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1.0 INTRODUCTION

The procedures contained in this manual include all the specifications, instructions, and graphics needed to diagnose 2005 body system problems. The diagnostics in this manual are based on the failure condition or symptom being present at the time of diagnosis.

Please follow the recommendations below when choosing your diagnostic path.

1. First make sure the DRBIII® is communicating with the appropriate modules; i.e., if the DRBIII® displays a “No Response” 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 indicated a customer complaint.

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

Diagnostic procedures change every year. New diagnostic systems may be added; carryover systems may be enhanced. **READ THIS MANUAL BEFORE TRYING TO DIAGNOSE A VEHICLE DIAGNOSTIC TROUBLE CODE.** It is recommended that you review the entire manual to become familiar with all 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 back of the book and mail it back to us.

1.1 SYSTEM COVERAGE

This diagnostic manual covers 2005 Jeep Liberty (KJ) vehicles.

1.2 SIX STEP TROUBLESHOOTING PROCEDURE

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

- Verification of complaint
- Verification of any related symptoms
- Symptom analysis
- Problem isolation

- Repair of isolated problem
- Verification of proper operation

2.0 IDENTIFICATION OF SYSTEM

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

- Electrically Heated System
- Audio
- Airbag System (ORC) and (OCM)
- Chime
- Overhead Console (EVIC)
- Exterior Lighting
- Mechanical Instrument Cluster (MIC)
- Interior Lighting
- Door Ajar
- Vehicle Communication
- Power Door Locks/RKE
- Vehicle Theft Security System
- Wiper System
- Hands Free Phone
- Tire Pressure Monitoring (TPM)

3.0 SYSTEM DESCRIPTION AND FUNCTIONAL OPERATION

The body system on the 2005 KJ consists of a combination of modules that communicate over the PCI bus (Programmable Communication Interface multiplex system). Through the PCI bus, information about the operation of vehicle components and circuits is relayed quickly to the appropriate module(s). All modules receive all the information transmitted on the bus even though a module may not require all information to perform its function. It will only respond to messages “addressed” to it through binary coding process. This method of data transmission significantly reduces the complexity of the wiring in the vehicle and the size of wiring harnesses. All of the information about the functioning of all the systems is organized, controlled, and communicated by the PCI bus, which is described in the Communication Section of this general information.

3.1 AIRBAG SYSTEM/OCCUPANT RESTRAINT CONTROLLER SYSTEM

The 2005 Liberty Airbag System contain the following components: Occupant Restraint Controller (ORC), Airbag Warning Indicator, Clockspring,

GENERAL INFORMATION

Driver and Passenger Airbags, Seat belt Tensioner (SBT), Driver Hall-effect Seat Belt buckle Switch (SBS), Left and Right Side curtain Airbags, front and side impact sensors and Occupant Classification System (OCM).

The Occupant Restraint Controller (ORC) is a new type of Airbag Control Module (ACM). The new ACM supports staged airbag deployment and remote impact sensing. Staged deployment is the ability to trigger airbag system squib inflators individually as needed to provide the appropriate restraint for the severity of the impact. The ACM has four major functions: PCI Bus communications, onboard diagnostics, impact sensing, and component deployment. The ACM also contains an energy-storage capacitor. This capacitor stores enough electrical energy to deploy the front airbag components for two seconds following a battery disconnect or failure during an impact. The ACM is secured to the floor panel transmission tunnel below the instrument panel inside the vehicle. The ACM cannot be repaired or adjusted.

The ACM sends and/or receives PCI Bus messages with the Instrument Cluster (MIC), Body Control Module (BCM), and Powertrain Control Module (PCM). Diagnostic trouble codes will be set if the communication with these modules is lost or contains invalid information.

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

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

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

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

The airbag warning indicator is the only point at which the customer can observe symptoms of a system malfunction. Whenever the ignition key is turned to the run or start position, the ACM performs a lamp check by turning the airbag warning indicator on for 6-8 seconds. After the lamp check, if the indicator turns off, it means that the ACM has checked the system and found it to be free of discernible malfunctions. If the lamp remains on, there could be an active fault in the system or the MIC lamp circuit may be internally shorted. If the lamp comes on and stays on for a period longer than 6-8 seconds then goes off, there is usually an intermittent problem in the system.

3.1.1 DRIVER AIRBAG

The airbag protective trim cover is the most visible part of the driver side airbag system. The protective trim cover is fitted to the front of the airbag module and forms a decorative cover in the center of the steering wheel. The module is mounted directly to the steering wheel. Located under the trim cover are the horn switch, the airbag cushion, and the airbag cushion supporting components. The airbag module includes a housing to which the cushion and hybrid inflator are attached and sealed. The 2004 Liberty is equipped with

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

WARNING: THE DRIVER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 17236.89 Kpa (2500 PSI). DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93°C (200°F). REPLACE AIRBAG SYSTEM COMPONENTS ONLY BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION. THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE

SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE MOPAR PARTS CATALOG. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

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

AIRBAG SQUIB STATUS

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

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

If neither of the following codes is an active code:

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

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 wiring and the driver airbag, the horn, and the vehicle speed control switches if equipped. The clockspring must be properly centered when it is reinstalled on the steering column following any service procedure, or it could be damaged. The clockspring cannot be repaired and it must be replaced.

3.1.3 PASSENGER AIRBAG

The 2005 Liberty is equipped with front passenger airbag with dual stage squib inflators. When supplied with the proper electrical signal the inflator or inflators discharge the gas directly into the cushion. The airbag module cannot be repaired, and must be replaced if deployed or in any way damaged.

WARNING: THE PASSENGER AIRBAG MODULE CONTAINS INERT GAS PRESSURIZED TO 17236.89 Kpa (2500 PSI). DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93°C (200°F). REPLACE AIRBAG SYSTEM COMPONENTS ONLY WITH PARTS SPECIFIED IN THE MOPAR PARTS CATALOG. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION. THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE MOPAR PARTS CATALOG. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

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

AIRBAG SQUIB STATUS

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

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

If neither of the following codes is an active code:

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

3.1.4 SEAT BELT TENSIONER (SBT)

The 2005 Liberty driver front seat belt (retractor) tensioner supplements the driver airbag system. The seat belt tensioner is integral to the driver side front seat belt and retractor unit, which is secured to the B-pillar on the left side of the vehicle. The retractor is concealed beneath the molded plastic B-pillar trim. At the onset of an impact event the ACM uses the seat belt tensioner to rapidly retract the seat belt. With the slack removed, the occupant's forward motion in an impact will be reduced as will the likelihood of contacting interior components. The seat belt tensioner cannot be repaired, if damaged or defective it must be replaced. The ACM continuously monitors the resistance of the seat belt tensioner circuits and reports DTCs for open or shorted conditions.

3.1.5 SEAT BELT SWITCH (SBS)

The hall-effect driver seat belt switch provide the seat belt status, buckled or unbuckled, via hard-wired inputs to the ACM. The ACM uses seat belt switch input to determine the appropriate level of airbag deployment. The ACM also controls the seat belt warning indicator via a PCI Bus message to

the instrument cluster. If the seat belt switch is damaged or defective the seat belt buckle assembly must be replaced. The ACM continuously monitors the seat belt switch circuits for an open or shorted conditions.

3.1.6 CURTAIN AIRBAGS

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

GENERAL INFORMATION

WARNING: THE CURTAIN AIRBAG CONTAINS AN INERT GAS PRESSURIZED TO 17236.89 Kpa (2500 PSI). DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93°C (200°F). REPLACE AIRBAG SYSTEM COMPONENTS ONLY WITH PARTS SPECIFIED IN THE CHRYSLER MOPAR PARTS CATALOG. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION. THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE MOPAR PARTS CATALOG. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

3.1.7 FRONT AND SIDE IMPACT SENSOR

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

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

3.1.8 OCCUPANT CLASSIFICATION SYSTEM

A non-calibrated Occupant Classification Module (OCM) is the only component of the Occupant Classification System (OCS) that is available for separate service replacement, as outlined in the procedures that follow. The OCS components of the passenger side front seat cushion including the cushion frame, springs, pad, seat weight bladder and pressure sensor, seat cushion foam and the OCM are a factory-calibrated and assembled unit. Once this unit is connected to a vehicle electrically, the calibration settings are uploaded from the OCM and stored in the memory of the Airbag Control Module (ACM). If only the OCM is subsequently replaced, the new, non-calibrated OCM learns the proper calibration settings from the ACM after it is connected to the vehicle electrically. If any of the remaining OCS components of the passenger side front seat cushion require replacement, they are serviced only as a factory-calibrated, assembled, and tamper-evident service replacement package. This package includes the assembled frame, springs, pad, seat weight bladder and pressure sensor, foam, wiring and a calibrated OCM. When installing this package, always replace all of the existing components with the new components as a unit. Do not attempt to separate or disconnect any of the new OCS components contained in the service replacement package from each other, and do not attempt to reuse any of the replaced components in this or any other vehicle. Once any of the original factory-installed components except the OCM have been replaced with the service replacement package components, the OCM can only be serviced by replacing the entire passenger side front seat cushion unit with another complete service replacement package.

CAUTION: On vehicles equipped with the Occupant Classification System (OCS), never replace both the Airbag Control Module (ACM) and the Occupant Classification Module (OCM) at the same time. If both require replacement, replace one. Then perform the supplemental restraint verification test before replacing the other. Both the ACM and the OCM store OCS calibration data, which they transfer to one another when one of them is replaced. If both are replaced at the same time, an irreversible fault will be set in both modules.

The OCM is subsystem of the Airbag Control Module (ACM). Therefore the OCM bus message updates the ACM with the front passenger seat information via PCI Bus message. The ACM then controls the Passenger Off indicator and the Airbag Warning Indicator to provide system onboard diagnostic feedback. All OCS wiring repairs are prohibited; when wiring problems are diagnosed a Bladder Repair Kit is the only approved repair.

PASSENGER AIRBAG OFF INDICATOR

Vehicles equipped with the Occupant Classification System (OCS) include a passenger airbag off indicator which is located in the inboard grab handle end cap located on the instrument panel between the passenger airbag door and the glove box. The passenger airbag off indicator and the grab handle are present only in vehicles equipped with the OCS. Vehicles without OCS have only a trim bezel on the instrument panel, instead of a grab handle.

At ignition on, for a system test, the ACM low side driver grounds a yellow Light Emitting Diode (LED) driver circuit causing the PASS AIR BAG OFF text and icon to be illuminated. The passenger airbag off indicator is available for separate service replacement.

SEAT WEIGHT SENSOR

Vehicles equipped with the Occupant Classification System (OCS) have a seat weight bladder and pressure sensor unit that is integral to the passenger side front seat cushion. The pressure sensor receives a nominal five volts and a ground through dedicated hard wired circuits from the OCM. The OCM then monitors the pressure sensor output voltage.

SEAT BELT TENSION SENSOR - BTS

The Belt Tension Sensor (BTS) is designed to measure belt tension as an input to a passenger Occupant Classification System (OCS). It is used to detect high cinch loads associated with child seats and compensate the seat cushion load in order to correctly classify occupant size.

When a load is applied to the seat belt, the changes in the load are measured by the belt tension sensor through the seat belt lower anchor. As the load changes, the circuitry of the belt tension sensor changes the output voltage of the sensor. The belt tension sensor receives a nominal five volts and a ground through dedicated hard wired circuits from the OCM. The OCM then monitors the belt tension sensor output voltage on a dedicated hard wired data communication circuit.

If the vehicle has experienced any impact(s) resulting in deployment of a pyrotechnic device of any kind (airbag, seatbelt tensioner, side curtain, etc.) within the vehicle, the entire passenger seat belt retractor assembly, including the BTS, shall be replaced.

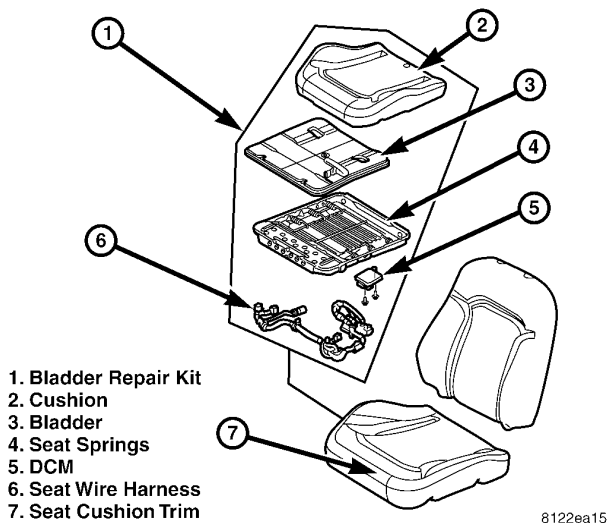
Additionally, if the seat belt webbing has become cut, frayed, or worn; or if the stitching has become damaged in any way, the entire passenger seat belt retractor assembly, including the BTS, shall be replaced. The belt tension sensor cannot be repaired and, if faulty or damaged, the entire passenger side front seat belt and retractor unit must be replaced.

The OCM Verification Test will also provide a BTS Verification procedure to verify the BTS function. This verification procedure requires the Miller Special Tool #8828.

BLADDER REPAIR KIT

There are only three replaceable components in the OCS, Occupant Classification Module, Bladder Repair Kit and the Passenger Airbag OFF Indicator. The Bladder repair kit contains the OCS bladder; wire harnesses, pressure sensor (Seat Weight Sensor), module, seat cushion and other related structural and sound deadening components. The module and sensor connector have a Tamper evident material installed on the service kit module and sensor connectors. This material provides visible evidence that the assembly has been separated after the calibration process was completed. Do not install a Bladder Repair Kit if it appears that any of the components have been disconnected.

GENERAL INFORMATION



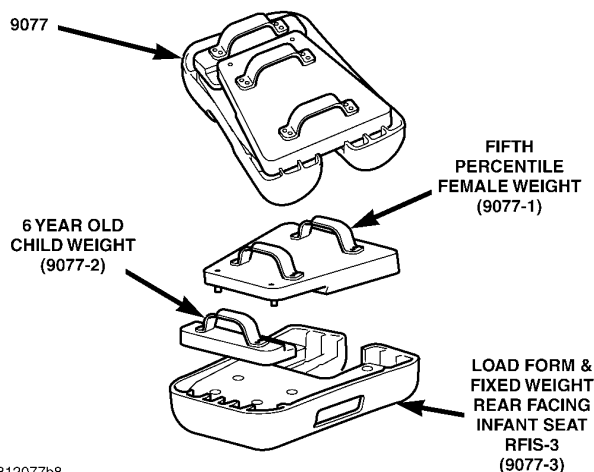
The OCM can be replaced if the Airbag Control Module has uploaded the seat calibration into memory in a previous ignition cycle and the new OCM has a blank VIN and no calibration data stored in memory.

NOTE: An OCM can only be replaced in a passenger front seat if the seat is equipped with the original OCS module, bladder, sensor and wiring.

NOTE: Servicing the OCS may create additional active and stored trouble codes that must be resolved before the vehicle can be returned to the owner. The OCS Verification Test will also set active DTCs if the procedure is not completed successfully.

The Miller Special Tool, MRL-9077 and the DRB®III are needed to successfully complete the system Verification Test. The DRB may report the following errors and failure messages during the procedure.

OCCUPANT CLASSIFICATION SEAT WEIGHTS



NEW DRB FEATURES

ACM Menu

The DRB®III ACM System Test screen will display the following:

- VIN verification -- Original VIN and Current VIN
- PCM Monitor - PCM Active On The Bus or PCM Not Active On The Bus

The DRB®III ACM Input/Outputs screen will display the following:

- OCM Status:
 - Seat Class 0 (Empty)
 - Seat Class 1 (Rear Facing Infant car Seat or RFIS)
 - Seat Class 2 (6 year old or Child)
 - Seat Class 3 (greater than or equal to 5th Percentile Female)
 - Seat Class 4 (less than 5th Percentile Female)
 - Seat Class 5 (Undetermined)

The DRB®III ACM Miscellaneous screen will display the following:

- Configure Airbag On-Off Switch
 - 1. No Airbag On-Off Switch
 - 2. Pass OCM Only

OCS Menu

The DRB®III OCM Input/Output screen will display the following:

- OCS Status --- "0", "1", "2", "3", "4", "5"

The DRB®III OCM Sensors screen will display the following:

- Bladder Output --- XXX A/D counts
- Pas BTS Output --- XXX A/D counts

The DRB®III OCM OCS Info Monitor screen will display the following:

- Pass BTS -- Enabled or Disabled

System Verification

The DRB®III OCM System Test screen will display the following

- PCM Monitor - PCM Active On The Bus or PCM Not Active On The Bus
- Clear VIN Mismatch - Clear VIN Mismatch Complete
- VIN Verification - Original VIN and Current VIN Clear VIN Mismatch
- OCS Verification - OCS Verification

Test process errors:

Test In Progress

Mode 33 Not Supported

Subfunction not supported

Test Busy - Repeat Test

Conditions for Test Not Correct

Routine Already Running
 Routine was Never Started
 Press any key to continue, then restart the verification test.

Test failed conditions:

Test Failed - Active DTCs Present
 Test Failed - Seat is Empty
 Test Failed - Seat Occupied
 Test Failed - Weight Above Threshold
 Test Failed - Weight Below Threshold
 Test Failed - Temperature Out of Range
 Test Failed - Seat Pressure Too High
 Test Failed - Seat Pressure Too Low
 Test Failed - Seat Pressure Not Stable
 Test Failed - Temperature Out of Range
 Test Failed - Seat Pressure Too Low
 Test Failed - Power Up Time Too Short
 Test Failed - Power Up Time Too Long
 Test Failed - K Empty Count is 0
 Test Failed - No EOL Calibration
 Test Failed - K Allow is FF

Allow the vehicle seat and interior temperature to stabilize, check voltage supplies and repair any other active DTCs before restarting the System Verification test.

The OCS has been Verified or The OCS has NOT been Verified

WARNINGS:

WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.

WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.

WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.

WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS CAN RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE SEAT CUSHION TRIM MAY BE SERVICED SEPARATELY. ALL OTHER COMPONENTS OF THE PASSENGER SIDE FRONT SEAT CUSHION ASSEMBLY MUST BE SERVICED ONLY AS A COMPLETE FACTORY-CALIBRATED, ASSEMBLED AND TAMPER-EVIDENT SERVICE REPLACEMENT PACKAGE. THIS PACKAGE INCLUDES THE FRAME, SPRINGS, PAD, BLADDER AND PRESSURE SENSOR, FOAM, WIRING AND A CALIBRATED OCM. WHEN INSTALLING THIS PACKAGE ALWAYS REPLACE ALL OF THE EXISTING COMPONENTS WITH THE NEW COMPONENTS AS A UNIT. DO NOT ATTEMPT TO SEPARATE OR DISCONNECT ANY OF THE NEW OCS COMPONENTS IN THE SERVICE REPLACEMENT PACKAGE FROM EACH OTHER, AND DO NOT ATTEMPT TO REUSE ANY OF THE REPLACED COMPONENTS IN THIS OR ANY OTHER VEHICLE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN FAILURE OF THE PASSENGER AIRBAG TO DEPLOY WHEN REQUIRED, OR IN PASSENGER AIRBAG DEPLOYMENT WHEN NOT REQUIRED.

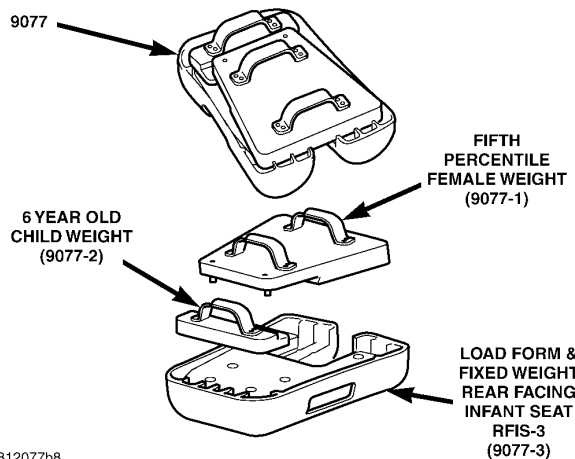
3.1.9 SPECIAL TOOLS

Some airbag diagnostic test use special tools, airbag load tools, 8310 and 8443 for testing squib circuits. The load tools contain fixed resistive loads, jumpers and adapters. The fixed loads are connected to cables and mounted in a storage case. The cables can be directly connected to some airbag system connectors. Jumpers are used to convert the load tool cable connectors to the other airbag system connectors. The adapters are connected to the module harness connector to open shorting clips and protect the connector terminal during testing. When using the load tool follow all of the safety procedures in the service information for disconnecting airbag system components. Inspect the wiring, connector and terminals for damage or misalignment. Substitute the airbag load tool in place of an Driver or Passenger Airbag, curtain 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

GENERAL INFORMATION

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

OCCUPANT CLASSIFICATION SEAT WEIGHTS



812077b8

3.1.10 DIAGNOSTIC TROUBLE CODES

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

3.1.10.1 ACTIVE CODES

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

3.1.10.2 STORED CODES

Airbag codes are automatically stored in the ACM's memory as soon as the malfunction is detected. A stored code indicates there was an active code present at some time. When a trouble code occurs, the airbag warning indicator illuminates for 12 seconds minimum (even if the problem existed for less than 12 seconds). Once the code is no longer active, the time in minutes it was active, and the number of times the ignition has been cycled since the problem was last detected will be displayed. The minimum time shown for any code will be one minute, even if the code was actually present for less than one minute. Thus, the time shown for a code that was present for two minutes 13 seconds, for example, would be three minutes. If a malfunction is detected a diagnostic trouble code is stored and will remain stored. When and if the malfunction ceases to exist, an ignition cycle count will be initiated for that code. If the ignition cycle count reaches 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 diagnostic trouble code will continue to be a stored code. If a malfunction is not active while performing a diagnostic test procedure, the active code diagnostic test will not locate the source of the problem. In this case, the stored code can indicate an area to inspect. Maintain a safe distance from all airbags while performing the following inspection. If no obvious problems are found, erase stored codes, and with the ignition on wiggle the wire harness and connectors, rotate the steering wheel from stop to stop. Recheck for codes periodically as you work through the system. This procedure may uncover a malfunction that is difficult to locate.

3.2 AUDIO SYSTEM

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

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

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

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

3.2.1 REMOTE RADIO CONTROLS

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

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

3.3 BODY CONTROL MODULE

The KJ Body Control Module (BCM) is attached to the Junction Block (JB), which is the interface for the Body Harness, Instrument Panel (IP) Harness, and the Headlamp & Dash Harness. The JB also contains the fuses and relays used for the interior electrical system of the vehicle. The combination of the BCM and the JB is called the Junction Block Module (JBM).

There are two versions of JBM's: highline and lowline. The lowline is a subset of the components in the highline. Basically the lowline JBM will not support the following: Front or Rear Fogs, Remote Keyless Entry (RKE), and Vehicle Theft Alarm (VTA). In order to reduce service inventory, only the highline will be stocked. If there is a need to replace a lowline module in the field, a highline module may be used to replace it without any noticeable difference to the customer. The relay content of the JB varies based on vehicle options (power vs. manual seats, with or without Front Fogs, etc.). On right hand drive vehicles there is a separate ground wire connected to the BCM to identify it as a right hand drive.

The BCM controls the following subsystems:

- EVIC
- Door Ajar System
- Exterior Lighting
- Interior Lighting
- Power Door Locks
- Rear Window Defogger
- Vehicle Theft Security System
- Windshield Wipers System

The BCM also is involved in the following functions:

- Vehicle Speed Sensing (Program Tire Size)
- Detection / Analysis of Miscellaneous Body Switches
- Driver Information Warnings (Chime)

The BCM is powered via the Ignition Off Draw (IOD) fuse. This allows the BCM to be active whenever the vehicle battery is connected whether the ignition is on or not. This is necessary because the BCM controls functions which are active when the ignition is not on (power locks, VTSS, etc.). If the IOD fuse is removed (i.e. for shipping or storage), the BCM will not be powered when the ignition is off, so any ignition-off functions will not be available. To optimize battery life in a stationary vehicle with the IOD fuse in place, the BCM goes to a low power mode (“sleeps”), when it detects that there is no relevant input or output active when the ignition is off. This transition from full power mode to low power mode, and vice versa, is extremely quick and is transparent to the vehicle owner.

3.3.1 DOOR AJAR SYSTEM

The door ajar, tailgate and flip-up glass ajar states are used as inputs for the Body Control Module (BCM). The BCM uses these inputs to determine exactly what position the doors, tailgate and flip-up glass are in. The DRBIII® will display the state of the door ajar, tailgate ajar and flip-up glass ajar switches in Input/Outputs. It's important to note, that when any door, the tailgate or flip-up glass is closed the switch state on the DRBIII® will show OPEN. When any door, the tailgate or flip-up glass is open the switch state on the DRBIII® will show CLOSED. During diagnosis, if a door, the tailgate or flip-up glass is closed and the DRBIII® displays the switch state as CLOSED, it indicates a shorted ajar circuit. If a door, the tailgate or flip-up glass is open and the DRBIII® displays the switch state as OPEN, it indicates an open ajar circuit.

The door ajar switch is part of the door latch assembly. Each of the door ajar switches are individually connected to the Body Control Module. On right hand drive vehicles there is a separate

ground wire connected to the BCM to identify it as a right hand drive. Therefore, when using the DRBIII and reading Input/Output on a RHD vehicle, the driver door ajar switch will read the Right Front Door Ajar Switch status.

3.3.2 EXTERIOR LIGHTING

The BCM controls the Exterior Lights via the appropriate relays, based on input from the Exterior Light Mode Switch. The BCM reads the position of the Exterior Light Mode Switch, and turns on the corresponding Exterior Lamps. The Exterior Lights are:

- Park Lamps
- Low Beams
- High Beams
- Front Fogs (optional)
- Rear Fogs (export markets)

If the Exterior Lamp Mode Switch is in the Lowbeam position, and then the ignition is turned off, followed by the customer turning off the Exterior Lamp Mode Switch, the BCM enters the Headlamp Delay mode. In this mode, the Lowbeam Lamps are left on for either 30, 60, or 90 seconds. The time period can be changed via the DRBIII®. This mode is exited if the ignition switch or the Exterior Lamp Mode Switch is cycled.

In certain conditions, the BCM will also control certain Exterior Lamps to signal special conditions (VTSS alarm, etc).

In the Canadian market, the BCM enables the Daylight Running Lamp (DRL) mode. The High-beam Relay is replaced in the JB with a solid-state relay. The BCM will duty cycle this relay when the engine is running and the Lowbeam Lamps are not on.

If either the Exterior Lamps are left on with the ignition in the OFF position for greater than 8 minutes, the BCM will turn off (“Loadshed”) the lamps until another cycle occurs (i.e. ignition is turned on, Exterior Lamp Mode Switch position is changed, etc.). This feature exists to attempt to save the vehicle battery in the event that a customer forgets to turn off the headlamps, etc. On export vehicles, the park lamps do not “Loadshed”.

3.3.3 INTERIOR LIGHTING

The BCM controls the Courtesy Lamps directly based on input from the Dimmer Switch, Door Ajar switches, Glass Ajar switch, and Rear Courtesy Disable switch.

The Courtesy Lamps are switched on in the event of a door or glass ajar, RKE unlock reception, or optional cylinder lock switch in the unlock position event. Upon the above inputs returning to off (door closed, etc.) the Courtesy Lamps will stay

on for 27 seconds, and then fade to off (“Theater Dimming”) over a period of 3 seconds.

If the Dimmer Switch is turned to the off position, the Courtesy Lamps are disabled and will not be turned on when any of the above inputs occur.

If the Rear Courtesy Disable Switch is in the disable position, the Courtesy Lamps will still be turned on when any of the above inputs occur except the flip-up glass ajar or tailgate ajar. This allows the interior lights to be off if the customer leaves the tailgate open for an extended period of time (“Tailgate Mode”).

If the ignition is turned to Run, or a RKE door lock input is received while the Courtesy Lamps are on, the remainder of the 27 second timer is skipped and the Courtesy Lamps proceed immediately to the 3 second fade to off mode.

There are also two Map Lamps in the vehicle headliner between the driver and the passenger. The Map Lamps may be individually controlled independently of the Courtesy Lamp function. The Map Lamps are turned off and on by pressing directly on the lens cover. If the Map Lamp is in the OFF position, the Map Lamps will mimic the Courtesy Lamp state (i.e. if the Courtesy Lamps are on, the Map Lamps will also be on). If the Map Lamp is in the ON position, the Map Lamp will remain on until it is pressed again by the driver (independent of the Dimmer switch, door ajars, etc.).

If either the Courtesy Lamps or the Map Lamps are left on with the ignition in the OFF position for greater than 8 minutes, the BCM will turn off (“Loadshed”) the lamps until another cycle occurs (i.e. ignition is turned on, a different door is opened, etc.). This feature exists to attempt to save the vehicle battery in the event that a door is accidentally left open, etc.

3.3.4 POWER DOOR LOCKS

The BCM controls the Power Door Locks via the relays in the JB. There are three individual relays for this system: Driver Unlock Relay, which only unlocks the drivers door, the Unlock Relay which unlocks the other 3 doors, and the Lock Relay, which locks all of the doors.

There are two Power Door Lock Switches (on the driver and passenger doors) which are read by the BCM to control the locks.

The BCM will actuate the Lock Relay for 250 ms if either power lock switch is in the lock position, unless the driver’s door is ajar and the key is in the ignition. The BCM will also lock the doors if the RKE lock button is pressed.

The BCM will actuate the Driver’s Door Unlock Relay and the Unlock All Relay for 250 ms if either power lock switch is in the unlock position. If the Customer Programmable Features are set to Un-

lock Driver's Door First, the BCM will only actuate the Driver's Door Unlock Relay when the RKE Unlock button is pressed the first time. If the button is pressed a second time, both the unlock relays will be actuated (2 unlock presses within 5 seconds). However, if the Customer Programmable Features are set to Unlock All Doors, then the BCM actuates both unlock relays every time an RKE unlock button is pressed.

The BCM does not allow rapid cycling of the lock / unlock relays. Once the BCM starts to actuate a lock or unlock relay, it will hold it for 250 ms regardless of someone cycling the switch rapidly.

The BCM will lock the doors if the Customer Programmable Feature for Rolling Locks is enabled, and the PCI bus message from the Powertrain Control Module (PCM) is received.

The BCM also directly drives the Tailgate Lock motor and the Flip-up Glass Release motor. The BCM can reverse the current through the Tailgate Lock motor to lock or unlock the door as required. If the BCM actuates the Flip-up Glass Release motor, the latch on the glass is released, and the window will raise itself under the power of two gas cylinders (struts).

The Tailgate motor will be controlled to the lock or unlock positions exactly the same as the conditions above for the Door Lock Relay. In addition, the Tailgate Motor will be locked for the following conditions:

1. Tailgate Cylinder Lock Switch in the lock position (if equipped).
2. Battery disconnect / reconnect (including pulling and replacing the IOD fuse)
3. Rear Wiper Switch turned on

The Tailgate Motor can also be unlocked with the Tailgate Cylinder Lock Switch (if equipped).

The Flip-Up Glass Release Motor will release the latch if the Tailgate Cylinder Lock Switch is turned to the unlock position (if equipped) or the RKE Flip-Up Glass button is pressed or the BCM "knows" the doors are unlocked and the rear door handle is pulled to the Flip-Up Glass Release position.

3.3.4.1 REMOTE KEYLESS ENTRY (RKE)

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

- Body Control Module (BCM) to control the door lock and unlock functions, the arming and dis-

arming of the Vehicle Theft Security System (if equipped), and the activation of illuminated entry.

- Integrated Power Module (IPM) to activate the park lamps, the headlamps, and the horn for horn chirp.

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

The SKREEM is capable of retaining up to 8 individual access codes (8 transmitters). If the PRNDL is in any position except park, the SKREEM will disable the RKE. The 3 or 6 button transmitter uses 1-CR2032 battery. The minimum battery life is approximately 5 years based on 20 transmissions a day at 84°F (25°C). Use the DRBIII® or the Miller Tool 9001 RF Detector to test the RKE transmitter. Use the DRBIII® or the customer programming method to program the RKE system. However, the SKREEM will only allow RKE programming when the ignition is in the on position, the PRNDL is in park position, and the VTSS (if equipped) is disarmed.

3.3.4.1.1 PANIC FUNCTION

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

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

3.3.4.1.2 ROLLING CODE

The rolling code feature changes part of the transmitter message each time that it is used. The transmitter message and the receiver message increment together. Under certain conditions with a rolling code system (pressing a button on the RKE transmitter over 255 times outside the receiver range, battery replacement, etc.), the receiver and transmitter can fall out of synchronization. Note: The lock function works from the RKE transmitter even in an out of synchronization condition and therefore it could be verified by pressing the LOCK button on the RKE integrated key. To re-synchronize, press and release the UNLOCK button on the RKE transmitter repeatedly (it may take up to eight cycles) while listening carefully for the power door locks in the vehicle to cycle, indicating that resynchronization has occurred.

3.3.4.1.3 PROGRAMMABLE DOOR LOCK FEATURES

- The RKE can be changed to unlock all doors with one press
- The Automatic Door Locks can be enabled/disabled
- Auto Unlock on Exit can be enabled/disabled
- RKE horn chirp on lock can be enabled/disabled
- RKE optical chirp (turn signal lamps) can be enabled/disabled
- Program a new RKE transmitter.

3.3.5 REAR WINDOW DEFOGGER

The Body Control Module reads the Rear Window Defogger Switch and turns on the rear window defogger relay to defrost the rear glass. The first time in an ignition cycle that the driver presses the defogger button, the BCM will turn on the relay for 10 minutes. The second and subsequent times, the BCM will turn on the relay for 5 minutes. If the ignition is turned off, the BCM will turn the rear window defogger relay off.

3.3.5.1 VEHICLE THEFT SECURITY SYSTEM (VTSS)

The BCM controls the VTSS if equipped. To arm the VTSS the BCM will begin the VTSS Pre-arming process, which last for sixteen seconds after the following criteria is met. The key is removed from the ignition switch and the operator locks the vehicle using a key fob or power door lock switch with the doors closed or if the doors are open it will then begin when all doors are closed. During Pre-arm, the VTSS indicator located in the Instrument Cluster flashes two times per second. Pre-

arm is exited if any door/tailgate is opened, flip-up glass is opened, a cylinder lock switch is turned to unlock, or the ignition is turned on.

After the Pre-arm timer expires, the BCM goes to the armed mode and flashes the VTSS indicator at a slower rate. The BCM monitors the door ajar, flip-up glass ajar, tailgate ajar and ignition status and trips to alarming if any of these change states.

Disarming the VTSS feature is done with the left key cylinder lock switch, a Remote Keyless Entry system “unlock” or the ignition turned to the “on” position with a valid SKIM key.

If the BCM is triggered to the Alarm state, it flashes the headlamps, hazard lamps and actuates the Horn on and off for 3 minutes, then will flash the headlamps and hazard lamps without the horn for an additional 15 minutes until it times out. After the timeout, the alarm will return to the armed state. If the alarm was triggered while the operator was away from the vehicle, the BCM will chirp the horn 3 times (“Tamper Alert”) when the driver disarms the alarm.

3.3.5.2 VEHICLE THEFT SECURITY SYSTEM (VTSS) (EXPORT ONLY)

The Vehicle Theft Security System (VTSS) is available in either a base or a premium version for this model. The base system is controlled by the Body Control Module (BCM) while the premium system is controlled by the BCM along with an Intrusion Transceiver Module (ITM) which monitors the interior of the vehicle for movement. The base VTSS uses the vehicle horn for the audible alert while the premium version is equipped with a battery backed siren. Both systems will flash the hazard lamps when tripped. The VTSS does not prevent engine operation, this is done with the Sentry Key Immobilizer System SKIS. For information regarding SKIS, refer to the appropriate Powertrain Diagnostic Procedures manual.

To arm the VTSS the BCM must complete a sixteen-second Pre-arming process, which will begin after the following criteria are met. The key is removed from the ignition switch and the operator locks the vehicle using a key fob or power door lock switch with the doors, tailgate and flip-up glass closed or if any of these are open, pre-arm will begin after they are closed. If the hood is left open during pre-arming it will be ignored as input until it is closed. During Pre-arming, the VTSS indicator located in the Instrument Cluster flashes two times per second. Pre-arm is exited if any doors, tailgate, flip-up glass or the hood is opened, or if the ignition switch is turned to the on position.

After the Pre-arming timer expires, the BCM goes to the armed mode and flashes the VTSS indicator at a slower rate. The BCM will then

monitor the ignition switch status along with the hood/door/flip-up glass/tailgate ajar switches. For vehicles equipped with the Intrusion Transceiver Module the vehicle's interior will continuously be monitored for movement. This feature can be disabled during the pre-arm sequence with three additional lock commands from the RKE which will cause a single audible chirp confirming this request. While armed the Siren will continuously monitor its battery feed and the siren signal control circuits and will trigger if either of these are disconnected. The Siren also sends a status message back to the ITM.

Disarming the VTSS is done with either a Remote Keyless Entry system "unlock" or the ignition turned to the "on" position with a valid SKIM key.

When the VTSS is triggered on a base system, the alarming state will be twenty-five seconds. Vehicles with the premium system will actuate the hazard lamps for twenty-five seconds and the siren twenty-eight seconds. After that period if the disturbance is still present only the siren will be activated again for twenty-eight seconds with five seconds intervals between warning cycles. This will continue up to ten times unless the disturbance goes away. If the alarm was triggered while the operator was away from the vehicle, there will be three audible chirp messages when the system is disarmed.

3.3.6 WINDSHIELD WIPER SYSTEM (FRONT)

The BCM controls the Front Windshield Wipers via the On/Off and Hi/Low relays located in the Power Distribution Center (PDC), based on input from the Front Wiper Mode Switch. Note: The BCM does not control the rear wiper system, however, the BCM does monitor the Rear Wiper Mode Switch to control the flip-up glass release. This function is discussed under Power Door Locks.

If the Front Wiper Mode Switch is in any of the Intermittent Delay positions, the BCM will turn on the On/ Off relay until the wiper motor is off of the Park Switch. The internal wiring between the motor and the relays, allows the wipers to complete a single cycle and return to the parked position. The BCM monitors the Park Switch to make sure that the Wiper is able to return to the parked position within 8 seconds. If this does not occur, the BCM sets a Wiper Park Switch DTC and turns the wiper on/off relay to on until the wipers are switched off.

If the Front Wiper Mode Switch is in the Low position, the BCM will turn on the On/Off relay. The wiper motor will run at low speed.

If the Front Wiper Mode Switch is in the High position, the BCM will turn on the On/Off relay and the Hi/Low relay. The wiper motor will run at high speed.

If the Front Wiper Mode Switch is turned to the Wash position, the BCM will turn on the On/Off relay until it sees 3 cycles of the park switch. The wiper motor will run at low speed for 3 cycles and then resume whatever the current mode of the switch is.

3.3.7 THE BCM IS ALSO INVOLVED IN THE FOLLOWING FUNCTIONS:

3.3.7.1 VEHICLE SPEED SENSING

The speed sensor on the rear axle generates approximately 80,000 pulses per mile. This signal is sent to the ABS module (if equipped) and then to the BCM. The BCM has been programmed in the Assembly Plant with the proper tire size. If a BCM is replaced, it must be programmed with the proper tire size using the DRBIII®. Based on this tire size, the BCM converts the 80,000 pulses per mile into 8,000 pulses per mile, and outputs this signal to the PCM.

If the vehicle is equipped with ABS, the ABS module supplies the required 12VDC to the wheel speed sensor. If the vehicle is not equipped with ABS, the BCM supplies this voltage on the Vehicle Speed Sensor Supply pin. This output is on for non-ABS vehicles when the ignition switch is in the Run or Crank positions.

3.3.7.2 DETECTION / ANALYSIS OF MISCELLANEOUS BODY SWITCHES

The BCM detects the position of the A/C Switch from the control head and reports this over the PCI bus to the PCM.

The BCM detects the position of the Renegade Lighting Input and reports this over the PCI bus to the Cluster.

3.3.7.3 DRIVER INFORMATION WARNINGS (CHIME)

The Chime is located in the cluster. However, the cluster goes to sleep with the ignition off, so the BCM turns on the Cluster Wakeup Output when it detects that the Headlamps-On Warning or the Key-In-Ignition Warning conditions exist. The BCM sends these warnings to the Cluster over the PCI bus.

3.4 OVERHEAD CONSOLE

3.3.4.1 ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

When equipped, the Electronic Vehicle Information Center (EVIC) is located in the overhead console. The EVIC supplements the standard vehicle instrumentation. The EVIC also provides additional driver information, warnings and an interface to enable and disable vehicle programmable features and displays memory system messages. Most of the EVIC display information is received over the PCI bus. The EVIC sends and receives data over the PCI bus, communicating with the BCM, PCM, and the Instrument Cluster.

The EVIC uses a vacuum fluorescent (VF) display to supply the vehicle operator with a compass heading, outdoor temperature, average fuel economy, miles to empty, miles to service, tire pressure (if equipped), trip odometer, and elapsed ignition on time.

The EVIC function buttons are labeled C/T, RESET, STEP, and MENU.

The optional Universal Garage Door Opener (UGDO) known as HomeLink® is integrated with the EVIC. The three UGDO buttons are labeled with dots to indicate the channel number.

VEHICLE INFORMATION DISPLAY

The EVIC provides the following functions:

- Compass direction
- Outside temperature
- Elapsed ignition on time
- Distance to empty
- Average fuel economy
- Trip Odometer
- Service Interval
- Customer Programmable Features
- Tire Pressure (if equipped)
- Vehicle Information Warning Message Displays

The EVIC will not display information for any of the screens for which it did not receive the proper PCI bus data. Refer to the symptom list in the Compass Mini-Trip Computer section for problems related to the EVIC.

The EVIC receives the following messages from the Instrument Cluster:

- Low Washer Fluid
- Turn Signal On
- Vehicle Odometer

The EVIC receives the following message from the BCM:

- Door(s) Ajar
- Reargate Ajar
- Liftglass Ajar
- Remote Key Battery Low
- VF display dimming brightness and exterior lamp status
- Elapsed Ignition On Time data
- Distance to Empty
- Average Fuel Economy
- Trip Odometer data
- Tire Pressure Data
- Verification of US/Metric status

The EVIC receives the following message from the PCM:

- Filtered Outside Temperature
- Vehicle Speed
- Engine RPM
- Charging System Voltage

WARNING MESSAGES: When the appropriate conditions exist, the EVIC displays the following warning messages and symbols. Each message is accompanied by a series of beeps.

- TURN SIGNAL ON (with graphic)
- PERFORM SERVICE
- DRIVER DOOR OPEN (with graphic)
- PASSENGER DOOR OPEN (with graphic)
- DOOR(S) OPEN (with graphic) N DOORS OPEN (N=2, 3, 4)
- REARGATE OPEN
- LIFTGLASS OPEN
- HOOD OPEN (BUX Only)
- WASHER FLUID LOW
- REMOTE KEY BATTERY LOW
- NO J1850 MSGS RECEIVED
- LOW TIRE PRESSURE WARNINGS

CUSTOMER PROGRAMMABLE FEATURES:

Press the MENU button to select one of the following displays:

- LANGUAGE (Press STEP button to select one of 5 languages)
- US or METRIC (Press STEP button to toggle between US or Metric units)
- AUTO DOOR LOCKS (Press STEP button to select "Yes" or "No.") (EXCEPT BUX)
- AUTO UNLOCK ON EXIT (Press STEP button to select "Yes" or "No.") (EXCEPT BUX)
- REMOTE UNLOCK DRIVER'S DOOR 1st (Press STEP button to select)

- SOUND HORN ON LOCK (Press STEP button to select) (except BUX)
- FLASH LIGHTS ON LOCK/UNLOCK? (Press STEP button to select "Yes" or "No.")
- HEADLAMP DELAY (Press STEP button to select desired delay)
- SERVICE INTERVAL (Press STEP button to select distance intervals)
- RESET SERVICE DISTANCE (Press STEP button to select "Yes" or "No.")
- TRAIN REMOTE (Press STEP button to select "Yes" or "No.")
- LOW FUEL CHIME (Press STEP button to select "Yes" or "No.")
- RETRAIN TIRE SENSORS (Press STEP button then MENU button to start)

MENU BUTTON

Pressing the MENU button while displaying Compass/Temp or traveler screens will initiate the personalization menu. Pressing the MENU button while in the personalization menu will step the EVIC through the personalization screens. Pressing the MENU button while in the "Retrain Tire Sensors" screen will initiate the tire training process.

STEP BUTTON

The EVIC will enter a traveler screen by pressing the STEP button while the Compass/Temp screen is displayed or by stepping through all the personalization screens with the MENU button. The STEP Button can be used in one of the following ways:

1) To sequentially select one of the 5 displays or blank display in the following order:

- Average Fuel Economy
- Distance to Empty
- Trip Odometer
- Time Elapsed
- Service Mileage
- Off (Blank)

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

3) Pressing the STEP button while displaying a personalization screen will toggle the options for that feature.

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 and

the EVIC will send a PCI bus beep request to the BCM. If the RESET button is pressed again within 3 seconds, the EVIC will reset ALL of the resettable 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. The EVIC module will send a beep request to the BCM.

Simultaneously pressing the RESET button and the C/T button while turning the ignition from Off to On will enter the EVIC into the self-diagnostic mode. The EVIC self-diagnostic mode may also be initiated using the DRBIII®.

COMPASS/TEMPERATURE (C/T) BUTTON

Pressing the Compass/Temperature Button (C/T) will cause the EVIC to display the compass and temperature information. This function will operate from a traveler display. The EVIC simultaneously displays the compass reading and the outside temperature. Outside temperature information is received via the PCI bus from the BCM.

The EVIC module internally senses and calculates the compass direction.

TRAVELER DISPLAY FUNCTIONS

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

COMPASS OPERATION

Upon ignition on, if the calibration information stored in the EVIC memory is within the normal range, the EVIC will perform in slow Auto-Cal mode. In slow Auto-Cal mode, the EVIC continuously compensates for the slowly changing magnetic field of the vehicle. The compass module detects changes in the vehicle magnetism and makes appropriate internal corrections to ensure proper displayed direction.

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

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

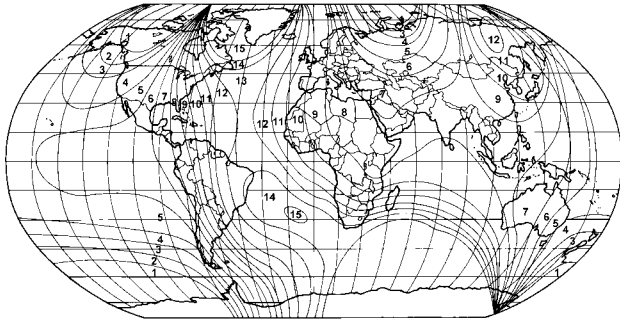
GENERAL INFORMATION

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

SETTING MAGNETIC ZONE VARIANCE

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

- The ignition switch must be in the On position and the EVIC display must not be blank.
- If the compass/temperature data is not currently being displayed, momentarily press and release the C/T button to display compass/temp information.
- Press and hold the RESET button until VARIANCE = XX is displayed. The EVIC will display the variance zone stored in memory and the word VARIANCE.
- Use the STEP button to select the proper variance zone number, 1 through 15.
- After selecting the proper zone number, momentarily press and release the RESET button. The variance zone is then stored in the memory and the EVIC returns to normal operation.



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COMPASS CALIBRATION

The compass module has 2 types of auto-calibration; slow-cal and fast-cal. Slow-cal ensures that during normal vehicle operation the compass performs auto-calibration functions to keep the compass sensors in their proper operating range. Whenever the ignition is On and the EVIC receives PCI bus data indicating that engine RPM is greater than zero, auto-calibration is performed continuously.

If the calibration information stored in the compass module memory is not within the normal range after a power-up cycle, the compass will display CAL. The EVIC will enter into the fast-cal mode until calibration is complete.

To enter the compass into Manual Calibration mode, perform the following steps:

- Drive the vehicle to an area away from any large metal objects or overhead power lines.
- Ensure that the proper variance zone is selected. See "Setting Magnetic Zone Variance."
- The ignition switch must be in the On position and the EVIC display must not be blank.
- Press the C/T button to view the Compass/Temperature display.
- Press and hold the RESET button until CAL is displayed, then release the button.
- Drive slowly, less than 5 MPH (8KPH) in at least 1 complete 360 degree circle.
- CAL will remain illuminated to alert the driver that the compass is in the calibration mode.
- After calibration is complete, CAL will turn off. If the compass appears blank, unable to be calibrated, or the compass displays false indications, the vehicle must be demagnetized. Refer to Compass Demagnetizing Procedure in the Service Manual.

SELF-CHECK DIAGNOSTICS

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

- (1) With the ignition switch in the OFF position, depress and hold the RESET and the C/T buttons.
- (2) Turn the ignition switch to the ON position.
- (3) Continue to hold both buttons until the software versions are displayed, then release the buttons.

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

- PASSED SELF TEST
- FAILED SELF TEST
- FAILED J1850 COMMUNICATION

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

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

AMBIENT TEMPERATURE SENSOR

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

The ATS is a variable resistor that operates on a 5-volt reference signal circuit hardwired from the PCM. The resistance in the ATS changes as the outside temperature rises or falls. The PCM senses the change in reference voltage through the ATS resistor. Based on the resistance of the ATS, the PCM is programmed to correspond to a specific

temperature. The PCM stores and filters the ambient temperature data and transmits this data to the EVIC via the PCI Bus. The ATS cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

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 EVIC display.

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

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

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

The ATS is supported by the PCM. Ambient Temperature Sensor DTCs will be recorded in the PCM. Test the ATS circuits using the diagnostics in the Powertrain Diagnostics Procedures Manual.

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.

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 operator, indicating which HomeLink® transmitter channel button is

being pressed. The HomeLink® can learn and store up to 3 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 Owner Manual.

3.5 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. Additional tracer colors may be added in order to distinguish between different module connections. The modules are wired in parallel. Connections are made in the harness using splices.

The following modules are used on this vehicle:

- Body Control Module
- Airbag Control Module
- Occupant Classification Module
- Antilock Brake Module
- Powertrain Control Module (Gas only)
- Radio
- CD Changer
- Satellite Receiver
- Hands Free Module
- Transmission Control Module (Diesel only)
- Sentry Key Immobilizer Module
- Overhead Console
- Intrusion Transceiver Module (Export only)
- 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 a 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 no response. Causes

GENERAL INFORMATION

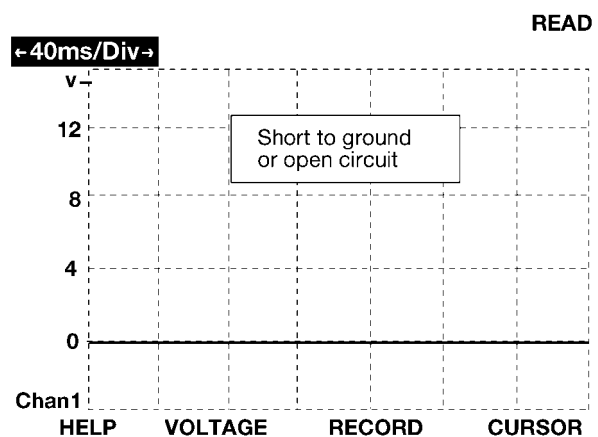
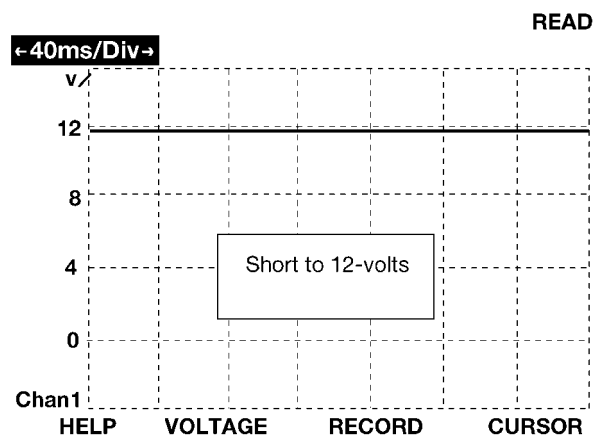
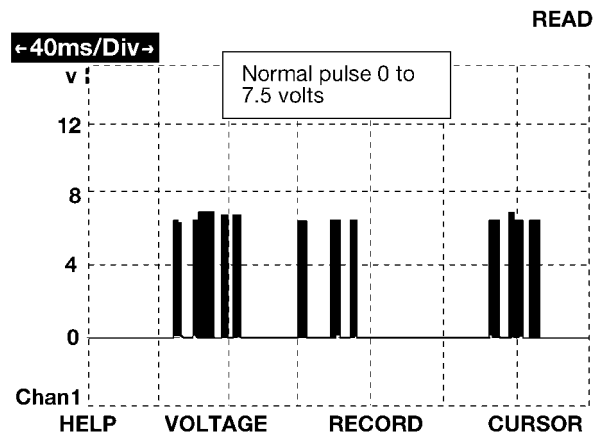
of a complete PCI Bus Communication Failure include a short to ground or battery on the PCI circuit. Individual module no response can be caused by an open PCI circuit at the module, or an open battery or ground circuit to the affected module.

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

- All gauges on the EMIC stay at zero
- All telltales on EMIC illuminate
- EMIC backlighting at full intensity
- Dashed lines in the overhead console ambient temperature display
- No response received from any module on the PCI bus (except the 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 ± SIGNAL OPEN" or "NO RESPONSE" to indicate a communication problem. These same messages will be displayed if the vehicle is not equipped with that particular module. The CCD error message is a default message used by the DRBIII® and in no way indicates whether or not the PCI bus is operational. The message is only an indication that a module is either not responding or the vehicle is not equipped.



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3.6 INSTRUMENT CLUSTER

The Instrument Cluster houses the Speedometer, Tachometer, Fuel, and Engine Coolant Temperature analog gauges. The cluster positions all of the gauges using PCI Bus messages received from the PCM. The cluster contains certain warning indicators, depending on engine type and options.

Some of the indicators are hardwire inputs to the cluster and some indicators are controlled by messages received via the PCI Bus. The warning chime tone generator is contained internally within the cluster. The cluster contains a vacuum fluorescent (VF) display for the Odometer/Trip/Warning function. The VF will also display warning messages such as door / gate / glass ajar; low washer fluid level, and no bus communications. The cluster has the ability to store DTCs, communicate on the PCI Bus, display engine information, and display certain inputs using the DRBIII®.

For complete Description and Operation of the Instrument Cluster, refer to the KJ Service Manual Instrument Cluster section.

3.6.1 DIAGNOSTIC SELF TEST

The Instrument Cluster is capable of performing a Diagnostic Self Test. This self test can be initiated manually by depressing and holding the odometer trip reset button while cycling the ignition from the Off to the On position. This self test can also be initiated using the DRBIII®. During the self test, all of the PCI Bus controlled light-emitting diode (LED) indicators will illuminate. (NOTE: The VTSS indicator can be turned on and off through the BCM using the DRBIII®; the Airbag indicator is illuminated by the ORC module in response to a PCI Bus message from the cluster). The Speedometer, Tachometer, Fuel gauge, and the Engine Coolant Temperature gauge will position the pointers at the respective calibration points. The vacuum fluorescent (VF) display will illuminate all segments beginning with 11111 through 999999, and then display the cluster software version. The chime will sound 5 (five) times. The cluster will then return to normal operation. Turning the ignition switch to the Off position or the cluster detecting engine RPM greater than 0 (zero) will stop the self test.

3.7 TELECOMMUNICATIONS

3.7.1 HANDS FREE PHONE

OVERVIEW

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

grammed to operate each individual system. Each of the seven phones is given a rank of priority when programmed.

OPERATION

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

3.8 TIRE PRESSURE MONITORING SYSTEM (TPMS)

If equipped with the Tire Pressure Monitoring System (TPMS), each of the vehicles four wheels (spare wheel optional) will have a valve stem with a pressure sensor and radio transmitter built in. Signals from the tire pressure Sensor/Transmitter are received and interpreted by the Sentry Key Remote Entry Module (SKREEM). Using the DRBIII®, go to ANTI-THEFT for the SKREEM data.

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

3.8.1 TRAINING THE SKREEM

If a Sensor/Transmitter is replaced, the vehicle has to be parked for at least 15 minutes for the system to be ready to learn the new Sensor/Transmitter ID code. The vehicle then must be driven for a minimum of five minutes with a minimum continuous speed above 13 mph (20 km/h). The system will learn the new Sensor/

GENERAL INFORMATION

Transmitter and clear the DTC's automatically. The Sensor/Transmitters are programmed at the assembly plant in this clockwise orientation:

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

NOTE:

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

3.8.2 PRESSURE THRESHOLDS

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

LOW TIRE PRESSURE THRESHOLDS	
SYSTEM STATUS INDICATOR	TIRE PRESSURE
ON	26 PSI 179.2638 kPa
OFF	ABOVE 30 PSI 206.8428 kPa

3.8.3 ACTIVE FAULT AND SYSTEM ALERTS

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

3.9 USING THE DRBIII®

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

3.10 DRBIII® ERROR MESSAGES AND BLANK SCREEN

Under normal operation, the DRBIII® will display one of only two error messages:

- User-Requested WARM Boot or User-Requested COLD Boot

If the DRBIII® should display any other error message, record the entire display and call the STAR Center. This is a sample of such an error message display.

- User-Requested WARM Boot by pressing MORE and NO at the same time.

```
ver: 2.29
date: 1 Oct 93
file: key_itf.cc
date: Jan 12 1994
line: 544
err: 0x1
User-Requested WARM Boot
```

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

- or User-Requested COLD Boot by pressing MORE and YES at the same time.

```
ver: 2.29
date: 1 Oct 99
file: keyhndi.cc
date: Mar 8 2000
line: 1297
err: 0x1
User-Requested COLD Boot
```

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

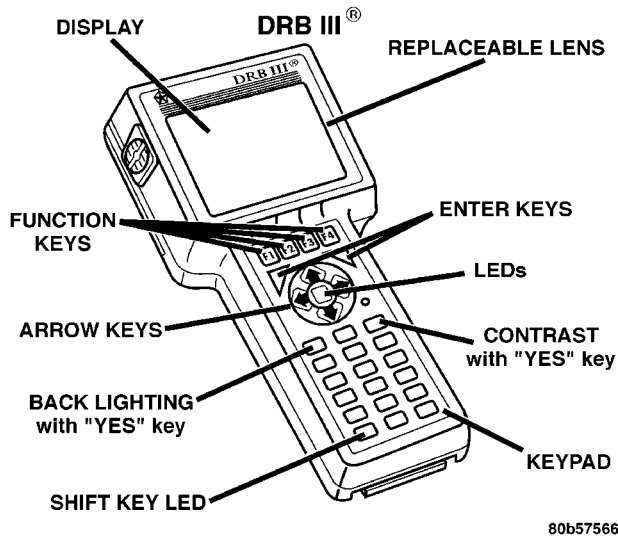
3.10.1 DRBIII® DOES NOT POWER UP

If the LED's do not light or no sound is emitted at start up, check for loose cable connections or a bad cable. Check the vehicle battery voltage (data link 16-way 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.

3.10.2 DISPLAY IS NOT VISIBLE

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



4.0 DISCLAIMERS, SAFETY, WARNINGS

4.1 DISCLAIMERS

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

4.2 SAFETY

4.2.1 TECHNICIAN SAFETY INFORMATION

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

Set the parking brake and block the wheels before testing or repairing the vehicle. It is especially important to block the wheels on front-wheel drive vehicles; the parking brake does not hold drive wheels.

When servicing a vehicle, always wear eye protection, and remove any metal jewelry such as 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 the

service manual. Following these procedures is very important to the safety of individuals performing diagnostic tests.

4.2.2 VEHICLE PREPARATION FOR TESTING

Make sure the vehicle being tested has a fully charged battery. If it does not, false diagnostic 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. READ ALL DRBIII® INSTRUCTIONS BEFORE USING THE MULTIMETER. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN PERSONAL INJURY OR DEATH.

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

FUNCTION	INPUT LIMIT
Volts	0 - 500 peak volts AC 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.

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- 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.
- The circuit being tested must be protected by a 10A fuse or circuit breaker.
- 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 WARNINGS

Before disconnecting any control module, make sure the ignition is "off". Failure to do so could damage the module.

When testing voltage or continuity at any control module, use the terminal side (not the wire end) of the connector. Do not probe a wire through the insulation; this will damage it and eventually cause it to fail because of corrosion.

Be careful when performing electrical tests so as to prevent accidental shorting of terminals. Such mistakes can damage fuses or components. Also, a second code could be set, making diagnosis of the original problem more difficult.

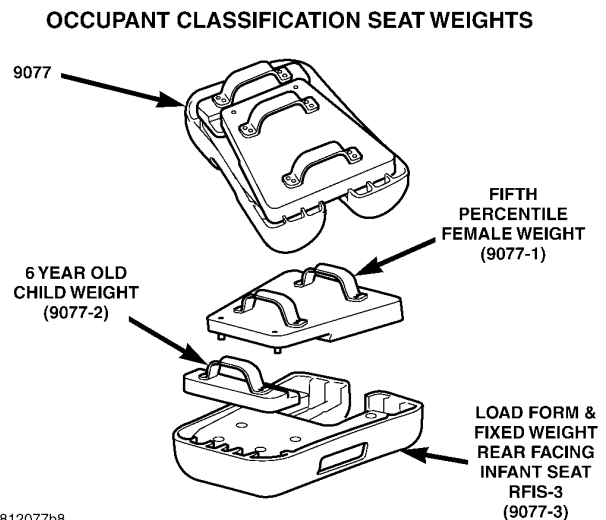
4.3.2 ROAD TESTING A COMPLAINT VEHICLE

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

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

5.0 REQUIRED TOOLS AND EQUIPMENT

DRBIII® (diagnostic read-out box)
Jumper wires
ohmmeter
voltmeter
Test Light
8443 SRS Airbag System Load Tool
8828 Spring Scale
9001 RF Detector
9077 Occupant Classification Seatweights



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)
BCM	body control module
BPS	bladder pressure sensor
BTS	belt tension sensor

CAB	controller antilock brakes	PAB	passenger airbag
DAB	driver airbag	PCI	programmable communication interface
DLC	data link connector	PCM	powertrain control module
DTC	diagnostic trouble code	PDC	power distribution center
EBL	electric back lite (rear window defogger)	PWM	pulse width modulated
ECM	engine control module	RHD	right hand drive
EVIC	electronic vehicle information center	RKE	remote keyless entry
HFM	hands free module	SBS	seat belt switch
ITM	intrusion transceiver module	SBT	seat belt tensioner
JB	junction block	SKIM	Sentry Key Immobilizer Module
LHD	left hand drive	SKIS	Sentry Key Immobilizer System
MIC	mechanical instrument cluster	SRS	supplemental restraint system
OCM	occupant classification module	SUV	sport utility vehicle
OCS	occupant classification system	TCM	transmission control module
OCSVR	occupant classification system verification required	TPM	tire pressure monitor
ODO	odometer	UGDO	universal garage door opener
ORC	occupant restraint controller	VFD	vacuum fluorescent display
		VTSS	vehicle theft security system

NOTES

7.0

DIAGNOSTIC INFORMATION AND PROCEDURES

Symptom List:

ACCELEROMETER 1

ACCELEROMETER 2

DEPLOYMENT DATA RECORD FULL

INTERNAL 2

MODULE NOT CONFIGURED FOR OCS

OUTPUT DRIVER 1

STORED ENERGY FIRING 1

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

When Monitored and Set Condition:

ACCELEROMETER 1

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

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

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.

DEPLOYMENT DATA RECORD FULL

When Monitored: Every time the ACM deploys a squib, a counter is incremented in the ACM memory. At ignition on, the ACM compares the memory location to the number 3.

Set Condition: The DTC will be latched active permanently after three airbag deployments, the airbag warning indicator will be turned on continuously and the ACM must be replaced.

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.

MODULE NOT CONFIGURED FOR OCS

When Monitored: With the ignition on, the ACM monitors the PCI Bus for OCM messages.

Set Condition: The code will set, if the ACM is not configured for OCM and OCM PCI Bus messages are on the PCI Bus.

ACCELEROMETER 1 — Continued

OUTPUT DRIVER 1

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

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

STORED ENERGY FIRING 1

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

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

POSSIBLE CAUSES

AIRBAG CONTROL MODULE - ACM

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

Symptom List:

AIRBAG WARNING INDICATOR 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 OPEN**.

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 ACM request the warning lamp status from the MIC once every second.

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

AIRBAG WARNING INDICATOR SHORT

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

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

POSSIBLE CAUSES

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

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

AIRBAG WARNING INDICATOR OPEN — 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 NO RESPONSE or INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN. Perform __AIRBAG 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. Observe the Lamp Driver State and Actual Lamp State. Is the LAMP DRIVER and ACTUAL LAMP STATE: OK?</p> <p>YES Go To 4</p> <p>NO Replace Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. If there are no possible causes remaining, view repair.</p> <p>Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

AIRBAG WARNING INDICATOR OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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, the code will set.

POSSIBLE CAUSES

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

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

CLUSTER MESSAGE MISMATCH — Continued

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

DRIVER SEAT BELT SWITCH CIRCUIT OPEN
DRIVER SEAT BELT SWITCH SHORT TO BATTERY

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

When Monitored and Set Condition:**DRIVER SEAT BELT SWITCH CIRCUIT OPEN**

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

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

DRIVER SEAT BELT SWITCH SHORT TO BATTERY

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

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

POSSIBLE CAUSES

DRIVER SEAT BELT SWITCH OPEN
 DRIVER SEAT BELT SWITCH CIRCUITS OPEN
 DRIVER SEAT BELT SWITCH CIRCUITS SHORT TO BATTERY
 ACM, DRIVER SBS CIRCUITS OPEN OR SHORTED TO BATTERY
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

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

DRIVER SEAT BELT SWITCH CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn the ignition off. Disconnect the Driver Seat Belt Switch. NOTE: Check connectors - Clean and repair as necessary. Turn the ignition on. Measure the voltage between Driver Seat Belt Switch Line 1 and Line 2 circuits at the SBS connector. Is there any voltage present?</p> <p>Yes → Replace the Driver Seat Belt Switch Buckle Assembly. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module connector(s). NOTE: Check connectors - Clean and repair as necessary. WARNING: TO AVOID PERSONAL INJURY OR DEATH, IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. Measure the voltage on the Driver SBS Line 1 and line 2 circuits at the Driver SBS connector. Is there any voltage on either circuit?</p> <p>Yes → Repair the Driver Seat Belt Switch line 1 or line 2 shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module connector(s). NOTE: Check connectors - Clean and repair as necessary. Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver SBS Line 1 and line 2 circuits between the Driver SBS harness connector and Airbag Load Tool adaptor. Is the resistance of both circuits below 10K ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the open Driver Seat Belt Switch circuit(s). Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. If there are no possible causes remaining, view repair.</p> <p>Repair: Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

DRIVER SEAT BELT SWITCH CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 List:

**DRIVER SEAT BELT SWITCH CIRCUITS SHORT TOGETHER
DRIVER SEAT BELT SWITCH SHORT TO GROUND**

**Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be DRIVER SEAT BELT SWITCH
CIRCUITS SHORT TOGETHER.**

When Monitored and Set Condition:

DRIVER SEAT BELT SWITCH CIRCUITS SHORT TOGETHER

When Monitored: With the ignition on the ACM monitors the Driver Seat Belt Buckle Switch circuits for a shorted together condition.

Set Condition: The code will set if the ACM detects low Driver Seat Belt Buckle Switch circuit voltage.

DRIVER SEAT BELT SWITCH SHORT TO GROUND

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

Set Condition: The code will set if the ACM detects low Driver Seat Belt Buckle Switch circuit voltage.

POSSIBLE CAUSES

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

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

DRIVER SEAT BELT SWITCH CIRCUITS SHORT TOGETHER — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn Ignition off. Disconnect the Driver Seat Belt Switch connector(s). NOTE: Check connectors - Clean and repair as necessary. Turn Ignition on. With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRB show DRIVER SEAT BELT CIRCUIT OPEN?</p> <p>Yes → Replace the Driver Seat Belt Switch Buckle Assembly. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module connector(s). NOTE: Check connectors - Clean and repair as necessary. Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver SBS Line 1 and Line 2 circuits between the Driver SBS connector and ground. Is the resistance below 10K ohms on either circuit?</p> <p>Yes → Repair the Driver Seat Belt Switch line 1 or line 2 shorted to ground. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Measure the resistance between the Driver SBS Line 1 and line 2 circuits at the Driver SBS connector. Is the resistance below 10K ohms?</p> <p>Yes → Test Complete.</p> <p>No → Go To 5</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. If there are no possible causes remaining, view repair.</p> <p>Repair: Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

DRIVER SEAT BELT SWITCH CIRCUITS SHORT TOGETHER — Continued

TEST	ACTION	APPLICABILITY
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER CIRCUIT OPEN****When Monitored and Set Condition:****DRIVER SEAT BELT TENSIONER CIRCUIT OPEN**

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

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

POSSIBLE CAUSES

DRIVER SEAT BELT TENSIONER CIRCUITS OPEN

DRIVER SEAT BELT TENSIONER LINE 1 OR LINE 2 CIRCUIT OPEN

ACM, DRIVER SEAT BELT TENSIONER CIRCUIT OPEN

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

DRIVER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

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

DRIVER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT

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

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

POSSIBLE CAUSES

DRIVER SEAT BELT TENSIONER SHORT

DRIVER SEAT BELT TENSIONER LINE 1 SHORT TO LINE 2

ACM, DRIVER SEAT BELT TENSIONER CIRCUIT SHORT

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

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

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER SHORT TO BATTERY****When Monitored and Set Condition:****DRIVER SEAT BELT TENSIONER SHORT TO BATTERY**

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

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

POSSIBLE CAUSES

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

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

DRIVER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

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

DRIVER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER SHORT TO GROUND

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

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

POSSIBLE CAUSES

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

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

DRIVER SEAT BELT TENSIONER SHORT TO GROUND — Continued

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

DRIVER SEAT BELT TENSIONER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SQUIB 1 CIRCUIT OPEN
 CLOCKSPRING SQUIB 1 CIRCUIT OPEN
 DRIVER SQUIB 1 LINE 1 OR LINE 2 CIRCUITS OPEN
 ACM, DRIVER SQUIB 1 CIRCUIT OPEN
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

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

DRIVER SQUIB 1 CIRCUIT OPEN — Continued

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

DRIVER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1. 	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</p> <ul style="list-style-type: none"> Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer. 	All

Symptom: DRIVER SQUIB 1 CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SQUIB 1 CIRCUIT SHORT

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 1 CIRCUIT SHORT — Continued

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

DRIVER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1. 	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</p> <ul style="list-style-type: none"> Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer. 	All

Symptom:**DRIVER SQUIB 1 SHORT TO BATTERY****When Monitored and Set Condition:****DRIVER SQUIB 1 SHORT TO BATTERY**

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Driver Airbag Squib connector(s).</p> <p>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool to the Driver Airbag connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Driver Airbag connector(s).</p> <p>Disconnect the Clockspring connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool to the Clockspring connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</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

DRIVER SQUIB 1 SHORT TO BATTERY — Continued

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

When Monitored and Set Condition:

DRIVER SQUIB 1 SHORT TO GROUND

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Driver Airbag Squib connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Connect the appropriate Load Tool to the Driver Airbag connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Driver Airbag connector(s).</p> <p>Disconnect the Clockspring connector.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool to the Clockspring connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</p> <p>Does the DRBIII® show DRIVER SQUIB 1 SHORT TO GROUND?</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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Clockspring connector.</p> <p>Disconnect the Airbag Control Module connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool Adaptor to the Airbag Control Module 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 → Go To 5</p>	All

DRIVER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT, PERSONAL INJURY OR DEATH, .</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1. 	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</p> <ul style="list-style-type: none"> Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer. 	All

Symptom:
DRIVER SQUIB 2 CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER SQUIB 2 CIRCUIT OPEN

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Driver Airbag Squib connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>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.</p> <p>Connect the appropriate Load Tool to the Driver Airbag connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</p> <p>Does the DRBIII® show DRIVER SQUIB 2 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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Clockspring connector.</p> <p>Disconnect the Clockspring connector.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool to the Clockspring connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</p> <p>Does the DRBIII® show DRIVER SQUIB 2 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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Clockspring connector(s).</p> <p>Disconnect the Airbag Control Module connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s)</p> <p>Measure the resistance of the Driver Squib 2 Line 1 and Line 2 circuits between the ACM Adaptor and the Clockspring connector.</p> <p>Is the resistance below 1.0 ohm on both circuits?</p> <p>Yes → Go To 5</p> <p>No → Repair open or high resistance in the Driver Squib 2 Line 1 or Line 2 circuits.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

DRIVER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the Airbag Control Module in accordance with the Service Information.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 2 CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SQUIB 2 CIRCUIT SHORT

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 2 CIRCUIT SHORT — Continued

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

DRIVER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1. 	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</p> <ul style="list-style-type: none"> Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer. 	All

Symptom:**DRIVER SQUIB 2 SHORT TO BATTERY****When Monitored and Set Condition:****DRIVER SQUIB 2 SHORT TO BATTERY**

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 2 SHORT TO BATTERY — Continued

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

DRIVER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1. 	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</p> <ul style="list-style-type: none"> Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer. 	All

Symptom:

DRIVER SQUIB 2 SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SQUIB 2 SHORT TO GROUND

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

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

POSSIBLE CAUSES

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

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

DRIVER SQUIB 2 SHORT TO GROUND — Continued

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

DRIVER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1. 	All
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</p> <ul style="list-style-type: none"> Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer. 	All

Symptom:

INTERNAL 1

When Monitored and Set Condition:

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.

POSSIBLE CAUSES

AIRBAG CONTROL MODULE - ACM
OCCUPANT CLASSIFICATION MODULE - OCM
OCS - SERVICE REPLACEMENT KIT

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

INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	<p>Inspect the passenger OCS wiring to determine if the Bladder and Cushion Service Kit has been installed.</p> <p>NOTE: Check connectors - for tamper evident material.</p> <p>Tamper evident material is installed onto the Kit harness to keep the kit components together in shipping and installation.</p> <p>NOTE: The Bladder and Cushion Service Kit component are calibrated together and should not be disconnected.</p> <p>If the OCM harness connector can be easily disconnected (no tamper evident material) the OCM is original equipment.</p> <p>Is the passenger seat original equipment?</p> <p>Yes → Go To 4</p> <p>No → Go To 5</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCM in accordance with Service Manual Instructions. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder and Cushion Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p>	All

Symptom:

INTERROGATE OCM

When Monitored and Set Condition:

INTERROGATE OCM

When Monitored: With ignition on, the ACM monitors the PCI Bus for an OCM status message containing the Occupant Classification information, DTC or classification. 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 a OCM DTC active indication in the status message from the OCM. **NOTE:** This indicates that a diagnostic trouble code is present in the OCM.

POSSIBLE CAUSES

INTERROGATE OCCUPANT CLASSIFICATION MODULE
 ACM, NO ACTIVE OCCUPANT CLASSIFICATION MODULE DTCS
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

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

INTERROGATE OCM — Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:**LEFT CURTAIN SQUIB 1 CIRCUIT OPEN****When Monitored and Set Condition:****LEFT CURTAIN SQUIB 1 CIRCUIT OPEN**

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

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

POSSIBLE CAUSES

LEFT CURTAIN SQUIB 1 CIRCUIT OPEN

LEFT CURTAIN SQUIB 1 LINE 1 OR LINE 2 CIRCUIT OPEN

ACM, LEFT CURTAIN SQUIB 1 CIRCUIT OPEN

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

LEFT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

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

LEFT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

LEFT CURTAIN SQUIB 1 CIRCUIT SHORT

When Monitored and Set Condition:

LEFT CURTAIN SQUIB 1 CIRCUIT SHORT

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

Set Condition: When the ACM detects a low resistance between the Left Curtain Squib 1 circuits.

POSSIBLE CAUSES

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

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

LEFT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

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

LEFT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:**LEFT CURTAIN SQUIB 1 SHORT TO BATTERY****When Monitored and Set Condition:****LEFT CURTAIN SQUIB 1 SHORT TO BATTERY**

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

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

POSSIBLE CAUSES

LEFT CURTAIN SQUIB 1 SHORT TO BATTERY

LEFT CURTAIN SQUIB 1 LINE 1 OR LINE 2 SHORT TO BATTERY

ACM, LEFT CURTAIN SQUIB 1 SHORT TO BATTERY

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

LEFT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

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

LEFT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

LEFT CURTAIN SQUIB 1 SHORT TO GROUND

When Monitored and Set Condition:

LEFT CURTAIN SQUIB 1 SHORT TO GROUND

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

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

POSSIBLE CAUSES

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

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

LEFT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

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

LEFT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:**LEFT FRONT IMPACT SENSOR INTERNAL 1****When Monitored and Set Condition:****LEFT FRONT IMPACT SENSOR INTERNAL 1**

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

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

POSSIBLE CAUSES

ACM, LEFT FRONT IMPACT SENSOR 1

REPAIR IS COMPLETE

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

LEFT FRONT IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:**LEFT SIDE IMPACT SENSOR 1 INTERNAL 1****When Monitored and Set Condition:****LEFT SIDE IMPACT SENSOR 1 INTERNAL 1**

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

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

POSSIBLE CAUSES

ACM, LEFT SIDE IMPACT SENSOR 1

REPAIR IS COMPLETE

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

LEFT SIDE IMPACT SENSOR 1 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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-Start position the module monitors the Fused Ignition Switch Output Run-Start circuit for proper system voltage.

Set Condition: If the voltage on the Fused Ignition Switch Output Run-Start circuit drops below approximately 4.5 volts, the code will set.

POSSIBLE CAUSES

IGNITION SWITCH RUN - START CIRCUIT OPEN
 FUSED IGNITION SWITCH OUTPUT RUN-START CIRCUIT OPEN
 ACM, FUSED IGNITION OUTPUT RUN-START CIRCUIT OPEN
 RUN-START FUSE OPEN/SHORT
 OCM, SHORTED RUN-START CIRCUIT
 XFUSED IGNITION SWITCH OUTPUT RUN - START SHORTED TO GROUND
 ACM, RUN-START SHORT TO GROUND
 OCCUPANT CLASSIFICATION MODULE
 OCS BLADDER REPAIR KIT
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p>Ensure the battery is fully charged. Turn the ignition on. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. DETERMINE 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 14</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>Turn Ignition off. Remove and inspect the Airbag Run-Start Fuse. NOTE: Check connectors - Clean and repair as necessary. Is the Fuse open?</p> <p style="padding-left: 40px;">Yes → Go To 3</p> <p style="padding-left: 40px;">No → Go To 11</p>	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
3	<p>Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the Airbag Run - Start Fuse and ground. Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 4</p> <p>No → Replace Airbag Run - Start Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>Is this vehicle equipped with OCS?</p> <p>Yes → Go To 5</p> <p>No → Go To 9</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Occupant Classification Module connector</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the Airbag Run - Start Fuse and ground. Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the shorted Fused Ignition Switch Output Circuit and Airbag Run - Start Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
6	<p>Inspect the passenger OCS wiring to determine if the Bladder Repair Kit has been installed.</p> <p>NOTE: Check connectors - for tamper evident material.</p> <p>Tamper evident material is installed onto the Kit harness to keep the kit components together in shipping and installation.</p> <p>NOTE: The Bladder and Cushion Service Kit component are calibrated together and should not be disconnected.</p> <p>If the OCM harness connector can be easily disconnected the OCS is original equipment.</p> <p>Is the passenger seat original equipment?</p> <p>Yes → Go To 7</p> <p>No → Go To 8</p>	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
7	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the OCM in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair. Perform OCS VERIFICATION TEST - VER 1. <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
8	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>Follow all service information for replacing the Service Kit and performing the Verification Required test over again.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the OCS Bladder Repair Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair. Perform OCS VERIFICATION TEST - VER 1. <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
9	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Disconnect the Airbag Control Module connector</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool ACM Adaptor to the ACM connector(s).</p> <p>Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the Airbag Run - Start Fuse and ground.</p> <p>Is the resistance below 10K ohms?</p> <p>Yes → Go To 10</p> <p>No → Repair the Fused Ignition Switch Output Run - Start circuit short to ground and Run-Start fuse.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
10	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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 and replace the fuse.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
11	<p>Turn the ignition on.</p> <p>Measure the voltage of the Ignition Switch Output circuit at the Airbag Run - Start fuse.</p> <p>Is the voltage above approximately 6.0 volts?</p> <p>Yes → Go To 12</p> <p>No → Repair the open Ignition Switch Output Run - Start circuit.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: Reinstall the fuse after performing this test.</p>	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
12	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Airbag Control Module connector.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the Airbag Load Tool ACM Adaptor to the Airbag Control Module connector.</p> <p>Reinstall the previously removed Airbag Run-Start Fuse.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>Measure the voltage of the Fused Ignition Switch Output Run-Start Circuit between the ACM Adaptor connector ground.</p> <p>Is the voltage above approximately 6.0 volts?</p> <p>Yes → Go To 13</p> <p>No → Repair open Fused Ignition Switch Output Run-Start circuit.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
13	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
14	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 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. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. DETERMINE ACTIVE OR STORED DTC: ACM - ACTIVE DTC: Go To 2 ACM - STORED DTC Go To 9 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All
2	Turn the ignition off. Remove and inspect the Airbag Run circuit fuse. Is the Fuse open? Yes → Go To 3 No → Go To 6	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
3	<p>Remove the Airbag Run fuse.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Airbag Control Module connector.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s).</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 → Go To 5</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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 and replace the Run Only Fuse.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
6	<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 7</p> <p>No → Repair the open Ignition Switch Output Run circuit. Then reinstall the Ignition Switch Output Run fuse.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
7	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Airbag Control Module connector.</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s).</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Reinstall the airbag Run fuse.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</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 8</p> <p>No → Repair the open or high resistance in the Fused Ignition Switch Output Run circuit.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
8	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
9	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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	Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All
2	Turn the ignition on. With the DRBIII®, ensure PCI Bus communications with the Instrument Cluster. Is the Instrument Cluster communicating on the PCI Bus? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom NO RESPONSE or INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO CLUSTER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</p>	All
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules.</p> <p>If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component.</p> <p>If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated</p> <p>In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 FRONT IMPACT SENSOR COMMUNICATION****When Monitored and Set Condition:****NO LEFT FRONT IMPACT SENSOR COMMUNICATION**

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

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

POSSIBLE CAUSES

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

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

NO LEFT FRONT IMPACT SENSOR COMMUNICATION — Continued

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

NO LEFT FRONT IMPACT SENSOR COMMUNICATION — Continued

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

NO LEFT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SIDE IMPACT SENSOR 1 COMMUNICATION****When Monitored and Set Condition:****NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION**

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

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

POSSIBLE CAUSES

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

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

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 OCM MESSAGE

When Monitored and Set Condition:

NO OCM MESSAGE

When Monitored: At ignition on, the ACM monitors the PCI Bus for a PCI Bus message from the Occupant Classification Module.

Set Condition: The DTC will set if the ACM does not receive a valid OCM bus message, if expected by vehicle configuration.

POSSIBLE CAUSES

ACTIVE LOSS OF IGN RUN-START DTC
 OCM, COMMUNICATION FAILURE
 ACM, NO OCCUPANT CLASSIFICATION MODULE MESSAGES
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All
2	With the DRBIII®, read the active ACM DTCs.. Is the Run-Start trouble code active? Yes → Refer to symptom list for problems related to the Airbag Control Module. Then perform the symptom LOSS OF IGNITION RUN-START trouble code. No → Go To 3	All

NO OCM MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition on. With the DRBIII®, ensure PCI Bus communications with the Occupant Classification Module. Is the Occupant Classification Module communicating on the PCI Bus?</p> <p>Yes → Go To 4</p> <p>No → Refer to symptom list and select the related symptom NO RESPONSE FROM OCM or OCM BUS +/- SIGNAL OPEN. Perform OCS VERIFICATION TEST - VER 1.</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</p>	All
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRBIII® monitor active codes as you work through the following steps. Wiggle the wiring harness and connectors of the related airbag circuit or component. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present?</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 ORC MESSAGE

When Monitored and Set Condition:

NO ORC MESSAGE

When Monitored: At ignition on, the OCM monitors the PCI Bus for a PCI Bus message from the Airbag Control Module.

Set Condition: The DTC will set if the OCM does not receive a valid ACM bus message within 3 consecutive seconds.

POSSIBLE CAUSES

ORC, COMMUNICATION FAILURE
 OCM, NO ORC MESSAGES
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT
 OCS - SERVICE REPLACEMENT KIT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC: OCM - ACTIVE DTC Go To 2 OCM - STORED DTC Go To 6 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All
2	With the DRBIII®, ensure PCI Bus communications with the Airbag Control Module. Is the Airbag Control Module communicating on the PCI Bus? Yes → Go To 3 No → Refer to symptom list and select the related symptom NO RESPONSE FROM OCM or OCM BUS +/- SIGNAL OPEN.	All

NO ORC MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Inspect the passenger OCS wiring to determine if the Bladder and Cushion Service Kit has been installed.</p> <p>NOTE: Check connectors - for tamper evident material.</p> <p>Tamper evident material is installed onto the Kit harness to keep the kit components together in shipping and installation.</p> <p>NOTE: The Bladder and Cushion Service Kit component are calibrated together and should not be disconnected.</p> <p>If the OCM harness connector can be easily disconnected the OCS is original equipment.</p> <p>Is the passenger seat original equipment?</p> <p>Yes → Go To 4</p> <p>No → Go To 5</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Occupant Classification Module in accordance with Service Instructions.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder Service Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

NO ORC MESSAGE — Continued

TEST	ACTION	APPLICABILITY
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 List:

NO PCI LOOPBACK

NO PCI TRANSMISSION

PCI BUS SHORT TO BATTERY

PCI BUS SHORT TO GROUND

**Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be NO PCI LOOPBACK.**

When Monitored and Set Condition:

NO PCI LOOPBACK

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

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

NO PCI TRANSMISSION

When Monitored: With the ignition on, the module monitors the PCI Bus output to verify that the data transmitted is valid. If there are any PCI Bus problems the module cannot verify the data and the communications are stopped.

Set Condition: The code will set immediately if the module is not transmitting information on the Bus. NOTE: Any Bus problems can set this code. When the bus problem is repaired the DTC will show under stored DTC's.

PCI BUS SHORT TO BATTERY

When Monitored: With the ignition on, the module performs internal tests on the PCI Communication Bus.

Set Condition: This DTC will set if the PCI Communication Bus input is shorted to vehicle power.

PCI BUS SHORT TO GROUND

When Monitored: With the ignition on, the module performs internal tests on the PCI Communication Bus.

Set Condition: This DTC will set if the PCI Communication Bus input is shorted to vehicle ground/chassis.

POSSIBLE CAUSES

CHECKING FOR VOLTAGE AT ACM

WIRING HARNESS INTERMITTENT

ACM, NO RESPONSE FROM

NO PCI LOOPBACK — Continued

POSSIBLE CAUSES	
AIRBAG CONTROL MODULE - ACM GROUND CIRCUIT OPEN OCCUPANT CLASSIFICATION MODULE - OCM OPEN PCI BUS CIRCUIT AT THE DATA LINK CONNECTOR (DLC) PCI BUS CIRCUIT OPEN PCI BUS CIRCUIT SHORTED TO VOLTAGE MODULE SHORT TO VOLTAGE PCI BUS CIRCUIT SHORTED TO GROUND OCS - SERVICE REPLACEMENT KIT	

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. From the list below, select the appropriate module and DTC type for this diagnostic trouble code. DETERMINE ACTIVE OR STORED DTC</p> <p>ACM - ACTIVE Go To 2</p> <p>ACM - STORED Go To 6</p> <p>OCM - ACTIVE DTC Go To 3</p> <p>OCM -STORED DTC Go To 6</p> <p>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</p>	All
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
3	<p>Inspect the passenger OCS wiring to determine if the Bladder and Cushion Service Kit has been installed.</p> <p>NOTE: Check connectors - for tamper evident material.</p> <p>Tamper evident material is installed onto the Kit harness to keep the kit components together in shipping and installation.</p> <p>NOTE: The Bladder and Cushion Service Kit component are calibrated together and should not be disconnected.</p> <p>If the OCM harness connector can be easily disconnected the OCS is original equipment.</p> <p>Is it original equipment?</p> <p>Yes → Go To 4</p> <p>No → Go To 5</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Occupant Classification Module in accordance with Service Instructions.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Install or replace the OCS Bladder Service Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p>	All
6	<p>Note: Determine which modules this vehicle is equipped with before beginning.</p> <p>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.</p> <p>Turn the ignition on.</p> <p>Using the DRB, attempt to communicate with the following control modules:</p> <p>Airbag Control Module</p> <p>Occupant Classification Module - If equipped</p> <p>Front Control Module - If equipped</p> <p>Instrument Cluster</p> <p>Occupant Classification Module (If equipped)</p> <p>Was the DRBIII® able to communicate with one or more Module(s)?</p> <p>Yes → Go To 7</p> <p>No → Go To 12</p>	All

NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
7	<p>Turn the ignition off.</p> <p>Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</p> <p>Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.</p> <p>Note: If the DRB can not communicate with a single module, refer to the category list for the related symptom.</p> <p>Were any problems found?</p> <p>Yes → Repair wiring harness/connectors as necessary. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All
8	<p>Ensure that the battery is fully charged.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the ACM harness connector.</p> <p>Connect the appropriate Load Tool ACM Adapter to the ACM 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 at the ACM connector.</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 9</p> <p>No → Repair the Fused Ignition Switch Output (Run) and Fused Ignition Switch Output Run-Start circuits for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
9	<p>Ensure that the battery is fully charged.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the ACM harness connector.</p> <p>Connect the appropriate Load Tool ACM Adapter to the ACM connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</p> <p>NOTE: Make sure test light is connected to the Battery positive terminal.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 10</p> <p>No → Repair the Ground circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
10	<p>NOTE: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the ACM harness connector.</p> <p>Connect the appropriate Load Tool ACM Adapter to the ACM 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. 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 → Go To 11</p> <p>No → Repair the PCI Bus circuit for an open.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
11	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
12	<p>Turn the ignition off. Disconnect the PCM/ECM harness connector. Note: If equipped with NGC follow the caution below. CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS. Disconnect the DRB from the Data Link Connector (DLC). Disconnect the negative battery cable. Measure the resistance of the PCI Bus circuit between the Data Link Connector (DLC) and the PCM/ECM harness connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 13</p> <p>No → Repair the PCI Bus circuit for an open. Note: DO not repair the OCS wiring. If OCS wiring problem is present, install or replace the OCS Service Repair Kit. Then perform the Verification Required test to remove DTC created by the repair. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
13	<p>NOTE: Reconnect the PCM/ECM harness connector and the negative battery cable. Turn the ignition on. Measure the voltage of the PCI Bus circuit at the Data Link Connector (DLC). Is the voltage above 7.0 volts?</p> <p>Yes → Go To 14</p> <p>No → Test Complete.</p>	All
14	<p>Turn the ignition off. Using a voltmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. Note: When performing the next step turn the ignition off (wait one minute) before disconnecting any module. When the module is disconnected turn the ignition on to check for a short to voltage. Turn the ignition on. While monitoring the voltmeter, disconnect each module the vehicle is equipped with one at a time. Is the voltage steadily above 7.0 volts with all the modules disconnected?</p> <p>Yes → Repair the PCI Bus circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the module that when disconnected the short to voltage was eliminated. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION

When Monitored and Set Condition:

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION

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

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

POSSIBLE CAUSES

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

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

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

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

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

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

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION

When Monitored and Set Condition:

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION

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

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

POSSIBLE CAUSES

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

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

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

OCCUPANT CLASSIFICATION MODULE DATA TRANSFER ERROR

When Monitored and Set Condition:

OCCUPANT CLASSIFICATION MODULE DATA TRANSFER ERROR

When Monitored: At ignition on, once the VIN is validated, the OCM sends seat calibration data to the ORC and ensures that the ORC received the information correctly.

Set Condition: This DTC will set if the OCM does not receive the data back correctly from the ORC.

POSSIBLE CAUSES

ORC, COMMUNICATION FAILURE

OCS - SERVICE REPLACEMENT KIT

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>NOTE: Ensure the battery is fully charged.</p> <p>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</p> <p>NOTE: Repair all of the other OCM active DTCs before attempt the repair.</p> <p>NOTE: Repair all of the other ACM active DTCs before attempt the repair.</p> <p>SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC Go To 2</p> <p>ACM - STORED DTC Test Complete.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>With the DRBIII®, ensure PCI Bus communications with the Airbag Control Module. Is the Airbag Control Module communicating on the PCI Bus?</p> <p>Yes → Go To 3</p> <p>No → Refer to symptom list and select the related symptom NO RESPONSE FROM OCM or OCM BUS +/- SIGNAL OPEN.</p>	All

OCCUPANT CLASSIFICATION MODULE DATA TRANSFER ERROR —
Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder and Cushion Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

Symptom List:

OCCUPANT CLASSIFICATION UNDETERMINED

RE-ZERO INCOMPLETE

SEAT NOT CALIBRATED

SYSTEM VERIFICATION REQUIRED - OCSVR

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

When Monitored and Set Condition:

OCCUPANT CLASSIFICATION UNDETERMINED

When Monitored: When the ignition is on, the ACM monitors the PCI Bus for an OCM status message containing the OCM information (DTC status, and classification). The status message is sent once each second or upon change in active DTCs (or classification).

Set Condition: Classification Undetermined DTC will set as a byproduct of other active DTC's that affect Occupant Classification. The OCM classification will show in the DRB under OCM Input/Output will show the status as Classification 5.

RE-ZERO INCOMPLETE

When Monitored: With the ignition on, the module checks to see if the OCM has successfully completed the OCS Verification Required test including use of the 6 Year Old and 5th Percentile Female load form.

Set Condition: This DTC will set if the OCS Verification Required test was initiated and not successfully completed or when a service kit or new seat is installed.

SEAT NOT CALIBRATED

When Monitored: With the ignition on, the module determines if the OCM has successfully completed the OCS Verification Required test including use of the 6 Year Old and 5th Percentile Female load form and if the OCM is not calibrated.

Set Condition: This DTC will set if the OCS Verification Required test had failures or if the OCM is not calibrated.

SYSTEM VERIFICATION REQUIRED - OCSVR

When Monitored: At ignition on, the OCM monitors the PCI Bus for the ORC deployment message.

Set Condition: The code will set if the ORC reports an airbag deployment or if a complete seat or a Service Repair Kit.

POSSIBLE CAUSES

AIRBAG DEPLOYMENT RECEIVED

OCCUPANT CLASSIFICATION UNDETERMINED — Continued

POSSIBLE CAUSES
OCSVR PRETEST CONDITIONS INCOMPLETE
OSCVR TEST
OCSVR TEST FAILED CONDITIONS
RETEST OCSVR
BLADDER REPAIR KIT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	<p>Make sure the DRBIII® is loaded with the latest software. Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC:</p> <p style="padding-left: 40px;">OCM - ACTIVE DTC Go To 2</p> <p style="padding-left: 40px;">OCM- STORED DTC Go To 8</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>NOTE: This DTC will be set if any front or side airbag has been deployed. Before performing this test, replace any deployed or damaged airbag system components in accordance with service information. If the airbag system deployed any or all airbags, tensioners or curtains refer to the service information for a list of component that must be inspected or replaced. Any front airbag, side airbag or SBT deployed?</p> <p style="padding-left: 40px;">Yes → Make sure the Front Passenger Seat Belt and Retractor Assembly and Belt Tension Sensor (BTS) have been replaced and the Belt Tension Sensor Verification test performed. Perform OCS VERIFICATION TEST - VER 1.</p> <p style="padding-left: 40px;">No → Go To 3</p>	All

OCCUPANT CLASSIFICATION UNDETERMINED — Continued

TEST	ACTION	APPLICABILITY
3	<p>Do not continue this test with the following ACTIVE DTCs present.</p> <p>FLUID LEVEL TOO LOW WHILE EMPTY</p> <p>OCM - INTERNAL 1 DTC</p> <p>OCM DATA TRANSFER ERROR DTC</p> <p>PASSENGER PRESSURE SENSOR OPEN DTC</p> <p>PASSENGER PRESSURE SENSOR SHORT TO GROUND DTC</p> <p>PASSENGER PRESSURE SENSOR SHORT TO BATTERY DTC</p> <p>PASSENGER PRESSURE SENSOR SHORT TOGETHER DTC</p> <p>VEHICLE BODY STYLE MISMATCH</p> <p>VIN MISMATCH</p> <p>The special tool OCS Seat Weights MRL #9077 is required for phase 2 and 3 of this test.</p> <p>Make sure the front passenger seat is empty and the seat belt is fully retracted.</p> <p>Have all of the pretest Conditions been completed?</p> <p>Yes → Go To 4</p> <p>No → Return to the symptom list and perform any active DTCs listed in the pretest. When all pretest conditions are meet, perform the Verification Required DTC test.</p>	All
4	<p>TEST CONDITIONS:</p> <ol style="list-style-type: none"> 1. Make sure the front passenger seat is empty and the seat belt is retracted. 2. Turn the ignition off, wait 5 seconds, then turn the ignition on. 3. Make sure that all pretest conditions have been completed. 4. Make sure the vehicle interior and the passenger seat have been between TBD temperature and TBD temperature for TBD time. 5. After adding or removing weight to the seat, allow 30 seconds for the seat to stabilize, before continuing the test. <p>With the DRBIII® in OCS SYSTEM TEST,select OCS Verification.</p> <p>NOTE: Active DTCs will set in the OCM until this test shows "The OCS has been Verified".</p> <p>Press any DRB key to start the Verification test.</p> <p>Select test results below:</p> <p>The OCS has been Verified</p> <p>The OCS has passed the Verification Required Test and the repair is complete.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p> <p>Test Failed - No EOL Calibration</p> <p>Go To 7</p> <p>Test Failed - K Allow is FF</p> <p>Go To 7</p> <p>Test Failed - K Empty Count is "0"</p> <p>Go To 7</p> <p>Test Failed - All Others</p> <p>Go To 5</p>	All

OCCUPANT CLASSIFICATION UNDETERMINED — Continued

TEST	ACTION	APPLICABILITY
5	<p>FAILED TEST CONDITIONS:</p> <ol style="list-style-type: none"> 1. Test Failed - Active DTCs Present 2. Test Failed - Temperature Out of Range 3. Test Failed - Seat Pressure Too High 4. Test Failed - Seat Pressure Too Low 5. Test Failed - Power Up Time Too Short 6. Test Failed - Power Up Time Too Long 7. Test Failed - Seat Pressure Not Stable 8. Test Failed - Seat is Empty 9. Test Failed - Weight Above Threshold 10. Test Failed - Weight Below Threshold 11. Test Failed - Seat Occupied <p>NOTE: Active DTCs have been set in the OCM until the test results shows "The OCS has been Verified".</p> <p>Repair the OCSVR Test Failed conditions above before continuing. Is OCSVR Failed Test condition repaired?</p> <p>Yes → Go To 6</p> <p>No → Correct any failed test conditions before performing the Verification required test again. NOTE: Additional DTCs have been set because of the failed OCSVR test.</p>	All
6	<p>CONTINUE VERIFICATION REQUIRED TEST:</p> <ol style="list-style-type: none"> 1. After adding or removing weight to the seat, allow 30 seconds for the seat to stabilize, before continuing the test. 2. Make sure the vehicle interior and the passenger seat have been between 12.778°C (55°F) temperature and 35°C (95°F) temperature for 30 minutes. <p>NOTE: Active DTCs will set in the OCM until this test shows "The OCS has been Verified".</p> <p>Press any DRB key to restart the Verification Required test. Select test results below:</p> <p>The OCS has been Verified The OCS has passed the Verification Required Test and the repair is complete. Perform OCS VERIFICATION TEST - VER 1.</p> <p>Test Failed Go To 7</p>	All

OCCUPANT CLASSIFICATION UNDETERMINED — Continued

TEST	ACTION	APPLICABILITY
7	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p style="padding-left: 40px;">Install or replace the OCS Bladder Repair Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
8	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules.</p> <p>If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions.</p> <p>If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component.</p> <p>IF only stored codes return continue the test until the problem area has been isolated</p> <p>In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

OCM CONFIGURATION MISMATCH

When Monitored and Set Condition:

OCM CONFIGURATION MISMATCH

When Monitored: At Ignition on the Airbag Control Module monitors the PCI Bus messages for OCM PCI Bus messages and then compares the messages to the ACM configuration.

Set Condition: The DTC will be set if the ACM is not configured for PASSENGER ONLY OCM and the Occupant Classification Module messages are on PCI Bus.

POSSIBLE CAUSES

ACM NOT CONFIGURED FOR SIDE AIRBAGS
 ACM, OCM CONFIGURATION
 ACM, SQUIB CONFIGURATION
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. NOTE: Ensure that the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. Select the appropriate module and DTC type combination: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All
2	Inspect vehicle for a Occupant Classification System and Passenger On - Off Indicator. Is this vehicle equipped with a Occupant Classification System? Yes → Go To 3 No → Go To 5	All

OCM CONFIGURATION MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRBIII® read the VIN and ACM part number. Verify that the ACM is the correct part for this vehicle. Verify that the VIN matches this vehicle. Is this the correct ACM for this vehicle?</p> <p>Yes → Replace the Powertrain Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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 Information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS CAN RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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 Information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

OCM CONFIGURATION MISMATCH — Continued

TEST	ACTION	APPLICABILITY
6	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 AIRBAG OFF INDICATOR CIRCUIT SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO BATTERY

When Monitored: When the ignition is on, the ACM monitors the PAB Indicator Driver circuit voltage from the PAB Off indicator circuit.

Set Condition: The code will set if the ACM senses a low resistance to battery voltage from PAB Indicator Driver circuit.

POSSIBLE CAUSES

SHORTED PAB OFF INDICATOR

PAB OFF INDICATOR CIRCUIT SHORT TO BATTERY

ACM, PASSENGER INDICATOR DRIVE CIRCUIT SHORTED TO BATTERY

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO BATTERY

— Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module connector(s). Disconnect the PAB Off Indicator connector. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. NOTE: Check connectors - Clean and repair as necessary. Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. Measure the voltage of the PAB Indicator Driver circuit between the ACM Adapter and ground. Is any voltage present?</p> <p>Yes → Repair the Passenger Off Indicator Driver circuit short to voltage. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Reconnect the Airbag Control Module connector(s). WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRBIII®, read the active ACM DTCs. Does the DRB show PAB OFF INDICATOR CIRCUIT OPEN?</p> <p>Yes → Replace the shorted Passenger Airbag Indicator in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. If there are no possible causes remaining, view repair.</p> <p>Repair: Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO BATTERY

— Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 AIRBAG OFF INDICATOR CIRCUIT SHORT TO GROUND****When Monitored and Set Condition:****PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO GROUND**

When Monitored: When the ignition is on, the ACM monitors the PAB Indicator Driver circuit for voltage on the PAB Off indicator circuit.

Set Condition: The code will set if the ACM cannot detect voltage on the PAB Indicator Driver circuit.

POSSIBLE CAUSES

IGNITION SWITCH RUN - START CIRCUIT OPEN
 FUSE OPEN
 ACM, PAB OFF INDICATOR CIRCUIT SHORTED
 FUSED RUN-START CIRCUIT SHORTED TO GROUND
 PAB OFF INDICATOR DRIVER CIRCUIT SHORTED TO GROUND
 PAB OFF INDICATOR INTERNAL SHORT
 INDICATOR DISCONNECTED
 FUSED IGNITION SWITCH OUTPUT RUN-START CIRCUIT OPEN
 PASSENGER AIRBAG INDICATOR DRIVER CIRCUIT OPEN
 PASSENGER ON - OFF INDICATOR OPEN
 STORED CODE OR INTERMITTENT CONDITION
 ACM, PASSENGER AIRBAG INDICATOR OPEN
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 13 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn Ignition off. Remove and inspect the Indicator Run-Start Junction Block Fuse . NOTE: Check connectors - Clean and repair as necessary. Is the Fuse open?</p> <p>Yes → Go To 3</p> <p>No → Go To 8</p>	All
3	<p>Turn the ignition on. Measure the voltage of the Ignition Switch Output circuit at the indicator Run - Start fuse. Is the voltage above approximately 6.0 volts?</p> <p>Yes → Go To 4</p> <p>No → Repair the open Ignition Switch Output Run - Start circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: Reinstall the fuse after performing this test.</p>	All
4	<p>Turn the ignition off. Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the PAB Indicator Run - Start Fuse and ground. Is the resistance below 100 ohms?</p> <p>Yes → Go To 5</p> <p>No → Replace PAB OFF Indicator Run - Start Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module connector NOTE: Check connectors - Clean and repair as necessary. Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the PAB Indicator Run - Start Fuse and ground. Is the resistance below 100 ohms?</p> <p>Yes → Go To 6</p> <p>No → Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
6	<p>Disconnect the Passenger Airbag On - Off Indicator connector. Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the PAB Indicator Run - Start Fuse and ground. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Fused Ignition Switch Output Run-Start circuit shorted to ground and the Run-Start Indicator fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
7	<p>Measure the resistance of the PAB OFF Indicator Driver circuit between the PAB Indicator connector and ground. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Passenger Airbag Off Indicator Driver circuit short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Replace the Passenger Off Indicator and the indicator run-start fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
8	<p>Gain access to the Passenger Airbag On - Off Indicator connector. Is the Passenger Airbag Off Indicator connected to the dash harness?</p> <p>Yes → Go To 9</p> <p>No → Connect the Passenger Airbag Off indicator to the dash harness connector. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
9	<p>Disconnect the PAB On-Off Indicator connector. NOTE: Check connectors - Clean and repair as necessary. Reinstall the previously removed Pab On-Off Indicator Run-Start Fuse. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. Measure the voltage of the Fused Ignition Switch Output Run-Start Circuit between the PAB On-Off Indicator connector ground. Is the voltage above 6.0 volts?</p> <p>Yes → Go To 10</p> <p>No → Repair open Fused Ignition Switch Output Run-Start circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
10	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH. Disconnect the Airbag Control Module connector NOTE: Check connectors - Clean and repair as necessary. Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance of the PAB Indicator Driver circuit between the ACM Adaptor and the PAB On - Off Switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Repair the open Passenger Airbag Indicator Driver circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
11	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Reconnect the PAB Indicator connector.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Connect a jumper wire between the ACM adaptor PAB Indicator Driver circuit and ground.</p> <p>turn ign on</p> <p>Does the PAB On-Off Indicator illuminate?</p> <p>Yes → Go To 12</p> <p>No → Repair the open Passenger Airbag Indicator. Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
12	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS CAN RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Airbag Control Module in accordance with the Service Information.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

PASSENGER AIRBAG OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
13	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 List:

PASSENGER BTS OPEN
PASSENGER BTS SHORT TO BATTERY
PASSENGER BTS SHORT TO GROUND
PASSENGER BTS SHORT TOGETHER

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

When Monitored and Set Condition:

PASSENGER BTS OPEN

When Monitored: With the ignition on, the module monitors the Belt Tension Sensor signal.

Set Condition: This DTC will set if the BTS signal follows the reference voltage.

PASSENGER BTS SHORT TO BATTERY

When Monitored: With the ignition on, the module performs internal tests on the input signal from the BTS.

Set Condition: This DTC will set if the input signal from the BTS is greater than 233 A/D counts.

PASSENGER BTS SHORT TO GROUND

When Monitored: With the ignition on, the module performs internal tests on the input signal from the BTS.

Set Condition: This DTC will set if the input signal from the BTS is less than 13 A/D counts.

PASSENGER BTS SHORT TOGETHER

When Monitored: With the ignition on, the module performs internal tests on the input signal from the BTS.

Set Condition: This DTC will set if the module determines that any one of the three input lines to the BTS has the same value as another line. This fault will often be set with the BTS Short to Ground, BTS Short to Battery, and BTS Open faults.

POSSIBLE CAUSES

SENSOR SIGNAL AND GROUND SHORTED TOGETHER
BTS CONNECTOR DISCONNECTED
OCS BLADDER REPAIR KIT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

PASSENGER BTS OPEN — Continued

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>NOTE: Ensure the battery is fully charged.</p> <p>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</p> <p>SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC Go To 2</p> <p>ACM - STORED DTC Go To 8</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Is the BTS disconnected?</p> <p>Yes → Go To 3</p> <p>No → Go To 4</p>	All
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Reconnect the BTS connector.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
4	<p>Disconnect the front passenger BTS connector.</p> <p>NOTE: The following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>Does the DRB report an active "BTS OPEN DTC" with no other active BTS DTCs?</p> <p>Yes → Go To 5</p> <p>No → Go To 7</p>	All
5	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Connect a jumper wire between the BTS Power circuit and Ground circuit at the seat harness BTS connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the OCS active DTCs.</p> <p>Did DRB report Active BTS SHORTED DTCs change?</p> <p>Yes → Go To 6</p> <p>No → Go To 7</p>	All

PASSENGER BTS OPEN — Continued

TEST	ACTION	APPLICABILITY
6	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Connect a jumper wire between the BTS Signal circuit and ground circuit at the BTS connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the OCS active DTCs.</p> <p>Did DRB display active BTS SHORTED TOGETHER DTCs?</p> <p>Yes → Replace the Front Passenger Seat Belt Retractor and BTS. Perform OCS VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>Follow all service information for replacing the Service Kit and performing the Verification Required test over again.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder Repair Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

PASSENGER BTS OPEN — Continued

TEST	ACTION	APPLICABILITY
8	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules.</p> <p>If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions.</p> <p>If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component.</p> <p>IF only stored codes return continue the test until the problem area has been isolated</p> <p>In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 List:

PASSENGER PRESSURE SENSOR OPEN
PASSENGER PRESSURE SENSOR SHORT GROUND
PASSENGER PRESSURE SENSOR SHORT TO BATTERY
PASSENGER PRESSURE SENSOR SHORT TOGETHER

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be **PASSENGER PRESSURE SENSOR OPEN**.

When Monitored and Set Condition:

PASSENGER PRESSURE SENSOR OPEN

When Monitored: With ignition on, the module monitors the Pressure Sensor signal.

Set Condition: The DTC will set if the Pressure Sensor signal follows the reference voltage.

PASSENGER PRESSURE SENSOR SHORT GROUND

When Monitored: With the ignition on, the module performs internal tests on the input signal from the Pressure Sensor.

Set Condition: This DTC will set if the input signal from the Pressure Sensor is more than 240 A/D counts for Pressure Sensor Stuck High or 249 A/D counts for Pressure Sensor Short to Ground.

PASSENGER PRESSURE SENSOR SHORT TO BATTERY

When Monitored: With the ignition on, the module performs internal tests on the input signal from the Pressure Sensor.

Set Condition: This DTC will set if the input signal from the Pressure Sensor is less than A/D counts.

PASSENGER PRESSURE SENSOR SHORT TOGETHER

When Monitored: With the ignition on, the module performs internal tests on the input signal from the Pressure Sensor.

Set Condition: This DTC will set if the module determines that any one of the three input lines to the Pressure Sensor has the same value as another line. This fault will often be set with the Short to Ground, Short to Battery, and Open faults DTCs.

POSSIBLE CAUSES

WIRING PROBLEM
 OCS BLADDER REPAIR KIT
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT

PASSENGER PRESSURE SENSOR OPEN — Continued

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>NOTE: Ensure the battery is fully charged.</p> <p>NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.</p> <p>SELECT ACTIVE or STORED DTC:</p> <p>ACM - ACTIVE DTC Go To 2</p> <p>ACM - STORED DTC Go To 4</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Is the Seat Weight Sensor disconnected?</p> <p>Yes → Connect the Passenger Seat Weight Sensor connector. Perform OCS VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>Follow all service information for replacing the Service Kit and performing the Verification Required test over again.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder Repair Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair. Perform OCS VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

PASSENGER PRESSURE SENSOR OPEN — Continued

TEST	ACTION	APPLICABILITY
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules.</p> <p>If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions.</p> <p>If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component.</p> <p>IF only stored codes return continue the test until the problem area has been isolated</p> <p>In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER CIRCUIT OPEN****When Monitored and Set Condition:****PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN**

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

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

POSSIBLE CAUSES

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN

PASSENGER SEAT BELT TENSIONER LINE 1 OR LINE 2 CIRCUIT OPEN

ACM, PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

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

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

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

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

POSSIBLE CAUSES

PASSENGER SEAT BELT TENSIONER LINE 1 SHORT TO LINE 2

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

ACM, PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

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

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER SHORT TO BATTERY****When Monitored and Set Condition:****PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY**

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

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

POSSIBLE CAUSES

PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY

PASSENGER SEAT BELT TENSIONER LINE 1 OR LINE 2 SHORT TO BATTERY

ACM, PASSENGER SBT SHORT TO BATTERY

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

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

PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT BELT TENSIONER SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND

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

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

POSSIBLE CAUSES

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND

PASSENGER SEAT BELT TENSIONER LINE 1 OR LINE 2 SHORTED TO GROUND

ACM, PASSENGER SBT SHORT TO GROUND

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND — Continued

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

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 SEAT SENSOR FLUID LEVEL TOO LOW****When Monitored and Set Condition:****PASSENGER SEAT SENSOR FLUID LEVEL TOO LOW**

When Monitored: With the ignition on, the module performs internal tests on the input signal from the Bladder assembly.

Set Condition: This DTC will set if the input signal from the PS is less than 19 - 30 A/D counts. There is probably a leak if a PS fault is also set

POSSIBLE CAUSES

OCS - SERVICE REPLACEMENT KIT

TEST	ACTION	APPLICABILITY
1	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder and Cushion Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p>	All

Symptom:

PASSENGER SQUIB 1 CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SQUIB 1 CIRCUIT OPEN

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

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

POSSIBLE CAUSES

PAB SQUIB 1 CIRCUIT OPEN

PAB SQUIB 1 LINE 1 OR LINE 2 CIRCUIT OPEN

ACM, PAB SQUIB 1 CIRCUIT OPEN

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Passenger Airbag connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Connect the Load Tool to the Passenger Airbag connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Passenger Airbag connector(s).</p> <p>Disconnect the Airbag Control module connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the Load Tool ACM Adaptor to the Airbag Control Module connector(s).</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 → Go To 4</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>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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: With the ignition on, the ACM monitors the resistance between the Passenger Squib 1 circuits.

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

POSSIBLE CAUSES

PAB SQUIB 1 CIRCUIT SHORT

PAB SQUIB 1 LINE 1 SHORT TO LINE 2

ACM, PAB SQUIB 1 CIRCUIT SHORT

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

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

PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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: With the ignition on, the ACM monitors the voltage on the Passenger Squib 1 circuits.

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

POSSIBLE CAUSES

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

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

PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Passenger Airbag connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Connect the appropriate Load Tool to the Passenger Airbag connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</p> <p>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
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Passenger Airbag connector(s).</p> <p>Disconnect the Airbag Control Module connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s).</p> <p>WARNING: AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.</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 → Go To 4</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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: With the ignition on, the ACM monitors the resistance of the Passenger Squib 1 circuits.

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

POSSIBLE CAUSES

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

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

PASSENGER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Passenger Airbag connector(s).</p> <p>NOTE: Check connectors - Clean and repair as necessary.</p> <p>WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>Connect the appropriate Load Tool to the Passenger Airbag connector(s).</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII®, read the active Airbag Control Module DTC's.</p> <p>Does the DRBIII® show PASSENGER SQUIB 1 SHORT TO GROUND?</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>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Load Tool from the Passenger Airbag connector(s).</p> <p>Disconnect the Airbag Control Module connector(s).</p> <p>NOTE: Check connectors - Clean repair as necessary.</p> <p>Connect the appropriate Load Tool Adaptor to the Airbag Control Module 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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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 Information.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All

PASSENGER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 2 CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SQUIB 2 CIRCUIT OPEN

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

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

POSSIBLE CAUSES

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

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

PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

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

PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 2 CIRCUIT SHORT****When Monitored and Set Condition:****PASSENGER SQUIB 2 CIRCUIT SHORT**

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

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

POSSIBLE CAUSES

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

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

PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

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

PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 2 SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER SQUIB 2 SHORT TO BATTERY

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

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

POSSIBLE CAUSES

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

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

PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

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

PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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 2 SHORT TO GROUND****When Monitored and Set Condition:****PASSENGER SQUIB 2 SHORT TO GROUND**

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

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

POSSIBLE CAUSES

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

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

PASSENGER SQUIB 2 SHORT TO GROUND — Continued

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

PASSENGER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN

When Monitored and Set Condition:

RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN

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

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

POSSIBLE CAUSES

RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN

RIGHT CURTAIN SQUIB 1 LINE 1 OR LINE 2 CIRCUIT OPEN

ACM, RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

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

RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:
RIGHT CURTAIN SQUIB 1 CIRCUIT SHORT

When Monitored and Set Condition:

RIGHT CURTAIN SQUIB 1 CIRCUIT SHORT

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

Set Condition: When the ACM detects a low resistance between the Right Curtain Squib 1 circuits.

POSSIBLE CAUSES

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

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

RIGHT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

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

RIGHT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

RIGHT CURTAIN SQUIB 1 SHORT TO BATTERY

When Monitored and Set Condition:

RIGHT CURTAIN SQUIB 1 SHORT TO BATTERY

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

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

POSSIBLE CAUSES

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

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

RIGHT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

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

RIGHT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:**RIGHT CURTAIN SQUIB 1 SHORT TO GROUND****When Monitored and Set Condition:****RIGHT CURTAIN SQUIB 1 SHORT TO GROUND**

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

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

POSSIBLE CAUSES

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

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

RIGHT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

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

RIGHT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:

RIGHT FRONT IMPACT SENSOR INTERNAL 1

When Monitored and Set Condition:

RIGHT FRONT IMPACT SENSOR INTERNAL 1

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

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

POSSIBLE CAUSES

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

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

RIGHT FRONT IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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:**RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1****When Monitored and Set Condition:****RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1**

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

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

POSSIBLE CAUSES

ACM, RIGHT SIDE IMPACT SENSOR 1

REPAIR IS COMPLETE

STORED CODE OR INTERMITTENT CONDITION

ACTIVE CODE PRESENT

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

RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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: SQUIB CONFIGURATION

When Monitored and Set Condition:

SQUIB CONFIGURATION

When Monitored: With ignition on and the ACM not configured for side airbags. The ACM monitors the unused side airbag squib terminals for a valid squib circuit resistance.

Set Condition: The DTC will set if the vehicle is equipped with side airbags and ACM detects a valid squib circuit resistance across the unused terminals.

POSSIBLE CAUSES

ACM NOT CONFIGURED FOR SIDE AIRBAGS
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

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

SQUIB CONFIGURATION — Continued

TEST	ACTION	APPLICABILITY
2	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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: VEHICLE BODY STYLE MISMATCH

When Monitored and Set Condition:

VEHICLE BODY STYLE MISMATCH

When Monitored: When the ignition is on, the ACM and OCM monitor the PCI Bus for a message containing the vehicle body style.

Set Condition: The code will set if the bus message containing body style does not match the ACM or OCM vehicle Body Style messages.

POSSIBLE CAUSES

PCM, PCI COMMUNICATION FAILURE
 WRONG VIN OR MISSING VIN
 WRONG OR MISSING BUS MESSAGE
 OCCUPANT CLASSIFICATION MODULE
 OCS BLADDER REPAIR KIT
 ACM, VEHICLE BODY STYLE MISMATCH
 STORED CODE OR INTERMITTENT CONDITION
 STORED CODE OR INTERMITTENT CONDITION
 ACTIVE CODE PRESENT
 ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 3 ACM - STORED DTC Go To 2 OCM - ACTIVE DTC Go To 3 OCM - STORED DTC Go To 11 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All

VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
2	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop.</p> <p>IF only stored codes return continue the test until the problem area has been isolated. In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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
3	<p>Turn the ignition on.</p> <p>Connect the DRBIII® to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST.</p> <p>With the DRBIII®, read the PCM Active on the Bus:?</p> <p>Does the DRB show PCM ACTIVE ON THE BUS:?</p> <p>Yes → Go To 4</p> <p>No → Refer to category COMMUNICATION CATEGORY and select the related symptom.</p>	All
4	<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.</p> <p>Does the VIN plate and the PCM VIN match?</p> <p>Yes → Go To 5</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number.</p>	All
5	<p>With the DRB, select the PCI BUS INFO to view the Body Style from PCM.</p> <p>Does the DRB show the correct Body Style?</p> <p>Yes → Go To 6</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number.</p>	All

VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
6	<p>Select the module reporting the VEHICLE BODY STYLE MISMATCH active DTC.</p> <p>ACM - Active DTC Go To 7</p> <p>OCM - Active DTC Go To 8</p>	All
7	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</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.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.</p>	All
8	<p>Inspect the passenger OCS wiring to determine if the Bladder Repair Kit has been installed.</p> <p>NOTE: Check connectors - for tamper evident material.</p> <p>Tamper evident material is installed onto the Kit harness to keep the kit components together in shipping and installation.</p> <p>NOTE: The Bladder and Cushion Service Kit component are calibrated together and should not be disconnected.</p> <p>If the OCM harness connector can be easily disconnected the OCS is original equipment.</p> <p>Is the passenger seat original equipment?</p> <p>Yes → Go To 9</p> <p>No → Go To 10</p>	All

VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
9	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the OCM in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair. Perform OCS VERIFICATION TEST - VER 1. <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
10	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>Follow all service information for replacing the Service Kit and performing the Verification Required test over again.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <ul style="list-style-type: none"> Replace the OCS Bladder Repair Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair. Perform OCS VERIFICATION TEST - VER 1. <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
11	<p>With the DRBIII®, record and erase all DTC's from all Airbag modules.</p> <p>If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions.</p> <p>If any ACTIVE codes are present they must be resolved before diagnosing any stored codes.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals.</p> <p>The following additional checks may assist you in identifying a possible intermittent problem.</p> <p>Reconnect any disconnected components and harness connector.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>With the DRBIII® monitor active codes as you work through the following steps.</p> <p>Wiggle the wiring harness and connectors of the related airbag circuit or component.</p> <p>IF only stored codes return continue the test until the problem area has been isolated</p> <p>In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question.</p> <p>Are any ACTIVE DTCs present?</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: VIN MISMATCH

When Monitored and Set Condition:

VIN MISMATCH

When Monitored: At ignition on, the OCM monitors the PCI Bus for the Current VIN message.

Set Condition: This DTC will set if the OCM detects that the Original VIN stored in the module does not match the Current VIN broadcast on the PCI bus or if the VIN broadcast on the bus is blank.

POSSIBLE CAUSES

OCS VERIFICATION VER 1
 REPAIR IS COMPLETE
 PCM, PCI COMMUNICATION FAILURE
 WRONG OR MISSING VIN MESSAGE
 PCM VIN AND VEHICLE VIN MISMATCH
 ORIGINAL AND CURRENT VIN MISMATCH
 OCS SERVICE REPAIR KIT PRESENT
 OCS BLADDER SERVICE KIT
 WRONG OCS EQUIPMENT FOR THIS VEHICLE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. NOTE: Ensure the battery is fully charged. NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM. SELECT ACTIVE or STORED DTC: OCM - ACTIVE DTC Go To 2 OCM - STORED DTC Go To 9 NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.	All
2	Turn the ignition on. Connect the DRBIII® to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the PCM Active on the Bus:? Does the DRB show PCM ACTIVE ON THE BUS:? Yes → Go To 3 No → Refer to symptom list and select the related symptom NO RESPONSE FROM OCM or OCM BUS +/- SIGNAL OPEN.	All

VIN MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRB, select the OCS VIN VERIFICATION to view the Original VIN and Current VIN. Is the Current VIN message missing?</p> <p>Yes → Replace the Powertrain Control Module and program with the correct vehicle identification number.</p> <p>No → Go To 4</p>	All
4	<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. 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 5</p> <p>No → Replace the Powertrain Control Module and program with the correct vehicle identification number.</p>	All
5	<p>With the DRB, select the OCS VIN VERIFICATION to view the Original VIN and current VIN. Does the ORIGINAL and CURRENT VIN match?</p> <p>Yes → Replace and program the PCM Module in accordance with the Service Information.</p> <p>No → Go To 6</p>	All
6	<p>NOTE: The Bladder and Cushion Service Kit component are calibrated together and should not be disconnected. WARNING: TO AVOID PERSONAL INJURY OR DEATH. DO NOT REPLACE THE OCM TO REPAIR A VEHICLE BODY STYLE MISMATCH DTC. NOTE: SWAPPING A COMPLETE FRONT PASSENGER SEAT INCLUDING ALL INSTALLED OCS COMPONENTS CAN CAUSE THIS DTC. Select Repair Options:</p> <p>Return original seat and OCS equipment. Go To 7</p> <p>Replace Bladder Service KIT. Go To 8</p> <p>Swap complete seat from another vehicle. Perform the CLEAR VIN procedure using the DRB. Perform OCS VERIFICATION TEST - VER 1.</p>	All

VIN MISMATCH — Continued

TEST	ACTION	APPLICABILITY
7	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>Follow all service information for replacing the Service Kit and performing the Verification Required test over again.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH. DO NOT REPLACE THE OCM TO REPAIR A VEHICLE BODY STYLE MISMATCH.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Return original OCS equipment to this vehicle or replace Bladder Service Kit in accordance with service information. Then perform the Verification Required test to remove the DTCs created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
8	<p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>WARNING: IF THE OCCUPANT CLASSIFICATION MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH ON VEHICLES EQUIPPED WITH THE OCCUPANT CLASSIFICATION SYSTEM (OCS), ONLY THE OCCUPANT CLASSIFICATION MODULE (OCM) AND THE PASSENGER SEAT BLADDER AND CUSHION SERVICE KIT ARE THE ONLY PARTS SERVICED.</p> <p>Follow all service information for replacing the Service Kit and performing the Verification Required test over again.</p> <p>NOTE: the following repair will cause Active DTCs to be set in the OCM, perform the Verification Required test to remove DTCs created by this repair.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair:</p> <p>Replace the OCS Bladder Service Kit in accordance with service information. Then perform the Verification Required test to remove DTC created by the repair.</p> <p>Perform OCS VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

VIN MISMATCH — Continued

TEST	ACTION	APPLICABILITY
9	<p>Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</p> <p>Connect the DRBIII® to the Data Link Connector - use the most current software available.</p> <p>Use the DRBIII® and erase the stored codes in all airbag system modules.</p> <p>Turn the ignition off, and wait 15 seconds, then turn the ignition on.</p> <p>Wait one minute, and read active codes and if there are none present read the stored codes.</p> <p>Note: Read the DTC's in ACM and OCM.</p> <p>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 active DTC present?</p> <p>Yes → Return to the Symptom list and follow path specified for the trouble code.</p> <p>No → Repair is complete.</p>	All

Symptom:***AIRBAG INDICATOR ON WITHOUT ACTIVE TROUBLE CODES****POSSIBLE CAUSES**

AIRBAG WARNING INDICATOR ON WITHOUT ACTIVE TROUBLE CODES
INSTRUMENT CLUSTER PROBLEMS

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure the battery is fully charged. Turn the ignition on. Make sure that all active DTC's have been repaired before performing this procedure. With the DRBIII® select the PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY and read the WARNING LAMP STATES. With no active DTCs, Does the LAMP REQ by ACM monitor show ON?</p> <p>Yes → 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>NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

Symptom:

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM

When Monitored and Set Condition:

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES

DETERMINE FAULT
 LEFT I/P SPEAKER
 LEFT FRONT DOOR SPEAKER
 RIGHT I/P SPEAKER
 RIGHT FRONT DOOR SPEAKER
 LEFT REAR SPEAKER
 RIGHT REAR SPEAKER
 (+) CIRCUIT SHORTED TO GROUND
 SPEAKER SECTION OF RADIO
 (-) CIRCUIT SHORTED TO GROUND
 SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER

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

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn the ignition off. Disconnect the Left I/P Speaker 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?</p> <p>Yes → Go To 3</p> <p>No → Replace the Left I/P Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the Left Front Door Speaker 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?</p> <p>Yes → Go To 4</p> <p>No → Replace the Left Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Right I/P Speaker 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?</p> <p>Yes → Go To 5</p> <p>No → Replace the Right I/P Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Right Front Door Speaker 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?</p> <p>Yes → Go To 6</p> <p>No → Replace the Right Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
6	<p>Turn the ignition off. Disconnect the Left Rear Speaker 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?</p> <p>Yes → Go To 7</p> <p>No → Replace the Left Rear Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off. Disconnect the Right Rear Speaker 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?</p> <p>Yes → Go To 8</p> <p>No → Replace the Right Rear Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Disconnect the Left Rear Speaker harness connector. Disconnect the Right Rear Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (+) circuit. 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 9</p>	All
9	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Disconnect the Left Rear Speaker harness connector. Disconnect the Right Rear Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (-) circuit. 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 10</p>	All

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
10	Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Disconnect the Left Rear Speaker harness connector. Disconnect the Right Rear Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the shorted together speaker circuits. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM

When Monitored and Set Condition:

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES

DETERMINE FAULT

LEFT FRONT DOOR SPEAKER

RIGHT FRONT DOOR SPEAKER

(+) CIRCUIT SHORTED TO GROUND

(-) CIRCUIT SHORTED TO GROUND

SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER

SPEAKER SECTION OF RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Does the DRBIII® display ALL OUTPUTS SHORT? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Left Front Door Speaker 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 Left Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.	All

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Right Front Door Speaker 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?</p> <p>Yes → Go To 4</p> <p>No → Replace the Right Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (+) circuit. 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 Left Front Door Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (-) circuit. 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 6</p>	All
6	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements?</p> <p>Yes → Repair the shorted together speaker circuits. 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 Radio. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom List:

CASSETTE PLAYER INOP

CD MECHANICAL FAILURE

NO PCI TRANSMISSION

***AM/FM SWITCH INOPERATIVE**

***ANY STATION PRESET SWITCH INOPERATIVE**

***BALANCE INOPERATIVE**

***CD EJECT SWITCH INOPERATIVE**

***EQUALIZER INOPERATIVE**

***FADER INOPERATIVE**

***FF/RW SWITCH INOPERATIVE**

***HOUR/MINUTE SWITCHES INOPERATIVE**

***PAUSE/PLAY SWITCH INOPERATIVE**

***PWR SWITCH INOPERATIVE**

***SCAN SWITCH INOPERATIVE**

***SEEK SWITCH INOPERATIVE**

***SET SWITCH INOPERATIVE**

***TAPE EJECT SWITCH INOPERATIVE**

***TIME SWITCH INOPERATIVE**

***TUNE SWITCH INOPERATIVE**

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

When Monitored and Set Condition:

CASSETTE PLAYER INOP

When Monitored: Continuously with the ignition and radio turned on.

Set Condition: The code will set if the radio detects a internal cassette failure.

CD MECHANICAL FAILURE

When Monitored: Continuously with the ignition and CD player turned on.

Set Condition: The code will set if the radio detects a CD mechanical failure.

POSSIBLE CAUSES

INTERNAL FAILURE

CASSETTE PLAYER INOP — Continued

TEST	ACTION	APPLICABILITY
1	NOTE: If a DTC is set, erase the DTC and attempt to reset the DTC. If DTC resets, follow this test. This is an internal radio failure. View repair Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**CD CHANGER MECHANICAL FAILURE**

When Monitored and Set Condition:**CD CHANGER MECHANICAL FAILURE**

When Monitored: Continuously with the ignition and CD Changer turned on.

Set Condition: The code will set if the CD Changer detects a mechanical failure.

POSSIBLE CAUSES

INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	NOTE: Erase DTC and attempt to reset. If DTC resets, follow this test. This is an internal CD Changer failure. View repair Repair Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CD CHANGER READ FAILURE

When Monitored and Set Condition:

CD CHANGER READ FAILURE

When Monitored: Continuously with the ignition and CD Changer turned on.

Set Condition: The code will set if a CD that is not formatted as a music CD is installed in the CD Changer.

POSSIBLE CAUSES

CD CHANGER READ FAILURE

TEST	ACTION	APPLICABILITY
1	Replace the problem CD with a good, clean, unscratched, music CD. Turn the radio on and select the good CD. With the DRBIII®, read DTC's. Does the DRBIII® display CD CHANGER READ FAILURE? Yes → Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom: CD CHANGER TEMPERATURE HIGH

When Monitored and Set Condition:

CD CHANGER TEMPERATURE HIGH

When Monitored: Continuously with the ignition and CD Changer turned on.

Set Condition: The code will set if the temperature inside the CD Changer is above +65° C (+145° F).

POSSIBLE CAUSES

HIGH TEMPERATURE FAILURE

TEST	ACTION	APPLICABILITY
1	<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 PLAY FAILURE

When Monitored and Set Condition:

CD PLAY FAILURE

When Monitored: Continuously with the ignition and the radio CD player turned on.

Set Condition: The code will set if a CD that is not formatted as a music CD or is scratched, dirty so the radio can not play the CD.

POSSIBLE CAUSES

CD PLAY FAILURE

TEST	ACTION	APPLICABILITY
1	Replace the problem CD with a good, clean, unscratched, music CD. Turn the radio CD player on. With the DRBIII®, read DTC's. Does the DRBIII® display CD PLAY FAILURE? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CD READ FAILURE

When Monitored and Set Condition:**CD READ FAILURE**

When Monitored: Continuously with the ignition and the radio CD player turned on.

Set Condition: The code will set if a CD that is not formatted as a music CD is installed in the radio CD player.

POSSIBLE CAUSES

CD READ FAILURE

TEST	ACTION	APPLICABILITY
1	Replace the problem CD with a good, clean, unscratched, music CD. Turn the radio CD player on. With the DRBIII®, read DTC's. Does the DRBIII® display CD READ FAILURE? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CD TEMPERATURE HIGH

When Monitored and Set Condition:

CD TEMPERATURE HIGH

When Monitored: Continuously with the ignition and the radio CD player turned on.

Set Condition: The code will set if the temperature inside the radio CD player is above +70° C (+156° F).

POSSIBLE CAUSES

HIGH TEMPERATURE FAILURE

TEST	ACTION	APPLICABILITY
1	<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:

LOW VOLTAGE LEVEL

When Monitored and Set Condition:

LOW VOLTAGE LEVEL

When Monitored:

Set Condition: The radio detects lower than normal voltage.

POSSIBLE CAUSES

CHECK CHARGING SYSTEM

CHECK VOLTAGE LEVEL AT RADIO

RADIO

TEST	ACTION	APPLICABILITY
1	<p>Check the charging system in accordance with the service information. Is the charging system operating properly?</p> <p>Yes → Go To 2</p> <p>No → Refer to the appropriate service information and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the Radio harness connector. Start the engine. Measure the voltage of each Fused B+ circuit and the Fused Ignition Switch Output circuit. Is the voltage above or approximately 14 volts for each measurement?</p> <p>Yes → Go To 3</p> <p>No → Repair the circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Note: Reconnect all previously disconnected components. Turn the ignition and Radio on. With the DRBIII®, erase the audio DTC's. Start the engine. With the DRBIII®, read the audio DTC's. Did this DTC reset?</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 mode for two minutes and the radio does not detect an antenna connection or does not receive a radio station signal.

POSSIBLE CAUSES

BAD ANTENNA CONNECTION

TEST ANTENNA

RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Radio Antenna connector. Inspect the Radio Antenna connection. Was the Antenna connection clean and tight? Yes → Go To 2 No → Repair Antenna connection as needed. Perform BODY VERIFICATION TEST - VER 1.	All
2	Refer to the Audio System in the service information and test the Antenna in accordance with the service procedure. Is the Antenna ok? Yes → Go To 3 No → Repair or replace the Antenna assembly as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
3	NOTE: Reconnect all previously disconnected components. Turn the ignition and Radio on. NOTE: Move vehicle outside approximately 30ft from any structure. With the DRBIII®, erase the audio DTC's, put the radio in seek up and seek down mode for approximately 2 minutes before proceeding. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM

When Monitored and Set Condition:

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES

DETERMINE FAULT
 LEFT I/P SPEAKER
 LEFT FRONT DOOR SPEAKER
 RIGHT I/P SPEAKER
 RIGHT FRONT DOOR SPEAKER
 LEFT REAR SPEAKER
 RIGHT REAR SPEAKER
 (+) CIRCUIT SHORTED TO GROUND
 SPEAKER SECTION OF RADIO
 (-) CIRCUIT SHORTED TO GROUND
 SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER

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

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
2	<p>Turn the ignition off. Disconnect the Left I/P Speaker 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?</p> <p>Yes → Go To 3</p> <p>No → Replace the Left I/P Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the Left Front Door Speaker 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?</p> <p>Yes → Go To 4</p> <p>No → Replace the Left Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Right I/P Speaker 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?</p> <p>Yes → Go To 5</p> <p>No → Replace the Right I/P Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Right Front Door Speaker 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?</p> <p>Yes → Go To 6</p> <p>No → Replace the Right Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
6	<p>Turn the ignition off. Disconnect the Left Rear Speaker 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?</p> <p>Yes → Go To 7</p> <p>No → Replace the Left Rear Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
7	<p>Turn the ignition off. Disconnect the Right Rear Speaker 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?</p> <p>Yes → Go To 8</p> <p>No → Replace the Right Rear Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Disconnect the Left Rear Speaker harness connector. Disconnect the Right Rear Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (+) circuit. 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 9</p>	All
9	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Disconnect the Left Rear Speaker harness connector. Disconnect the Right Rear Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (-) circuit. 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 10</p>	All

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
10	Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Disconnect the Left Rear Speaker harness connector. Disconnect the Right Rear Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the shorted together speaker circuits. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM

When Monitored and Set Condition:

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES

DETERMINE FAULT

LEFT FRONT DOOR SPEAKER

RIGHT FRONT DOOR SPEAKER

(+) CIRCUIT SHORTED TO GROUND

(-) CIRCUIT SHORTED TO GROUND

SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER

SPEAKER SECTION OF RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Does the DRBIII® display POWER AMP SHUTDOWN? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Left Front Door Speaker 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 Left Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.	All

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Right Front Door Speaker 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?</p> <p>Yes → Go To 4</p> <p>No → Replace the Right Front Door Speaker. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (+) circuit. 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 Left Front Door Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between ground and each speaker (-) circuit. 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 6</p>	All
6	<p>Turn the ignition off. Disconnect the Left Front Door Speaker harness connector. Disconnect the Right Front Door Speaker harness connector. Disconnect the Radio C1 harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements?</p> <p>Yes → Repair the shorted together speaker circuits. 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 Radio. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

*POOR SOUND QUALITY

POSSIBLE CAUSES
CHECK AUDIO DTCS
CHECK SELECTED RADIO EQ CURVE
SET THE RADIO EQ CURVE
VERIFY SOUND PERFORMANCE

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, check for any audio related DTC's. Are any Audio related DTCs set?</p> <p>Yes → Refer to the Audio category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition on. With the DRBIII®, enter body, body computer then miscellaneous. Check the radio EQ curve setting and follow the instructions on the DRBIII®. Is the radio EQ curve correct for the audio combination the vehicle is equipped with?</p> <p>Yes → Refer to the service information for problems related to poor sound quality and perform the appropriate checks. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition on. With the DRBIII®, enter body, body computer then miscellaneous. Set the radio EQ curve. Follow the instructions on the DRBIII®. Cycle the ignition switch from off to on. Check the radio EQ curve setting. Is the radio EQ curve correct for the audio combination the vehicle is equipped with?</p> <p>Yes → Refer to the service information for problems related to poor sound quality and perform the appropriate checks. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***REMOTE RADIO SWITCHES INOPERATIVE (IF EQUIPPED)**

POSSIBLE CAUSES	
ATTEMPT TO COMMUNICATE WITH THE RADIO	
CHECK OPERATION OF SWITCHES	
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 CKT SHORTED TO THE RADIO CONTROL MUX RETURN CKT 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 - INTERNAL SHORT	
CLOCKSPRING OPEN	
OPEN RADIO CONTROL MUX RETURN CIRCUIT	
OPEN RADIO CONTROL MUX CIRCUIT	
BODY CONTROL MODULE - OPEN INTERNALLY	

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the Radio. Was the DRB able to communicate with the Radio? Yes → Go To 2 No → Refer to the communication category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. Turn the Radio on. Operate all the remote radio switch functions. Is only one function or one switch not operating properly? Yes → Repair the Radio Control MUX circuit or the Radio Control MUX Return circuit for an open between the inoperative switch and the clockspring. If OK, replace the remote radio switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

***REMOTE RADIO SWITCHES INOPERATIVE (IF EQUIPPED) — Continued**

TEST	ACTION	APPLICABILITY
3	Turn the ignition on. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage above 3.8 volts? Yes → Go To 4 No → Go To 8	All
4	Turn the ignition on. Turn the Radio on. Disconnect the Clockspring C1 harness connector. Connect a jumper wire between the Radio Control MUX circuit and the Radio Control MUX Return circuit. Did the radio change stations? Yes → Repair the Radio Control MUX circuit or the Radio Control MUX Return circuit for an open between the clockspring and the splice to the switches. If OK, replace the Clockspring. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	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? Yes → Go To 6 No → Repair the Radio Control MUX Return circuit for an open between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
6	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 7 No → Repair the Radio Control MUX circuit for an open between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
7	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

***REMOTE RADIO SWITCHES INOPERATIVE (IF EQUIPPED) — Continued**

TEST	ACTION	APPLICABILITY
8	<p>WARNING: To avoid personal injury or death, turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.</p> <p>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.</p> <p>Remove the Driver Airbag Module.</p> <p>Disconnect the Left Remote Radio Switch harness connector.</p> <p>Turn the ignition on, reconnect the battery.</p> <p>With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage.</p> <p>Is the voltage above 3.8 volts?</p> <p>Yes → Replace the Left Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>WARNING: To avoid personal injury or death, turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.</p> <p>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.</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 DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage.</p> <p>Is the voltage above 3.8 volts?</p> <p>Yes → Replace the Right Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 10</p>	All
10	<p>Turn the ignition off.</p> <p>Disconnect the Clockspring C3 harness connector.</p> <p>Turn the ignition on.</p> <p>With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage.</p> <p>Is the voltage above 3.8 volts?</p> <p>Yes → Go To 11</p> <p>No → Go To 12</p>	All
11	<p>Turn the ignition off.</p> <p>Disconnect the Clockspring C3 harness connector.</p> <p>NOTE: Ensure both remote radio switches are disconnected.</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

***REMOTE RADIO SWITCHES INOPERATIVE (IF EQUIPPED) — Continued**

TEST	ACTION	APPLICABILITY
12	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Turn the ignition on. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage above 3.8 volts? Yes → Replace the Clockspring in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 13	All
13	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 14	All
14	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 → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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

RELATED CHIME SYMPTOMS

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, actuate the Chime. Does the Chime operate? Yes → Refer to Chime category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***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>NOTE: Ensure the exterior lamps turn on and off properly and are off before continuing this test. With the DRB III select: Body, Body Computer, Input Output. Remove the key from the ignition switch. Read the Key-In Ignition status. Does the DRB III show Key-In Ign OPEN?</p> <p>Yes → Refer to the service information for other possible causes. 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 C1 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**

BODY CONTROL MODULE DIAGNOSTIC TROUBLE CODE

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

BCM - INCORRECT KEY-IN IGNITION SWITCH STATUS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read BCM DTC's. Does the DRBIII® display any Cluster Wake Up Output or Communication DTC's? Yes → Refer to symptom list for the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	The driver's door ajar switch must be operational for the result of this test to be valid. NOTE: Ensure that the Key is still in the Ignition Switch. With the DRBIII® enter Body Computer then Input Output and read the Key-In Ignition Switch status. Does the DRB display: KEY-IN IGN: CLOSED? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. Back jumper the Key-In Ignition Switch Sense circuit to ground at the ignition switch connector. With the DRBIII®, enter Body Computer then Input/Output and observe the Key-In Ignition Switch status. Does the DRBIII display Key-In Ign SW: Closed? Yes → Replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
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

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

— Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the Body Control Module C1 harness connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch connector and the BCM harness C1 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:***VEHICLE SPEED WARNING CHIME PROBLEM****POSSIBLE CAUSES**

INCORRECT COUNTRY CODE PROGRAMMED IN BCM
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 incorrect?</p> <p>Yes → Program the correct country code setting. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom: BATTERY IOD DISCONNECT AT BCM

When Monitored and Set Condition:

BATTERY IOD DISCONNECT AT BCM

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

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

POSSIBLE CAUSES

VERIFYING ACTIVE DTC
JUNCTION BLOCK FUSE #34
CHECK FUSED B+ FEED TO FUSE
JUNCTION BLOCK IOD FAILURE
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. Does the DRB display: Battery IOD Disconnect at BCM?</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>Inspect fuse #34 in the Junction Block. Is the fuse open?</p> <p>Yes → Re-install or replace Junction Block fuse #34. Use the wiring diagrams located in the service information to help isolate a possible intermittent wiring problem. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Remove Fuse #34 from the Junction Block. Using a 12-volt test light connected to ground, probe the Fused B+ side of the fuse. Is the test light illuminated?</p> <p>Yes → Go To 4</p> <p>No → Check PDC Fuse #7 for an open. If OK, repair the Fused B+ circuit for an open between the PDC and the Fuse. Perform BODY VERIFICATION TEST - VER 1.</p>	All

BATTERY IOD DISCONNECT AT BCM — Continued

TEST	ACTION	APPLICABILITY
4	<p>Install Fuse #34 in the Junction Block. Remove the BCM from the Junction Block. Using a 12-volt test light connected to ground, probe the Fused B+ circuit in the Junction Block Body Control Module connector cavity 15. NOTE: Make sure all the Junction Block connectors are connected at this time 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: EEPROM CHECKSUM FAILURE

When Monitored and Set Condition:

EEPROM CHECKSUM FAILURE

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

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

POSSIBLE CAUSES

BCM INTERNAL EEPROM FAILURE

TEST	ACTION	APPLICABILITY
1	<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 → Reflash or 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:
FLASH CHECKSUM FAILURE

When Monitored and Set Condition:

FLASH CHECKSUM FAILURE

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

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

POSSIBLE CAUSES

BCM INTERNAL FLASH CHECKSUM FAILURE

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

Symptom: ITM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

ITM 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 Intrusion Transceiver Module (ITM) for at least 30 seconds.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE INTRUSION TRANSCEIVER MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Theft Alarm then Intrusion Module. Was the DRB able to I/D or communicate with the Intrusion Module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Turn the ignition on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
PCM MESSAGE NOT RECEIVED

When Monitored and Set Condition:

PCM MESSAGE NOT RECEIVED

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

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

POSSIBLE CAUSES

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body Computer, System Tests then PCM Monitor. Does the DRB display: PCM is active on BUS? Yes → With the DRB, erase DTCs. Cycle the ignition switch and check for BCM DTCs. If DTC resets, replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRB, attempt to communicate with the PCM. Was the DRB able to communicate with the PCM? Yes → Go To 3 No → Refer to the communication category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All

PCM MESSAGE NOT RECEIVED — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the PCM harness connector. CAUTION: IF NGC, DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS. Disconnect the DRBIII® from the DLC. Measure the resistance of the PCI Bus circuit between the DLC and the PCM connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Powertrain 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 AIRBAG CONTROL MODULE**
POSSIBLE CAUSES

CHECKING FOR VOLTAGE AT AIRBAG CONTROL MODULE

GROUND CIRCUIT OPEN

PCI BUS CIRCUIT OPEN

AIRBAG CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Ensure that the battery is fully charged. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module C2 harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Turn the ignition on and then reconnect the Battery. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output (Run) Circuit and the Fused Ignition Switch Output (Run/Start) Circuit. NOTE: One open circuit will not cause a NO RESPONSE condition. 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. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>Ensure that the battery is fully charged. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the Airbag Control Module C2 harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. NOTE: Make sure test light is connected to the Battery positive terminal. Is the test light illuminated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Ground circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

*NO RESPONSE FROM AIRBAG CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Note: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Airbag Control Module C1 harness connector.</p> <p>Connect the appropriate Load Tool ACM Adapter to the ACM 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. 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 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 Airbag 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 ANTILOCK BRAKE MODULE**

POSSIBLE CAUSES
NO RESPONSE FROM ABS GROUND CIRCUIT OPEN OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN PCI BUS CIRCUIT ANTILOCK BRAKE MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Note: As soon as one or more module communicates with the DRB, answer the question. With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Body Control Module (BCM). Was the DRB able to I/D or establish communications with either of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform ABS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Antilock Brake Module harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits? Yes → Go To 3 No → Repair the ground circuit(s) for an open. Perform ABS VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Antilock Brake Module harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM ANTILOCK BRAKE MODULE — Continued

TEST	ACTION	APPLICABILITY
4	<p>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.</p> <p>Disconnect the Antilock Brake Module 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. 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 Antilock Brake Module 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 Antilock Brake Module in accordance with the Service Information. Perform ABS VERIFICATION TEST - VER 1.</p> <p>No → Repair the PCI Bus circuit for an open. Perform ABS VERIFICATION TEST - VER 1.</p>	All

Symptom:

*NO RESPONSE FROM BODY CONTROL MODULE

POSSIBLE CAUSES
<p>ATTEMPT TO COMMUNICATE WITH ANOTHER MODULE</p> <p>OPEN GROUND CIRCUIT</p> <p>OPEN PCI BUS CIRCUIT</p> <p>BODY CONTROL MODULE</p>

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>With the DRB, attempt to communicate with the Airbag Control Module.</p> <p>With the DRB, attempt to communicate with the Instrument Cluster.</p> <p>Was the DRB able to I/D or communicate with the either module?</p> <p>Yes → Go To 2</p> <p>No → Refer to symptom list for problems related to the PCI Bus Communication Failure.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the BCM C1 and C2 harness connectors.</p> <p>Using a 12-volt test light connected to 12-volts, probe the each ground circuit.</p> <p>Is the test light illuminated for each circuit?</p> <p>Yes → Go To 3</p> <p>No → Repair the ground circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>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.</p> <p>Disconnect the BCM 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. 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 BCM 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 → Go To 4</p> <p>No → Repair the PCI Bus circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

***NO RESPONSE FROM BODY CONTROL MODULE — Continued**

TEST	ACTION	APPLICABILITY
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.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
***NO RESPONSE FROM COMPASS MINI-TRIP COMPUTER**

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
FUSED B+ CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
COMPASS MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	<p>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.</p> <p>Turn the ignition off. Disconnect the Compass Mini-Trip Computer 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 2</p> <p>No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>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.</p> <p>Turn the ignition off. Disconnect the Compass Mini-Trip Computer 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 3</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>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.</p> <p>Turn the ignition off. Disconnect the Compass Mini-Trip Computer 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 4</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

*NO RESPONSE FROM COMPASS MINI-TRIP COMPUTER — Continued

TEST	ACTION	APPLICABILITY
4	<p>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.</p> <p>Disconnect the Compass Mini-Trip Computer 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. 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 Compass Mini-Trip Computer 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 Compass Mini-Trip Computer 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 HANDS FREE MODULE**

POSSIBLE CAUSES
<p>ATTEMPT TO COMMUNICATE WITH THE RADIO</p> <p>GROUND CIRCUIT OPEN</p> <p>FUSED B(+) CIRCUIT OPEN</p> <p>OPEN PCI BUS CIRCUIT</p> <p>HANDS FREE MODULE</p>

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>With the DRBIII®, attempt to communicate with the radio.</p> <p>Was the DRBIII® 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</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the Hands Free Module C1 harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</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 BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Hands Free Module C1 harness connector.</p> <p>Using a 12-volt test light connected to ground, probe the Fused B(+) circuit.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused B+ circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

*NO RESPONSE FROM HANDS FREE MODULE — Continued

TEST	ACTION	APPLICABILITY
4	<p>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.</p> <p>Disconnect the Hands Free Module harness connectors.</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. 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 Hands Free Module 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 Hands Free 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 INSTRUMENT CLUSTER**

POSSIBLE CAUSES
<p>OPEN GROUND CIRCUIT</p> <p>OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT</p> <p>OPEN FUSED B+ CIRCUIT</p> <p>OPEN PCI BUS CIRCUIT</p> <p>INSTRUMENT CLUSTER</p>

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition off.</p> <p>Turn all lights off.</p> <p>Disconnect the Instrument Cluster harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 2</p> <p>No → Repair the ground circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the Instrument Cluster harness connector.</p> <p>Turn the ignition on.</p> <p>Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Instrument Cluster harness connector.</p> <p>Using a 12-volt test light connected to ground, probe the Fused B+ circuit.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused B+ circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

*NO RESPONSE FROM INSTRUMENT CLUSTER — Continued

TEST	ACTION	APPLICABILITY
4	<p>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.</p> <p>Disconnect the Instrument Cluster 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. 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 Instrument Cluster 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 → Go To 5</p> <p>No → Repair the PCI Bus circuit for an open.</p> <p>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 Instrument Cluster in accordance with the service information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

***NO RESPONSE FROM INTRUSION TRANSCIEVER MODULE**

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
FUSED B+ CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
INTRUSION TRANSCIEVER MODULE

TEST	ACTION	APPLICABILITY
1	<p>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.</p> <p>Turn the ignition off. Disconnect the Intrusion Transceiver Module harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated?</p> <p>Yes → Go To 2</p> <p>No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>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.</p> <p>Turn the ignition off. Disconnect the Intrusion Transceiver Module harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Is the test light illuminated?</p> <p>Yes → Go To 3</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

***NO RESPONSE FROM INTRUSION TRANSCIEVER MODULE —** Continued

TEST	ACTION	APPLICABILITY
3	<p>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.</p> <p>Disconnect the Intrusion Transceiver Module 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. 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 Intrusion Transceiver Module 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 Intrusion Transceiver 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 OCCUPANT CLASSIFICATION MODULE**

POSSIBLE CAUSES
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
GROUND CIRCUIT OPEN
PCI BUS CIRCUIT OPEN
OCCUPANT CLASSIFICATION MODULE

TEST	ACTION	APPLICABILITY
1	<p>Ensure that the battery is fully charged.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Occupant Classification 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 circuit.</p> <p>Is the test light illuminated?</p> <p>Yes → Go To 2</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open.</p> <p>Perform __AIRBAG VERIFICATION TEST - VER 1.</p> <p>NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All
2	<p>Ensure that the battery is fully charged.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Occupant Classification Module harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</p> <p>NOTE: Make sure test light is connected to the Battery positive terminal.</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>When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.</p>	All

*NO RESPONSE FROM OCCUPANT CLASSIFICATION MODULE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Note: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.</p> <p>WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.</p> <p>Disconnect the Occupant Classification 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. Press F2 again when complete.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit.</p> <p>Observe the voltage display on the DRBIII® Lab Scope.</p> <p>Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Occupant Classification 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) - NGC**

POSSIBLE CAUSES

PCM PCI NO RESPONSE
POWERTRAIN CONTROL MODULE
PCI BUS CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>NOTE: As soon as one or more module communicates with the DRB, answer the question.</p> <p>With the DRB, enter Anti-Lock Brakes.</p> <p>With the DRB, enter 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
2	<p>With the DRB read the Powertrain DTC's. This is to ensure power and grounds to the PCM are operational.</p> <p>NOTE: If the DRB will not read PCM DTC's, follow the NO RESPONSE TO PCM (PCM SCI only) symptom path.</p> <p>Turn the ignition off.</p> <p>Disconnect the PCM harness connectors.</p> <p>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.</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. 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 appropriate terminal of special tool #8815.</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.</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 1.</p> <p>No → Repair the PCI Bus circuit for an open.</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 1.</p>	All

Symptom:

***NO RESPONSE FROM PCM (PCM SCI ONLY) - NGC**

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>NOTE: With the DRBIII® in the generic scan tool mode, attempt to communicate with the PCM.</p> <p>NOTE: If the DRBIII® can communicate with the PCM in the generic scan tool mode, it may not be necessary to perform this step.</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) - NGC — 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. CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS. Measure the resistance of the 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) - NGC — Continued

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off. Disconnect the PCM harness connector. Disconnect the DRBIII® from the DLC. CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS. Measure the resistance of the 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

NO RESPONSE FROM RADIO
 OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
 OPEN FUSED B+ CIRCUIT
 RADIO GROUND CIRCUIT OPEN
 OPEN PCI BUS CIRCUIT
 RADIO

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. Note: As soon as one or more module communicates with the DRB, answer the question. With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Body Control Module (BCM). Was the DRB able to I/D or establish communications with either of the modules?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>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?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open or short. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the Radio C1 harness connector. Using a 12-volt test light connected to ground, probe both Fused B+ circuits. Is the test light illuminated for both circuits?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused B+ circuit for an open or short. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

*NO RESPONSE FROM RADIO — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the Radio C1 harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits?</p> <p>Yes → Go To 5</p> <p>No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>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.</p> <p>Disconnect the Radio C1 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Radio connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Replace the Radio. 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 SATELLITE RADIO RECEIVER**

POSSIBLE CAUSES
SDARS WIRING HARNESS
PCI BUS CIRCUIT OPEN
IGNITION RUN/ACC SIGNAL CIRCUIT OPEN
RADIO GROUND CKT OPEN
SATELLITE RADIO RECEIVER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure the DRBIII® can communicate with the Radio, if not refer to the appropriate symptom.</p> <p>Turn the ignition off.</p> <p>Disconnect the Radio C2 harness connector.</p> <p>Disconnect the Satellite Receiver harness connector.</p> <p>Visually inspect the connectors for damage.</p> <p>Check for open circuits in the wiring harness between the Radio and the Satellite Radio Receiver.</p> <p>Measure the resistance of the each circuit between the Radio C2 connector and the Satellite Radio Receiver connector.</p> <p>Check for shorted circuits in the wiring harness between the Radio and the Satellite Radio Receiver.</p> <p>Measure the resistance between each circuit at the Radio C2 connector.</p> <p>NOTE: If vehicle is equipped with a hands free phone module, check connectors. This device is a pass through for the satellite radio receiver circuits.</p> <p>Are any of the circuits shorted together or open?</p> <p>Yes → Replace/repair the SDARS wiring harness. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All

*NO RESPONSE FROM SATELLITE RADIO RECEIVER — Continued

TEST	ACTION	APPLICABILITY
2	<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. Press F2 again when complete.</p> <p>Disconnect the Satellite Radio Receiver harness connector.</p> <p>NOTE: If vehicle is equipped with a hands free phone module, check connectors. This device is a pass through for the satellite radio receiver circuits.</p> <p>Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Satellite Radio Receiver connector.</p> <p>Reconnect the Radio C2 harness connector.</p> <p>Turn the ignition on.</p> <p>Turn the Radio on and place the radio in the Satellite mode.</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 3</p> <p>No → Replace the Radio.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Satellite Radio Receiver harness connector.</p> <p>NOTE: If vehicle is equipped with a hands free phone module, check connectors. This device is a pass through for the satellite radio receiver circuits.</p> <p>Turn the ignition on.</p> <p>Turn the Radio on and place the radio in the Satellite mode.</p> <p>Using a 12-volt test light connected to ground, probe the Ignition RUN/ACC Signal circuit.</p> <p>Is the test light illuminated?</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 Satellite Radio Receiver harness connector.</p> <p>NOTE: If vehicle is equipped with a hands free phone module, check connectors. This device is a pass through for the satellite radio receiver circuits.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</p> <p>Is the test light illuminated?</p> <p>Yes → Replace the Satellite Radio Receiver in accordance with the service information</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the ground circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

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

POSSIBLE CAUSES
<p>ATTEMPT TO COMMUNICATE WITH THE BCM</p> <p>GROUND CIRCUIT OPEN</p> <p>FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN</p> <p>FUSED B(+) CIRCUIT OPEN</p> <p>OPEN PCI BUS CIRCUIT</p> <p>SENTRY KEY IMMOBILIZER MODULE</p>

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>With the DRB, enter Body then Body Computer.</p> <p>Was the DRB able to I/D or communicate with the BCM?</p> <p>Yes → Go To 2</p> <p>No → Refer to the symptom list for problems related to no communication with the BCM.</p> <p>Perform SKIS VERIFICATION.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the SKIM harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the ground circuit.</p> <p>Does the test light illuminate brightly?</p> <p>Yes → Go To 3</p> <p>No → Repair the ground circuit for an open.</p> <p>Perform SKIS VERIFICATION.</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the SKIM harness connector.</p> <p>Turn the ignition on.</p> <p>Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit.</p> <p>Does the test light illuminate brightly?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open.</p> <p>Perform SKIS VERIFICATION.</p>	All
4	<p>Turn the ignition off.</p> <p>Disconnect the SKIM harness connector.</p> <p>Using a 12-volt test light connected to ground, probe the Fused B(+) circuit.</p> <p>Does the test light illuminate brightly?</p> <p>Yes → Go To 5</p> <p>No → Repair the Fused B+ circuit for an open.</p> <p>Perform SKIS VERIFICATION.</p>	All

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

TEST	ACTION	APPLICABILITY
5	<p>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.</p> <p>Disconnect the SKIM 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. 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 SKIM 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 → Go To 6</p> <p>No → Repair the PCI Bus circuit for an open. Perform SKIS VERIFICATION.</p>	All
6	<p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace and program the Sentry Key Immobilizer Module in accordance with the Service Information.</p> <p>Perform SKIS VERIFICATION.</p>	All

Symptom:

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

POSSIBLE CAUSES

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

TEST	ACTION	APPLICABILITY
1	<p>Ignition on, engine not running. Note: As soon as one or more module communicates with the DRB, answer the question. With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or establish communications with either of the modules?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Body Communication category and perform the symptom PCI Bus Communication Failure. Perform 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off to the lock position. Disconnect the TCM harness connector. Ignition on, engine not running. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output (Run/St) circuit. NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly?</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 location in the Service Information. Perform 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

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

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off to the lock position. Disconnect the TCM harness connector. Remove the starter relay from the PDC. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output (Start) circuit. NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Observe the test light while momentarily turning the ignition switch to the Start position. Does the test light illuminate brightly?</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 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off to the lock position. Disconnect the TCM harness connector. With a voltmeter in the millivolt scale, measure the voltage of the Fused Ignition Switch Output (Start) circuit. NOTE: A no response condition can exist if voltage is present on this circuit with the ignition switch in any position except for the Start position. NOTE: Voltage up to .080 millivolts can cause this condition. NOTE: Check for after market components that could cause this condition. Perform this step with the Ignition Switch in every position except for the Start position. Is any voltage present?</p> <p>Yes → Repair the Fused Ignition Switch Output (Start) circuit for a short to voltage. Refer to the wiring diagrams located in the Service Information. Perform 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p> <p>Note: Reinstall the original Starter Relay.</p>	All
5	<p>Turn the ignition off. Disconnect the TCM harness connector. Using a 12-volt test light connected to ground, check the Fused B(+) circuit. NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly?</p> <p>Yes → Go To 6</p> <p>No → Repair the Fused B(+) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

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

TEST	ACTION	APPLICABILITY
6	<p>Turn the ignition off to the lock position. Disconnect the TCM harness connector. Using a 12-volt test light connected to 12-volts, check each ground circuit in the TCM harness connector. NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly at all the ground circuits?</p> <p>Yes → Go To 7</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 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
7	<p>Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary. Disconnect the TCM harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the TCM connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts?</p> <p>Yes → Go To 8</p> <p>No → Repair the PCI Bus circuit for an open. Perform 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
8	<p>Using the schematics as a guide, inspect the wiring and connectors. Repair as necessary. Pay particular attention to all power and ground circuits. If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace the Transmission Control Module in accordance with the service information. WITH THE DRBIII® PERFORM QUICK LEARN. Perform 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

Symptom:

***NO RESPONSE FROM TRANSMISSION CONTROL MODULE - NGC**

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

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>Note: As soon as one or more module communicates with the DRB, answer the question.</p> <p>With the DRB, attempt to communicate with the Instrument Cluster.</p> <p>With the DRB, attempt to communicate with the Airbag Control Module.</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 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the PCM harness connectors.</p> <p>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.</p> <p>Turn the ignition on.</p> <p>Using a 12-volt test light connected to ground, probe both Fused Ignition Switch Output circuits (cavs 11 and 12) in the appropriate terminal of special tool #8815.</p> <p>NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.</p> <p>Is the test light illuminated for both circuits?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open. Refer to the wiring diagrams located in the Service Information.</p> <p>Perform 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

***NO RESPONSE FROM TRANSMISSION CONTROL MODULE - NGC —**
Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the PCM harness connectors. CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit in the appropriate terminal of special tool #8815. NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Is the test light illuminated?</p> <p>Yes → Go To 4</p> <p>No → Repair the Fused B(+) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the PCM harness connectors. CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS. Using a 12-volt test light connected to 12-volts, probe each ground circuit in the appropriate terminal of special tool #8815. NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Is the light illuminated at all ground circuits?</p> <p>Yes → Go To 5</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 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

***NO RESPONSE FROM TRANSMISSION CONTROL MODULE - NGC — Continued**

TEST	ACTION	APPLICABILITY
5	<p>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.</p> <p>Disconnect the PCM harness connectors.</p> <p>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.</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. 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 appropriate terminal of special tool #8815.</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 → Go To 6</p> <p>No → Repair the PCI Bus circuit for an open. Perform 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p>	All
6	<p>Using the schematics as a guide, inspect the wiring and connectors. Repair as necessary. Pay particular attention to all power and ground circuits.</p> <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. WITH THE DRBIII® PERFORM QUICK LEARN AND REPROGRAM PINION FACTOR.</p> <p>Perform 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p>	All

Symptom:
***PCI BUS COMMUNICATION FAILURE**
POSSIBLE CAUSES

WIRING HARNESS INTERMITTENT
 OPEN PCI BUS CIRCUIT AT THE DATA LINK CONNECTOR (DLC)
 PCI BUS CIRCUIT SHORTED TO VOLTAGE
 MODULE SHORT TO VOLTAGE
 PCI BUS CIRCUIT SHORTED TO GROUND
 MODULE SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	<p>Note: Determine which modules this vehicle is equipped with before beginning.</p> <p>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.</p> <p>Turn the ignition on.</p> <p>Using the DRB, attempt to communicate with the following control modules:</p> <ul style="list-style-type: none"> Airbag Control Module Body Control Module MIC (INSTRUMENT CLUSTER) <p>Was the DRBIII® 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>Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</p> <p>Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.</p> <p>Note: If the DRB can not communicate with a single module, refer to the category list for the related symptom.</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
3	<p>Turn the ignition off.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Disconnect the DRB from the Data Link Connector (DLC).</p> <p>Disconnect the negative battery cable.</p> <p>Measure the resistance of the PCI Bus circuit between the Data Link Connector (DLC) and the BCM harness connector.</p> <p>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

*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
4	<p>NOTE: Reconnect the BCM harness connector and the negative battery cable.</p> <p>Turn the ignition on. Measure the voltage of the PCI Bus circuit at the Data Link Connector (DLC). Is the voltage above 7.0 volts?</p> <p>Yes → Go To 5</p> <p>No → Go To 6</p>	All
5	<p>Turn the ignition off. Using a voltmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. Note: When performing the next step turn the ignition off (wait one minute) before disconnecting any module. When the module is disconnected turn the ignition on to check for a short to voltage. Turn the ignition on. While monitoring the voltmeter, disconnect each module the vehicle is equipped with one at a time. Is the voltage steadily above 7.0 volts with all the modules disconnected?</p> <p>Yes → Repair the PCI Bus circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the module that when disconnected the short to voltage was eliminated. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off. Disconnect the negative battery cable. Using a ohmmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. While monitoring the ohmmeter, disconnect each module the vehicle is equipped with one at a time. NOTE: Total bus resistance to ground thru all of the modules is typically between 350 to 1000 ohms. The more modules on the bus, the lower the total bus resistance will be. Is the resistance below 150.0 ohms with all the modules disconnected?</p> <p>Yes → Repair the PCI Bus circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the module that when disconnected the short to ground was eliminated. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***FLIP-UP GLASS AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

FLIP-UP GLASS AJAR SWITCH GROUND CIRCUIT OPEN

INTERMITTENT CONDITION

FLIP-UP GLASS AJAR SWITCH

FLIP-UP GLASS AJAR SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	<p>Open the Flip-up Glass. With the DRBIII® in Inputs/Outputs, read the FLIP-UP AJAR SW state. Does the DRBIII® display CLOSED?</p> <p>Yes → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced, pinched or partially broken wires.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Tailgate Flip-up Glass Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, test the Ground circuit for continuity. Does the light illuminate?</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>Disconnect the Tailgate Flip-up Glass Ajar Switch connector. With the DRBIII® in Inputs/Outputs, read the FLIP-UP AJAR SW state. Connect a jumper wire between Sense circuit and the Ground circuit. Does the DRBIII® display FLIP-UP AJAR SW: CLOSED?</p> <p>Yes → Replace the Flip-up Glass Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Flip-up Glass Ajar Switch harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Flip-up Glass Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***FLIP-UP GLASS AJAR CIRCUIT SHORTED TO GROUND****POSSIBLE CAUSES**

FLIP-UP GLASS AJAR SWITCH SHORTED TO GROUND

FLIP-UP GLASS AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® in Inputs/Outputs, read the FLIP-UP AJAR SW state. Disconnect the Tailgate Flip-up Glass Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the FLIP-UP AJAR SW state. Does the Switch State change from CLOSED to OPEN?</p> <p>Yes → Replace the Flip-up Glass Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Tailgate Flip-up Glass Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, test the Sense circuit for a short to ground. Does the Test Light illuminate?</p> <p>Yes → Repair the Flip-up Glass Ajar Switch Sense 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

Symptom:***HOOD AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

HOOD AJAR SWITCH GROUND CIRCUIT OPEN

INTERMITTENT CONDITION

HOOD AJAR SWITCH

HOOD AJAR SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	<p>Open the Hood. With the DRBIII® in Inputs/Outputs, read the HOOD AJAR SW state. Does the DRBIII® display CLOSED?</p> <p>Yes → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced, pinched or partially broken wires.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Hood Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, test the Ground circuit for continuity. Does the light illuminate?</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>Disconnect the Hood Ajar Switch connector. With the DRBIII® in Inputs/Outputs, read the HOOD AJAR SW state. Connect a jumper wire between Sense circuit and the Ground circuit. Does the DRBIII® display HOOD AJAR SW: CLOSED?</p> <p>Yes → Replace the Hood Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Body Control Module C1 harness connector. Disconnect the Hood Ajar Switch harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Hood Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***HOOD AJAR CIRCUIT SHORTED TO GROUND- EXPORT ONLY****POSSIBLE CAUSES**

HOOD AJAR SWITCH SHORTED TO GROUND

HOOD AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the HOOD AJAR SW state. Disconnect the Hood Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the HOOD AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Hood Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Body Control Module C1 harness connector. Disconnect the Hood Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, test the Sense circuit for a short to ground. Does the Test Light illuminate? Yes → Repair the Hood Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***LEFT FRONT DOOR AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

LEFT FRONT DOOR AJAR SWITCH GROUND CIRCUIT OPEN

LEFT FRONT DOOR AJAR SWITCH

LEFT FRONT DOOR AJAR SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	Disconnect the Left Front Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, test the Ground circuit for continuity. Does the light illuminate? Yes → Go To 2 No → Repair the Left Front Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Left Front Door Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. NOTE: For the Left Front Door Ajar state the DRBIII® will read "PASS" for RHD. With the DRBIII® in Inputs/Outputs, read the DR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Left Front Door Lock Motor/Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Left Front Door Ajar Switch connector. Disconnect the BCM C1 harness connector. Measure the resistance of the Sense circuit between the BCM connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Front Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***LEFT FRONT DOOR AJAR CIRCUIT SHORTED TO GROUND****POSSIBLE CAUSES**

LEFT FRONT DOOR AJAR SWITCH SHORTED TO GROUND

LEFT FRONT DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	<p>NOTE: For the Left Front Door Ajar state the DRBIII will read "PASS" for RHD.</p> <p>With the DRBIII® in Inputs/Outputs, read the DR or PASS DOOR AJAR SW state. While monitoring the DRBIII®, disconnect the Left Front Door Ajar Switch harness connector.</p> <p>Did the Switch State change from CLOSED to OPEN?</p> <p>Yes → Replace the Left Front Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Left Front Door Ajar Switch harness connector.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the Sense circuit and test for a short to ground.</p> <p>Does the test light illuminate?</p> <p>Yes → Repair the Left Front Door Ajar Switch Sense 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

Symptom:***LEFT REAR DOOR AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

LEFT REAR DOOR AJAR SWITCH GROUND CIRCUIT OPEN

LEFT REAR DOOR AJAR SWITCH

LEFT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	Disconnect the Left Rear Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, probe the Ground circuit and test for continuity. Does the light illuminate? Yes → Go To 2 No → Repair the Left Rear Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Left Rear Door Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the LR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Left Rear Door Lock Motor/Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Left Rear Door Ajar Switch connector. Disconnect the BCM C2 connector. Measure the resistance of the Sense circuit between the BCM C2 connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***LEFT REAR DOOR AJAR CIRCUIT SHORTED TO GROUND****POSSIBLE CAUSES**

LEFT REAR DOOR AJAR SWITCH SHORTED TO GROUND

LEFT REAR DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the LR DOOR AJAR SW state. While monitoring the DRBIII®, disconnect the Left Rear Door Ajar Switch harness connector. Did the Switch State change from CLOSED to OPEN? Yes → Replace the Left Rear Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Left Rear Door Ajar Switch harness connector. Disconnect the BCM C2 harness connector. Using a 12-volt test light connected to 12-volts, probe the Sense circuit and test for a short to ground. Does the test light illuminate? Yes → Repair the Left Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***RIGHT FRONT DOOR AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

RIGHT FRONT DOOR AJAR SWITCH GROUND CIRCUIT OPEN

RIGHT FRONT DOOR AJAR SWITCH

RIGHT FRONT DOOR AJAR SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	Disconnect the Right Front Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, probe the Ground circuit and test for continuity. Does the light illuminate? Yes → Go To 2 No → Repair the Right Front Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Right Front Door Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. NOTE: For the Right Front Door Ajar state the DRBIII will read "DR" for RHD. With the DRBIII® in Inputs/Outputs, read the PASS or DR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Right Front Door Lock Motor/Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Right Front Door Ajar Switch harness connector. Disconnect the BCM C1 harness connector. Measure the resistance of the Sense circuit between the BCM C1 connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Right Front Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***RIGHT FRONT DOOR AJAR CIRCUIT SHORTED TO GROUND****POSSIBLE CAUSES**

RIGHT FRONT DOOR AJAR SWITCH SHORTED TO GROUND

RIGHT FRONT DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	<p>NOTE: For the Right Front Door Ajar state the DRBIII will read "DR" for RHD.</p> <p>With the DRBIII® in Inputs/Outputs, read the PASS or DR DOOR AJAR SW state. While monitoring the DRBIII®, disconnect the Right Front Door Ajar Switch harness connector.</p> <p>Did the Switch State change from CLOSED to OPEN?</p> <p>Yes → Replace the Right Front Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Right Front Door Ajar Switch connectors.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Using a 12-volt test light connected to 12-volts, probe the Sense circuit and test for a short to ground.</p> <p>Does the test light illuminate?</p> <p>Yes → Repair the Right Front Door Ajar Switch Sense 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

Symptom:***RIGHT REAR DOOR AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

RIGHT REAR DOOR AJAR SWITCH GROUND CIRCUIT OPEN

RIGHT REAR DOOR AJAR SWITCH

RIGHT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	Disconnect the Right Rear Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, probe the Ground circuit and test for continuity. 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 Right Rear Door Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Right Rear Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Right Rear Door Ajar Switch harness connector. Disconnect the BCM C1 harness connector. Measure the resistance of the Sense circuit between the BCM connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Right Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***RIGHT REAR DOOR AJAR CIRCUIT SHORTED TO GROUND****POSSIBLE CAUSES**

RIGHT REAR DOOR AJAR SWITCH SHORTED TO GROUND

RIGHT REAR DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. While monitoring the DRBIII®, disconnect the Right Rear Door Ajar Switch connector. Did the Switch State change from CLOSED to OPEN? Yes → Replace the Right Rear Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Right Rear Door Ajar Switch connectors. Disconnect the BCM C1 harness connector. Using a 12-volt test light connected to 12-volts, probe the Sense circuit and test for a short to ground. Does the test light illuminate? Yes → Repair the Right Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***TAILGATE AJAR CIRCUIT OPEN****POSSIBLE CAUSES**

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TAILGATE AJAR SWITCH

TAILGATE AJAR SWITCH SENSE CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Disconnect the Tailgate Lock Motor/Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the TAILGATE AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Tailgate Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Tailgate Lock Motor/Ajar Switch connector. Disconnect the BCM C1 harness connector. Measure the resistance of the Sense circuit between the BCM connector and the Tailgate Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Tailgate Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***TAILGATE AJAR CIRCUIT SHORTED TO GROUND****POSSIBLE CAUSES**

TAILGATE AJAR SWITCH SHORTED TO GROUND

TAILGATE AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND

BODY CONTROL MODULE - INTERNAL MALFUNCTION

TEST	ACTION	APPLICABILITY
1	Disconnect the Tailgate Lock Motor/Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the TAILGATE AJAR SW state. Does the DRBIII® display CLOSED? Yes → Go To 2 No → Replace the Tailgate Ajar Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Tailgate Lock Motor/Ajar Switch harness connector. Disconnect the BCM C1 harness connector. Using a 12-volt test light connected to 12-volts, probe the Sense circuit and test for a short to ground. Does the test light illuminate? Yes → Repair the Tailgate Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**REAR DEFOGGER RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND****When Monitored and Set Condition:****REAR DEFOGGER RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND**

When Monitored: With the ignition on.

Set Condition: When the BCM detects no voltage on the Rear Window Defogger Control circuit due to an open or short to ground.

POSSIBLE CAUSES

JUNCTION BLOCK FUSE 39

CODE ACTIVE

RELAY OPEN OR SHORTED

JUNCTION BLOCK - REAR WINDOW DEFOGGER RELAY CONTROL SHORT TO GROUND

FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN

JUNCTION BLOCK - REAR WINDOW DEFOGGER RELAY CONTROL OPEN

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to operate the Rear Window Defogger. With the DRBIII®, read DTCs. Does the DRBIII® display REAR WINDOW DEFOGGER RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Ensure the relay is completely plugged in. Perform BODY VERIFICATION TEST - VER 1.	All
2	Check Junction Block fuse 39. Is the fuse open? Yes → Check for a short to ground and replace the Junction Block fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

REAR DEFOGGER RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition on. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output circuit at Fuse 39. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly?</p> <p>Yes → Go To 4</p> <p>No → Repair the open Fused Ignition Switch Output circuit as necessary. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Remove the Rear Window Defogger Relay from the Junction Block. Install fuse if previously removed. Install a substitute relay in place of the Rear Window Defogger Relay. With the DRBIII®, erase DTCs. Attempt to operate the Rear Window Defogger. With the DRBIII®, read DTCs. Does the DRBIII® display REAR WINDOW DEFOGGER RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 5</p> <p>No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Remove the Rear Window Defogger Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Measure the resistance between ground and the Rear Window Defogger Relay Control circuit in the relay connector of the Junction Block. Is the resistance below 100.0 ohms?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Turn the ignition off. Remove the Rear Window Defogger Relay from the Junction Block. Remove the Body Control Module from the Junction Block. Measure the resistance of the Rear Window Defogger Relay Control circuit between the Relay connector and the Junction Block - BCM connector. Is the resistance below 2.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Replace the Junction Block. 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:**REAR DEFOGGER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE****When Monitored and Set Condition:****REAR DEFOGGER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE**

When Monitored: With the ignition on.

Set Condition: When the BCM detects unwanted voltage on the rear window defogger control circuit.

POSSIBLE CAUSES

CODE ACTIVE

REAR DEFOGGER RELAY SHORTED

JUNCTION BLOCK - REAR DEFOGGER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to operate the Rear Window Defogger. With the DRBIII®, read DTCs. Does the DRBIII® display REAR WINDOW DEFOGGER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Rear Window Defogger Relay from the Junction Block. Install a substitute relay in place of the Rear Window Defogger Relay. With the DRBIII®, erase DTCs. Attempt to operate the Rear Window Defogger. With the DRBIII®, read DTCs. Does the DRBIII® display REAR WINDOW DEFOGGER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 3 No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.	All

**REAR DEFOGGER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE —
Continued**

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Remove the Rear Window Defogger Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Turn the ignition on. Measure the voltage of the Rear Window Defogger Relay Control circuit in the relay connector of the Junction Block. Is there any voltage present?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***REAR WINDOW DEFOGGER INOPERATIVE****POSSIBLE CAUSES**

JUNCTION BLOCK FUSE 29
 PDC FUSE 19
 REAR DEFOGGER RELAY DTC'S
 REAR WINDOW DEFOGGER RELAY OUTPUT CIRCUIT OPEN
 REAR WINDOW DEFOGGER RELAY
 REAR WINDOW DEFOGGER GRID OPEN
 FUSED B(+) CKT OPEN AT RELAY
 A/C-HEATER CONTROL
 OPEN GROUND CIRCUIT
 FUSED REAR WINDOW DEFOGGER RELAY OUTPUT CIRCUIT OPEN
 REAR WINDOW DEFOGGER CONTROL OPEN
 BODY CONTROL MODULE
 A/C-HEATER CONTROL LED

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the Body Control Module DTC's. Are there any Rear Defogger Relay DTC's present? Yes → Refer to the symptom list for problems related to Rear Defogger Relay DTC's. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Toggle the Rear Defogger switch and observe the indicator. Does the indicator toggle on and off when the switch is pressed? Yes → Go To 3 No → Go To 4	All
3	Turn the ignition on. Turn the Rear Window Defogger on. Measure the voltage between the Rear Window Defogger Relay Output circuit at the defogger grid on the rear window to ground. Is the voltage above 12.0 volts? Yes → Repair the open in the Rear Window Defogger Grid or the Grid Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Window Defogger Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*REAR WINDOW DEFOGGER INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	<p>With the DRBIII® in Inputs/Outputs, read the R Defogger SW state. Cycle the Rear Defogger On/Off button and observe the DRBIII. Did the DRBIII® display change from Open to Closed?</p> <p>Yes → Go To 5</p> <p>No → Go To 10</p>	All
5	<p>Check the Power Distribution Center fuse 19. Is the fuse open.</p> <p>Yes → Check for a short to ground and replace the PDC fuse. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Check Junction Block fuse 29. Is the fuse open.</p> <p>Yes → Check for a short to ground and replace the Junction Block fuse. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Remove the Rear Window Defogger Relay from the Junction Block. Measure the voltage of the Fused B(+) circuit in the Rear Window Defogger Relay connector. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 8</p> <p>No → Repair the open Fused B(+) circuit from PDC fuse #19. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Remove the Rear Window Defogger Relay from the Junction Block. Install a known good relay in the Rear Window Defogger Relay connector. Turn the ignition on. Toggle the Rear Window Defogger switch and observe the indicator. Does the Rear Window Defogger indicator illuminate?</p> <p>Yes → Replace the original Rear Window Defogger Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 9</p>	All
9	<p>Gain access to the A/C Heater Control C2 connector. Toggle the Rear Window Defogger switch in the next step. While back probing, measure the voltage of the Fused Rear Window Defogger Relay Output circuit. Is there any voltage present?</p> <p>Yes → Replace the A/C-Heater Control. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Fused Rear Window Defogger Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

***REAR WINDOW DEFOGGER INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
10	<p>Turn the ignition off. Disconnect the A/C-Heater Control C2 connector. Turn of all interior lights. Measure the resistance of the Ground circuit in the C2 connector. Is the resistance below 5.0 ohms?</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>Turn the ignition off. Disconnect the A/C-Heater Control C2 connector. With the DRBIII® in Inputs/Outputs, read the R Defogger SW state. Connect a jumper wire between Rear Window Defogger Control and ground. Did the DRBIII® display change from Open to Closed?</p> <p>Yes → Replace the A/C-Heater Control. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 12</p>	All
12	<p>Turn the ignition off. Disconnect the A/C-Heater Control C2 connector. Disconnect the Body Control Module C1 connector. Measure the resistance of the Rear Window Defogger Control circuit between the A/C- Heater Control C2 connector and the Body Control Module C1 connector. Is the resistance below 5.0 ohms?</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 → Repair the Rear Window Defogger Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom: FRONT FOG RELAY CIRCUIT HIGH

When Monitored and Set Condition:

FRONT FOG RELAY CIRCUIT HIGH

When Monitored: With ignition on(if equipped)

Set Condition: BCM detects battery on the Front Fog Relay when it is attempting to turn on the Front Fog Lamps for more than 5 seconds. The BCM learns that the Front Fog Options exists on a vehicle when it detects a ground on the Front Fog Switch Input circuit.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN FUSE

FOG LAMP RELAY

BODY CONTROL MODULE

FOG LAMP RELAY CONTROL CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Fog Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: FRONT FOG RELAY CKT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the Junction Block to make certain the Fog Lamp Relay is present. Is the Fog Lamp Relay present? Yes → Go To 3 No → Replace the missing Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check Junction Block fuse #19. Is the fuse open? Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

FRONT FOG RELAY CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Install a known good relay in place of the fog lamp relay. Turn the Fog Lamps On. Do the Fog Lamps operate normally? Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off Remove the Fog Lamp Relay. Measure the voltage of the Fused B+ circuit of the fog lamp relay. Is the voltage above 10 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fog Lamp Relay Control Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom: FRONT FOG RELAY CIRCUIT LOW

When Monitored and Set Condition:

FRONT FOG RELAY CIRCUIT LOW

When Monitored: With the ignition on.

Set Condition: BCM detects a low (ground) on the Front Fog Relay even though it is not attempting to turn on the Front Fog Lamps for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

FRONT FOG RELAY SHORT TO GROUND

FRONT FOG RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Fog Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: FRONT FOG RELAY CKT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Front Fog Relay. Measure the resistance between ground and the Front Fog Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Front Fog Relay Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Front Fog Relay harness connector. Measure the voltage of the Front Fog Relay harness connector coil side feed circuit to ground. Is the voltage above 10.0 volts? Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**HEADLAMP SWITCH INPUT CIRCUIT HIGH****When Monitored and Set Condition:****HEADLAMP SWITCH INPUT CIRCUIT HIGH**

When Monitored: Ignition ON

Set Condition: The BCM detects a voltage greater than 4.75 V on the Headlamp Switch Input for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

HEADLAMP SWITCH OPEN

HEADLAMP SWITCH MUX CIRCUIT OPEN

HEADLAMP SWITCH RETURN CIRCUIT OPEN

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase all BCM DTC's. Turn the headlamps to the ON position. With the DRBIII®, read DTCs. Does the DRBIII® display: HEADLAMP SWITCH INPUT CKT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Connect a jumper wire between the Headlamp Switch MUX circuit and the Headlamp Switch Return circuit in the Headlamp Switch harness connector. Turn the ignition on. With the DRBIII®, select Body, Body Controller and read: Headlamp Switch volts. Does the DRBIII® display Headlamp Switch voltage below 0.5volts? Yes → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

HEADLAMP SWITCH INPUT CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Body Control Module harness connector. Disconnect the Headlamp Switch harness connector. Measure resistance of the Headlamp Switch MUX circuit from the Body Control Module connector to the Headlamp Switch harness connector. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Headlamp Switch MUX circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off. Disconnect the Body Control Module harness connector. Disconnect the Headlamp Switch harness connector. Measure resistance of the Headlamp Switch Return circuit from the Body Control Module connector to the Headlamp Switch harness connector. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Headlamp Switch Return circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**HEADLAMP SWITCH INPUT CIRCUIT LOW****When Monitored and Set Condition:****HEADLAMP SWITCH INPUT CIRCUIT LOW**

When Monitored: Ignition On

Set Condition: BCM detects a voltage less than 0.25 volts on the Headlamp Switch Input for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

HEADLAMP SWITCH SHORTED

HEADLAMP SWITCH MUX CIRCUIT SHORT TO RETURN CIRCUIT

HEADLAMP SWITCH MUX CIRCUIT SHORT TO GROUND

HEADLAMP SWITCH RETURN CIRCUIT SHORT TO GROUND

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the headlamps to the ON position. With the DRBIII®, read DTCs. Does the DRBIII® display: HEADLAMP SWITCH INPUT CKT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Turn the ignition on. With the DRBIII®, select Body, Body Control Module and read: Headlamp Switch voltage.. Does the DRBIII® display Headlamp Switch voltage above 4.8 volts? Yes → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

HEADLAMP SWITCH INPUT CIRCUIT LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Body Control Module harness connector. Disconnect the Headlamp Switch harness connector. Measure resistance between the Headlamp Switch Return circuit and the Headlamp Switch MUX circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Headlamp Switch MUX circuit for a short to the Headlamp Switch Return circuit. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off. Disconnect the Body Control Module harness connector. Disconnect the Headlamp Switch harness connector. Measure resistance between ground and the Headlamp Switch MUX circuit. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Headlamp Switch MUX Circuit for a short to ground condition. 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 harness connector. Disconnect the Headlamp Switch harness connector. Measure resistance between ground and the Headlamp Switch Return circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Headlamp Switch Return Circuit for a short to ground condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
HIGH BEAM RELAY CIRCUIT HIGH

When Monitored and Set Condition:

HIGH BEAM RELAY CIRCUIT HIGH

When Monitored: With ignition on

Set Condition: BCM detects battery on the High Beam Relay when it is attempting to turn on the High Beams for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN FUSE

HIGH BEAM RELAY

MULTIFUNCTION SWITCH

HIGH BEAM SWITCH SENSE CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the High Beams on. With the DRBIII®, read the DTC information. Does the DRBIII® read: HIGH BEAM RELAY CIRCUIT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the Junction Block to make certain the High Beam Relay is present. Is the High Beam Relay present? Yes → Go To 3 No → Replace the missing High Beam Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check the Junction Block High Beam fuses #26 and #27. Are any of the fuses open? Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

HIGH BEAM RELAY CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Install a known good relay in place of the High Beam Relay. Turn the High Beams On. Do the High Beams operate normally?</p> <p>Yes → Replace the High Beam Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off Disconnect the Multifunction Switch harness connector C1. Disconnect the BCM C2 connector. Measure the resistance of the High Beam Switch Sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the High Beam Switch Sense circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
LOW BEAM RELAY CIRCUIT HIGH

When Monitored and Set Condition:

LOW BEAM RELAY CIRCUIT HIGH

When Monitored: With ignition on

Set Condition: BCM detects battery on the Low Beam Relay when it is attempting to turn on the Low Beams for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN FUSE

LOW BEAM RELAY

BODY CONTROL MODULE

FUSED LOW BEAM RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Low Beams on. With the DRBIII®, read the DTC information. Does the DRBIII® read: LOW BEAM RELAY CIRCUIT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the Junction Block to make certain the Low Beam Relay is present. Is the Low Beam Relay present? Yes → Go To 3 No → Replace the missing Low Beam Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check the Junction Block Low Beam fuses #4 and #5. Are any of the fuses open? Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LOW BEAM RELAY CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Install a known good relay in place of the Low Beam Relay. Turn the Low Beams On. Do the Low Beams operate normally?</p> <p>Yes → Replace the Low Beam Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off Remove the Low Beam Relay. Measure the voltage of the Fused B+ circuit of the Low Beam Relay. Is the voltage above 10 volts?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Fused Low Beam Relay Output circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
LOW BEAM RELAY CIRCUIT LOW

When Monitored and Set Condition:

LOW BEAM RELAY CIRCUIT LOW

When Monitored: With ignition on

Set Condition: BCM detects a low (ground) on the Low Beam Relay even though it is not attempting to turn on the Low Beams for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

LOW BEAM RELAY SHORT TO GROUND

LOW BEAM RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Low Beams on. With the DRBIII®, read the DTC information. Does the DRBIII® read: LOW BEAM RELAY CKT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Low Beam Relay. Measure the resistance between ground and the Low Beam Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Low Beam Relay Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Low Beam Relay harness connector. Measure the voltage of the Low Beam Relay harness connector coil side feed circuit to ground. Is the voltage above 10.0 volts? Yes → Replace the Low Beam Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

EXTERIOR LIGHTING

Symptom: **PARK LAMP RELAY CIRCUIT HIGH**

When Monitored and Set Condition:

PARK LAMP RELAY CIRCUIT HIGH

When Monitored: With the ignition on

Set Condition: BCM detects battery on the Park Lamp Relay when it is attempting to turn on the Park Lamps for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN FUSE

PARK LAMP RELAY

BODY CONTROL MODULE

FUSED PARK LAMP RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Park Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: PARK LAMP RELAY CKT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the Junction Block to make certain the Park Lamp Relay is present. Is the Park Lamp Relay present? Yes → Go To 3 No → Replace the missing Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check the Junction Block Park Lamp fuses #23 and #9. Are any of the fuses open? Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

PARK LAMP RELAY CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Install a known good relay in place of the Park Lamp Relay. Turn the Park Lamps On. Do the Park Lamps operate normally? Yes → Replace the Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off Remove the Park Lamp Relay. Measure the voltage of the Fused B+ circuit of the Park Lamp Relay. Is the voltage above 10 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused Park Lamp Relay Output circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom: PARK LAMP RELAY CIRCUIT LOW

When Monitored and Set Condition:

PARK LAMP RELAY CIRCUIT LOW

When Monitored: With ignition on.

Set Condition: BCM detects a low (ground) on the Park Lamp Relay even though it is not attempting to turn on the Park Lamps for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

PARK LAMP RELAY SHORT TO GROUND

PARK LAMP RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Park Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: PARK LAMP RELAY CKT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Park Lamp Relay. Measure the resistance between ground and the Park Lamp Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Park lamp Relay Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Park Lamp Relay harness connector. Measure the voltage of the Park Lamp Relay harness connector coil side feed circuit to ground. Is the voltage above 10.0 volts? Yes → Replace the Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR FOG RELAY CIRCUIT HIGH

When Monitored and Set Condition:

REAR FOG RELAY CIRCUIT HIGH

When Monitored: With the ignition on.

Set Condition: BCM detects battery on the Rear Fog Relay when it is attempting to turn on the Front Fog Lamps for more than 5 seconds. The BCM is programmed per Country Code whether or not a vehicle is equipped with a Rear Fog Relay.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN FUSE

FOG LAMP RELAY

BODY CONTROL MODULE

FOG LAMP RELAY CONTROL CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Fog Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: REAR FOG RELAY CIRCUIT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the Junction Block to make certain the Rear Fog Lamp Relay is present. Is the Rear Fog Lamp Relay present? Yes → Go To 3 No → Replace the missing Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check Junction Block fuse 2. Is the fuse open? Yes → Replace the open fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

REAR FOG RELAY CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Install a known good relay in place of the Rear Fog Lamp Relay. Turn the Fog Lamps On. Do the Rear Fog Lamps operate normally?</p> <p>Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off Remove the Fog Lamp Relay. Measure the voltage of the Fused B+ circuit of the Fog Lamp Relay. Is the voltage above 10 volts?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Fog Lamp Relay Control Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
REAR FOG RELAY CIRCUIT LOW

When Monitored and Set Condition:

REAR FOG RELAY CIRCUIT LOW

When Monitored: With the ignition on.

Set Condition: BCM detects a low (ground) on the Fog Relay even though it is not attempting to turn on the Rear Fog Lamps for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

REAR FOG RELAY SHORT TO GROUND

REAR FOG RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Fog Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Fog Relay Circuit Low? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Rear Fog Relay. Measure the resistance between ground and the Rear Fog Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Rear Fog Relay Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Rear Fog Relay harness connector from the Junction Block. Measure the voltage of the Rear Fog Relay harness connector coil side feed circuit to ground. Is the voltage above 10.0 volts? Yes → Replace the Rear Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

EXTERIOR LIGHTING

Symptom:

*LOW BEAM HEADLAMPS INOPERATIVE

POSSIBLE CAUSES

INTERMITTENT CONDITION

LOW BEAM RELAY

OPEN FUSED B+ CIRCUIT

LOW BEAM RELAY CONTROL CIRCUIT

LOW BEAM RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the Low Beams on. Do the Low Beam Headlamps operate properly? Yes → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the Low Beam Relay from the Junction Block. Install a known good relay in place of the Low Beam Relay. With the DRBIII®, actuate the Low Beam Relay. Do the Headlamps flash while actuating the Low Beam Relay? Yes → Replace the Low Beam Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Remove the Low Beam Relay from the Junction Block. Measure the voltage of the Fused B(+) circuit at the Low Beam Relay connector. Is the voltage above 10.0 volts? Yes → Go To 4 No → Repair the open fused B+ circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the BCM from the junction block. Connect a jumper wire between the Fused B(+) circuit and the Low Beam Relay Control circuit at the Low Beam Relay connector. Measure the voltage of the Low Beam Relay Control circuit to the BCM Junction Block connector. Is the voltage above 10.0 volts? Yes → Go To 5 No → Repair the Low Beam Relay Control circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.	All

***LOW BEAM HEADLAMPS INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
5	Disconnect the jumper wire. Reinstall the Low Beam Relay in the Junction Block. Remove the BCM from the junction block. Measure the voltage of the Low Beam Relay Control circuit to the BCM internal connector. Is the voltage above 10.0 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Low Beam Relay. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

ABS LAMP CIRCUIT SHORT
ABS LAMP OPEN
AIRBAG LAMP CIRCUIT SHORT
AIRBAG LAMP OPEN
BRAKE LAMP CIRCUIT OPEN
BRAKE LAMP CIRCUIT SHORT
MIL LAMP CIRCUIT OPEN
MIL LAMP CIRCUIT SHORT
SEATBELT LAMP CIRCUIT OPEN
SEATBELT LAMP CIRCUIT SHORT

Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be **ABS LAMP CIRCUIT SHORT**.

When Monitored and Set Condition:

ABS LAMP CIRCUIT SHORT

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

ABS LAMP OPEN

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

AIRBAG LAMP CIRCUIT SHORT

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

AIRBAG LAMP OPEN

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

BRAKE LAMP CIRCUIT OPEN

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

ABS LAMP CIRCUIT SHORT — Continued**BRAKE LAMP CIRCUIT SHORT**

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

MIL LAMP CIRCUIT OPEN

When Monitored: With the ignition in the Ru/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open during internal self test.

MIL LAMP CIRCUIT SHORT

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

SEATBELT LAMP CIRCUIT OPEN

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

SEATBELT LAMP CIRCUIT SHORT

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects Indicator short/open fault during internal self test.

POSSIBLE CAUSES

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: The Instrument Cluster performs internal tests on the MIL, Seatbelt, Brake, ABS, and Airbag indicators during each ignition cycle. Instrument Cluster LEDs are not serviceable.</p> <p>With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did the Indicator lamp circuit Open or Short DTC reset?</p> <p>Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

INSTRUMENT CLUSTER

Symptom:

BRAKE FLUID SWITCH CIRCUIT OPEN

When Monitored and Set Condition:

BRAKE FLUID SWITCH CIRCUIT OPEN

When Monitored: With the ignition in the Run/Start position.

Set Condition: The cluster performs open circuit detection on the Brake Fluid Level (Red Brake Warning Indicator Driver) switch and the sense circuit. Fault sets if an open circuit is detected. When this fault is detected the cluster will illuminate the Brake warning indicator.

POSSIBLE CAUSES

INTERMITTENT CONDITION
BRAKE FLUID LEVEL SWITCH
BRAKE FLUID LEVEL SWITCH GROUND CIRCUIT
RED BRAKE WARNING INDICATOR DRIVER CIRCUIT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure that the Brake Fluid Level Switch harness connector is properly connected.</p> <p>With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 15 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display BRAKE FLUID SWITCH CIRCUIT OPEN?</p> <p>Yes → Go To 2</p> <p>No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connectors. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Check connectors - Clean/repair as necessary. Measure the internal resistance of the Brake Fluid Level (Red Brake Warning Indicator Driver) Switch. Is the resistance above 1.1k (1,100) ohms?</p> <p>Yes → Replace the Brake Fluid Level (Red Brake Warning Indicator Driver) Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All

BRAKE FLUID SWITCH CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Check connectors - Clean/repair as necessary. Measure the resistance between ground and the Brake Fluid Level Switch Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Brake Fluid Level (Red Brake Warning Indicator Driver) Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Red Brake Warning Indicator Driver circuit. Is the resistance above 5.0 ohms? Yes → Repair the Red Brake Warning Indicator Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

INSTRUMENT CLUSTER

Symptom:

CLUSTER BUS TRANSMIT SHUTDOWN

When Monitored and Set Condition:

CLUSTER BUS TRANSMIT SHUTDOWN

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects loss of internal bus transmission for 4 seconds.

POSSIBLE CAUSES

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CLUSTER WAKE UP OUTPUT HIGH

When Monitored and Set Condition:

CLUSTER WAKE UP OUTPUT HIGH

When Monitored: With the ignition in the OFF position.

Set Condition: When the BCM receives an input from the driver door switch or an input from exterior lamp control switch. Symptoms will include: No fast chime with key in ignition or Park Lamps on and driver door open. No VF odometer display when door open. No cluster, high beam indicator, front or rear fog lamp indicator illumination.

POSSIBLE CAUSES

INSTRUMENT CLUSTER WAKE UP SIGNAL CIRCUIT SHORT TO VOLTAGE
 INTERMITTENT CONDITION
 BODY CONTROL MODULE
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BCM C1 harness connector. Disconnect the Instrument Cluster harness connector. Measure the voltage between the Instrument Cluster Wake Up Signal circuit and ground. Is there any voltage present? Yes → Repair the Instrument Cluster Wake Up Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster harness connector. Ensure that the BCM C1 harness connector is connected. Measure the voltage between the Cluster Wake Up circuit and ground. Is there any voltage present? Yes → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

CLUSTER WAKE UP OUTPUT HIGH — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Ensure that the Instrument Cluster and BCM C1 harness connectors are connected. Turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset?</p> <p>Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition is not present at this time. Monitor DRBIII® DTCs while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals.</p>	All

Symptom:
CLUSTER WAKE UP OUTPUT LOW

When Monitored and Set Condition:

CLUSTER WAKE UP OUTPUT LOW

When Monitored: With the ignition in the OFF position.

Set Condition: When the BCM receives an input from the driver door switch or an input from exterior lamp control switch. Symptoms will include: No fast chime with key in ignition or Park Lamps on and driver door open. No VF odometer display when door open. No cluster, high beam indicator, front or rear fog lamp indicator illumination.

POSSIBLE CAUSES

FUSED B(+) CIRCUIT OPEN
 INSTRUMENT CLUSTER WAKE UP SIGNAL CIRCUIT OPEN
 INTERMITTENT CONDITION
 INSTRUMENT CLUSTER WAKE UP SIGNAL CIRCUIT SHORT TO GROUND
 BODY CONTROL MODULE
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Instrument Cluster harness connector. Measure the voltage between the Fused B(+) circuit and ground. Is the voltage above 10.5 volts? Yes → Go To 2 No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Instrument Cluster harness connector. Disconnect the BCM C1 harness connector. Measure the resistance of the Instrument Cluster Wake Up Signal circuit. Is the resistance above 5.0 ohms? Yes → Repair the Instrument Cluster Wake Up Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

CLUSTER WAKE UP OUTPUT LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Instrument Cluster harness connector. Disconnect the BCM C1 harness connector. Measure the resistance between ground and the Cluster Wake Up circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Instrument Cluster Wake Up Signal 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 Instrument Cluster harness connector. Ensure that the BCM C1 harness connector is connected. Install a DVOM between the Cluster Wake Up circuit of the Instrument Cluster harness connector and ground. Set the DVOM to read resistance. Turn the ignition on. With the DRBIII®, select Body Control Module, then Actuators. Observe the DVOM while using the DRBIII® to actuate the Cluster Wake Up "on." Did the DVOM indicate a brief (2 second) continuity to ground?</p> <p>Yes → Go To 5</p> <p>No → 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. Ensure that the Instrument Cluster and BCM C1 harness connectors are connected. Open the driver door or actuate the High Beam Headlamps with the key off. With the DRBIII®, read DTCs. Did this DTC reset?</p> <p>Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition is not present at this time. Monitor DRBIII® DTCs while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals.</p>	All

Symptom:
INTERNAL MODULE FAILURE

When Monitored and Set Condition:

INTERNAL MODULE FAILURE

When Monitored: With ignition on.

Set Condition: The Instrument Cluster detects the J1850 chip on EMIC PCB is bad.

POSSIBLE CAUSES

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. When this code is set, the Instrument Cluster must be replaced. Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
NO ABS BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO ABS BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no ABS bus messages for 6 continuous seconds. The cluster will illuminate the ABS warning indicator.

POSSIBLE CAUSES

NO RESPONSE - PCI BUS - CAB MODULE

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, attempt to communicate with the CAB module. Was the DRBIII® able to I/D or communicate with the CAB module?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
NO BCM BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO BCM BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no BCM bus message for 6 seconds.

POSSIBLE CAUSES

NO RESPONSE - PCI BUS - BCM

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the BCM. Was the DRBIII® able to I/D or communicate with the BCM? Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

NO EVIC/TPM BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO EVIC/TPM BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no EVIC/TPM bus messages for 6 seconds.

POSSIBLE CAUSES

NO RESPONSE - EVIC/TPM

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, attempt to communicate with the EVIC/TPM. Was the DRBIII® able to I/D or communicate with the EVIC/TPM?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
NO ORC BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO ORC BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no ORC bus message for 6 seconds. The cluster will illuminate the Airbag warning indicator.

POSSIBLE CAUSES

NO RESPONSE - PCI BUS - ORC

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the ACM. Was the DRBIII® able to I/D or communicate with the ACM? Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom: NO PCI BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO PCI BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no PCI Bus messages for 4 continuous seconds. The VF will display "no bus." The cluster will illuminate the ABS, Fuel, Airbag, and MIL warning indicators. All gauge needles will default to the lowest indication.

POSSIBLE CAUSES

NO RESPONSE - PCI BUS
INTERMITTENT CONDITION
NO RESPONSE - PCI BUS - INSTRUMENT CLUSTER
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. NOTE: When the Instrument Cluster detects no PCI Bus, the VF will display "no bus". With the DRBIII®, attempt to communicate with other modules on the PCI Bus. Was the DRBIII® able to communicate with other modules? Yes → Go To 2 No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select System Monitors, then J1850 Module Scan. Does the DRBIII® display MIC PRESENT on the BUS? Yes → Go To 3 No → Refer to symptom "No Response from Instrument Cluster in the Communication" category. Perform BODY VERIFICATION TEST - VER 1.	All

NO PCI BUS MESSAGES RECEIVED — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this DTC reset?</p> <p>Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
NO PCM BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO PCM BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no PCM bus message for 20 seconds. The cluster will illuminate the MIL indicator.

POSSIBLE CAUSES

NO RESPONSE - PCI BUS - PCM

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to I/D or communicate with the PCM?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
NO SKIM BUS MESSAGES RECEIVED

When Monitored and Set Condition:

NO SKIM BUS MESSAGES RECEIVED

When Monitored: With the ignition in the Run/Start position.

Set Condition: The Instrument Cluster detects no SKIM bus message for 20 seconds.

POSSIBLE CAUSES

NO RESPONSE - PCI BUS - SKIM
 INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on.</p> <p>NOTE: Ensure that the vehicle is equipped with the SKIM feature before proceeding with this test.</p> <p>With the DRBIII®, attempt to communicate with the SKIM module.</p> <p>Was the DRBIII® able to I/D or communicate with the SKIM module?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom: TIRE SIZE NOT PROGRAMMED

When Monitored and Set Condition:

TIRE SIZE NOT PROGRAMMED

When Monitored: When the battery is connected.

Set Condition: Tire size is not programmed to a valid size. The default condition for a new BCM is un-programmed. The BCM must be programmed with a valid tire size or the speedometer will default to Zero and this code will set.

POSSIBLE CAUSES

PROGRAM TIRE SIZE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® in Body Computer, select Miscellaneous, then select Program Tire Size. Program the appropriate tire size. With the DRBIII®, erase DTCs. Turn the ignition off, wait 15 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset?</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 → Test Complete.</p>	All

Symptom:
VEHICLE SPEED SENSOR FAILURE

When Monitored and Set Condition:

VEHICLE SPEED SENSOR FAILURE

When Monitored: With ignition on.

Set Condition: If the BCM detects the current on the Vehicle Speed Sensor (rear wheel speed sensor) input is out of range for more than 5 seconds, this code will set. The sensor supplies a square wave signal to the BCM whose period varies with the vehicle speed.

POSSIBLE CAUSES

ABS DTC'S PRESENT

VEHICLE SPEED SENSOR FAILURE DTC PRESENT - ABS

VEHICLE SPEED SENSOR FAILURE DTC PRESENT- NON/ABS

VEHICLE SPEED SENSOR SUPPLY CIRCUIT SHORT TO GROUND

VEHICLE SPEED SIGNAL CIRCUIT SHORT TO GROUND

VEHICLE SPEED SIGNAL SHORT TO GROUND - NON/ABS

VEHICLE SPEED SENSOR SUPPLY CIRCUIT OPEN

VEHICLE SPEED SIGNAL CIRCUIT SHORT TO VOLTAGE

VEHICLE SPEED SIGNAL SHORT TO VOLTAGE - NON/ABS

VEHICLE SPEED SIGNAL CIRCUIT OPEN

VEHICLE SPEED SIGNAL OPEN - NON/ABS

VEHICLE SPEED SENSOR

BODY CONTROL MODULE - VEHICLE SPEED SENSOR SUPPLY OPEN

BODY CONTROL MODULE - VEHICLE SPEED SIGNAL OPEN

BODY CONTROL MODULE - VEHICLE SPEED SIGNAL OPEN - NON/ABS

TEST	ACTION	APPLICABILITY
1	Is this vehicle equipped with the Antilock Brake System? Yes → Go To 2 No → Go To 8	All
2	With the DRBIII®, read DTCs in Antilock Brakes. Does the DRBIII® display any Antilock Brake DTC's? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

VEHICLE SPEED SENSOR FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRBIII®, record and erase DTC's. Turn the ignition off. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display VEHICLE SPEED SENSOR FAILURE?</p> <p>Yes → Go To 4</p> <p>No → The DTC is intermittent. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Disconnect the Controller Antilock Brake connector. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Vehicle Speed Signal circuit. Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Vehicle Speed Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Disconnect the Controller Antilock Brake connector. Disconnect the Body Control Module C2 connector. Measure the voltage between the Vehicle Speed Signal circuit and ground. Is there any voltage present?</p> <p>Yes → Repair the Vehicle Speed Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 6</p>	All
6	<p>Disconnect the Controller Antilock Brake connector. Connect a jumper wire between Vehicle Speed Signal circuit in the CAB connector and ground. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Vehicle Speed Signal circuit in the BCM connector.. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Repair the Vehicle Speed Signal 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 in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>With the DRBIII®, record and erase DTC's. Drive the vehicle for a short distance. With the DRBIII®, read DTCs. Does the DRBIII® display VEHICLE SPEED SENSOR FAILURE?</p> <p>Yes → Go To 9</p> <p>No → The DTC is intermittent. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.</p>	All

VEHICLE SPEED SENSOR FAILURE — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition on. Disconnect the Rear Wheel Speed Sensor connector. Measure the voltage between the Vehicle Speed Sensor Supply circuit and ground. Is the voltage above 10.0 volts? Yes → Go To 10 No → Go To 15	All
10	Turn the ignition on. Disconnect the Rear Wheel Speed Sensor connector. Measure the resistance between ground and the Vehicle Speed Signal circuit in the harness connector. Is the resistance between 100.0 and 300.0 ohms? Yes → Replace the Vehicle Speed Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the Rear Vehicle Speed Sensor connector. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Vehicle Speed Signal circuit in the harness connector. Is the resistance below 1000.0 ohms? Yes → Repair the Vehicle Speed Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All
12	Disconnect the Vehicle Speed Sensor connector. Disconnect the Body Control Module C2 connector. Measure the voltage between the Vehicle Speed Signal circuit and ground. Is there any voltage present? Yes → Repair the Vehicle Speed Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 13	All
13	Disconnect the Vehicle Speed Sensor connector. Connect a jumper wire between Vehicle Speed Signal circuit in the Vehicle Speed Sensor connector and ground. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Vehicle Speed Signal circuit in the BCM connector.. Is the resistance below 5.0 ohms? Yes → Go To 14 No → Repair the Vehicle Speed Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
14	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

VEHICLE SPEED SENSOR FAILURE — Continued

TEST	ACTION	APPLICABILITY
15	<p>Turn the ignition off. Disconnect the Rear Wheel Speed Sensor connector. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Vehicle Speed Sensor Supply circuit. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Vehicle Speed Sensor Supply circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 16</p>	All
16	<p>Turn the ignition off. Disconnect the Rear Wheel Speed Sensor connector. Connect a jumper wire between Vehicle Speed Sensor Supply circuit and ground. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Vehicle Speed Sensor Supply circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 17</p> <p>No → Repair the Vehicle Speed Sensor Supply 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 Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***4WD INDICATOR INACCURATE****POSSIBLE CAUSES**

4WD MODE SENSOR DTC PRESENT
 INTERMITTENT CONDITION
 TRANSFER CASE POSITION SENSOR
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: With the DRBIII®, ensure that the Instrument Cluster is configured for the correct transfer case before proceeding with this test. With the DRBIII®, read DTCs. Does the DRBIII® display any 4WD Mode Sensor DTCs?</p> <p>Yes → Refer to the DRIVEABILITY category and perform the appropriate symptom.</p> <p>No → Go To 2</p>	All
2	<p>Perform the Instrument Cluster Self Test. Depress and hold the Trip Odometer reset button while turning the ignition from the off to the on position. Did the 4WD indicator in question illuminate?</p> <p>Yes → Go To 3</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition on. With the DRBIII® in Sensors, read the T-Case Position while moving the transfer case shift lever through all of the positions. The DRBIII® should display the following values: 4WD Lo: 0.96 - 1.35 volts Neutral: 2.39 - 2.76 volts Full Time: 3.2 - 3.5 volts Part Time: 3.7 - 4.0 volts 2WD: 4.17 - 4.45 volts Is the Transfer Case Position voltage within the specified ranges?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals.</p> <p>No → Replace the Transfer Case Position Sensor in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 2.</p>	All

INSTRUMENT CLUSTER

Symptom:

*4WD INDICATOR INACCURATE - DIESEL ONLY

POSSIBLE CAUSES
4WD MODE SENSOR DTC PRESENT INTERMITTENT CONDITION TRANSFER CASE POSITION SENSOR INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: With the DRBIII®, ensure that the Instrument Cluster is configured for the correct transfer case before proceeding with this test.</p> <p>With the DRBIII®, read DTCs. Does the DRBIII® display any 4WD Mode Sensor DTCs?</p> <p>Yes → Refer to the DRIVEABILITY category and perform the appropriate symptom.</p> <p>No → Go To 2</p>	All
2	<p>Perform the Instrument Cluster Self Test. Depress and hold the Trip Odometer reset button while turning the ignition from the off to the on position. Did the 4WD indicator in question illuminate?</p> <p>Yes → Go To 3</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition on. With the DRBIII® in Sensors, read the T-Case Position while moving the transfer case shift lever through all of the positions. The DRBIII® should display the following values: 4WD Lo: 0.15 - 0.40 volts Neutral: 0.68 - 0.98 volts Full Time: 1.23 - 1.56 volts Part Time: 1.78 - 2.12 volts 2WD: 2.43 - 2.77 volts Is the Transfer Case Position voltage within the specified ranges?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals.</p> <p>No → Replace the Transfer Case Position Sensor in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 2.</p>	All

Symptom:***ALL GAUGES INOPERATIVE****POSSIBLE CAUSES**

NO RESPONSE - PCI BUS

NO RESPONSE - PCI BUS - POWERTRAIN CONTROL MODULE

NO RESPONSE - PCI BUS - INSTRUMENT CLUSTER

FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORT TO GROUND

INSTRUMENT CLUSTER GROUND CIRCUIT OPEN

FUSED IGNITION CIRCUIT OPEN

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select System Monitors, then J1850 Module Scan. Does the DRBIII® display MIC PRESENT on the BUS? Yes → Go To 2 No → Refer to the COMMUNICATION category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select Body, MIC, SYSTEM TESTS, PCM Monitor. Does the DRBIII® display PCM INACTIVE on the BUS? Yes → Refer to the symptom list for problems related to *NO RESPONSE FROM THE POWERTRAIN CONTROL MODULE. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With the DRBIII®, select Body, MIC, MODULE DISPLAY. Does the DRBIII® display NO RESPONSE from MIC? Yes → Refer to the symptom list for problems related to *NO RESPONSE FROM THE INSTRUMENT CLUSTER. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

INSTRUMENT CLUSTER

*ALL GAUGES INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Inspect the #13 Fuse in the Junction Block. If the fuse is open, replace with proper rated fuse. Turn the ignition on for one minute. Turn the ignition off. Inspect the #13 Fuse in the Junction Block. Is the fuse open?</p> <p>Yes → Repair the Fused Ignition Switch Output 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 Instrument Cluster harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output circuit and ground. Is the voltage above 10.5 volts?</p> <p>Yes → Go To 6</p> <p>No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off. Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Instrument Cluster Ground circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Instrument Cluster Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***ANY PCI BUS INDICATOR INOPERATIVE****POSSIBLE CAUSES**

INDICATOR MESSAGE NOT RECEIVED

NO RESPONSE - INSTRUMENT CLUSTER

NO RESPONSE - PCI BUS

NO RESPONSE - PCI BUS - POWERTRAIN CONTROL MODULE

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select System Monitors, then J1850 Module Scan. Does the DRBIII® display MIC PRESENT on the BUS? Yes → Go To 2 No → Refer to the COMMUNICATION category and perform the appropriate symptom.	All
2	Turn the ignition on. With the DRBIII®, select MIC, then MODULE DISPLAY. Does the DRBIII® display NO RESPONSE from MIC? Yes → Refer to the symptom list for problems related to *NO RESPONSE FROM THE INSTRUMENT CLUSTER. No → Go To 3	All
3	Turn the ignition on. With the DRBIII®, select Body, MIC, MONITORS, PCI BUS MONITORS. Does the DRBIII® display PCM INACTIVE on the BUS? Yes → Refer to the symptom list for problems related to *NO RESPONSE FROM THE POWERTRAIN CONTROL MODULE. No → Go To 4	All
4	NOTE: Diagnose and repair any PCM or BCM DTCs before proceeding with this test. Perform the Instrument Cluster Self Test. Depress and hold the Trip Odometer button while turning the ignition from the off to the on position. Observe the indicator in question. Did the indicator illuminate? Yes → Refer to the appropriate Service Information category to diagnose the related system. No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

INSTRUMENT CLUSTER

Symptom:

***BRAKE INDICATOR ALWAYS ON**

POSSIBLE CAUSES

BRAKE FLUID LEVEL SWITCH CIRCUIT DTC PRESENT
BRAKE FLUID LEVEL SWITCH
RED BRAKE WARNING INDICATOR DRIVER CIRCUIT SHORT TO GROUND
PARK BRAKE SWITCH
PARK BRAKE SWITCH SENSE CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure that the Brake Fluid Level is properly filled and the Brake Fluid Level Switch harness connector is properly connected.</p> <p>With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 15 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display "BRAKE FLUID LEVEL SWITCH CIRCUIT OPEN?"</p> <p>Yes → Refer to symptom list for problems related to "BRAKE FLUID SWITCH CIRCUIT OPEN".</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Measure the resistance of the Brake Fluid Level Switch. Is the resistance below 900 ohms?</p> <p>Yes → Replace the Brake Fluid Level 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. Disconnect the Brake Fluid Level Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Red Brake Warning Indicator Driver circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Red Brake Warning Indicator Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All

***BRAKE INDICATOR ALWAYS ON — Continued**

TEST	ACTION	APPLICABILITY
4	<p>NOTE: Ensure that the Brake Fluid Level Switch and Instrument Cluster harness connectors are properly connected.</p> <p>Disconnect the Park Brake Switch harness connector.</p> <p>With the DRBIII® in Inputs/Outputs, read the Park Brake Switch state.</p> <p>Does the DRBIII® display "Open"?</p> <p>Yes → Replace the Park Brake Switch in accordance with the Service Information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.</p> <p>Disconnect the Park Brake Switch harness connector.</p> <p>Disconnect the Instrument Cluster harness connector.</p> <p>Measure the resistance between ground and the Park Brake Switch Sense circuit.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Park Brake Switch Sense circuit for a short to ground.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

INSTRUMENT CLUSTER

Symptom:

*BRAKE INDICATOR INOPERATIVE

POSSIBLE CAUSES
BRAKE FLUID LEVEL SWITCH PARK BRAKE SWITCH PARK BRAKE SWITCH SENSE CIRCUIT OPEN INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Is the BRAKE indicator only inoperative with the Park Brake engaged? Yes → Go To 2 No → Replace the Brake Fluid Level Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Park Brake Switch harness connector. Connect a jumper wire between the Park Brake Switch Sense circuit and ground. Turn the ignition on. Observe the BRAKE indicator. Did the BRAKE indicator illuminate? Yes → Replace the Park Brake Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Park Brake Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Park Brake Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the Park Brake Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***FUEL GAUGE INACCURATE****POSSIBLE CAUSES**

FUEL LEVEL SENSOR DTC PRESENT

INTERMITTENT CONDITION

FUEL LEVEL SENSOR

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Diagnose and repair any PCM Fuel Level DTCs before proceeding with this test.</p> <p>With the DRBIII®, read DTCs. Does the DRBIII® display any Fuel Level Sensor DTCs?</p> <p>Yes → Refer to symptom list for problems related to Fuel Level Sensor DTCs.</p> <p>No → Go To 2</p>	All
2	<p>Perform the Instrument Cluster Self Test. Depress and hold the Trip Odometer reset button while turning the ignition on. NOTE: The Instrument Cluster Self Test can also be performed using the DRBIII®.</p> <p>Observe the Fuel Gauge calibration points during the Self Test. The Fuel Gauge indicator needle should pause at the following positions: Off: Empty Stop below "E" Calibration Point 1: "1/4" Calibration Point 2: "1/2" Calibration Point 3: "F" Calibration Point 4: "3/4" Calibration Point 5: "1/2" Calibration Point 6: "1/4" Calibration Point 7: "E" Did the Fuel Gauge needle pause at the correct calibration points?</p> <p>Yes → Go To 3</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

*FUEL GAUGE INACCURATE — Continued

TEST	ACTION	APPLICABILITY
3	<p>With the DRBIII®, select Body, MIC, then Monitors. Read the Fuel Tank Level Volts. Compare the Fuel Tank Level Volts displayed by the DRBIII® to the Fuel Gauge using the following values: 4.3 - 3.19 Volts (Approximately 220 - 200 Ohms of Fuel Sensor Resistance) = "E" 2.56 Volts (Approximately 160 Ohms of Fuel Sensor Resistance) = "1/4" 1.91 Volts (Approximately 120 Ohms of Fuel Sensor Resistance) = "1/2" 1.27 Volts (Approximately 80 Ohms of Fuel Sensor Resistance) = "3/4" 0.319 - .646 Volts (Approximately 20 - 40 Ohms of Fuel Sensor Resistance) = "F" NOTE: Fuel Tank Level Voltage should be within +/- 0.2 volts. Is the displayed Fuel Tank Level voltage correct?</p> <p>Yes → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals.</p> <p>No → Replace the Fuel Level Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***INSTRUMENT CLUSTER INOPERATIVE**

POSSIBLE CAUSES
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORT TO GROUND
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
INSTRUMENT CLUSTER GROUND CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect the #13 Fuse in the Junction Block. If the fuse is open, replace with proper rated fuse. Turn the ignition on for 1 minute. Turn the ignition off. Remove and inspect the #13 Fuse 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 → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster harness connector. Turn the ignition on. Measure the voltage between Fused Ignition Switch Output circuit and ground. Is the voltage above 10.5 volts? Yes → Go To 3 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Instrument Cluster Ground circuit. Is the resistance below 5.0 ohms? Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Instrument Cluster Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LOW COOLANT INDICATOR ALWAYS ON - DIESEL ONLY**

POSSIBLE CAUSES

LOW COOLANT SWITCH

LOW COOLANT FLUID LEVEL SENSE CIRCUIT SHORT TO GROUND

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure that the coolant is filled to the proper level before proceeding with this test.</p> <p>Disconnect the Low Coolant Level Switch harness connector. With the DRBIII® in Inputs/Outputs, read the Low Coolant Switch state. Does the DRBIII® display "Closed"?</p> <p>Yes → Go To 2</p> <p>No → Replace the Low Coolant Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the Low Coolant Level Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Low Coolant Fluid Level Sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Low Coolant Fluid Level Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***LOW COOLANT INDICATOR INOPERATIVE - DIESEL ONLY****POSSIBLE CAUSES**

LOW COOLANT SWITCH
 LOW COOLANT FLUID LEVEL SENSE CIRCUIT OPEN
 LOW COOLANT SWITCH GROUND CIRCUIT OPEN
 INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Perform the Instrument Cluster Self Test before proceeding with this test. If the Indicator does not illuminate, replace the Cluster.</p> <p>Turn the ignition off. Disconnect the Low Coolant Switch harness connector. Connect a jumper wire between cavity 1 and cavity 2. Turn the ignition on and wait approximately 1 minute. With the DRBIII® in Inputs/Outputs, read the Low Coolant Switch state. Does the DRBIII® display "Closed"?</p> <p>Yes → Replace the Low Coolant Switch 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 Low Coolant Switch harness connector. Measure the resistance between ground and the Low Coolant Switch Ground circuit. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Low Coolant Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off. Disconnect the Low Coolant Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Low Coolant Fluid Level Sense circuit. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Low Coolant Fluid Level Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

INSTRUMENT CLUSTER

Symptom:

*LOW WASH MESSAGE NOT OPERATING PROPERLY

POSSIBLE CAUSES
<p>WASHER FLUID LEVEL SWITCH ALWAYS CLOSED</p> <p>LOW WASHER FLUID SENSE CIRCUIT OPEN</p> <p>LOW WASHER FLUID SENSE CIRCUIT SHORT TO GROUND</p> <p>WASHER FLUID LEVEL SWITCH ALWAYS OPEN</p> <p>WASHER FLUID LEVEL SWITCH GROUND CIRCUIT OPEN</p> <p>INSTRUMENT CLUSTER</p>

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure that the Washer Fluid reservoir is filled and the Fluid Level Switch connector is properly connected before proceeding with this test.</p> <p>Turn the ignition on and wait approximately 1 minute.</p> <p>Is the "Lowash" message always displayed?</p> <p>Yes → Go To 2</p> <p>No → Go To 3</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the Washer Fluid Level Switch harness connector.</p> <p>Turn the ignition on and wait approximately 1 minute.</p> <p>Does the VF display "LOWASH"?</p> <p>Yes → Repair the Low Washer Fluid Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Washer Fluid Level Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off.</p> <p>Disconnect the Washer Fluid Level Switch harness connector.</p> <p>Connect a jumper wire between cavity 1 and cavity 2.</p> <p>Turn the ignition on and wait approximately 1 minute.</p> <p>Does the VF display "LOWASH"?</p> <p>Yes → Replace the Washer Fluid Level Switch 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.</p> <p>Disconnect the Washer Fluid Level Switch harness connector.</p> <p>Measure the resistance between ground and the Washer Fluid Level Switch Ground circuit.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Washer Fluid Level Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

***LOW WASH MESSAGE NOT OPERATING PROPERLY — Continued**

TEST	ACTION	APPLICABILITY
5	<p>Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Low Washer Fluid Sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Low Washer Fluid Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

INSTRUMENT CLUSTER

Symptom:

*ONE GAUGE INOPERATIVE

POSSIBLE CAUSES

POWERTRAIN CONTROL MODULE DTCS

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display any PCM DTCs?</p> <p>Yes → Refer to the DRIVEABILITY 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 off. Perform the Instrument Cluster Self Test. NOTE: The Self Test can be initiated manually by depressing and holding the Trip Reset button while turning the ignition on, or by using the DRBIII®. Observe the gauge in question while the Instrument Cluster performs the Self Test. The gauges should position at the following calibrations points: Speedometer MPH: 0, 30, 60, 90, 120, 90, 60, 30, 0 Speedometer kPH: 0, 60, 120, 180, 240, 180, 120, 60, 0 Tachometer Gas: 0, 1000, 3000, 5000, 7000, 5000, 3000, 1000, 0 Tachometer Diesel: 0, 1000, 3000, 5000, 3000, 1000, 0 Fuel: 1/4, 1/2, 3/4, F, 3/4, 1/2, 1/4, E Coolant: Lo, 1/4, 1/2, 3/4, HI, 3/4, 1/2, 1/4, Lo Did the gauge in question operate properly?</p> <p>Yes → Test Complete.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***PANEL DIMMING INOPERATIVE****POSSIBLE CAUSES**

PANEL ILLUMINATION DTC PRESENT

ILLUMINATION BULB(S)

FUSED PARK LAMP RELAY OUTPUT CIRCUIT SHORT TO GROUND

FUSED PARK LAMP RELAY OUTPUT CIRCUIT OPEN

PARK LAMP RELAY OUTPUT CIRCUIT OPEN

FUSED PANEL LAMPS DIMMER SWITCH SIGNAL SHORT TO VOLTAGE

ILLUMINATED COMPONENT INTERNALLY SHORTED

FUSED PANEL LAMPS DIMMER SWITCH SIGNAL CIRCUIT SHORT TO GROUND

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display any MIC or BCM DTCs? Yes → Refer to symptom list for problems related to BCM or Instrument Cluster DTCs No → Go To 2	All
2	Turn the ignition on. Turn the Park Lamps on and adjust the dimming switch to maximum brightness. Are all of the Instrument Cluster illumination bulbs inoperative? Yes → Go To 3 No → Replace the Illumination Bulb(s) as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Remove and inspect the #9 Fuse in the Junction Block. If the fuse is open, replace with proper rated fuse. Turn the Park Lamps on for 1 minute. Turn the ignition off. Remove and inspect the #9 Fuse in the Junction Block. Is the #9 Fuse in the Junction Block open? Yes → Using the wiring diagram/schematic as a guide, repair the Fused Park Lamp Relay Output circuit for a short to ground (between the Junction Block and the Instrument Cluster). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

INSTRUMENT CLUSTER

*PANEL DIMMING INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition on. Turn the Park Lamps on. Measure the voltage between the #9 Fuse in the Junction Block and ground. Is the voltage above 10.5 volts?</p> <p>Yes → Go To 5</p> <p>No → Repair the Park Lamp Relay Output circuit for an open (between the Park Lamp Relay and the #9 Fuse in the Junction Block). Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Instrument Cluster harness connector. Turn the ignition on. Turn the Park Lamps on. Measure the voltage between the Fused Park Lamp Relay Output circuit and ground. Is the voltage above 10.5 volts?</p> <p>Yes → Go To 6</p> <p>No → Repair the Fused Park Lamp Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Turn the ignition off. Disconnect the Instrument Cluster harness connector. Check connectors - Clean/repair as necessary. Measure the voltage between the Fused Panel Lamps Dimmer Switch circuit and ground. Is there any voltage present?</p> <p>Yes → Repair the Fused Panel Lamps Dimmer Switch Signal 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. Ensure that the Instrument Cluster harness connector is connected. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors to all of the illuminated components. Turn the ignition on. Turn the Park Lamps on. While disconnecting components, inspect for Instrument Cluster illumination. Does the Instrument Cluster illumination operate after disconnecting any component?</p> <p>Yes → Replace the illuminated component as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 8</p>	All

***PANEL DIMMING INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
8	<p>Turn the ignition off. Disconnect the Instrument Cluster harness connector. Using the wiring diagram/schematic as a guide, ensure that all illuminated components are disconnected. Measure the resistance between ground and the Fused Panel Lamps Dimmer Switch circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Repair the Fused Panel Lamps Dimmer Switch Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

INSTRUMENT CLUSTER

Symptom:

***SEAT BELT INDICATOR ALWAYS ON**

POSSIBLE CAUSES

ACM DTC PRESENT

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. Ensure that the seat belt buckles are not damaged and are buckled. With the DRBIII® select MIC, in Inputs/Outputs, read the Seatbelt Lamp state. Does the DRBIII® display "On"?</p> <p>Yes → Refer to Seat Belt symptom(s) in the Airbag category.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***VTSS INDICATOR INOPERATIVE****POSSIBLE CAUSES**

BCM OR ITM DTC PRESENT

VTSS INDICATOR DRIVER CIRCUIT OPEN

BODY CONTROL MODULE

INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Ensure that the VTSS is enabled before proceeding with this test.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, read Body Control Module and Intrusion Transceiver Module DTCs.</p> <p>Does the DRBIII® display any DTCs?</p> <p>Yes → Refer to the VEHICLE THEFT / SECURITY category and perform the appropriate symptom.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Measure the voltage between the VTSS Indicator Driver circuit and ground.</p> <p>Is the voltage above 10.5 volts?</p> <p>Yes → Replace and program the Body Control Module in accordance with 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>Disconnect the Instrument Cluster Harness connector.</p> <p>Disconnect the BCM C1 harness connector.</p> <p>Measure the resistance of the VTSS Indicator Driver circuit.</p> <p>Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the VTSS Indicator Driver circuit for an open.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and configure the Instrument Cluster in accordance with the Service Information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

DIMMING LEVEL SWITCH INPUT CIRCUIT HIGH

When Monitored and Set Condition:

DIMMING LEVEL SWITCH INPUT CIRCUIT HIGH

When Monitored: Ignition on.

Set Condition: BCM detects a voltage greater than 4.75 volts on the dimming level switch input for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

PANEL LAMPS DIMMER SWITCH MUX OPEN

SHORT TO BATTERY

MULTIFUNCTION SWITCH

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Dimming Level Switch. With the DRBIII®, read the DTC information. Does the DRBIII® read: Dimming Level Switch Input CKT High?</p> <p>Yes → Go To 2</p> <p>No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the BCM C2 harness connector. Turn the ignition on to check the Courtesy Lamp operation. Did the Courtesy Lamps come on?</p> <p>Yes → Go To 3</p> <p>No → Repair the Panel Lamps Dimmer Switch MUX circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

DIMMING LEVEL SWITCH INPUT CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
3	<p>Ensure the Junction Block C24 harness connector on the front of the junction block is connected.</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 → Repair the short to battery condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.</p> <p>Disconnect the Junction Block C24 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.</p> <p>Is there any voltage on the Courtesy Lamps Driver Circuit?</p> <p>Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

DIMMING LEVEL SWITCH INPUT CIRCUIT LOW

When Monitored and Set Condition:

DIMMING LEVEL SWITCH INPUT CIRCUIT LOW

When Monitored: Ignition ON.

Set Condition: BCM detects a voltage less than 0.25 volts on the dimming level switch input for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

PANEL LAMPS DIMMER SWITCH MUX OPEN

PANEL LAMPS DIMMER SWITCH MUX CIRCUIT SHORT TO GROUND

MULTIFUNCTION SWITCH

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Dimming Level Switch. With the DRBIII®, read the DTC information. Does the DRBIII® read: Dimming Level Switch Input CKT Low?</p> <p>Yes → Go To 2</p> <p>No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the BCM C2 harness connector. Cycle the ignition switch off than back on. Did any of the Courtesy Lamps come on?</p> <p>Yes → Go To 3</p> <p>No → Repair the Panel Lamps Dimmer Switch MUX for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

DIMMING LEVEL SWITCH INPUT CIRCUIT LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Ensure the Junction Block C24 harness connector on the front of the junction block is connected.</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 → Repair the Panel Lamps Dimmer Switch MUX circuit for a short to ground condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.</p> <p>Disconnect the Junction Block C24 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.</p> <p>Is voltage present on the Courtesy Lamps Driver Circuit?</p> <p>Yes → Replace the Multifunction 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-ALL LAMPS

POSSIBLE CAUSES

JUNCTION BLOCK

COURTESY LAMPS DRIVER CIRCUIT OPEN

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Gain access to the junction block C24 Harness connector. While back probing, measure the voltage of the Courtesy Lamp Driver 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>Using a jumper wire, test the Courtesy Lamps Driver circuit to the Junction Block C24 connector and ground. Do the courtesy lamps come on?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Courtesy Lamp Driver circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

***COURTESY LAMPS INOPERATIVE-OVERHEAD LAMPS**

POSSIBLE CAUSES
INTERMITTENT CONDITION
JUNCTION BLOCK
OPEN BULB
COURTESY LAMP DRIVER CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. Turn the Courtesy Lamps on. Verify that the Courtesy Lamps are inoperative. Do the Courtesy Lamps operate normally?</p> <p>Yes → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Remove and inspect any inoperative courtesy lamp bulbs. Are any of the inspected bulbs open or shorted?</p> <p>Yes → Replace the applicable open bulb. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition on. Measure the voltage of the Courtesy Lamp Driver circuit to ground. Is the voltage above 10.0 volts?</p> <p>Yes → Repair the Courtesy Lamps Driver circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p>	All

INTERIOR LIGHTING

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
PANEL LAMPS DIMMER SWITCH MUX SHORT TO GROUND
MULTIFUNCTION SWITCH
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Ensure the Dimmer Switch is off. Close all the passenger doors. Disconnect the Junction Block C24 connector from the front of the junction block. Observe the Courtesy Lamps. Did the Courtesy Lamps turn off? Yes → Repair the Courtesy Lamps Driver circuit in the headliner harness for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Ensure the Dimmer Switch is off. Close all the passenger doors. Disconnect the Junction Block C24 harness connector from the Junction Block. Observe the Courtesy Lamps. Did Courtesy Lamps turn off? Yes → Repair the Courtesy Lamps Driver circuit in the Body Harness for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Body Control Module C2 connector. Disconnect the Multifunction Switch harness connector. Measure the resistance of the Panel Lamps Dimmer Switch MUX circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Panel Lamps Dimmer Switch MUX circuit for a short to ground condition. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

***COURTESY LAMPS STAY ON AT ALL TIMES — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the Body Control Module C2 connector. Disconnect the Multifunction Switch harness connector. Turn the ignition on. Measure the resistance of the Multifunction Switch Ground circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom: BUS MESSAGES MISSING

POSSIBLE CAUSES
NO RESPONSE FROM EVIC INTERMITTENT CONDITION NO RESPONSE - PCI BUS - PCM NO RESPONSE - PCI BUS - BCM ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: The EVIC self test can performed manually or by using the DRBIII®.</p> <p>Turn the ignition off. Perform the EVIC self test. Depress and hold the RESET and C/T (EVIC) buttons while turning the ignition on. Does the EVIC display "PASSED SELF TEST"?</p> <p>Yes → Go To 2 No → Go To 4</p>	All
2	<p>Turn the ignition on. With the DRBIII®, select Body Computer, System Tests, then PCM Monitor. Does the DRBIII® display "PCM Active on the Bus"?</p> <p>Yes → Go To 3 No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition on. With the DRBIII®, attempt to I/D or communicate with the BCM. Was the DRBIII® able to I/D or communicate with the BCM?</p> <p>Yes → Replace the EVIC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Perform the EVIC self test. Press and hold the RESET and C/T buttons. Turn the ignition on. Does the EVIC display "BUS"?</p> <p>Yes → Refer to symptom *NO RESPONSE FROM COMPASS in the Communication category. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom List:**COMPASS TEST FAILURE****EVIC INTERNAL FAILURE**

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

POSSIBLE CAUSES

ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Depress and hold the RESET and C/T buttons while turning the ignition on. NOTE: This test may also be performed using the DRBIII®. Does the EVIC or DRBIII® display "FAIL"? Yes → Replace the EVIC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom: NO BCM MESSAGES RECEIVED

When Monitored and Set Condition:

NO BCM MESSAGES RECEIVED

When Monitored: When the ignition is turned on.

Set Condition: No PCI Bus message received for 5 seconds after the ignition is turned on. No PCI Bus message is indicated by dashes in the VF display. When valid data is received, the data will replace the dashes.

POSSIBLE CAUSES

DTC PRESENT

NO RESPONSE - PCI BUS - BCM

ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this DTC reset?</p> <p>Yes → Go To 2</p> <p>No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition on. With the DRBIII®, attempt to I/D or communicate with the BCM. Was the DRBIII® able to communicate with the BCM?</p> <p>Yes → Replace the EVIC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the COMMUNICATION category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
NO PCM MESSAGES RECEIVED

When Monitored and Set Condition:

NO PCM MESSAGES RECEIVED

When Monitored: When the ignition is turned on.

Set Condition: No PCI Bus message received for 5 seconds after the ignition is turned on. No PCI Bus message is indicated by dashes in the VF display. When valid data is received, the data will replace the dashes.

POSSIBLE CAUSES

DTC PRESENT

NO RESPONSE - PCI BUS - PCM

ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this DTC reset?</p> <p>Yes → Go To 2</p> <p>No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition on. With the DRBIII®, enter Body Computer, System Tests, then PCM Monitor. Does the DRBIII® display PCM Active on the Bus?</p> <p>Yes → Replace the EVIC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Refer to the COMMUNICATION category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom List:

- ***ANY SWITCH ON EVIC INOPERATIVE**
- ***AVERAGE MILES/GAL INOPERATIVE OR WRONG**
- ***BLANK SCREEN INOPERATIVE OR WRONG**
- ***EVIC FAILS TO RESPOND TO INSTRUMENT PANEL DIMMING**
- ***MILES TO EMPTY INOPERATIVE OR WRONG**
- ***MILES TO SERVICE INOPERATIVE OR WRONG**
- ***TIME ELAPSED INOPERATIVE OR WRONG**
- ***TIRE PSI SCREEN INOPERATIVE OR WRONG**
- ***TRIP MILES INOPERATIVE OR WRONG**
- ***UNIVERSAL GARAGE DOOR OPENER (UGDO) INOPERATIVE**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be *ANY SWITCH ON EVIC INOPERATIVE.

POSSIBLE CAUSES

ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	NOTE: Diagnose and repair any BCM, MIC, WCM, PCM, or COMMUNICATION DTCs before proceeding If all the possible causes above are operating correctly, view repair. Repair Replace the EVIC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***EVIC INOPERATIVE****POSSIBLE CAUSES**

FUSED B+ CIRCUIT OPEN

FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN

GROUND CIRCUIT OPEN

ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Diagnose and repair any BCM, MIC, PCM, or COMMUNICATION DTCs before proceeding.</p> <p>Turn the ignition off. Disconnect the Overhead Console harness connector. Measure the voltage between the Fused B+ circuit and ground. Is the voltage above 10.5 volts?</p> <p>Yes → Go To 2</p> <p>No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the Overhead Console harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output circuit and ground. Is the voltage below 10.5 volts?</p> <p>Yes → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Turn the ignition off. Disconnect the Overhead Console harness connector. Measure the resistance between ground and the EVIC ground circuit. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the EVIC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

*TEMP DISPLAY INOPERATIVE OR WRONG

POSSIBLE CAUSES

AMBIENT TEMPERATURE SENSOR

EVIC INOPERATIVE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Diagnose and repair any PCM, EVIC, or Communication DTCs before proceeding with this test.</p> <p>NOTE: The Ambient Temperature Sensor is hardwired to the PCM. Ambient temperature information is transmitted to the EVIC via the PCI Bus.</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 EVIC display.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Perform the EVIC self test.</p> <p>Turn the ignition off.</p> <p>Press and hold the C/T and Reset buttons.</p> <p>Turn the ignition on.</p> <p>NOTE: The self test can also be performed using the DRBIII®.</p> <p>Observe the EVIC display at the conclusion of the self test.</p> <p>Does the EVIC display "PASSED SELF TEST"?</p> <p>Yes → Test Complete.</p> <p>No → Replace the EVIC in accordance with the Service Information.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**DOOR LOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND****When Monitored and Set Condition:****DOOR LOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND**

When Monitored: With ignition on.

Set Condition: The BCM detects a low circuit on the Door Lock Relay Control circuit even though it is not attempting to lock the doors for more than 5 seconds. If the BCM is not grounding its side of the relay coil, the output should be high.

POSSIBLE CAUSES

RELAY OPEN OR SHORTED

CODE ACTIVE

JUNCTION BLOCK - DOOR LOCK RELAY CONTROL SHORT TO GROUND

JUNCTION BLOCK - DOOR LOCK RELAY CONTROL OPEN

BODY CONTROL MODULE - OPEN OR SHORTED

TEST	ACTION	APPLICABILITY
1	<p>NOTE: If the door locks are totally inoperative, check fuse #6 before proceeding.</p> <p>Turn the ignition on.</p> <p>With the DRBIII®, erase DTCs.</p> <p>Operate the door locks several times.</p> <p>With the DRBIII®, read DTCs.</p> <p>Does the DRBIII® display DOOR LOCK RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 2</p> <p>No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Ensure the relay is completely plugged in.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the Door Lock Relay from the Junction Block.</p> <p>Install a substitute relay in place of the Door Lock Relay.</p> <p>With the DRBIII®, erase DTCs.</p> <p>Operate the Door Locks several times.</p> <p>With the DRBIII®, read DTCs.</p> <p>Does the DRBIII® display DOOR LOCK RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 3</p> <p>No → Replace the original relay.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

DOOR LOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND

— Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Remove the Door Lock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Measure the resistance between ground and the Door Lock Relay Control circuit in the relay connector of the Junction Block.. Is the resistance below 100.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Door Lock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. Measure the resistance of the Door Lock Relay Control circuit between the Relay connector and the Junction Block - BCM connector. Is the resistance below 2.0 ohms? Yes → Go To 5 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**DOOR LOCK RELAY CONTROL SHORT TO VOLTAGE****When Monitored and Set Condition:****DOOR LOCK RELAY CONTROL SHORT TO VOLTAGE**

When Monitored: With ignition on.

Set Condition: The BCM detects a high circuit on the Door Lock Relay Control circuit when it is attempting to lock the doors for more than 5 seconds. If the BCM is not able to ground its side of the relay coil, the control circuit remains high.

POSSIBLE CAUSES

RELAY SHORTED

CODE ACTIVE

JUNCTION BLOCK - DOOR LOCK RELAY CONTROL SHORT TO VOLTAGE

BODY CONTROL MODULE - SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR LOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Door Lock Relay from the Junction Block. Install a substitute relay in place of the Door Lock Relay. With the DRBIII®, erase DTCs. Operate the Door Locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR LOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 3 No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.	All

DOOR LOCK RELAY CONTROL SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Remove the Door Lock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Turn the ignition on. Measure the voltage of the Door Lock Relay Control circuit in the relay connector of the Junction Block.. Is there any voltage present?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**DOOR LOCK SWITCH OPEN OR SHORT TO VOLTAGE****When Monitored and Set Condition:****DOOR LOCK SWITCH OPEN OR SHORT TO VOLTAGE**

When Monitored: Whenever the ignition is on.

Set Condition: When the BCM detects a voltage of greater than 4.75 volts on the door lock switch mux input for over 5 seconds, this code will set. The normal voltage on the circuit is between 0.25 and 4.75 volts depending on switch positions. NOTE: Left and right switches are in parallel.

POSSIBLE CAUSES

CODE ACTIVE

LEFT DOOR LOCK SWITCH GND WIRE OPEN

LEFT DOOR LOCK SWITCH MUX WIRE OPEN

LEFT DOOR LOCK SWITCH MUX WIRE SHORT TO VOLTAGE

RIGHT DOOR LOCK SWITCH GND WIRE OPEN

RIGHT DOOR LOCK SWITCH MUX WIRE OPEN

RIGHT DOOR LOCK SWITCH MUX WIRE SHORT TO VOLTAGE

LEFT DOOR LOCK SWITCH - OPEN

LEFT DOOR LOCK SWITCH - SHORTED

RIGHT DOOR LOCK SWITCH - OPEN

RIGHT DOOR LOCK SWITCH - SHORTED

JUNCTION BLOCK OPEN

BODY CONTROL MODULE - DOOR LOCK SWITCH MUX OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times from both door lock switches With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER DOOR LOCK SWITCH OPEN OR SHORT TO VOLTAGE? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

DOOR LOCK SWITCH OPEN OR SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
2	<p>Disconnect the Junction Block C2 connector. Measure the voltage between ground and the Door Lock Switch Mux circuit cavity 14 in the C2 connector. Measure the voltage between ground and the Door Lock Switch Mux circuit cavity 10 in the C2 connector.. Which cavity had greater than 0.5 volts?</p> <p style="padding-left: 40px;">Cavity 14 - Left Door Go To 3</p> <p style="padding-left: 40px;">Cavity 10 - Right Door Go To 4</p> <p style="padding-left: 40px;">Neither circuit over 0.5 volts. Go To 5</p>	All
3	<p>Disconnect the Junction Block C2 connector. Disconnect the Left Door Lock Switch connector. Measure the voltage between ground and the Door Lock Switch Mux circuit cavity 14 in the C2 connector.. Is there any voltage present?</p> <p style="padding-left: 40px;">Yes → Repair the Door Lock Switch Mux wire for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p> <p style="padding-left: 40px;">No → Replace the Left Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Disconnect the Junction Block C2 connector. Disconnect the Right Door Lock Switch connector. Measure the voltage between ground and the Door Lock Switch Mux circuit cavity 10 in the C2 connector.. Is there any voltage present?</p> <p style="padding-left: 40px;">Yes → Repair the Door Lock Switch Mux wire for a short to voltage.. Perform BODY VERIFICATION TEST - VER 1.</p> <p style="padding-left: 40px;">No → Replace the Right Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Disconnect the Junction Block C2 connector. Measure the resistance between the Door Lock Switch Ground cavity 5 and the Door Lock Switch Mux circuit cavity 10 in the C2 connector.. Measure the resistance between the Door Lock Switch Ground cavity 11 and the Door Lock Switch Mux circuit cavity 14 in the C2 connector.. Which circuit was NOT between 4500 and 5500 ohms?</p> <p style="padding-left: 40px;">Cavities 5 & 10 - Right Door Go To 6</p> <p style="padding-left: 40px;">Cavities 11 & 14 - Left Door Go To 9</p> <p style="padding-left: 40px;">Both were approximately 5000 ohms. Go To 12</p>	All

DOOR LOCK SWITCH OPEN OR SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
6	Disconnect the Junction Block C2 connector. Disconnect the Right Door Lock Switch connector. Measure the resistance of the Door Lock Switch Mux circuit between cavity 10 in the C2 connector and the Right Door Lock Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Door Lock Switch Mux wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Junction Block C2 connector. Disconnect the Right Door Lock Switch connector. Measure the resistance of the Door Lock Switch Ground circuit between cavity 5 in the C2 connector and the Right Door Lock Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Door Lock Switch Ground wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Right Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All
9	Disconnect the Junction Block C2 connector. Disconnect the Left Door Lock Switch connector. Measure the resistance of the Door Lock Switch Mux circuit between cavity 14 in the C2 connector and the Left Door Lock Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the Door Lock Switch Mux wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the Junction Block C2 connector. Disconnect the Left Door Lock Switch connector. Measure the resistance of the Door Lock Switch Ground circuit between cavity 11 in the C2 connector and the Left Door Lock Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 11 No → Repair the Door Lock Switch Ground wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
11	If there are no possible causes remaining, view repair. Repair Replace the Left Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All

DOOR LOCK SWITCH OPEN OR SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
12	<p>Disconnect the battery ground cable.</p> <p>Disconnect all the Junction Block connectors and remove the Junction Block.</p> <p>Remove the Body Control Module from the Junction Block.</p> <p>Measure the resistance of the Door Lock Switch Mux circuit between cavity 23 in the Junction Block - Body Control Module connector and cavity 10 in the Junction Block C2.</p> <p>Measure the resistance of the Door Lock Switch Mux circuit between cavity 23 in the Junction Block - Body Control Module connector and cavity 14 in the Junction Block C2.</p> <p>Measure the resistance of the Door Lock Switch Ground circuit between cavity 12 in the Junction Block - Body Control Module connector and cavity 5 in the Junction Block C2.</p> <p>Measure the resistance of the Door Lock Switch Ground circuit between cavity 12 in the Junction Block - Body Control Module connector and cavity 11 in the Junction Block C2.</p> <p>Is the resistance below 1.0 ohm for each circuit?</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:**DOOR LOCK SWITCH SHORT TO GROUND****When Monitored and Set Condition:****DOOR LOCK SWITCH SHORT TO GROUND**

When Monitored: Whenever the ignition is on.

Set Condition: When the BCM detects a voltage of less than 0.25 volts on the door lock switch mux input for over 5 seconds, this code will set. The normal voltage on the circuit is between 0.25 and 4.75 volts depending on switch positions. NOTE: Left and right switches are in parallel.

POSSIBLE CAUSES

CODE ACTIVE

LEFT DOOR LOCK SWITCH MUX WIRE SHORT TO GROUND

RIGHT DOOR LOCK SWITCH MUX WIRE SHORT TO GROUND

LEFT DOOR LOCK SWITCH

RIGHT DOOR LOCK SWITCH

JUNCTION BLOCK SHORT TO GROUND

BODY CONTROL MODULE - DOOR LOCK SWITCH MUX SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR LOCK SWITCH SHORT TO GROUND? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Junction Block C2 connector. Measure the resistance between ground and the Door Lock Switch Mux circuit cavity 14 in the C2 connector.. Is the resistance below 100 ohms? Yes → Go To 3 No → Go To 4	All

DOOR LOCK SWITCH SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Junction Block C2 connector. Disconnect the Left Door Lock Switch connector. Measure the resistance between ground and the Door Lock Switch Mux circuit cavity 14 in the C2 connector.. Is the resistance below 100 ohms? Yes → Repair the Door Lock Switch Mux wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Left Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Junction Block C2 connector. Measure the resistance between ground and the Door Lock Switch Mux circuit cavity 10 in the C2 connector.. Is the resistance below 100 ohms? Yes → Go To 5 No → Go To 6	All
5	Disconnect the Junction Block C2 connector. Disconnect the Right Door Lock Switch connector. Measure the resistance between ground and the Door Lock Switch Mux circuit cavity 10 in the C2 connector.. Is the resistance below 100 ohms? Yes → Repair the Door Lock Switch Mux wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Right Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Junction Block C2 connector. Remove the Body Control Module from the Junction Block. Measure the resistance between ground and the Door Lock Switch Mux circuit cavity 23 in the Junction Block - Body Control Module connector.. Is the resistance below 100 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND****When Monitored and Set Condition:****DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND**

When Monitored: With ignition on.

Set Condition: The BCM detects a low circuit on the Door Unlock Relay Control circuit even though it is not attempting to unlock the doors for more than 5 seconds. If the BCM is not grounding its side of the relay coil, the output should be high.

POSSIBLE CAUSES

RELAY OPEN OR SHORTED

CODE ACTIVE

JUNCTION BLOCK - DOOR UNLOCK RELAY CONTROL SHORT TO GROUND

JUNCTION BLOCK - DOOR UNLOCK RELAY CONTROL OPEN

BODY CONTROL MODULE - OPEN OR SHORTED

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times. NOTE: NOTE: If the door locks are totally inoperative, check fuse #6 before proceeding. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 2</p> <p>No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Ensure the relay is completely plugged in. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the Door Unlock Relay from the Junction Block. Install a substitute relay in place of the Door Unlock Relay. With the DRBIII®, erase DTCs. Operate the Door Locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 3</p> <p>No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.</p>	All

DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Remove the Door Unlock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Measure the resistance between ground and the Door Unlock Relay Control circuit in the relay connector of the Junction Block.. Is the resistance below 100.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Door Unlock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. Measure the resistance of the Door Unlock Relay Control circuit between the Relay connector and the Junction Block - BCM connector. Is the resistance below 2.0 ohms? Yes → Go To 5 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**DOOR UNLOCK RELAY CONTROL SHORT TO VOLTAGE****When Monitored and Set Condition:****DOOR UNLOCK RELAY CONTROL SHORT TO VOLTAGE**

When Monitored: With ignition on.

Set Condition: The BCM detects a high circuit on the Door Unlock Relay Control circuit when it is attempting to unlock the doors for more than 5 seconds. If the BCM is not able to ground its side of the relay coil, the control circuit remains high.

POSSIBLE CAUSES

RELAY SHORTED

CODE ACTIVE

JUNCTION BLOCK - DOOR UNLOCK RELAY CONTROL SHORT TO VOLTAGE

BODY CONTROL MODULE - SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Door Unlock Relay from the Junction Block. Install a substitute relay in place of the Door Unlock Relay. With the DRBIII®, erase DTCs. Operate the Door Locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DOOR UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 3 No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.	All

DOOR UNLOCK RELAY CONTROL SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Remove the Door Unlock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Turn the ignition on. Measure the voltage of the Door Unlock Relay Control circuit in the relay connector of the Junction Block.. Is there any voltage present?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND****When Monitored and Set Condition:****DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND**

When Monitored: With ignition on.

Set Condition: The BCM detects a low circuit on the Driver Door Unlock Relay Control circuit even though it is not attempting to unlock the doors for more than 5 seconds. If the BCM is not grounding its side of the relay coil, the output should be high.

POSSIBLE CAUSES

RELAY OPEN OR SHORTED

CODE ACTIVE

JUNCTION BLOCK - DRIVER DOOR UNLOCK RELAY CONTROL SHORT TO GROUND

JUNCTION BLOCK - DRIVER DOOR UNLOCK RELAY CONTROL OPEN

BODY CONTROL MODULE - OPEN OR SHORTED

TEST	ACTION	APPLICABILITY
1	<p>NOTE: NOTE: If the door locks are totally inoperative, check fuse #6 before proceeding. Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 2</p> <p>No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Ensure the relay is completely plugged in. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Remove the Driver Door Unlock Relay from the Junction Block. Install a substitute relay in place of the Driver Door Unlock Relay. With the DRBIII®, erase DTCs. Operate the Door Locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN/SHORT TO GROUND?</p> <p>Yes → Go To 3</p> <p>No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.</p>	All

DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT OPEN OR SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Remove the Driver Door Unlock Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Measure the resistance between ground and the Driver Door Unlock Relay Control circuit in the relay connector of the Junction Block.. Is the resistance below 100.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the 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 Relay connector and the Junction Block - BCM connector. Is the resistance below 2.0 ohms? Yes → Go To 5 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE****When Monitored and Set Condition:****DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE**

When Monitored: With ignition on.

Set Condition: The BCM detects a high circuit on the Driver Door Unlock Relay Control circuit when it is attempting to unlock the driver door for more than 5 seconds. If the BCM is not able to ground its side of the relay coil, the control circuit remains high.

POSSIBLE CAUSES

RELAY SHORTED

CODE ACTIVE

JUNCTION BLOCK - DRIVER UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE

BODY CONTROL MODULE - SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Driver Door Unlock Relay from the Junction Block. Install a substitute relay in place of the Driver Door Unlock Relay. With the DRBIII®, erase DTCs. Operate the Door Locks several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 3 No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER DOOR UNLOCK RELAY CONTROL CIRCUIT SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
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. NOTE: Ensure the Junction Block connectors are reconnected at this time. Turn the ignition on. Measure the voltage of the Driver Unlock Relay Control circuit in the relay connector of the Junction Block.. Is there any voltage present?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**LEFT CYLINDER LOCK SWITCH SHORT TO GROUND****When Monitored and Set Condition:****LEFT CYLINDER LOCK SWITCH SHORT TO GROUND**

When Monitored: Whenever the ignition is on.

Set Condition: When the BCM detects a voltage of less than 0.25 volts on the left cylinder lock switch mux input for over 5 seconds, this code will set. The normal voltage on the circuit is between 0.25 and 5.0 volts depending on switch position.

POSSIBLE CAUSES

BCM - LEFT CYLINDER LOCK SWITCH CIRCUIT SHORT TO GROUND.

CODE ACTIVE

LEFT CYLINDER LOCK SWITCH WIRE SHORT TO GROUND.

LEFT CYLINDER LOCK SWITCH - SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the door locks several times from both cylinder lock switches With the DRBIII®, read DTCs. Does the DRBIII® display LEFT CYLINDER LOCK SWITCH SHORT TO GROUND? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Left Cylinder Lock Switch Mux circuit. Is the resistance below 1000 ohms? Yes → Go To 3 No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT CYLINDER LOCK SWITCH SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Body Control Module C2 connector. Disconnect the Left Cylinder Lock Switch connector. Measure the resistance between ground and the Left Cylinder Lock Switch Mux circuit. Is the resistance below 1000 ohms ohms? Yes → Repair the Left Cylinder Lock Switch wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Left Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**TAILGATE CYLINDER LOCK SWITCH SHORT TO GROUND****When Monitored and Set Condition:****TAILGATE CYLINDER LOCK SWITCH SHORT TO GROUND**

When Monitored: Whenever the ignition is on.

Set Condition: When the BCM detects a voltage of less than 0.25 volts on the tailgate cylinder lock switch mux input for over 5 seconds, this code will set. The normal voltage on the circuit is between 0.25 and 5.0 volts depending on switch position.

POSSIBLE CAUSES

BCM - TAILGATE CYLINDER LOCK SWITCH CIRCUIT SHORT TO GROUND.

CODE ACTIVE

TAILGATE CYLINDER LOCK SWITCH WIRE SHORT TO GROUND.

TAILGATE CYLINDER LOCK SWITCH - SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Lock and unlock the tailgate several times from the tailgate cylinder lock switch. With the DRBIII®, read DTCs. Does the DRBIII® display TAILGATE CYLINDER LOCK SWITCH SHORT TO GROUND? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Tailgate Cylinder Lock Switch Mux circuit. Is the resistance below 1000 ohms? Yes → Go To 3 No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

TAILGATE CYLINDER LOCK SWITCH SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Body Control Module C2 connector. Disconnect the Tailgate Cylinder Lock Switch connector. Measure the resistance between ground and the Tailgate Cylinder Lock Switch Mux circuit. Is the resistance below 1000 ohms?</p> <p>Yes → Repair the Tailgate Cylinder Lock Switch wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Tailgate Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**TAILGATE LOCK MOTOR SHORT TO VOLTAGE****When Monitored and Set Condition:****TAILGATE LOCK MOTOR SHORT TO VOLTAGE**

When Monitored: Whenever the ignition is on.

Set Condition: When the BCM detects voltage on either the Tailgate Lock Driver or Unlock Driver circuit for longer than 5 seconds when the Tailgate is not being actuated. If there is, the BCM will disable the lock functions to protect the BCM.

POSSIBLE CAUSES

TAILGATE LOCK OR UNLOCK CIRCUIT SHORT TO VOLTAGE

CODE ACTIVE

JUNCTION BLOCK - SHORT TO VOLTAGE

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to On and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display TAILGATE LOCK MOTOR SHORT TO VOLTAGE? Yes → Go To 2 No → Problem is intermittent and not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Junction Block C2 connector. Measure the voltage between Tailgate Lock Driver circuit and ground. Is there any voltage present? Yes → Repair the Tailgate Lock or Unlock Driver for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

TAILGATE LOCK MOTOR SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block C connectors are connected at this time. Turn the ignition on. Measure the voltage between the Tailgate Lock Driver circuit in the Junction Block - BCM connector and ground. Measure the voltage between the Tailgate Unlock Driver circuit in the Junction Block - BCM connector and ground. Is there any voltage present?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***ALL DOORS FAIL TO LOCK****POSSIBLE CAUSES**

DTC'S PRESENT

KEY-IN IGNITION SWITCH SHORTED

DOOR LOCK RELAY OUTPUT CIRCUIT SHORT TO GROUND

DOOR LOCK RELAY

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read DTCs. Are there any Power Door Lock related codes present?</p> <p>Yes → Refer to symptom list for problems related to POWER DOOR LOCKS/RKE. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Close both front doors. Insert the key in the ignition switch but do not turn the switch on. Does the Chime continue to sound?</p> <p>Yes → Refer to symptom list for problems related to CHIME.. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Remove the Door Lock, the Door Unlock and the Driver Door Unlock relays from the Junction Block. Measure the resistance between ground and the Lock Relay Output circuit in the Lock relay connector. Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Lock Relay Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Door Lock Relay. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***ALL PASSENGER DOORS FAIL TO LOCK AND UNLOCK****POSSIBLE CAUSES**

DTC'S PRESENT

DOOR UNLOCK RELAY OUTPUT CIRCUIT OPEN

DOOR UNLOCK RELAY

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read DTCs. Are there any Power Door Lock related codes present? Yes → Refer to symptom list for problems related to POWER DOOR LOCKS/RKE. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the Door Unlock Relay from the Junction Block. Using a 12-volt test light connected to ground, check the Door Unlock Relay Output circuit (cavity 30) in the relay connector.. With the DRBIII®, actuate the Door Lock Relay. Does the test light illuminate brightly when the relay is actuated? Yes → Replace the Door Unlock Relay. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Door Unlock Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:***ALL PASSENGER DOORS FAIL TO UNLOCK****POSSIBLE CAUSES**

DTC'S PRESENT

DOOR UNLOCK RELAY OUTPUT CIRCUIT SHORT TO GROUND

DOOR UNLOCK RELAY

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read DTCs. Are there any Power Door Lock related codes present?</p> <p>Yes → Refer to symptom list for problems related to POWER DOOR LOCKS/RKE. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn the ignition off. Remove the Door Lock, the Door Unlock and the Driver Door Unlock relays from the Junction Block. Measure the resistance between ground and the Door Unlock Relay Output circuit (cavity 30) in the Door Unlock relay connector.. Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Door Unlock Relay Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Door Unlock Relay. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

*AUTO DOOR LOCKS INOPERATIVE

POSSIBLE CAUSES
AUTO (ROLLING) DOOR LOCKS NOT ENABLED
DOOR AJAR STATUS
PCM DTC'S PRESENT
BODY CONTROL MODULE - AUTO LOCKS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII select: "Body Controller", "Miscellaneous", "Auto Door Locks"</p> <p>Does the DRBIII® show "Auto Door Locks: ENABLED"?</p> <p>Yes → Go To 2</p> <p>No → With the DRBIII, enable the Auto (Rolling) Door Locks, open and close the driver door at least once and retest the System. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Ensure all doors are closed.</p> <p>With the DRBIII read all DOOR AJAR states</p> <p>Do any door ajar states show CLOSED?</p> <p>Yes → Refer to symptom list for problems related to DOOR AJAR. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>With the DRBIII read "Engine" DTC's.</p> <p>Are there any TPS DTC's present?</p> <p>Yes → Refer to symptom list for problems related to DRIVEABILITY.. 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 the Body Control Module.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***DRIVER DOOR FAILS TO LOCK AND UNLOCK****POSSIBLE CAUSES**

DOOR LOCK MOTOR - OPEN

DRIVER DOOR UNLOCK RELAY OUTPUT WIRE OPEN

DOOR LOCK RELAY OUTPUT WIRE OPEN

TEST	ACTION	APPLICABILITY
1	<p>Remove the inner door trim panel to gain access to the Door Lock Motor connector. Disconnect the Driver Door Lock Motor connector. Remove the key from the ignition switch. Connect a test light between the Door Lock Relay Output and the Driver Door Unlock Relay Output circuits in the door lock motor connector. Press the door lock switch to the Lock and Unlock positions. Did the test light illuminate brightly when the lock switch was pressed in both directions?</p> <p>Yes → Replace the Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn ignition off. Remove the inner door trim panel to gain access to the Door Lock Motor connector. Disconnect the Door Lock Motor connector. Using a 12-volt test light connected to ground, check the Driver Door Unlock Relay Output circuit. With the DRBIII®, actuate the DRIVER DOOR UNLOCK RELAY. Does the test light illuminate brightly when the relay is actuated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Driver Door Unlock Relay Output wire. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn ignition off. Remove the inner door trim panel to gain access to the Door Lock Motor connector. Disconnect the Door Lock Motor connector. Using a 12-volt test light connected to ground, check the Door Lock Relay Output circuit. With the DRBIII®, actuate the Door Lock Relay. Does the test light illuminate brightly when the relay is actuated?</p> <p>Yes → Test Complete.</p> <p>No → Repair the Door Lock Relay Output wire for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

*DRIVER DOOR FAILS TO UNLOCK

POSSIBLE CAUSES

DTC'S PRESENT

DRIVER DOOR UNLOCK RELAY

DRIVER DOOR UNLOCK RELAY OUTPUT WIRE SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read DTCs. Are there any Power Door Lock related codes present?</p> <p>Yes → Refer to symptom list for problems related to POWER DOOR LOCKS/RKE. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Install a substitute Relay in place of the Driver Door Unlock Relay. Remove the key from the ignition switch. Press the door lock switch to the Lock and Unlock positions. Did the Driver Door Lock and Unlock?</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 ignition off. Remove the Driver Door Unlock relay from the Junction Block. Remove the Driver Door inner trim panel and gain access to the door lock motor connector. Disconnect the Driver Door Lock Motor connector. Measure the resistance between ground and the Driver Door Unlock Relay Output circuit (cavity 30) in the relay connector. Is the resistance below 1000.0 ohms?</p> <p>Yes → Repair the Driver Door Unlock Relay Output wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom:***FLIP-UP GLASS RELEASE INOPERATIVE****POSSIBLE CAUSES**

FLIP-UP GLASS RELEASE MOTOR
 FLIP-UP GLASS RELEASE SWITCH
 GROUND CIRCUIT OPEN
 TAILGATE SWITCH GROUND
 FLIP-UP GLASS RELEASE MOTOR DRIVER WIRE OPEN
 FLIP-UP GLASS RELEASE SWITCH SENSE OPEN
 BODY CONTROL MODULE - FLIP-UP GLASS RELEASE MOTOR DRIVER OPEN
 BODY CONTROL MODULE - FLIP-UP GLASS RELEASE SWITCH SENSE OPEN

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® in Inputs/Outputs, read the FLIP-UP GLASS REL SW state. Observe the DRBIII® and move the tailgate handle from open to close positions. Does the DRBIII® display OPEN then CLOSED as the handle is moved?</p> <p>Yes → Go To 2</p> <p>No → Go To 6</p>	All
2	<p>Disconnect the Flip-Up Glass Release Motor connector. Connect a 12-volt test light between the Flip-Up Glass Release Motor Driver circuit and the ground circuit in the motor connector. With the DRBIII®, actuate the RELEASE FLIP-UP GLASS. Does the test light illuminate brightly when the motor is actuated?</p> <p>Yes → Replace the Flip-Up Glass Release Motor. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 3</p>	All
3	<p>Disconnect the Flip-Up Glass Release Motor connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit in the motor connector. Does the test light illuminate brightly?</p> <p>Yes → Go To 4</p> <p>No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

***FLIP-UP GLASS RELEASE INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the Flip-Up Glass Release Motor connector. Connect a jumper wire between Flip-Up Glass Release Motor Driver circuit and ground in the motor connector. Disconnect the Body Control Module C1 connector. Measure the resistance between ground and the Flip-Up Glass Release Motor Driver circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the Flip-Up Glass Release Motor Driver 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 Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Remove the tailgate trim panel. Disconnect the Flip-Up Glass Release Switch. connector. Connect a jumper wire between Flip-Up Glass Release Switch. circuit and Tailgate Switch Ground circuit in the switch connector. With the DRBIII® in Inputs/Outputs, read the Flip-Up Glass Rel Sw state. Does the DRBIII® display CLOSED?</p> <p>Yes → Replace the Flip-Up Glass Release Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Remove the tailgate trim panel. Disconnect the Flip-Up Glass Release Switch. connector. Using a 12-volt test light connected to 12-volts, check the Tailgate Switch Ground circuit. Does the test light illuminate brightly?</p> <p>Yes → Go To 8</p> <p>No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
8	<p>Remove the tailgate trim panel. Disconnect the Flip-Up Glass Release Switch. connector. Connect a jumper wire between Flip-Up Glass Release Switch. Sense circuit and ground. Disconnect the Body Control Module C1 connector. Measure the resistance between ground and the Flip-Up Glass Release Switch Sense circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the Flip-Up Glass Release Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

***FLIP-UP GLASS RELEASE INOPERATIVE — Continued**

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

Symptom:

***ONE PASSENGER DOOR FAILS TO LOCK AND UNLOCK**

POSSIBLE CAUSES

DOOR LOCK MOTOR - OPEN

DOOR UNLOCK RELAY OUTPUT WIRE OPEN

DOOR LOCK RELAY OUTPUT WIRE OPEN

TEST	ACTION	APPLICABILITY
1	<p>Remove the inner door trim panel to gain access to the Door Lock Motor connector. Disconnect the appropriate Door Lock Motor connector.</p> <p>Connect a test light between the Lock Relay Output and the Unlock Relay Output circuits in the door lock motor connector.</p> <p>Press the door lock switch to the Lock and Unlock positions.</p> <p>Did the test light illuminate when the lock switch was pressed in both directions?</p> <p>Yes → Replace the Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Turn ignition off.</p> <p>Remove the appropriate inner door trim panel to gain access to the Door Lock Motor connector.</p> <p>Disconnect the Door Lock Motor connector.</p> <p>Using a 12-volt test light connected to ground, check the Door Unlock Relay Output circuit.</p> <p>With the DRBIII®, actuate the DOOR UNLOCK RELAY.</p> <p>Does the test light illuminate brightly when the relay is actuated?</p> <p>Yes → Go To 3</p> <p>No → Repair the Door Unlock Relay Output wire for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn ignition off.</p> <p>Remove the appropriate inner door trim panel to gain access to the Door Lock Motor connector.</p> <p>Disconnect the Door Lock Motor connector.</p> <p>Using a 12-volt test light connected to ground, check the Door Lock Relay Output circuit.</p> <p>With the DRBIII®, actuate the Door Lock Relay.</p> <p>Does the test light illuminate brightly when the relay is actuated?</p> <p>Yes → Test Complete.</p> <p>No → Repair the Door Lock Relay Output wire for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***REMOTE KEYLESS ENTRY INOPERATIVE****POSSIBLE CAUSES**

DOOR LOCKS SYSTEM CHECK
 TEST TRANSMITTER WITH TESTER
 RKE TRANSMITTER NOT PROGRAMMED
 RKE TRANSMITTER BATTERY VOLTAGE LOW
 RKE TRANSMITTER NOT PROGRAMMED
 RKE TRANSMITTER DEFECTIVE
 BODY CONTROL MODULE
 BODY CONTROL MODULE
 SKREEM MODULE - RKE INOPERATIVE
 SKREEM MODULE - RKE INOPERATIVE

TEST	ACTION	APPLICABILITY
1	<p>Operate the door locks from both of the door lock switches. Did the door locks respond properly to both of the door lock switches?</p> <p>Yes → Go To 2</p> <p>No → Refer to Power Door Locks/RKE in the Symptom List for the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>NOTE: Ensure there is communication between the SKREEM and the BODY CONTROL MODULE before proceeding. Do you have access to the Miller Special Tool "9001 RF DETECTOR"?</p> <p>No → Go To 3</p> <p>Yes → Go To 8</p>	All
3	<p>Using a voltmeter, test the Batteries in the RKE Transmitter. Is the voltage above 3.0 volts in each battery?</p> <p>Yes → Go To 4</p> <p>No → Replace the Batteries. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>With the DRBIII®, actuate the door LOCK and then door UNLOCK. Do the door locks operate using the DRBIII?</p> <p>Yes → Go To 5</p> <p>No → Replace the Body Control Module in accordance with the Service Information.. Perform BODY VERIFICATION TEST - VER 1.</p>	All

*REMOTE KEYLESS ENTRY INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	<p>With the DRBIII® select THEFT ALARM, SKIM, MONITORS and observe the "FOB #" and "FOB Button".. Press the LOCK button and then the UNLOCK button on the Transmitter. Does the DRBIII® display:" UNLOCK", "LOCK" and the "FOB Number"?</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 6</p>	All
6	<p>With the DRBIII® select THEFT ALARM, SKIM, then PROGRAM NEW KEY. Follow instructions on the screen. Exit PROGRAM NEW KEY. Try the Door Locks using the Transmitter. Did the Door Locks respond properly to the Transmitter commands ?</p> <p>Yes → Repair complete. Using the DRBIII, program other Transmitters used with this Vehicle. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 7</p>	All
7	<p>Secure a known good Transmitter. Using the DRBIII® select THEFT ALARM, SKIM then PROGRAM NEW KEY and follow the instructions on the DRBIII® screen. Exit PROGRAM new key. Try the Door Locks using the Transmitter. Did the Door Locks respond properly to the Transmitter commands ?</p> <p>Yes → Replace the Transmitter. Program all Transmitters that will be used with this Vehicle. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Sentry Key RemotE Entry Module in accordance with service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>Note: When repairs are complete ensure all transmitters used with this vehicle are programmed</p>	All
8	<p>Using the 9001 RF Detector, follow the instructions on the back of the tester and test the transmitter several times. Does the signal strength measure "STRONG"?</p> <p>Yes → Go To 9</p> <p>No → Check and replace the batteries if they are under 3.0 volts each and retest the transmitter. If the batteries are okay, replace the transmitter. Perform BODY VERIFICATION TEST - VER 1.</p>	All
9	<p>With the DRBIII®, select THEFT ALARM, SKIM then PROGRAM NEW KEY and follow the instructions on the screen. Exit PROGRAM NEW KEY. Activate the Door Locks using the RKE Transmitter. Did the door locks respond properly to the RKE transmitter commands?</p> <p>Yes → Repair complete. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Sentry Key RemotE Entry Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:***TAILGATE CYLINDER LOCK SWITCH INOPERATIVE****POSSIBLE CAUSES**

DTC'S PRESENT

TAILGATE SWITCH GROUND CIRCUIT OPEN

TAILGATE CYLINDER LOCK SWITCH MUX WIRE OPEN

TAILGATE CYLINDER LOCK SWITCH OPEN

BODY CONTROL MODULE -TAILGATE CYLINDER LOCK SWITCH OPEN

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, read DTCs. Are there any Tailgate related codes present?</p> <p>Yes → Refer to symptom list for problems related to POWER DOOR LOCKS/RKE. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<p>Disconnect the Tailgate Cylinder Lock Switch connector. Turn the ignition and all lights off. Measure the resistance between ground and the Tailgate Switch Ground circuit. Is the resistance below 15.0 ohms?</p> <p>Yes → Go To 3</p> <p>No → Repair the Tailgate Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Disconnect the Tailgate Cylinder Lock Switch connector. Turn the ignition on. Measure the voltage between ground and the Tailgate Cylinder Lock Switch circuit. Is the voltage above 4.9 volts?</p> <p>Yes → Replace the Tailgate Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 4</p>	All
4	<p>Disconnect the Tailgate Cylinder Lock Switch connector. Connect a jumper wire between the Tailgate Cylinder Lock Switch Mux circuit in the Lock Motor connector and ground. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Tailgate Cylinder Lock Switch Mux circuit. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Tailgate Cylinder Lock Switch Mux wire for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

*TAILGATE LOCK INOPERATIVE

POSSIBLE CAUSES

DTC'S PRESENT
 TAILGATE LOCK DRIVER OPEN
 TAILGATE LOCK MOTOR OPEN
 TAILGATE LOCK DRIVER SHORT TO GROUND
 TAILGATE UNLOCK DRIVER OPEN
 TAILGATE UNLOCK DRIVER SHORT TO GROUND
 JUNCTION BLOCK OPEN
 BODY CONTROL MODULE - TAILGATE DRIVER OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read DTCs. Are there any Tailgate related codes present? Yes → Refer to symptom list for problems related to POWER DOOR LOCKS/RKE. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Tailgate Lock Motor connector. Connect a test light between the Tailgate Lock Driver circuit and the Tailgate Unlock Driver circuit in the Lock Motor connector. With the DRBIII actuate the UNLOCK TAILGATE. With the DRBIII actuate the LOCK TAILGATE. Did the test light illuminate when the motor was actuated in both directions? Yes → Replace the Tailgate Lock Motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Tailgate Lock Motor connector. Connect a jumper wire between Tailgate Lock Driver circuit and ground in the Lock Motor connector. Disconnect the Junction Block C2 connector. Measure the resistance between ground and the Tailgate Lock Driver circuit in the Junction Block C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Tailgate Lock Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

***TAILGATE LOCK INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	Disconnect the Tailgate Lock Motor connector. Disconnect the Junction Block C2 connector. Measure the resistance between ground and the Tailgate Lock Driver circuit in the Junction Block C2 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Tailgate Lock Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Tailgate Lock Motor connector. Connect a jumper wire between Tailgate Unlock Driver circuit and ground in the Lock Motor connector. Disconnect the Junction Block C2 connector. Measure the resistance between ground and the Tailgate Unlock Driver circuit in the Junction Block C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Tailgate Unlock Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Tailgate Lock Motor connector. Disconnect the Junction Block C2 connector. Measure the resistance between ground and the Tailgate Unlock Driver circuit in the Junction Block C2 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Tailgate Unlock Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Remove the Junction Block. Remove the Body Control Module from the Junction Block. Measure the resistance of the Tailgate Lock Driver circuit between Junction Block C2 connector and the Junction Block - BCM connector. Measure the resistance of the Tailgate Unlock Driver circuit between Junction Block C2 connector and the Junction Block - BCM connector. Is the resistance below 1.0 ohm on both circuits? Yes → Go To 8 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:**AUDIO HARDWARE MESSAGE NOT RECEIVED****When Monitored and Set Condition:****AUDIO HARDWARE MESSAGE NOT RECEIVED**

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the bus message from the radio indicating what kind of radio the vehicle is equipped with.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE RADIO
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, attempt to communicate with the Radio. Was the DRBIII® able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace and program the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

BLUETOOTH ERROR
FLASH CHECKSUM ERROR
FLASH WRITE ERROR
PCI BUS INTERNAL ERROR
RAM WRITE ERROR
ROM CHECKSUM ERROR

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

When Monitored and Set Condition:

BLUETOOTH ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

FLASH CHECKSUM ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

FLASH WRITE ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

PCI BUS INTERNAL ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

RAM WRITE ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

ROM CHECKSUM ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

BLUETOOTH ERROR — Continued

POSSIBLE CAUSES
HFM INTERNAL DTC FAILURE

TEST	ACTION	APPLICABILITY
1	<p>NOTE: This trouble code indicates an internal Hands Free Module fault. With the DRBIII®, read and record the HFM DTCs and then erase the DTCs. Perform 5 ignition key cycles, leaving the ignition key on for a minimum of 90 seconds per cycle. With the DRBIII®, read the DTCs. Did the same DTC return?</p> <p>Yes → Replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom List:

**BODY STYLE MESSAGE NOT RECEIVED
INVALID BODY STYLE**

**Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be BODY STYLE MESSAGE NOT RECEIVED.**

When Monitored and Set Condition:**BODY STYLE MESSAGE NOT RECEIVED**

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the body style message from the PCM.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK PCM IS ACTIVE ON BUS
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select System Monitors then J1850 Module Scan. Is the PCM one of the modules present on the bus? Yes → Go To 3 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace and program the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
GENERAL MICROPHONE FAULT

POSSIBLE CAUSES
AUTOMATIC DAY/NIGHT MIRROR
HANDS FREE MODULE
MICROPHONE CIRCUITS OPEN
MICROPHONE CIRCUITS SHORT TO GROUND
MICROPHONE CIRCUITS SHORT TO VOLTAGE
MICROPHONE CIRCUITS SHORTED TOGETHER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance of each Microphone circuit between the HFM connector and the Automatic Day/Night Mirror connector. Is the resistance below 10.0 ohms for each measurement? Yes → Go To 3 No → Repair the Microphone circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and each Microphone circuit. Is the resistance above 1000.0 ohms for each measurement? Yes → Go To 4 No → Repair the Microphone circuits for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

GENERAL MICROPHONE FAULT — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of each Microphone circuit. Is the voltage below 1.0 volt for each measurement?</p> <p>Yes → Go To 5</p> <p>No → Repair the Microphone circuits for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance between each Microphone circuit in the Automatic Day/Night Mirror harness connector. Is the resistance above 1000 ohms for each measurement?</p> <p>Yes → Go To 6</p> <p>No → Refer the Microphone circuits for a short together. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Replace the Automatic Day/Night Mirror in accordance with the Service Information. Turn the ignition on. With the DRBIII®, erase DTC's. Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC?</p> <p>Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All
7	<p>NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.</p> <p>With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present?</p> <p>Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom:**IGNITION POWER MESSAGE NOT RECEIVED****When Monitored and Set Condition:****IGNITION POWER MESSAGE NOT RECEIVED**

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive an Ignition Power Status message from the BCM.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE BCM
MODULE

TEST	ACTION	APPLICABILITY
1	Start and idle the engine. With the DRBIII®, attempt to I/D and communicate with the BCM. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

LEFT AUDIO INPUT SHORT TO GROUND
LEFT AUDIO INPUT SHORT TO VOLTAGE
LEFT AUDIO OUTPUT 1 SHORT TO GROUND
LEFT AUDIO OUTPUT 1 SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be LEFT AUDIO INPUT SHORT TO GROUND.

When Monitored and Set Condition:**LEFT AUDIO INPUT SHORT TO GROUND**

When Monitored: With the ignition on

Set Condition: The Hands Free Module detects low voltage on the input circuit.

LEFT AUDIO INPUT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects high voltage on the input circuit.

LEFT AUDIO OUTPUT 1 SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to Ground on the Audio MUX Left circuit.

LEFT AUDIO OUTPUT 1 SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to voltage on the Audio MUX Left circuit.

POSSIBLE CAUSES

AUDIO MUX LEFT AND AUDIO MUX RIGHT CIRCUITS SHORTED TOGETHER
AUDIO MUX LEFT CIRCUIT OPEN
AUDIO MUX LEFT CIRCUIT SHORT TO GROUND
AUDIO MUX LEFT CIRCUIT SHORT TO VOLTAGE
HANDS FREE MODULE
INTERMITTENT CONDITION

LEFT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC?</p> <p>Yes → Go To 2 No → Go To 6</p>	All
2	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Audio MUX Left circuit. Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 3 No → Repair the Audio MUX Left circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and the Audio MUX Left circuit. Is the resistance above 1000.0 ohms?</p> <p>Yes → Go To 4 No → Repair the Audio MUX Left circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the Audio MUX Left circuit. Is the voltage below 1.0 volt?</p> <p>Yes → Go To 5 No → Repair the Audio MUX Left circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between the Audio MUX Left circuit and the Audio MUX Right circuit. Is the resistance above 1000 ohms?</p> <p>Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Audio MUX Left circuit for a short to the Audio MUX Right circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All

LEFT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
6	<p>NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.</p> <p>With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure.</p> <p>Refer to any Technical Service Bulletins (TSB) that may apply.</p> <p>Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</p> <p>Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</p> <p>Were any of the above conditions present?</p> <p>Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom List:**MIRROR POWER CIRCUIT SHORT TO GROUND****MIRROR POWER CIRCUIT SHORT TO VOLTAGE**

**Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be MIRROR POWER CIRCUIT
SHORT TO GROUND.****POSSIBLE CAUSES**

AUTOMATIC DAY/NIGHT MIRROR

HANDS FREE MODULE

IGNITION RUN/ACC SIGNAL CIRCUIT SHORT TO OTHER CIRCUITS

IGNITION RUN/ACC SIGNAL CIRCUIT SHORT TO VOLTAGE

IGNITION RUN/ACC SIGNAL OPEN

IGNITION RUN/ACC SIGNAL SHORT TO GROUND

INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Ignition RUN/ACC Signal circuit. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Ignition RUN/ACC Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and the Ignition RUN/ACC Signal circuit. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Ignition RUN/ACC Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

MIRROR POWER CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the Ignition RUN/ACC Signal circuit. Is the voltage below 1.0 volt?</p> <p>Yes → Go To 5</p> <p>No → Repair the Ignition RUN/ACC Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance between the Ignition RUN/ACC Signal circuit and each of the other circuits in the Automatic Day/Night Mirror harness connector. Is the resistance above 1000 ohms for each measurement?</p> <p>Yes → Go To 6</p> <p>No → Repair the Ignition RUN/ACC Signal circuit for a short to other circuits. Perform BODY VERIFICATION TEST - VER 1.</p>	All
6	<p>Replace the Automatic Day/Night Mirror in accordance with the Service Information. Turn the ignition on. With the DRBIII®, erase the DTC's Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC?</p> <p>Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All
7	<p>NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition. With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present?</p> <p>Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom List:

PCI BUS BUSY

PCI BUS CIRCUIT OPEN

PCI BUS CIRCUIT SHORT TO GROUND

PCI BUS CIRCUIT SHORT TO VOLTAGE

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

When Monitored and Set Condition:

PCI BUS BUSY

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

PCI BUS CIRCUIT OPEN

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

PCI BUS CIRCUIT SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

PCI BUS CIRCUIT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

POSSIBLE CAUSES

INTERMITTENT CONDITION

PCI BUS BUSY — Continued

TEST	ACTION	APPLICABILITY
1	<p>NOTE: For this code to be active, the DRBIII® will not be able to communicate with any modules on the vehicle (except the PCM).</p> <p>NOTE: Clear the code. If this code continues to set and the DRBIII® can still communicate with the module, it will be necessary to replace the module.</p> <p>NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.</p> <p>With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply.</p> <p>Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</p> <p>Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</p> <p>Were any of the above conditions present?</p> <p>Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom List:

PHONE SWITCH STUCK

VOICE RECOGNITION SWITCH STUCK

VOICE RECOGNITION/PHONE SWITCH CIRCUIT RATIONALITY

VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO GROUND

VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO VOLTAGE

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

When Monitored and Set Condition:

PHONE SWITCH STUCK

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage between 2.8 volts and 3.3 volts on the VR/Phone Switch Signal circuit for more than 30 seconds.

VOICE RECOGNITION SWITCH STUCK

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage between 3.5 volts and 4.0 volts on the VR/Phone Switch Signal circuit for more than 30 seconds.

VOICE RECOGNITION/PHONE SWITCH CIRCUIT RATIONALITY

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects an invalid voltage signal on the VR/Phone Switch Signal circuit.

VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage below 0.6 volt on the VR/Phone Switch Signal circuit.

VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage above 4.7 volts on the VR/Phone Switch Signal circuit.

POSSIBLE CAUSES

AUTOMATIC DAY/NIGHT MIRROR

PHONE SWITCH STUCK — Continued

POSSIBLE CAUSES	
HANDS FREE MODULE	
HANDS FREE MODULE	
HANDS FREE MODULE	
SENSOR GROUND CIRCUIT OPEN	
VR/PHONE SWITCH SIGNAL CIRCUIT OPEN	
VR/PHONE SWITCH SIGNAL CIRCUIT SHORTED TO GROUND	
VR/PHONE SWITCH SIGNAL CIRCUIT SHORTED TO SENSOR GROUND	
VR/PHONE SWITCH SIGNAL CIRCUIT SHORTED TO VOLTAGE	

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Turn the ignition on. Measure the voltage of the VR/Phone Switch Signal circuit in the Automatic Day/Night Mirror harness connector. Chose which of the following describes the voltage measured.</p> <p>Voltage is above 5.3 volts Go To 2</p> <p>Voltage is between 4.7 and 5.3 volts Go To 3</p> <p>Voltage is below 4.7 volt Go To 4</p>	All
2	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the VR/Phone Switch Signal circuit. Is the voltage below 1.0 volt?</p> <p>Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the VR/Phone Switch Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All

PHONE SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Turn the ignition on. With the DRBIII®, read the VR/Phone Switch Signal voltage. Connect one end of a jumper wire to the VR/Phone Switch Signal circuit at the Automatic Day/Night Mirror harness connector. While observing the DRBIII®, momentarily connect and disconnect the other end of the jumper wire to Sensor Ground at the Automatic Day/Night Mirror harness connector. NOTE: The DRBIII® sensor voltage should switch from above 4.7 volts when jumper is not connected to below 0.6 volts when jumper is connected. Does sensor voltage switch from above 4.7 volts to below 0.6 volt as described?</p> <p>Yes → Replace the Automatic Day/Night Mirror in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance of the VR/Phone Switch Signal circuit. Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the VR/Phone Switch Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Sensor Ground circuit. Is the resistance below 10.0 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>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connector. Measure the resistance between ground and the VR/Phone Switch Signal circuit. Is the resistance above 1000.0 ohms?</p> <p>Yes → Go To 7</p> <p>No → Repair the VR/Phone Switch Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p>	All

PHONE SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
7	<p>Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connectors. Measure the resistance between Sensor Ground and the VR/Phone Switch Signal circuit at the Automatic Day/Night Mirror harness connector. Is the resistance above 1000.0 ohms?</p> <p>Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the VR/Phone Switch Signal circuit for a short to the Sensor Ground circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
PRNDL MESSAGE NOT RECEIVED

When Monitored and Set Condition:**PRNDL MESSAGE NOT RECEIVED**

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive a gear selector message from the PCM/TCM.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE PCM (TCM)
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM (TCM). Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RADIO MESSAGE NOT RECEIVED

When Monitored and Set Condition:

RADIO MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive a message from the radio.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE RADIO
 MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, attempt to communicate with the Radio. Was the DRBIII® able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

RIGHT AUDIO INPUT SHORT TO GROUND
RIGHT AUDIO INPUT SHORT TO VOLTAGE
RIGHT AUDIO OUTPUT 1 SHORT TO GROUND
RIGHT AUDIO OUTPUT 1 SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be RIGHT AUDIO INPUT SHORT TO GROUND.

When Monitored and Set Condition:

RIGHT AUDIO INPUT SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects low voltage on the input circuit.

RIGHT AUDIO INPUT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects high voltage on the input circuit.

RIGHT AUDIO OUTPUT 1 SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to ground on the Audio MUX Right circuit.

RIGHT AUDIO OUTPUT 1 SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to voltage on the Audio MUX Right circuit.

POSSIBLE CAUSES

AUDIO MUX LEFT AND AUDIO MUX RIGHT CIRCUITS SHORTED TOGETHER
AUDIO MUX RIGHT CIRCUIT OPEN
AUDIO MUX RIGHT CIRCUIT SHORT TO GROUND
AUDIO MUX RIGHT CIRCUIT SHORT TO VOLTAGE
HANDS FREE MODULE
INTERMITTENT CONDITION

RIGHT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC?</p> <p>Yes → Go To 2 No → Go To 6</p>	All
2	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Audio MUX Right circuit. Is the resistance below 10.0 ohms?</p> <p>Yes → Go To 3 No → Repair the Audio MUX Right circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and the Audio MUX Right circuit. Is the resistance above 1000.0 ohms?</p> <p>Yes → Go To 4 No → Repair the Audio MUX Right circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the Audio MUX Right circuit. Is the voltage below 1.0 volt?</p> <p>Yes → Go To 5 No → Repair the Audio MUX Right circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.</p>	All
5	<p>Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between the Audio MUX Left circuit and the Audio MUX Right circuit. Is the resistance above 1000 ohms?</p> <p>Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Audio MUX Left circuit for a short to the Audio MUX Right circuit. Perform BODY VERIFICATION TEST - VER 1.</p>	All

RIGHT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
6	<p>NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.</p> <p>With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure.</p> <p>Refer to any Technical Service Bulletins (TSB) that may apply.</p> <p>Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.</p> <p>Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.</p> <p>Were any of the above conditions present?</p> <p>Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Test Complete.</p>	All

Symptom:
RPM MESSAGE NOT RECEIVED

When Monitored and Set Condition:

RPM MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not detect a Bus message indicating current engine rpm.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE PCM
 MODULE

TEST	ACTION	APPLICABILITY
1	Start and idle the engine. With the DRBIII®, select Engine and read the Engine RPM. Was the DRBIII® able to I/D or communicate with the PCM and read RPM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace and program the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
VIN MESSAGE NOT RECEIVED**When Monitored and Set Condition:****VIN MESSAGE NOT RECEIVED**

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the VIN message from the PCM.

POSSIBLE CAUSES

ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK PCM IS ACTIVE ON BUS
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select System Monitors then J1850 Module Scan. Is the PCM one of the modules present on the bus? Yes → Go To 3 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

INITIALIZATION FAULT
TIRE SENSOR 1 LOW PRESSURE ALERT
TIRE SENSOR 1 TRANSMIT FAILURE
TIRE SENSOR 2 LOW PRESSURE ALERT
TIRE SENSOR 2 TRANSMIT FAILURE
TIRE SENSOR 3 LOW PRESSURE ALERT
TIRE SENSOR 3 TRANSMIT FAILURE
TIRE SENSOR 4 LOW PRESSURE ALERT
TIRE SENSOR 4 TRANSMIT FAILURE

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

When Monitored and Set Condition:

INITIALIZATION FAULT

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a failure of automatically learning TPM sensor ID's in the SKREEM receiver. Automatic initialization is performed after each ignition cycle and vehicle speed is greater than 32 km/h (20 MPH) within 10 minutes.

TIRE SENSOR 1 LOW PRESSURE ALERT

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a low tire pressure condition or sensor pressure measurement failure from the number 1 Sensor/Transmitter.

TIRE SENSOR 1 TRANSMIT FAILURE

When Monitored: Ignition ON

Set Condition: Fault is set when the SKREEM does not receive eight consecutive RF transmissions from the number 1 Sensor/Transmitter.

TIRE SENSOR 2 LOW PRESSURE ALERT

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a low tire pressure condition or sensor pressure measurement failure from the number 2 Sensor/Transmitter.

TIRE SENSOR 2 TRANSMIT FAILURE

When Monitored: Ignition ON.

Set Condition: Fault is set when the SKREEM does not receive eight consecutive RF transmissions from the number 2 Sensor/Transmitter.

INITIALIZATION FAULT — Continued

TIRE SENSOR 3 LOW PRESSURE ALERT

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a low tire pressure condition or sensor pressure measurement failure from the number 3 Sensor/Transmitter.

TIRE SENSOR 3 TRANSMIT FAILURE

When Monitored: Ignition ON.

Set Condition: Fault is set when the SKREEM does not receive eight consecutive RF transmissions from the number 3 Sensor/Transmitter.

TIRE SENSOR 4 LOW PRESSURE ALERT

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a low tire pressure condition or sensor pressure measurement failure from the number 4 Sensor/Transmitter.

TIRE SENSOR 4 TRANSMIT FAILURE

When Monitored: Ignition ON.

Set Condition: Fault is set when the SKREEM does not receive eight consecutive RF transmissions from the number 4 Sensor/Transmitter.

POSSIBLE CAUSES
TIRE SENSOR LOW PRESSURE ALERT
SENSOR/TRANSMITTER INTERNAL FAULT

INITIALIZATION FAULT — Continued

TEST	ACTION	APPLICABILITY
1	<p>NOTE: If the TPM indicator is illuminated, check for a low tire pressure condition. If the TPM indicator is flashing, check for DTC's.</p> <p>NOTE: The below test is to locate the Tire Pressure Sensor/Transmitter.</p> <p>NOTE: If the tires have been rotated, the Tire Pressure Sensor/Transmitters are no longer in sequence from the factory. Faults are linked to Sensor/Transmitter ID's.</p> <p>NOTE: You must determine which Tire Pressure Sensor/Transmitter has set the fault or alert before diagnosing the system correctly.</p> <p>NOTE: Set ALL tire pressures to recommended specifications and recheck for faults/alerts.</p> <p>The fault will set within two minutes when at 20 PSI.</p> <p>Starting with the left front wheel, deflate the tire down to 20 PSI and wait 2 minutes.</p> <p>If the TPMS fault was detected and associated to this Sensor/Transmitter, it would correspond to the left front Sensor/Transmitter.</p> <p>If the TPMS fault was detected and not associated to this Sensor/Transmitter, repeat the process until the faulty Sensor/Transmitter has been identified.</p> <p>NOTE: Once a fault/alert has set, it will establish the location of the Tire Pressure Sensors/Transmitter. Repeat steps until the applicable Tire Pressure Sensor/Transmitter has been located.</p> <p>Perform this procedure prior to Symptom diagnosis.</p> <p>Continue Go To 2</p>	All
2	<p>NOTE: The DTC can be caused by many different factors and might not be a Sensor/Transmitter or SKREEM fault.</p> <p>NOTE: Interference from other elements will over power the Sensor/Transmitter RF frequency making erratic operation to the TPMS.</p> <p>Cycle the ignition switch from OFF to ON.</p> <p>With the DRBIII®, read DTC's.</p> <p>Does the DRBIII® display any TIRE SENSOR TRANSMIT FAILURE or INITIALIZATION FAULT DTC's?</p> <p>Yes → Go To 4</p> <p>No → Go To 3</p>	All
3	<p>Cycle the ignition switch from OFF to ON.</p> <p>NOTE: Correct all tire pressure to recommended specifications and wait 2 minutes.</p> <p>Drive the vehicle for 10 minutes at 20 mph (32km/h). The Sensors/transmitters will be in drive mode operation.</p> <p>With the DRBIII®, read DTC's.</p> <p>Does the DRBIII® display TIRE SENSOR LOW PRESSURE ALERT?</p> <p>Yes → Check and adjust ALL tire pressures. Check connectors - Clean/repair as necessary. If ok, replace and program the Tire Pressure Sensor/Transmitter in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 1 - SKREEM.</p> <p>No → Go To 4</p>	All

TIRE PRESSURE MONITORING

INITIALIZATION FAULT — Continued

TEST	ACTION	APPLICABILITY
4	<p>NOTE: Some environment factors can disrupt the RF frequency signal. Check for RF frequency concerns and aftermarket accessories that would compromise the RF frequency signal before diagnosing Sensor/Transmitter or SKREEM being the fault.</p> <p>NOTE: Review with the customer their environmental driving conditions within the first 10 minutes of driving.</p> <p>Are there environmental factors causing the RF frequency issue?</p> <p>Yes → Test Complete.</p> <p>No → Go To 5</p>	All
5	<p>Turn the ignition off.</p> <p>Replace the appropriate Tire Pressure Sensor/Transmitter in accordance with the service information.</p> <p>Drive the vehicle for 10 minutes at 20 mph (32km/h). The Sensors/transmitters will be in drive mode operation.</p> <p>With the DRBIII®, read DTC's.</p> <p>Does the DTC reset?</p> <p>Yes → Check connectors - Clean/repair as necessary. Replace and program the SKREEM in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 1 - SKREEM.</p> <p>No → Test Complete.</p>	All

Symptom List:**PRNDL MESSAGE MISSING****VEHICLE SPEED MESSAGE MISSING**

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

When Monitored and Set Condition:**PRNDL MESSAGE MISSING**

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a loss of the PRNDL message if not received for 5 seconds.

VEHICLE SPEED MESSAGE MISSING

When Monitored: Ignition ON.

Set Condition: Fault is set when there is a loss of the vehicle speed message if not received for 5 seconds.

POSSIBLE CAUSES
PCM DTC'S
INSTRUMENT CLUSTER DTC'S
BUS COMMUNICATION
SKREEM FAULT

TIRE PRESSURE MONITORING

PRNDL MESSAGE MISSING — Continued

TEST	ACTION	APPLICABILITY
1	<p>NOTE: If the TPM indicator is illuminated, check for a low tire pressure condition. If the TPM indicator is flashing, check for DTC's.</p> <p>NOTE: The below test is to locate the Tire Pressure Sensor/Transmitter.</p> <p>NOTE: If the tires have been rotated, the Tire Pressure Sensor/Transmitters are no longer in sequence from the factory. Faults are linked to Sensor/Transmitter ID's.</p> <p>NOTE: You must determine which Tire Pressure Sensor/Transmitter has set the fault or alert before diagnosing the system correctly.</p> <p>NOTE: Set ALL tire pressures to recommended specifications and recheck for faults/alerts.</p> <p>The fault will set within two minutes when at 20 PSI.</p> <p>Starting with the left front wheel, deflate the tire down to 20 PSI and wait 2 minutes.</p> <p>If the TPMS fault was detected and associated to this Sensor/Transmitter, it would correspond to the left front Sensor/Transmitter.</p> <p>If the TPMS fault was detected and not associated to this Sensor/Transmitter, repeat the process until the faulty Sensor/Transmitter has been identified.</p> <p>NOTE: Once a fault/alert has set, it will establish the location of the Tire Pressure Sensors/Transmitter. Repeat steps until the applicable Tire Pressure Sensor/Transmitter has been located.</p> <p>Perform this procedure prior to Symptom diagnosis.</p> <p>Continue Go To 2</p>	All
2	<p>Cycle the ignition switch from OFF to ON.</p> <p>With the DRBIII®, record DTC's.</p> <p>Drive the vehicle.</p> <p>With the DRBIII®, read the PCM DTC's.</p> <p>Does the DRBIII® display any PCM DTC's?</p> <p>Yes → Refer to Powertrain Control Module information for the related symptom(s). Perform TIRE PRESSURE VERIFICATION TEST - VER 1 - SKREEM.</p> <p>No → Go To 3</p>	All
3	<p>Cycle the ignition switch from OFF to ON.</p> <p>With the DRBIII®, monitor the Instrument Cluster's Vehicle Speed or PRNDL data.</p> <p>Does the DRBIII® display Vehicle Speed or PRNDL data?</p> <p>Yes → Check connectors - Clean/repair as necessary. Replace and program the SKREEM in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 1 - SKREEM.</p> <p>No → Refer to BODY COMMUNICATION for the related symptom(s). Perform TIRE PRESSURE VERIFICATION TEST - VER 1 - SKREEM.</p>	All

Symptom List:

BCM MESSAGE NOT RECEIVED (EXPORT ONLY)
PRE-ARM TIMEOUT FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be BCM MESSAGE NOT RECEIVED (EXPORT ONLY).

When Monitored and Set Condition:

BCM MESSAGE NOT RECEIVED (EXPORT ONLY)

When Monitored: Whenever the ITM sends bus messages to the BCM.

Set Condition: If the ITM does not receive status messages from the BCM.

PRE-ARM TIMEOUT FAILURE (EXPORT ONLY)

When Monitored: During the VTSS pre-arm process.

Set Condition: If the ITM does not receive arm message from the BCM after sixty seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION
ITM COMMUNICATION WITH THE BCM
INTRUSION TRANSCEIVER MODULE

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

BCM MESSAGE NOT RECEIVED (EXPORT ONLY) — Continued

TEST	ACTION	APPLICABILITY
2	<p>With the DRB, erase ITM DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRB, read Intrusion Transceiver Module DTC's. Did this DTC reset?</p> <p>Yes → Replace the Intrusion Transceiver Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE****When Monitored and Set Condition:****HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE**

When Monitored: With the ignition on.

Set Condition: When the BCM detects unwanted voltage on the horn relay control circuit.

POSSIBLE CAUSES

CODE ACTIVE

HORN RELAY SHORTED

JUNCTION BLOCK - HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to operate the VTSS horn by actuating with the DRBIII®. With the DRBIII®, read DTCs. Does the DRBIII® display HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 2 No → The condition that caused this symptom is not currently present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced, pinched or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Horn Relay from the Junction Block. Install a substitute relay in place of the Horn Relay. With the DRBIII®, erase DTCs. With the DRBIII®, actuate the Horn Relay. With the DRBIII®, read DTCs. Does the DRBIII® display HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE? Yes → Go To 3 No → Replace the original relay. Perform BODY VERIFICATION TEST - VER 1.	All

HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Remove the Horn Relay from the Junction Block. Remove the Body Control Module from the Junction Block. NOTE: Ensure the Junction Block connectors are reconnected at this time. Turn the ignition on. Measure the voltage of the Horn Relay Control circuit in the relay connector of the Junction Block. Is there any voltage present?</p> <p>Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom List:

ITM - EEPROM FAILURE (EXPORT ONLY)
LOOPBACK FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be ITM - EEPROM FAILURE (EXPORT ONLY).

When Monitored and Set Condition:

ITM - EEPROM FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed and during change of the VTSS state.

Set Condition: If the EEPROM erase/write does not correctly complete the operation.

LOOPBACK FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed, pre-armed or reset.

Set Condition: If an internal ITM bus test performed fails.

POSSIBLE CAUSES

INTERMITTENT CONDITION

INTRUSION TRANSCIEVER MODULE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display the same DTC?</p> <p>Yes → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

ITM - TRANSDUCER FAILURE (EXPORT ONLY)

When Monitored and Set Condition:

ITM - TRANSDUCER FAILURE (EXPORT ONLY)

When Monitored: Continuously during VTSS pre-arm mode.

Set Condition: The ITM sends a test ultrasonic signal during the pre-arm process. If the test signal is not correctly received, the code will be set.

POSSIBLE CAUSES

BLOCKED INTRUSION TRANSCIEVER MODULE SENSORS

INTERMITTENT CONDITION

INTRUSION TRANSCIEVER MODULE

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display: ITM Transducer Failure?</p> <p>Yes → Go To 2</p> <p>No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Inspect the louvers of the Intrusion Transceiver Module for blockage from dust or debris. Were there any problems found?</p> <p>Yes → Clean as necessary. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

ITM - VIN MISMATCH (EXPORT ONLY)

When Monitored and Set Condition:

ITM - VIN MISMATCH (EXPORT ONLY)

When Monitored: While the ITM is being disarmed.

Set Condition: If the ITM stored VIN does not match with the BCM.

POSSIBLE CAUSES

INTRUSION TRANSCIEVER MODULE

BODY CONTROL MODULE

CHECK VIN IN BCM AND ITM WITH VIN IN PCM

TEST	ACTION	APPLICABILITY
1	<p>NOTE: Do not attempt to use either an ITM and/or a Siren from another vehicle.</p> <p>With the DRBIII® display and record the VIN in the Intrusion Transceiver Module.</p> <p>With the DRBIII® select Body Computer.</p> <p>Display and record the VIN in the BCM.</p> <p>With the DRBIII® select Engine.</p> <p>Display and record the VIN in the PCM.</p> <p>Does the VIN in the ITM and the VIN in the BCM match the VIN in the PCM?</p> <p>Yes → Go To 2</p> <p>No → Replace the Module(s) with the incorrect VIN.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>With the DRBIII®, erase the current Intrusion Transceiver Module DTC's.</p> <p>Turn the ignition off.</p> <p>Arm the VTSS and wait 1 minute.</p> <p>Disarm the VTSS using the RKE and turn the ignition on.</p> <p>With the DRBIII®, read Intrusion Transceiver Module DTC's.</p> <p>Does the DRBIII® display: ITM VIN Mismatch?</p> <p>Yes → Replace the Intrusion Transceiver Module.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition that caused this symptom is currently not present.</p> <p>Test complete.</p> <p>Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom List:

NO SERIAL COMMUNICATION (EXPORT ONLY)
SIREN COMMUNICATION FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be **NO SERIAL COMMUNICATION (EXPORT ONLY)**.

When Monitored and Set Condition:

NO SERIAL COMMUNICATION (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the Intrusion Transceiver Module does not receive messages from the Siren.

SIREN COMMUNICATION FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the Siren does not receive messages from the Intrusion Transceiver Module.

POSSIBLE CAUSES

INTERMITTENT CONDITION
OPEN FUSED B+ CIRCUIT
SIREN SIGNAL CONTROL CIRCUIT OPEN
SIREN SIGNAL CONTROL CIRCUIT SHORT TO GROUND
INTRUSION TRANSCEIVER MODULE
OPEN GROUND CIRCUIT
VTSS SIREN

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. Does the DRBIII® display the same DTC?</p> <p>Yes → Go To 2</p> <p>No → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced, pinched or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.</p>	All

NO SERIAL COMMUNICATION (EXPORT ONLY) — Continued

TEST	ACTION	APPLICABILITY
2	<p>Gain access to the VTSS Siren. Disconnect the Siren connector. Measure the voltage of the Fused B(+) circuit in the Siren connector. Is the voltage above 10.0 volts?</p> <p>Yes → Go To 3</p> <p>No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Disconnect the Siren connector. Using a 12-volt test light connected to 12-volts, check the ground circuit. Does the test light illuminate brightly?</p> <p>Yes → Go To 4</p> <p>No → Repair the ground circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All
4	<p>Use the DRBIII® and set up as follows: Use the Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRBIII®. Attach the red and black leads and the cable to probe adapter to the scope input cable. Select DRBIII® Standalone. Select lab scope. Select Live. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Disconnect the Siren connector. Connect the black lead to the chassis ground. Connect the red lead to the Siren Signal Control circuit in the Siren connector. Start the engine and hold the engine RPM's above 600. Observe the voltage displayed on the DRBIII® Lab Scope. Is there a voltage square wave present 1 to 2 seconds?</p> <p>Yes → Replace the VTSS Siren. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 5</p>	All
5	<p>Disconnect the Siren harness connector. Disconnect the Intrusion Transceiver Module harness connector. Measure the resistance between ground and the Siren Signal Control circuit. Is the resistance above 5.0 ohms?</p> <p>Yes → Go To 6</p> <p>No → Repair the Siren Signal Control circuit for a short to ground. Perform VTSS VERIFICATION TEST - 1A.</p>	All

NO SERIAL COMMUNICATION (EXPORT ONLY) — Continued

TEST	ACTION	APPLICABILITY
6	<p>Disconnect the Siren harness connector. Disconnect the Intrusion Transceiver Module harness connector. Measure the resistance of the Siren Signal Control circuit between the Intrusion Transceiver Module and the Siren connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Siren Signal Control circuit for an open. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:

PCM MESSAGE NOT RECEIVED (EXPORT ONLY)

When Monitored and Set Condition:

PCM MESSAGE NOT RECEIVED (EXPORT ONLY)

When Monitored: With the ignition on.

Set Condition: The ITM does not receive PCI bus messages from the PCM for 12 seconds.

POSSIBLE CAUSES

PCM MESSAGE NOT RECEIVED

ATTEMPT TO COMMUNICATE WITH THE PCM

PCI BUS CIRCUIT OPEN

POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRB enter System Tests then PCM Monitor. Does the DRB display: PCM is active on BUS?</p> <p>Yes → With the DRB, erase ITM DTCs. Cycle the ignition switch, wait 1 minute then recheck for ITM DTCs. If DTC resets, replace the Intrusion Transceiver Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Go To 2</p>	All
2	<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 3</p> <p>No → Refer to the communication category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.</p>	All
3	<p>Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the Data Link connector. Measure the resistance of the PCI Bus circuit between the Data Link connector and the PCM connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Powertrain 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:

SIREN BATTERY HAS BEEN TAMPERED (EXPORT ONLY)

When Monitored and Set Condition:

SIREN BATTERY HAS BEEN TAMPERED (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the siren detects the loss of vehicle battery voltage.

POSSIBLE CAUSES

INTERMITTENT CONDITION

HARNESS TAMPERING

INTRUSION TRANSCIEVER MODULE

TEST	ACTION	APPLICABILITY
1	<p>Inspect the wiring harness to the siren for any signs of tampering or damage. Were there any problems found?</p> <p>Yes → Repair wiring as necessary. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 2</p>	All
2	<p>With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display: Siren Battery Has Been Tampered?</p> <p>Yes → Replace the Siren in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom List:

SIREN EEPROM FAILURE (EXPORT ONLY)
SIREN INTERNAL BATTERY (EXPORT ONLY)
SIREN ROM FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests.
The title for the tests will be **SIREN EEPROM FAILURE (EXPORT ONLY)**.

When Monitored and Set Condition:

SIREN EEPROM FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the checksum of the EEPROM does not calculate to the correct value.

SIREN INTERNAL BATTERY (EXPORT ONLY)

When Monitored: Continuously with engine rpm over 600.

Set Condition: When the internal battery within the siren does not charge as expected, the ITM sets this code.

SIREN ROM FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the checksum of the ROM does not calculate to the correct value.

POSSIBLE CAUSES

INTERMITTENT CONDITION
SIREN

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display the same DTC?</p> <p>Yes → Replace the Siren. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:

*ALARM TRIPS ON ITS OWN

POSSIBLE CAUSES
LAST ALARM CAUSE
HOOD AJAR SWITCH (EXPORT ONLY)
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	<p>With the DRBIII® in Inputs/Outputs, read the Last Alarm Caused By state. Were there any causes displayed?</p> <p>Yes → Check for a possible intermittent condition with the circuit indicated by the DRBIII®. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 2</p>	All
2	<p>Is this an export vehicle equipped with a hood ajar switch?</p> <p>Yes → Go To 3</p> <p>No → Go To 4</p>	All
3	<p>Remove the ignition key (but keep in hand). Lock the vehicle and close all the doors, liftgate and hood. Allow the VTSS to arm. Lightly tap on hood near ajar switch to simulate wind and noise vibration. Did the VTSS trip to the alarming state?</p> <p>Yes → Replace the hood ajar switch. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 4</p>	All
4	<p>NOTE: The condition that caused the alarm is not present at this time. The following list may help in indentifying the intermittent condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect related wiring harnesses. Look for chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for loose connections, broken, bent, pushed out, or corroded terminals. Were any of the above conditions present?</p> <p>Yes → Repair as necessary Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Test Complete.</p>	All

Symptom:***DRIVER DOOR DOES NOT TRIP VTSS****POSSIBLE CAUSES**

DRIVER DOOR AJAR CIRCUIT

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. With the DRBIII®, read the DRVR DOOR AJAR SW status. Open the driver door. Does the DRBIII® display 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 → Refer to symptom DRIVER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:

***FLIP-UP GLASS DOES NOT TRIP VTSS**

POSSIBLE CAUSES

FLIP-UP GLASS AJAR CIRCUIT

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. With the DRBIII®, read the FLIP-UP GLASS AJAR SW status. Open the Tailgate. Does the DRBIII® display 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 → Refer to symptom FLIP-UP GLASS AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:

***HAZARD LAMPS INOPERATIVE WITH VTSS**

POSSIBLE CAUSES
HAZARD SWITCH
ACTUATE HAZARD LAMPS WITH DRB
HAZARD LAMP CONTROL CIRCUIT
HAZARD LAMP CONTROL OPEN
HAZARD LAMP OPERATION
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Attempt to operate the Hazard Lamps with the Hazard Lamp switch. Do the hazard lamps operate from the Hazard Lamp switch?</p> <p>Yes → Go To 2</p> <p>No → Refer to the Service Information to repair the Hazard Lamps. Perform VTSS VERIFICATION TEST - 1A.</p>	All
2	<p>Turn the Hazard Lamp switch off. With the DRBIII®, actuate the Hazard Lamps. Do the Hazard Lamps operate while actuating?</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 3</p>	All
3	<p>Turn the Hazard Lamp switch off. Disconnect the Body Control Module C1 connector. Connect a jumper wire between Hazard Lamp Control circuit and ground. Did the Hazard Lamps operate?</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 4</p>	All
4	<p>Disconnect the Hazard Switch connector. Disconnect the Body Control Module C1 connector. Measure the resistance of the Hazard Lamp Control circuit between the BCM C1 connector and the Hazard Switch connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Replace the Hazard Switch. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Repair the Hazard Lamp Control circuit for an open between the BCM and the Hazard Switch. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:

***HEADLAMPS FAIL TO FLASH WITH VTSS**

POSSIBLE CAUSES
INCORRECT COUNTRY CODE PROGRAMMED IN BCM
LOW BEAM HEADLAMPS INOPERATIVE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the Low Beam Headlamps on. Do the Low Beam Headlamps operate properly? Yes → Go To 2 No → Refer to symptom LOW BEAM HEADLAMPS WILL NOT TURN ON in the EXTERIOR LIGHTING category. Perform VTSS VERIFICATION TEST - 1A.	All
2	With the DRBIII® in Miscellaneous check the Body Control Module country code setting. Is the country code correct? Yes → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Program the correct country code setting. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:***HOOD DOES NOT TRIP VTSS (EXPORT ONLY)****POSSIBLE CAUSES**

HOOD AJAR SWITCH CIRCUIT

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. With the DRBIII®, read the HOOD AJAR SW status. Open the hood. Does the DRBIII® display 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 → Refer to symptom HOOD AJAR CIRCUIT OPEN in the DOOR AJAR section.</p>	All

Symptom:

*HORN FAILS TO SOUND WITH VTSS

POSSIBLE CAUSES
INCORRECT COUNTRY CODE PROGRAMMED IN BCM
HORN OPERATION
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>The Horn must be operational from the horn button for the results of this test to be valid.</p> <p>Open the Drivers door window.</p> <p>Remove the key from the Ignition switch.</p> <p>Lock the doors with the RKE transmitter or power door lock switch.</p> <p>Close all the doors and tailgate.</p> <p>Wait approximately 15 seconds for the VTSS indicator to flash at a slower rate indicating the Vehicle Theft Security System is armed.</p> <p>Manually unlock the driver door lock.</p> <p>Trip the VTSS by opening the drivers door.</p> <p>Did the Horn sound when the VTSS was tripped?</p> <p>Yes → The condition that caused this symptom is not currently present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced, pinched or partially broken wires. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Go To 2</p>	All
2	<p>With the DRBIII® in Miscellaneous check the Body Control Module country code setting.</p> <p>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 VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:***INTRUSION TRANSCIEVER MODULE SENSITIVITY (EXPORT ONLY)****POSSIBLE CAUSES**

INTERIOR TYPE SELECTED IN ITM

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Miscellaneous, check the Current Status of the Interior Type. Is the Interior Type selected correct? Yes → Test Complete. No → Program the correct interior type. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LEFT REAR DOOR DOES NOT TRIP VTSS**

POSSIBLE CAUSES

PASSENGER DOOR AJAR CIRCUIT

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. With the DRBIII®, read the PASS DOOR AJAR SW status. Open the Left Rear door. Does the DRBIII® display 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 → Refer to symptom LEFT REAR DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:***PASSENGER DOOR DOES NOT TRIP VTSS****POSSIBLE CAUSES**

PASSENGER DOOR AJAR CIRCUIT

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. With the DRBIII®, read the PASS DOOR AJAR SW status. Open the passenger door. Does the DRBIII® display 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 → Refer to symptom PASSENGER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:

***RIGHT REAR DOOR DOES NOT TRIP VTSS**

POSSIBLE CAUSES
PASSENGER DOOR AJAR CIRCUIT MALFUNCTION
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. With the DRBIII®, read the PASS DOOR AJAR SW status. Open the Right Rear door. Does the DRBIII® display 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 → Refer to symptom RIGHT REAR DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:***TAILGATE DOES NOT TRIP VTSS****POSSIBLE CAUSES**

TAILGATE AJAR SWITCH CIRCUIT

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Note: The VTSS must arm properly for the result of this test to be valid. Open the Liftgate. Does the DRBIII® display 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 → Refer to symptom TAILGATE AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.</p>	All

Symptom:

***VTSS WILL NOT ARM**

POSSIBLE CAUSES

CHECK THE VTSS STATUS

CHECK FOR DTCS AND VTSS ARMING INHIBITORS

BODY CONTROL MODULE

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>Ensure the tailgate, flip-up glass and all doors are closed. With the DRBIII®, read the active DTC's and the ajar switch states. Does the DRBIII® display any closed switches or VTSS related DTC's?</p> <p>Yes → Refer to the Symptom List and diagnose the appropriate symptom in the DOOR AJAR or VTSS category. Perform VTSS VERIFICATION TEST - 1A.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**WIPER HIGH/LOW RELAY OUTPUT CIRCUIT HIGH****When Monitored and Set Condition:****WIPER HIGH/LOW RELAY OUTPUT CIRCUIT HIGH**

When Monitored: With ignition on.

Set Condition: BCM detects a high level on the Wiper High/Low relay output when it is attempting to turn the wipers on for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN CIRCUIT BREAKER

WIPER HIGH/LOW RELAY

BODY CONTROL MODULE

FRONT WIPER PARK SWITCH SENSE CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Front Wipers on. With the DRBIII®, read the DTC information. Does the DRBIII® read: WIPER HIGH/LOW RELAY CIRCUIT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the PDC to make certain the Wiper High/Low Relay is present. Is the Wiper High/Low Relay present? Yes → Go To 3 No → Replace the missing Wiper High/Low Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check the Junction Block Circuit Breaker #3. Is the Circuit Breaker open? Yes → Replace the open Circuit Breaker. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

WIPER HIGH/LOW RELAY OUTPUT CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Install a known good relay in place of the Wiper High/Low Relay. Turn the Wipers On. Do the Wipers operate normally?</p> <p>Yes → Replace the Wiper High/Low Relay. 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. Measure the voltage of the Fused B+ circuit of the Wiper High/Low Relay. Is the voltage above 10 volts?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Front Wiper Park Switch Sense circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**WIPER HIGH/LOW RELAY OUTPUT CIRCUIT LOW****When Monitored and Set Condition:****WIPER HIGH/LOW RELAY OUTPUT CIRCUIT LOW**

When Monitored: With ignition on.

Set Condition: BCM detects a low (ground) signal on the wiper on/off relay output even though it is not attempting to drive the output for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

WIPER HIGH/LOW RELAY SHORT TO GROUND

WIPER HIGH/LOW RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Wipers on. With the DRBIII®, read the DTC information. Does the DRBIII® read: WIPER HIGH/LOW RELAY OUTPUT CIRCUIT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Wiper High/Low Relay. Measure the resistance between ground and the Wiper High/Low Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Wiper High/Low Relay Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER HIGH/LOW RELAY OUTPUT CIRCUIT LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Wiper High/Low Relay harness connector. Measure the voltage of the Wiper High/Low Relay harness connector coil side feed circuit to ground. Is the voltage above 10.0 volts?</p> <p>Yes → Replace the Wiper High/Low Relay. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**WIPER MODE SWITCH CIRCUIT HIGH****When Monitored and Set Condition:****WIPER MODE SWITCH CIRCUIT HIGH**

When Monitored: With the ignition on.

Set Condition: BCM detects a voltage greater than 4.75 volts on the Wiper Mode Switch Input for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MULTIFUNCTION SWITCH

FRONT WIPER SWITCH MUX CIRCUIT OPEN

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase all BCM DTC's. Turn the Wipers on. With the DRBIII®, read DTCs. Does the DRBIII® display: WIPER MODE SWITCH CIRCUIT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Multifunction Switch harness connector. Connect a jumper wire between the Front Wiper Switch MUX circuit to ground. Turn the ignition on. With the DRBIII®, select Body, Body Controller and read: Wiper Switch volts. Does the DRBIII® display: Multifunction Switch voltage below 0.5volts? Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER MODE SWITCH CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Body Control Module harness connector. Disconnect the Multifunction Switch harness connector. Measure resistance of the Front Wiper Switch MUX circuit from the Body Control Module connector to the Multifunction Switch harness connector. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Front Wiper Switch MUX circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:
WIPER MODE SWITCH CIRCUIT LOW

When Monitored and Set Condition:

WIPER MODE SWITCH CIRCUIT LOW

When Monitored: With the ignition on.

Set Condition: BCM detects a voltage less than 0.25 volts on the Wiper Mode Switch Input for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MULTIFUNCTION SWITCH SHORTED

FRONT WIPER SWITCH MUX CIRCUIT SHORT TO GROUND

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Wipers on. With the DRBIII®, read DTCs. Does the DRBIII® display: WIPER MODE SWITCH CIRCUIT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Multifunction Switch harness connector. Turn the ignition on. With the DRBIII®, select Body, Body Control Module and read: Multifunction Switch voltage.. Does the DRBIII® display: Multifunction Switch voltage above 4.75 volts? Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER MODE SWITCH CIRCUIT LOW — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Body Control Module harness connector. Disconnect the Multifunction Switch harness connector. Measure resistance between ground and the Front Wiper Switch MUX circuit. Is the resistance above 5.0 ohms?</p> <p>Yes → Repair the Front Wiper Switch MUX Circuit for a short to ground condition. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**WIPER ON/OFF RELAY OUTPUT CIRCUIT HIGH****When Monitored and Set Condition:****WIPER ON/OFF RELAY OUTPUT CIRCUIT HIGH**

When Monitored: With the ignition on.

Set Condition: BCM detects a high level on the Wiper On/Off Relay output when it is attempting to turn the wipers on for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

MISSING RELAY

OPEN CIRCUIT BREAKER

WIPER ON/OFF RELAY

BODY CONTROL MODULE

FRONT WIPER PARK SWITCH SENSE CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Front Wipers on. With the DRBIII®, read the DTC information. Does the DRBIII® read: WIPER ON/OFF RELAY CIRCUIT HIGH? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the PDC to make certain the Wiper On/Off Relay is present. Is the Wiper On/Off Relay present? Yes → Go To 3 No → Replace the missing Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Check the Junction Block Circuit Breaker #3. Is the Circuit Breaker open? Yes → Replace the open Circuit Breaker. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

WIPER ON/OFF RELAY OUTPUT CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
4	<p>Turn the ignition off. Install a known good relay in place of the Wiper On/Off Relay. Turn the Wipers On. Do the Wipers operate normally?</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. Measure the voltage of the Fused B+ circuit of the Wiper On/Off Relay. Is the voltage above 10 volts?</p> <p>Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.</p> <p>No → Repair the Front Wiper Park Switch Sense circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.</p>	All

Symptom:**WIPER ON/OFF RELAY OUTPUT CIRCUIT LOW****When Monitored and Set Condition:****WIPER ON/OFF RELAY OUTPUT CIRCUIT LOW**

When Monitored: With the ignition on.

Set Condition: BCM detects a low (ground) signal on the Wiper On/Off Relay output even though it is not attempting to drive the output for more than 5 seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

WIPER ON/OFF RELAY SHORT TO GROUND

WIPER ON/OFF RELAY

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Wipers on. With the DRBIII®, read the DTC information. Does the DRBIII® read: WIPER ON/OFF RELAY OUTPUT CIRCUIT LOW? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Wiper On/Off Relay. Measure the resistance between ground and the Wiper On/Off Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Wiper On/Off Relay Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Wiper On/Off Relay harness connector. Measure the voltage of the Wiper On/Off Relay harness connector coil side feed circuit to ground. Is the voltage above 10.0 volts? Yes → Replace the Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

WINDSHIELD WIPER & WASHER

Symptom: WIPER PARK SWITCH FAILURE

When Monitored and Set Condition:

WIPER PARK SWITCH FAILURE

When Monitored: With the Wipers on (any speed).

Set Condition: BCM fails to detect a park signal from the wiper motor for 8 consecutive seconds.

POSSIBLE CAUSES

INTERMITTENT CONDITION

FRONT WIPER PARK SWITCH SENSE CIRCUIT SHORT TO VOLTAGE

FRONT WIPER PARK SWITCH SENSE CIRCUIT OPEN

FRONT WIPER PARK SWITCH SENSE CIRCUIT SHORT TO GROUND

GROUND CIRCUIT OPEN

WIPER MOTOR

BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	<p>Turn the ignition on. With the DRBIII®, erase all BCM DTC's. Turn the Wipers on. With the DRBIII®, read DTCs. Does the DRBIII® display: WIPER PARK SWITCH FAILURE?</p> <p>Yes → Go To 2</p> <p>No → The condition is not present at this time. Monitor DRBIII parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.</p>	All
2	<p>Turn the ignition off. Disconnect the Front Wiper Motor harness connector. Disconnect the Junction Block C3 harness connector. Turn the ignition on. Measure the voltage of the Wiper Park Switch Sense circuit in the Front 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 — Continued

TEST	ACTION	APPLICABILITY
3	<p>Turn the ignition off. Disconnect the Front Wiper Motor harness connector. Disconnect the Junction Block C3 harness connector. Measure the resistance of the Wiper Park Switch Sense circuit between the Junction Block 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 Front Wiper Park Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.</p>	All
4	<p>Turn the ignition off. Disconnect the Front Wiper Motor harness connector. Disconnect the Junction Block C3 harness connector. Measure the resistance between ground and the Wiper Park Switch Sense circuit in the Junction Block C3 harness connector. Is the resistance below 100.0 ohms?</p> <p>Yes → Repair the Front 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 Front Wiper Motor harness connector. Using a 12-volt test light connected to 12-volts, test the Ground circuit in the Front 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 Front Wiper Motor harness connector. Turn the ignition on. Connect a jumper wire from the Wiper Park Switch Sense circuit to ground. With the DRBIII® in Inputs/Outputs read: Wiper Park Switch state. Did the Wiper Park Switch Input change state when connected to 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:

*FRONT WASHER PUMP INOPERATIVE

POSSIBLE CAUSES

FRONT WASHER PUMP
FRONT WASHER PUMP GROUND CIRCUIT OPEN
MULTIFUNCTION SWITCH
FRONT WASHER PUMP SENSE CIRCUIT OPEN
FRONT WASHER PUMP DRIVER CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Front Washer Pump harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, check the Front Washer Pump Driver circuit. Actuate the Front Washers. Does the test light illuminate brightly? Yes → Replace the Front Washer Pump. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Front Washer Pump. Using a 12-volt test light connected to 12-volts, check the Front Washer Pump Ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Front Washer Pump Ground Circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the right side Multifunction Switch harness connector. Connect a jumper wire between the Fused Ignition Switch Output circuit and the Front Washer Pump Sense circuit in the Multifunction Switch harness connector. Turn the ignition on. Does the Front Washer Pump operate? Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

***FRONT WASHER PUMP INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the right side Multifunction Switch. Disconnect the Body Control Module. Measure the resistance of the Front Washer Pump Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the Front Washer Pump Sense Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Front Washer Pump. Disconnect the Body Control Module from the Junction Block. Measure the resistance of the Front Washer Pump Driver circuit. Is the resistance above 5.0 ohms? Yes → Repair the Front Washer Pump Driver Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Multifunction Switch. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output circuit. Does the test light illuminate brightly? Yes → Repair the Fused Ignition Switch Output circuit for an open. If the fuse is open make sure to check for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

WINDSHIELD WIPER & WASHER

Symptom:

*FRONT WIPER LOW SPEED INOPERATIVE

POSSIBLE CAUSES
MULTIFUNCTION SWITCH FRONT WIPER MOTOR GROUND CIRCUIT OPEN FRONT WIPER MOTOR LOW DRIVER CIRCUIT OPEN FRONT WIPER MOTOR FUSED IGNITION SWITCH OUTPUT CIRCUIT

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the right side Multifunction Switch harness connector. Connect a jumper wire between the Fused Ignition Switch Output circuit and the Front Wiper Motor Low Driver circuit in the Multifunction Switch harness connector. Turn the ignition on. Does the Front Wiper Motor function normally? Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Front Wiper Motor. Using a 12-volt test light connected to 12-volts, check the Front Wiper Motor Ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Front Wiper Motor Ground Circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Front Wiper Motor. Disconnect the right side Multifunction Switch. Measure the resistance of the Front Wiper Motor Low Driver circuit. Is the resistance above 5.0 ohms? Yes → Repair the Front Wiper Motor Low Driver Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

***FRONT WIPER LOW SPEED INOPERATIVE — Continued**

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Front Wiper Motor harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, check the Front Wiper Motor Low Driver circuit. Turn the Front Wipers on to Low. Does the test light illuminate brightly? Yes → Replace the Front Wiper Motor. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused B+ Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Verification Tests

42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1	APPLICABILITY
<p>1. NOTE: After completion of the Transmission Verification Test, the Powertrain Verification Test must be performed. Refer to the Powertrain Category.</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. Perform *PRNDL FAULT CLEARING PROCEDURE after completion of repairs for P0706 CHECK SHIFTER SIGNAL.</p> <p>6. 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>7. Check the transmission fluid and adjust if necessary. Refer to the Service Information for the Fluid Fill procedure.</p> <p>8. NOTE: If the Transmission Control Module or Torque Converter has been replaced, or if the Transmission has been repaired or replaced, it is necessary to perform the DRBIII® Quick Learn Procedure and reset the "Pinion Factor".</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>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.</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 perform the appropriate symptom.</p> <p>15. NOTE: Erase P0700 DTC in the PCM to turn the MIL light off after making transmission repairs.</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. Perform 42RLE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.</p> <p>No → Repair is complete.</p>	All

Verification Tests — Continued

45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1	APPLICABILITY
<ol style="list-style-type: none"> 1. Connect the DRBIII® to the Data Link Connector. 2. Reconnect any disconnected components. 3. With the DRBIII®, erase DTC's. 4. With the DRBIII®, display Transmission Temperature. Start and run the engine until the Transmission Temperature is HOT above 43° Celsius 110° Fahrenheit. 5. Check the Transmission fluid and adjust if necessary. Refer to the Service Information for the Fluid Fill procedure. 6. NOTE: If the TCM has been replaced or if the transmission has been repaired or replaced it is necessary to perform the DRBIII® Quick Learn Procedure. 7. Road test the vehicle. With the DRBIII®, monitor TPS. Make fifteen to twenty 1-2, 2-3, and 3-4 upshifts and (4 - 4 Prime for 545RFE only). 8. Perform these shifts from a standing start to 97 Km/h 60 MPH with a constant throttle opening of 20 to 25 degrees. 9. Below 40 Km/h 25 MPH, make five to eight wide open throttle kickdowns to 1st gear. Allow at least 5 seconds each in 2nd and 3rd gear between each kickdown. 10. Check for DTC's during the road test. 11. 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. 12. Perform the Battery Disconnect with the DRBIII®, this will clear the EATX EVENT DATA. Were any Trouble Codes set during the road test? <ul style="list-style-type: none"> Yes → Refer to the Symptom List for the appropriate diagnostic tests. No → Repair is complete. 	All

ABS VERIFICATION TEST - VER 1	APPLICABILITY
<ol style="list-style-type: none"> 1. Turn the ignition off. 2. Connect all previously disconnected components and connectors. 3. Ensure all accessories are turned off and the battery is fully charged. 4. Ensure that the Ignition is on, and with the DRBIII, erase all Diagnostic Trouble Codes from ALL modules. Start the engine and allow it to run for 2 minutes and fully operate the system that was malfunctioning. 5. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTC's from ALL modules. 6. If any Diagnostic Trouble Codes are present, return to Symptom list and troubleshoot new or recurring symptom. 7. NOTE: For Sensor Signal and Pump Motor faults, the ABM must sense all 4 wheels at 25 km/h (15 mph) before it will extinguish the ABS Indicator. 8. If there are no DTC's present after turning ignition on, road test the vehicle for at least 5 minutes. Perform several anti-lock braking stops. 9. Caution: Ensure braking capability is available before road testing. 10. Again, with the DRBIII® read DTC's. If any DTC's are present, return to Symptom list. 11. If there are no Diagnostic Trouble Codes (DTC's) present, and the customer's concern can no longer be duplicated, the repair is complete. <p>Are any DTC's present or is the original concern still present?</p> <ul style="list-style-type: none"> Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete. 	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. NOTE: If the SKIM or PCM/ECM was replaced, refer to the service information for proper programming procedures.</p> <p>3. If the Instrument Cluster was replaced, use the DRBIII® to insure the proper warning indicators are configured.</p> <p>4. If the Body Control Module was replaced, turn the ignition on for 15 seconds (to learn VIN). If the vehicle is equipped with VTSS, use the DRBIII® and enable VTSS.</p> <p>5. Program tire size, country code, radio EQ setting and all RKE transmitters (if RKE Module was replaced) and other options as necessary.</p> <p>6. (Export only) If the Intrusion Transceiver Module ITM was replaced, use the DRBIII® to enable ITM and Program Interior Type.</p> <p>7. (Export only) If the Siren was replaced perform the DRBIII® Siren Replacement procedure.</p> <p>8. Ensure all accessories are turned off and the battery is fully charged.</p> <p>9. With the DRBIII®, record and erase all DTC's from ALL modules. Start and run the engine for 2 minutes. Operate all functions of the system that caused the original concern.</p> <p>10. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTC's 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 the appropriate symptom.</p> <p>No → Repair is complete.</p>	All

OCS 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>2. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</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, then turn 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: Read the DTC's in ACM and OCM.</p> <p>8. 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 active DTC present?</p> <p>Yes → Return to the Symptom list and follow path specified for the trouble code.</p> <p>No → Repair is complete.</p>	All

Verification Tests — Continued

POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
<p>1. NOTE: After completing the Powertrain Verification Test the Transmission Verification Test must be performed.</p> <p>2. NOTE: If the PCM has been replaced and the correct VIN and mileage have not been programmed, a DTC will set in the ABS Module, Airbag Module and the SKIM.</p> <p>3. NOTE: If the vehicle is equipped with a Sentry Key Immobilizer System, Secret Key data must be updated. Refer to the Service Information for the PCM, SKIM and the Transponder (ignition key) for programming information.</p> <p>4. Inspect the vehicle to ensure that all components related to the repair are properly installed and connected.</p> <p>5. Inspect the engine oil for fuel contamination. Replace the oil and filter as necessary.</p> <p>6. Attempt to start the engine.</p> <p>7. If the No Start condition is still present, refer to the symptom list and perform the diagnostic testing as necessary. Refer to any Technical Service Bulletins that may apply.</p> <p>8. Run the engine for one warm-up cycle to verify operation.</p> <p>9. With the DRBIII®, confirm that no DTCs or Secondary Indicators are present and that all components are functioning properly.</p> <p>Are any DTCs or symptoms remaining?</p> <p>Yes → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptom list (Diagnostic Procedure).</p> <p>No → Repair is complete.</p>	All

POWERTRAIN VERIFICATION TEST VER - 2	APPLICABILITY
<p>1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary.</p> <p>2. If this verification procedure is being performed after a NO TROUBLE CODE repair, perform steps 3 and 4.</p> <p>3. Check to see if the initial symptom still exists. If there are no trouble codes or the symptom no longer exists, the repair was successful and testing is complete.</p> <p>4. If the initial or another symptom exists, the repair is not complete. Check all technical service bulletins or flash updates and return to Symptoms if necessary.</p> <p>5. If this verification procedure is being performed after a DTC repair, perform steps 6 through 13.</p> <p>6. Connect the DRBIII® to the data link connector. Using the DRBIII® erase any diagnostic trouble codes and reset all values.</p> <p>7. If the PCM was not replaced, skip steps 8 through 10 and continue with the verification.</p> <p>8. If the PCM was replaced the correct VIN and mileage must be programmed or a DTC will set in the ABS and Air Bag modules. In addition, if the vehicle is equipped with Sentry Key Immobilizer System (SKIS), Secret Key data must be updated to enable start.</p> <p>9. For ABS and Air Bag systems: Enter correct VIN and Mileage in PCM. Erase codes in ABS and Air Bag modules.</p> <p>10. For SKIM theft alarm: Connect DRBIII® to data link conn. Go to Theft Alarm, SKIM, Misc. and place SKIM in secured access mode, by using the appropriate PIN code for this vehicle. Select Update the Secret Key data. Data will be transferred from SKIM to PCM</p> <p>11. Road test the vehicle. If the test is for an A/C DTC, ensure it is operating during the following test.</p> <p>12. Drive the vehicle for at least 5 minutes at or around 64 Km/h (40 mph). Ensure the transmission shifts through all gears. At some point stop the vehicle and turn off the engine for at least 10 seconds.</p> <p>13. With the DRBIII®, read DTCs.</p> <p>Are there any DTC(s) present?</p> <p>Yes → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptom list (Diagnostic Procedure).</p> <p>No → Repair is complete.</p>	All

Verification Tests — Continued

SKIS VERIFICATION	APPLICABILITY
<ol style="list-style-type: none"> 1. Reconnect all previously disconnected components and connectors. 2. Obtain the vehicle's unique Personal Identification Number (PIN) assigned to it's original SKIM. This number can be obtained from the vehicle's invoice or Chrysler's Customer Center (1-800-992-1997). 3. NOTE: When entering the PIN, care should be taken because the SKIM will only allow 3 consecutive attempts to enter the correct PIN. If 3 consecutive incorrect PINs are entered, the SKIM will Lock Out the DRB for 1 hour. 4. To exit Lock Out mode, the ignition key must remain in the Run position continually for 1 hour. Turn off all accessories and connect a battery charger if necessary. 5. With the DRB, select Theft Alarm, SKIM and Miscellaneous. Then, select the desired procedure and follow the steps that will be displayed. 6. If the SKIM has been replaced, ensure all of the vehicle ignition keys are programmed to the new SKIM. 7. NOTE: Prior to returning vehicle to the customer, perform a module scan to be sure that all DTCs are erased. Erase any DTCs that are found. 8. With the DRB, erase all DTCs. Perform 5 ignition key cycles leaving the key on for at least 90 seconds per cycle. 9. With the DRB, read the SKIM DTCs. <p>Are there any SKIM DTCs?</p> <p>Yes → Repair is not complete, refer to appropriate symptom.</p> <p>No → Repair is complete.</p>	All
TIRE PRESSURE VERIFICATION TEST - VER 1 - SKREEM	APPLICABILITY
<ol style="list-style-type: none"> 1. Adjust ALL tire pressure to recommended specifications. 2. Perform the SKREEM training as instructed in the System Description. 3. NOTE: Refer to SKREEM information for theft and RKE programming procedures. <p>Can the SKREEM auto learn the Sensor/Transmitter(s) and the TPMS indicator is OFF?</p> <p>Yes → Repair is complete.</p> <p>No → Refer to Diagnosing System Faults for this system.</p>	All
VTSS VERIFICATION TEST - 1A	APPLICABILITY
<ol style="list-style-type: none"> 1. Open the driver door and roll down the window. 2. Remove the ignition key (but keep in hand). 3. Lock the doors with RKE transmitter or power door lock switch. 4. Ensure all doors, tailgate, and tailgate flip-up glass are closed. 5. - If the VTSS Indicator Lamp flashes rapidly and after approximately 16 seconds changes to a slower flash, the system is operational. 6. - 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. <p>Does the VTSS Indicator Lamp flash as specified?</p> <p>Yes → Repair is complete.</p> <p>No → Repair is not complete, refer to appropriate symptom.</p>	All

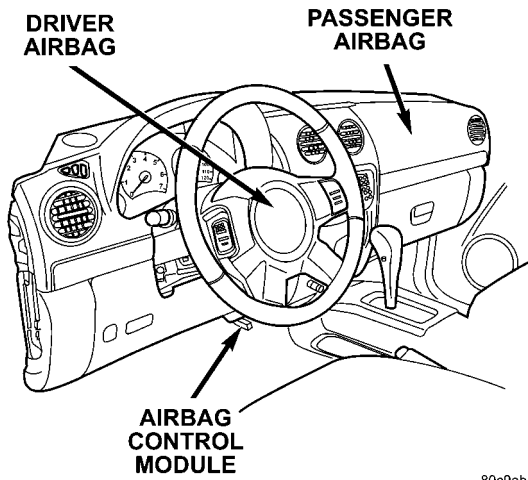
Verification Tests — Continued

_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>2. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.</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, then turn 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>	<p>All</p>

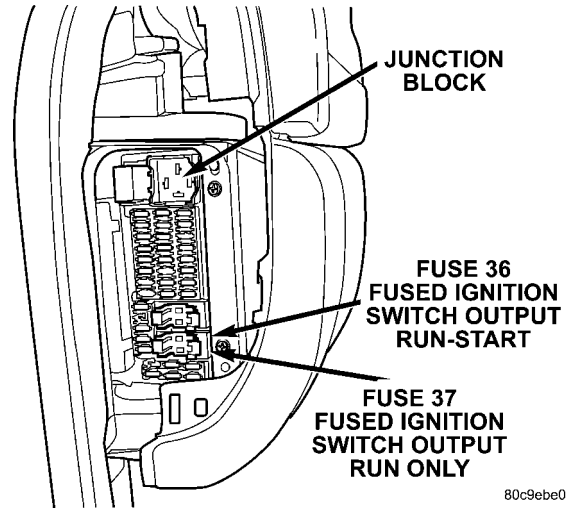
This image shows a full page of white paper with horizontal grey ruling lines. The word "NOTES" is printed at the top center in a bold, black, sans-serif font. Below the title, there are approximately 28 evenly spaced horizontal lines extending across the width of the page, providing space for writing.

8.0 COMPONENT LOCATIONS

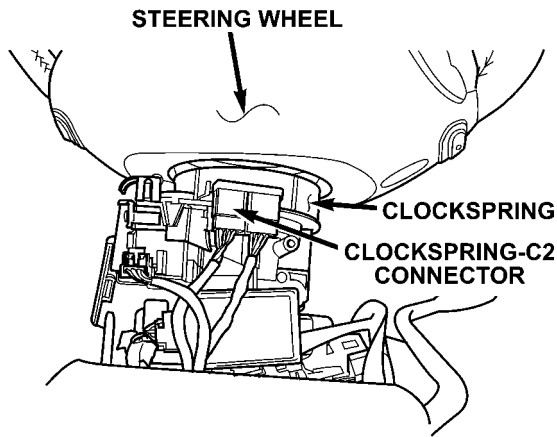
8.1 AIRBAG SYSTEM



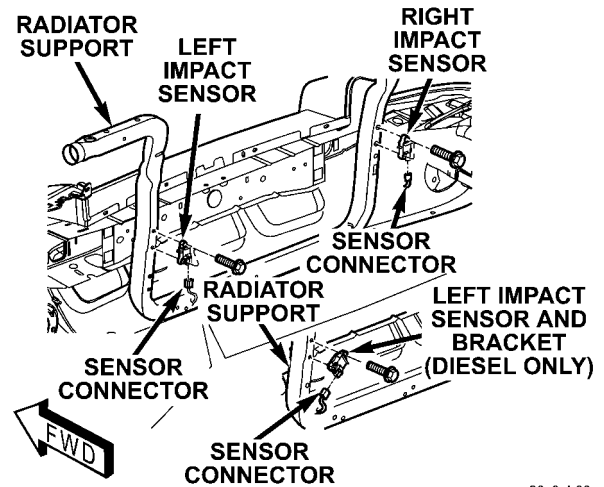
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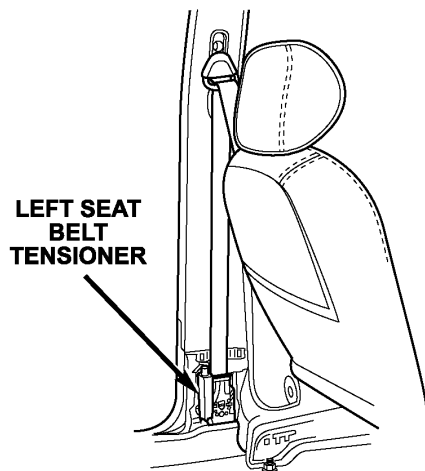
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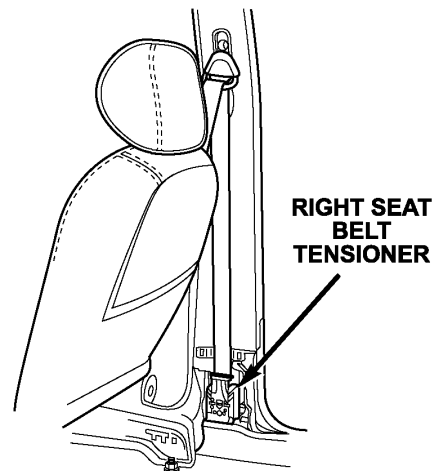
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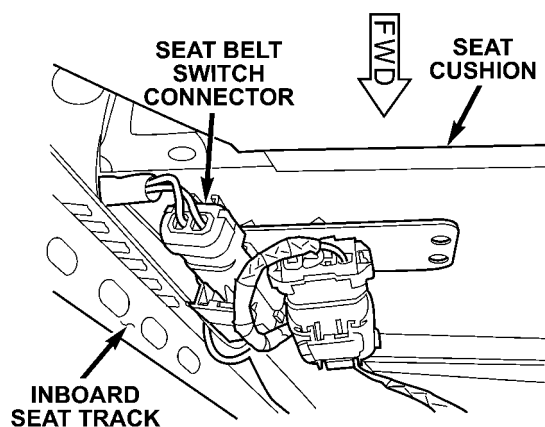
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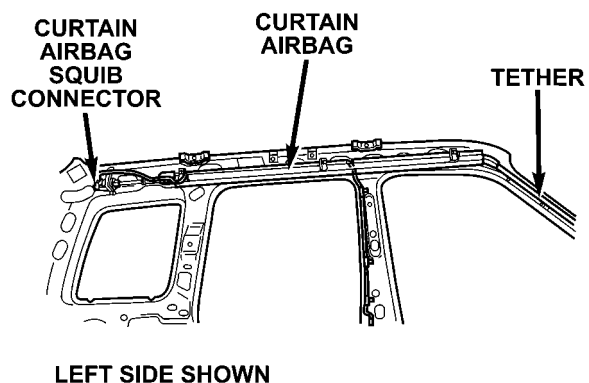
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COMPONENT LOCATIONS

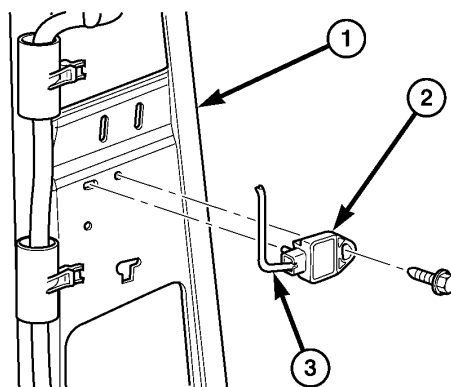
8.1 AIRBAG SYSTEM (Continued)



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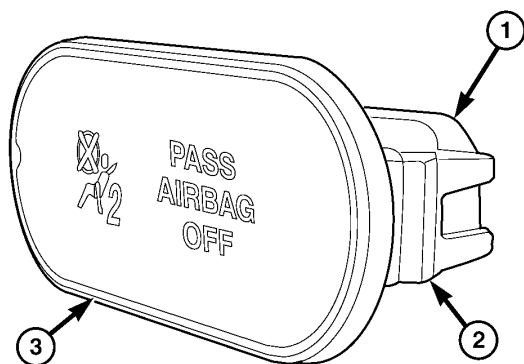


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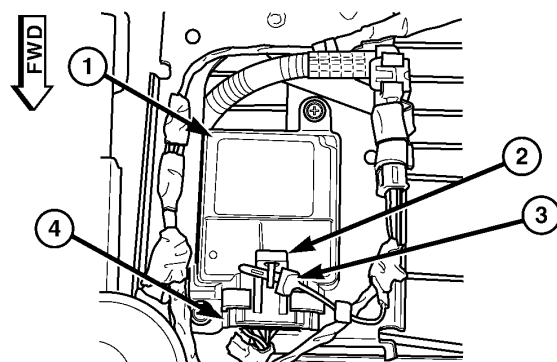


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8.1.1 OCCUPANT CLASSIFICATION SYSTEM

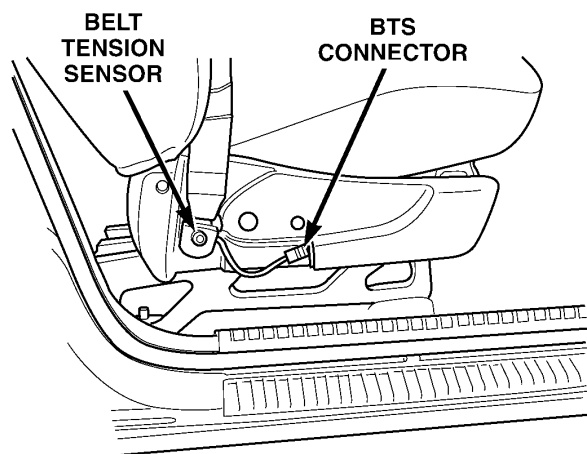


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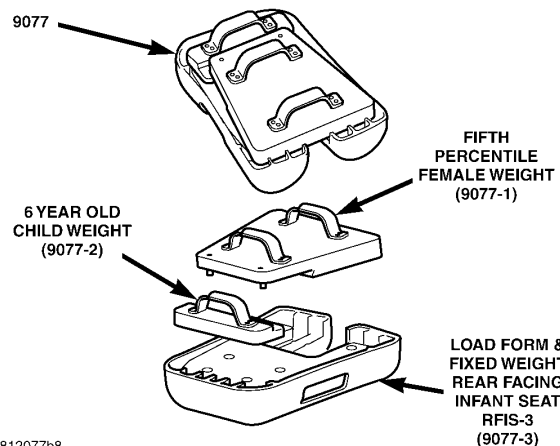
1. OCCUPANT CLASSIFICATION MODULE (OCM)
2. LOCK TAB
3. LOCK PIN
4. OCM CONNECTOR

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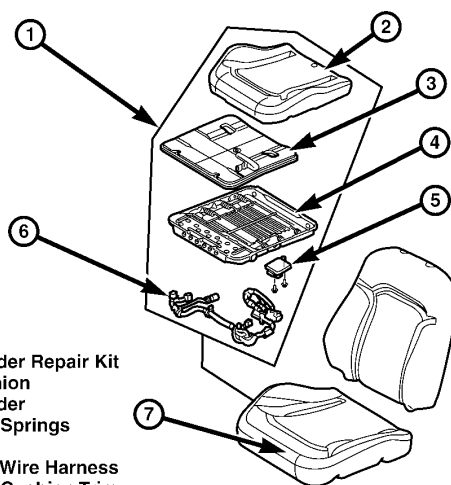


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OCCUPANT CLASSIFICATION SEAT WEIGHTS



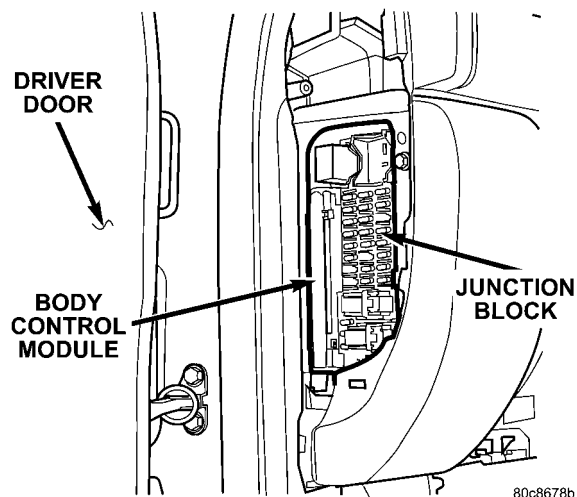
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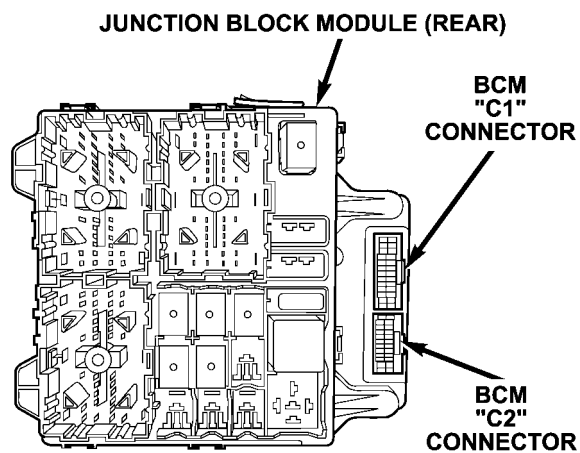
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8.2 COMMUNICATION

8.2.1 BODY CONTROL MODULE AND JUNCTION BLOCK (JUNCTION BLOCK MODULE)



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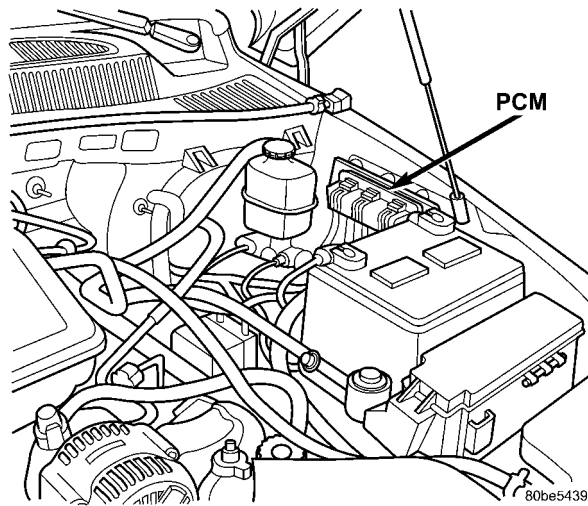


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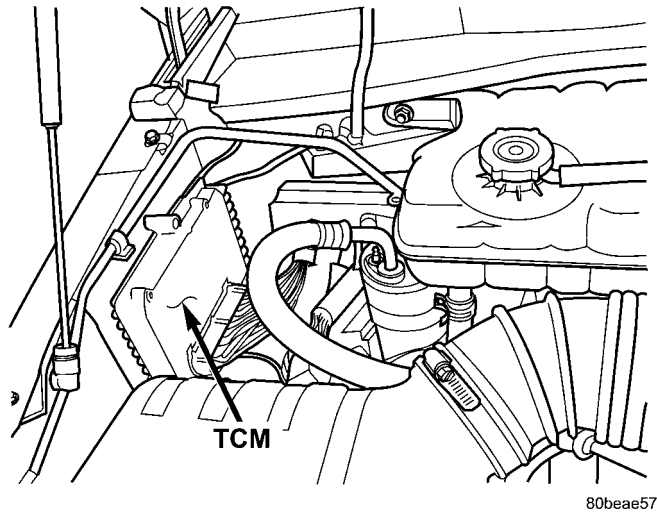
COMPONENT LOCATIONS

8.2 COMMUNICATION (Continued)

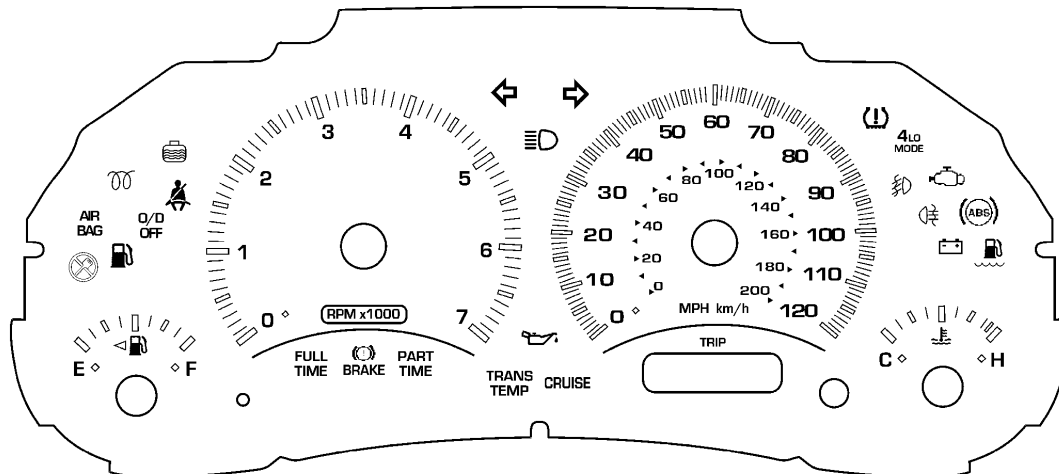
8.2.2 POWERTRAIN CONTROL MODULE



8.2.3 TRANSMISSION CONTROL MODULE — DIESEL



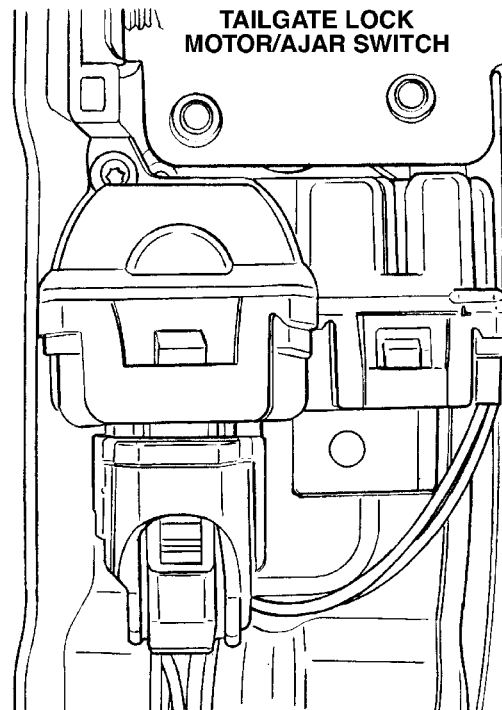
8.3 INSTRUMENT CLUSTER



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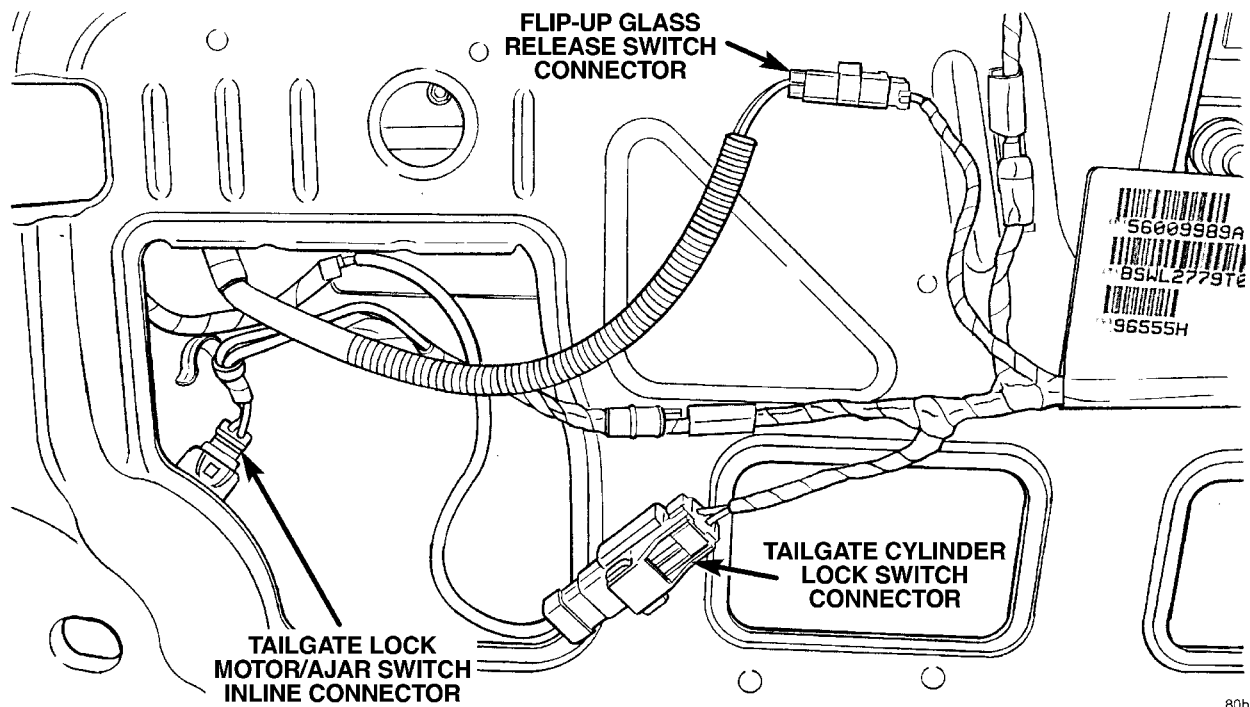
8.4 POWER DOOR LOCKS

8.4.1 TAILGATE LOCK MOTOR



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8.4.2 TAILGATE CONNECTORS

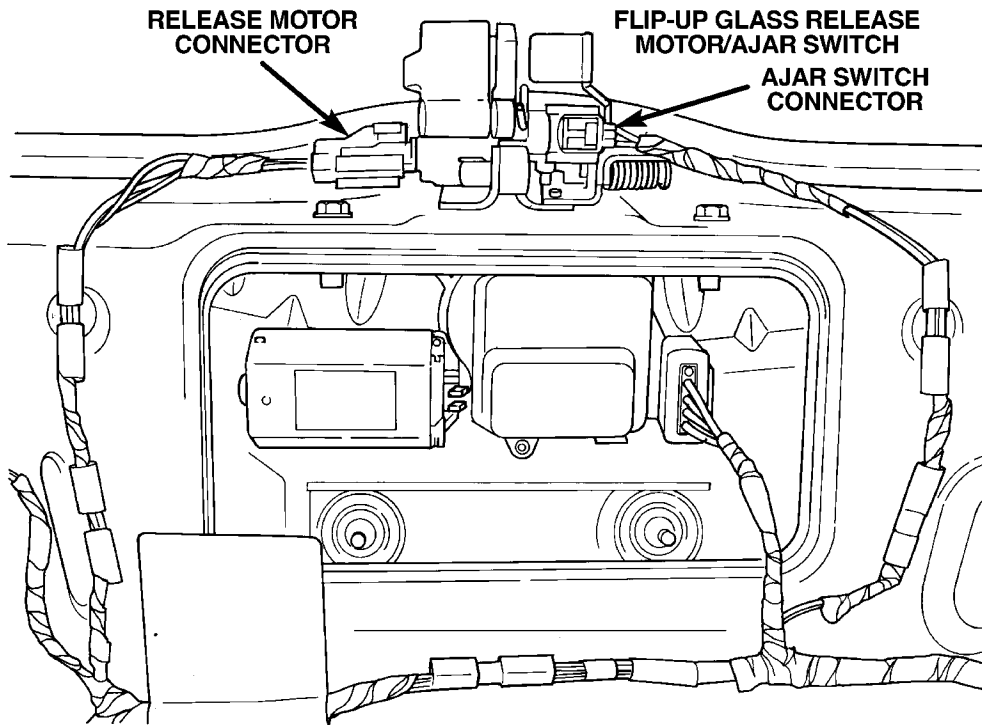


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COMPONENT LOCATIONS

8.4 POWER DOOR LOCKS (Continued)

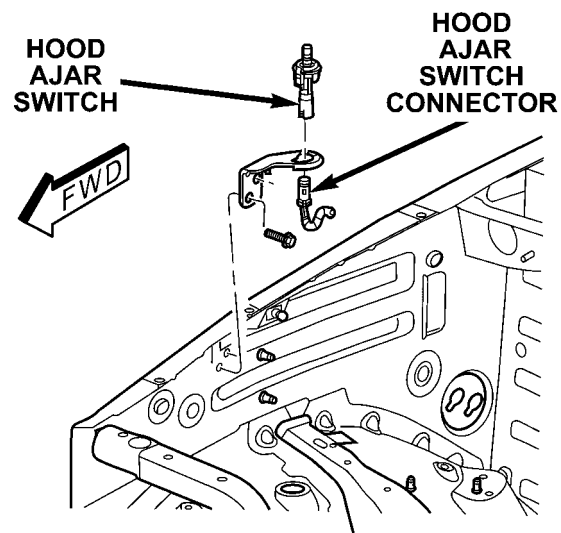
8.4.3 FLIP-UP GLASS RELEASE



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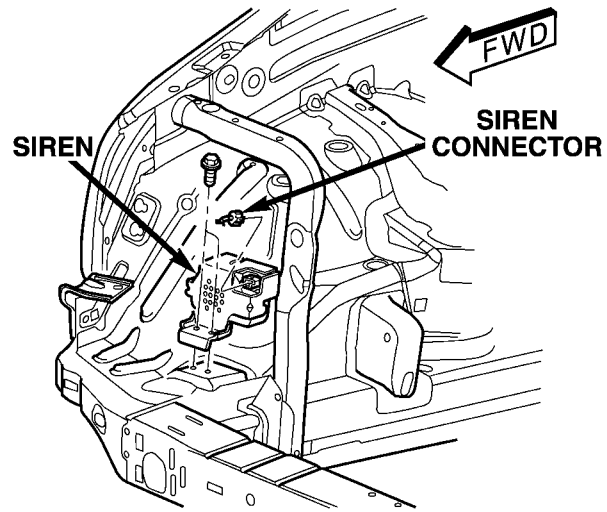
8.5 VEHICLE THEFT SECURITY SYSTEM

8.5.1 HOOD AJAR SWITCH (EXPORT)



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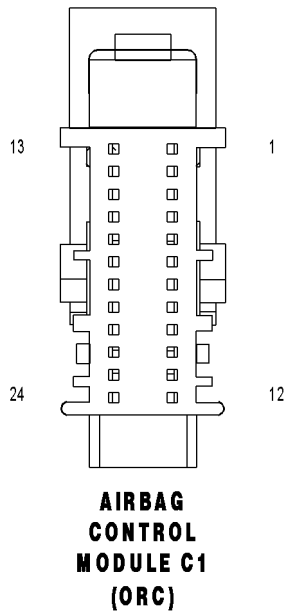
8.5.2 SIREN (EXPORT)



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NOTES

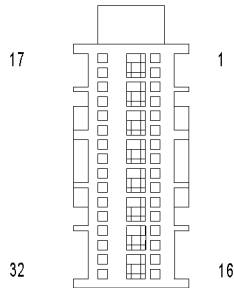
9.0 CONNECTOR PINOUTS



AIRBAG CONTROL MODULE C1 (ORC) - 24 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	D25 20WT/VT	PCI BUS
4	-	-
5	-	-
6	R166 20LG/TN	PASSENGER AIRBAG INDICATOR DRIVER
7	-	-
8	-	-
9	R81 20LB/WT	LEFT FRONT IMPACT SENSOR GROUND
10	R79 20LB/VT	LEFT FRONT IMPACT SENSOR SIGNAL
11	R82 20WT/LB	RIGHT FRONT IMPACT SENSOR GROUND
12	R80 20VT/LB	RIGHT FRONT IMPACT SENSOR SIGNAL
13	-	-
14	-	-
15	-	-
16	-	-
17	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
18	R45 20LG/OR	DRIVER SQUIB 1 LINE 2
19	R44 20LB/OR	PASSENGER SQUIB 1 LINE 2
20	R42 20LB/BR	PASSENGER SQUIB 1 LINE 1
21	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
22	R63 20LG/WT	DRIVER SQUIB 2 LINE 2
23	R64 20LB/WT	PASSENGER SQUIB 2 LINE 1
24	R62 20LB/VT	PASSENGER SQUIB 2 LINE 2

CONNECTOR PINOUTS



**AIRBAG
CONTROL
MODULE
C2
(ORC)**

**CONNECTOR
NOT
AVAILABLE**

AIRBAG CONTROL MODULE C2 (ORC) - 32 WAY

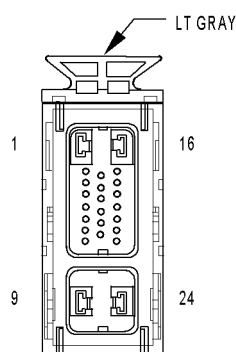
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	R53 20LG/YL	DRIVER SEAT BELT TENSIONER LINE 2
10	R55 20LG/DG	DRIVER SEAT BELT TENSIONER LINE 1
11	R56 20LB/DG	PASSENGER SEAT BELT TENSIONER LINE 1
12	R54 20LB/YL	PASSENGER SEAT BELT TENSIONER LINE 2
13	R1 20LB/BR (SAB)	LEFT CURTAIN SQUIB 1 LINE 2
14	R3 20LB/OR (SAB)	LEFT CURTAIN SQUIB 1 LINE 1
15	R4 20OR/LB (SAB)	RIGHT CURTAIN SQUIB 1 LINE 1
16	R2 20WT/LB (SAB)	RIGHT CURTAIN SQUIB 1 LINE 2
17	F201 20PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
18	F100 20PK/VT	FUSED IGNITION SWITCH OUTPUT (RUN)
19	-	-
20	Z104 20BK/LG	GROUND
21	R59 20LG/TN	DRIVER SEAT BELT SWITCH GROUND
22	R57 20LG/GY	DRIVER SEAT BELT SWITCH SENSE
23	-	-
24	-	-
25	-	-
26	-	-
27	R14 20TN/LG (SAB)	RIGHT SIDE IMPACT SENSOR 1 SIGNAL
28	R16 20BR/LG	RIGHT SIDE IMPACT SENSOR 1 GROUND
29	R15 20LG/BR	LEFT SIDE IMPACT SENSOR 1 GROUND
30	R13 20LG/VT	LEFT SIDE IMPACT SENSOR 1 SIGNAL
31	-	-
32	-	-

ANTENNA (EXCEPT EXPORT) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	D5 20WT/OR	RADIO ANTENNA CORE
2	D931 20WT/YL	RADIO ANTENNA SHIELD

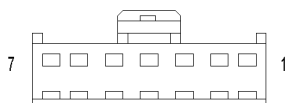
ANTI-LOCK BRAKE MODULE - 47 WAY

CAV	CIRCUIT	FUNCTION
1	A107 12BK/LB	FUSED B(+)
2	-	-
3	B22 18DG/YL (GAS)	VEHICLE SPEED SIGNAL
4	-	-
5	-	-
6	B15 20DG/WT	BRAKE SWITCH SENSE
7	-	-
8	F22 20PK/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
9	-	-
10	D21 20WT/GY (DIESEL)	SCI TRANSMIT (ECM)
10	D21 20WT/GY (GAS)	SCI TRANSMIT (PCM)
11	D25 18WT/VT	PCI BUS
12	D65 20WT/LG (DIESEL)	CAN C BUS (+)
13	D64 20WT/LB (DIESEL)	CAN C BUS (-)
14	-	-
15	-	-
16	Z127 12BK/DG	GROUND
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	A200 12RD/DG	FUSED B(+)
33	B6 18DG/WT	RIGHT FRONT WHEEL SPEED SENSOR SIGNAL
34	B7 18DG/VT	RIGHT FRONT WHEEL SPEED SENSOR 12 VOLT SUPPLY
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	B1 18YL/DB	REAR WHEEL SPEED SENSOR SIGNAL
43	B2 18YL	REAR WHEEL SPEED SENSOR 12 VOLT SUPPLY
44	-	-
45	B9 18DG/LG	LEFT FRONT WHEEL SPEED SENSOR 12 VOLT SUPPLY
46	B8 18DG/TN	LEFT FRONT WHEEL SPEED SENSOR SIGNAL
47	Z107 12BK/LB	GROUND



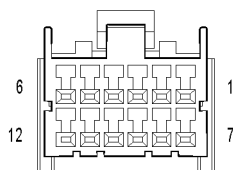
ANTI-LOCK
BRAKE
MODULE

CONNECTOR PINOUTS



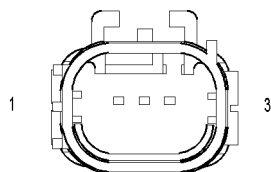
**AUTOMATIC
DAY/NIGHT
MIRROR C1**

AUTOMATIC DAY/NIGHT MIRROR C1 - 7 WAY		
CAV	CIRCUIT	FUNCTION
1	F942 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	Z13 20BK/WT	GROUND
3	L10 20RD	BACK-UP LAMP FEED
4	P112 20RD	AUTO DAY/NIGHT MIRROR (+)
5	P114 20RD	AUTO DAY/NIGHT MIRROR (-)
6	-	-
7	-	-



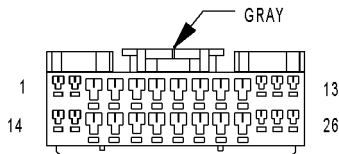
**AUTOMATIC
DAY/NIGHT
MIRROR C2
(HANDS FREE)**

AUTOMATIC DAY/NIGHT MIRROR C2 (HANDS FREE) - 12 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	X722 20LB/DG	MICROPHONE 2 IN(+)
5	-	-
6	X712 20DG/LB	MICROPHONE 1 IN(+)
7	X793 20DG/YL	IGNITION RUN/ACC SIGNAL
8	-	-
9	X730 20GY/YL	VOICE RECOGNITION/PHONE SWITCH SIGNAL
10	-	-
11	X835 20OR/GY	SENSOR GROUND
12	X792 20LB/DG	MICROPHONE IN(-)



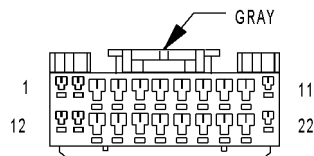
**BELT
TENSION
SENSOR**

BELT TENSION SENSOR - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	R86 20LG/LB	SEAT BELT TENSION SENSOR POWER
2	R986 20LG/BR	SEAT BELT TENSION SENSOR GROUND
3	D105 20WT/OR	SEAT BELT TENSION SENSOR SIGNAL



**BODY
CONTROL
MODULE C1**

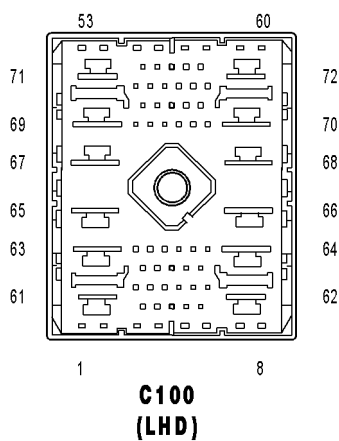
BODY CONTROL MODULE C1 - GRAY 26 WAY		
CAV	CIRCUIT	FUNCTION
1	Z15 20BK/TN	GROUND
2	W27 20DB/BR	REAR WIPER INTERMITTENT DRIVER
3	G150 20VT/BR	INSTRUMENT CLUSTER WAKE UP SIGNAL
4	G75 20VT	LEFT FRONT DOOR AJAR SWITCH SENSE
5	G74 20VT/WT	RIGHT FRONT DOOR AJAR SWITCH SENSE
6	G70 20VT/LB (EXCEPT BASE)	HOOD AJAR SWITCH SENSE
7	G78 20VT/OR	TAILGATE AJAR SWITCH SENSE
8	G15 20VT/TN	KEY-IN IGNITION SWITCH SENSE
9	G80 20VT/YL	FLIP-UP GLASS AJAR SWITCH SENSE
10	G773 20VT/OR	REAR COURTESY LAMP CONTROL
11	W33 20BR/DG	WASHER PUMP DRIVER
12	L91 18WT/DB	HAZARD LAMP CONTROL
13	W13 20BR/LG	REAR WIPER ON DRIVER
14	Z10 16BK/TN	GROUND
15	D25 18WT/VT	PCI BUS
16	-	-
17	P101 20LG/WT	FLIP-UP GLASS RELEASE SWITCH SENSE
18	-	-
19	L18 20WT/LG (LIGHTBAR)	LIGHTBAR SWITCH SENSE
20	B22 20DG/YL	VEHICLE SPEED SIGNAL
21	G69 20VT/WT	VTSS INDICATOR DRIVER
22	G76 20VT/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
23	C215 20LB	REAR WINDOW DEFOGGER CONTROL
24	C221 20LB/OR	A/C ON/OFF CONTROL
25	Z940 16BK	GROUND
26	P100 20DB/LG	FLIP-UP GLASS RELEASE MOTOR DRIVER



**BODY
CONTROL
MODULE C2**

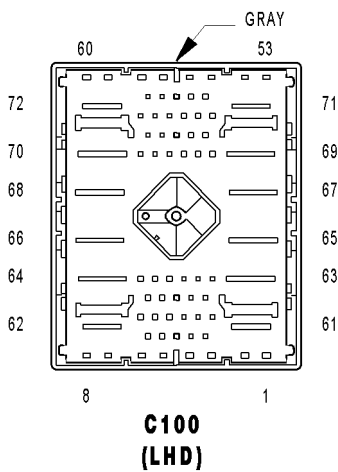
BODY CONTROL MODULE C2 - GRAY 22 WAY		
CAV	CIRCUIT	FUNCTION
1	-	-
2	G910 20VT/BR	TAILGATE SWITCH GROUND
3	G77 20VT/GY	LEFT REAR DOOR AJAR SWITCH SENSE
4	L900 20WT/YL	HEADLAMP SWITCH RETURN
5	L307 20PK/RD	HEADLAMP SWITCH MUX
6	-	-
7	L87 20WT/OR (EXCEPT BASE)	FRONT FOG LAMP SWITCH SENSE
8	E3 20OR/YL	PANEL LAMPS DIMMER SWITCH MUX
9	-	-
10	W35 20BR/LG	FRONT WIPER SWITCH MUX
11	X920 20GY/OR (EXCEPT BASE)	RADIO CONTROL MUX RETURN
12	-	-
13	-	-
14	-	-
15	-	-
16	Z950 20BK (RHD)	GROUND
17	G71 20VT/OR (LHD)	TAILGATE CYLINDER LOCK SWITCH MUX
18	-	-
19	L115 20WT/YL	HIGH BEAM SWITCH SENSE
20	F512 20PK/OR	VEHICLE SPEED SENSOR SUPPLY
21	B12 20DG/OR	VEHICLE SPEED SIGNAL
22	X20 20GY/WT (EXCEPT BASE)	RADIO CONTROL MUX

CONNECTOR PINOUTS

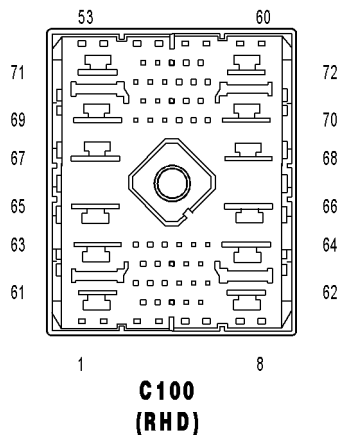


C100 (LHD) - (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	B1 18DG/DB (ABS)
2	B2 18DG/LB (ABS)
3	N4 20DB/YL (GAS)
4	B22 18DG/YL (GAS)
5	K106 20VT/LB (GAS)
6	-
7	T26 20DG/OR (DIESEL M/T)
8	K167 20BR/YL
9	V38 20VT/OR (DIESEL)
10	K29 20WT/BR (DIESEL)
11	K23 20BR/WT (DIESEL)
12	L13 18WT/YL
13	G70 20VT/LB (EXPORT)
14	Z11 20BK/LG
15	K900 20DB/DG
16	T141 20YL/OR (M/T)
17	L62 18WT/OR
18	L63 18WT/DG
19	V30 20VT/WT (SPEED CONTROL)
20	D20 20WT/LG (GAS)
21	V32 20VT/YL (GAS)
22	W1 20BR/TN
23	-
24	K107 20VT/WT (GAS)
25	-
26	D16 20WT/OR (EXCEPT DIESEL M/T)
27	-
28	R80 20VT/LB
29	R82 20WT/LB
30	R79 20LB/VT
31	R81 20LB/WT
32	D21 20WT/GY (DIESEL A/T)
32	D15 20BR/WT (GAS)
33	-
34	D21 20WT/GY
35	-
36	K304 20BR/DB (DIESEL)
37	B20 20DG/OR
38	Z11 20BK/LG
39	W33 20BR/DG
40	K400 20BR/VT (DIESEL)
41	T6 20DG (A/T)
42	V37 20VT (SPEED CONTROL)
43	W20 20BR/YL
44	B15 20DG/WT
45	D25 20WT/VT
46	K852 20BR/VT (DIESEL)
47	X75 18GY/DG (EXPORT)
48	L10 20WT/GY
49	-
50	D508 20WT/GY (TIRE PRESSURE MONITORING)
51	-
52	K300 20BR (DIESEL)
53	-
54	K854 20VT/BR (DIESEL)
55	F22 20PK/TN (EXCEPT BASE)
56	G18 20OR/VT (DIESEL)
57	A100 14RD/VT
58	K392 18BR/WT (DIESEL)
58	N1 18DG/OR (GAS)
59	L43 18WT/DB
60	A904 14RD
61	A106 12LB/RD
62	-
63	A1 12RD
64	A111 12DG/RD
65	A100 14RD/VT
66	-
67	-
68	-
69	A916 12RD
70	-
71	-
72	-

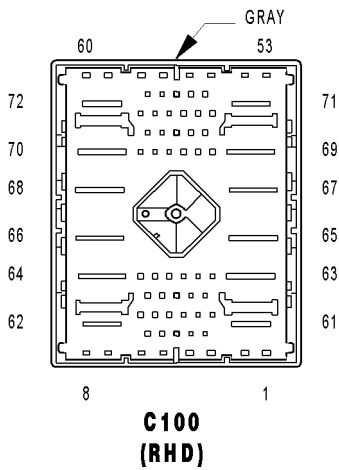


C100 (LHD) - (I/P SIDE)	
CAV	CIRCUIT
1	B1 20DG/DB
2	B2 20DG/LB
3	N4 20DB/YL
4	B22 20DG/YL
5	K106 20VT/LB
6	-
7	T26 20DG/OR
8	K167 20BR/YL
9	V38 20VT/OR
10	K29 20WT/BR
11	K23 20BR/WT
12	L13 18WT/YL (EXPORT)
13	G70 20VT/LB (EXCEPT BASE)
14	Z11 20BK/LG
15	K900 20DB/DG
16	T141 20YL/OR
17	L62 18WT/OR
18	L63 18WT/DG
19	V30 20VT/WT
20	D20 20WT/LG
21	V32 20VT/YL
22	W1 20BR/TN
23	F943 20PK/LG
24	K107 20VT/WT
25	-
26	D16 20WT/OR
27	-
28	R80 20VT/LB
29	R82 20WT/LB
30	R79 20LB/VT
31	R81 20LB/WT
32	D15 20DB/WT
33	B12 20DG/OR
34	D21 20WT/GY
35	F512 20PK/OR
36	K304 20BR/DB
37	B20 20DG/OR
38	Z11 20BK/LG
39	W33 20BR/DG
40	K400 20BR/VT
41	T6 20DG
42	V37 20VT
43	W20 20BR/YL
44	B15 20DG/WT
45	D25 20WT/VT
46	K852 20BR/VT
47	X75 18GY/DG
48	L10 20WT/GY
49	-
50	F508 20WT/GY
51	-
52	K300 20BR
53	-
54	K854 20VT/BR
55	-
56	G18 20PK/BK
57	A100 14RD/VT
58	N1 16DG/OR
59	L43 18VT/DB (EXPORT)
60	A904 14RD (LIGHTBAR)
61	A106 12LB/RD
62	-
63	A1 12RD
64	A111 12DG/RD
65	-
66	-
67	-
68	-
69	A916 12RD
70	-
71	-
72	-



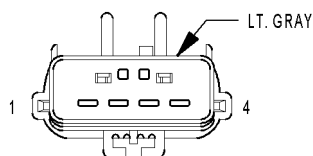
C100 (RHD) - (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	L33 18WT/LG
2	L34 18WT/GY
3	X2 18DG/OR
4	B22 18DG/YL (GAS)
5	C115 20DB
6	W7 16BR/GY
7	T26 20DG/OR (DIESEL M/T)
8	K167 20BR/YL (DIESEL)
9	V38 20VT/OR (DIESEL)
10	K29 20WT/BR (DIESEL)
11	K23 20BR/WT (DIESEL)
12	L13 18WT/YL
13	G70 20VT/LB
14	Z11 20BK/LG
15	K900 20DB/DG
16	T141 20YL/OR (M/T)
17	L62 18WT/OR
18	L63 18WT/DG
19	V30 20VT/WT (GAS)
20	D20 20WT/LG (GAS)
21	V32 20VT/YL (GAS)
22	W1 20BR/TN
23	-
24	W6 20BR/LB
25	
26	D16 20WT/OR (EXCEPT DIESEL M/T)
27	L44 18WT/TN
28	R80 20VT/LB
29	R82 20WT/LB
30	R79 20LB/WT
31	R81 20LB/WT
32	D21 20WT/GY (DIESEL A/T)
32	D15 20BR/WT (GAS)
33	-
34	D21 20WT/GY
35	-
36	F20 20PK/GY
37	B20 20DG/OR
38	Z11 20BK/LG
39	W33 20BR/DG
40	K400 20BR/VT (DIESEL)
41	T6 20DG (A/T)
42	V37 20VT
43	W20 20BR/YL
44	B153 20DG/WT
45	D25 20WT/VT
46	K852 20BR/VT (DIESEL)
47	X75 18GY/DG
48	L10 20WT/GY
49	F1 20PK/WT
50	W2 20BR/LG
51	L77 18PK/RD
52	L50 18WT/TN
53	L89 16WT/YL
54	K854 20VT/BR (DIESEL)
55	F22 20PK/TN
56	G18 20OR/VT (DIESEL)
57	-
58	A5 16RD/VT
59	L43 18WT/DB
60	A904 14RD
61	A106 12LB/RD
62	A139 12RD/YL
63	A1 12RD
64	A111 12DG/RD
65	A901 10RD
66	A912 10RD
67	A908 20RD
68	A911 10RD
69	A916 12RD
70	A12 10RD/BR
71	A906 12RD
72	-



C100 (RHD) - (I/P SIDE)	
CAV	CIRCUIT
1	L43 18VT
2	F1 20DB
4	B22 18LG/YL
5	L44 18VT/RD
7	V55 16TN/RD
8	-
9	-
10	D25 18YL/VT/BR
11	V14 18RD/VT
12	L13 18BR/YL
13	G70 20BR/TN
14	G11 20WT/BK
15	K4 20BK/LB
16	L50 18WT/TN
17	L62 18BR/RD
18	L63 18DG/RD
19	V30 18DB/RD
20	D20 20LG
21	V32 18YL/RD
24	F15 18DB/WT
25	G18 20PK/BK
28	R46 20BR/LB
29	R48 20TN
31	R49 20LB
32	D15 20DB
35	F512 18PK/OR
36	-
39	V10 18BR
42	V37 20RD/LG
43	V20 18BK/WT
46	-
47	X75 18DG
50	F22 18DB/PK
53	L78 18DG/YL
54	F20 18WT
57	-
58	L34 18RD/OR
60	A32 14RD/DB
61	A41 12YL
62	A21 12RD/DB
63	A1 12RD
64	A111 12RD/LB
65	A12 10RD/TN
66	A13 10PK/WT
67	A18 10PK
68	A7 10RD/BK
69	A2 12PK/BK
70	A25 12DB
71	A4 12BK/PK
72	A99 14RD/VT

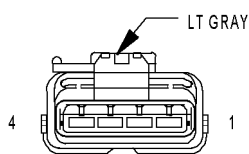
CONNECTOR PINOUTS



C311

C311 - LT GRAY (DRIVER SEAT SIDE)

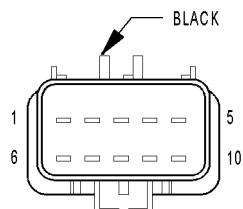
CAV	CIRCUIT
1	R57 18LG/GY
1	R57 18DG (HEATED SEATS)
2	R59 18LB
2	F37 18PK/LB (HEATED SEATS)
3	R59 18LG/TN (HEATED SEATS)
4	Z238 18 (HEATED SEATS)



C311

C311 - LT GRAY (UNIBODY SIDE)

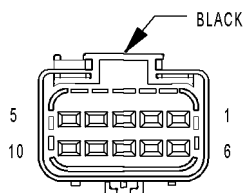
CAV	CIRCUIT
1	-
1	R57 18DG
2	F37 14RD/LB
3	R59 18LB
4	Z238 14BK/WT
4	Z238 12BK/WT



C313

C313 - BLACK (RIGHT SEAT SIDE)

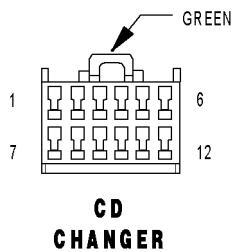
CAV	CIRCUIT
1	D25 18WT/VT
2	R57 18LG/GY
3	Z105 18BK/LG
4	R59 18LG/TN
5	F37 18PK/LB
6	F201 18LG/YL
7	-
8	Z849 14BK/WT
9	-
10	-



C313

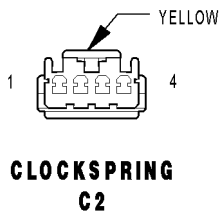
C313 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
1	D25 20WT/VT
2	R57 20LG/GY (RHD)
3	Z105 20BK (LHD)
4	R59 20LG/TN (RHD)
5	F37 14PK/LB (HEATED SEATS)
6	F201 20PK/OR
7	-
8	Z849 16BK/OR (HEATED SEATS)
9	-
10	-



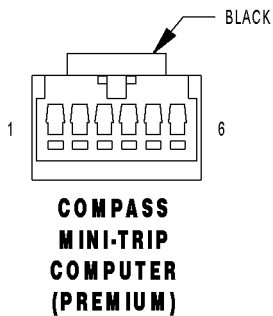
CD CHANGER - GREEN 12 WAY

CAV	CIRCUIT	FUNCTION
1	X41 20DG/WT	AUDIO MUX LEFT
2	-	
3	-	
4	Z515 20BK	GROUND
5	X112 20LG/GY	IGNITION RUN/ACC SIGNAL
6	X160 20GY/YL	FUSED B(+)
7	X40 20GY/WT	AUDIO MUX RIGHT
8	X140 20GY/OR	SHIELD
9	-	
10	-	
11	X235 20GY	AUDIO RETURN
12	D25 20WT/VT	PCI BUS



CLOCKSPRING C2 - YELLOW 4 WAY

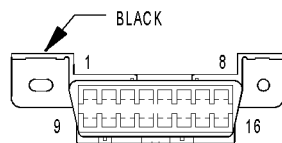
CAV	CIRCUIT	FUNCTION
1	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
2	R45 20LG/OR	DRIVER SQUIB 1 LINE 2
3	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
4	R63 20LG/WT	DRIVER SQUIB 2 LINE 2



COMPASS MINI-TRIP COMPUTER (PREMIUM) - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20WT/VT	PCI BUS
3	A908 18RD	FUSED B(+)
4	Z13 20BK/WT	GROUND
5	F942 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	-	-

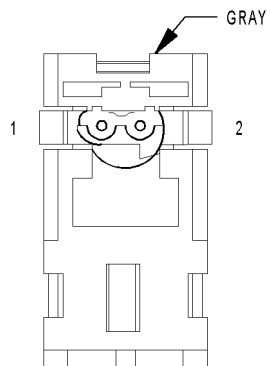
CONNECTOR PINOUTS



**DATA
LINK
CONNECTOR**

DATA LINK CONNECTOR - BLACK 16 WAY

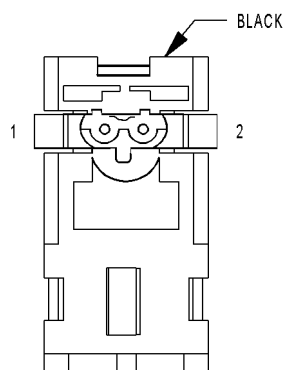
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20WT/VT	PCI BUS
3	-	-
4	Z11 20BK/LG	GROUND
5	Z11 20BK/LG	GROUND
6	-	-
7	D21 20WT/GY (DIESEL)	SCI TRANSMIT (ECM)
7	D21 20WT/GY (GAS)	SCI TRANSMIT (PCM)
8	-	-
9	D16 20WT/OR	SCI RECEIVE (TCM)
10	-	-
11	-	-
12	D20 20WT/LG (DIESEL)	SCI RECEIVE (ECM)
12	D20 20WT/LG (GAS)	SCI RECEIVE (PCM)
13	-	-
14	-	-
15	D15 20BR/WT	SCI TRANSMIT (TCM)
16	A333 20WT/RD	FUSED B(+)



**DRIVER
AIRBAG
SQUIB 1**

DRIVER AIRBAG SQUIB 1 - GRAY 2 WAY

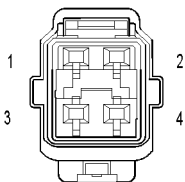
CAV	CIRCUIT	FUNCTION
1	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
2	R45 20LG/OR	DRIVER SQUIB 1 LINE 2



**DRIVER
AIRBAG
SQUIB 2**

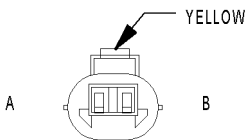
DRIVER AIRBAG SQUIB 2 - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
2	R63 20LG/WT	DRIVER SQUIB 2 LINE 2



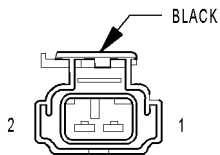
**DRIVER
DOOR LOCK MOTOR/
AJAR SWITCH
(EXCEPT BASE)**

DRIVER DOOR LOCK MOTOR/AJAR SWITCH (EXCEPT BASE) - 4 WAY		
CAV	CIRCUIT	FUNCTION
1	G75 20VT (LHD)	LEFT FRONT DOOR AJAR SWITCH SENSE
1	G74 20VT (RHD)	RIGHT FRONT DOOR AJAR SWITCH SENSE
2	Z999 20BK (LHD)	GROUND
2	Z999 20BK (RHD)	GROUND
3	P34 16TN/LB (LHD)	DRIVER DOOR UNLOCK RELAY OUTPUT
3	P35 16TN/YL (RHD)	DRIVER DOOR UNLOCK RELAY OUTPUT
4	P33 16TN/YL	LOCK RELAY OUTPUT



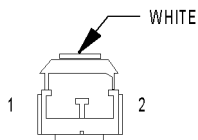
**DRIVER SEAT
BELT
TENSIONER**

DRIVER SEAT BELT TENSIONER - YELLOW 2 WAY		
CAV	CIRCUIT	FUNCTION
1	R55 20LG/DG	DRIVER SEAT BELT TENSIONER LINE 1
2	R53 20LG/YL	DRIVER SEAT BELT TENSIONER LINE 2



**FLIP-UP
GLASS RELEASE
MOTOR**

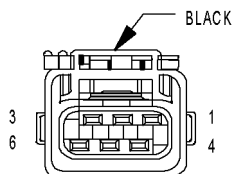
FLIP-UP GLASS RELEASE MOTOR - BLACK 2 WAY		
CAV	CIRCUIT	FUNCTION
1	Z213 18BK/OR	GROUND
2	P100 20DB/LG	FLIP-UP GLASS RELEASE MOTOR DRIVER



**FLIP-UP
GLASS RELEASE
SWITCH**

FLIP-UP GLASS RELEASE SWITCH - WHITE 2 WAY		
CAV	CIRCUIT	FUNCTION
1	G910 20VT/BR	TAILGATE SWITCH GROUND
2	P101 20LG/WT	FLIP-UP GLASS RELEASE SWITCH SENSE

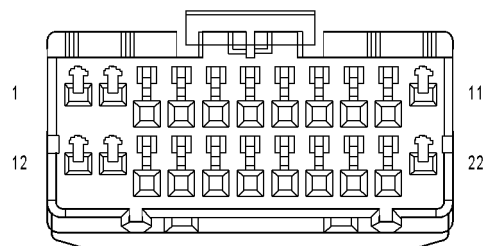
CONNECTOR PINOUTS



**FRONT WIPER
MOTOR**

FRONT WIPER MOTOR - BLACK 6 WAY

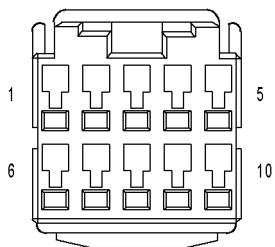
CAV	CIRCUIT	FUNCTION
1	A5 16RD/VT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	W7 16BR/GY	FRONT WIPER PARK SWITCH SENSE
3	-	-
4	Z931 16BK	GROUND
5	W3 16BR/WT	FRONT WIPER HIGH/LOW RELAY LOW SPEED OUTPUT
6	W4 16BR/OR	FRONT WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT



**HANDS
FREE
MODULE C1**

HANDS FREE MODULE C1 - 22 WAY

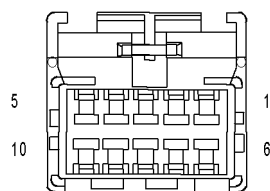
CAV	CIRCUIT	FUNCTION
1	A908 18RD	FUSED B(+)
2	-	-
3	-	-
4	-	-
5	X722 20LB/DG	MICROPHONE 2 IN(+)
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	X730 20GY/YL	VOICE RECOGNITION/PHONE SWITCH SIGNAL
16	X712 20DG/LB	MICROPHONE 1 IN(+)
17	X792 20DG/YL	MICROPHONE IN(-)
18	-	-
19	-	-
20	X793 20DG/YL	IGNITION RUN/ACC SIGNAL
21	X835 20OR/GY	SENSOR GROUND
22	Z530 20GY/BK	GROUND



**HANDS
FREE
MODULE C2
(SATELLITE)**

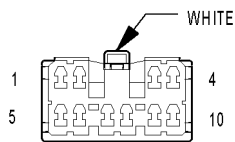
HANDS FREE MODULE C2 (SATELLITE) - 10 WAY

CAV	CIRCUIT	FUNCTION
1	X40 20GY/WT	AUDIO MUX RIGHT
2	X140 20GY/OR	SHIELD
3	X235 20GY	AUDIO RETURN
4	D25 20WT/VT	PCI BUS
5	X112 20LG/GY	IGNITION RUN/ACC SIGNAL
6	X41 20DG/WT	AUDIO MUX LEFT
7	Z515 20BK	GROUND
8	-	-
9	-	-
10	X160 20GY/YL	FUSED B(+)



**HANDS
FREE
MODULE C3**

HANDS FREE MODULE C3 - 10 WAY		
CAV	CIRCUIT	FUNCTION
1	X112 20LG/GY	IGNITION RUN/ACC SIGNAL
2	D25 20WT/VT	PCI BUS
3	X235 20GY	AUDIO RETURN
4	X140 20GY/OR	SHIELD
5	X40 20GY/WT	AUDIO MUX RIGHT
6	X160 20GY/YL	FUSED B(+)
7	-	-
8	-	-
9	Z515 20BK	GROUND
10	X41 20DG/WT	AUDIO MUX LEFT

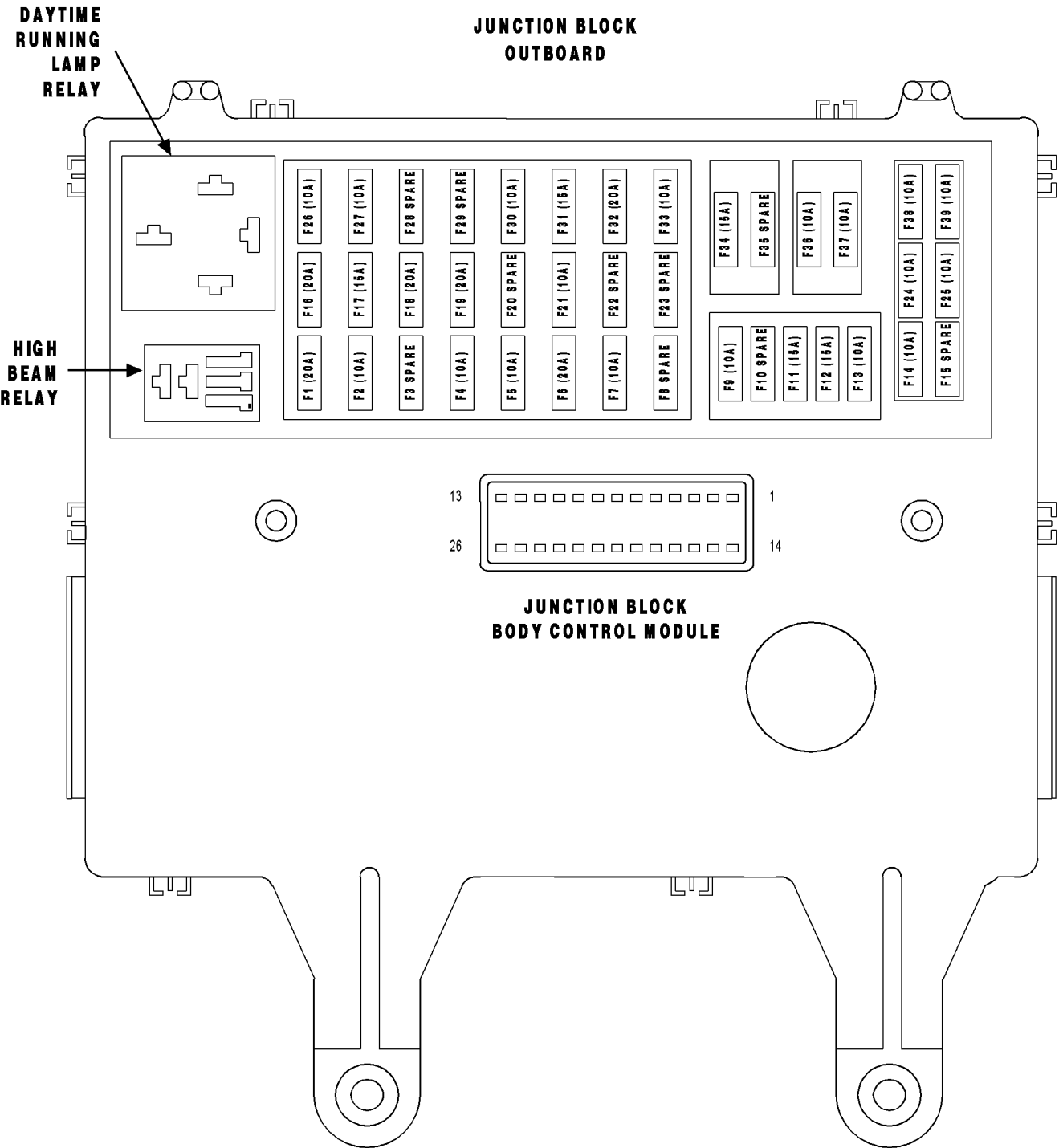


**HAZARD SWITCH/
COMBINATION
FLASHER**

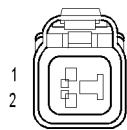
HAZARD SWITCH/COMBINATION FLASHER - WHITE 10 WAY		
CAV	CIRCUIT	FUNCTION
1	A701 18BR/RD	FUSED B(+)
2	Z940 16BK	GROUND
3	L62 18WT/OR	RIGHT TURN SIGNAL
4	L91 18WT/DB	HAZARD LAMP CONTROL
5	L305 20WT/LB	LEFT TURN SWITCH SENSE
6	-	-
7	L63 18WT/DG	LEFT TURN SIGNAL
8	C115 20DB	FUSED IGNITION SWITCH OUTPUT (RUN)
9	L302 20LB/WT	RIGHT TURN SWITCH SENSE
10	E2 20OR/BR	PANEL LAMPS DRIVER

CONNECTOR PINOUTS

CONNECTOR PINOUTS



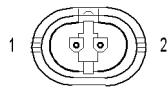
HIGH BEAM RELAY		
CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	HIGH BEAM RELAY CONTROL
87	INTERNAL	FRONT FOG LAMP RELAY OUTPUT
87A	-	-



**HIGH NOTE
HORN**

HIGH NOTE HORN - 2 WAY

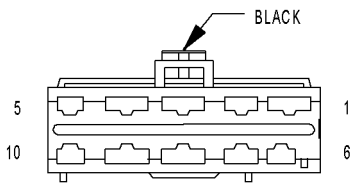
CAV	CIRCUIT	FUNCTION
A1	X2 18DG/OR	HORN RELAY OUTPUT
A2	Z931 18BK	GROUND



**HOOD AJAR
SWITCH
(EXCEPT BASE)**

HOOD AJAR SWITCH (EXCEPT BASE) - 2 WAY

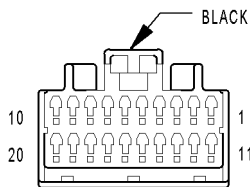
CAV	CIRCUIT	FUNCTION
1	G70 20VT/LB	HOOD AJAR SWITCH SENSE
2	Z932 20BK	GROUND



**IGNITION
SWITCH**

IGNITION SWITCH - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	A1 12RD	FUSED B(+)
2	F944 12PK/LG	IGNITION SWITCH OUTPUT (RUN-START)
3	-	-
4	-	-
5	G15 20VT/TN	KEY-IN IGNITION SWITCH SENSE
6	A106 12LB/RD	IGNITION SWITCH OUTPUT (START)
7	F981 12PK/YL	IGNITION SWITCH OUTPUT (RUN-ACC)
8	F921 12PK/YL	IGNITION SWITCH OUTPUT (RUN)
9	A916 12RD	FUSED B(+)
10	Z938 20BK	GROUND

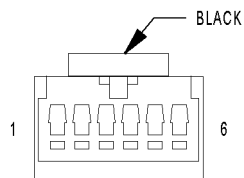


**INSTRUMENT
CLUSTER**

INSTRUMENT CLUSTER - BLACK 20 WAY

CAV	CIRCUIT	FUNCTION
1	A908 18RD	FUSED B(+)
2	-	-
3	G69 20VT/WT	VTSS INDICATOR DRIVER
4	B25 20DG/WT	PARK BRAKE SWITCH SENSE
5	L63 18WT/OR	LEFT TURN SIGNAL
6	G18 20PK/BK	LOW COOLANT FLUID LEVEL SENSE
7	-	-
8	G150 20VT/BR	INSTRUMENT CLUSTER WAKE UP SIGNAL
9	-	-
10	Z18 20BK/LB	GROUND
11	-	-
12	F942 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
13	W1 20BR/TN	LOW WASHER FLUID SENSE
14	B20 20DG/OR	RED BRAKE WARNING INDICATOR DRIVER
15	L62 18WT/OR	RIGHT TURN SIGNAL
16	-	-
17	D25 20WT/VT	PCI BUS
18	-	-
19	E2 20OR/BR	PANEL LAMPS DRIVER
20	L78 18WT/OR	FUSED PARK LAMP RELAY OUTPUT

CONNECTOR PINOUTS



**INTRUSION
TRANSCIVER
MODULE
(EXPORT)**

INTRUSION TRANSCIVER MODULE (EXPORT) - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	Z18 20BK/LB	GROUND
2	-	-
3	X75 18GY/DG	SIREN SIGNAL CONTROL
4	-	-
5	D25 20WT/VT	PCI BUS
6	A908 18RD	FUSED B(+)



CONNECTOR PINOUTS

FUSES (JB)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	20A	F38 16RD/WT	FUSED B(+)
2	10A	INTERNAL	FUSED B(+)
3	-	-	-
4	10A	L44 18WT/TN	FUSED RIGHT LOW BEAM OUTPUT
5	10A	L43 18WT/DB	FUSED LEFT LOW BEAM OUTPUT
6	20A	INTERNAL	FUSED B(+)
7	10A	INTERNAL	FUSED PARK LAMP RELAY OUTPUT
8	-	-	-
9	10A	INTERNAL	FUSED PARK LAMP RELAY OUTPUT
10	-	-	-
11	15A	A701 18BR/RD	FUSED B(+)
12	15A	A103 18GY/RD	FUSED B(+)
13	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
14	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
15	-	-	-
16	20A	A305 16RD/LB	FUSED B(+)
17	15A	A44 18RD/OR	FUSED B(+)
18	20A	X1 16DG/BR	FUSED B(+)
19	20A	A913 16RD (BASE)	FUSED B(+)
19	20A	INTERNAL (EXCEPT BASE)	FUSED B(+)
20	-	-	-
21	10A	F982 20PK/YL	FUSED B(+)
22	-	-	-
23	-	-	-
24	10A	F20 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN)
25	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
26	10A	L34 18WT/GY	FUSED RIGHT HIGH BEAM OUTPUT
27	10A	L33 18WT/LG	FUSED LEFT HIGH BEAM OUTPUT
28	-	-	-
29	-	-	-
30	10A	INTERNAL	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
30	15A	A902 18RD	FUSED B(+)
31	15A	A207 16RD/LG	FUSED B(+)
31	15A	A43 18RD/DG (LHD)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
31	20A	F307 16LB/PK (RHD)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
32	10A	F943 20PK/LG	FUSED B(+)
32	20A	INTERNAL (HIGHLINE)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
33	10A	INTERNAL	FUSED B(+)
34	15A	INTERNAL	FUSED B(+)
35	-	-	-
36	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
37	10A	F100 20PK/VT	FUSED IGNITION SWITCH OUTPUT (RUN)
38	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
39	10A	INTERNAL	FUSED B(+)

DEFOGGER RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	REAR WINDOW DEFOGGER RELAY CONTROL
86	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
87	INTERNAL	REAR WINDOW DEFOGGER RELAY OUTPUT
87A	-	-

DOOR LOCK RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	LOCK RELAY OUTPUT
85	INTERNAL	FUSED B(+)
86	INTERNAL	DOOR LOCK RELAY CONTROL
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

DRIVER DOOR UNLOCK RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	DRIVER DOOR UNLOCK RELAY OUTPUT
85	INTERNAL	DRIVER DOOR UNLOCK RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

FRONT FOG LAMP RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FRONT FOG LAMP RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FRONT FOG LAMP RELAY OUTPUT
87A	-	-

HORN RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	HORN RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	HORN RELAY OUTPUT
87A	-	-

LOW BEAM RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	LOW BEAM RELAY CONTROL
87	INTERNAL	DIMMER SWITCH LOW BEAM OUTPUT
87A	-	-

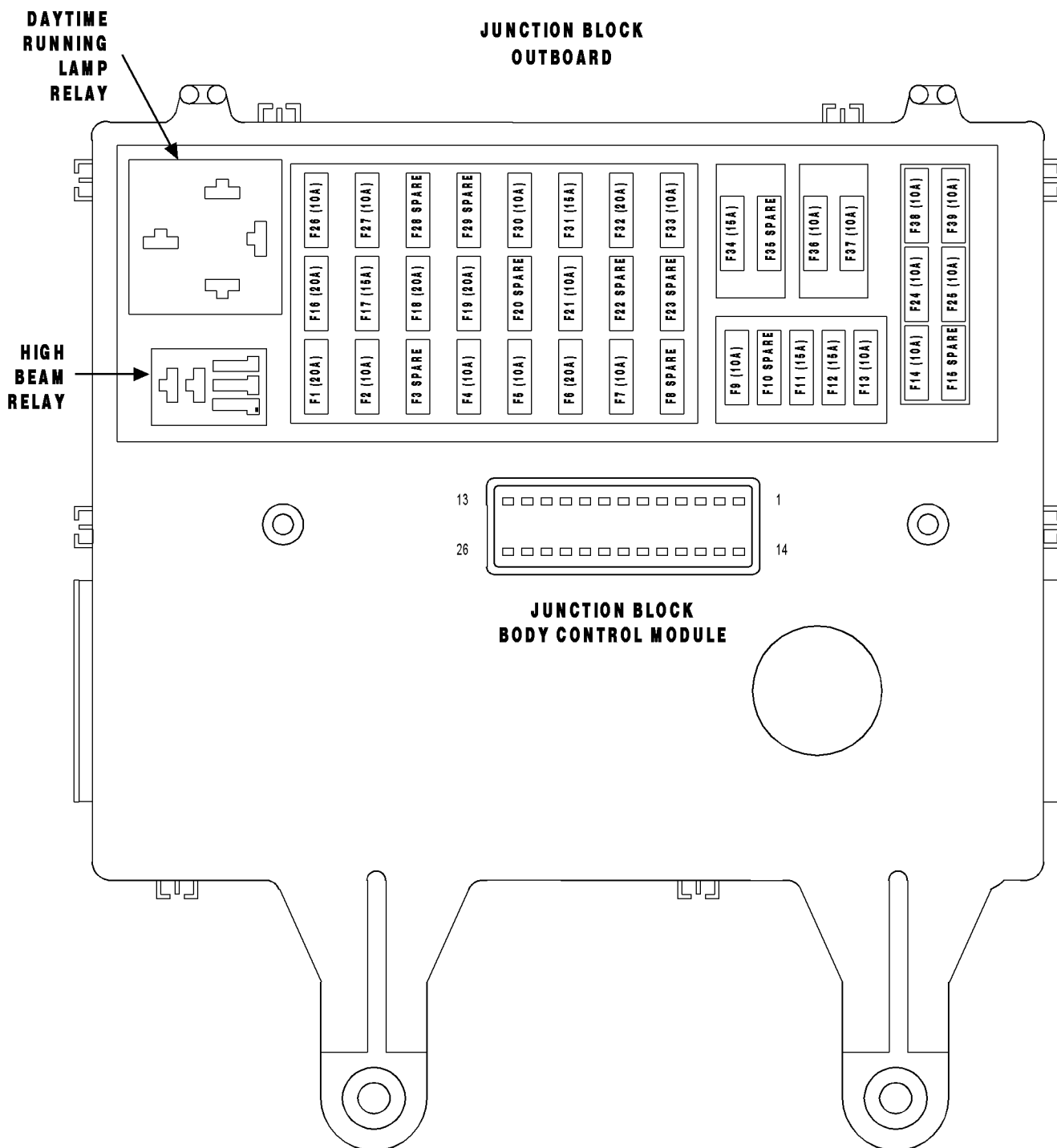
PARK LAMP RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	PARK LAMP RELAY OUTPUT
85	INTERNAL	PARK LAMP RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

PASSENGER DOOR UNLOCK RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	UNLOCK RELAY OUTPUT
85	INTERNAL	DOOR UNLOCK RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

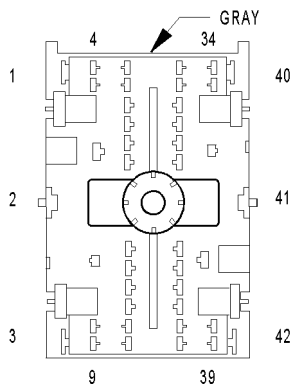
CONNECTOR PINOUTS



JUNCTION BLOCK BODY CONTROL MODULE-JB - 26 WAY

CAV	CIRCUIT	FUNCTION
1	X3 (PREMIUM)	HORN RELAY CONTROL
2	P334	DOOR UNLOCK RELAY CONTROL
3	L779	PARK LAMP RELAY CONTROL
4	L239 (RHD/LHD HIGHLINE)	REAR FOG LAMP RELAY CONTROL
5	P109 (EXCEPT BASE)	DRIVER DOOR UNLOCK RELAY CONTROL
6	C515	REAR WINDOW DEFOGGER RELAY CONTROL
7	P305 (EXCEPT BASE)	ACCESSORY DELAY RELAY CONTROL
8	Z944	GROUND
9	A213	FUSED B(+)
10	L309	HIGH BEAM RELAY CONTROL
11	P31	TAILGATE UNLOCK DRIVER
12	P37	DOOR LOCK SWITCH GROUND
13	L45	LOW BEAM RELAY CONTROL
14	F98	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
15	A908	FUSED B(+)
16	F942	FUSED IGNITION SWITCH OUTPUT (RUN-START)
17	L139 (EXCEPT BASE)	FRONT FOG LAMP RELAY CONTROL
18	P333	DOOR LOCK RELAY CONTROL
19	W2	FRONT WIPER HIGH/LOW RELAY CONTROL
20	W7	FRONT WIPER PARK SWITCH SENSE
21	W6	FRONT WIPER ON/OFF RELAY CONTROL
22	P30	TAILGATE LOCK DRIVER
23	P36	DOOR LOCK SWITCH MUX
24	Z327	GROUND
25	Z943	GROUND
26	M20	COURTESY LAMP LOAD SHED

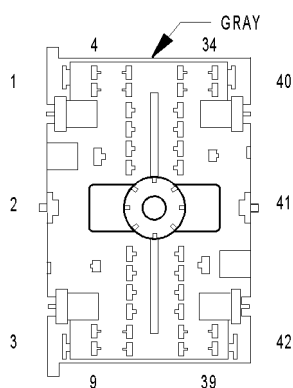
CONNECTOR PINOUTS



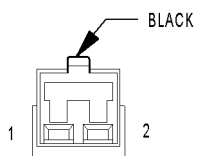
JUNCTION BLOCK C2

JUNCTION BLOCK C2 - GRAY 42 WAY

CAV	CIRCUIT	FUNCTION
1	F37 14PK/LB (MIDLINE/HIGHLINE)	FUSED B(+)
2	C15 12DB/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
3	Q39 16OR/TN	REAR WINDOW DEFOGGER RELAY OUTPUT
4	F892 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	P37 20LG/TN	DOOR LOCK SWITCH GROUND
6	P33 16TN/DB	LOCK RELAY OUTPUT
7	L77 18PK/RD	FUSED PARK LAMP RELAY OUTPUT
8	P34 16TN/LB	DRIVER DOOR UNLOCK RELAY OUTPUT
9	P35 16TN/YL	UNLOCK RELAY OUTPUT
10	P36 20TN/DB	DOOR LOCK SWITCH MUX
11	P37 20LG/TN	DOOR LOCK SWITCH GROUND
12	M20 20YL/LB	COURTESY LAMP LOAD SHED
13	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
14	P36 20TN/DB	DOOR LOCK SWITCH MUX
15	P30 20TN/DG	TAILGATE LOCK DRIVER
16	A44 18RD/OR	FUSED B(+)
17	-	-
18	A908 18RD	FUSED B(+)
19	F22 20PK/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
20	E2 20OR/BR	PANEL LAMPS DRIVER
21	E2 20OR/BR	PANEL LAMPS DRIVER
22	P31 20TN/YL	TAILGATE UNLOCK DRIVER
23	F302 20GY/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
24	-	-
25	-	-
26	L78 18WT/OR	FUSED PARK LAMP RELAY OUTPUT
27	-	-
28	A913 16RD (TRAILER TOW)	FUSED B(+)
29	-	-
30	Z327 20BK/WT	GROUND
31	C16 20DB/GY	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
32	F201 20PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
33	F201 20PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
34	L90 16WT/OR	REAR FOG LAMP RELAY OUTPUT
35	-	-
36	-	-
37	X1 16DG/BR	ANTENNA RELAY OUTPUT
38	F942 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
39	C16 20DB/GY	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
40	F30 14PK/YL	IGNITION SWITCH OUTPUT (RUN-ACC)
41	A305 16RD/LB	FUSED B(+)
42	A902 18RD (HEATED SEATS)	FUSED B(+)



JUNCTION BLOCK C3



**LEFT
COURTESY
LAMP**

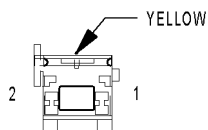
JUNCTION BLOCK C3 - GRAY 42 WAY

CAV	CIRCUIT	FUNCTION
1	A12 10RD/BR	FUSED B(+)
2	A912 10RD	FUSED B(+)
3	A906 12RD	FUSED B(+)
4	L44 18WT/TN	FUSED RIGHT LOW BEAM OUTPUT
5	L43 18WT/DB	FUSED LEFT LOW BEAM OUTPUT
6	-	-
7	-	-
8	F1 20PK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
9	A5 16RD/VT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	A12 10RD/BR	FUSED B(+)
11	-	-
12	-	-
13	-	-
14	-	-
15	W6 20BR/LB	FRONT WIPER ON/OFF RELAY CONTROL
16	-	-
17	W7 16BR/GY	FRONT WIPER PARK SWITCH SENSE
18	W2 20BR/LG	FRONT WIPER HIGH/LOW RELAY CONTROL
19	F20 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN)
20	-	-
21	-	-
22	-	-
23	-	-
24	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
25	-	-
26	-	-
27	-	-
28	L34 18WT/GY	FUSED RIGHT HIGH BEAM OUTPUT
29	L77 18PK/RD	FUSED PARK LAMP RELAY OUTPUT
30	-	-
30	A908 20RD (EXPORT)	FUSED B(+)
31	-	-
32	C115 20DB	FUSED IGNITION SWITCH OUTPUT (RUN)
33	L89 16WT/YL	FRONT FOG LAMP RELAY OUTPUT
34	A901 10RD	FUSED B(+)
35	-	-
36	L78 18WT/OR	FUSED PARK LAMP RELAY OUTPUT
37	L33 18WT/LG	FUSED LEFT HIGH BEAM OUTPUT
38	F22 20PK/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
39	X2 18DG/OR	HORN RELAY OUTPUT
40	A901 10RD	FUSED B(+)
41	A139 12RD/YL	FUSED B(+)
42	A911 10RD	FUSED B(+)

LEFT COURTESY LAMP - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	A908 18RD	FUSED B(+)
2	Z327 20BK/WT	GROUND

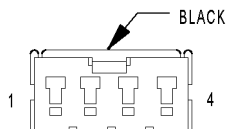
CONNECTOR PINOUTS



**LEFT
CURTAIN
AIRBAG
SQUIB 1**

LEFT CURTAIN AIRBAG SQUIB 1 - YELLOW 2 WAY

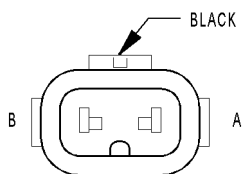
CAV	CIRCUIT	FUNCTION
1	R1 20LB/BR	LEFT CURTAIN SQUIB 1 LINE 2
2	R3 20LB/OR	LEFT CURTAIN SQUIB 1 LINE 1



**LEFT
DOOR LOCK
SWITCH
(EXCEPT BASE)**

LEFT DOOR LOCK SWITCH (EXCEPT BASE) - BLACK 4 WAY

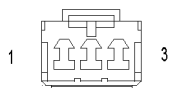
CAV	CIRCUIT	FUNCTION
1	P36 20TN/DB	DOOR LOCK SWITCH MUX
2	Z999 20BK	GROUND
3	F98 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	P37 20LG/TN	DOOR LOCK SWITCH GROUND



**LEFT
FOG
LAMP**

LEFT FOG LAMP - BLACK 2 WAY

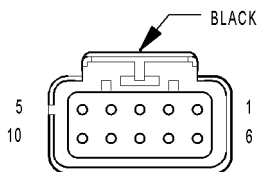
CAV	CIRCUIT	FUNCTION
1	Z931 16BK	GROUND
2	L89 16WT/YL	FRONT FOG LAMP RELAY OUTPUT



**LEFT
FRONT DOOR
SPEAKER
(BASE)**

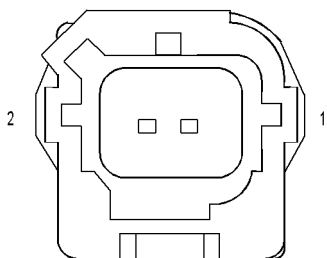
LEFT FRONT DOOR SPEAKER (BASE) - 3 WAY

CAV	CIRCUIT	FUNCTION
1	X53 18DG	LEFT FRONT SPEAKER (+)
2	-	-
3	X55 18DG/BR	LEFT FRONT SPEAKER (-)



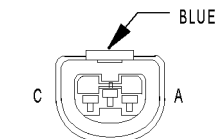
**LEFT FRONT
DOOR SPEAKER
(PREMIUM)**

LEFT FRONT DOOR SPEAKER (PREMIUM) - 10 WAY		
CAV	CIRCUIT	FUNCTION
1	X53 18DG	LEFT FRONT SPEAKER (+)
2	X55 18DG/BR	LEFT FRONT SPEAKER (-)
3	Z514 16BK/LG	GROUND
4	X299 16GY/YL	AMPLIFIED HIGH LEFT FRONT SPEAKER (-)
5	X295 18GY/DG	AMPLIFIED LOW LEFT REAR SPEAKER (-)
6	X57 18DG/OR	LEFT REAR DOOR SPEAKER (-)
7	X51 18DG/DB	LEFT REAR DOOR SPEAKER (+)
8	X13 16LG/GY	RADIO CHOKE OUTPUT
9	X209 18GY/OR	AMPLIFIED HIGH LEFT FRONT SPEAKER (+)
10	X206 18DG/LG	AMPLIFIED LOW LEFT REAR SPEAKER (+)



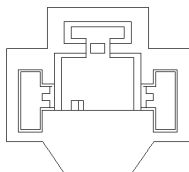
**LEFT
FRONT
IMPACT
SENSOR**

LEFT FRONT IMPACT SENSOR - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	R81 20LB/WT	LEFT FRONT IMPACT SENSOR GROUND
2	R79 10LB/VT	LEFT FRONT IMPACT SENSOR SIGNAL



**LEFT
HEADLAMP
(EXCEPT EXPORT)**

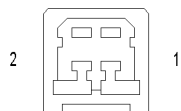
LEFT HEADLAMP (EXCEPT EXPORT) - 3 WAY		
CAV	CIRCUIT	FUNCTION
A	L43 18WT/DB	FUSED LEFT LOW BEAM OUTPUT
B	Z931 16BK	GROUND
C	L33 18WT/LG	FUSED LEFT HIGH BEAM OUTPUT



**LEFT
HEADLAMP
(EXPORT)**

LEFT HEADLAMP (EXPORT) - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L33 18WT/LG	FUSED LEFT HIGH BEAM OUTPUT
2	L43 18WT/DB	FUSED LEFT LOW BEAM OUTPUT
3	Z931 16BK	GROUND

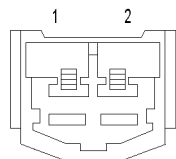
CONNECTOR PINOUTS



**LEFT
INSTRUMENT
PANEL
SPEAKER
(BASE)**

LEFT INSTRUMENT PANEL SPEAKER (BASE) - WHITE 2 WAY

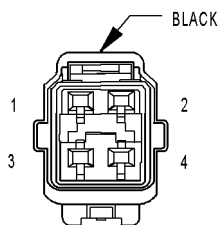
CAV	CIRCUIT	FUNCTION
1	X53 18DG	LEFT FRONT SPEAKER (+)
2	X55 18DG/BR	LEFT FRONT SPEAKER (-)



**LEFT
INSTRUMENT
PANEL SPEAKER
(PREMIUM)**

LEFT INSTRUMENT PANEL SPEAKER (PREMIUM) - 2 WAY

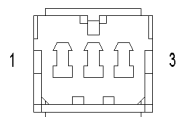
CAV	CIRCUIT	FUNCTION
1	X209 18GY/OR	AMPLIFIED HIGH LEFT FRONT SPEAKER (+)
2	X299 18GY/YL	AMPLIFIED HIGH LEFT FRONT SPEAKER (-)



**LEFT REAR
DOOR LOCK MOTOR/
AJAR SWITCH
(EXCEPT BASE)**

LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH (EXCEPT BASE) - BLACK 4 WAY

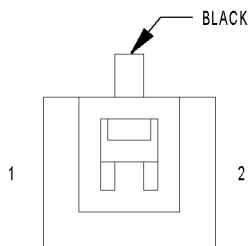
CAV	CIRCUIT	FUNCTION
1	G77 20TVT/GY	LEFT REAR DOOR AJAR SWITCH SENSE
2	Z999 20BK	GROUND
3	P35 16TN/YL	UNLOCK RELAY OUTPUT
4	P33 16TN/DB	LOCK RELAY OUTPUT



**LEFT REAR
DOOR
SPEAKER
(PREMIUM)**

LEFT REAR DOOR SPEAKER (PREMIUM) - 3 WAY

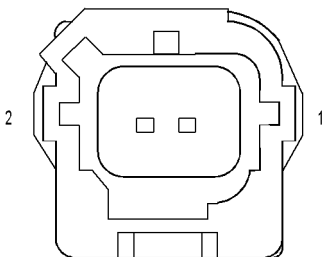
CAV	CIRCUIT	FUNCTION
1	X206 18DG/LG	AMPLIFIED LOW LEFT REAR SPEAKER (+)
2	-	-
3	X20 20GY/WT	RADIO CONTROL MUX



**LEFT
REMOTE
RADIO
SWITCH
(PREMIUM)**

LEFT REMOTE RADIO SWITCH (PREMIUM) - BLACK 2 WAY

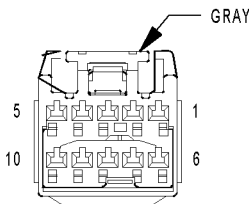
CAV	CIRCUIT	FUNCTION
1	X920 20GY/OR	RADIO CONTROL MUX RETURN
2	X20 20GY/WT	RADIO CONTROL MUX



**LEFT
SIDE
IMPACT
SENSOR 1**

LEFT SIDE IMPACT SENSOR 1 - 2 WAY

CAV	CIRCUIT	FUNCTION
1	R15 20LG/BR	LEFT SIDE IMPACT SENSOR 1 GROUND
2	R13 20LG/VT	LEFT SIDE IMPACT SENSOR 1 SIGNAL

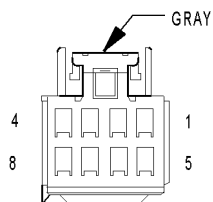


**MULTI-FUNCTION
SWITCH C1**

MULTI-FUNCTION SWITCH C1 - GRAY 10 WAY

CAV	CIRCUIT	FUNCTION
1	E3 20OR/YL	PANEL LAMPS DIMMER SWITCH MUX
2	L87 20WT/OR (EXCEPT BASE)	FRONT FOG LAMP SWITCH SENSE
3	-	-
4	L900 20WT/YL	HEADLAMP SWITCH RETURN
5	L307 20PK/RD	HEADLAMP SWITCH MUX
6	L305 20WT/LB	LEFT TURN SWITCH SENSE
7	L309 20WT/OR	HIGH BEAM RELAY CONTROL
8	Z945 18BK	GROUND
9	L115 20WT/YL	HIGH BEAM SWITCH SENSE
10	L306 20LB/WT	RIGHT TURN SWITCH SENSE

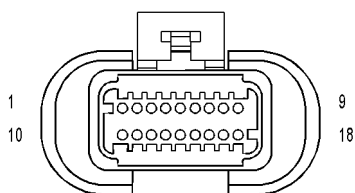
CONNECTOR PINOUTS



**MULTI-FUNCTION
SWITCH
C2**

MULTI-FUNCTION SWITCH C2 - GRAY 8 WAY

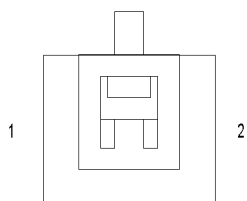
CAV	CIRCUIT	FUNCTION
1	W13 20BR/LG	REAR WIPER ON DRIVER
2	W27 20DB/BR	REAR WIPER INTERMITTENT DRIVER
3	W20 20BR/YL	WASHER MOTOR SENSE
4	W35 20BR/LG	FRONT WIPER SWITCH MUX
5	F943 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
6	-	-
7	W33 20BR/DG	WASHER PUMP DRIVER
8	-	-



**OCCUPANT
CLASSIFICATION
MODULE**

OCCUPANT CLASSIFICATION MODULE - 18 WAY

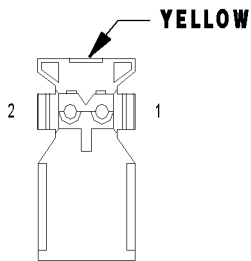
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	D105 20WT/OR	SEAT BELT TENSION SENSOR SIGNAL
5	Z105 18BK/LG	GROUND
6	R741 20LG/VT	PASSENGER BLADDER PRESSURE SENSOR SIGNAL
7	R740 20LG/OR	PASSENGER BLADDER PRESSURE SENSOR POWER
8	D25 20WT/VT	PCI BUS
9	F201 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
10	-	-
11	-	-
12	-	-
13	-	-
14	R986 20LG/BR	SEAT BELT TENSION SENSOR GROUND
15	R941 20LG/DG	PASSENGER BLADDER PRESSURE SENSOR GROUND
16	R86 20LG/LB	SEAT BELT TENSION SENSOR POWER
17	-	-
18	-	-



**PASSENGER
AIRBAG
ON/OFF
INDICATOR**

PASSENGER AIRBAG ON/OFF INDICATOR - 2 WAY

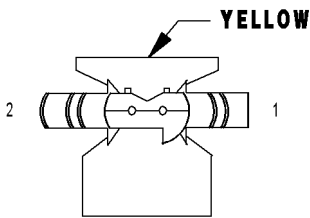
CAV	CIRCUIT	FUNCTION
1	F942 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	R166 20LG/TN	PASSENGER AIRBAG INDICATOR DRIVER



**PASSENGER
AIRBAG
SQUIB 1**

PASSENGER AIRBAG SQUIB 1 - YELLOW 2 WAY

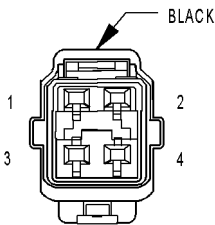
CAV	CIRCUIT	FUNCTION
3	R42 20LB/BR	PASSENGER SQUIB 1 LINE 1
4	R44 20LB/OR	PASSENGER SQUIB 1 LINE 2



**PASSENGER
AIRBAG
SQUIB 2**

PASSENGER AIRBAG SQUIB 2 - YELLOW 2 WAY

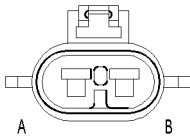
CAV	CIRCUIT	FUNCTION
1	R62 20LB/VT	PASSENGER SQUIB 2 LINE 2
2	R64 20LB/WT	PASSENGER SQUIB 2 LINE 1



**PASSENGER
DOOR LOCK MOTOR/
AJAR SWITCH
(EXCEPT BASE)**

PASSENGER DOOR LOCK MOTOR/AJAR SWITCH (EXCEPT BASE) - 4 WAY

CAV	CIRCUIT	FUNCTION
1	G74 20VT/WT (LHD)	RIGHT FRONT DOOR AJAR SWITCH SENSE
1	G75 20VT/WT (RHD)	LEFT FRONT DOOR AJAR SWITCH SENSE
2	Z99 20BK	GROUND
3	P35 16TN/YL (LHD)	UNLOCK RELAY OUTPUT
3	P34 16TN/LB (RHD)	UNLOCK RELAY OUTPUT
4	P33 16TN/YL	LOCK RELAY OUTPUT

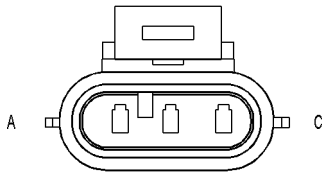


**PASSENGER
SEAT BELT
PRETENSIONER**

PASSENGER SEAT BELT PRETENSIONER - 2 WAY

CAV	CIRCUIT	FUNCTION
A	R54 20LB/YL	PASSENGER SEAT BELT TENSIONER LINE 2
B	R56 20LB/DG	PASSENGER SEAT BELT TENSIONER LINE 1

CONNECTOR PINOUTS

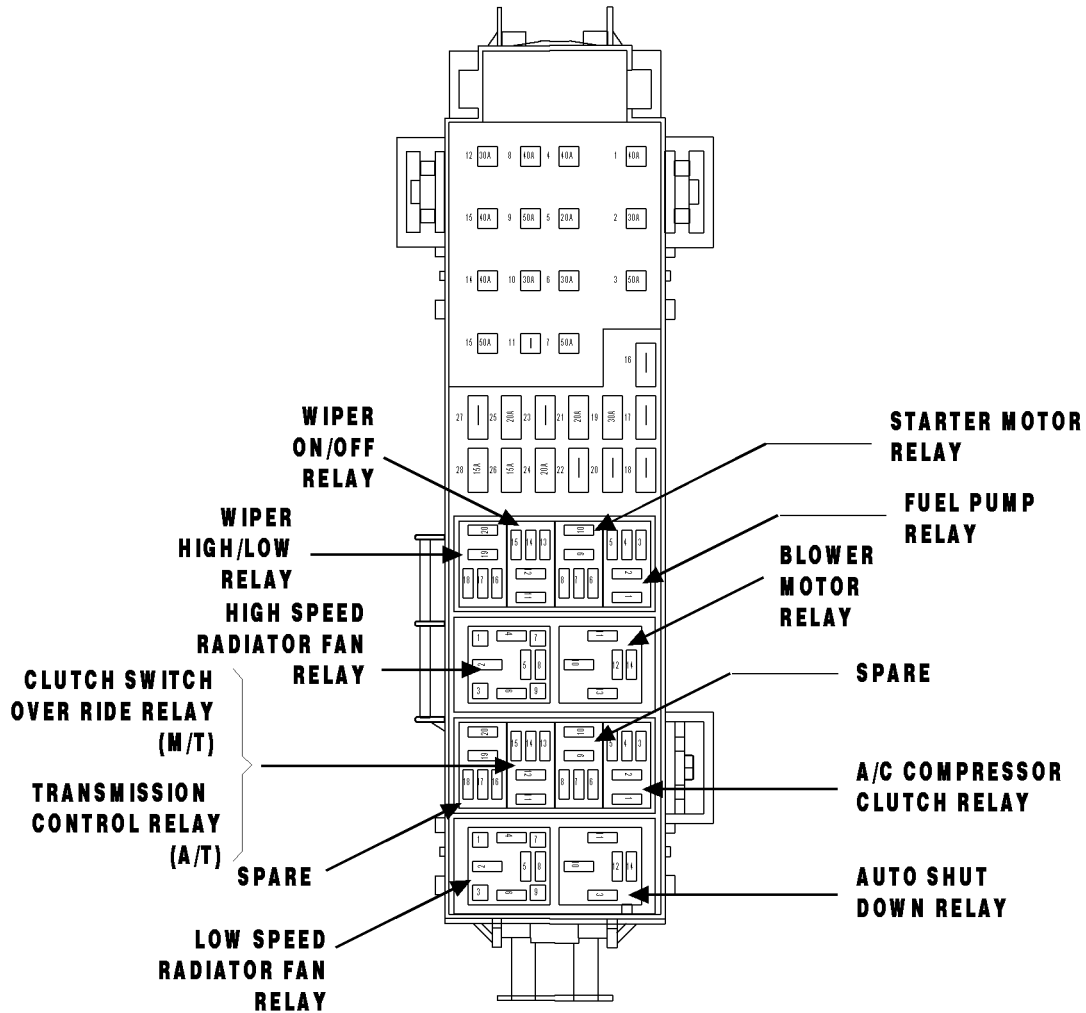


**PASSENGER
SEAT
WEIGHT
SENSOR**

PASSENGER SEAT WEIGHT SENSOR - 3 WAY

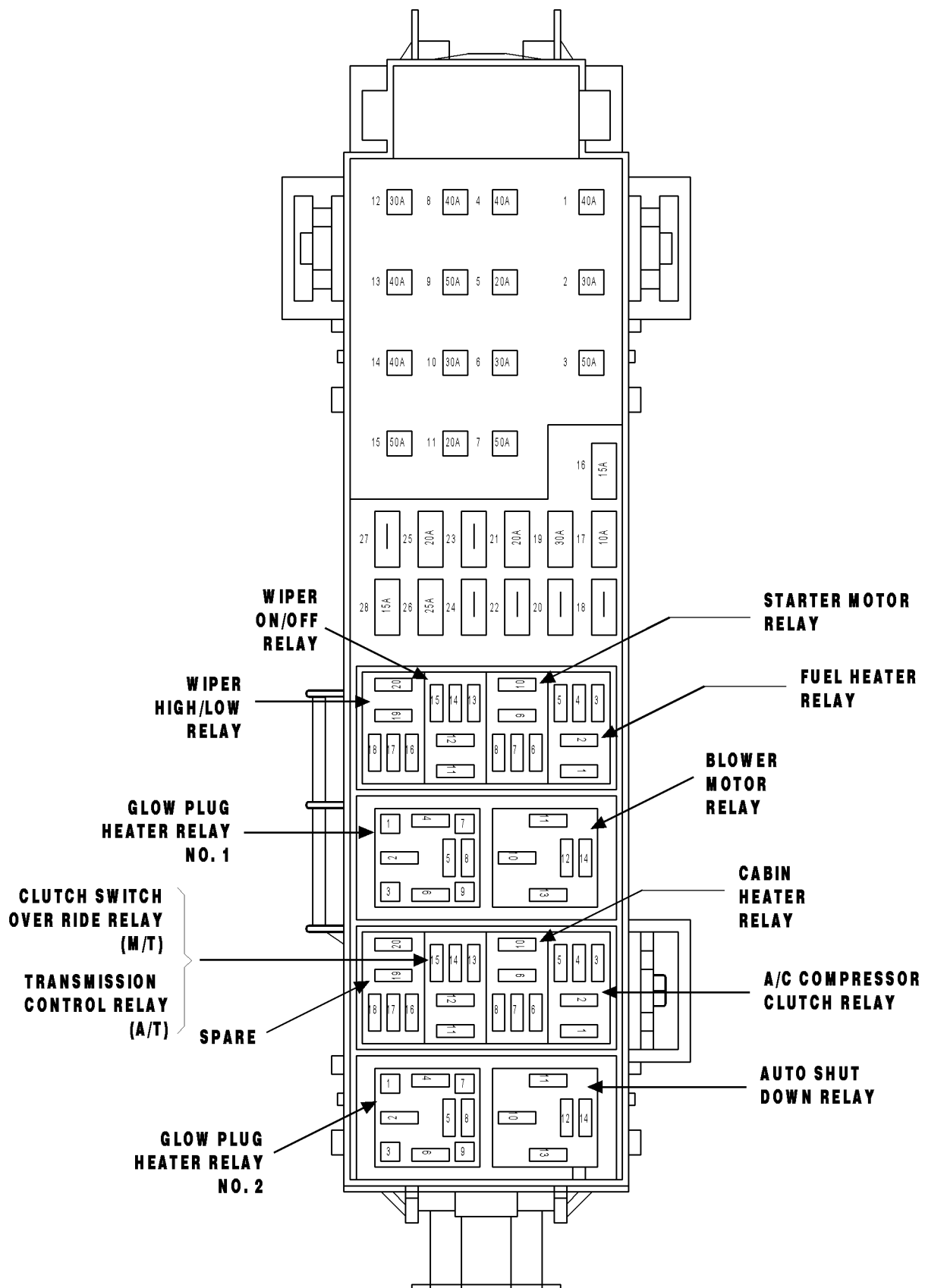
CAV	CIRCUIT	FUNCTION
A	R941 20LG/DG	PASSENGER BLADDER PRESSURE SENSOR GROUND
B	R741 20LG/VT	PASSENGER BLADDER PRESSURE SENSOR SIGNAL
C	R740 20LG/OR	PASSENGER BLADDER PRESSURE SENSOR POWER

**POWER DISTRIBUTION CENTER
GAS**



FUSES (GAS)			
FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	40A	A122 12RD	FUSED B(+)
2	30A	A16 12RD/BR	FUSED B(+)
3	50A	A912 10RD	FUSED B(+)
4	40A	A107 12TN/RD	FUSED B(+)
5	20A	A903 16RD	FUSED B(+)
6	30A	A907 14RD	FUSED B(+)
7	50A	A911 10RD	FUSED B(+)
8	40A	A916 12RD	FUSED B(+)
9	50A	A901 10RD	FUSED B(+)
10	30A	A100 14RD/VT	FUSED B(+)
11	-	-	-
12	30A	A904 14RD	FUSED B(+)
13	40A	A139 12RD/YL	FUSED B(+)
14	40A	A1 12RD	FUSED B(+)
15	50A	A12 10RD/BR	FUSED B(+)
16	-	-	-
17	-	-	-
18	-	-	-
19	30A	A906 12RD	FUSED B(+)
20	-	-	-
21	20A	A112 180R/RD	FUSED B(+)
22	-	-	-
23	-	-	-
24	20A	A209 18RD	FUSED B(+)
25	20A	A200 12RD/DG	FUSED B(+)
26	15A	F142 16PK/GY	FUSED ASD RELAY OUTPUT
27	-	-	-
28	15A	F26 20PK/OR	FUSED IGNITION SWITCH OUTPUT (START)

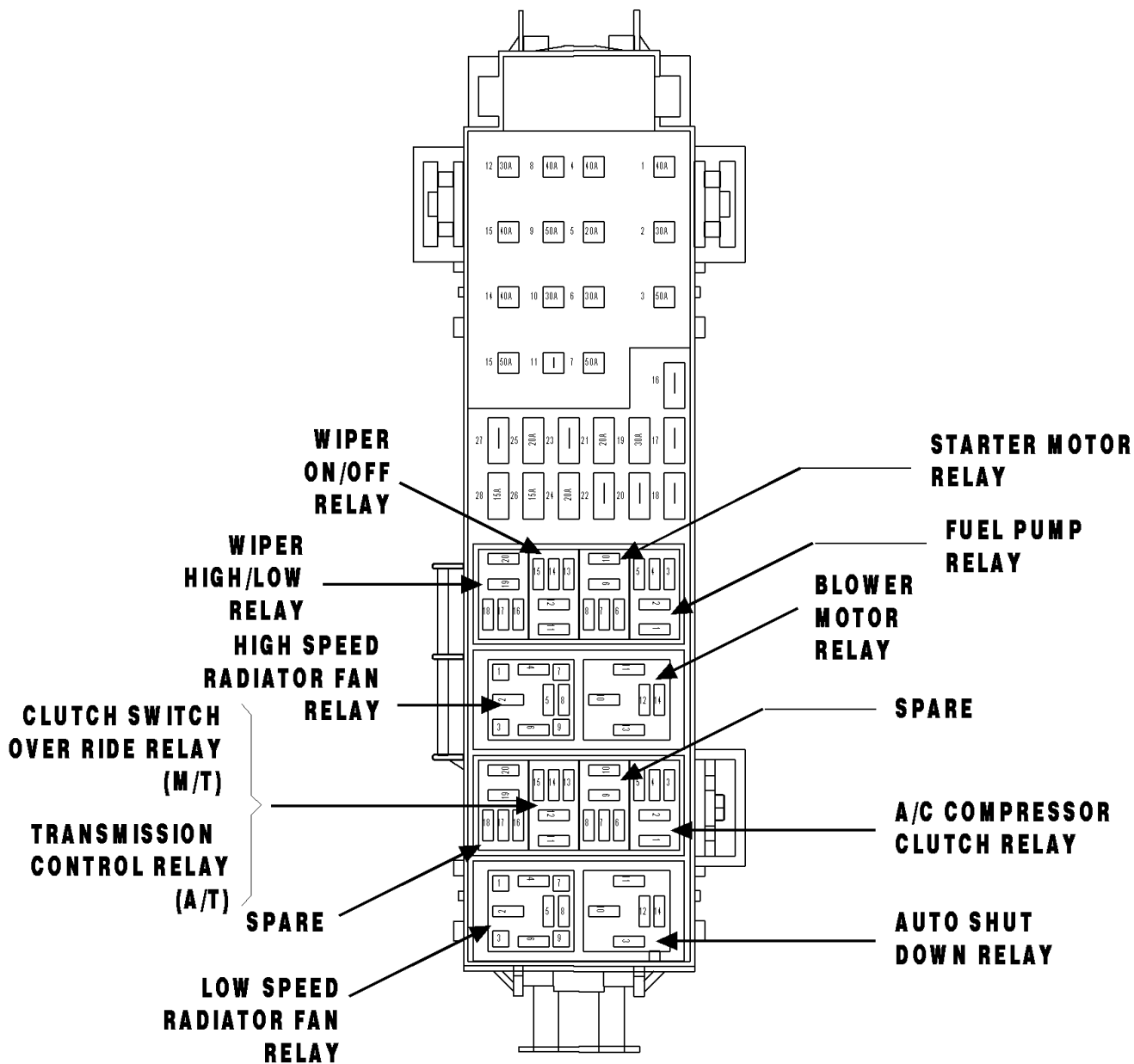
POWER DISTRIBUTION CENTER (DIESEL) (DIESEL)



FUSES (DIESEL)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	40A	A122 12RD	FUSED B(+)
2	30A	A16 12RD/BR	FUSED B(+)
3	50A	A912 10RD	FUSED B(+)
4	40A	A107 12TN/RD	FUSED B(+)
5	20A	A903 16RD	FUSED B(+)
6	30A	A907 14RD	FUSED B(+)
7	50A	A911 10RD	FUSED B(+)
8	40A	A916 12RD	FUSED B(+)
9	50A	A901 10RD	FUSED B(+)
10	30A	A100 14RD/VT	FUSED B(+)
11	20A	A34 16RD/WT	FUSED B(+)
12	30A	A904 14RD	FUSED B(+)
13	40A	A139 12RD/YL	FUSED B(+)
14	40A	A1 12RD	FUSED B(+)
15	50A	A12 10RD/BR	FUSED B(+)
16	15A	K347 20BR/YL	FUSED ASD RELAY OUTPUT
17	10A	A129 18RD/BR	FUSED B(+)
18	-	-	-
19	30A	A906 12RD	FUSED B(+)
20	-	-	-
21	20A	A112 18OR/RD	FUSED B(+)
22	-	-	-
23	-	-	-
24	-	-	-
25	20A	A200 12RD/DG	FUSED B(+)
26	25A	K345 16BR/RD	FUSED ASD RELAY OUTPUT
27	-	-	-
28	15A	F26 20PK/OR	FUSED IGNITION SWITCH OUTPUT (START)

POWER DISTRIBUTION CENTER GAS



WIPER HIGH/LOW RELAY

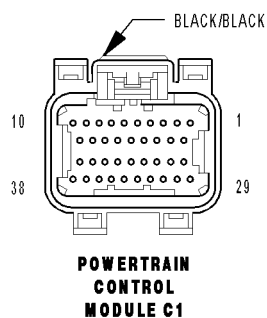
CAV	CIRCUIT	FUNCTION
30	W5 16BR/LG	FRONT WIPER ON/OFF RELAY OUTPUT
85	W2 20BR/LG	FRONT WIPER HIGH/LOW RELAY CONTROL
86	A5 16RD/VT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87	W4 16BR/OR	FRONT WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT
87A	W3 16BR/WT	FRONT WIPER HIGH/LOW RELAY LOW SPEED OUTPUT

WIPER ON/OFF RELAY

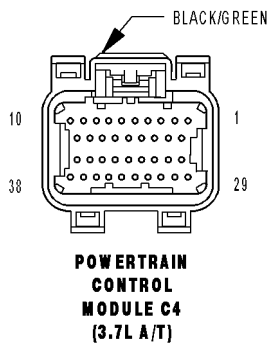
CAV	CIRCUIT	FUNCTION
30	W5 16BR/LG	FRONT WIPER ON/OFF RELAY OUTPUT
85	W6 20BR/LB	FRONT WIPER ON/OFF RELAY CONTROL
86	A5 16RD/VT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87	A5 16RD/VT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87A	W7 16BR/GY	FRONT WIPER PARK SWITCH SENSE

CONNECTOR PINOUTS

POWERTRAIN CONTROL MODULE C1 - BLACK/BLACK 38 WAY

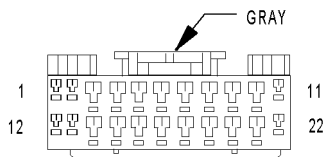


CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	Z130 16BK/BR	GROUND
10	C20 20DB/YL	A/C SWITCH SENSE
11	F1 20PK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	F1 20PK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
13	B22 20DG/YL	VEHICLE SPEED SIGNAL
14	-	-
15	-	-
16	-	-
17	-	-
18	Z131 16BK/DG	GROUND
19	-	-
20	G6 20VT/GY	ENGINE OIL PRESSURE SIGNAL
21	C18 20LB/BR	A/C PRESSURE SIGNAL
22	G31 20VT/OR	AAT SIGNAL
23	-	-
24	-	-
25	D20 20WT/LG	SCI RECEIVE (PCM)
26	D16 20WT/OR (3.7L A/T)	SCI RECEIVE (TCM)
27	F856 20YL/PK	5 VOLT SUPPLY
28	-	-
29	A209 18RD	FUSED B(+)
30	F26 20PK/OR	FUSED IGNITION SWITCH OUTPUT (START)
31	K141 20DB/YL	O2 1/2 SIGNAL
32	K902 20BR/DG	O2 UPSTREAM RETURN
33	K243 20BR (3.7L)	O2 2/2 SIGNAL
34	-	-
35	-	-
36	D21 20WT/GY	SCI TRANSMIT (PCM)
37	D15 20BR/WT (3.7L A/T)	SCI TRANSMIT (TCM)
38	D25 18WT/VT	PCI BUS



POWERTRAIN CONTROL MODULE C4 (3.7L A/T) - BLACK/GREEN 38 WAY		
CAV	CIRCUIT	FUNCTION
1	T60 18YL/GY	OD SOLENOID CONTROL
2	T59 18YL/LB	UD SOLENOID CONTROL
3	-	-
4	-	-
5	-	-
6	T19 18YL/DB	2-4 SOLENOID CONTROL
7	-	-
8	-	-
9	-	-
10	T20 18DG/WT	L/R SOLENOID CONTROL
11	-	-
12	Z903 16BK	GROUND
13	Z903 16BK	GROUND
14	-	-
15	T1 20DG/LB	TRS T1 SENSE
16	T3 20DG/DB	TRS T3 SENSE
17	T6 20DG	TOW/HAUL OVERDRIVE OFF SWITCH SENSE
18	T515 20YL/DB	TRANSMISSION CONTROL RELAY CONTROL
19	T16 16YL/OR	TRANSMISSION CONTROL RELAY OUTPUT
20	-	-
21	-	-
22	T9 20DG/TN	OD PRESSURE SWITCH SENSE
23	-	-
24	-	-
25	-	-
26	-	-
27	T41 20YL/DB	TRS T41 SENSE (P/N)
28	T16 16YL/OR	TRANSMISSION CONTROL RELAY OUTPUT
29	T50 20YL/TN	L/R PRESSURE SWITCH SENSE
30	T47 20YL/DG	2-4 PRESSURE SWITCH SENSE
31	T38 20YL/BR	LINE PRESSURE SENSOR SIGNAL
32	T14 20DG/BR	OUTPUT SPEED SENSOR SIGNAL
33	T52 20DG/WT	INPUT SPEED SENSOR SIGNAL
34	T13 20DG/VT	SPEED SENSOR GROUND
35	T54 20DG/OR	TRANSMISSION TEMPERATURE SENSOR SIGNAL
36	-	-
37	T42 20DG/YL	TRS T42 SENSE
38	-	-

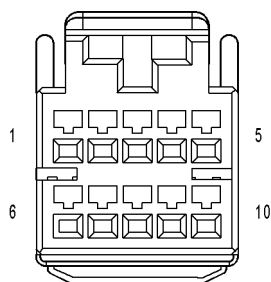
CONNECTOR PINOUTS



RADIO C1

RADIO C1 - 22 WAY

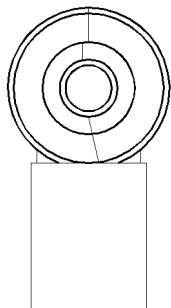
CAV	CIRCUIT	FUNCTION
1	A908 18RD	FUSED B(+)
2	F982 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	E2 20OR/BR	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X54 18GY	RIGHT FRONT SPEAKER (+)
8	X56 18GY/BR	RIGHT FRONT SPEAKER (-)
9	X55 18DG/BR	LEFT FRONT SPEAKER (-)
10	X53 18DG	LEFT FRONT SPEAKER (+)
11	Z514 16BK/LG	GROUND
12	A908 18RD	FUSED B(+)
13	A116 20YL/RD (RADIO CHOKE)	ANTENNA RELAY OUTPUT
14	D25 20WT/VT	PCI BUS
15	-	-
16	-	-
17	-	-
18	X51 18DG/DB	LEFT REAR DOOR SPEAKER (+)
19	X57 18DG/OR	LEFT REAR DOOR SPEAKER (-)
20	X58 18GY/OR	RIGHT REAR DOOR SPEAKER (-)
21	X52 18GY/DB	RIGHT REAR DOOR SPEAKER (+)
22	Z514 16BK/LG	GROUND



RADIO C2

RADIO C2 - 10 WAY

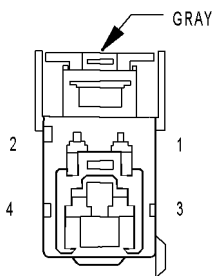
CAV	CIRCUIT	FUNCTION
1	X40 20GY/WT	AUDIO MUX RIGHT
2	X140 20GY/OR	SHIELD
3	X235 200GY	AUDIO RETURN
4	D25 20WT/VT	PCI BUS
5	X112 20LG/GY	IGNITION RUN/ACC SIGNAL
6	X41 20DG/WT	AUDIO MUX LEFT
7	Z515 20BK	GROUND
8	-	-
9	-	-
10	X160 20GY/YL	FUSED B(+)



**RADIO C3
(EXCEPT EXPORT)**

RADIO C3 (EXCEPT EXPORT) - 2 WAY

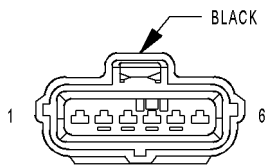
CAV	CIRCUIT	FUNCTION
C1	D5 20WT/OR	RADIO ANTENNA CORE
C2	D931 20WT/YL	RADIO ANTENNA SHIELD



**RADIO CHOKE
(MIDLINE/PREMIUM)**

RADIO CHOKE (MIDLINE/PREMIUM) - GRAY 4 WAY

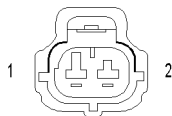
CAV	CIRCUIT	FUNCTION
1	X1 16DG/BR	ANTENNA RELAY OUTPUT
2	X13 16LG/GY	RADIO CHOKE OUTPUT
3	A116 20YL/RD	ANTENNA RELAY OUTPUT
4	Z140 20BK/OR	GROUND



**REAR
WIPER
MOTOR**

REAR WIPER MOTOR - BLACK 6 WAY

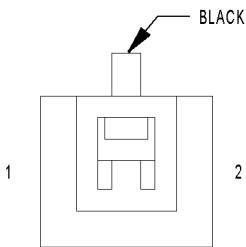
CAV	CIRCUIT	FUNCTION
1	Z213 18BK/OR	GROUND
2	W13 20BR/LG	REAR WIPER ON DRIVER
3	G80 20VT/YL	FLIP-UP GLASS AJAR SWITCH SENSE
4	W27 20DB/BR	REAR WIPER INTERMITTENT DRIVER
5	A44 18BR/OR	FUSED B(+)
6	-	-



**RED BRAKE
WARNING INDICATOR
SWITCH**

RED BRAKE WARNING INDICATOR SWITCH - 2 WAY

CAV	CIRCUIT	FUNCTION
1	B20 20DG/OR	RED BRAKE WARNING INDICATOR DRIVER
2	Z932 20BK	GROUND

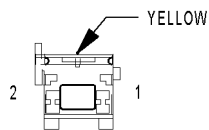


**RIGHT
COURTESY
LAMP**

RIGHT COURTESY LAMP - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	A908 18RD	FUSED B(+)
2	Z327 20BK/WT	GROUND

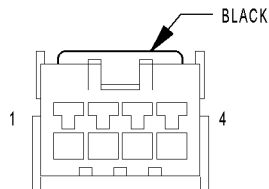
CONNECTOR PINOUTS



**RIGHT
CURTAIN
AIRBAG
SQUIB 1**

RIGHT CURTAIN AIRBAG SQUIB 1 - YELLOW 2 WAY

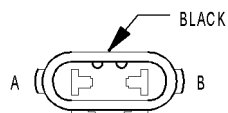
CAV	CIRCUIT	FUNCTION
1	R2 20WT/LB	RIGHT CURTAIN SQUIB 1 LINE 2
2	R4 200R/LB	RIGHT CURTAIN SQUIB 1 LINE 1



**RIGHT
DOOR
LOCK
SWITCH
(EXCEPT BASE)**

RIGHT DOOR LOCK SWITCH (EXCEPT BASE) - BLACK 4 WAY

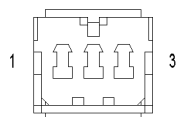
CAV	CIRCUIT	FUNCTION
1	P36 20TN/DB	DOOR LOCK SWITCH MUX
2	Z998 20BK	GROUND
3	F982 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	P37 20LG/TN	DOOR LOCK SWITCH GROUND



**RIGHT
FOG LAMP**

RIGHT FOG LAMP - BLACK 2 WAY

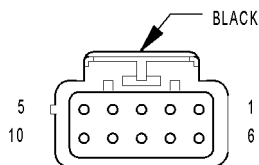
CAV	CIRCUIT	FUNCTION
1	Z932 16BK	GROUND
1	Z932 16BK (EXPORT)	GROUND
2	L89 16WT/YL	FRONT FOG LAMP RELAY OUTPUT



**RIGHT
FRONT
DOOR
SPEAKER
(BASE)**

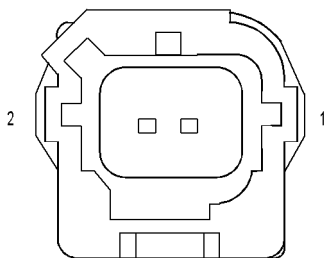
RIGHT FRONT DOOR SPEAKER (BASE) - 3 WAY

CAV	CIRCUIT	FUNCTION
1	X54 18GY	RIGHT FRONT SPEAKER (+)
2	-	-
3	X56 18GY/BR	RIGHT FRONT SPEAKER (-)



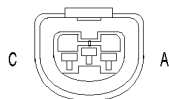
**RIGHT FRONT
DOOR SPEAKER
(PREMIUM)**

RIGHT FRONT DOOR SPEAKER (PREMIUM) - BLACK 10 WAY		
CAV	CIRCUIT	FUNCTION
1	X54 18GY	RIGHT FRONT SPEAKER (+)
2	X56 18GY/BR	RIGHT FRONT SPEAKER (-)
3	Z514 16BK/LG	GROUND
4	X208 18GY/DG	AMPLIFIED HIGH RIGHT FRONT SPEAKER (-)
5	X296 18LG/GY	AMPLIFIED LOW RIGHT REAR SPEAKER (-)
6	X58 18GY/OR	RIGHT REAR DOOR SPEAKER (-)
7	X52 18GY/DB	RIGHT REAR DOOR SPEAKER (+)
8	X13 16LG/GY	RADIO CHOKE OUTPUT
9	X298 18GY/LG	AMPLIFIED HIGH RIGHT FRONT SPEAKER (+)
10	X205 18GY/LG	AMPLIFIED LOW RIGHT REAR SPEAKER (+)



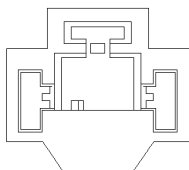
**RIGHT
FRONT
IMPACT
SENSOR**

RIGHT FRONT IMPACT SENSOR - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	R82 20WT/LB	RIGHT FRONT IMPACT SENSOR GROUND
2	R80 20VT/LB	RIGHT FRONT IMPACT SENSOR SIGNAL



**RIGHT
HEADLAMP
(EXCEPT EXPORT)**

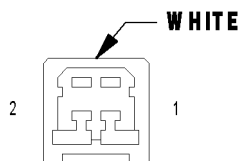
RIGHT HEADLAMP (EXCEPT EXPORT) - 3 WAY		
CAV	CIRCUIT	FUNCTION
A	L44 18WT/TN	FUSED RIGHT LOW BEAM OUTPUT
B	Z932 16BK	GROUND
C	L34 18WT/GY	FUSED RIGHT HIGH BEAM OUTPUT



**RIGHT
HEADLAMP
(EXPORT)**

RIGHT HEADLAMP (EXPORT) - 3 WAY		
CAV	CIRCUIT	FUNCTION
1	L34 18WT/GY	FUSED RIGHT HIGH BEAM OUTPUT
2	L44 18WT/TN	FUSED RIGHT LOW BEAM OUTPUT
3	Z932 16BK	GROUND

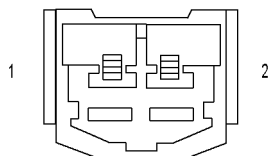
CONNECTOR PINOUTS



**RIGHT INSTRUMENT
PANEL SPEAKER
(BASE)**

RIGHT INSTRUMENT PANEL SPEAKER (BASE) - WHITE 2 WAY

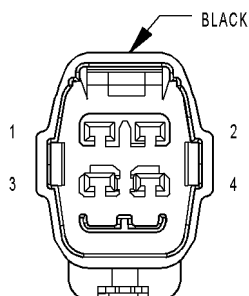
CAV	CIRCUIT	FUNCTION
1	X54 18GY	RIGHT FRONT SPEAKER (+)
2	X56 18GY/BR	RIGHT FRONT SPEAKER (-)



**RIGHT INSTRUMENT
PANEL SPEAKER
(PREMIUM)**

RIGHT INSTRUMENT PANEL SPEAKER (PREMIUM) - 2 WAY

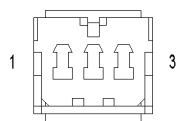
CAV	CIRCUIT	FUNCTION
1	X298 18GY/LG	AMPLIFIED HIGH RIGHT FRONT SPEAKER (+)
2	X208 18GY/DG	AMPLIFIED HIGH RIGHT FRONT SPEAKER (-)



**RIGHT REAR
DOOR LOCK
MOTOR/AJAR
SWITCH
(EXCEPT BASE)**

RIGHT REAR DOOR LOCK MOTOR/AJAR SWITCH (EXCEPT BASE) - BLACK 4 WAY

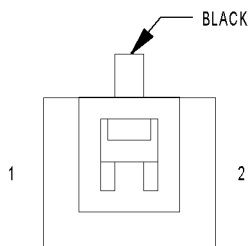
CAV	CIRCUIT	FUNCTION
1	G76 20VT/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
2	Z998 20BK	GROUND
3	P35 16TN/YL	UNLOCK RELAY OUTPUT
4	P33 16TN/DB	LOCK RELAY OUTPUT



**RIGHT REAR
DOOR
SPEAKER
(PREMIUM)**

RIGHT REAR DOOR SPEAKER (PREMIUM) - 3 WAY

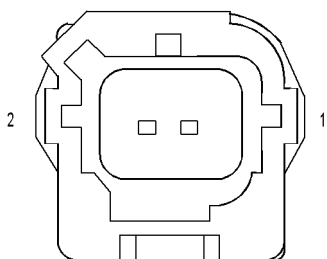
CAV	CIRCUIT	FUNCTION
1	X205 18GY/LG	AMPLIFIED LOW RIGHT REAR SPEAKER (+)
2	-	-
3	X296 18LG/GY	AMPLIFIED LOW RIGHT REAR SPEAKER (-)



**RIGHT
REMOTE
RADIO
SWITCH
(PREMIUM)**

RIGHT REMOTE RADIO SWITCH (PREMIUM) - BLACK 2 WAY

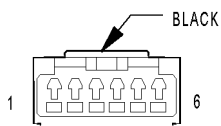
CAV	CIRCUIT	FUNCTION
1	X920 20GY/OR	RADIO CONTROL MUX RETURN
2	X20 20GY/WT	RADIO CONTROL MUX



**RIGHT
SIDE
IMPACT
SENSOR 1**

RIGHT SIDE IMPACT SENSOR 1 - 2 WAY

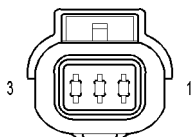
CAV	CIRCUIT	FUNCTION
1	R16 20BR/LG	RIGHT SIDE IMPACT SENSOR 1 GROUND
2	R14 20TN/LG	RIGHT SIDE IMPACT SENSOR 1 SIGNAL



**SENTRY KEY
IMMOBILIZER
MODULE
(EXCEPT BASE)**

SENTRY KEY IMMOBILIZER MODULE (EXCEPT BASE) - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	D508 20WT/GY	COM - LIN TIRE PRESSURE MONITOR LAN
2	D25 20WT/VT	PCI BUS
3	-	-
4	A942 20PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	Z120 20BK/WT	GROUND
6	A333 20WT/RD	FUSED B(+)

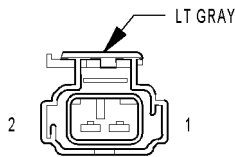


**SIREN
(EXPORT)**

SIREN (EXPORT) - 3 WAY

CAV	CIRCUIT	FUNCTION
1	Z932 20BK	GROUND
2	X75 18GY/DG	SIREN SIGNAL CONTROL
3	A908 20RD	FUSED B(+)

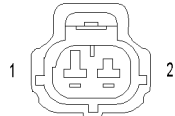
CONNECTOR PINOUTS



**TAILGATE
CYLINDER LOCK
SWITCH**

TAILGATE CYLINDER LOCK SWITCH - LT GRAY 2 WAY

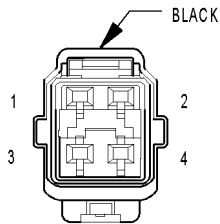
CAV	CIRCUIT	FUNCTION
1	G910 20VT/BR	TAILGATE SWITCH GROUND
2	G71 20VT/OR	TAILGATE CYLINDER LOCK SWITCH MUX



**TAILGATE
FLIP-UP AJAR
SWITCH**

TAILGATE FLIP-UP AJAR SWITCH - 2 WAY

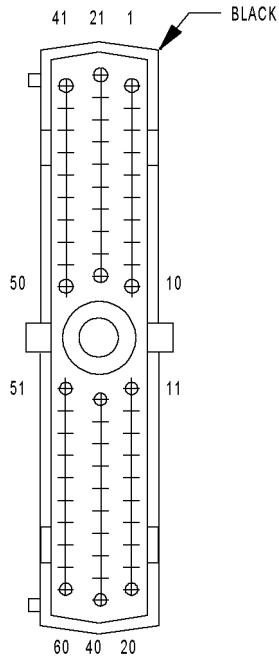
CAV	CIRCUIT	FUNCTION
1	G80 20VT/YL	FLIP-UP GLASS AJAR SWITCH SENSE
2	Z213 18BK/OR	GROUND



**TAILGATE
LOCK MOTOR/
AJAR SWITCH**

TAILGATE LOCK MOTOR/AJAR SWITCH - BLACK 4 WAY

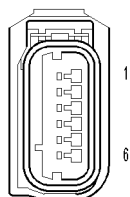
CAV	CIRCUIT	FUNCTION
1	G78 20VT/OR	TAILGATE AJAR SWITCH SENSE
2	G910 20VT/BR	TAILGATE SWITCH GROUND
3	P31 20TN/YL	TAILGATE UNLOCK DRIVER
4	P30 20TN/DG	TAILGATE LOCK DRIVER



**TRANSMISSION
CONTROL
MODULE
(2.8L)**

TRANSMISSION CONTROL MODULE (2.8L) - BLACK 60 WAY		
CAV	CIRCUIT	FUNCTION
1	T1 20DG/LB	TRS T1 SENSE
2	T4 20DG/LB	TRS T2 SENSE
3	T3 20DG/DB	TRS T3 SENSE
4	-	-
5	-	-
6	K244 20BR/WT	ENGINE RPM SIGNAL
7	D21 20WT/GY	SCI TRANSMIT (ECM)
8	F26 20PK/OR	FUSED IGNITION SWITCH OUTPUT (START)
9	T9 20DG/TN	OD PRESSURE SWITCH SENSE
10	T10 20DG/LG	TORQUE MANAGEMENT REQUEST SENSE
11	F1 20PK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	K23 20BR/WT	ACCELERATOR PEDAL POSITION SENSOR SIGNAL 1
13	T13 20DG/VT	SPEED SENSOR GROUND
14	T14 20DG/BR	OUTPUT SPEED SENSOR SIGNAL
15	T515 20YL/DB	TRANSMISSION CONTROL RELAY CONTROL
16	T16 16YL/OR	TRANSMISSION CONTROL RELAY OUTPUT
17	T16 16YL/OR	TRANSMISSION CONTROL RELAY OUTPUT
18	T118 20DG	PRESSURE CONTROL SOLENOID CONTROL
19	T219 20YL/LG	2C SOLENOID CONTROL
20	T20 18DG/WT	L/R SOLENOID CONTROL
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	T29 20YL/WT	UD PRESSURE SWITCH SENSE
30	T38 20YL/BR	LINE PRESSURE SENSOR SIGNAL
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	T16 16YL/OR	TRANSMISSION CONTROL RELAY OUTPUT
37	Z133 16BK/LG	GROUND
38	T39 20BR/YL	5 VOLT SUPPLY
39	Z133 16BK/LG	GROUND
40	T140 18VT/LG	MS SOLENOID CONTROL
41	T41 20YL/DB	TRS T41 SENSE (P/N)
42	T42 20DG/YL	TRS T42 SENSE
43	D25 20WT/VT	PCI BUS
44	-	-
45	-	-
46	D16 20WT/OR	SCI RECEIVE (ECM)
47	T147 20DG/YL	2C PRESSURE SWITCH SENSE
48	T48 20BR/YL	4C PRESSURE SWITCH SENSE
49	T6 20DG	TOW/HAUL OVERDRIVE OFF SWITCH SENSE
50	T50 20YL/TN	L/R PRESSURE SWITCH SENSE
51	K167 20BR/YL	ACCELERATOR PEDAL POSITION SENSOR GROUND 1
52	T52 20DG/WT	INPUT SPEED SENSOR SIGNAL
53	Z133 16BK/LG	GROUND
54	T54 20DG/OR	TRANSMISSION TEMPERATURE SENSOR SIGNAL
55	T59 18YL/LB	UD SOLENOID CONTROL
56	A903 16RD	FUSED B(+)
57	Z133 16BK/LG	GROUND
58	-	-
59	T159 20YL/DG	4C SOLENOID CONTROL
60	T60 18YL/GY	OD SOLENOID CONTROL

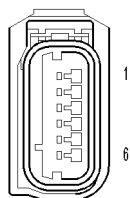
CONNECTOR PINOUTS



**TRANSPONDER-
TIRE
PRESSURE-
LEFT
FRONT
(EXCEPT 2.5L)**

TRANSPONDER-TIRE PRESSURE-LEFT FRONT (EXCEPT 2.5L) - 6 WAY

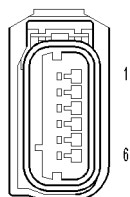
CAV	CIRCUIT	FUNCTION
1	F22 20PK/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
2	D508 20WT/GY	COM - LIN TIRE PRESSURE MONITOR LAN
3	Z384 20BK	GROUND
4	Z384 20BK	GROUND
5	-	
6	-	



**TRANSPONDER-
TIRE
PRESSURE-
RIGHT
FRONT
(EXCEPT 2.5L)**

TRANSPONDER-TIRE PRESSURE-RIGHT FRONT (EXCEPT 2.5L) - 6 WAY

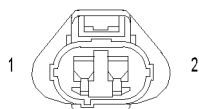
CAV	CIRCUIT	FUNCTION
1	F22 20PK/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
2	D508 20WT/GY	COM - LIN TIRE PRESSURE MONITOR LAN
3	Z384 20BK	GROUND
4	-	
5	Z384 20BK	GROUND
6	-	



**TRANSPONDER-
TIRE
PRESSURE-
RIGHT
REAR
(EXCEPT 2.5L)**

TRANSPONDER-TIRE PRESSURE-RIGHT REAR (EXCEPT 2.5L) - 6 WAY

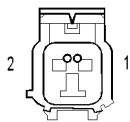
CAV	CIRCUIT	FUNCTION
1	F22 20PK/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
2	F508 20WT/GY	COM - LIN TIRE PRESSURE MONITOR LAN
3	Z912 18BK	GROUND
4	-	
5	-	
6	Z912 18BK	GROUND



**WASHER FLUID
LEVEL
SWITCH**

WASHER FLUID LEVEL SWITCH - 2 WAY

CAV	CIRCUIT	FUNCTION
1	W1 20BR/TN	LOW WASHER FLUID SENSE
2	Z931 20BK	GROUND



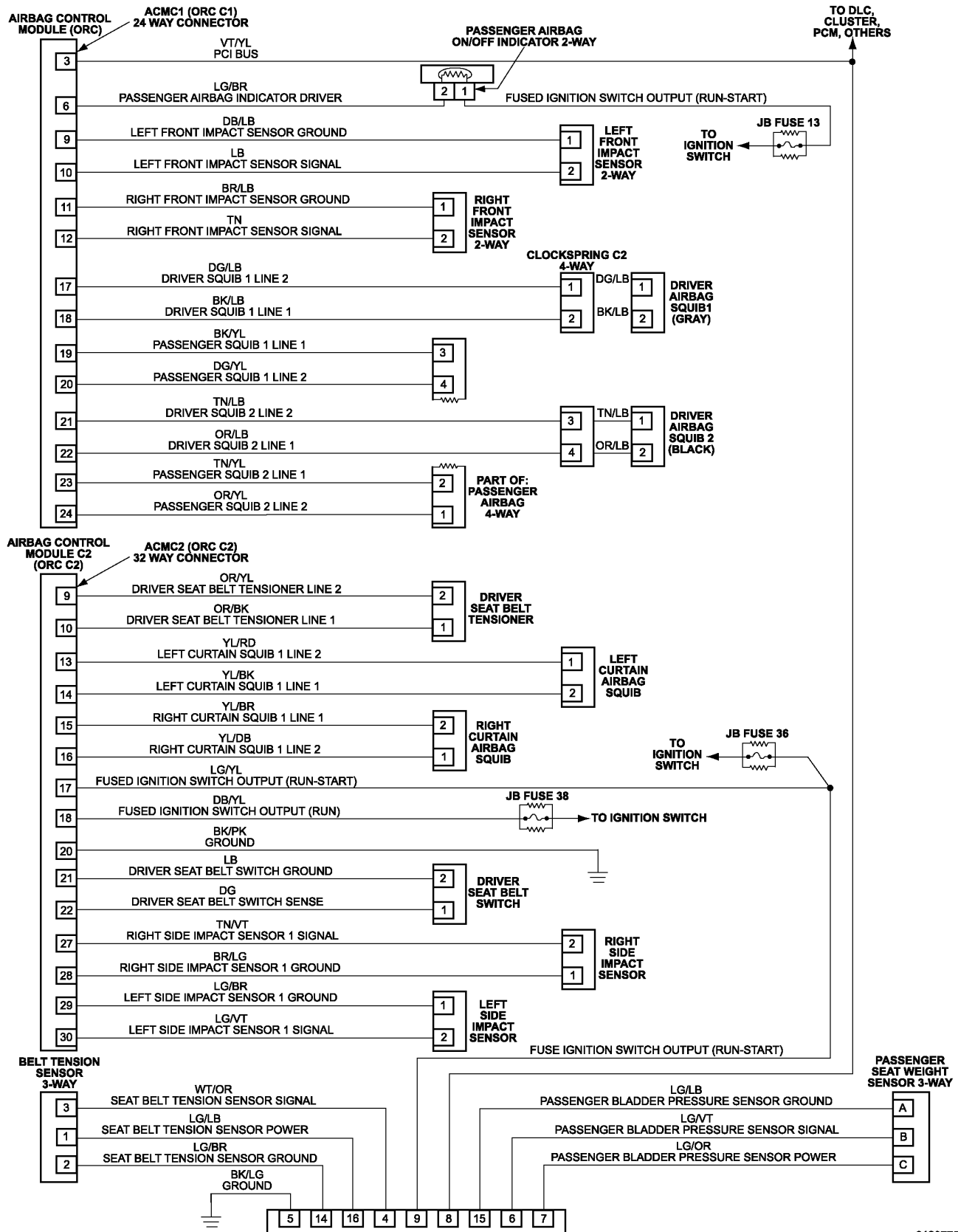
WASHER
PUMP

WASHER PUMP - 2 WAY		
CAV	CIRCUIT	FUNCTION
1	W20 20BR/YL	WASHER MOTOR SENSE
2	W33 20BR/DG	WASHER PUMP DRIVER

[illegible]

10.0 SCHEMATIC DIAGRAMS

10.1 AIRBAG SYSTEM

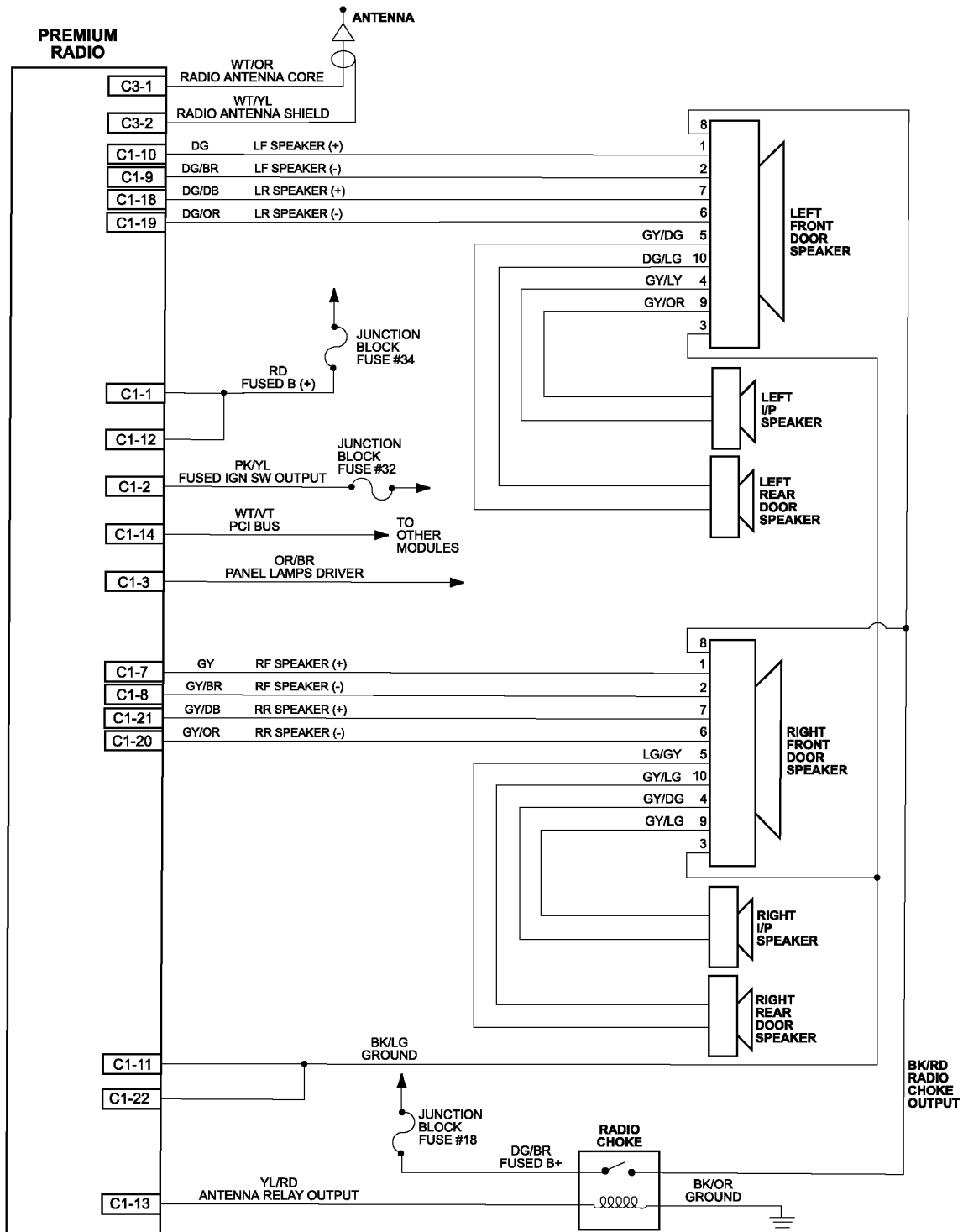


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SCHEMATIC DIAGRAMS

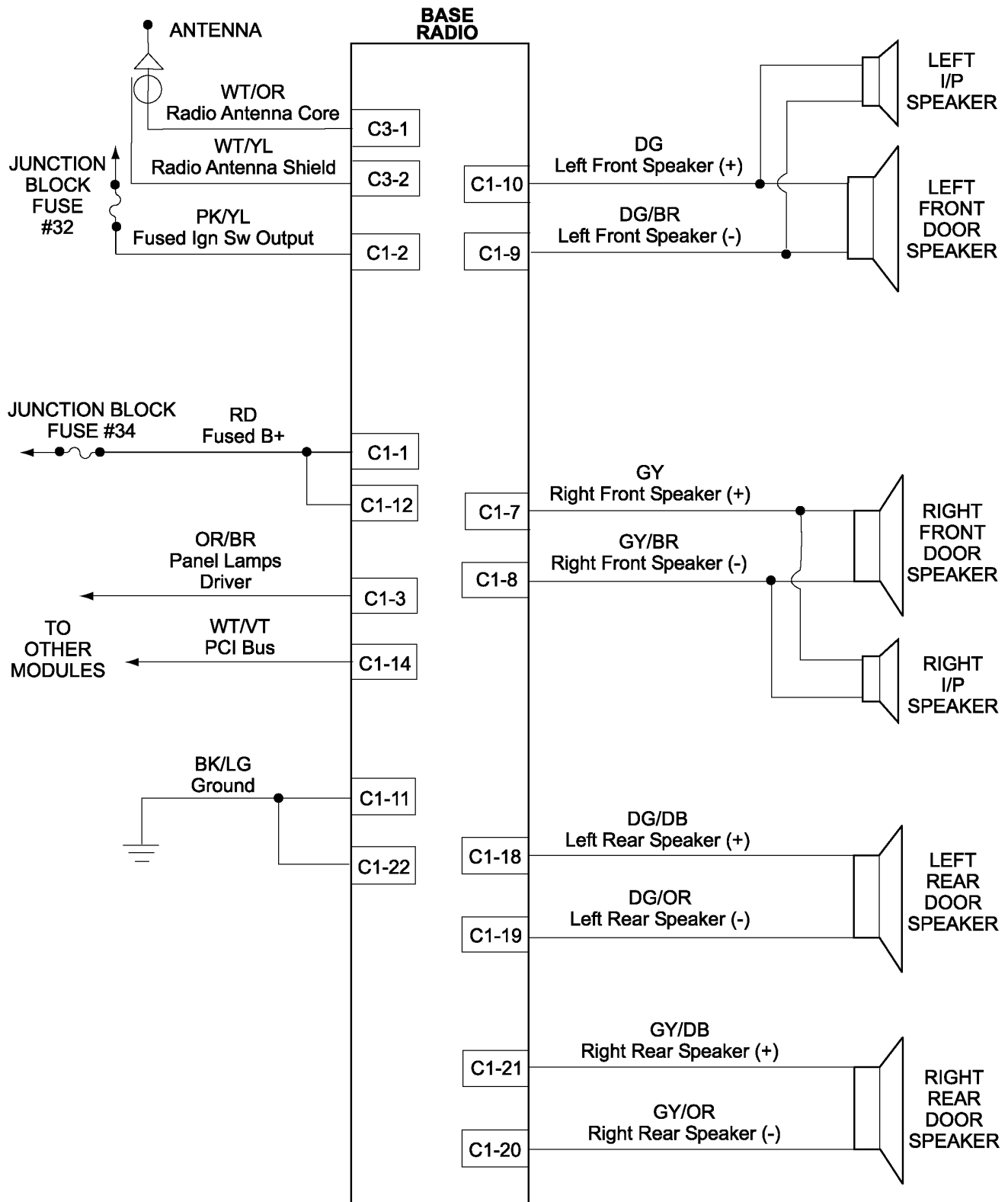
10.2 AUDIO

10.2.1 PREMIUM AUDIO SYSTEM



8148b4e0

10.2.2 BASE AUDIO SYSTEM

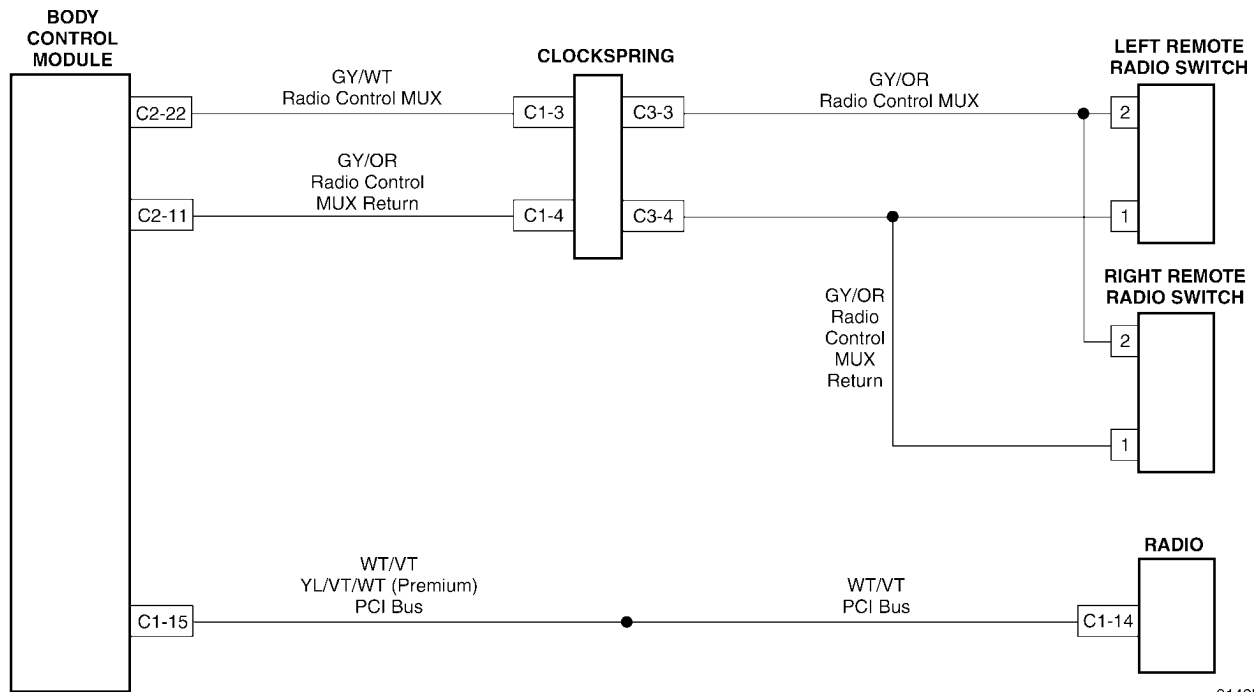


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SCHEMATIC DIAGRAMS

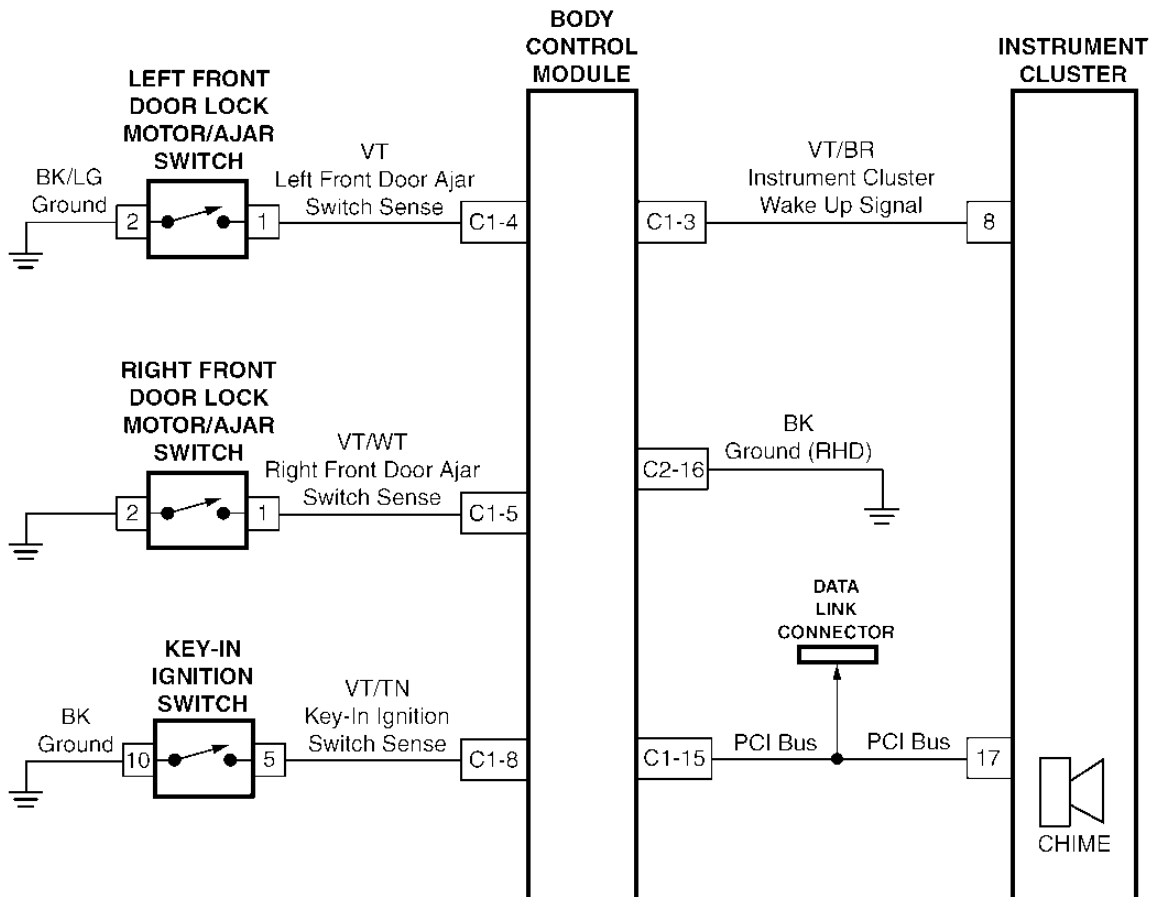
10.2 AUDIO (Continued)

10.2.3 REMOTE RADIO CONTROLS



8148b471

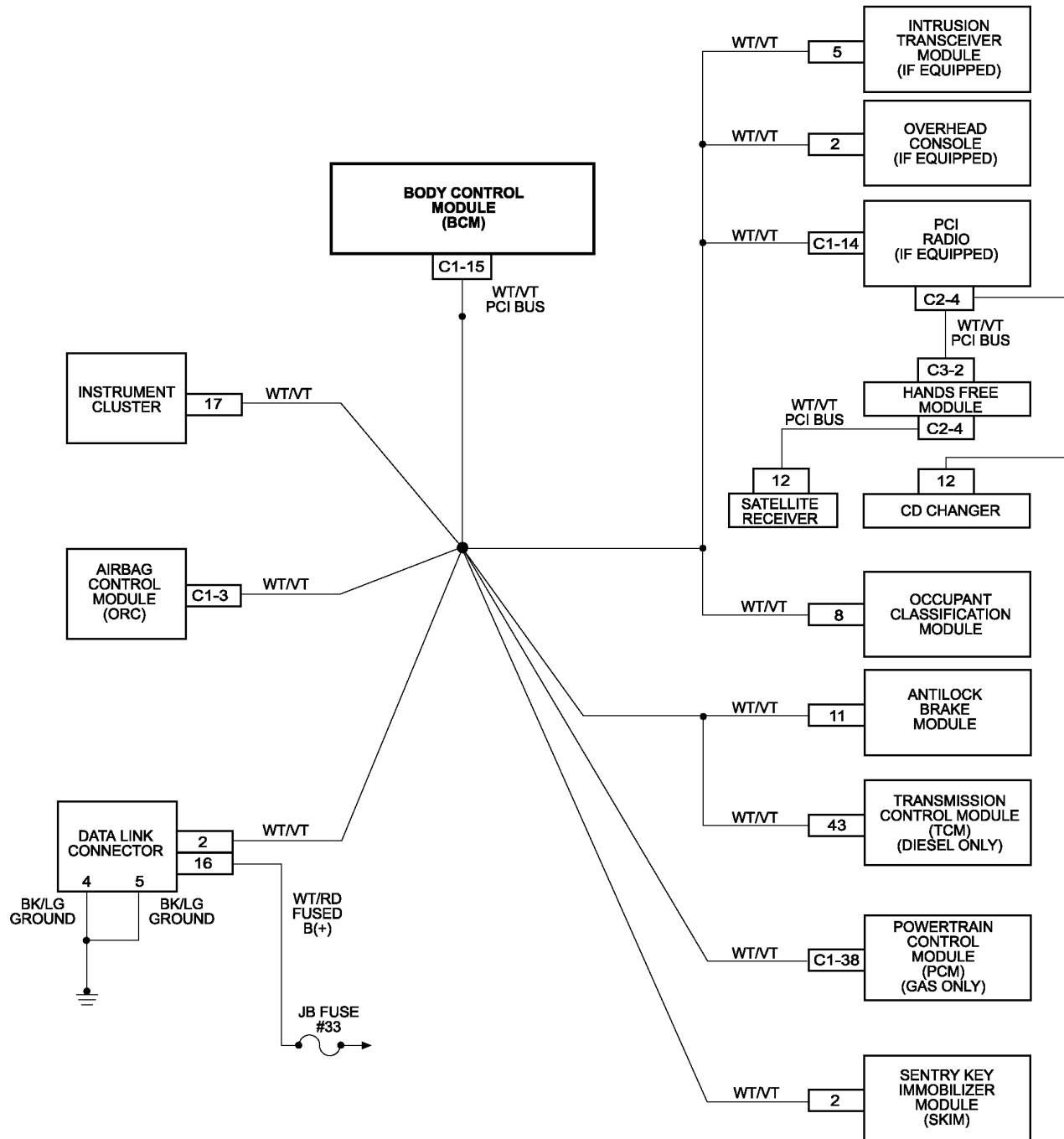
10.3 CHIME



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10.4 COMMUNICATION

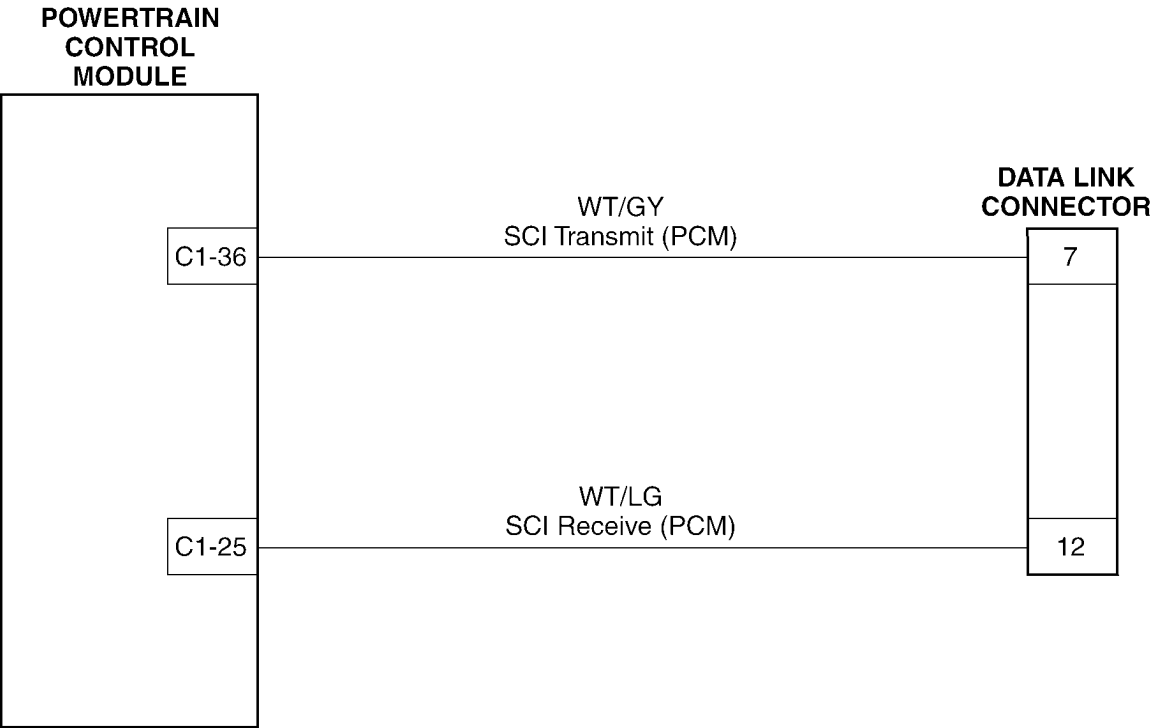
10.4.1 INTER-MODULE AND DRB COMMUNICATION



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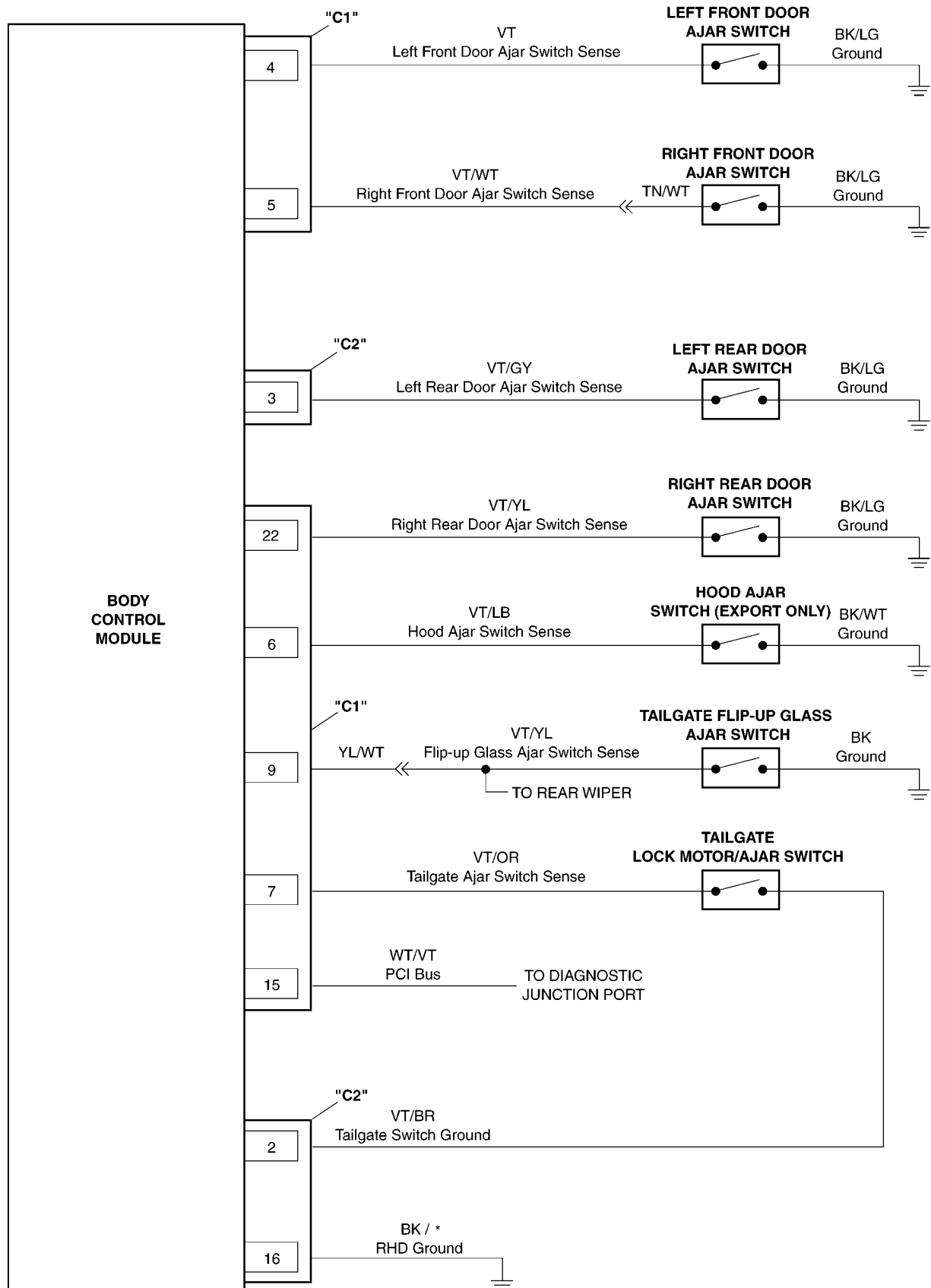
SCHEMATIC DIAGRAMS

10.4 COMMUNICATION (Continued)
10.4.2 PCM COMMUNICATION — GAS ONLY



81490eac

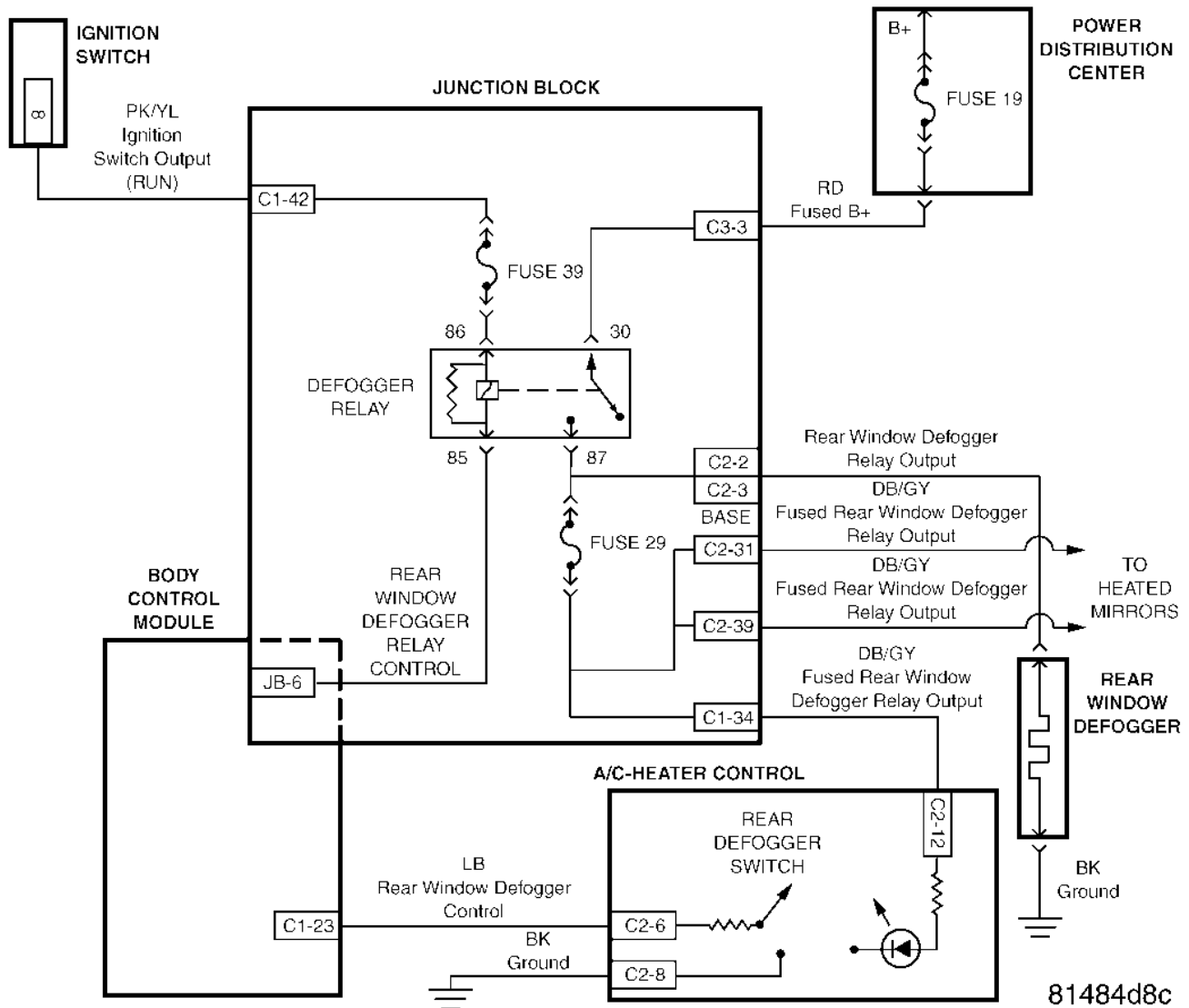
10.5 DOOR AJAR SYSTEM



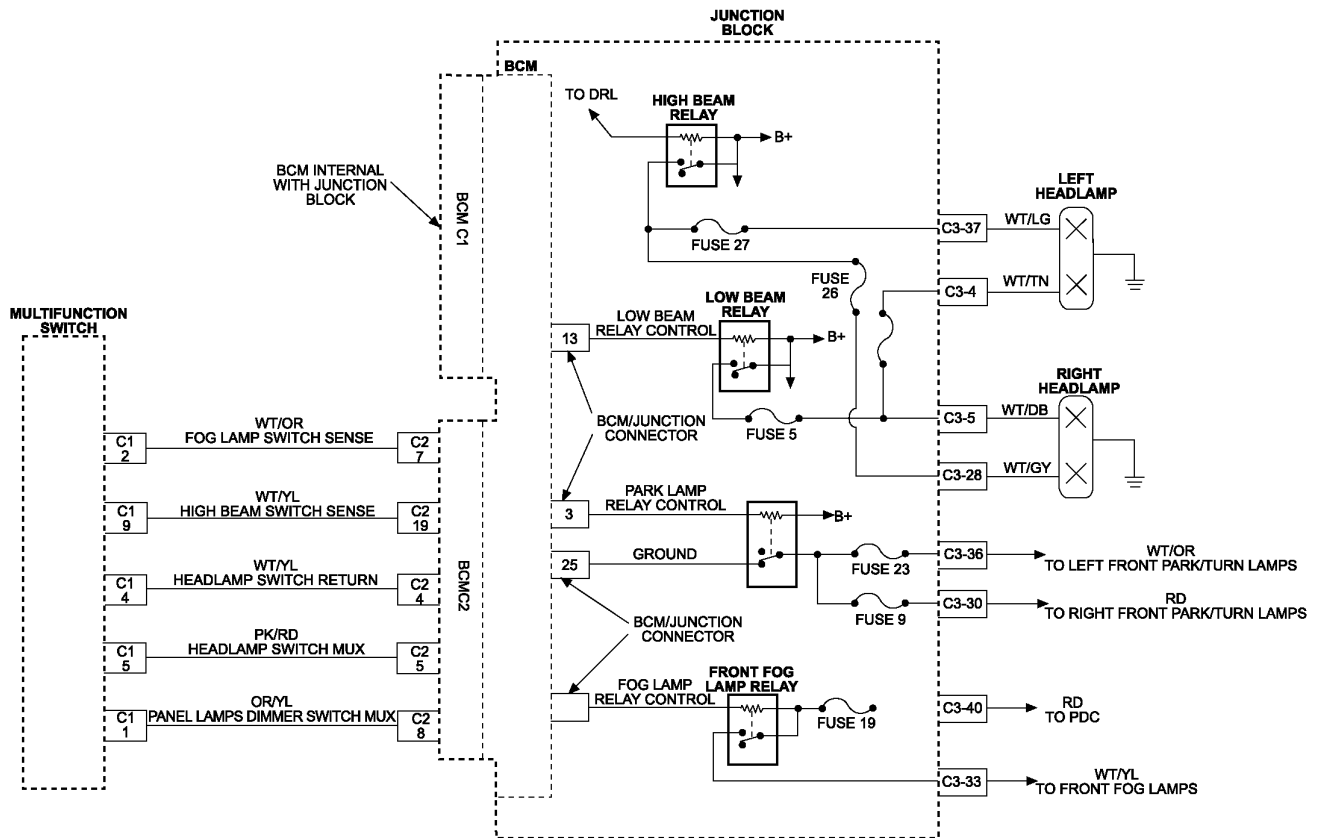
8146c474

SCHEMATIC DIAGRAMS

10.6 ELECTRICALLY HEATED SYSTEM



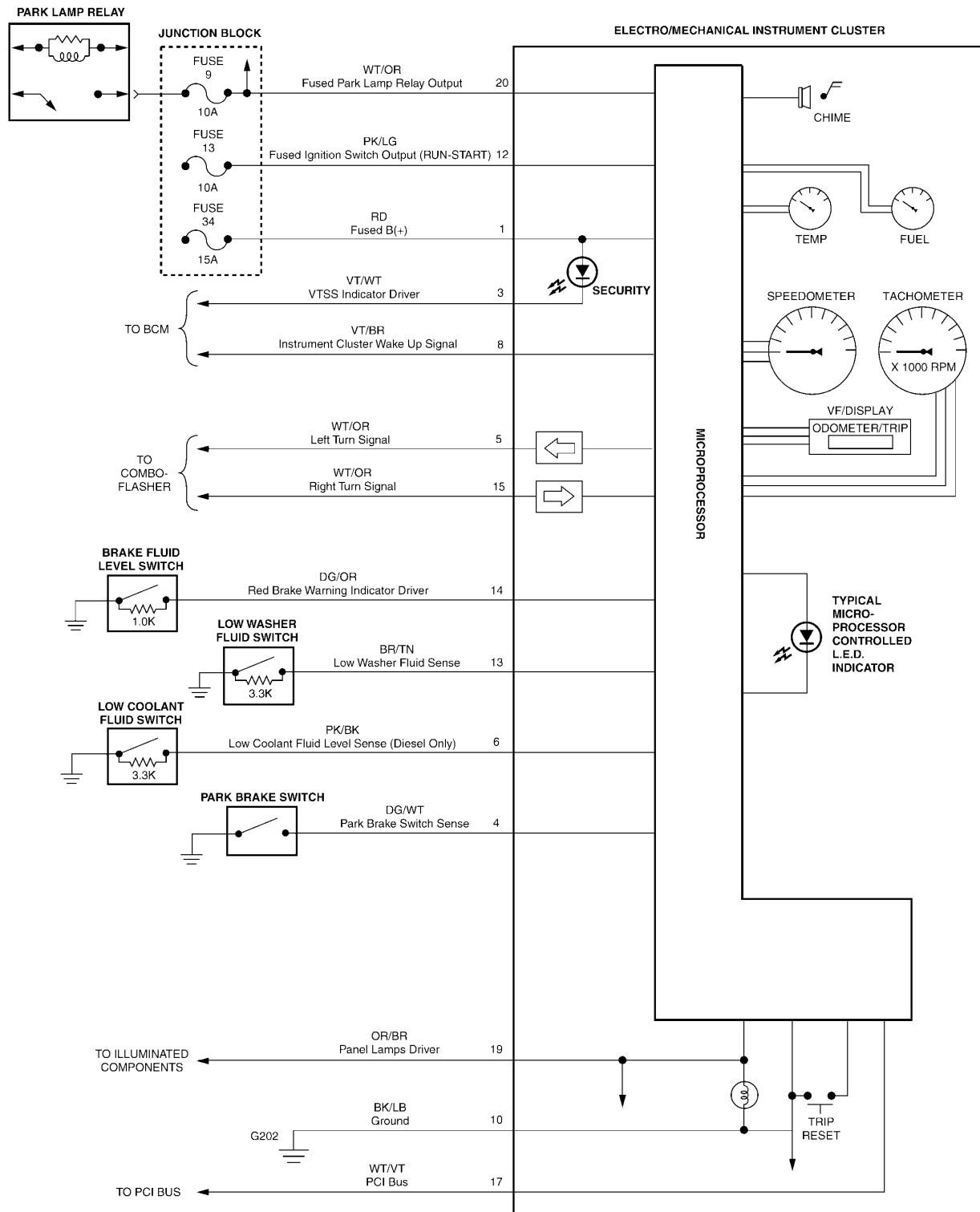
10.7 EXTERIOR LIGHTING



8148b34b

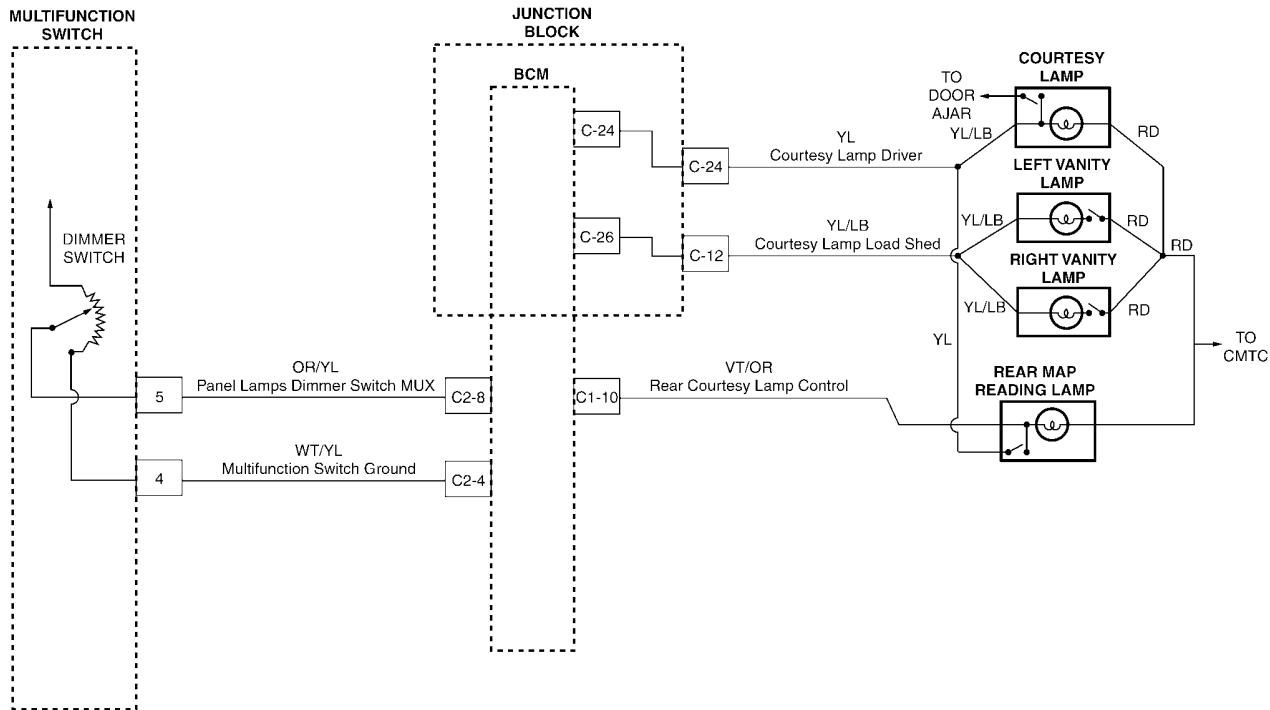
SCHEMATIC DIAGRAMS

10.8 INSTRUMENT CLUSTER



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10.9 INTERIOR LIGHTING

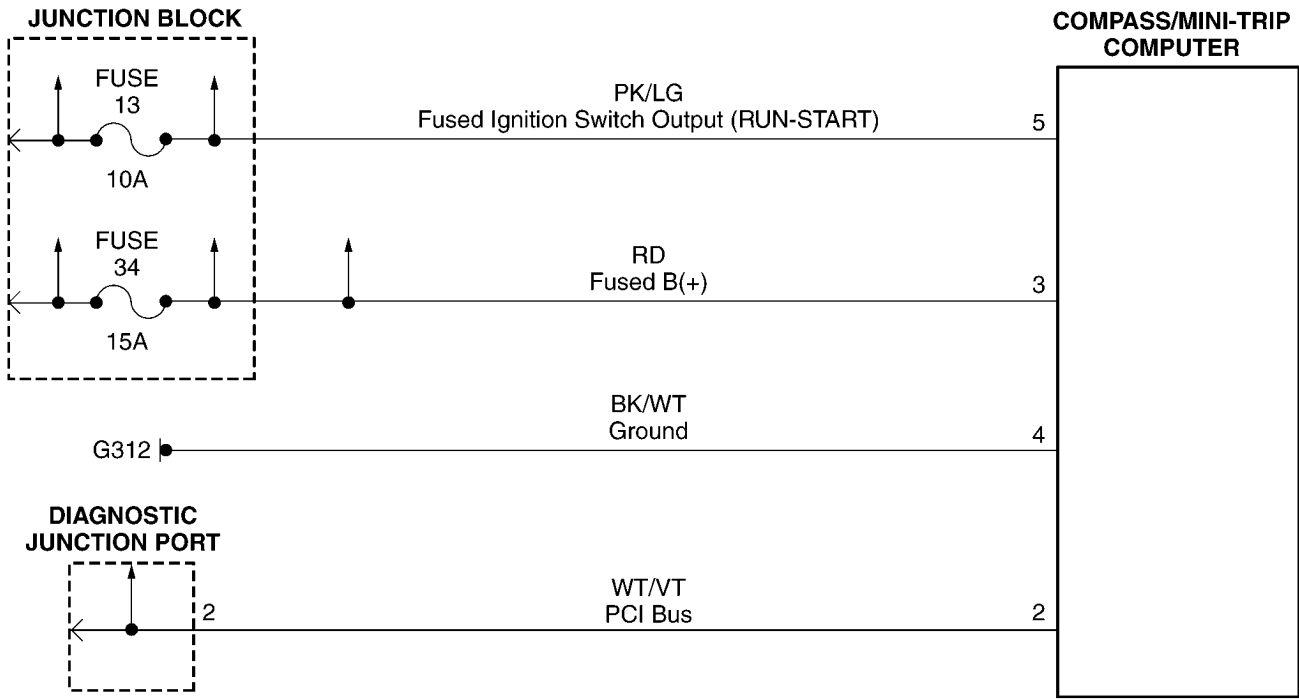


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10.10 OVERHEAD CONSOLE

10.10.1 ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

Compass Mini-Trip Computer (Premium)

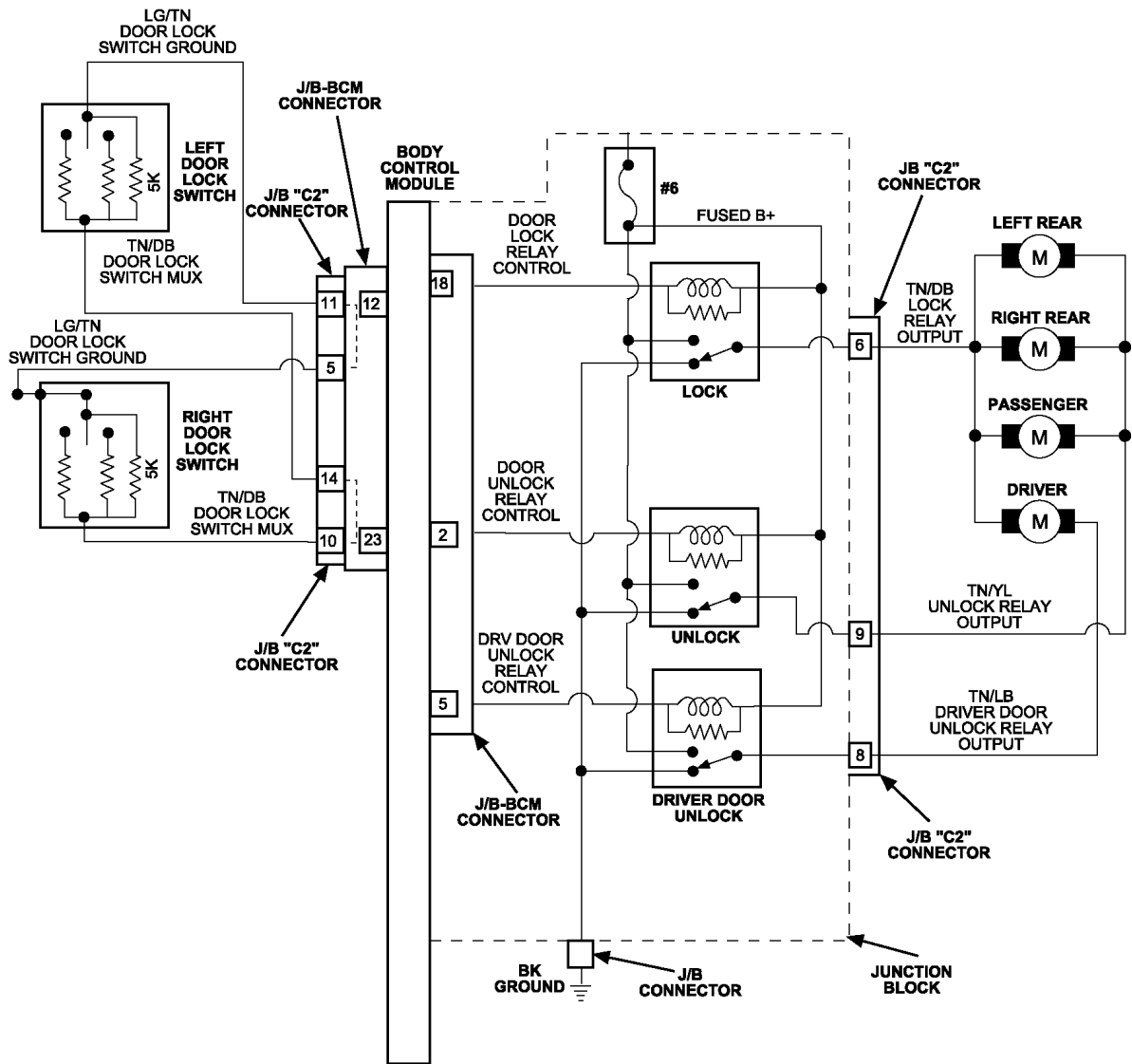


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SCHEMATIC DIAGRAMS

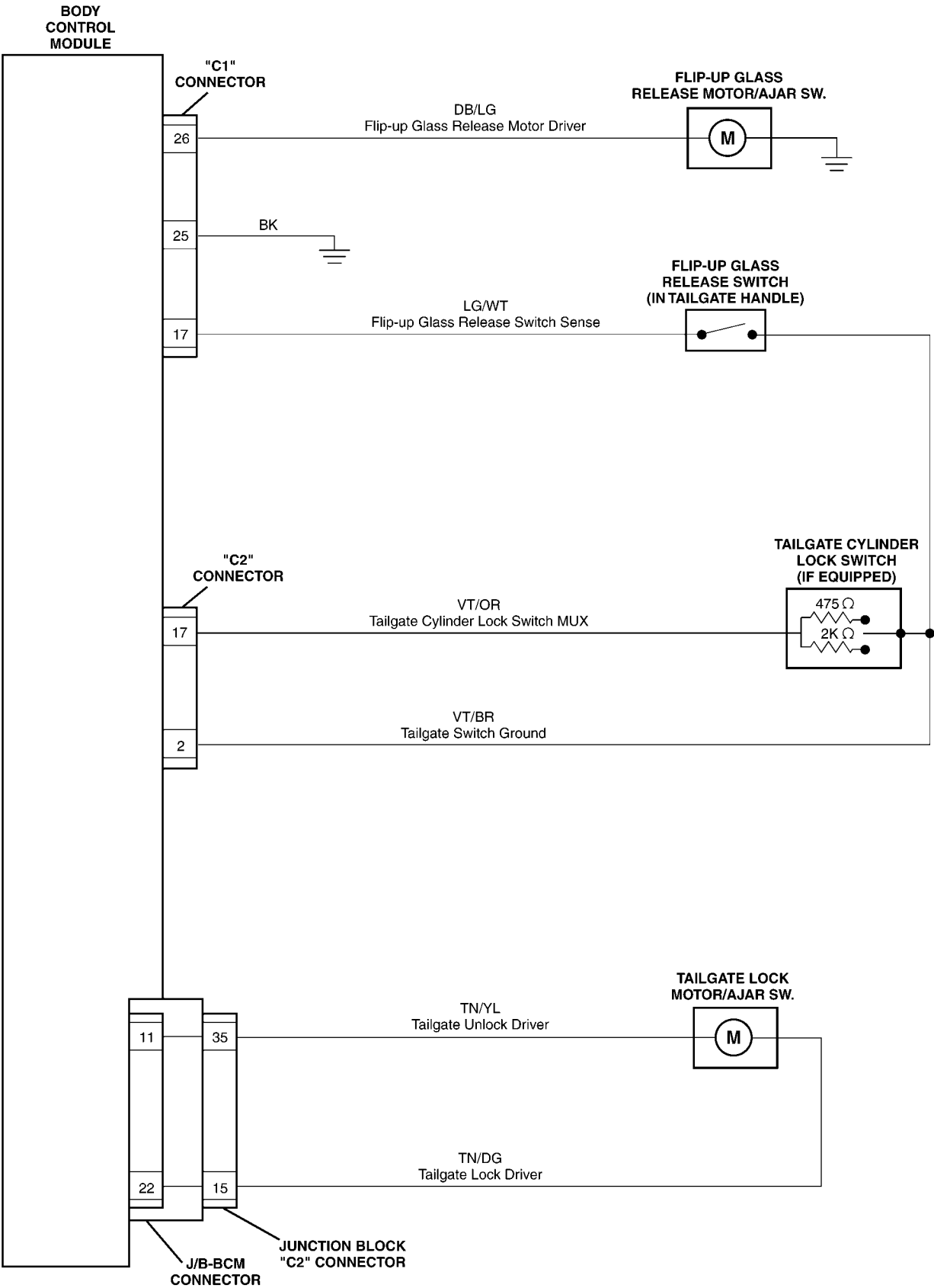
10.11 POWER DOOR LOCKS

10.11.1 DOORS



8145576e

10.11.2 TAILGATE AND FLIP-UP GLASS

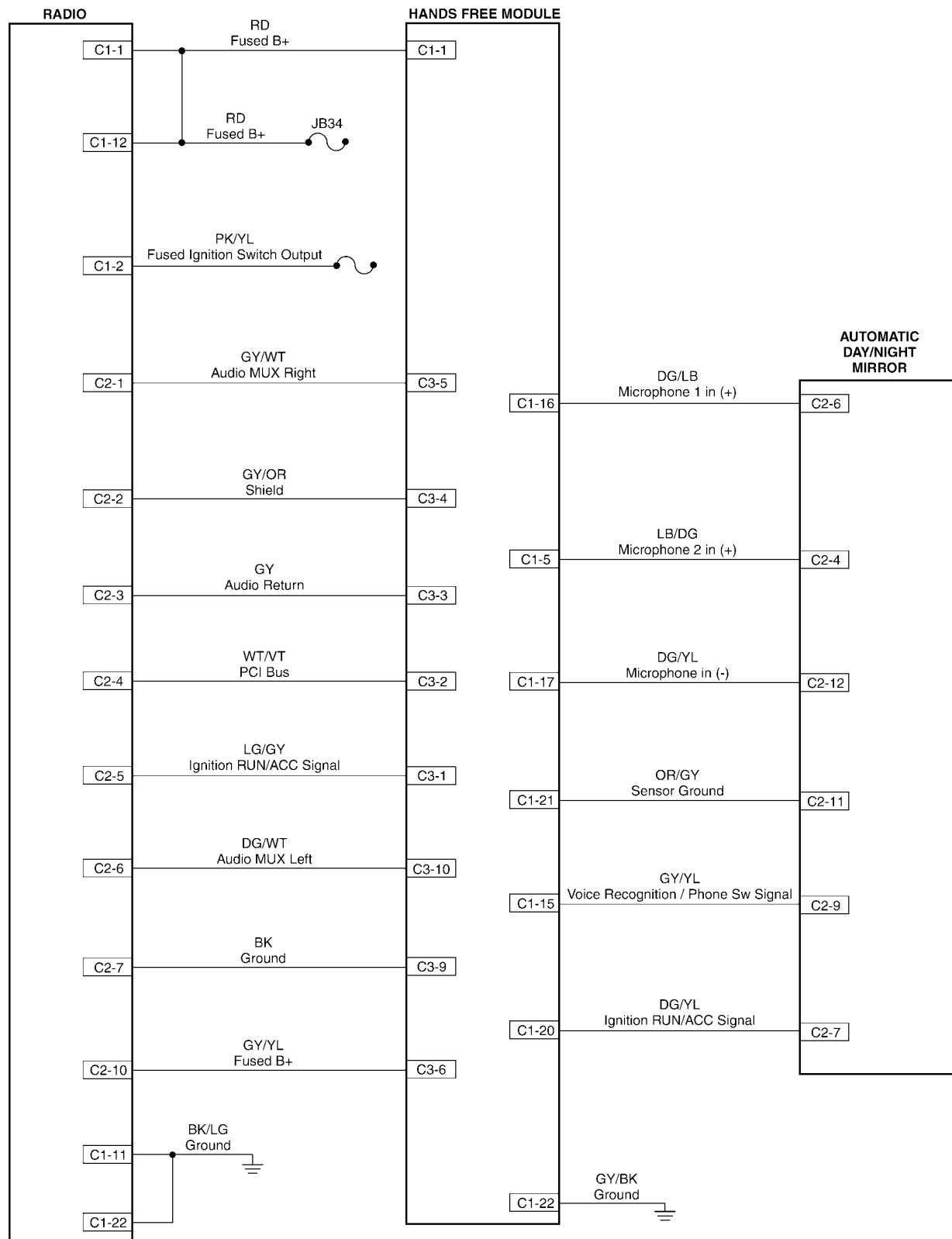


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SCHEMATIC DIAGRAMS

10.12 TELECOMMUNICATIONS

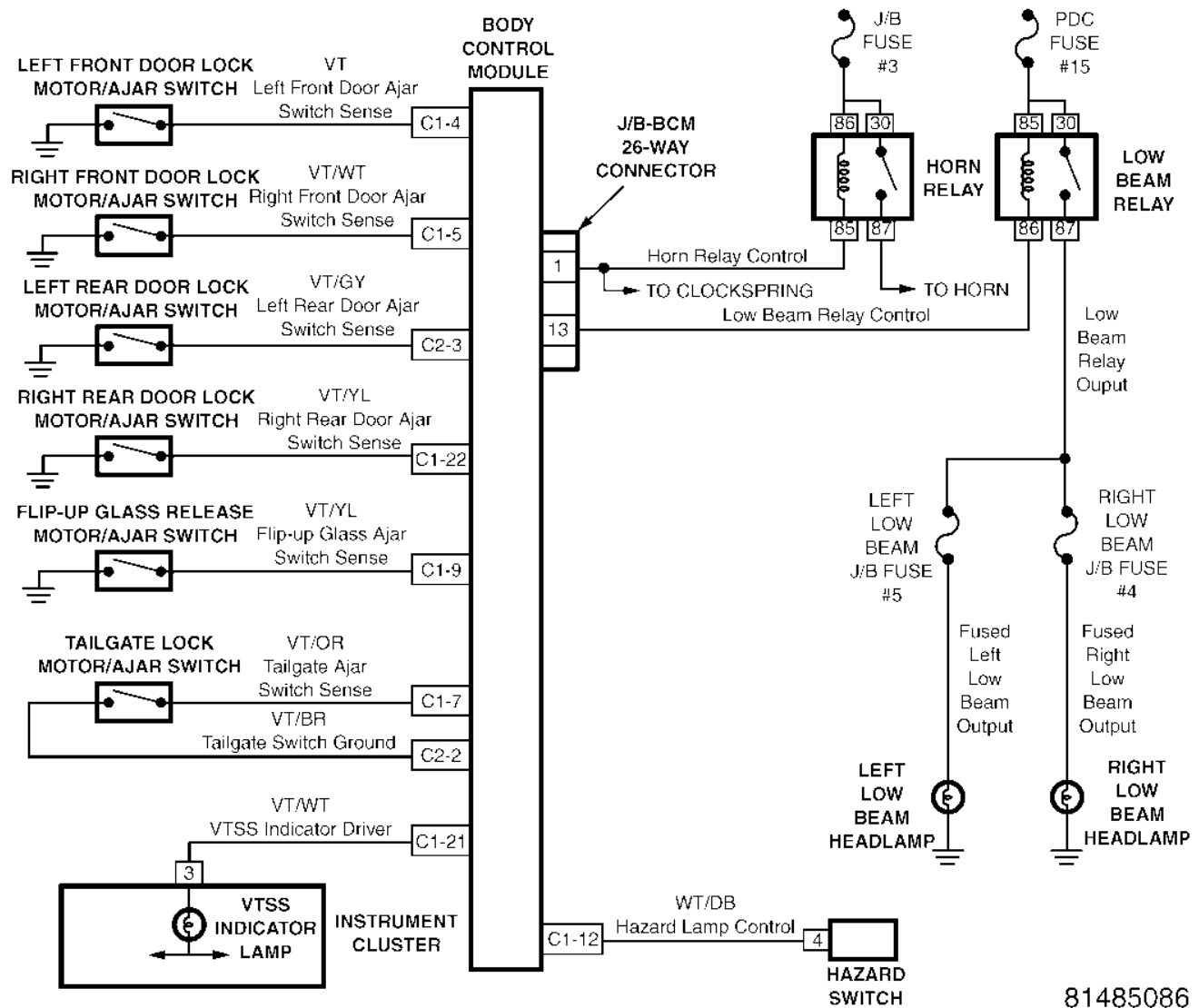
10.12.1 HANDS FREE MODULE



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10.13 VEHICLE THEFT SECURITY SYSTEM (VTSS)

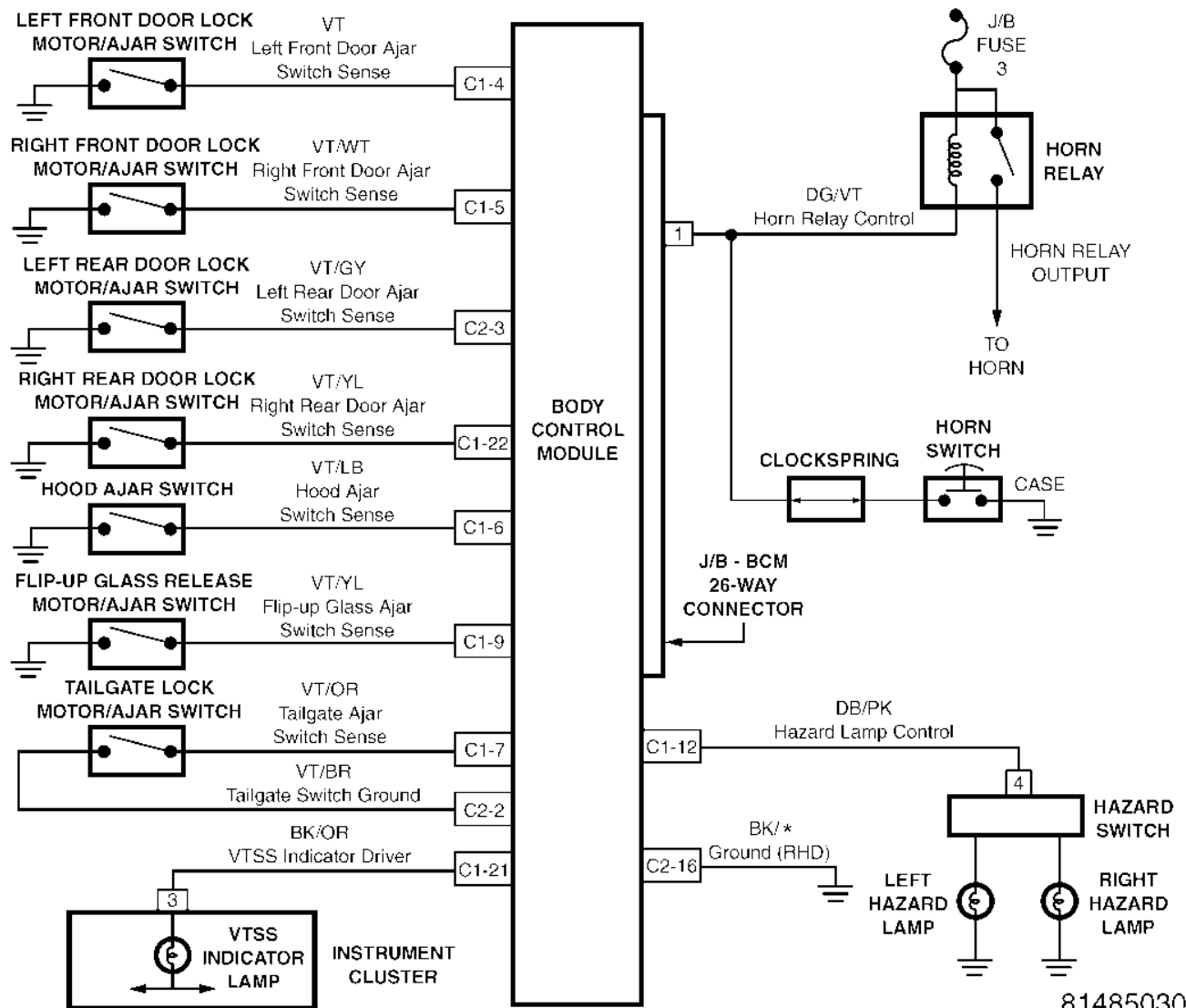
10.13.1 VTSS



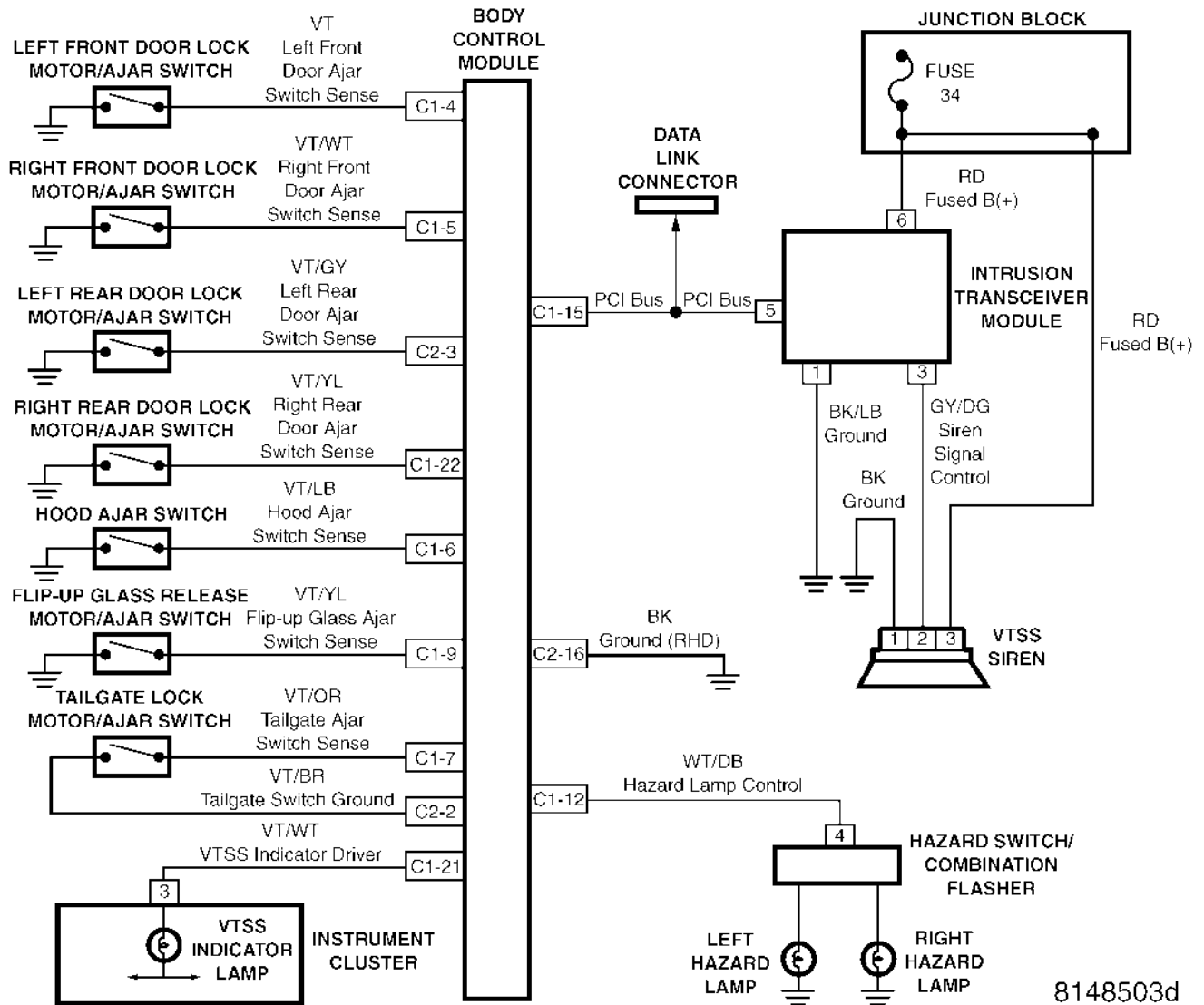
SCHEMATIC DIAGRAMS

10.13 VEHICLE THEFT SECURITY SYSTEM (VTSS) (Continued)

10.13.2 BASE - VTSS (EXPORT ONLY)



10.13.3 PREMIUM - VTSS (EXPORT ONLY)



8148503d

SCHEMATIC DIAGRAMS

10.14 WINDSHIELD WIPERS

