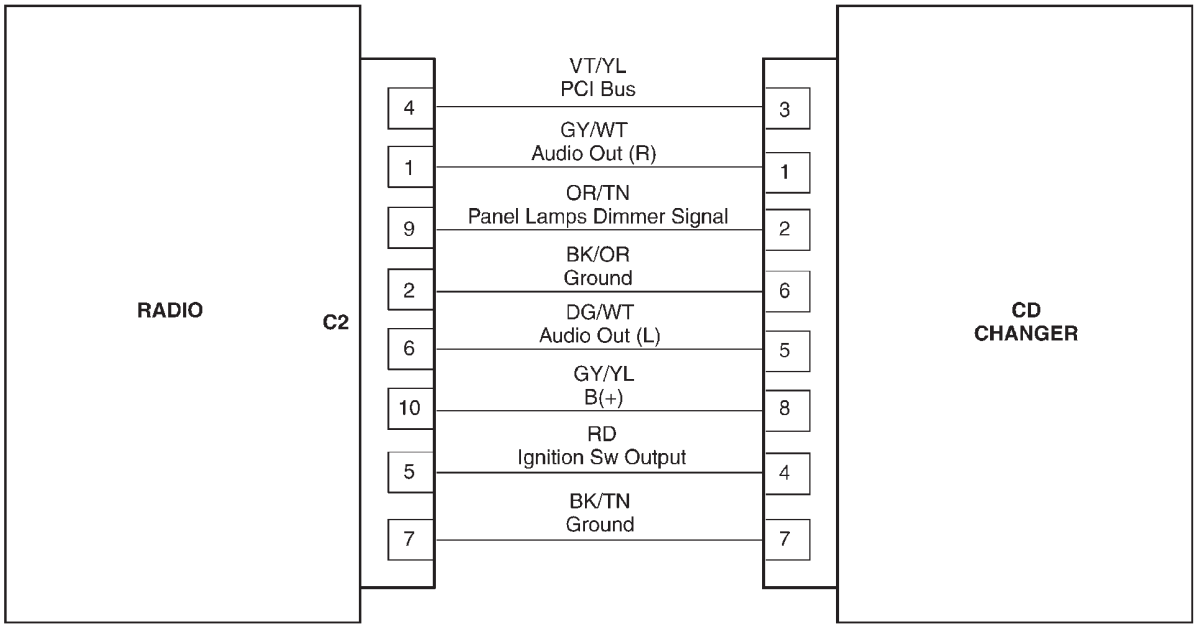


80df8471

10.3 AUDIO SYSTEM - PREMIUM 2 INFINITY II

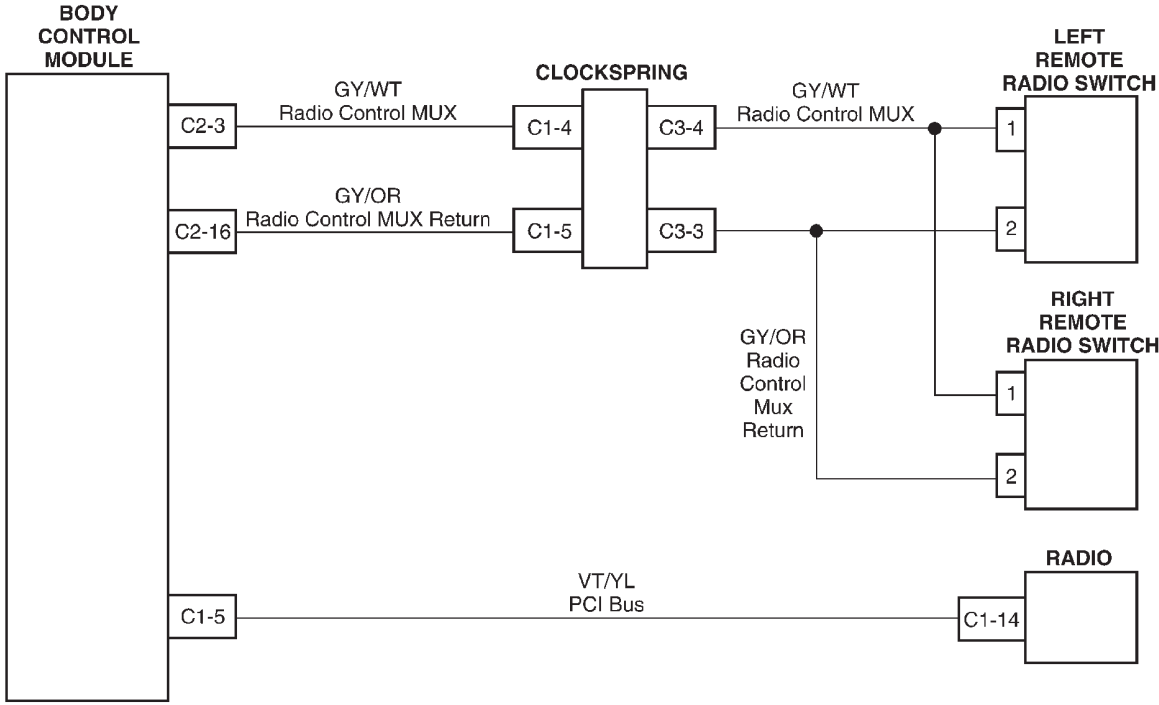


10.3.1 CD CHANGER



80df8367

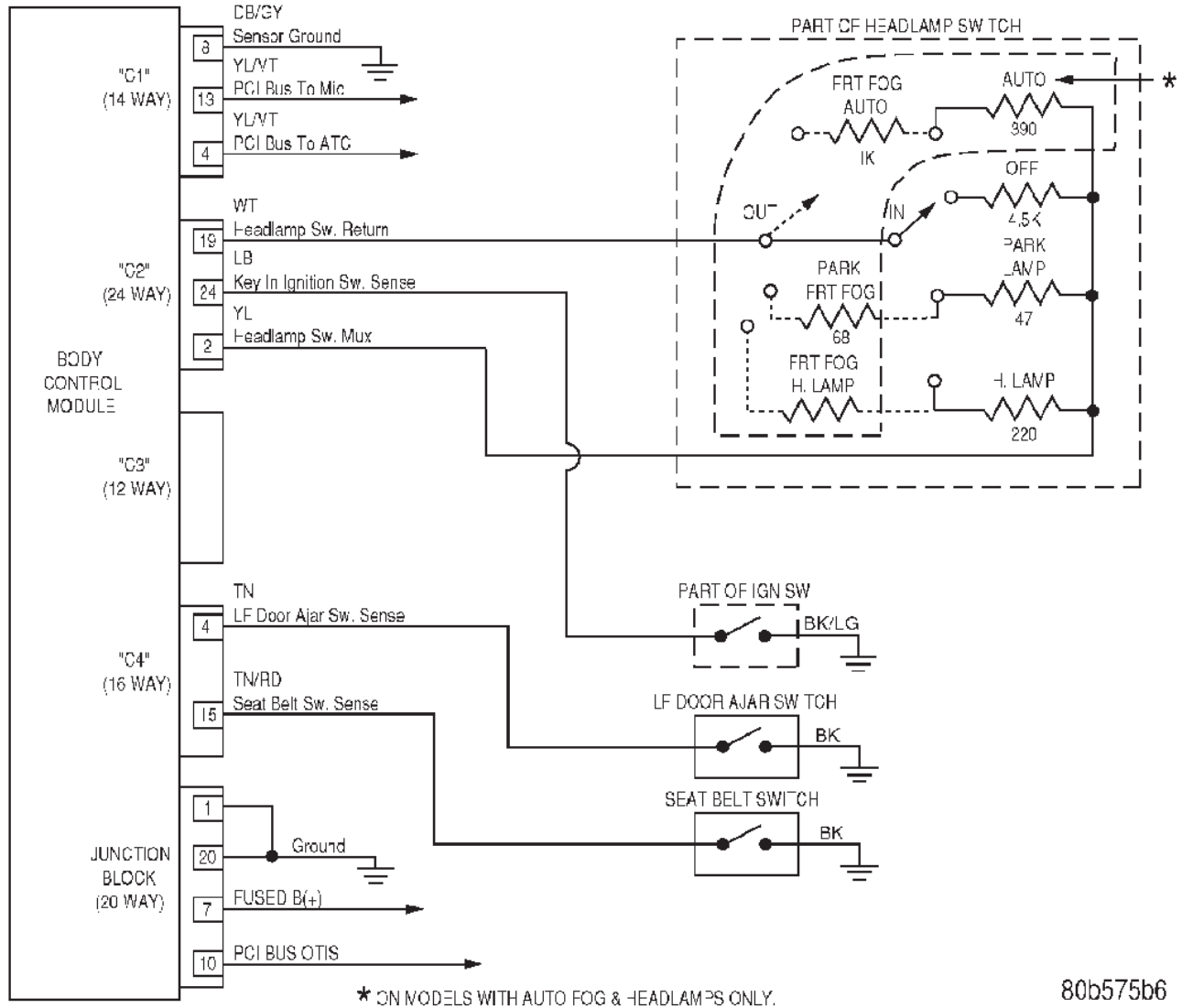
10.3.2 REMOTE RADIO SWITCHES



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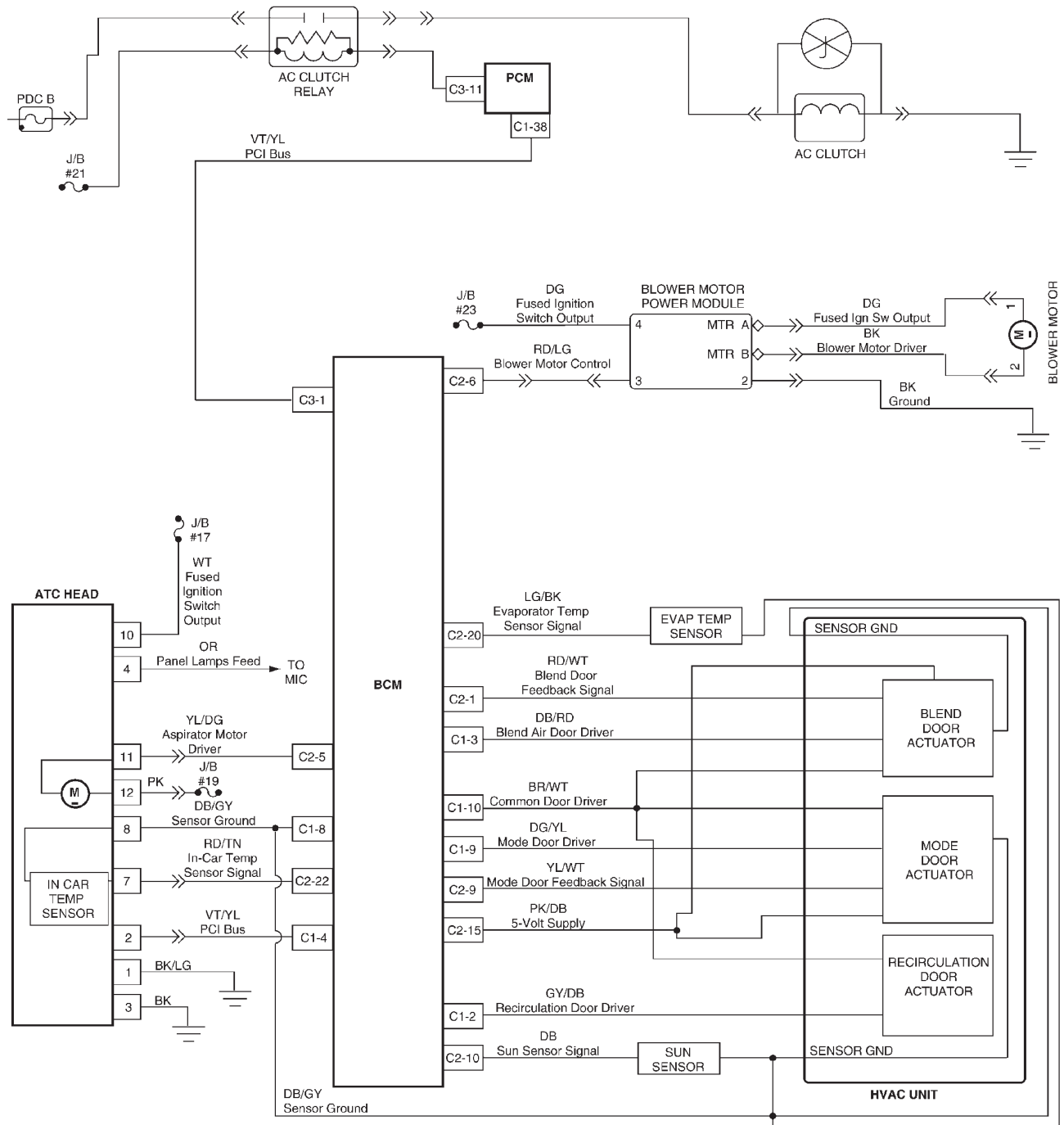
# SCHEMATIC DIAGRAMS

## 10.4 CHIME WARNING SYSTEM



80b575b6

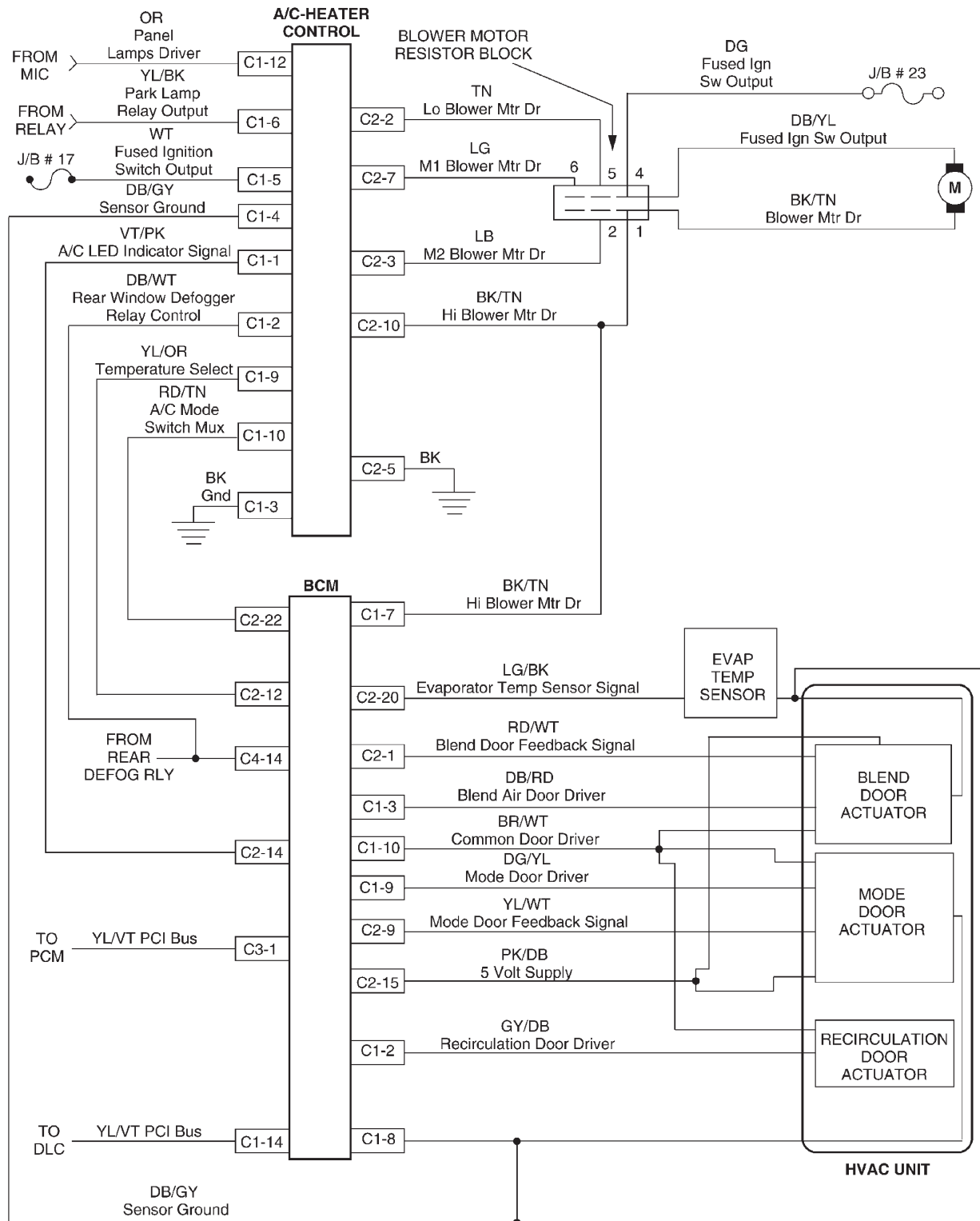
## 10.5 CLIMATE CONTROL - AUTOMATIC TEMPERATURE CONTROL



80d98d66

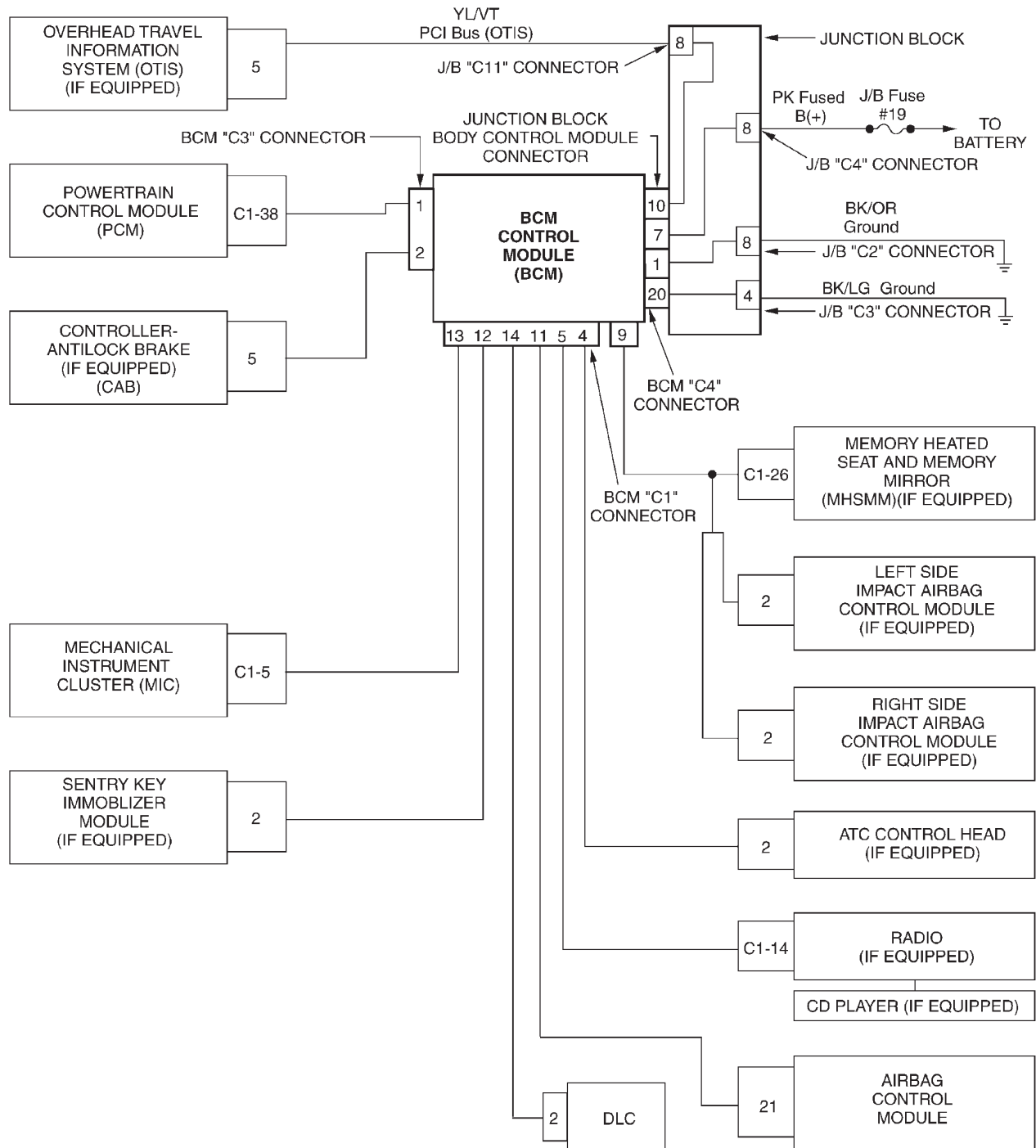
# SCHEMATIC DIAGRAMS

## 10.5 CLIMATE CONTROL - MANUAL TEMPERATURE CONTROL



80d98d62

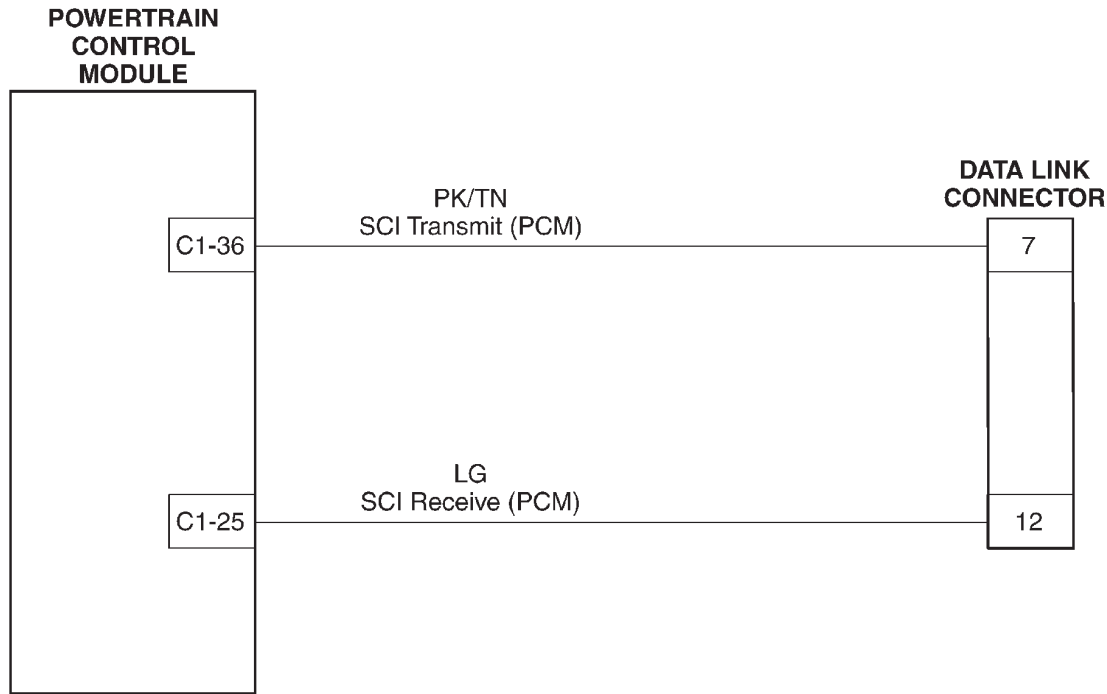
## 10.6 COMMUNICATIONS



80df8496

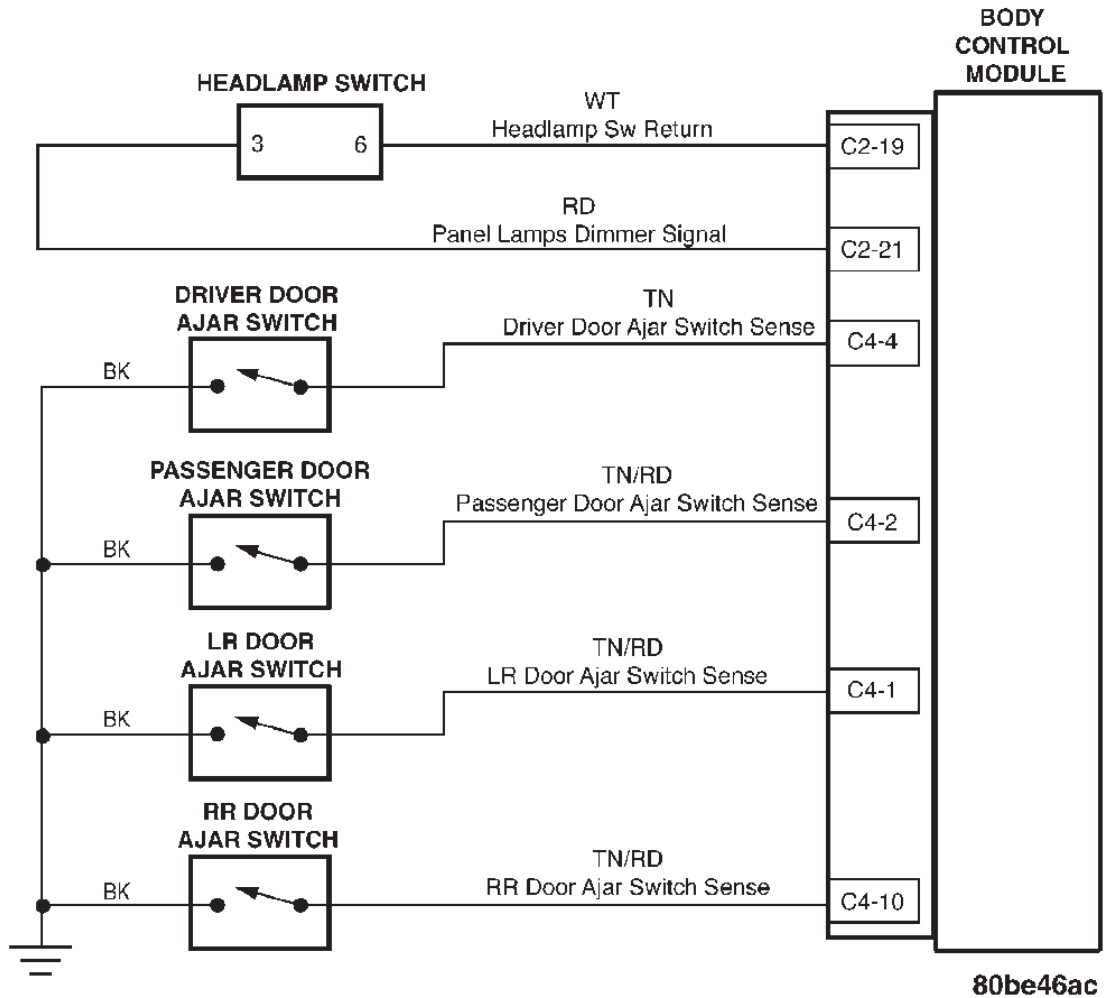
# SCHEMATIC DIAGRAMS

## 10.6.1 PCM COMMUNICATION



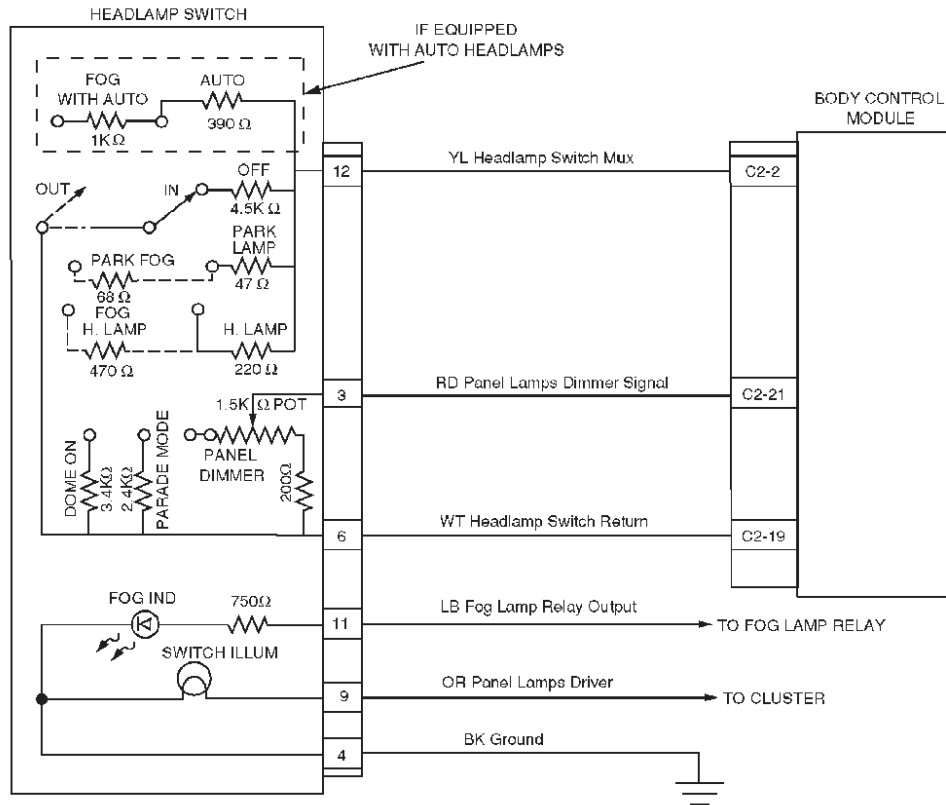
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## 10.7 DOOR AJAR

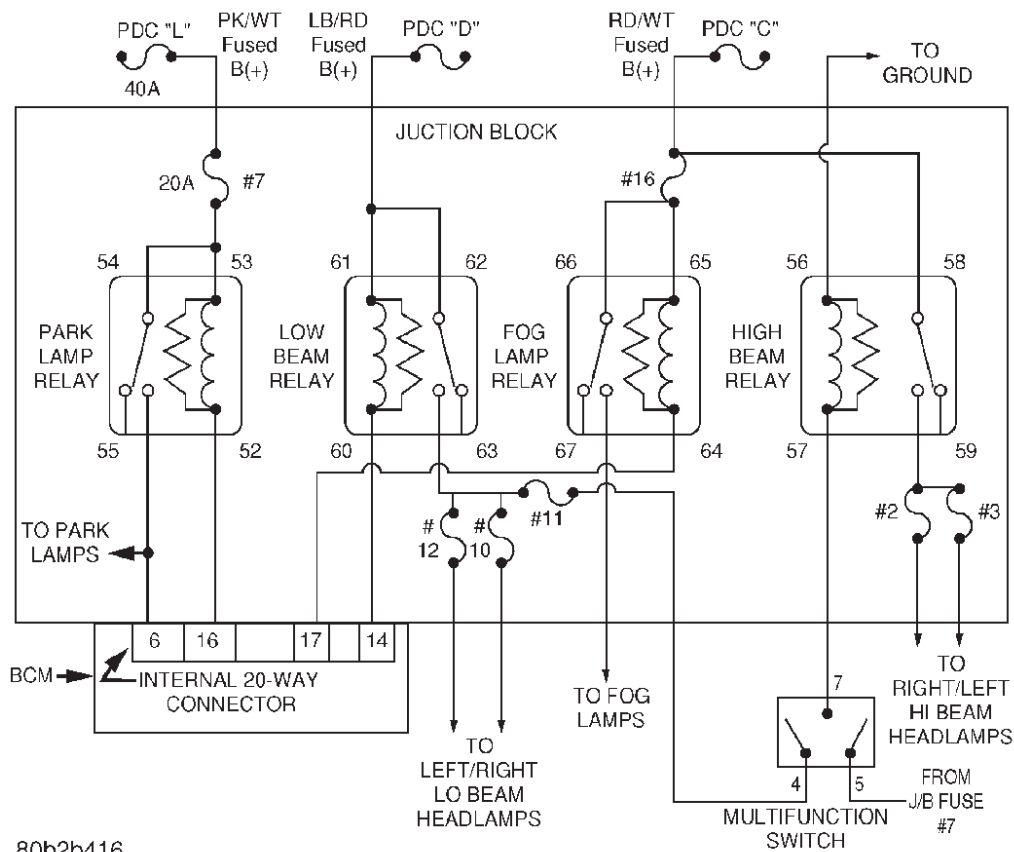


80be46ac

## 10.8 EXTERIOR LIGHTING



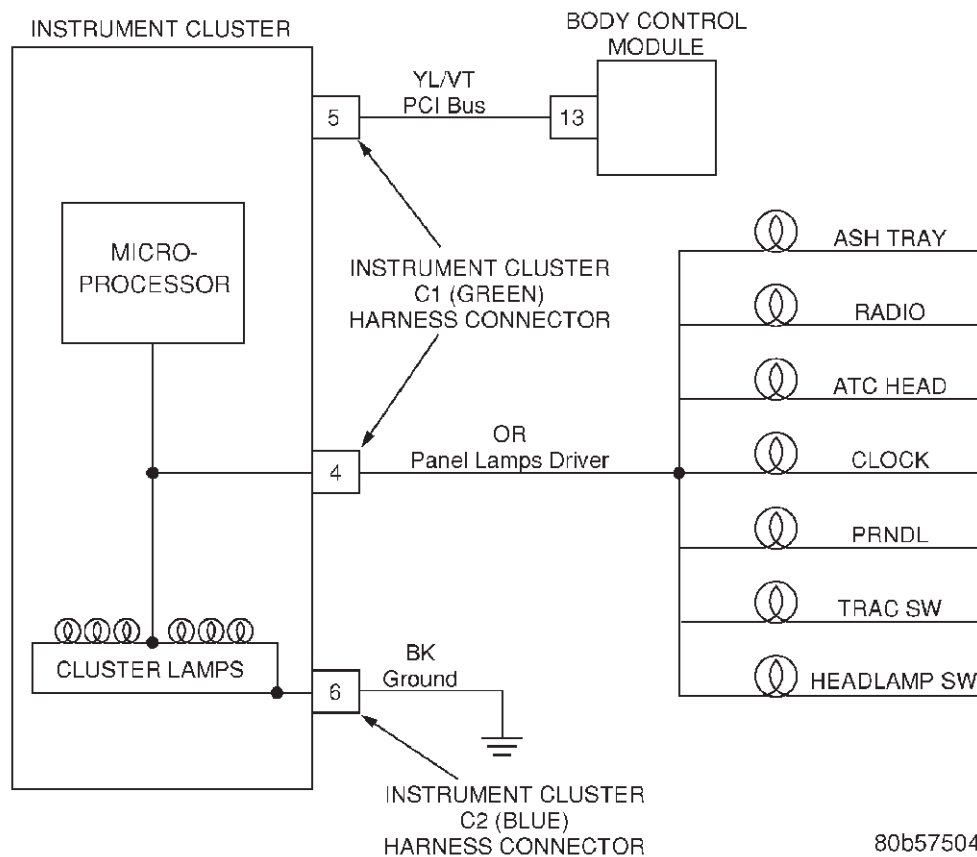
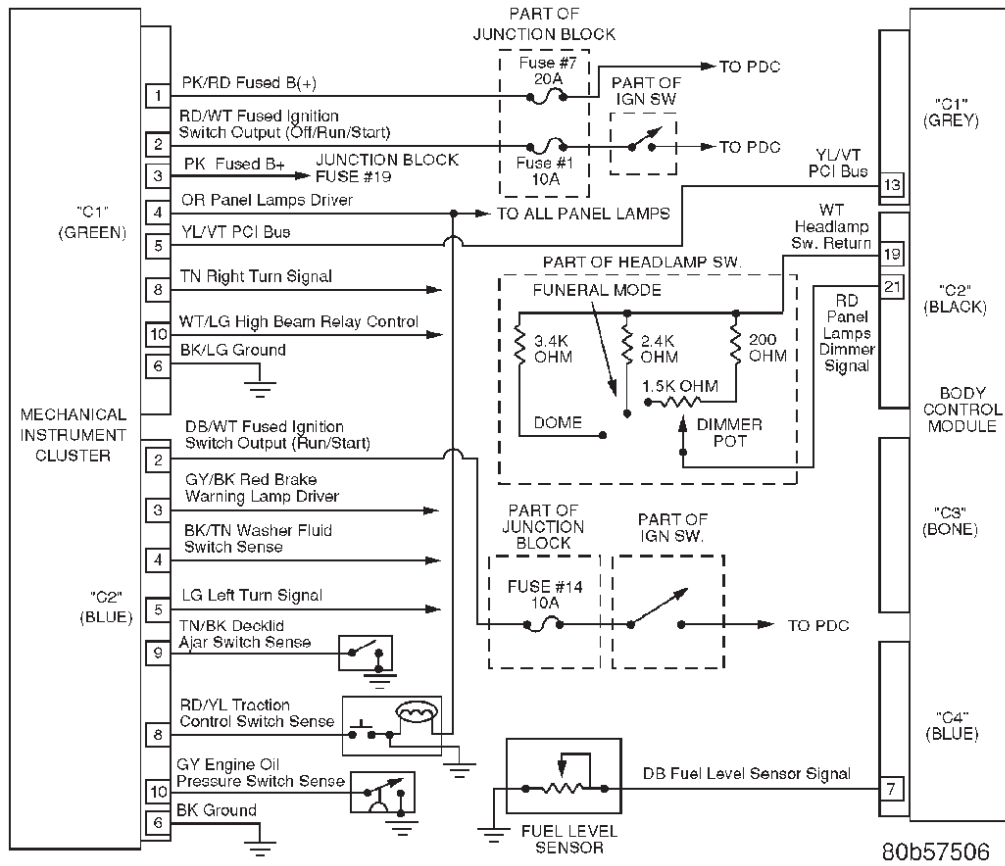
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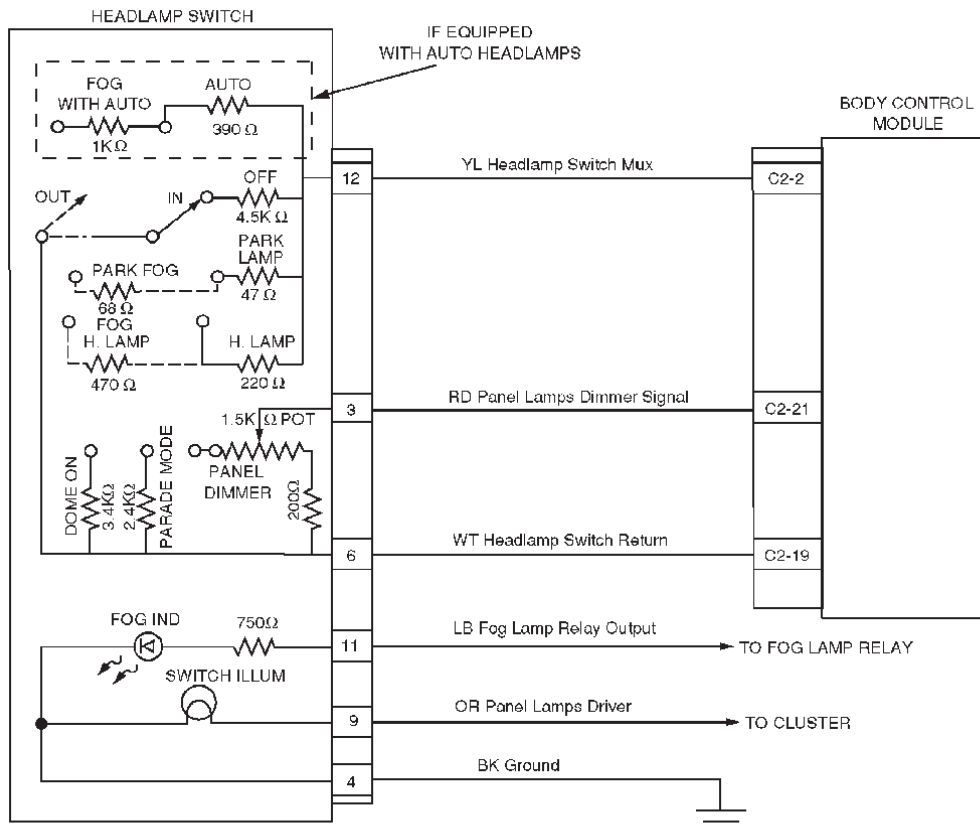
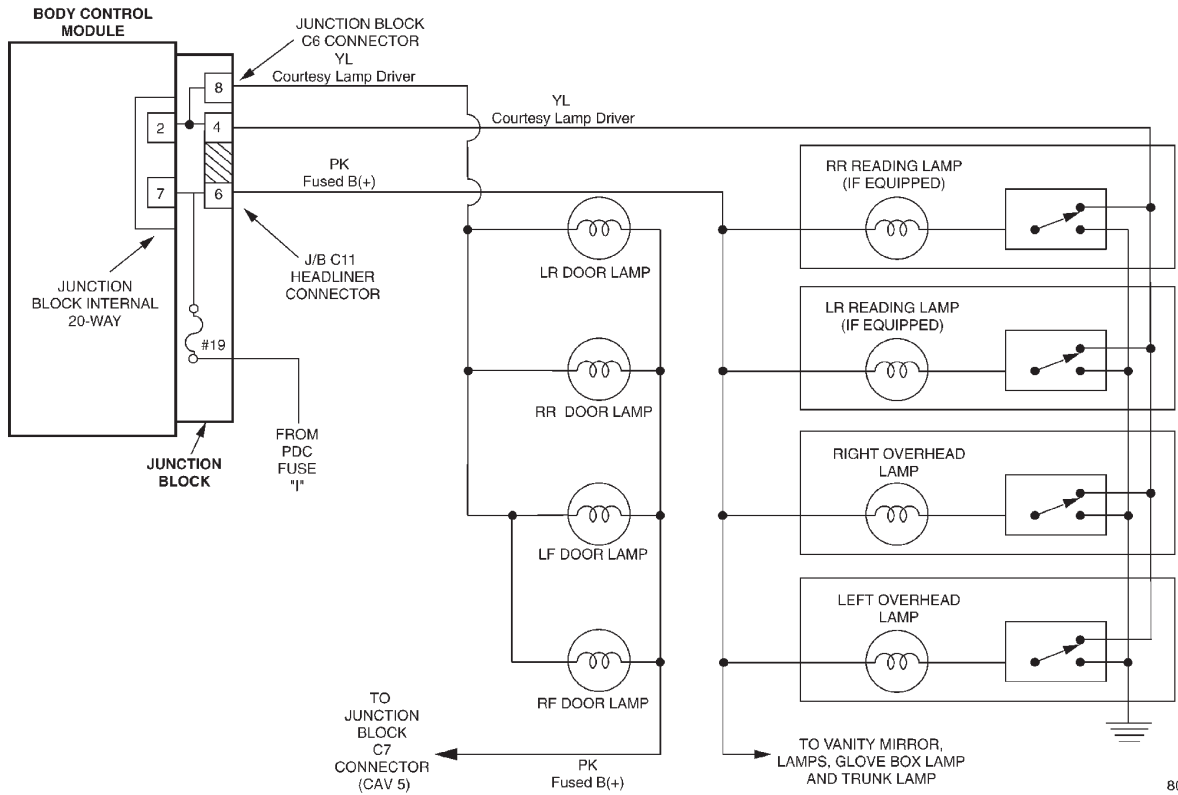
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# SCHEMATIC DIAGRAMS

## 10.9 INSTRUMENT CLUSTER

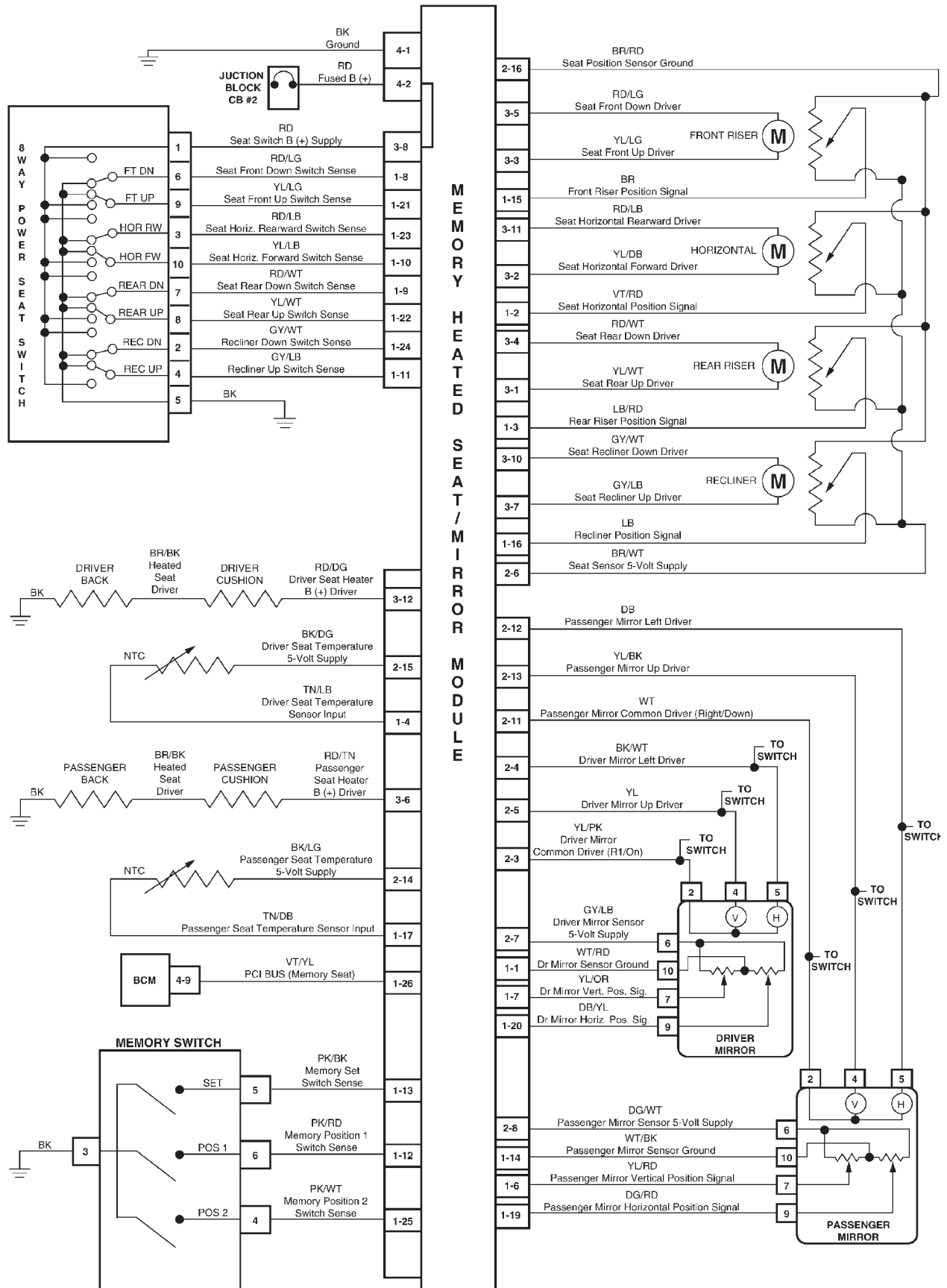


## 10.10 INTERIOR LIGHTING



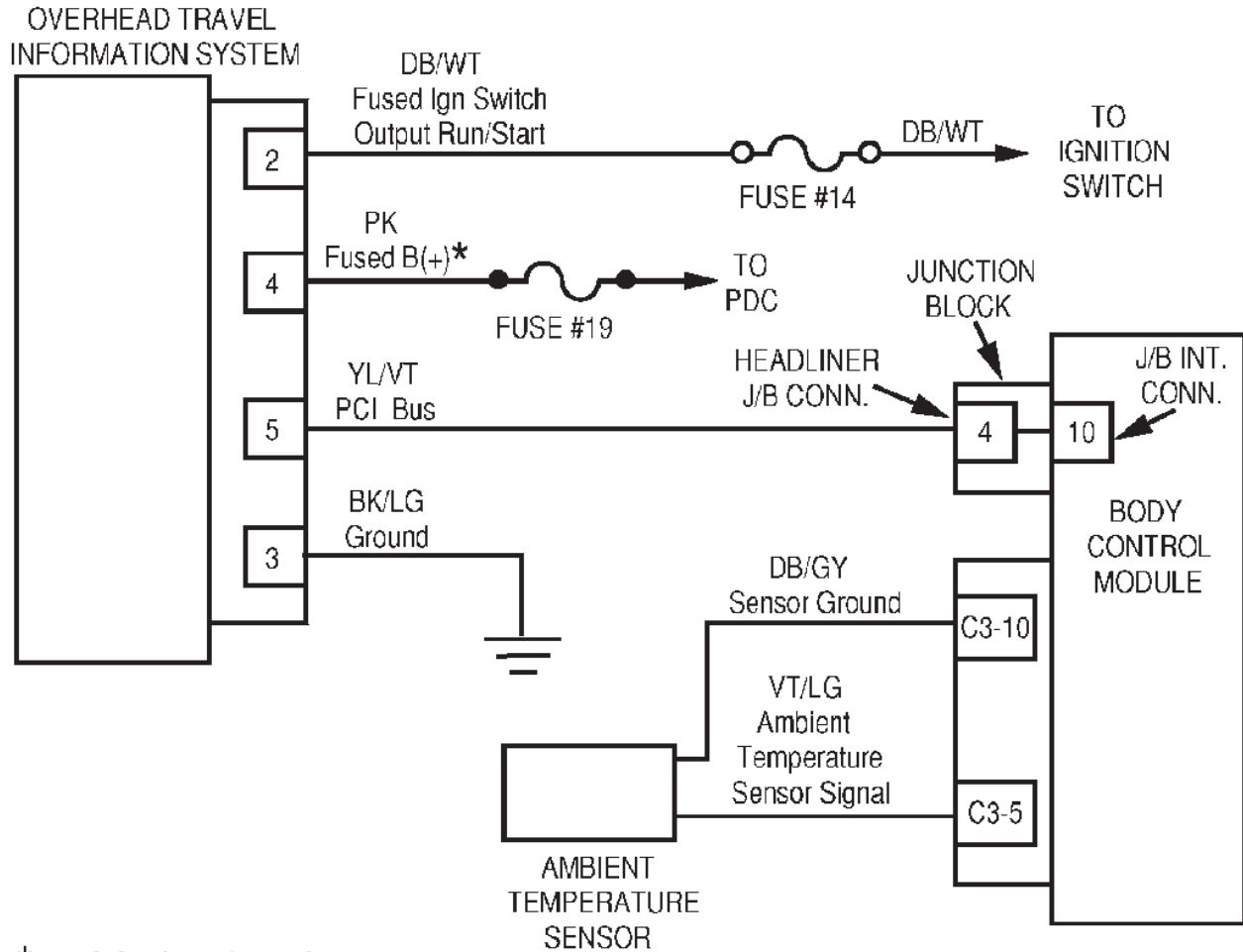
# SCHEMATIC DIAGRAMS

## 10.11 MEMORY SYSTEM



809c93dc

## 10.12 OTIS



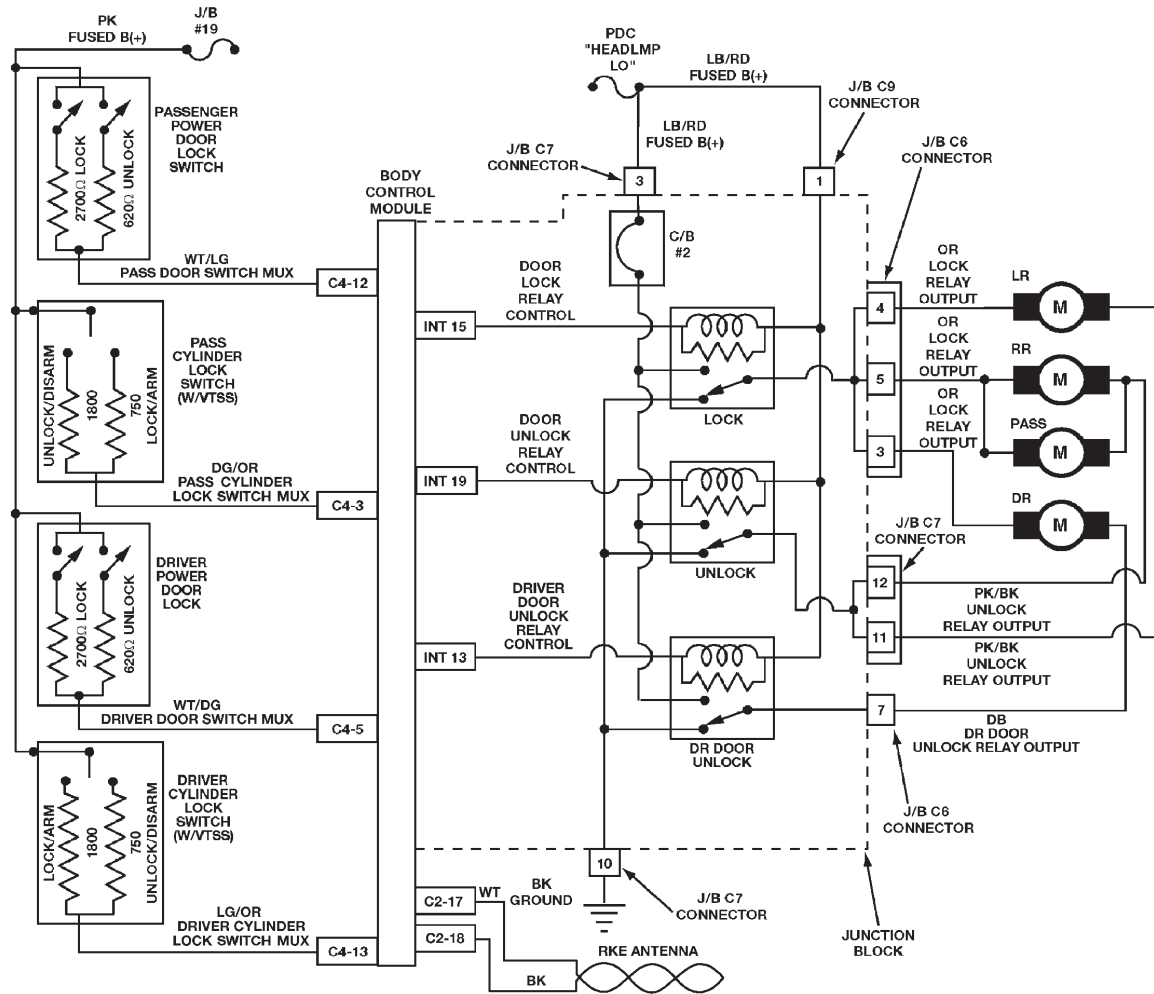
\* THIS CIRCUIT ONLY ON VEHICLES EQUIPPED WITH HOMELINK

80b242f9

# SCHEMATIC DIAGRAMS

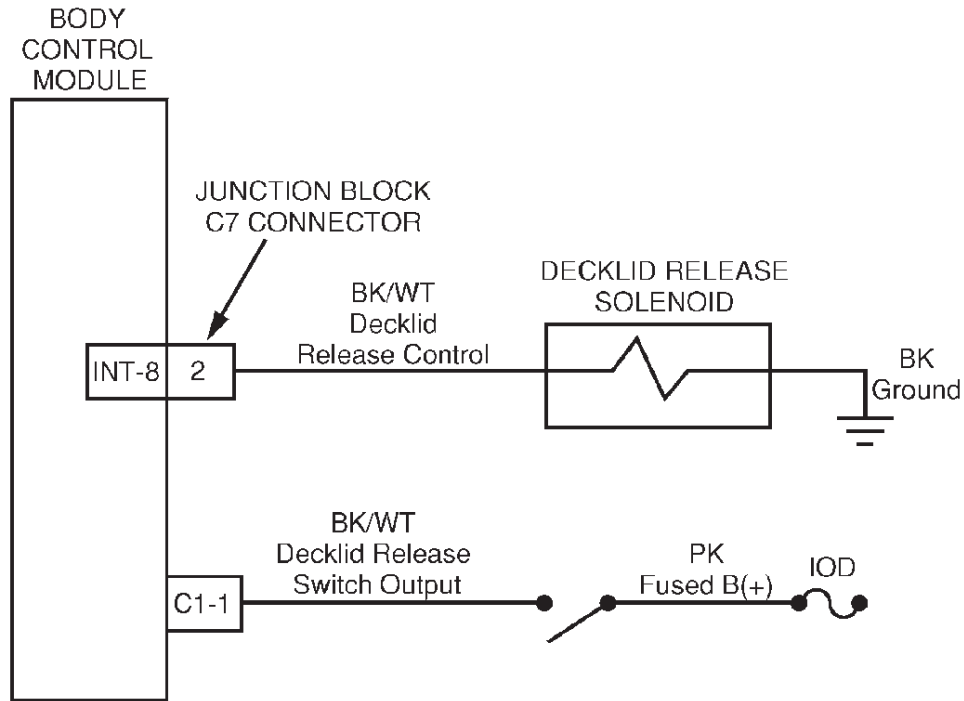
## 10.13 POWER DOOR LOCKS/RKE

### 10.13.1 DOOR LOCKS



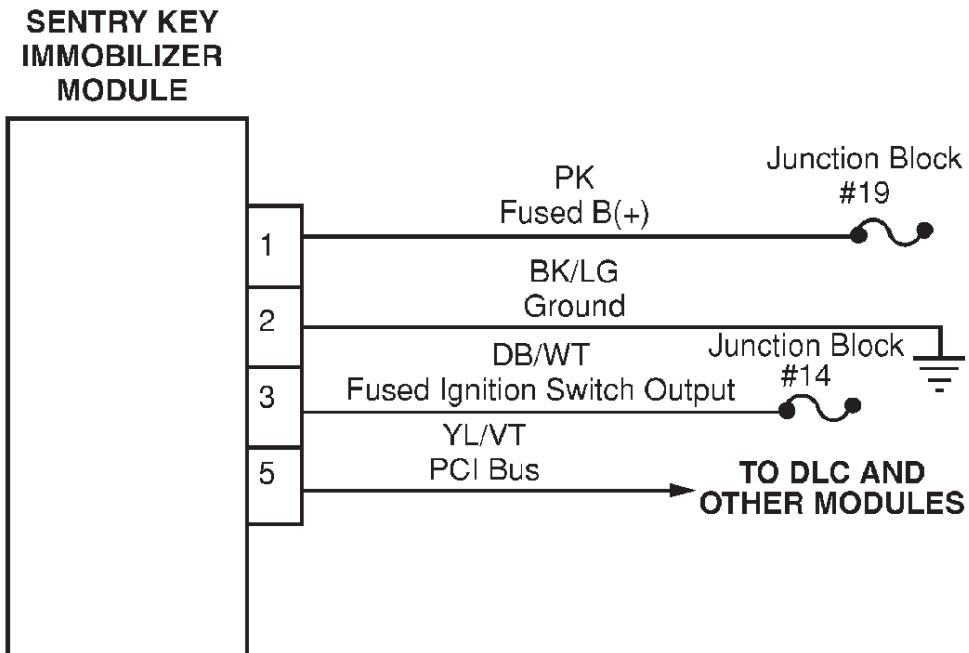
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## 10.13.2 DECKLID RELEASE



80b57501

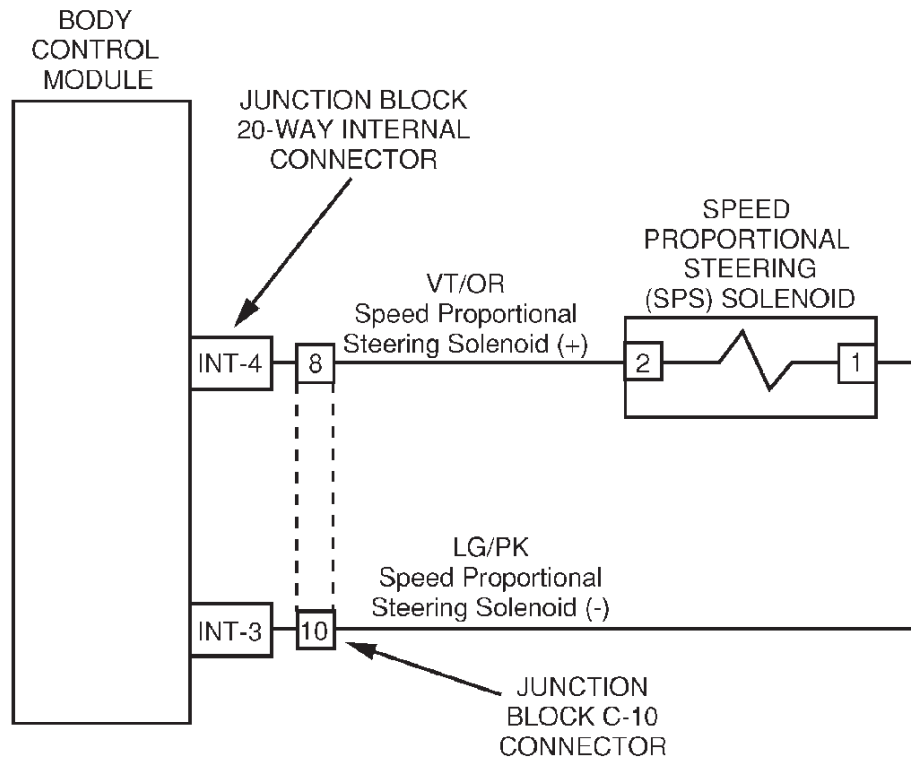
## 10.14 SENTRY KEY IMMOBILIZER



80b3c63f

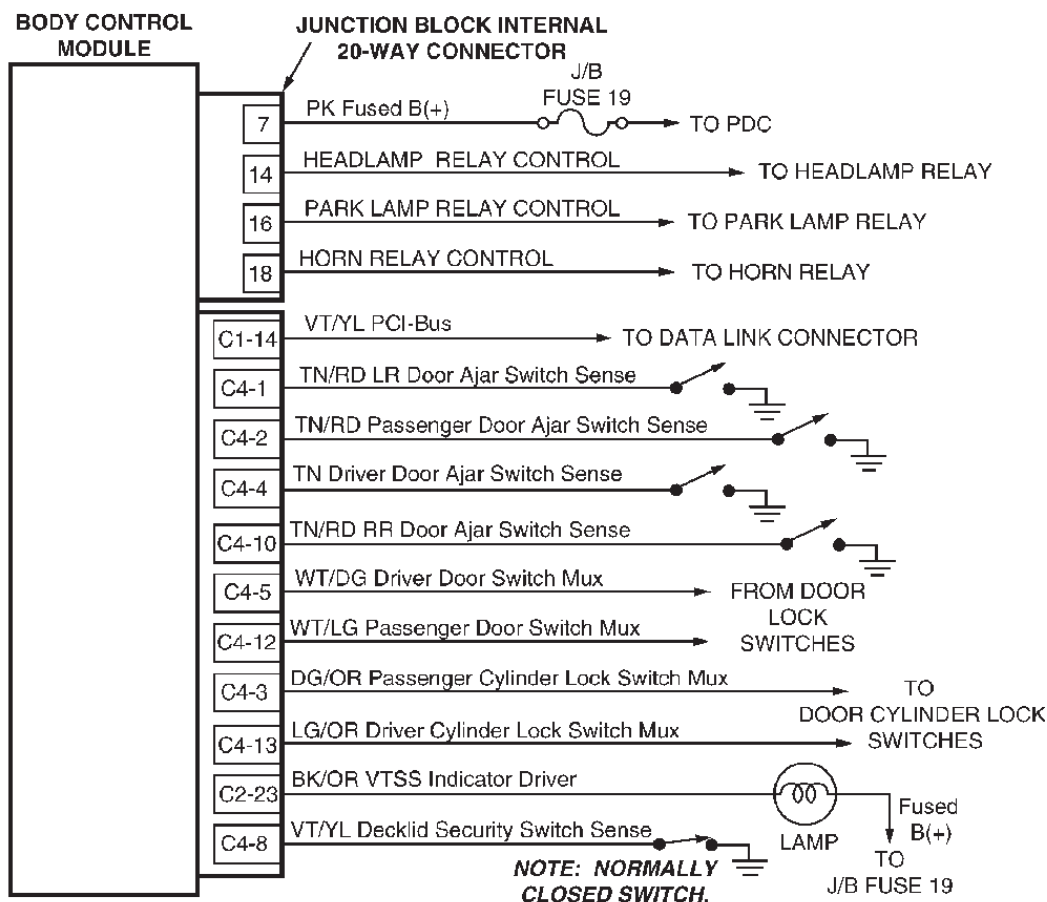
## SCHEMATIC DIAGRAMS

### 10.15 SPEED PROPORTIONAL STEERING



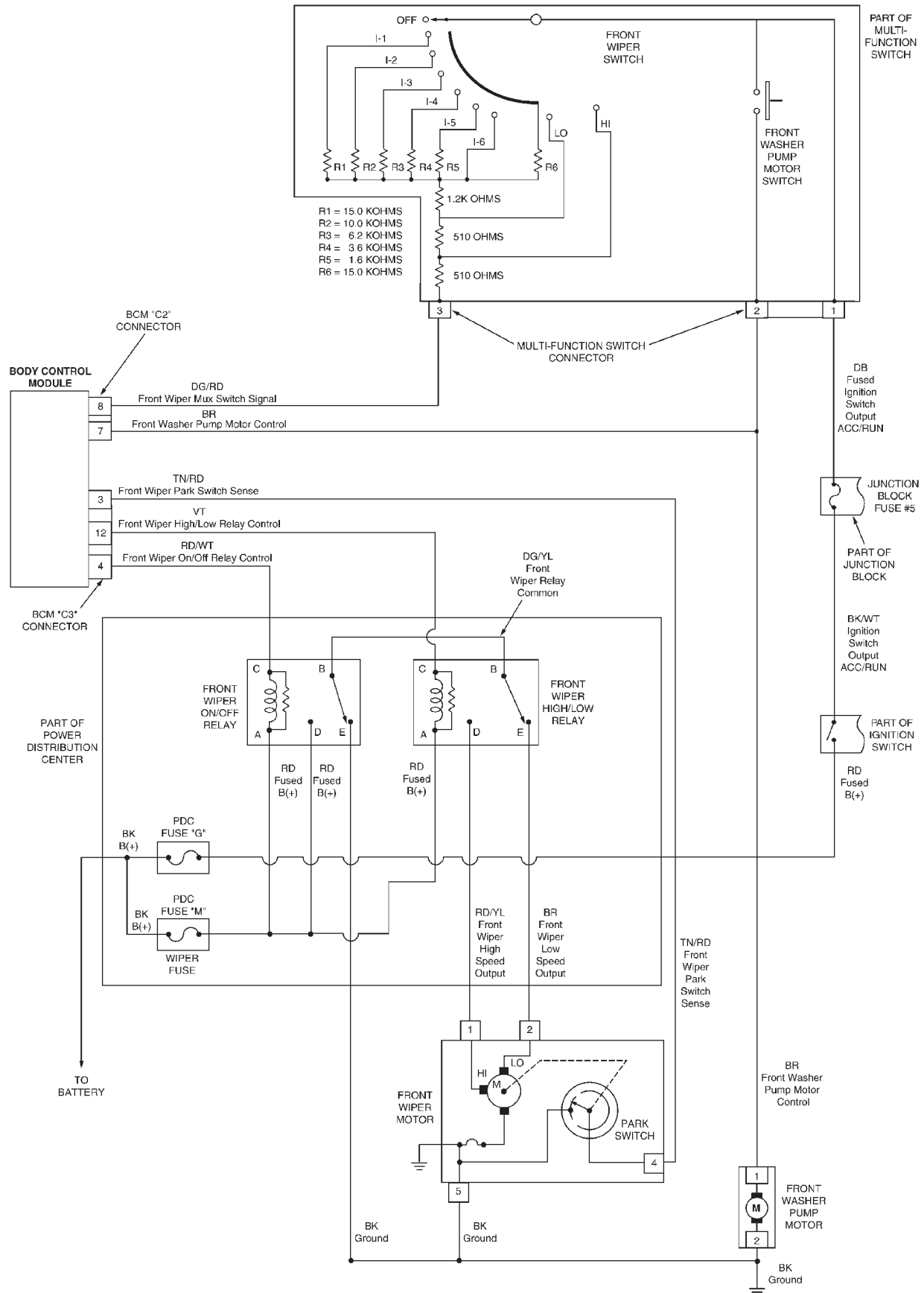
80b4fa73

### 10.16 VEHICLE THEFT SECURITY SYSTEM



80989027

## 10.17 WIPER SYSTEM



80bdbd93

This image shows a full page of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. At the top center, there is a header area containing the word "NOTES" in a bold, black, sans-serif font.

NOTES