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1.0 INTRODUCTION

The procedures contained in this manual include all the specifications, instructions and graphics needed to diagnose 2004 body system problems. The diagnostics in this manual are based on the failure condition or symptom being present at the time of diagnosis.

Please follow the recommendations below when choosing your diagnostic path.

1. First make sure the DRBIII® is communicating with the appropriate modules; i.e., if the DRBIII® displays a "No Response" or a "Bus ± Signals Open" condition, you must diagnose that first.
2. Read DTC's (diagnostic trouble codes) with the DRBIII®.
3. If no DTC's are present, identify the customer complaint.
4. Once the DTC or customer complaint is identified, locate the matching test in the Table of Contents and begin to diagnose the symptom.

All component location views are in Section 8.0. All connector pinouts are in Section 9.0. All schematics are in Section 10.0.

An * placed before the symptom description indicates a customer complaint.

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

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

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

1.1 SYSTEM COVERAGE

This diagnostic procedures manual covers all 2004 DR Ram Truck 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:

- Airbag
- Audio (with amplifier on premium systems)
- Chime
- Communication
- Door Ajar System
- Electrically heated system
- Exterior lighting
- Heating and A/C
- Horn
- Instrument Cluster
- Interior Lighting
- Memory Seat
- Overhead Console
- Power Door Lock/RKE
- Power windows
- Telecommunications (hands free phone)
- Vehicle theft security system (VTSS)
- Windshield Wiper and Washer

3.0 SYSTEM DESCRIPTION AND FUNCTIONAL OPERATION

The body system on the 2004 DR 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.

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3.1 AIRBAG SYSTEM

The airbag system is designed to provide increased driver and passenger protection if the vehicle is involved in a front end or side collisions. The system is most effective when used in conjunction with the seat belt system.

On some models the ACM supports Seat Belt Tensioners, Passenger Airbag Off Switch, and others Impact Sensor. It may be necessary to use the DRBIII® to reconfigure the ACM to the vehicle equipment.

The airbag control module (ACM) is an electronic module that monitors the airbag system for proper operation, stores diagnostic trouble code (DTCs), controls the airbag warning lamp and contains the sensor and actuator that is responsible for driver, passenger, and curtain airbag deployment. The ACM is mounted on a special bracket that is fastened to the floor of the truck at the bottom of the instrument panel. It is located forward of the console. The ACM provides diagnostic information (DTCs) to the technician through the DRBIII® via the PCI bus. Some circuits are tested continuously; others are checked only under certain circumstances. The warning lamp is driven with messages relayed to the Electro/Mechanical Instrument Cluster (EMIC) from the ACM via the PCI bus.

The AIRBAG warning lamp is the only point at which “symptoms” of a system malfunction can be observed by the customer. Whenever the ignition key is turned to the “run” position, the airbag control module performs a lamp check by turning the AIRBAG warning lamp on for 6-8 seconds. If the lamp remains off, it means that the ACM has checked the system and found it to be free of discernible malfunctions. If the lamp remains on, there could be an active fault in the system or the circuit that operates the lamp may be shorted to ground. 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.

WARNING: THE AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE AIRBAG. 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. THEN 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 DR will have two Airbag Control Modules. Each ACM is specifically calibrated for one body type, light duty or heavy duty. To determine the body types the ACM monitors the PCI Bus for a message containing the complete VIN. The ACM uses the 6th digit of the VIN to identify the heavy duty or light duty vehicle. The 6th digit of the VIN will be a number 1 for light-duty vehicle and a 2, 3 or 4 for heavy-duty vehicle. If the PCI Bus VIN message 6th character matches the ACM body type, the VIN will be stored within 5.6 seconds after ignition on. After the VIN is stored, the ACM verifies PCI Bus VIN message within 2.6 seconds after the ignition is turned on.

If two valid matching PCI Bus VIN messages are not received within 5.6 seconds the ACM will set a Missing Original VIN DTC.

If the ACM and PCM module types, 6th character of the VIN, light-duty or heavy-duty do not match the Calibration Mismatch DTC will be set.

CAUTION: Therefore, the practice of exchanging (swapping) airbag control modules, instrument clusters, powertrain control modules and other electronic modules in this vehicle with those removed from another vehicle must always be avoided.

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 airbag module cannot be repaired, and must be replaced if deployed or in any way damaged.

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3.1.2 CLOCKSPRING

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

3.1.3 PASSENGER AIRBAG

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

WARNING: THE PASSENGER AIRBAG MODULE CONTAINS ARGON 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,BUTINTERNALDIFFERENCES 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.

3.1.4 PASSENGER AIRBAG ON-OFF SWITCH

The Passenger Airbag On-Off Switch allows the customer to turn the passenger airbag function ON or OFF. The OFF indicator will be illuminated whenever the switch is turned to the off position and for 2 seconds at ignition on for an indicator bulb test. The switch assembly is mounted in the center of instrument panel to make the OFF indicator visible to all front seat occupants.

WARNING: TO AVOID PERSONAL INJURY OR DEATH, ALWAYS CHECK THE PASSENGER AIRBAG ON-OFF SWITCH POSITION BEFORE DRIVING THE VEHICLE. A SWITCH IN THE WRONG POSITION INCREASES THE RISK OF SERIOUS INJURY OR DEATH IN A COLLISION.

To operate, insert the ignition key into the switch keyhole, push key in to release the internal plunger, and rotate to the desired switch position. The spring-loaded locking plunger prevents the user from leaving the key in the switch. The key will be automatically ejected when force is not applied. The ignition key is the only key or object that should ever be inserted into the switch.

NOTE: Do not turn the On-Off switch with the ignition on.

The ACM continuously monitors the resistance of the Passenger Airbag On-Off Switch circuits to identify the switch position and provide circuit diagnostics. The on-off switch ON position resistance is 175 to 190 ohms and the OFF position resistance is 820 to 870 ohms. If the on-off switch circuits are open, shorted to ground or battery the ACM will set active and stored DTC. Upon receiving a switch diagnostic trouble code the airbag warning indicator, in the instrument cluster, will be turned on by the ACM. Whenever the airbag warning indicator is illuminated, the ACM should be the first module interrogated.

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WARNING: IGNORING THE AIRBAG WARNING LIGHT IN YOUR INSTRUMENT PANEL COULD MEAN THE PASSENGER AIRBAG ON-OFF SWITCH IS NOT FUNCTIONAL AND THE AIRBAG MAY DEPLOY IF AN IMPACT OCCURS. IF THE AIRBAG WARNING LIGHT TURNS ON WHILE DRIVING, THE AIRBAG ON-OFF SWITCH SETTING WILL REMAIN FUNCTIONAL FOR THAT KEY CYCLE. IF THE AIRBAG WARNING LIGHT COMES ON AGAIN AT THE NEXT KEY ON AND STAYS LIT FOR MORE THAN 6-8 SECONDS, THE ACM WILL DEFAULT TO PASSENGER AIRBAG ON. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

3.1.5 SEAT BELT TENSIONER

Front seat belt systems incorporate Tensioner Modules (SBT). At the onset of an impact event each tensioner uses a pyrotechnic device, which is triggered simultaneously with the airbags, to rapidly retract the seat belts. With the slack removed, the occupant's forward motion in an impact will be reduced as will the likelihood of contacting interior components. After an impact that deploys the airbag, the seat belt tensioner assembly must be replaced.

The ACM module monitors the Seat Belt Tensioners circuit resistance and reports active and stored DTC's if any problem is found.

3.1.6 SIDE IMPACT SENSORS

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

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

3.1.7 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 be repaired and must be replaced if deployed or in any way damaged.

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

3.1.8 SPECIAL TOOLS

Some airbag diagnostic test use special tools, airbag load tools, 8310 and 8443 for testing squib circuits. The load tools contain fixed resistive loads, jumpers and adapters. The fixed loads are connected to cables and mounted in a storage case. The cables can be directly connected to some airbag system connectors. Jumpers are used to convert the load tool cable connectors to the other airbag system connectors. The adapters are connected to the

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

3.1.9 AIRBAG 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 using the DRBIII®.

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

3.1.9.1 ACTIVE CODES

The code becomes active as soon as the malfunction is detected and stored after one minute of occurrence or key-off, 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/function. It is impossible to erase an active code; active codes automatically erase by themselves when the reason for the code has been corrected.

With the exception of the warning lamp trouble codes or malfunctions, when a malfunction is detected, the airbag lamp remains lit for a minimum of 12 seconds or as long as the malfunction is present.

3.1.9.2 STORED CODES

Airbag codes are automatically stored in the ACM's memory after one minute of occurrence or when the ignition is turned off. The exception is the "Loss of Ignition Run Only" code which is an active code only.

A "stored" code indicates there was an active code present at some time. However, the code currently may not be present as an active code, although another active code could be.

When a trouble code indicates there was an active code present at some time. However, the code currently may not be present as an active code, although another active code could be.

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, that diagnostic trouble code is erased and that ignition cycle counter is reset to zero. If the malfunction reoccurs before the count reaches 100, then the ignition cycle counter will be reset and the diagnostic trouble code will continue to be a stored code.

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 factory installed radio receiver communicates on the Programmable Communication Interface (PCI) data bus network. 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.

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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 Instrument Cluster (MIC) and can be read with the DRBIII®. The switches are a multiplexed signal to the MIC. 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 MIC and it sends a specific message to the radio on the PCI Bus circuit. The radio then responses to the message.

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

3.2.2 AMPLIFIER (PREMIUM SYSTEM)

The Premium Audio Amplifier uses a microprocessor for audio digital signal processing (DSP) and system diagnostics. DSP provides a more accurate and consistent match of the audio system equalization to the vehicle interior. The DR Ram amplifier has six channels for superior sound quality.

The amplifier reads the VIN from the PCI bus and sets itself to match the vehicle. The amplifier will send four beeps to the vehicle speakers at ignition on, if it does not read the VIN correctly. A replacement amplifier may beep at the first power up, but if these beeps are heard after the first ignition on, the DRBIII® should be used to verify the amplifier is connected to the PCI bus and that the VIN on the PCI bus is correct.

The amplifier, wiring to the speakers and the speakers work independently from the radio. The amplifier's microprocessor supports several diagnostic functions. Tests can be run from the DRBIII® that will help in diagnosing audio system problems. The DRBIII® can display fault messages when an input or output problem to the amplifier is detected. The amplifier can detect wiring shorts and suggest which wires are likely to be shorted. The amplifier can send test signals that can be used to verify that the amplifier, speakers, and wiring to the speakers are operating properly. The amplifier can also be used to test if the radio is sending audio signals to it. The DRBIII® can be used to verify the amplifier equalization setting matches the vehicle, in case there is a sound quality complaint. Using the DRBIII® audio system diagnostics can determine the nature of the problem.

Diagnostic tests the Amplifier can perform through the DRBIII®:

Continuous Tone Test - This test will send a continuous tone to each speaker and will verify the integrity of an individual channel.

PCI Amplifier Test - This test will detect a PCI bus or checksum failure.

Input Test - This test will detect the activity on the amplifiers input channels from the radio.

Speaker Output Test - This test will detect the activity on the amplifiers output channels to the speakers.

3.2.3 NAVIGATION RADIO

The optional navigation radio system receives GPS signals from up to eight satellites to display the position and direction of the vehicle. Map information is supplied through a DVD-ROM. An electronic gyrosensor and the vehicle's speed sensor enable the system to display the present vehicle position even in locations where GPS signals may be blocked.

When a destination is selected, the navigation system uses information from the map to quickly calculate a route. As the vehicle is driven along the chosen route, the operator is guided with pictorial displays and voice prompts. For complete operating instructions, refer to the manual included with the vehicle.

3.3 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 to the violet in order to distinguish between

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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:

- Front Control Module
- Airbag Control Module
- Controller Antilock Brake
- A/C Heater Control Module
- Powertrain Control Module (gas only)
- Engine Control Module (diesel only)
- Radio
- Amplifier (if equipped)
- Hands Free Module
- Transfer Case Control Module (if equipped)
- Sentry Key Immobilizer Module
- Compass Mini-Trip Computer (if equipped)
- Electro/Mechanical Instrument Cluster

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

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

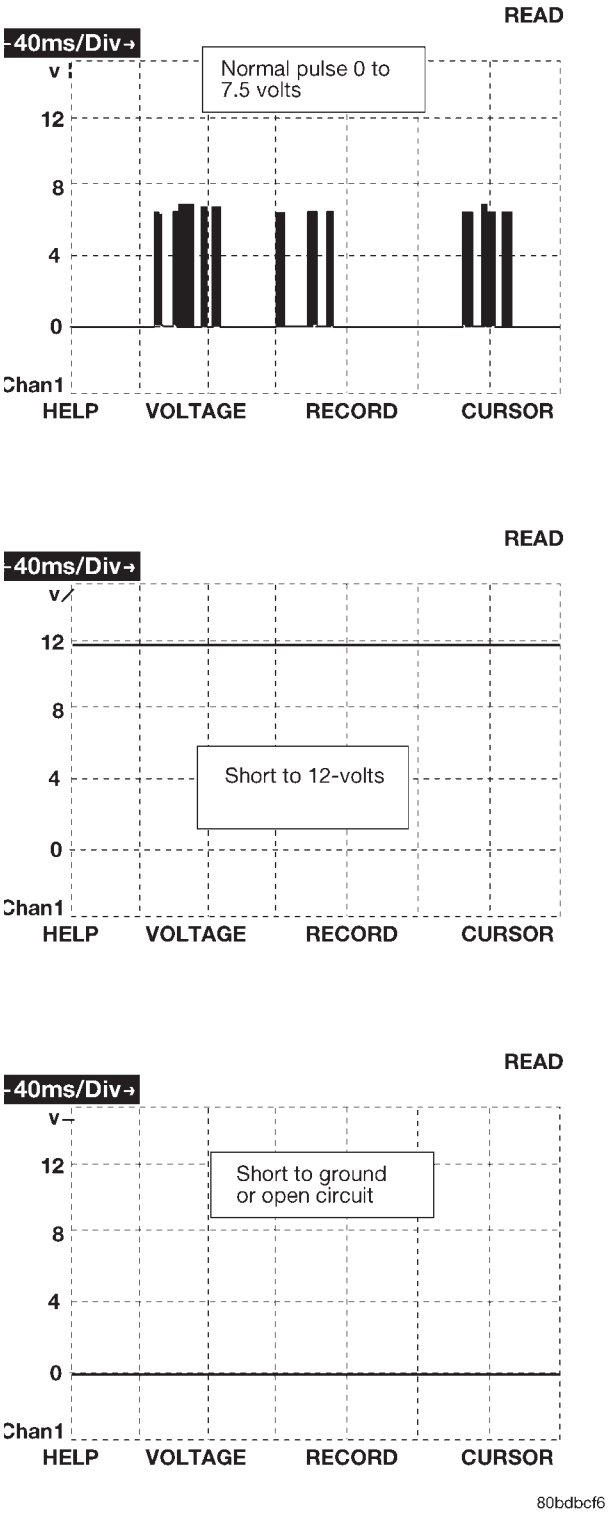
Symptoms of a complete PCI Bus Communication Failure would include but are not limited to:

- 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 ECM/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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NOTE: The 2004 DR 3.7L, 4.7L, and 5.7L vehicles are equipped with the Powertrain Control Module and Transmission Control Module combined in a single control module. This module is the Next Generation Controller (NGC) for DaimlerChrysler and will be referred to as the Powertrain Control Module (PCM). The PCM has four color coded connectors C1/A through C4/D, (C1/A - BLK, C2/B - ORANGE, C3/C - WHITE, C4/D - GREEN), with each connector containing 38 pins. The 5.9L Electronic Fuel Injection 24 valve Turbo Diesel has an Engine control module (ECM) CM845. New Diagnostic procedures and New DTC numbers are two of the changes you will see which reflect the new combined module technology. There are new Verification tests and module replacement procedures for the new PCM.

Two tools are required to diagnose and repair the PCM terminals and harness connectors:

1. **Miller #3638 Terminal Removal Pick must be used to release the connector terminals or harness and connector damage will occur.**
2. **Miller #8815 Pinout Box must be used to probe the PCM terminals or terminal damage will occur.**

3.4 COMPASS MINI-TRIP COMPUTER (CMTC)

When equipped, the Compass/Mini Trip Computer (CMTC) is located in the overhead console. The CMTC supplements the standard vehicle instrumentation. The CMTC uses a vacuum fluorescent (VF) display to supply the vehicle operator with a compass heading, outdoor temperature, average fuel economy, distance to empty, trip odometer, and elapsed ignition on time. If equipped, the CMTC is also available with an integrated Universal Garage Door Opener (UGDO) known as HomeLink®.

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

Most of the CMTC display information is received over the PCI bus. The CMTC sends and receives data over the PCI bus, communicating with the FCM (Diesel), PCM (3.7L, 4.7L, 5.7L), and the Instrument Cluster.

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3.4.1 VEHICLE INFORMATION DISPLAY

The CMTC provides the following functions:

- Compass direction
- Outside temperature
- Elapsed ignition on time
- Distance to empty
- Average fuel economy
- Trip Odometer

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

The CMTC receives the following messages from the Instrument Cluster:

- Verification of US/Metric status
- VF display dimming brightness and exterior lamp status
- Trip Odometer data

The CMTC receives the following message from the PCM:

- Vehicle Speed

US/M BUTTON

The US/M button is used to toggle the display between English and Metric measurement units.

STEP BUTTON

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

1. To sequentially select one of 4 displays or blank display in the following order:
   - Average Fuel Economy
   - Distance to Empty
   - Trip Odometer
   - Time Elapsed
   - Off (Blank)
2. To set the magnetic variance zone when VARIANCE = X (X = 1 - 15) is indicated in the VF display.

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 CMTC will send a PCI bus beep request to the Instrument Cluster. If the RESET button is pressed again within 3 seconds, the CMTC will reset ALL of the trip functions and an additional beep request is sent to the Instrument Cluster. 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 CMTC module will send a beep request to the Instrument Cluster.

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

COMPASS/TEMPERATURE (C/T) BUTTON

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

The CMTC module internally senses and calculates the compass direction.

TRAVELER DISPLAY FUNCTIONS

Using the STEP button will change the CMTC 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 CMTC memory is within the normal range, the CMTC will perform in slow Auto-Cal mode. In slow Auto-Cal mode, the CMTC continuously compensates for the slowly changing magnetic field of the vehicle. The compass module detects changes in the vehicle magnetism and makes appropriate internal corrections to ensure proper displayed direction.

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

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

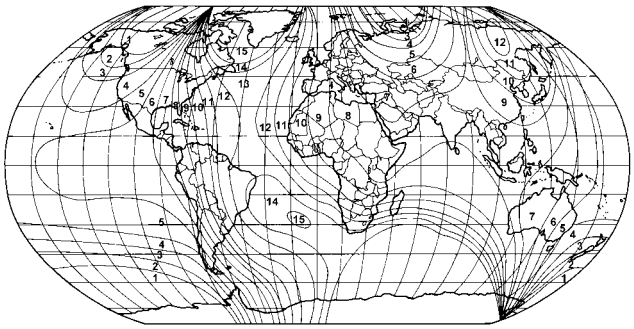
Fast Auto-Cal can also be performed manually, by pressing and holding the RESET button for 10 seconds during the Compass/Temperature display mode.

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:

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



COMPASS CALIBRATION

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

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

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

- Drive the vehicle to an area away from any large metal objects or overhead power lines.
- Ensure that the proper variance zone is selected. See ″Setting Magnetic Zone Variance.″
- The ignition switch must be in the On position and the CMTC 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 CMTC is capable of performing a diagnostic self check on its internal functions. CMTC diagnostics may be performed using a DRBIII® or by using the following procedure:

1. With the ignition switch in the OFF position, depress and hold the RESET and the C/T buttons.
2. Turn the ignition switch to the ON position.
3. Continue to hold both buttons until the software versions are displayed, then release the buttons.
4. All of the VFD segments will illuminate for 2-4 seconds. Check for segments that do not illuminate or illuminate all the time.
5. When the self-check is complete the CMTC will display one of the following messages:
   - PASS
   - FAIL
   - NO BUS
6. To exit the self-check mode, depress the RESET button or cycle the ignition switch and the CMTC will return to normal operation.

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

AMBIENT TEMPERATURE SENSOR

The ambient air temperature is monitored by the FCM or the PCM and displayed by the CMTC. For Diesel equipped vehicles, the FCM receives a hardwire input from the ambient temperature sensor (ATS). For 3.7L, 4.7L and 5.7L equipped vehicles, the PCM receives the hardwire input from the ATS.

The ATS is a variable resistor that operates on a 5-volt reference signal circuit hardwired from the FCM or PCM. The resistance in the ATS changes as the outside temperature rises or falls. The FCM or PCM senses the change in reference voltage through the ATS resistor. Based on the resistance of the ATS, the FCM or PCM is programmed to correspond to a specific temperature. The FCM or PCM stores and filters the ambient temperature data and transmits this data to the CMTC via the PCI Bus. The ATS cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

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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 FCM or the PCM, and the CMTC display.

If the CMTC display indicates 54°C (130°F) or the ATS sense circuit is open, the temp display will be 54°C (130°F) to indicate an OPEN circuit condition.

If the CMTC display indicates -40°C (-40°F) or the ATS sense circuit is shorted to ground, the temp display will be -40°C (-40°F) to indicate a SHORT circuit condition.

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

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

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 driver, indicating which HomeLink® transmitter channel button is being pressed. The HomeLink® can learn and store up to three separate transmitter radio frequency codes to operate garage door openers, security gates, and security lighting. The HomeLink® buttons are marked with one, two, or three dots. For complete information, refer to Universal Transmitter in the Service Manual or the Owner's Manual.

3.5 DOOR AJAR SYSTEM

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

3.6 ELECTRICALLY HEATED SYSTEMS

HEATED MIRROR RELAY

A button located on the HVAC control head controls the Heated Mirror Relay, which is located in the IPM. The HVAC control will ground the Heated Mirror Relay Control circuit to energize this relay. The relay control circuit is continuously monitored for certain malfunctions that the HVAC will report as DTCs.

3.7 EXTERIOR LIGHTING SYSTEM

The Instrument Cluster monitors the Headlamp Switch and Multifunctions Switch on its MUX line. The Instrument Cluster sends a PCI bus message to the Front Control Module (FCM) to actuate the Headlamps ON when the ignition switch is ON and when an open or short failure occurs on the headlamps switch input circuit to the instrument cluster. If the exterior lamps are left ON and the ignition switch OFF for more than 5 minutes, the FCM will turn the exterior lamps off. This feature prevents the battery from being discharged when the Exterior Lamps have been left ON.

3.8 FRONT CONTROL MODULE

The Front Control Module (FCM) is a microprocessor-based electrical control and interface center located in the engine compartment. When it is mated to the Power Distribution Center (PDC), it is referred to as the Integrated Power Module (IPM). The IPM, with its fuses and relays provides power and signal distribution throughout most of the vehicle. The FCM receives hard-wired

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analog and resistor multiplexed inputs as well as digital electronic inputs from other electronic modules in the vehicle electrical system through its connection to the IPM and the Programmable Communications Interface (PCI) data bus network. Based on these inputs and programming, the FCM uses high side drivers to provide direct power feeds and low side drivers to provide relay control for some of the vehicle's most critical electrical systems.

The FCM provides the following features:

Controlled Feeds:

- Brake lights
- Headlamp power
- Turn signals (front & rear)
- Windshield washer pump motor

Relay Controls

- Adjustable pedals relay (when equipped)
- Fog lamp relay (when equipped)
- Horn relay
- Park lamp relay
- Trailer tow relays
- Wiper on/off relay
- Wiper high/low relay

Electrical Inputs

- Module battery supply
- Power ground
- Ignition switch RUN or START position status
- PCI bus
- Wiper park switch
- Washer fluid level switch
- Ambient Temperature sensor
- Battery (+) connection detection

3.8.1 CONTROLLED POWER FEEDS

Headlamp Power

The headlamp switch is a direct input to the instrument cluster which is sometimes known as the Cab Control Node (CCN). The instrument cluster sends a Programmable Communications Interface (PCI) bus message to the FCM informing it of a headlamp switch status change. The FCM then turns power on or off (depending on the bus message) to the headlamps through four "fuseless" circuits. These circuits are electronically controlled and continuously monitored for malfunctions. Power is supplied to each filament in a separate circuit. For vehicles equipped with Daytime Running Lamps (DRL), the FCM electronically steps down the headlamp voltage to provide the desired illumination levels.

Washer Pump Motor

The washer switch is a direct input to the instrument cluster. The instrument cluster sends a PCI bus message to the FCM informing it of a request to wash. The washer pump motor is then powered through low side control inside the FCM.

This circuit is electronically controlled and continuously monitored for malfunctions. In addition, the FCM electronically protects the washer pump motor from system voltages higher than 16 volts by automatically switching off the low side circuit.

If the FCM receives a prolonged request to wash lasting 30 seconds or more, it will treat the request as a stuck switch condition and deactivate the washer pump motor. The FCM will not reactivate the washer pump motor until there is at least a two second break in the request to wash from the instrument cluster.

3.8.2 RELAY CONTROLS

Adjustable Pedals Relay

If equipped, the adjustable pedals relay, when not activated, supplies fused battery power to the adjustable pedals switch. If the FCM receives a bus message that the vehicle is in reverse or that the cruise control is engaged, it will apply a ground to the adjustable pedals relay control circuit. The ground will activate the relay which will open the power circuit to the adjustable pedals switch. The relay control circuit is continuously monitored for malfunctions which the FCM will report as DTCs.

Fog Lamp Relay

If equipped, the fog lamp switch is a direct input to the instrument cluster. The instrument cluster sends a PCI bus request to the FCM to turn on the fog lamp relay. The fog lamp relay is then actuated by the FCM through low side control. This circuit is electronically controlled and continuously monitored for malfunctions.

Horn Relay

The Horn Relay, which is internal to the IPM, is controlled by the FCM through PCI bus messages from the instrument cluster. These bus messages will be sent when either the horn switch is pressed which is hard wired to the instrument cluster, panic mode is requested from the RKE or for vehicle theft security reasons (if equipped). The relay control circuit is continuously monitored for malfunctions that the FCM will report as DTCs.

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Park Lamp Relay

The park lamp switch is a direct input to the instrument cluster. The instrument cluster sends a PCI bus request to the FCM to actuate the park lamp relay. The park lamp relay is then actuated through the low side control circuit. This circuit is electronically controlled and continuously monitored for malfunctions.

Wiper High/Low Relay

The wiper switch is a direct input to the instrument cluster. The instrument cluster sends a PCI bus request to the FCM to actuate the wiper high/low relay. The relay switches power between the low speed and high speed of the wiper motor. The wiper high/low relay is then actuated through the low side control circuit. This circuit is electronically controlled and continuously monitored for malfunctions.

Wiper On/Off Relay

The wiper switch is a direct input to the instrument cluster. The instrument cluster sends a PCI bus request to the FCM to actuate the wiper on/off relay. The wiper on/off relay is then actuated through the low side control circuit. This relay switches power to the wiper high/low relay. This circuit is electronically controlled and continuously monitored for malfunctions.

3.8.3 ELECTRICAL INPUTS

Module Battery Supply

12 Volt input for all FCM functions except headlamp operation.

Power Ground

Ground source for all FCM functions

Ignition Switch RUN or START Position Status

12 volt input to inform the FCM of the ignition switch status for related FCM functions.

PCI Bus

Approximately 7.5 volt input to allow the FCM to communicate with other modules on the PCI bus.

Wiper Park Switch

Ground input used to determine the park placement of the wipers. The ground is also used as feedback to the FCM to determine wiper operating mode.

Washer Fluid Level Switch

Ground input from the washer fluid level switch which closes when washer fluid is low.

Battery (+) Connection Detection

12 volt supply used to monitor battery connection to the IPM. The battery connection to the IPM uses an internal switch to check integrity of the connection and that the Connector Positive Assurance (CPA) is engaged. If the CPA is not properly engaged, a voltage is sent to the FCM to be interpreted as an unseated connector which will set a Diagnostic Trouble Code (DTC).

3.9 HEATING & A/C SYSTEM

3.9.1 SYSTEM AVAILABILITY

- Depending on the model, either a Single-Zone or Dual-Zone HVAC system is available in these vehicles.

3.9.2 SYSTEM CONTROLS

The Heater Control Module:

- is fully addressable with the DRBIII®.
- communicates over the Programmable Communication Interface Multiplex System (PCI) Bus.
- controls blower motor operation, providing four blower speeds (Low, M1, M2, & High).
- controls heated mirror and EBL operation (if equipped).
- controls electric door actuator operation.

The A/C-Heater Control Module:

- is fully addressable with the DRBIII®.
- communicates over the Programmable Communication Interface Multiplex System (PCI) Bus.
- uses input from the evaporator temperature sensor to prevent evaporator freeze up while maintaining optimum cooling performance.
- provides an A/C request to the Powertrain Control Module (PCM) over the PCI Bus when compressor operation is desired.
- controls blower motor operation, providing four blower speeds (Low, M1, M2, & High).
- controls heated mirror and EBL operation (if equipped).
- controls electric door actuator operation.
  - A simplified control system for operation of the mode, recirculation, and temperature control actuators provides positive positioning without the complexity of feedback from position sensors. The A/C - Heater Control Module knows the number of operating actuator revolutions required for full door travel as well as the number of actuator commutator pulses per revolution. Using these parameters, the A/C - Heater Control Module runs the actuator for the number of commutator pulses that corre-

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spond to the desired door position. To maintain accuracy, the system recalibrates itself periodically at known zero and full travel conditions.

The Single-Zone HVAC system uses:

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

The Dual-Zone HVAC system uses:

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

3.9.3 SYSTEM REVISIONS

The 2004 DR, HVAC system remains carryover from 2003.

3.9.4 SYSTEM DIAGNOSTICS

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

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

The A/C Cooldown Test:

- is actuated with the DRBIII®.
- checks A/C system performance based on evaporator temperature sensor input.
- will not run if ambient temperature is below 12.7°C (55°F).
- will pass if the evaporator temperature drops 6.7°C (20°F) within two minutes of starting the test.
- faults display on the DRBIII® as test messages only after running the test.
- faults will not display on the DRBIII® as Diagnostic Trouble Codes.
- will cause the A/C mode switch status indicator to flash while the test is running.
  - If the test fails, the status indicator will continue to flash until either the test returns passed or the ignition key is cycled. It will also prevent the EBL mode switch status indicator from indicating EBL operating status. However, the EBL mode switch will continue to function in this state.

The HVAC Door Recalibration function:

- is actuated with the DRBIII®.
- monitors for door span faults.
- faults display on the DRBIII® as test messages only after running the test.
- faults will not display on the DRBIII® as Diagnostic Trouble Codes.
- will cause the EBL mode switch status indicator to flash while the test is running.
  - If the test fails, the status indicator will continue to flash until either the test returns passed or the ignition key is cycled. It will also prevent the A/C mode switch status indicator from indicating A/C operating status. However, the A/C mode switch will continue to function in this state.

The Actuator Circuit Test:

- is actuated with the DRBIII®.
- monitors for shorted actuator circuits.
- allows service to easily diagnose and troubleshoot up to three simultaneous shorts.
- supplements the continuous diagnostics on the actuator drive system.
- faults display on the DRBIII® as test messages only after running the test.
- faults will not display on the DRBIII® as Diagnostic Trouble Codes.

When Performing The Actuator Circuit Test

CAUTION: To ensure a proper diagnosis, repair all Short Too Complex messages first, all common door driver circuit related messages second, and all other door driver circuit related messages last.

CAUTION: The DRBIII® can display up to three Actuator Circuit Test messages at a time. After repairing each Actuator Circuit Test message, cycle the ignition switch, then rerun the Actuator Circuit Test to ensure no new messages exist.

- The Short Too Complex message:
  - indicates that a specific determination of which lines are shorted could not be made.
  - is caused by more than three drivers being shorted in the same direction. For example, four drivers all shorted to ground, or two or more drivers shorted with at least one driver shorted to ignition/battery and one driver shorted to ground.
- Messages displaying:
  - XXX Driver/Circuit Shorted to Ignition/ Battery will set on a per-driver basis.
  - XXX Driver/Circuit Shorted to Ground will set on a per-driver basis.
  - the same two drivers/circuits shorted to

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ignition/battery as-well-as shorted to ground indicates that two actuator driver circuits are shorted together.

- When the test returns passed, then troubleshooting should proceed to clearing faults and running the HVAC Door Recalibration system test as a final check of system health.

3.10 INSTRUMENT CLUSTER

The DR Instrument Cluster is a new type of control module that includes the hardware and software necessary to function as the cluster and the body control module. The Instrument Cluster houses the Speedometer, Tachometer, Fuel gauge, Coolant Temperature gauge, Oil Pressure gauge, and the Voltage gauge. 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 and some indicators are controlled via PCI bus messages. The warning chime tone generator is contained within the cluster. The cluster includes a vacuum fluorescent (VF) display for the PRNDL, Total and Trip Odometers. The VF will also display warning messages such as door ajar, low washer fluid level, engine hours, and no bus communications. The cluster has the ability to set and store DTCs, communicate on the PCI bus, display engine information, and display certain inputs using the DRBIII®.

The following systems are controlled either completely by the Instrument Cluster or in conjunction with other inputs received by hardwire or via the PCI bus:

- Audible Warnings
- Brake Lamp Control
- Brake Transmission Shift Interlock (BTSI)
- Cargo Lamp Control
- Central Locking
- Door Lock Inhibit
- Enhanced Accident Response
- Exterior Lighting Control
- Exterior Lighting Fail-Safe
- Heated Seat Control
- Horn Control
- Interior Lamp Control
- Interior Lamps - Enhanced Accident Response
- Interior Lamps Load Shedding
- Lamp Out Indicator Control
- Panel Lamps Dimming Control
- Parade Mode
- Power Locks
- Remote Keyless Entry (RKE)
- Remote Radio Switch Interface
- Rolling Door Locks
- Turn Signal and Hazard Warning Lamp Control
- Vacuum Fluorescent Display Synchronization
- Vehicle Theft Security System (VTSS)

CAUTION: Instrument clusters used in this model automatically configure themselves for compatibility with the features and optional equipment in the vehicle in which they are initially installed. The instrument cluster is programmed to do this by embedding the Vehicle Identification Number (VIN) and other information critical to proper cluster operation in electronic memory. This embedded information is learned through electronic messages received from other electronic modules in the vehicle over the Programmable Communications Interface (PCI) data bus, and through certain hard wired inputs received when the cluster is connected to the vehicle electrically.

Once configured, the instrument cluster memory may be irreparably damaged and certain irreversible configuration errors may occur if the cluster is connected electrically to another vehicle; or, if an electronic module from another vehicle is connected that provides data to the instrument cluster (including odometer values) that conflicts with that which was previously learned and stored.

Therefore, the practice of exchanging (swapping) instrument clusters and other electronic modules in this vehicle with those removed from another vehicle must always be avoided. Failure to observe this caution may result in instrument cluster damage, which is not reimbursable under the terms of' the product warranty. Service replacement instrument clusters are provided with the correct VIN, and the certified odometer and engine hours values embedded in cluster memory, but will otherwise be automatically configured for compatibility with the features and optional equipment in the vehicle in which they are initially installed.

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For complete Description and Operation of the Instrument Cluster, refer to the DR Service Manual Instrument Cluster Section. For information regarding systems such as Wiper/Washer, RKE, Lighting, etc., refer to those section titles in this publication and the DR Service Manual.

3.10.1 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 trip reset button while cycling the ignition from the Off to the On position. The self test can also be activated using the DRBIII®. During the self test, all of the PCI bus indicators will be illuminated. The speedometer, tachometer, fuel gauge, oil pressure gauge, coolant temperature gauge, and voltage gauge will position at their calibration points. The VF display will illuminate all segments and also display the software version. The chime will sound. When the self test is complete, the cluster will return to normal operation. Turning the ignition to the Off position or the cluster detecting engine RPM greater than 0 (zero) will stop the self test.

3.11 INTERIOR LIGHTING

The Instrument Cluster controls the Interior/ Courtesy Lamps. The Instrument Cluster activates the courtesy lamps when either a Dome Lamp switch is turned on or a door is opened. The Instrument Cluster also monitors the output of the Glove Box and Map lamps. The Cargo lamps are controlled by the Instrument Cluster, it receives an output message from the Headlamp switch to turn on the lamps. The Instrument Cluster provides battery protection by shutting down the interior lamps when a door or courtesy/map lamp is left on or open.

3.12 POWER DOOR LOCKS/REMOTE KEYLESS ENTRY

The Instrument Cluster in response to the door lock switches or the RKE module directly controls the power door lock motors. The Instrument Cluster monitors the activation of the door lock motors and will set diagnostic trouble codes when there is an open or short condition. When there is a lock or unlock input from a switch or RKE command, the Instrument Cluster will activate the appropriate driver for 300 milliseconds. If a lock or unlock switch remains active, the request will be ignored until the switch transitions back to off. The lock switches are resistive multiplexed input devices hardwired to the Instrument Cluster.

3.12.1 AUTOMATIC DOOR LOCKS

The Instrument Cluster will automatically lock all the doors when the vehicle speed exceeds 15 MPH (24 KMH), throttle position exceeds 10 percent and all the doors are closed. If a door is opened the Automatic Door Lock feature shall reset and the Instrument Cluster will lock the doors when the above conditions are met. This feature is programmable by the customer or the DRBIII®.

3.12.2 CENTRAL LOCKING/UNLOCKING

The Instrument Cluster will lock all doors when the cylinder lock switch is activated in the ″lock″ position. When the Instrument Cluster receives an unlock command from the driver cylinder lock switch, it will unlock only that door. If the Instrument Cluster receives a second command within a 5-second period it will unlock all the remaining doors. The illuminated entry will activate during door unlock.

3.12.3 DOOR LOCK INHIBIT

When the key is in the ignition, in any position, and either front door is open, the door lock switches LOCK functions are disabled. The UNLOCK functions are still functional. This protects against locking the vehicle with the keys still in the ignition. The RKE transmitter will still lock the doors as usual.

3.12.4 ENHANCED ACCIDENT RESPONSE

Upon detection of an airbag deployment by way of the PCI bus, the Instrument Cluster shall:

- Immediately disable the power door lock output
- Unlock all doors by activating the door unlock output for approximately 300 milliseconds.
- After actuating the door unlock output, allow the door lock motors to be activated if the door lock input has been inactive (not erratic) for 2 seconds since the reception of the airbag deployment message.

3.13 REMOTE KEYLESS ENTRY

The remote keyless entry (RKE) feature is used to control the power door locks and panic feature by using a remote transmitter (keyfob) and receiver located within the instrument cluster. The instrument cluster RKE feature controls the driver door unlock, all doors lock/unlock, horn chirp enabled/ disable, optical chirp enabled/disable, illuminated entry, the panic feature, initiate customer programming, and arming/disarming the Vehicle Theft Security System.

When a valid lock message is received from the receiver, the instrument cluster will:

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- Arm the Vehicle Theft Security System (if equipped and all conditions are met).
- Turn off the illuminated entry feature.
- Activate the door lock motors.
- Transmit a PCI bus message to the FCM to perform horn chirp.

When a valid unlock code is received from the receiver, the instrument cluster will:

- Disarm the Vehicle Theft Security System (if equipped and previously set).
- Activate the illuminated entry and cargo lamp.
- Activate the driver door unlock motor (if customer programmed for driver door only unlock).
- Transmit a PCI bus message to the FCM for optical chirp.

3.14 TELECOMMUNICATIONS

3.14.1 HANDS FREE PHONE

OVERVIEW

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

OPERATION

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

3.15 VEHICLE THEFT SECURITY SYSTEM

The Instrument Cluster controls the Vehicle Theft Security System (VTSS). When the VTSS is armed it will monitor the status of the ignition and door ajar switches. If the alarm is tripped it will sound the vehicles horn, flash the exterior lamps and the VTSS indicator located in the instrument cluster.

The Instrument Cluster will enable the VTSS feature once it has received PCI bus messages from the Sentry Key Immobilizer Module and has also detected the driver cylinder lock switch being cycled to the lock/unlock position.

Arming the system is accomplished following a normal exit sequence of removing the key from the ignition, opening the door pressing the power lock button to lock and closing the door, by using a cylinder lock switch or by pressing the RKE lock button. After all the doors are closed, the VTSS indicator will flash quickly for sixteen-seconds indicating the pre-arm process, after which it will flash at a slower rate indicating the system is armed. If during the pre-arm process a door is opened, the ignition is turned to the Run/Start position or if a RKE unlock button is pressed the system will exit the pre-arming process.

Disarming can be accomplished with a RKE unlock, turning the ignition on with a valid Sentry key or unlocking the vehicle with a cylinder lock switch.

The Alarming state will last for 18 minutes after which it will timeout and return to the armed state. A tamper alert feature will alert the customer to the alarm being tripped while they were away upon returning to the vehicle by flashing the VTSS indicator for 30 seconds after the system has been disarmed.

All of the switches for the VTSS system can be monitored using the DRBIII®. The DRBIII® is also useful for a customer complaint of the alarm going off with no apparent reason by viewing the VTSS last alarm caused by display.

3.16 WINDSHIELD WIPERS/WASHERS

The Instrument Cluster controls the wiper/washer system. The instrument cluster receives a signal from the Multifunction Switch wipe position. The instrument cluster sends the message to the Front Control Module (FCM), sending the command to turn the wiper/washers on. Two relays, the High/Low relay and the On/Off relay also control the wipers. Both are located in the PDC or Integrated Power Module.

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3.17 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.

3.18 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: keyhnd1.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.
```

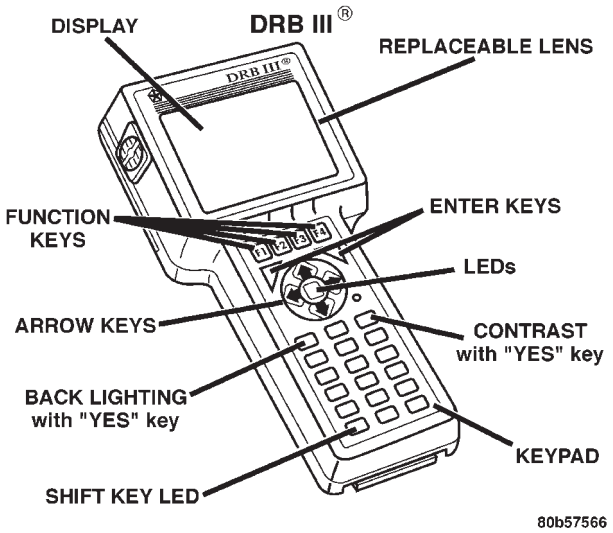
3.18.1 DRBIII® DOES NOT POWER UP

If the LEDs do not light or no sound is emitted at start up, check for loose cable connections or a bad cable. Check the vehicle battery voltage (data link connector cavity 16). A minimum of 11 volts is required to adequately power the DRBIII®. Check for proper ground connection 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 faulty cable or vehicle wiring.

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

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

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rings, watchbands or bracelets that might make an inadvertent electrical contact.

When diagnosing a body system problem, it is important to follow approved procedures where applicable. These procedures can be found in this General Information Section or in the service manual procedures. Following these procedures is very important to the safety of individuals performing diagnostic tests.

4.2.2 VEHICLE PREPARATION FOR TESTING

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

4.2.3 SERVICING SUB-ASSEMBLIES

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

4.2.4 DRBIII® SAFETY INFORMATION

WARNING: EXCEEDING THE LIMITS OF THE DRBIII® MULTIMETER IS DANGEROUS. 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.

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

4.3 WARNINGS

4.3.1 VEHICLE DAMAGE 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.

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

5.0 REQUIRED TOOLS AND EQUIPMENT

DRBIII® (diagnostic read-out box)
Jumper wires
Ohmmeter
Voltmeter
Test Light
8310 Airbag System Load Tool
8443 SRS Airbag System Load Tool
8815 Diagnostic Pinout Box

6.0 GLOSSARY OF TERMS

ABS	antilock brake system
ACM	airbag control module
ACT	actuator
AECM	airbag electronic control module (ACM)
ASDM	airbag system diagnostic module (ACM)
BCM	body control module
BTSI	brake transmission shift interlock
CAB	controller antilock brake
CMTC	compass/mini-trip computer
CPA	connector positive assurance
DAB	driver airbag
DLC	data link connector
DTC	diagnostic trouble code
EBL	electric back lite (rear window defogger)
ECM	engine control module
EVIC	electronic vehicle information center
FCM	front control module
HFM	hands free module
HVAC	heater ventilation, air conditioning
IC	instrument cluster (mic)
IPM	integrated power module
JB	junction block
MIC	mechanical instrument cluster
NGC	next generation controller
ODO	odometer
ORC	occupant restraint controller
PAB	passenger airbag
PCI	Programmable Communication Interface (vehicle communication bus)
PCM	powertrain control module
PDC	power distribution center
PWM	pulse width modulated
RKE	remote keyless entry
RX	receive
SBS	seat belt switch
SBT	seat belt tensioner
SKIM	sentry key immobilizer module
SKIS	sentry key immobilizer system
SRS	supplemental restraint system
SUV	sport utility vehicle
TCCM	transfer case control module
TCM	transmission control module
TX	transmit
UGDO	universal garage door opener
VFD	vacuum fluorescent display
VTSS	vehicle theft security system

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7.0

DIAGNOSTIC INFORMATION AND PROCEDURES

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Symptom List:

ACCELEROMETER 1
ACCELEROMETER 2
DEPLOYMENT DATA RECORD FULL
INTERNAL 1
INTERNAL 2
OUTPUT DRIVER 1
STORED ENERGY FIRING 1

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

When Monitored and Set Condition:

ACCELEROMETER 1

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

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

ACCELEROMETER 2

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

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

DEPLOYMENT DATA RECORD FULL

When Monitored: At ignition on the ACM monitor the ACM stored deployment record memory location.

Set Condition: The DTC will be latched active permanently after three airbag deployments.

INTERNAL 1

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

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

INTERNAL 2

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

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

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INTERNAL MODULE TEST — 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

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Symptom List:

AIRBAG WARNING INDICATOR OPEN
AIRBAG WARNING INDICATOR SHORT

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

When Monitored and Set Condition:

AIRBAG WARNING INDICATOR OPEN

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

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AIRBAG WARNING INDICATOR TEST — Continued

TEST	ACTION	APPLICABILITY
2	With the DRBIII®, ensure PCI Bus communications with the Instrument Cluster. Is the Instrument Cluster communicating on the PCI Bus? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom NO RESPONSE or INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	With the DRBIII® select PASSIVE RESTRAINTS, AIRBAG and MONITOR DISPLAY. Using the DRBIII®, read the WARNING LAMP MONITOR screen. Select the LAMP STATUS displayed on the DRB monitors screen. Observe the Lamp Driver State and Actual Lamp State. Is the LAMP DRIVER and ACTUAL LAMP STATE: OK? YES Go To 4 NO Replace Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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AIRBAG WARNING INDICATOR TEST — Continued

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

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Symptom:
CALIBRATION MISMATCH

When Monitored and Set Condition:

CALIBRATION MISMATCH

When Monitored: At ignition on and at least one supply above 8.3 volts, the ACM compares the 6th digit of the Bus VIN message to the 6th digit of the VIN stored in the ACM memory. (1) Light duty and (2, 3 or 4) for heavy duty.

Set Condition: The code will be set if the 6th VIN digit of the PCI Bus message and the stored ACM VIN do not match.

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** Connect the DRB to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the system test. Does the DRB show PCM Active on the Bus:? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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CALIBRATION MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB select ENGINE MISCELLANEOUS, select MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match? Yes → Go To 4 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector(s). 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.** **NOTE: Check connectors - Clean and repair as necessary.** Measure the voltage on the RUN and RUN START circuits between the Load tool ACM Adaptor and ground. Is the RUN or RUN START above 8.3 volts? Yes → Go To 5 No → Repair the low voltage on the Run and Run - Start circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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CALIBRATION MISMATCH — Continued

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

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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

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CLUSTER MESSAGE MISMATCH — Continued

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

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Symptom:
DRIVER SEAT BELT TENSIONER CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER CIRCUIT OPEN

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

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

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

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

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DRIVER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

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

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DRIVER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

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

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Symptom:
DRIVER SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT

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

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

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

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

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DRIVER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

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

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DRIVER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

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

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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

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DRIVER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

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

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DRIVER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

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

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Symptom:
DRIVER SEAT BELT TENSIONER SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER SHORT TO GROUND

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

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

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

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

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DRIVER SEAT BELT TENSIONER SHORT TO GROUND — Continued

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

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DRIVER SEAT BELT TENSIONER SHORT TO GROUND — Continued

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

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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

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DRIVER SQUIB 1 CIRCUIT OPEN — Continued

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

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DRIVER SQUIB 1 CIRCUIT OPEN — Continued

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

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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

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DRIVER SQUIB 1 CIRCUIT SHORT — Continued

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

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DRIVER SQUIB 1 CIRCUIT SHORT — Continued

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

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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

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DRIVER SQUIB 1 SHORT TO BATTERY — Continued

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

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DRIVER SQUIB 1 SHORT TO BATTERY — Continued

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

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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

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DRIVER SQUIB 1 SHORT TO GROUND — Continued

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

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DRIVER SQUIB 1 SHORT TO GROUND — Continued

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

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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

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DRIVER SQUIB 2 CIRCUIT OPEN — Continued

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

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DRIVER SQUIB 2 CIRCUIT OPEN — Continued

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

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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

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DRIVER SQUIB 2 CIRCUIT SHORT — Continued

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

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DRIVER SQUIB 2 CIRCUIT SHORT — Continued

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

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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

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DRIVER SQUIB 2 SHORT TO BATTERY — Continued

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

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DRIVER SQUIB 2 SHORT TO BATTERY — Continued

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

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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

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DRIVER SQUIB 2 SHORT TO GROUND — Continued

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

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DRIVER SQUIB 2 SHORT TO GROUND — Continued

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

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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

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LEFT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

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

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LEFT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

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

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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

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LEFT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

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

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LEFT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

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

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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

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LEFT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

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

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LEFT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

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

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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

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LEFT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

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

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LEFT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

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

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Symptom:

LEFT SIDE IMPACT SENSOR 1 INTERNAL 1

When Monitored and Set Condition:

LEFT SIDE IMPACT SENSOR 1 INTERNAL 1

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

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

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

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

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LEFT SIDE IMPACT SENSOR 1 INTERNAL 1 — Continued

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

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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 ACM 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
FUSED IGNITION SW OUTPUT RUN-START SHORT TO GROUND
IGNITION SWITCH RUN - START CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT RUN-START CIRCUIT OPEN
ACM, FUSED IGNITION OUTPUT RUN-START CIRCUIT OPEN
ACM, RUN - START SHORTED TO GROUND
ON - OFF SWITCH, RUN - START CIRCUIT SHORTED TO GROUND
FUSED IGNITION SWITCH OUTPUT RUN - START CIRCUIT SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Ensure the battery is fully charged. Turn the ignition on. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** DETERMINE ACTIVE OR STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 10 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn Ignition off. Remove and inspect the Airbag Run-Start Fuse. **NOTE: Check connectors - Clean and repair as necessary.** Is the Fuse open? Yes → Go To 3 No → Go To 7	All

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LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
3	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? Yes → Go To 4 No → Replace Airbag Run - Start Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	Is this vehicle equipped with a Passenger Airbag On - Off Indicator? Yes → Go To 5 No → Go To 6	All
5	Disconnect the Passenger Airbag On - Off Indicator connector **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the Fused Ignition Switch Output Run-Start Circuit between the On - Off Indicator connector and ground. Is the resistance below 10K ohms? Yes → Go To 6 No → Replace the Passenger Airbag On - Off Switch and Airbag Run - Start Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **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 ACM connector(s). Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the ACM Adapter and ground. Is the resistance below 10K ohms? Yes → Repair the Fused Ignition Switch Output Run - Start circuit short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions and replace the fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
7	Turn the ignition on. Measure the voltage of the Ignition Switch Output circuit at the Airbag Run - Start fuse. Is the voltage above approximately 6.0 volts? Yes → Go To 8 No → Repair the open Ignition Switch Output Run - Start circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: Reinstall the fuse after performing this test.**	All

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LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Reinstall the previously removed Airbag 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 Airbag Control Module connector ground. Is the voltage above approximately 4.5 volts? Yes → Go To 9 No → Repair open Fused Ignition Switch Output Run-Start circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
9	**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

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LOSS OF IGNITION RUN - START — Continued

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

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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

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LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Airbag Run fuse. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the Fused Ignition Switch Output Run circuit between the Run Fuse and ground. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Replace the defective fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: 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). Measure the resistance of the Fused Ignition Switch Output Run circuit between the ACM connector and ground. Is the resistance below 10K ohms? Yes → Repair the Fused Ignition Switch Output Run circuit for a short to ground and replace Airbag Run Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions and replace the Run Only Fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Turn the ignition on. Measure the voltage of the Ignition Switch Output Run circuit between the Airbag Run circuit fuse and ground. Is the voltage above approximately 6.0 volts? Yes → Go To 7 No → Repair the open Ignition Switch Output Run circuit. Then reinstall the Ignition Switch Output Run fuse. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
7	**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.** Reinstall the airbag Run 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 circuit at the Airbag Control Module connector. Is the voltage above approximately 6.0 volts? Yes → Go To 8 No → Repair the open or high resistance in the Fused Ignition Switch Output Run circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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LOSS OF IGNITION RUN ONLY — Continued

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

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Symptom:
MISSING CURRENT VIN

When Monitored and Set Condition:

MISSING CURRENT VIN

When Monitored: The first time a new ACM is powered up it monitors the PCI Bus for 2 consecutive identical VIN messages. The complete VIN is then permanently stored into memory and the 6th digit is used to identify a light duty (1) or heavy duty (2, 3 or 4) vehicle.

Set Condition: If a ACM does not receive two consecutive identical VIN messages within 5.6 seconds. The active DTC will be cleared once two consecutive identical VIN messages are received.

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** Connect the DRB to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the system test. Does the DRB show PCM Active on the Bus:? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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MISSING CURRENT VIN — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB select ENGINE MISCELLANEOUS, select MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match? Yes → Go To 4 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector(s). 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.** **NOTE: Check connectors - Clean and repair as necessary.** Measure the voltage on the RUN and RUN START circuits between the Load tool ACM Adaptor and ground. Is either the RUN or RUN START above 8.3 volts? Yes → Go To 5 No → Repair the low voltage on the Run and Run - Start circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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MISSING CURRENT VIN — Continued

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

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Symptom:
MODULE NOT CONFIGURED FOR PAB OFF SWITCH

When Monitored and Set Condition:

MODULE NOT CONFIGURED FOR PAB OFF SWITCH

When Monitored: When the ACM is not configured for an ON - OFF switch, the ACM monitors the Passenger Airbag On - Off Switch inputs to determine if a switch is present.

Set Condition: The code will set, if the ACM detects a Passenger Airbag ON - OFF Switch connected to the Airbag Control Module.

POSSIBLE CAUSES
INTERMITTENT CODES PRESENT
ACM NOT CONFIGURED FOR PAB OFF SWITCH
ACM, MODULE NOT CONFIGURED FOR PAB OFF SWITCH
PASSENGER AIRBAG INDICATOR DRIVER CIRCUIT SHORT
PAB MUX SWITCH CIRCUIT SHORT TO GROUND
PAB MUX SWITCH CIRCUIT SHORT TOGETHER
ACM, PAB ON - OFF SWITCH CIRCUIT SHORTED

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 No problem found at this time. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Inspect vehicle for a Passenger Airbag On - Off Switch located in the center of the instrument panel. Is this vehicle equipped with a Passenger Airbag On - OFF Switch? Yes → Go To 3 No → Go To 4	All

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MODULE NOT CONFIGURED FOR PAB OFF SWITCH — Continued

TEST	ACTION	APPLICABILITY
3	Select Restraints, Airbag and then Miscellaneous from the DRB menu. Follow instructions to verify the ACM switch configuration. Does the DRB show Configured for PAB OFF Switch? Yes → Go To 9 No → Follow instructions on the DRB to reconfigured the Airbag Control Module to support the Passenger Airbag Switch On - Off Switch. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	Inspect vehicle for a Passenger Airbag On - Off Switch wiring at the ACM connector. NOTE: Some vehicles may have the wiring for the Passenger Airbag Off Switch and no switch. Is this vehicle equipped with a Passenger Airbag On - OFF Switch wiring? Yes → Go To 5 No → Go To 9	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the PAB Indicator Driver circuit between the ACM Adaptor and ground. Is the resistance below 10K ohms? Yes → Repair the Passenger Airbag Indicator Driver circuit short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 6	All
6	Measure the resistance of the PAB MUX Switch Sense circuit between the ACM Adaptor and ground. Is the resistance below 10K ohms? Yes → Repair the Passenger Airbag MUX Switch Sense circuit short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 7	All
7	Measure the resistance between the PAB MUX Switch Sense circuit and the PAB MUX Switch Return circuit at the ACM Adaptor. Is the resistance below 10K ohms? Yes → Repair the Passenger Airbag MUX Switch circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 8	All

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MODULE NOT CONFIGURED FOR PAB OFF SWITCH — Continued

TEST	ACTION	APPLICABILITY
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
9	**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

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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

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NO CLUSTER MESSAGE — Continued

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

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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

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NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

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NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

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NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

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Symptom List:

NO PCI LOOPBACK
NO PCI TRANSMISSION

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 and the module transmitting information on the BUS.

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

POSSIBLE CAUSES
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
CHECKING FOR VOLTAGE AT ACM
GROUND CIRCUIT OPEN
PCI BUS CIRCUIT OPEN
AIRBAG CONTROL MODULE - ACM
ACM, NO RESPONSE FROM

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NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** From the list below, select the appropriate module and DTC type for this diagnostic trouble code. DETERMINE ACTIVE OR STORED DTC ACM - ACTIVE Go To 2 ACM - STORED Go To 3 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER 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
3	**Note: Determine which modules this vehicle is equipped with before beginning.** **Note: When attempting to communicate with any of the modules on this vehicle, the DRB will display 1 of 2 different communication errors: a NO RESPONSE message or a BUS +/- SIGNALS OPEN message.** Turn the ignition on. Using the DRB, attempt to communicate with the following control modules: Airbag Control Module Occupant Classification Module - If equipped Front Control Module - If equipped Instrument Cluster Occupant Classification module (If equipped) Was the DRBIII® able to communicate with one or more Module(s)? Yes → Go To 4 No → Go To 9	All
4	Turn the ignition off. **Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.** **Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **Note: If the DRB can not communicate with a single module, refer to the category list for the related symptom.** Were any problems found? Yes → Repair wiring harness/connectors as necessary. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All

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NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
5	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 ACM 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 at the ACM connector. NOTE: One open circuit will not cause a NO RESPONSE condition. Is the test light illuminated on both circuits? Yes → Go To 6 No → Repair the Fused Ignition Switch Output (Run) and Fused Ignition Switch Output Run-Start circuits for an open. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
6	**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 ACM harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. **NOTE: Make sure test light is connected to the Battery positive terminal.** Is the test light illuminated? Yes → Go To 7 No → Repair the Ground circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1. **When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

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NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
7	**NOTE: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the ACM harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Turn the ignition on and then reconnect the Battery. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the ACM connector. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 8 No → Repair the PCI Bus circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
9	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? Yes → Go To 10 No → Repair the PCI Bus circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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NO PCI LOOPBACK — Continued

TEST	ACTION	APPLICABILITY
10	**NOTE: Reconnect the PCM/ECM harness connector and the negative battery cable.** Turn the ignition on. Measure the voltage of the PCI Bus circuit at the Data Link Connector (DLC). Is the voltage above 7.0 volts? Yes → Go To 11 No → Test Complete.	All
11	Turn the ignition off. Using a voltmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. **Note: When performing the next step turn the ignition off (wait one minute) before disconnecting any module. When the module is disconnected turn the ignition on to check for a short to voltage.** Turn the ignition on. While monitoring the voltmeter, disconnect each module the vehicle is equipped with one at a time. Is the voltage steadily above 7.0 volts with all the modules disconnected? Yes → Repair the PCI Bus circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the module that when disconnected the short to voltage was eliminated. Perform BODY VERIFICATION TEST - VER 1.	All

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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

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NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

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NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

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NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

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

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Symptom:

OCCUPANT CLASSIFICATION MODULE CONFIGURATION MISMATCH

When Monitored and Set Condition:

OCCUPANT CLASSIFICATION MODULE 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 OCM
ACM, OCM 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: OCM - ACTIVE DTC Go To 2 OCM - 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	Inspect vehicle for a Occupant Classification System and Passenger On - Off Indicator. Is this vehicle equipped with a Passenger Airbag On - OFF Indicator on the dash and the OCS? Yes → Go To 3 No → Go To 4	All

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OCCUPANT CLASSIFICATION MODULE CONFIGURATION MISMATCH — Continued

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

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Symptom:
PASSENGER AIRBAG ON-OFF SWITCH OPEN

When Monitored and Set Condition:

PASSENGER AIRBAG ON-OFF SWITCH OPEN

When Monitored: When the ignition is on, the PAB MUX Switch Sense circuit supplies a 3 to 10 ms pulse every 100 ms across the On or Off switch resistor to the MUX Switch Return circuit.

Set Condition: The code will set if the ACM senses an open or high resistance on the PAB MUX Switch Sense circuit or PAB MUX Switch Return circuit.

POSSIBLE CAUSES
CHECKING EQUIPMENT
SWITCH DISCONNECTED
PAB ON - OFF SWITCH OPEN
PASSENGER AIRBAG MUX SWITCH CIRCUIT OPEN
ACM, PASSENGER ON - OFF SWITCH 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 7 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Is this vehicle equipped with a Passenger Airbag On - Off Switch? Yes → Go To 3 No → With the DRBIII® in MISCELLANEOUS, read the Configure for Airbag ON - OFF Switch current status. Enter the number 1 and press enter to re configure the ACM for NO AIRBAG ON/OFF SWITCH. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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PASSENGER AIRBAG ON-OFF SWITCH OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Gain access to the Passenger Airbag On - Off Switch connector. Is the Passenger Airbag On - Off Switch connected to the dash harness? Yes → Go To 4 No → Connect the Passenger Airbag On - Off switch to the dash harness connector. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag On - Off Switch. **NOTE: Check connectors - Clean and repair as necessary.** Measure the PAB On - Off Switch resistance between terminals 1 and 2 in both switch positions. The switch resistance specifications are: ON position = 175.0 to 190.0 ohms and OFF position = 820.0 to 870.0 ohms. Is the resistance within range for both switch positions? Yes → Go To 5 No → Replace the Passenger Airbag ON - OFF Switch in accordance with the service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the PAB MUX Switch Sense between the ACM Adaptor and the PAB On - Off Switch connector. Measure the resistance of the PAB MUX Switch Return circuit between the ACM Adaptor and the PAB On - Off Switch connector. Is the resistance below 5.0 ohms on both circuits? Yes → Go To 6 No → Repair the open Passenger Airbag MUX Switch circuit(s). Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **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

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PASSENGER AIRBAG ON-OFF SWITCH OPEN — Continued

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

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Symptom:

PASSENGER AIRBAG ON-OFF SWITCH SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER AIRBAG ON-OFF SWITCH SHORT TO BATTERY

When Monitored: When the ignition is on, the MUX Switch Sense circuit supplies a 3 to 10 ms pulse every 100 ms across the switch resister to the MUX switch return circuit. Once the code is active, the ACM will disable the indicator for the duration of the ignition cycle.

Set Condition: The code will set if the ACM senses constant voltage over approximately 4.0 volts on the PAB MUX Switch circuits.

POSSIBLE CAUSES
CHECKING EQUIPMENT
PAB ON - OFF SWITCH CIRCUIT SHORT
PAB ON - OFF SWITCH SHORT
PAB MUX SWITCH CIRCUIT SHORT TO BATTERY
ACM, PAB ON - OFF SWITCH 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 7 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Is this vehicle equipped with a Passenger Airbag On - Off Switch? Yes → Go To 3 No → With the DRBIII® in MISCELLANEOUS, read the Configure for Airbag ON - OFF Switch current status. Enter the number 1 and press enter to re configure the ACM for NO AIRBAG ON/OFF SWITCH. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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PASSENGER AIRBAG ON-OFF SWITCH SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag On - Off Switch. **NOTE: Check connectors - Clean and repair as necessary.** Measure the PAB On - Off Switch resistance between terminals 1 & 4 and 2 & 4. Is the resistance below 10K ohms on either test? Yes → Replace the Passenger Airbag ON - OFF Switch in accordance with the service information. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the PAB On - Off Switch resistance between terminals 1 and 2 in both switch positions. The switch resistance specifications are: ON position = 175.0 to 190.0 ohms and OFF position = 820.0 to 870.0 ohms. Is the resistance within range for both switch positions? Yes → Go To 5 No → Replace the Passenger Airbag ON - OFF Switch in accordance with the service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: 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: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the PAB MUX Switch Sense and PAB MUX Switch Return circuits at the PAB On - Off Switch connector. Is there any voltage on either circuit? Yes → Repair the Passenger Airbag MUX Switch circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 6	All
6	**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

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PASSENGER AIRBAG ON-OFF SWITCH SHORT TO BATTERY — Continued

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

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Symptom:

PASSENGER AIRBAG ON-OFF SWITCH SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER AIRBAG ON-OFF SWITCH SHORT TO GROUND

When Monitored: When the ignition is on, the PAB MUX Switch Sense circuit supplies a 3 to 10 ms pulse every 100 ms across the On or Off switch resistor to the MUX switch return circuit.

Set Condition: The code will set if the ACM senses low resistance on the PAB MUX Switch sense circuit.

POSSIBLE CAUSES
CHECKING EQUIPMENT
PAB ON - OFF SWITCH CIRCUIT SHORT
PAB ON - OFF SWITCH SHORT
PAB MUX SWITCH CIRCUIT SHORT TO GROUND
ACM, PAB ON - OFF SWITCH CONNECTOR.

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 Test Complete. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Is this vehicle equipped with a Passenger Airbag On - Off Switch? Yes → Go To 3 No → With the DRBIII® in MISCELLANEOUS, read the Configure for Airbag ON - OFF Switch current status. Enter the number 1 and press enter to re configure the ACM for NO AIRBAG ON/OFF SWITCH. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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PASSENGER AIRBAG ON-OFF SWITCH SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag On - Off Switch. **NOTE: Check connectors - Clean and repair as necessary.** Measure the PAB On - Off Switch resistance between terminals 1 & 3 and 2 & 3. Is the resistance below 10K ohms on either test? Yes → Replace the Passenger Airbag ON - OFF Switch in accordance with the service information. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the PAB On - Off Switch resistance between terminals 1 and 2 in both switch positions. The switch resistance specifications are: ON position = 175.0 to 190.0 ohms and OFF position = 820.0 870.0 ohms. Is the resistance within range for both switch positions? Yes → Go To 5 No → Replace the Passenger Airbag ON - OFF Switch in accordance with the service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the PAB MUX Switch Sense circuit between the PAB On - Off Switch connector and ground. Is the resistance below 10K ohms? Yes → Repair the Passenger Airbag MUX Switch Sense circuit short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 6	All
6	**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

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Symptom:
PASSENGER OFF INDICATOR CIRCUIT SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER OFF INDICATOR CIRCUIT SHORT TO BATTERY

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

Set Condition: The code will set if the ACM senses battery voltage on the PAB Indicator Driver circuit.

POSSIBLE CAUSES
CHECKING EQUIPMENT
PAB ON - OFF SWITCH INDICATOR SHORT
PASSENGER AIRBAG INDICATOR SHORT TO FUSED RUN - START CIRCUIT
PASSENGER AIRBAG INDICATOR DRIVER CIRCUIT SHORTED TO BATTERY
ACM, PAB INDICATOR DRIVER CIRCUIT 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 7 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Is this vehicle equipped with a Passenger Airbag On - Off Switch? Yes → Go To 3 No → With the DRBIII® in MISCELLANEOUS, read the Configure for Airbag ON - OFF Switch current status. Enter the number 1 and press enter to re configure the ACM for NO AIRBAG ON/OFF SWITCH. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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PASSENGER OFF INDICATOR CIRCUIT SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag On - Off Switch. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance between PAB On - Off Switch terminals 3 and 4. Is the resistance below 14.0 ohms? Yes → Go To 4 No → Replace the Passenger Airbag On - Off Switch in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**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. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Passenger Airbag Indicator Driver circuit between the PAB On - Off Switch connector and ground. Is there any voltage present? Yes → Go To 5 No → Go To 6	All
5	Remove the Fused Ignition Switch Output Run - Start circuit fuse. Measure the voltage on the Passenger Airbag Indicator Driver circuit at the PAB On - Off Switch connector. Is there any voltage present? Yes → Repair the Passenger Airbag Indicator Driver circuit shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Repair the Fused ignition Switch Output Run - Start circuit shorted to the PAB Indicator Driver circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **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

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PASSENGER OFF INDICATOR CIRCUIT SHORT TO BATTERY — Continued

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

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Symptom:
PASSENGER OFF INDICATOR CIRCUIT SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER 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
ACTIVE ACM RUN - START CODES
CHECKING EQUIPMENT
FUSED IGNITION SWITCH OUTPUT RUN - START
SWITCH DISCONNECTED
PAB ON - OFF INDICATOR OPEN
PASSENGER AIRBAG INDICATOR DRIVER CIRCUIT OPEN
PASSENGER AIRBAG INDICATOR DRIVER CIRCUIT SHORT
ACM, PASSENGER ON - OFF INDICATOR 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 10 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display LOSS OF IGNITION RUN - START ? Yes → Refer to symptom list for problems related to Loss of Ignition Run - Start active diagnostic trouble code test. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All

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PASSENGER OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Is this vehicle equipped with a Passenger Airbag On - Off Switch? Yes → Go To 4 No → With the DRBIII® in MISCELLANEOUS, read the Configure for Airbag ON - OFF Switch current status. Enter the number 1 and press enter to re configure the ACM for NO AIRBAG ON/OFF SWITCH. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	Gain access to the Passenger Airbag On - Off Switch connector. Is the Passenger Airbag On - Off Switch connected to the dash harness? Yes → Go To 5 No → Connect the Passenger Airbag On - Off switch to the dash harness connector. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger On - Off Switch connector. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Fused Ignition Switch Output Run - Start circuit between the PAB On - Off Switch connector and ground. Is the voltage above 10.0 volts? Yes → Go To 6 No → Repair the open Fused ignition Switch Output Run - Start circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag On - Off Switch. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance between PAB On - Off Switch terminals 3 and 4. Is the resistance approximately 14 ohms? Yes → Go To 7 No → Replace the Passenger Airbag ON - OFF Switch in accordance with the service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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PASSENGER OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
7	Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance of the PAB Indicator Driver circuit between the ACM and the PAB On - Off Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Passenger Airbag Indicator Driver circuit. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	Measure the resistance of the PAB Indicator Driver circuit between the PAB On - Off Switch connector and ground. Is the resistance below 10K ohms? Yes → Repair the Passenger Airbag Indicator Driver circuit short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 9	All
9	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Reconnect the PAB 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.** 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

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PASSENGER OFF INDICATOR CIRCUIT SHORT TO GROUND — Continued

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

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Symptom:

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN

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

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

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

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

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PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

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

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PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

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

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Symptom:
PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

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

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

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

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

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PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

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

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PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

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

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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

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PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

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

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PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

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

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Symptom:
PASSENGER SEAT BELT TENSIONER SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND

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

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

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

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

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PASSENGER SEAT BELT TENSIONER SHORT TO GROUND — Continued

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

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PASSENGER SEAT BELT TENSIONER SHORT TO GROUND — Continued

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

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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

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PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

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

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PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

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

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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

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PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

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

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PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

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

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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

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PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

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

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PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

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

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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

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PASSENGER SQUIB 1 SHORT TO GROUND — Continued

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

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PASSENGER SQUIB 1 SHORT TO GROUND — Continued

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

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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

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PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

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

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PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

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

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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

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PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

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

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PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

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

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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

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PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

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

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PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

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

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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

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PASSENGER SQUIB 2 SHORT TO GROUND — Continued

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

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PASSENGER SQUIB 2 SHORT TO GROUND — Continued

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

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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	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

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RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

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

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RIGHT CURTAIN SQUIB 1 CIRCUIT OPEN — Continued

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

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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

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RIGHT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

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

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RIGHT CURTAIN SQUIB 1 CIRCUIT SHORT — Continued

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

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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

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RIGHT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

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

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RIGHT CURTAIN SQUIB 1 SHORT TO BATTERY — Continued

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

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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

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RIGHT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

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

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RIGHT CURTAIN SQUIB 1 SHORT TO GROUND — Continued

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

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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

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RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1 — Continued

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

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Symptom:
VEHICLE BODY STYLE MISMATCH

When Monitored and Set Condition:

VEHICLE BODY STYLE MISMATCH

When Monitored: When the ignition is on, the ACM monitors the PCI Bus for the vehicle body style message from the Powertrain Control Module.

Set Condition: With ignition on, If the ACM does not receive the vehicle Body Style messages on the bus the code will set.

POSSIBLE CAUSES
PCM, PCI COMMUNICATION FAILURE
WRONG OR MISSING BUS MESSAGE
WRONG VIN OR MISSING VIN
ACM, VEHICLE BODY STYLE MISMATCH
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. Connect the DRBIII® to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the PCM Active on the Bus:. Does the DRB show PCM ACTIVE ON THE BUS:? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB select ENGINE, MISCELLANEOUS, SELECT MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match? Yes → Go To 4 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRB, select the PCI BUS INFO to view the Body Style from PCM. Does the DRB show the correct Body Style? Yes → Go To 5 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

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VEHICLE BODY STYLE MISMATCH — Continued

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

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Symptom:
*AIRBAG INDICATOR ON WITHOUT ACTIVE TROUBLE CODES

POSSIBLE CAUSES
AIRBAG WARNING INDICATOR ON WITHOUT ACTIVE TROUBLE CODES
INSTRUMENT CLUSTER PROBLEMS

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the battery is fully charged.** Turn the ignition on. Make sure that all active DTC's have been repaired before performing this procedure. With the DRBIII® select the PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY and read the WARNING LAMP STATES. With no active DTCs, Does the LAMP REQ by ACM monitor show ON? Yes → Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Refer to INSTRUMENT CLUSTER CATEGORY symptom list for problems related to Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

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Symptom:
ALL CHANNELS SHORT TOGETHER OR TO GROUND

When Monitored and Set Condition:

ALL CHANNELS SHORT TOGETHER OR TO GROUND

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: Each Amplifier channel is shorted together or to ground.

POSSIBLE CAUSES
ALL CHANNELS SHORTED TO GROUND
SPEAKER CHANNELS SHORTED TOGETHER
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRB III to perform the Amplifier Pre-test to verify the fault condition is present before continuing diagnosis.** **NOTE: Inspect the Amplifier harness connector and terminals for damage that could cause several terminals/circuits to contact each other. Repair as necessary.** Turn the ignition off. Disconnect the Amplifier C2 harness connector. Measure the resistance between ground and each of the Speaker (+) and (-) circuits (12 circuits total). Is the resistance below 1000 ohms for any of the measurements? Yes → Repair the circuits that measured below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect each speaker harness connector (7 total). Measure the resistance between each Speaker (+) and (-) circuits and every other Speaker circuit. Is the resistance below 1000 ohms for any of the measurements? Yes → Repair the circuits that measured below 1000 ohms for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
ALL INPUTS NO ACTIVITY

When Monitored and Set Condition:

ALL INPUTS NO ACTIVITY

When Monitored: When the DRBIII® performs the amplifier Input Test.

Set Condition: The Amplifier detects no activity on any of the input circuits.

POSSIBLE CAUSES
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
OPEN SPEAKER CIRCUITS
AMPLIFIER
RADIO

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and any speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and any speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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ALL INPUTS NO ACTIVITY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance of each speaker (+) and (-) circuit between the Radio and the Amplifier. Is the resistance below 5.0 ohms for each circuit? Yes → Go To 4 No → Repair the speaker circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Reconnect the Radio harness connector. Disconnect the Amplifier C1 harness connector. Turn the ignition on and the Radio on to a known good radio station or have a tape or CD playing. Turn the radio volume control up at least 25 positions. With the voltmeter in the AC voltage scale, measure the voltage of each speaker circuit at the Amplifier C1 connector. **NOTE: Perform this test on each speaker circuit.** Is the voltage at least 120mV AC (0.12 VAC) on each speaker circuit? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM

When Monitored and Set Condition:

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES
DETERMINE FAULT
SPEAKER SECTION OF POWER AMPLIFIER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER
SPEAKER SECTION OF RADIO

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

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ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM — Continued

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

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Symptom:
ALL OUTPUTS SHORT- BASE AUDIO SYSTEM

When Monitored and Set Condition:

ALL OUTPUTS SHORT- BASE AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES
DETERMINE FAULT
FRONT SHORTED SPEAKER
REAR SHORTED SPEAKER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER
SPEAKER SECTION OF RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Does the DRBIII® display ALL OUTPUTS SHORT? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each front speaker connector.** Disconnect each front speaker harness connector one at a time. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display ALL OUTPUTS SHORT with all the speakers disconnected? Yes → Go To 3 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All

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ALL OUTPUTS SHORT- BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each rear speaker connector.** Disconnect each rear speaker harness connector one at a time. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display ALL OUTPUTS SHORT with all the rear speakers disconnected? Yes → Go To 4 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect each front and rear speaker harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect each front and rear speaker harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect each front and rear speaker harness connector. Disconnect the Radio harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the speaker circuits shorted together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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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

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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

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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

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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

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Symptom:
CD TEMPERATURE HIGH

When Monitored and Set Condition:

CD TEMPERATURE HIGH

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

Set Condition: The code will set if the temperature inside the radio CD player is above +85° C (+185° F).

POSSIBLE CAUSES
HIGH TEMPERATURE FAILURE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the audio DTC's. Start the engine and allow the engine to reach normal operating temperature. If the vehicle has been in the hot sunlight or extreme cold move the vehicle indoors and open the doors to allow the inside temperature to stabilize. The radio CD player will operate between -30° C and 85° C (-22° F and +185° F). With the DRBIII®, read DTC's. Does the DRBIII® display CD TEMPERATURE HIGH? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:
DOOR AND/OR REAR CHANNELS SHORT TO GROUND

When Monitored and Set Condition:

DOOR AND/OR REAR CHANNELS SHORT TO GROUND

When Monitored: When the DRBIII® performs the Speaker Output Test.

Set Condition: Each Amplifier front door and/or rear channel is shorted together or to ground.

POSSIBLE CAUSES
AMPLIFIER
LEFT FRONT DOOR SPEAKER
LEFT FRONT DOOR SPEAKER CIRCUITS SHORT TO GROUND
LEFT REAR SPEAKER
LEFT REAR SPEAKER CIRCUITS SHORT TO GROUND
RIGHT FRONT DOOR SPEAKER
RIGHT FRONT DOOR SPEAKER CIRCUITS SHORT TO GROUND
RIGHT REAR SPEAKER
RIGHT REAR SPEAKER CIRCUITS SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRB III to perform the Amplifier Pre-test to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C2 harness connector Measure the resistance between ground and the Right Front Door Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Go To 2 No → Go To 8	All
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector Measure the resistance between ground and the Left Front Door Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Go To 3 No → Go To 7	All

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DOOR AND/OR REAR CHANNELS SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector Measure the resistance between ground and the Right Rear Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Go To 4 No → Go To 6	All
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector Measure the resistance between ground and the Left Rear Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Left Rear Speaker harness connector. Measure the resistance between ground and both Left Rear Speaker circuits. Is the resistance below 1000 ohms for either measurement? Yes → Repair the Speaker circuit that measure below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Left Rear Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Right Rear Door Speaker harness connector. Measure the resistance between ground and both Right Rear Door Speaker circuits. Is the resistance below 1000 ohms for either measurement? Yes → Repair the Speaker circuit that measure below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Right Rear Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Left Front Door Speaker harness connector. Measure the resistance between ground and both Left Front Door Speaker circuits. Is the resistance below 1000 ohms for either measurement? Yes → Repair the Speaker circuit that measure below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Left Front Door Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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DOOR AND/OR REAR CHANNELS SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Right Front Door Speaker harness connector. Measure the resistance between ground and both Right Front Door Speaker circuits. Is the resistance below 1000 ohms for either measurement? Yes → Repair the Speaker circuit that measure below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Right Front Door Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FRONT DOOR CHANNELS SHORT TOGETHER OR TO GROUND

When Monitored and Set Condition:

FRONT DOOR CHANNELS SHORT TOGETHER OR TO GROUND

When Monitored: When the DRBIII® performs the Speaker Output Test.

Set Condition: Each Amplifier front door channel is shorted together or to ground.

POSSIBLE CAUSES
AMPLIFIER
FRONT DOOR SPEAKER CIRCUIT SHORTED TO GROUND
FRONT DOOR SPEAKER CIRCUITS SHORTED TOGETHER - TEST 1
FRONT DOOR SPEAKER CIRCUITS SHORTED TOGETHER - TEST 2
FRONT DOOR SPEAKER CIRCUITS SHORTED TOGETHER - TEST 3
LEFT FRONT DOOR SPEAKER
RIGHT FRONT DOOR SPEAKER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRB III to perform the Amplifier Pre-test to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Right Front Door Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front Door Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front Door Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 3 No → Replace the Left Front Door Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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FRONT DOOR CHANNELS SHORT TOGETHER OR TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Access and disconnect the Right Front and Left Front Door Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. Measure the resistance between ground and each of the 4 Front Door Speaker circuits. Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 4 No → Repair the Front Door Speaker circuit that measured below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Access and disconnect the Right Front and Left Front Door Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Left Front Speaker (-) circuit and the following circuits: Left Front Speaker (+), Right Front Speaker (-) and Right Front Speaker (+). Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 5 No → Repair the Front Door Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Access and disconnect the Right Front and Left Front Door Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Left Front Speaker (+) circuit and the following circuits: Right Front Speaker (-) and Right Front Speaker (+). Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 6 No → Repair the Front Door Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Access and disconnect the Right Front Speaker harness connector. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Right Front Speaker (+) circuit and Right Front Speaker (-). Is the resistance above 1000 ohms? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Front Door Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FRONT I/P CHANNELS SHORTED TOGETHER OR TO GROUND

When Monitored and Set Condition:

FRONT I/P CHANNELS SHORTED TOGETHER OR TO GROUND

When Monitored: When the DRBIII® performs the Speaker Output Test.

Set Condition: Each Amplifier front I/P channel is shorted together or to ground.

POSSIBLE CAUSES
AMPLIFIER
CENTER I/P SPEAKER
I/P SPEAKER CIRCUIT SHORTED TO GROUND
I/P SPEAKER CIRCUITS SHORTED TOGETHER - TEST 1
I/P SPEAKER CIRCUITS SHORTED TOGETHER - TEST 2
I/P SPEAKER CIRCUITS SHORTED TOGETHER - TEST 3
LEFT I/P SPEAKER
RIGHT I/P SPEAKER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRB III to perform the Amplifier Pre-test to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Right I/P Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 2 No → Replace the Right I/P Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left I/P Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 3 No → Replace the Left I/P Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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FRONT I/P CHANNELS SHORTED TOGETHER OR TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Access and disconnect the Center I/P Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 4 No → Replace the Center I/P Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Access and disconnect the Right I/P Speaker, Left I/P Speaker and Center I/P Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. Measure the resistance between ground and each of the 4 I/P Speaker circuits. Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 5 No → Repair the I/P Speaker circuit that measured below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Access and disconnect the Right I/P Speaker, Left I/P Speaker and Center I/P Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Left I/P Speaker (+) circuit and the following circuits: Left I/P Speaker (-), Right I/P Speaker (+) and Right I/P Speaker (-). Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 6 No → Repair the I/P Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Access and disconnect the Right I/P Speaker, Left I/P Speaker and Center I/P Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Left Front Speaker (-) circuit and the following circuits: Right I/P Speaker (+) and Right I/P Speaker (-). Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 7 No → Repair the I/P Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All

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FRONT I/P CHANNELS SHORTED TOGETHER OR TO GROUND — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Access and disconnect the Right I/P Speaker harness connector. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Right I/P Speaker (+) circuit and Right I/P Speaker (-). Is the resistance above 1000 ohms? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the I/P Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
GPS ANTENNA NOT CONNECTED

When Monitored and Set Condition:

GPS ANTENNA NOT CONNECTED

When Monitored: With the ignition on and the radio in navigation mode.

Set Condition: The radio does not detect a GPS antenna connection.

POSSIBLE CAUSES
BAD ANTENNA CONNECTION
ANTENNA
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the GPS Antenna connector. Inspect the GPS 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.** **NOTE: Move vehicle outside approximately 30ft from any structure.** Turn the ignition and Radio on. With the DRBIII®, erase the audio DTC's and operate the navigation system. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:

LEFT AND/OR RIGHT FRONT I/P AND DOOR CHANNEL SHORT TO GROUND

When Monitored and Set Condition:

LEFT AND/OR RIGHT FRONT I/P AND DOOR CHANNEL SHORT TO GROUND

When Monitored: When the DRBIII® performs the Speaker Output Test.

Set Condition: Each Amplifier left and/or right I/P and front door channel is shorted together or to ground.

POSSIBLE CAUSES
AMPLIFIER
CENTER I/P SPEAKER
LEFT FRONT DOOR SPEAKER
LEFT FRONT DOOR SPEAKER CIRCUITS SHORT TO GROUND
LEFT I/P SPEAKER (+) CIRCUIT SHORT TO GROUND
LEFT I/P SPEAKER (-) CIRCUIT SHORT TO GROUND
LEFT I/P SPEAKER SHORT TO GROUND
RIGHT FRONT DOOR SPEAKER
RIGHT FRONT DOOR SPEAKER CIRCUITS SHORT TO GROUND
RIGHT I/P SPEAKER (+) CIRCUIT SHORT TO GROUND
RIGHT I/P SPEAKER (-) CIRCUIT SHORT TO GROUND
RIGHT I/P SPEAKER SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRB III to perform the Amplifier Pre-test to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C2 harness connector. Measure the resistance between ground and the Right Front Door Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Go To 2 No → Go To 11	All
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Measure the resistance between ground and the Left Front Door Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Go To 3 No → Go To 10	All

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LEFT AND/OR RIGHT FRONT I/P AND DOOR CHANNEL SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Measure the resistance between ground and the Left I/P Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Left I/P Speaker harness connector. Measure the resistance between ground and the Left I/P Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Go To 5 No → Repair the Left I/P Speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Left I/P Speaker harness connector. Measure the resistance between ground and the Left I/P Speaker (-) circuit. Is the resistance above 1000 ohms? Yes → Replace the Left I/P Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Center I/P Speaker harness connector. Disconnect the Left I/P Speaker harness connector. Measure the resistance between ground and the Left I/P Speaker (-) circuit. Is the resistance above 1000 ohms? Yes → Go To 7 No → Repair the Left I/P Speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Right I/P Speaker harness connector. Measure the resistance between ground and the Right I/P Speaker (-) circuit. Is the resistance above 1000 ohms? Yes → Go To 8 No → Repair the Right I/P Speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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LEFT AND/OR RIGHT FRONT I/P AND DOOR CHANNEL SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Right I/P Speaker harness connector. Measure the resistance between ground and the Right I/P Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Replace the Right I/P Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Center I/P Speaker harness connector. Disconnect the Right I/P Speaker harness connector. Measure the resistance between ground and the Right I/P Speaker (+) circuit. Is the resistance above 1000 ohms? Yes → Replace the Center I/P Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Right I/P Speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Left Front Door Speaker harness connector. Measure the resistance between ground and both Left Front Door Speaker circuits. Is the resistance below 1000 ohms for either measurement? Yes → Repair the Speaker circuit that measure below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Left Front Door Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
11	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Right Front Door Speaker harness connector. Measure the resistance between ground and both Right Front Door Speaker circuits. Is the resistance below 1000 ohms for either measurement? Yes → Repair the Speaker circuit that measure below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Right Front Door Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LEFT FRONT DOOR AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT DOOR AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front Door Speaker and Left Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
LEFT FRONT DOOR AND LEFT REAR CHANNELS SHORTED ACROSS
LEFT FRONT DOOR AND LEFT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Left Front Door and Left Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front Door and Left Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front Door Speaker harness connector. Access and disconnect the Left Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front Door Speaker (+) and (-) circuits. Measure the resistance of the Left Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

LEFT FRONT DOOR AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT DOOR AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front Door Speaker and Right Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
LEFT FRONT DOOR AND RIGHT REAR CHANNELS SHORTED ACROSS
LEFT FRONT DOOR AND RIGHT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Left Front Door and Right Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front Door and Right Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front Door Speaker harness connector. Access and disconnect the Right Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front Door Speaker (+) and (-) circuits. Measure the resistance of the Right Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LEFT FRONT DOOR CHANNEL SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT DOOR CHANNEL SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front Door Speaker circuit is shorted.

POSSIBLE CAUSES
LEFT FRONT DOOR CHANNEL SHORT ACROSS
LEFT FRONT DOOR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Left Front Door Speaker harness connector. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front Door Speaker in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front Door Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Disconnect the Left Front Woofer harness connector. Measure the resistance of the Left Front Door Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms? Yes → Repair the Left Front Door Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

LEFT FRONT I/P AND LEFT FRONT DOOR CHANNELS SHORTED ACROSS

When Monitored and Set Condition:

LEFT FRONT I/P AND LEFT FRONT DOOR CHANNELS SHORTED ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front I/P Speaker and Left Front Door Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
LEFT FRONT I/P AND LEFT FRONT DOOR CHANNELS SHORTED ACROSS
LEFT FRONT I/P AND LEFT FRONT DOOR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Left Front I/P and Left Front Door Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front I/P and Left Front Door Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front I/P Speaker harness connector. Access and disconnect the Left Front Door Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Left Front Door Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LEFT FRONT I/P AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT I/P AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front I/P Speaker and Left Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
LEFT FRONT I/P AND LEFT REAR CHANNELS SHORTED ACROSS
LEFT FRONT I/P AND LEFT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Left Front I/P and Left Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front I/P and Left Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front I/P Speaker harness connector. Access and disconnect the Left Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Left Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

LEFT FRONT I/P AND RIGHT FRONT DOOR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT I/P AND RIGHT FRONT DOOR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front I/P Speaker and the Right Front Door Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
LEFT FRONT I/P AND RIGHT FRONT DOOR CHANNELS SHORTED ACROSS
LEFT FRONT I/P AND RIGHT FRONT DOOR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Left Front I/P and Right Front Door Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front I/P and Right Front Door Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front I/P Speaker harness connector. Access and disconnect the Right Front Door Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Right Front Door Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LEFT FRONT I/P AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT I/P AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front I/P Speaker and Right Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
LEFT FRONT I/P AND RIGHT REAR CHANNELS SHORTED ACROSS
LEFT FRONT I/P AND RIGHT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Left Front I/P and Right Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front I/P and Right Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front I/P Speaker harness connector. Access and disconnect the Right Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Right Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LEFT FRONT I/P CHANNEL SHORT ACROSS

When Monitored and Set Condition:

LEFT FRONT I/P CHANNEL SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Front I/P Speaker circuit is shorted.

POSSIBLE CAUSES
LEFT FRONT I/P CHANNEL SHORT ACROSS
LEFT FRONT I/P SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Left Front I/P Speaker harness connector. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Front I/P Speaker in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Front I/P Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Front I/P Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms? Yes → Repair the Left Front I/P Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

LEFT FRONT INPUT NO ACTIVITY

When Monitored and Set Condition:

LEFT FRONT INPUT NO ACTIVITY

When Monitored: When the DRBIII® performs the amplifier Input Test.

Set Condition: The Amplifier detects no activity on the input circuit.

POSSIBLE CAUSES
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
OPEN SPEAKER CIRCUITS
AMPLIFIER
RADIO

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the left front speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the left front speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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LEFT FRONT INPUT NO ACTIVITY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance of each left front speaker (+) and (-) circuit between the Radio and the Amplifier. Is the resistance below 5.0 ohms for each circuit? Yes → Go To 4 No → Repair the speaker circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Reconnect the Radio harness connector. Disconnect the Amplifier C1 harness connector. Turn the ignition on and the Radio on to a known good radio station or have a tape or CD playing. Turn the radio volume control up at least 25 positions. With the voltmeter in the AC voltage scale, measure the voltage of each left front speaker circuit at the Amplifier C1 connector. **NOTE: Perform this test on each left front speaker circuit.** Is the voltage at least 120mV AC (0.12 VAC) on each speaker circuit? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LEFT REAR CHANNEL SHORT ACROSS

When Monitored and Set Condition:

LEFT REAR CHANNEL SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Left Rear Speaker circuit is shorted.

POSSIBLE CAUSES
LEFT REAR CHANNEL SHORT ACROSS
LEFT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Left Rear Speaker harness connector. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Left Rear Speaker in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Left Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms? Yes → Repair the Left Rear Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

LEFT REAR INPUT NO ACTIVITY

When Monitored and Set Condition:

LEFT REAR INPUT NO ACTIVITY

When Monitored: When the DRBIII® performs the amplifier Input Test.

Set Condition: The Amplifier detects no activity on the input circuit.

POSSIBLE CAUSES
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
OPEN SPEAKER CIRCUITS
AMPLIFIER
RADIO

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the left rear speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the left rear speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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LEFT REAR INPUT NO ACTIVITY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance of each left rear speaker (+) and (-) circuit between the Radio and the Amplifier. Is the resistance below 5.0 ohms for each circuit? Yes → Go To 4 No → Repair the speaker circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Reconnect the Radio harness connector. Disconnect the Amplifier C1 harness connector. Turn the ignition on and the Radio on to a known good radio station or have a tape or CD playing. Turn the radio volume control up at least 25 positions. With the voltmeter in the AC voltage scale, measure the voltage of each left rear speaker circuit at the Amplifier C1 connector. **NOTE: Perform this test on each left rear speaker circuit.** Is the voltage at least 120mV AC (0.12 VAC) on each speaker circuit? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LOW VOLTAGE LEVEL

When Monitored and Set Condition:

LOW VOLTAGE LEVEL

When Monitored:

Set Condition: The radio detects lower than normal voltage.

POSSIBLE CAUSES
CHECK CHARGING SYSTEM
CHECK VOLTAGE LEVEL AT RADIO
RADIO

TEST	ACTION	APPLICABILITY
1	Check the charging system in accordance with the service information. Is the charging system operating properly? Yes → Go To 2 No → Refer to the appropriate service information and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Radio harness connector. Start the engine. Measure the voltage of each Fused B+ circuit and the Fused Ignition Switch Output circuit. Is the voltage above or approximately 14 volts for each measurement? Yes → Go To 3 No → Repair the circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All
3	**Note: Reconnect all previously disconnected components.** Turn the ignition and Radio on. With the DRBIII®, erase the audio DTC's. Start the engine. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:
NO ANTENNA CONNECTION

When Monitored and Set Condition:

NO ANTENNA CONNECTION

When Monitored: With the ignition on and the radio in seek up/down mode.

Set Condition: With the radio in seek or scan mode for two minutes and the radio does not detect an antenna connection or does not receive a radio station signal.

POSSIBLE CAUSES
BAD ANTENNA CONNECTION
TEST ANTENNA
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Radio Antenna connector. Inspect the Radio Antenna connection. Was the Antenna connection clean and tight? Yes → Go To 2 No → Repair Antenna connection as needed. Perform BODY VERIFICATION TEST - VER 1.	All
2	Refer to the Audio System in the service information and test the Antenna in accordance with the service procedure. Is the Antenna ok? Yes → Go To 3 No → Repair or replace the Antenna assembly as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
3	**NOTE: Reconnect all previously disconnected components.** Turn the ignition and Radio on. **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

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Symptom:
PCI FAILURE

When Monitored and Set Condition:

PCI FAILURE

When Monitored: When the DRBIII® performs the PCI Amplifier Test.

Set Condition: When the Amplifier detects a fault with the PCI circuitry.

POSSIBLE CAUSES
AMPLIFIER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition present? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the wiring diagrams in the service information to help isolate a possible intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM

When Monitored and Set Condition:

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES
DETERMINE FAULT
FRONT SHORTED SPEAKER
REAR SHORTED SPEAKER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER
SPEAKER SECTION OF RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Does the DRBIII® display POWER AMP SHUTDOWN? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each front speaker connector.** Disconnect each front speaker harness connector one at a time. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display POWER AMP SHUTDOWN with all the speakers disconnected? Yes → Go To 3 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All

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POWER AMP SHUTDOWN - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each rear speaker connector.** Disconnect each rear speaker harness connector one at a time. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display POWER AMP SHUTDOWN with all the rear speakers disconnected? Yes → Go To 4 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect each front and rear speaker harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect each front and rear speaker harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect each front and rear speaker harness connector. Disconnect the Radio harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the speaker circuits shorted together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM

When Monitored and Set Condition:

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM

When Monitored: Ignition in RUN and IOD fuse installed.

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

POSSIBLE CAUSES
DETERMINE FAULT
SPEAKER SECTION OF POWER AMPLIFIER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) CIRCUITS SHORTED TOGETHER
SPEAKER SECTION OF RADIO

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

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POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM — Continued

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

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Symptom:
RADIO AND NAV GPS ANTENNA NOT CONNECTED

POSSIBLE CAUSES
BAD ANTENNA CONNECTION
ANTENNA
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Antenna connectors. Inspect the Antenna connections. Was the Antenna connections clean and tight? Yes → Go To 2 No → Repair the Antenna connections as needed. Perform BODY VERIFICATION TEST - VER 1.	All
2	Refer to the Audio System in the service information and test the Antennas in accordance with the service procedure. Are the Antennas ok? Yes → Go To 3 No → Repair or replace the Antenna assemblies as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
3	**NOTE: Reconnect all previously disconnected components.** **NOTE: Move vehicle outside approximately 30ft from any structure.** Turn the ignition and Radio on. With the DRBIII®, erase the audio DTC's and operate the radio and the navigation system. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:
REAR SPEAKERS SHORT TOGETHER OR TO GROUND

When Monitored and Set Condition:

REAR SPEAKERS SHORT TOGETHER OR TO GROUND

When Monitored: When the DRBIII® performs the Speaker Output Test.

Set Condition: Each Amplifier rear channel is shorted together or to ground.

POSSIBLE CAUSES
AMPLIFIER
LEFT REAR SPEAKER
REAR SPEAKER CIRCUIT SHORTED TO GROUND
REAR SPEAKER CIRCUITS SHORTED TOGETHER - TEST 1
REAR SPEAKER CIRCUITS SHORTED TOGETHER - TEST 2
REAR SPEAKER CIRCUITS SHORTED TOGETHER - TEST 3
RIGHT REAR SPEAKER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRB III to perform the Amplifier Pre-test to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Right Rear Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Rear Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Left Rear Speaker harness connector. Turn the ignition on. Using the DRB III, perform the Amplifier Pre-test. Is the fault condition still present? Yes → Go To 3 No → Replace the Left Rear Speaker in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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REAR SPEAKERS SHORT TOGETHER OR TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Access and disconnect the Right Rear and Left Rear Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. Measure the resistance between ground and each of the 4 Rear Speaker circuits. Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 4 No → Repair the Rear Speaker circuit that measured below 1000 ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Access and disconnect the Right Rear and Left Rear Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Left Rear Speaker (-) circuit and the following circuits: Left Rear Speaker (+), Right Rear Speaker (-) and Right Rear Speaker (+). Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 5 No → Repair the Rear Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Access and disconnect the Right Rear and Left Rear Speaker harness connectors. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Left Rear Speaker (+) circuit and the following circuits: Right Rear Speaker (-) and Right Rear Speaker (+). Is the resistance above 1000 ohms for each of the measurements? Yes → Go To 6 No → Repair the Rear Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Access and disconnect the Right Rear Speaker harness connector. Disconnect the Amplifier C2 harness connecter. At the Amplifier C2 harness connector, measure the resistance between the Right Rear Speaker (+) circuit and Right Rear Speaker (-) circuit. Is the resistance above 1000 ohms? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Speaker circuits that are shorted together. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
REMOTE RADIO SWITCH CIRCUIT HIGH

When Monitored and Set Condition:

REMOTE RADIO SWITCH CIRCUIT HIGH

When Monitored: With the ignition on.

Set Condition: Remote radio control MUX circuit is open (above 5.0 volts).

POSSIBLE CAUSES
DETERMINE FAULT
CLOCKSPRING OPEN
GROUND CIRCUIT OPEN
OPEN RADIO CONTROL MUX CIRCUIT
INSTRUMENT CLUSTER - OPEN INTERNAL
CLOCKSPRING SHORTED TO VOLTAGE
RADIO CONTROL MUX CIRCUIT SHORTED TO VOLTAGE
INSTRUMENT CLUSTER - SHORTED INTERNALLY

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Make sure the DRB can communicate with the Radio before continuing.** With the DRBIII®, erase the Instrument Cluster DTC's. Cycle the ignition switch from off to on and wait 1 minute. With the DRBIII®, read the DTC's. Did this DTC reset? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent open or short. Perform BODY VERIFICATION TEST - VER 1.	All
2	**WARNING: To avoid personal injury or death, turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect either remote radio switch harness connector. Turn the ignition on, reconnect the battery. Measure the voltage between the Radio Control MUX circuit and the ground circuit at the remote radio switch connector. Is the voltage above 3.6 volts? Yes → Go To 3 No → Go To 5	All

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REMOTE RADIO SWITCH CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Turn the ignition on. Measure the voltage of the Radio Control MUX circuit at the clockspring C1 harness connector. Is the voltage above 5.0 volts? Yes → Go To 4 No → Repair the radio control MUX circuit for a short to voltage between the clockspring and the splice. If OK, replace the Clockspring. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Disconnect the Instrument Cluster harness connectors. Turn the ignition on. Measure the voltage of the Radio Control MUX circuit at the clockspring C1 harness connector. Is the voltage above 5.0 volts? Yes → Repair the Radio Control MUX circuit for a short to voltage between the Instrument Cluster and the Clockspring. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Turn the ignition on. Turn the Radio on. Connect a jumper wire between the Radio Control MUX circuit and the Ground circuit. Did the radio change stations? Yes → Repair the ground circuit or the radio control MUX circuit for an open between the clockspring and the splice. If OK, replace the Clockspring. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Measure the resistance between ground and the Ground circuit at the Clockspring C1 harness connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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REMOTE RADIO SWITCH CIRCUIT HIGH — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Disconnect the Instrument Cluster harness connectors. Measure the resistance of the Radio Control MUX circuit between the Instrument Cluster connector and the Clockspring C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Radio Control MUX circuit for an open between the clockspring and the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
REMOTE RADIO SWITCH CIRCUIT STUCK

When Monitored and Set Condition:

REMOTE RADIO SWITCH CIRCUIT STUCK

When Monitored: With the ignition on.

Set Condition: Remote radio control MUX circuit is stuck or shorted to ground for greater than 30 seconds.

POSSIBLE CAUSES
DETERMINE FAULT
LEFT REMOTE RADIO SWITCH STUCK OR SHORTED TO GROUND
RIGHT REMOTE RADIO SWITCH STUCK OR SHORTED TO GROUND
RADIO CONTROL MUX CIRCUIT SHORTED TO GROUND AT THE SWITCH
RADIO CONTROL MUX CIRCUIT SHORTED TO THE GROUND CIRCUIT AT THE SWITCH
CLOCKSPRING SHORTED TO GROUND
RADIO CONTROL MUX CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER - INTERNAL SHORT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Make sure the DRB can communicate with the Radio before continuing.** With the DRBIII®, erase the Instrument Cluster DTC's. Cycle the ignition switch from off to on and wait 1 minute. With the DRBIII®, read the DTC's. Did this DTC reset? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent open or short. Perform BODY VERIFICATION TEST - VER 1.	All

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REMOTE RADIO SWITCH CIRCUIT STUCK — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: To avoid personal injury or death, turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect the Left Remote Radio Switch harness connector. Turn the ignition on, reconnect the battery. With the DRB, enter Instrument Cluster then Sensors and monitor the Remote Radio SW voltage. Is the voltage above 3.2 volts? Yes → Replace the Left Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: To avoid personal injury or death, turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect the Right Remote Radio Switch harness connector. Turn the ignition on, reconnect the battery. With the DRB, enter Instrument Cluster then Sensors and monitor the Remote Radio SW voltage. Is the voltage above 3.2 volts? Yes → Replace the Right Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Clockspring C4 harness connector. Turn the ignition on. With the DRB, enter Instrument Cluster then Sensors and monitor the Remote Radio SW voltage. Is the voltage above 3.2 volts? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Disconnect the Clockspring C4 harness connector. **NOTE: Ensure both remote radio switches are disconnected.** Measure the resistance between ground and the Radio Control MUX circuit at the Clockspring C4 harness connector. Is the resistance below 5.0 ohms? Yes → Repair the Radio Control MUX circuit for a short to ground between the clockspring and the remote radio switches. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Radio Control MUX circuit for a short to the Ground circuit between the clockspring and the remote radio switches. Perform BODY VERIFICATION TEST - VER 1.	All

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REMOTE RADIO SWITCH CIRCUIT STUCK — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Turn the ignition on. With the DRB, enter Instrument Cluster then Sensors and monitor the Remote Radio SW voltage. Is the voltage above 3.2 volts? Yes → Replace the Clockspring in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Clockspring C1 harness connector. Disconnect the Instrument Cluster harness connectors. 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 Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RIGHT FRONT DOOR AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT DOOR AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front Door Speaker and Left Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT FRONT DOOR AND LEFT REAR CHANNELS SHORTED ACROSS
RIGHT FRONT DOOR AND LEFT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Right Front Door and Left Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front Door and Left Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front Door Speaker harness connector. Access and disconnect the Left Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front Door Speaker (+) and (-) circuits. Measure the resistance of the Left Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RIGHT FRONT DOOR AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT DOOR AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front Door Speaker and Right Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT FRONT DOOR AND RIGHT REAR CHANNELS SHORTED ACROSS
RIGHT FRONT DOOR AND RIGHT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Right Front Door and Right Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front Door and Right Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front Door Speaker harness connector. Access and disconnect the Right Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front Door Speaker (+) and (-) circuits. Measure the resistance of the Right Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
RIGHT FRONT DOOR CHANNEL SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT DOOR CHANNEL SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front Door circuit is shorted.

POSSIBLE CAUSES
RIGHT FRONT DOOR CHANNEL SHORT ACROSS
RIGHT FRONT DOOR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Right Front Door Speaker harness connector. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front Door Speaker in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front Door Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front Door Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms? Yes → Repair the Right Front Door Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RIGHT FRONT I/P AND LEFT FRONT DOOR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT I/P AND LEFT FRONT DOOR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front I/P Speaker and Left Front Door Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT FRONT I/P AND LEFT FRONT DOOR CHANNELS SHORTED ACROSS
RIGHT FRONT I/P AND LEFT FRONT DOOR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Right Front I/P and Left Front Door Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front I/P and Left Front Door Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front I/P Speaker harness connector. Access and disconnect the Left Front Door Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Left Front Door Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
RIGHT FRONT I/P AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT I/P AND LEFT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front I/P Speaker and Left Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT FRONT I/P AND LEFT REAR CHANNELS SHORTED ACROSS
RIGHT FRONT I/P AND LEFT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Right Front I/P and Left Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front I/P and Left Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front I/P Speaker harness connector. Access and disconnect the Left Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Left Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RIGHT FRONT I/P AND RIGHT FRONT DOOR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT I/P AND RIGHT FRONT DOOR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front I/P Speaker and Right Front Door Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT FRONT I/P AND RIGHT FRONT DOOR CHANNELS SHORTED ACROSS
RIGHT FRONT I/P AND RIGHT FRONT DOOR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Right Front I/P and Right Front Door Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front I/P and Right Front Door Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front I/P Speaker harness connector. Access and disconnect the Right Front Door Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Right Front Door Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
RIGHT FRONT I/P AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT I/P AND RIGHT REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front I/P Speaker and Right Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT FRONT I/P AND RIGHT REAR CHANNELS SHORTED ACROSS
RIGHT FRONT I/P AND RIGHT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are both shorted simultaneously.** Turn the ignition off. Access and disconnect the Right Front I/P and Right Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front I/P and Right Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front I/P Speaker harness connector. Access and disconnect the Right Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front I/P Speaker (+) and (-) circuits. Measure the resistance of the Right Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair both Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
RIGHT FRONT I/P CHANNEL SHORT ACROSS

When Monitored and Set Condition:

RIGHT FRONT I/P CHANNEL SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Front I/P Speaker circuit is shorted.

POSSIBLE CAUSES
RIGHT FRONT I/P CHANNEL SHORT ACROSS
RIGHT FRONT I/P SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Right Front I/P Speaker harness connector. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Front I/P Speaker in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Front I/P Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Front I/P Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms? Yes → Repair the Right Front I/P Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RIGHT FRONT INPUT NO ACTIVITY

When Monitored and Set Condition:

RIGHT FRONT INPUT NO ACTIVITY

When Monitored: When the DRBIII® performs the amplifier Input Test.

Set Condition: The Amplifier detects no activity on the input circuit.

POSSIBLE CAUSES
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
OPEN SPEAKER CIRCUITS
AMPLIFIER
RADIO

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the right front speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the right front speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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RIGHT FRONT INPUT NO ACTIVITY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance of each right front speaker (+) and (-) circuit between the Radio and the Amplifier. Is the resistance below 5.0 ohms for each circuit? Yes → Go To 4 No → Repair the speaker circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Reconnect the Radio harness connector. Disconnect the Amplifier C1 harness connector. Turn the ignition on and the Radio on to a known good radio station or have a tape or CD playing. Turn the radio volume control up at least 25 positions. With the voltmeter in the AC voltage scale, measure the voltage of each right front speaker circuit at the Amplifier C1 connector. **NOTE: Perform this test on each right front speaker circuit.** Is the voltage at least 120mV AC (0.12 VAC) on each speaker circuit? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RIGHT I/P SPEAKER AND BOTH REAR CHANNELS SHORT ACROSS

When Monitored and Set Condition:

RIGHT I/P SPEAKER AND BOTH REAR CHANNELS SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right I/P Speaker and both Rear Speaker circuits are simultaneously shorted.

POSSIBLE CAUSES
RIGHT I/P SPEAKER AND BOTH REAR CHANNELS SHORTED ACROSS
RIGHT I/P SPEAKER AND BOTH REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** **NOTE: Amplifier speaker circuits are all shorted simultaneously.** Turn the ignition off. Access and disconnect the Right I/P Speaker and both Rear Speaker harness connectors. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right I/P Speaker and both Rear Speakers in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right I/P Speaker harness connector. Access and disconnect both Rear Speaker harness connectors. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right I/P Speaker (+) and (-) circuits. Measure the resistance of both Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms on each measurement? Yes → Repair all Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
RIGHT REAR CHANNEL SHORT ACROSS

When Monitored and Set Condition:

RIGHT REAR CHANNEL SHORT ACROSS

When Monitored: When the DRBIII® performs the Speaker Output test.

Set Condition: When the Right Rear Speaker circuit is shorted.

POSSIBLE CAUSES
RIGHT REAR CHANNEL SHORT ACROSS
RIGHT REAR SPEAKER CIRCUITS SHORTED
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Access and disconnect the Right Rear Speaker harness connector. Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition still present? Yes → Go To 2 No → Replace the Right Rear Speaker in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Access and disconnect the Right Rear Speaker harness connector. Access and disconnect the Amplifier C2 harness connector. Measure the resistance of the Right Rear Speaker (+) and (-) circuits. Is the resistance below 5.0 ohms? Yes → Repair the Right Rear Speaker (+) and (-) circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
RIGHT REAR INPUT NO ACTIVITY

When Monitored and Set Condition:

RIGHT REAR INPUT NO ACTIVITY

When Monitored: When the DRBIII® performs the amplifier Input Test.

Set Condition: The Amplifier detects no activity on the input circuit.

POSSIBLE CAUSES
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
OPEN SPEAKER CIRCUITS
AMPLIFIER
RADIO

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the right rear speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance between ground and the right rear speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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RIGHT REAR INPUT NO ACTIVITY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Disconnect the Radio harness connector. Measure the resistance of each right rear speaker (+) and (-) circuit between the Radio and the Amplifier. Is the resistance below 5.0 ohms for each circuit? Yes → Go To 4 No → Repair the speaker circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Reconnect the Radio harness connector. Disconnect the Amplifier C1 harness connector. Turn the ignition on and the Radio on to a known good radio station or have a tape or CD playing. Turn the radio volume control up at least 25 positions. With the voltmeter in the AC voltage scale, measure the voltage of each right rear speaker circuit at the Amplifier C1 connector. **NOTE: Perform this test on each right rear speaker circuit.** Is the voltage at least 120mV AC (0.12 VAC) on each speaker circuit? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
SOFTWARE CHECKSUM FAILURE

When Monitored and Set Condition:

SOFTWARE CHECKSUM FAILURE

When Monitored: When the DRBIII® performs the PCI Amplifier Test.

Set Condition: When the Amplifier detects a fault with the software checksum.

POSSIBLE CAUSES
AMPLIFIER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition present? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the wiring diagrams in the service information to help isolate a possible intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*AMPLIFIER PRETEST

POSSIBLE CAUSES
AMPLIFIER PRETEST
NO FAULT MESSAGE DISPLAYED

TEST	ACTION	APPLICABILITY
1	**NOTE: Perform this test if the vehicle is experiencing a problem with no sound or poor sound quality from a speaker or channel.** Turn the ignition on. Turn the radio on. With the DRBIII® enter Body, Audio Systems, Digital Audio Amplifier then System Tests. With the DRBIII® enter any one of the amplifier tests. **NOTE: The Continuous Tone test will send a continuous tone to each speaker. This test will verify the integrity of an individual speaker channel, but will not display any fault messages.** **NOTE: The PCI Amplifier Test will detect a PCI or Checksum Failure, and will display fault messages.** **NOTE: The Input Test will detect activity on the amplifier input channels, and will display fault messages.** **NOTE: The Speaker Output Test will detect activity on the amplifier output channels, and will display fault messages.** Did the DRBIII® display a fault message? Yes → Perform the appropriate corresponding test. Perform BODY VERIFICATION TEST - VER 1. No → If the DRB does not display a fault message and the vehicle is experiencing a problem with a speaker or channel, refer to the wiring diagrams in the service information to help isolate a possible open in the wiring to the affected speaker or channel. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*CHIME INOPERATIVE

POSSIBLE CAUSES
ACTUATE CHIME WITH DRBIII®
INSTRUMENT CLUSTER - CHIME INOPERATIVE

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

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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
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the exterior lamps turn on and off properly and are off before continuing this test.** With the DRB III select: Instrument Cluster, Input Output. Read the Key-In Ign Sw. Remove the key from the ignition switch. Does the DRB III show Key-In Ign OPEN? Yes → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Ignition Switch connector. Did the chime turn off? Yes → Check the Ignition Lock Cylinder for damage. If OK replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn ignition off. Disconnect the Ignition Switch connector. Disconnect the Instrument Cluster C3 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? Yes → Repair the Key-In Ignition Switch Sense wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	If there are no possible causes remaining, view repair. Repair Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

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

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

TEST	ACTION	APPLICABILITY
1	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 Instrument Cluster Input Outputs and read the Key-In Ign Sw. Does the DRB display: KEY-IN IGN SW: CLOSED? Yes → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Ignition Switch harness connector. Turn all lights off. Measure the resistance between ground and the ground circuit in the ignition switch harness connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Connect the ignition switch connector if disconnected. Turn the ignition on. With the ignition switch connector connected, back jumper the Key-In Ignition Switch Sense circuit to ground at the ignition switch connector. With the DRBIII®, enter Instrument Cluster Input/Outputs and observe the Key-In Ign Sw 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

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

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch connector and the Instrument Cluster C3 connector . Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Key-In Ignition Switch Sense circuit for an open Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*VEHICLE SPEED WARNING CHIME PROBLEM

POSSIBLE CAUSES
INCORRECT COUNTRY CODE PROGRAMMED IN INSTRUMENT CLUSTER
INSTRUMENT CLUSTER

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

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Symptom List:

FCM - BUS SHORTED TO BATTERY
FCM - BUS SHORTED TO GROUND

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be FCM - BUS SHORTED TO BATTERY.

When Monitored and Set Condition:

FCM - BUS SHORTED TO BATTERY

When Monitored: Continuously

Set Condition: Anytime the FCM detects a short to battery on the PCI Bus circuit.

FCM - BUS SHORTED TO GROUND

When Monitored: Continuously

Set Condition: Anytime the FCM detects a short to ground on the PCI Bus circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRB will not be able to communicate with any modules on the vehicle (except the PCM/ECM).** **NOTE: Clear the code. If this code continues to set and the DRB can still communicate with the FCM, it will be necessary to replace the FCM.** **WARNING: WHEN THE ENGINE IS OPERATING, DO NOT STAND IN A DIRECT LINE WITH THE FAN. DO NOT PUT YOUR HANDS NEAR THE PULLEYS, BELTS OR FAN. DO NOT WEAR LOOSE CLOTHING.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom List:

FCM - EEPROM CHECKSUM FAILURE
FCM - INTERNAL BOOTLOADER CHECKSUM FAILURE
FCM - INTERNAL FLASH MEMORY CHECKSUM FAILURE
FCM - PCI BUS INTERNAL - LOOPBACK FAILURE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be FCM - EEPROM CHECKSUM FAILURE.

When Monitored and Set Condition:

FCM - EEPROM CHECKSUM FAILURE

When Monitored:

Set Condition: When the EEPROM memory checksum is determined to be incorrect.

FCM - INTERNAL BOOTLOADER CHECKSUM FAILURE

When Monitored:

Set Condition: When the bootloader checksum is determined to be incorrect.

FCM - INTERNAL FLASH MEMORY CHECKSUM FAILURE

When Monitored:

Set Condition: When the flash memory checksum is determined to be incorrect.

FCM - PCI BUS INTERNAL - LOOPBACK FAILURE

When Monitored:

Set Condition: When a loopback test has failed.

POSSIBLE CAUSES
INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, erase FCM DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read FCM DTC's. Did this DTC reset? Yes → Replace the Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:

FCM - MIC MESSAGES NOT RECEIVED

When Monitored and Set Condition:

FCM - MIC MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The FCM does not receive any messages from the MIC for at least 5 seconds.

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Electro/Mech Cluster. Was the DRB able to I/D or communicate with the Instrument Cluster (MIC)? Yes → Go To 2 No → Refer to the Communication category for the related symptom. 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 Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:

FCM - PCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

FCM - PCM MESSAGES NOT RECEIVED

When Monitored: Withe the ignition on.

Set Condition: The FCM does not receive any messages from the PCM for at least 5 seconds.

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter SYSTEM MONITORS then J1850 MODULE SCAN. Is the PCM active on the BUS? Yes → Erase DTC, if DTC resets replace the Front 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

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FCM - PCM MESSAGES NOT RECEIVED — Continued

TEST	ACTION	APPLICABILITY
3	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 PCM connector (from special tool #8815 if NGC) and the DLC. Is the resistance below 5.0 ohms? Yes → Replace and program the Powertrain Control Module in accordance with the service information. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM - VIN NOT LEARNED CORRECTLY

When Monitored and Set Condition:

FCM - VIN NOT LEARNED CORRECTLY

When Monitored: With the ignition on.

Set Condition: The VIN is programmed into the FCM via PCI Bus messages from the PCM/ECM. When learning the VIN, the FCM computes a check digit to verify that the VIN learned was valid. If not valid, the DTC will set and the VIN will not be learned.

POSSIBLE CAUSES
VIN NOT LEARNED CORRECTLY

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, erase FCM DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read FCM DTC's. Did this DTC reset? Yes → Replace the Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:
*NO RESPONSE FROM AIRBAG CONTROL MODULE

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

TEST	ACTION	APPLICABILITY
1	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 ACM 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 at the ACM connector. NOTE: One open circuit will not cause a NO RESPONSE condition. Is the test light illuminated on both circuits? Yes → Go To 2 No → Repair the Fused Ignition Switch Output (Run) and Fused Ignition Switch Output (Run/Start) circuits for an open. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**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 ACM harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. **NOTE: Make sure test light is connected to the Battery positive terminal.** Is the test light illuminated? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1. **When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

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*NO RESPONSE FROM AIRBAG CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
3	**Note: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the ACM harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Turn the ignition on and then reconnect the Battery. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the ACM connector. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Airbag Control Module in accordance with the Service Information. WARNING: Make sure the battery is disconnected and wait 2 minutes before proceeding. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

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Symptom:
*NO RESPONSE FROM AMPLIFIER

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: The Radio must be turned on for the DRB to get a response from the Amplifier.** With the DRB, attempt to communicate with the Radio. Was the DRB able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Using a 12-volt test light connected to ground, probe both Fused B(+) circuits. Is the test light illuminated for both circuits? Yes → Go To 4 No → Check IPM fuse #21 for an open. If OK, repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM AMPLIFIER — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Amplifier C1 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Amplifier connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

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

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE MIC
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	Turn the ignition on. With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or communicate with the MIC? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the MIC. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the CMTC harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the CMTC harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the CMTC harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 5 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM COMPASS MINI-TRIP COMPUTER — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the CMTC harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the CMTC connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace Compass Mini-Trip Computer in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **Note: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, attempt to communicate with the Airbag Control Module (ACM). With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or establish communications with either of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform ABS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the CAB C1 harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits? Yes → Go To 3 No → Repair the ground circuit(s) for an open. Perform ABS VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the CAB C1 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 4 No → Check IPM fuse #35 for an open. If OK, repair the Fused Ignition Switch Output circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the CAB 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 CAB connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 5 No → Repair the PCI Bus circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Controller Antilock Brake in accordance with the Service Information. Perform ABS VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM ECM (PCI BUS) - DIESEL ONLY

POSSIBLE CAUSES
ECM PCI NO RESPONSE
PCI BUS CIRCUIT OPEN
ENGINE CONTROL MODULE

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

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

TEST	ACTION	APPLICABILITY
2	With the DRBIII® read ECM Diagnostic Trouble Codes. This is to ensure power and grounds to the ECM are operational. **NOTE: If the DRBIII® will not read ECM DTC's, follow the NO RESPONSE TO ECM (SCI only) symptom path.** **NOTE: If the vehicle will not start and the DRBIII® displays a no response message, refer to the appropriate symptom in the powertrain diagnostic procedures.** Turn the ignition off. Disconnect the ECM harness connectors. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRBIII®. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the ECM ground. Connect the Red lead to the PCI Bus circuit in the ECM connector. Turn the ignition on. Observe the voltage display on the DRBIII® Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace and program the Engine Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Repair the PCI Bus circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All

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Symptom:

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

POSSIBLE CAUSES
INSPECT WIRING HARNESS AND CONNECTORS
CHECK ECM POWERS AND GROUNDS
SCI CIRCUIT(S) SHORTED TO GROUND
SCI CIRCUIT(S) SHORTED TO VOLTAGE
SCI CIRCUIT(S) OPEN
SCI CIRCUIT(S) SHORTED TOGETHER
ENGINE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Perform the symptom Checking ECM Power and Ground Circuits in the Driveability category. Did the vehicle pass this test? Yes → Go To 2 No → Repair as necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
2	Turn the ignition off. Disconnect the ECM harness connectors. Disconnect the DRB from the DLC. Measure the resistance between ground and the SCI Transmit circuit. Measure the resistance between ground and the SCI Receive circuit. Is the resistance below 10.0 ohms for both measurements? Yes → Repair the SCI circuit(s) for a short to ground. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Go To 3	All
3	Turn the ignition off. Disconnect the DRB from the DLC. Disconnect the ECM harness connectors. Turn the ignition on. Measure the voltage of the SCI Transmit circuit at the DLC. Measure the voltage of the SCI Receive circuit at the DLC. Is the voltage above 1.0 volt for either measurement? Yes → Repair the SCI circuit(s) for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Go To 4	All

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

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the ECM harness connectors. Disconnect the DRB from the DLC. Measure the resistance of the SCI Transmit circuit between the ECM harness connector and the DLC. Measure the resistance of the SCI Receive circuit between the ECM harness connector and the DLC. Is the resistance below 10.0 ohms for each measurement? Yes → Go To 5 No → Repair the SCI circuit(s) for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
5	Turn the ignition off. Disconnect the ECM harness connectors. Disconnect the DRB from the DLC. Measure the resistance between the SCI Transmit and SCI Receive circuits at the DLC. Is the resistance below 10.0 ohms? Yes → Repair the SCI circuit(s) for a short together. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Go To 6	All
6	Turn the ignition off. Using the Service Information inspect the SCI Transmit and SCI Receive circuits between the DLC and ECM. Check the wiring and connectors for damage, corrosion or other problems that may cause circuit interruption. Are there any problems evident? Yes → Repair as wiring/ connectors necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Replace and program the Engine Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All

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Symptom:

*NO RESPONSE FROM FRONT CONTROL MODULE

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH ANOTHER MODULE
OPEN GROUND CIRCUIT(S)
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
OPEN PCI BUS CIRCUIT
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Controller Antilock Brake (CAB) module. With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or communicate with any of the modules? Yes → Go To 2 No → Refer to symptom list for problems related to the PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Front Control Module from the IPM. Using a 12-volt test light connected to 12-volts, probe each Ground circuit in the IPM FCM connector. Is the test light illuminated for each circuit? Yes → Go To 3 No → Repair the Ground circuit(s) for an open between the IPM connector and the grounding point. If OK, replace the power distribution center. Perform BODY VERIFICATION TEST - VER 1.	All
3	**NOTE: Check IPM fuse #50 for an open before continuing.** Turn the ignition off. Remove the Front Control Module from the IPM. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit in the IPM FCM connector. Is the test light illuminated? Yes → Go To 4 No → Check IPM fuse #50 for an open. If OK, replace the power distribution center. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM FRONT CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Remove the Front Control Module from the IPM. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Set the probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the IPM FCM connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. If OK, replace the power distribution center. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM HANDS FREE MODULE

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE MIC
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
HANDS FREE MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Instrument Cluster. Was the DRBIII® able to I/D or communicate with the Instrument Cluster? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Hands Free Module harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Hands Free Module harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Hands Free Module harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 5 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM HANDS FREE MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Hands Free Module harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Hands Free Module connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM HVAC

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER
GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
A/C HEATER CONTROL

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Instrument Cluster. Was the DRB able to I/D or communicate with the Instrument Cluster? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the A/C Heater Control C1 harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the A/C Heater Control C1 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM HVAC — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the A/C Heater Control 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 A/C Heater Control connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the A/C Heater Control in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM INSTRUMENT CLUSTER

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH ANOTHER MODULE
OPEN GROUND CIRCUIT(S)
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUITS
OPEN FUSED B+ CIRCUIT(S)
OPEN PCI BUS CIRCUIT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Controller Antilock Brake (CAB) module. Was the DRB able to I/D or communicate with any of the modules? Yes → Go To 2 No → Refer to symptom list for problems related to the PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Turn all lights off. Disconnect the Instrument Cluster harness connectors. Using a 12-volt test light connected to 12-volts, probe each ground circuit. Is the test light illuminated for each circuit? Yes → Go To 3 No → Repair the ground circuit(s) for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Instrument Cluster harness connectors. Turn the ignition on. Using a 12-volt test light connected to ground, probe each Fused Ignition Switch Output circuit. Is the test light illuminated for each circuit? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open or short. Refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM INSTRUMENT CLUSTER — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Instrument Cluster harness connectors. Using a 12-volt test light connected to ground, probe each Fused B+ circuit. Is the test light illuminated for each circuit? Yes → Go To 5 No → Repair the Fused B+ circuit for an open or short. Refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Instrument Cluster harness connectors. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Instrument Cluster connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM PCM (PCI BUS) - JTEC

POSSIBLE CAUSES
PCM PCI NO RESPONSE
PCI BUS CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: As soon as one or more module communicates with the DRB, answer the question.** With the DRBIII®, enter Anti-Lock Brakes. With the DRBIII®, enter Body then Electro/Mechanical Cluster (MIC). With the DRBIII®, enter Passive Restraints then Airbag. Were you able to establish communications with any of the modules? Yes → Go To 2 No → Refer to symptom PCI Bus Communication Failure in the Communications category. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
2	With the DRBIII® read PCM Diagnostic Trouble Codes. This is to ensure power and grounds to the PCM are operational. **NOTE: If the DRBIII® will not read PCM DTC's, follow the NO RESPONSE TO PCM (SCI only) symptom path.** **NOTE: If the vehicle will not start and the DRBIII® displays a no response message, refer to the appropriate symptom in the powertrain diagnostic procedures.** Turn the ignition off. Disconnect the PCM C3 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRBIII®. Attach the red and black leads and the cable to probe adapter to the scope input cable. 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 PCM ground. Connect the Red lead to the PCI Bus circuit in the PCM connector. Turn the ignition on. Observe the voltage display on the DRBIII® Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Repair the PCI Bus circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

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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	Turn the ignition on. **NOTE: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, enter Body then Electro/Mechanical Cluster (MIC). With the DRB, enter Passive Restraints then Airbag. Were you able to establish communications with any of the modules? Yes → Go To 2 No → Refer to symptom PCI Bus Communication Failure in the Communications category. Perform (NGC) POWERTRAIN VERIFICATION TEST VER - 1.	All
2	With the DRB read the Powertrain DTC's. This is to ensure power and grounds to the PCM are operational. **NOTE: If the DRB will not read PCM DTC's, follow the NO RESPONSE TO PCM (PCM SCI only) symptom path.** Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the appropriate terminal of special tool #8815. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform (NGC) POWERTRAIN VERIFICATION TEST VER - 1. No → Repair the PCI Bus circuit for an open. Perform (NGC) POWERTRAIN VERIFICATION TEST VER - 1.	All

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

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

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

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

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

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Symptom:

*NO RESPONSE FROM PCM (SCI ONLY) - JTEC

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

TEST	ACTION	APPLICABILITY
1	Perform the symptom Checking PCM Power and Ground Circuits in the Driveability category. **NOTE: With the DRBIII® in the generic scan tool mode, attempt to communicate with the PCM.** **NOTE: If the DRBIII® can communicate with the PCM in the generic scan tool mode, it may not be necessary to perform this step.** Did the vehicle pass this test? Yes → Go To 2 No → Repair as necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
2	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 4	All
3	Turn the ignition off. Disconnect the TCM harness connector (if equipped). **NOTE: If vehicle is not equipped with a TCM, answer yes to the question.** Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Repair the SCI Transmit circuit for a short to ground. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Replace the Transmission Control Module in accordance with the service information. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

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

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

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

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance of the SCI Transmit circuit between the PCM C3 connector and the DLC. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the SCI Transmit circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
10	If there are no possible causes remaining, view repair. Repair Replace and program the Powertrain Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

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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	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 Instrument Cluster. Was the DRB able to I/D or establish communications with either of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Radio harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the Fused Ignition Switch Output circuit for an open or short. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Radio harness connector. Using a 12-volt test light connected to ground, probe both Fused B+ circuits. Is the test light illuminated for both circuits? Yes → Go To 4 No → Repair the Fused B+ circuit for an open or short. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM RADIO — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Radio 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 5 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Radio harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Radio connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*NO RESPONSE FROM SENTRY KEY IMMOBILIZER MODULE

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

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

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*NO RESPONSE FROM SENTRY KEY IMMOBILIZER MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the SKIM harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the SKIM connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 6 No → Repair the PCI Bus circuit for an open. Perform SKIS VERIFICATION.	All
6	If there are no possible causes remaining, view repair. Repair Replace and program the Sentry Key Immobilizer Module in accordance with the Service Information. Perform SKIS VERIFICATION.	All

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Symptom:
*NO RESPONSE FROM TRANSFER CASE CONTROL MODULE

POSSIBLE CAUSES
NO RESPONSE FROM TRANSFER CASE CONTROL MODULE
FUSED B(+) CIRCUIT OPEN
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
TRANSFER CASE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: As soon as one or more module communicates with the DRBIII®, answer the question.** With the DRBIII®, attempt to communicate with the Airbag Control Module. With the DRBIII®, attempt to communicate with the Front Control Module. Was the DRBIII® 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 TRANSFER CASE VERIFICATION TEST.	All
2	Turn the ignition off to the lock position. Disconnect the TCCM harness connectors. Using a 12-volt test light connected to ground, check the Fused B(+) circuit in the TCCM harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Fused B(+) circuit for an open. If the fuse is open make sure to check for a short to ground. Refer to the wiring diagrams located in the Service Information. Perform TRANSFER CASE VERIFICATION TEST.	All
3	Turn the ignition off to the lock position. Disconnect the TCCM harness connectors. Using a 12-volt test light connected to 12-volts, check each ground circuit in the TCCM harness connectors. **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 for each Ground circuit? Yes → Go To 4 No → Repair the Ground circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform TRANSFER CASE VERIFICATION TEST.	All

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*NO RESPONSE FROM TRANSFER CASE CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off to the lock position. Disconnect the TCCM harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the TCCM connector. Turn the ignition on. Observe the voltage display on the DRBIII® Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 5 No → Repair the PCI Bus circuit for an open. Perform TRANSFER CASE VERIFICATION TEST.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Transfer Case Control Module in accordance with the service information. Perform TRANSFER CASE VERIFICATION TEST.	All

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Symptom:

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE

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	Turn the ignition on. **Note: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, attempt to communicate with the Instrument Cluster. With the DRB, attempt to communicate with the Airbag Control Module. Was the DRB able to I/D or establish communications with both of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the appropriate symptom. Perform (NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Turn the ignition on. Using a 12-volt test light connected to ground, probe both Fused Ignition Switch Output circuits (cavs 11 and 12) 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 for both circuits? Yes → Go To 3 No → Repair the Fused Ignition Switch Output circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform (NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Using a 12-volt test light connected to ground, probe the Fused B(+) circuit in the appropriate terminal of special tool #8815. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Is the test light illuminated? Yes → Go To 4 No → Repair the Fused B(+) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform (NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Using a 12-volt test light connected to 12-volts, probe each ground circuit in the appropriate terminal of special tool #8815. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Is the light illuminated at all ground circuits? Yes → Go To 5 No → Repair the Ground circuit(s) for an open. Check the main ground connection to engine block and/or chassis. Refer to the wiring diagrams located in the Service Information. Perform (NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.	All

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*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the appropriate terminal of special tool #8815. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 6 No → Repair the PCI Bus circuit for an open. Perform (NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.	All
6	Using the schematics as a guide, inspect the wiring and connectors. Repair as necessary. Pay particular attention to all power and ground circuits. If there are no possible causes remaining, view repair. Repair Replace and program the Powertrain Control Module in accordance with the service information. WITH THE DRBIII® PERFORM QUICK LEARN. Perform (NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1.	All

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Symptom:
*PCI BUS COMMUNICATION FAILURE

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

TEST	ACTION	APPLICABILITY
1	**Note: Determine which modules this vehicle is equipped with before beginning.** **Note: When attempting to communicate with any of the modules on this vehicle, the DRB will display 1 of 2 different communication errors: a NO RESPONSE message or a BUS +/- SIGNALS OPEN message.** Turn the ignition on. Using the DRB, attempt to communicate with the following control modules: Airbag Control Module Front Control Module Instrument Cluster Was the DRBIII® able to communicate with one or more Module(s)? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. **Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.** **Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **Note: If the DRB can not communicate with a single module, refer to the category list for the related symptom.** Were any problems found? Yes → Repair wiring harness/connectors as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	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? Yes → Go To 4 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	**NOTE: Reconnect the PCM/ECM harness connector and the negative battery cable.** Turn the ignition on. Measure the voltage of the PCI Bus circuit at the Data Link Connector (DLC). Is the voltage above 7.0 volts? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Using a voltmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. **Note: When performing the next step turn the ignition off (wait one minute) before disconnecting any module. When the module is disconnected turn the ignition on to check for a short to voltage.** Turn the ignition on. While monitoring the voltmeter, disconnect each module the vehicle is equipped with one at a time. Is the voltage steadily above 7.0 volts with all the modules disconnected? Yes → Repair the PCI Bus circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the module that when disconnected the short to voltage was eliminated. Perform BODY VERIFICATION TEST - VER 1.	All

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*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the negative battery cable. Using a ohmmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. While monitoring the ohmmeter, disconnect each module the vehicle is equipped with one at a time. **NOTE: Total bus resistance to ground thru all of the modules is typically between 350 to 1000 ohms. The more modules on the bus, the lower the total bus resistance will be.** Is the resistance below 150.0 ohms with all the modules disconnected? Yes → Repair the PCI Bus circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the module that when disconnected the short to ground was eliminated. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
BUS MESSAGES MISSING

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - PCM
NO REPONSE - PCI BUS - MIC
CMTC

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select SYSTEM MONITORS, then J1850 Module Scan.. Does the DRBIII® display PCM Active on the Bus? Yes → Go To 2 No → Refer to COMMUNICATION category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select Electro/Mechanical Instrument Cluster. Is there a response from the Instrument Cluster? Yes → Replace and configure the CMTC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
CMTC INTERNAL FAILURE

POSSIBLE CAUSES
COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	Perform the CMTC Self Test. Turn the ignition off. Press and hold the C/T button and the RESET button. Turn the ignition on. **NOTE: The CMTC Self Test can also be performed using the DRBIII®.** Turn the ignition on. With the DRBIII®, select body, CMTC, System Test, then Self Test. Observe the DRBIII® or the CMTC display following the Self Test. **NOTE: The CMTC Self Test can also be performed using the DRBIII®.** Perform the CMTC Self Test. When the trouble code CMTC INTERNAL FAILURE is displayed, View repair. Repair Replace and program the CMTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
DEMAGNETIZE COMPASS AS PER SERVICE MANUAL

POSSIBLE CAUSES
DEMAGNETIZE COMPASS

TEST	ACTION	APPLICABILITY
1	**NOTE: A blank compass display indicates that vehicle demagnetizing is required.** **NOTE: After demagnetizing, the vehicle will enter Auto Fast-Cal when the ignition is turned on.** **NOTE: Ensure that the correct compass variance is stored in the compass memory. See ″Setting Compass Variance″ in the Service Information.** Refer to the Service Information for the Demagnetizing Procedure. View repair for Verification Test. Repair When the Demagnetizing Procedure is complete perform the Verification Test. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM - AMBIENT TEMP CONFIGURATION ERROR

When Monitored and Set Condition:

FCM - AMBIENT TEMP CONFIGURATION ERROR

When Monitored: During power up.

Set Condition: The FCM detects that an Ambient Temperature Sensor is present on the input circuit and has gone through auto-configuration and another module is transmitting a redundant ambient temp message.

POSSIBLE CAUSES
INCORRECT CONFIGURATION
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: This code will only set if the FCM detects that another module transmitting a redundant ambient temp message.** **NOTE: Diagnose and repair any Communication DTCs before proceeding with this test.** Ensure that the vehicle has only one Ambient Temperature Sensor, and that it is hardwired to the FCM. With the DRBIII®, erase DTCs. Cycle the ignition to auto-configure the FCM. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Ensure that the vehicle is not equipped with multiple Ambient Temperature Sensors. If vehicle is equipped with NGC, disconnect the ambient temp sensor to the FCM and cycle the ignition. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the Front Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM - AMBIENT TEMP SENSOR INPUT LOW

When Monitored and Set Condition:

FCM - AMBIENT TEMP SENSOR INPUT LOW

When Monitored: Continuous with the ignition on.

Set Condition: The FCM detects less than 0.5 volts on the Ambient Temperature Sensor Signal circuit.

POSSIBLE CAUSES
AMBIENT TEMPERATURE SENSOR
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO SENSOR RETURN CIRCUIT
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Ambient Temperature Sensor harness connector. Close all vehicle doors. Turn the ignition on. With the DRBIII® in Sensors, read the Ambient Temperature Sensor voltage. Is the voltage above 4.8 volts? Yes → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector. Disconnect the Ambient Temperature Sensor harness connector. Measure the resistance between ground and the Ambient Temperature Sensor Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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FCM - AMBIENT TEMP SENSOR INPUT LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the IPM C3 harness connector. Measure the resistance between the Ambient Temperature Sensor Signal circuit and the Sensor Ground circuit. Is the resistance below 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to the Sensor Return circuit. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM - AMBIENT TEMP SENSOR INPUT OPEN

When Monitored and Set Condition:

FCM - AMBIENT TEMP SENSOR INPUT OPEN

When Monitored: Continuous with the ignition on.

Set Condition: The FCM detects more than 5.0 volts on the Ambient Temperature Sensor Signal circuit.

POSSIBLE CAUSES
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO VOLTAGE
AMBIENT TEMPERATURE SENSOR
AMBIENT TEMPERATURE SENSOR RETURN CIRCUIT OPEN
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Ambient Temperature Sensor harness connector. Connect a jumper wire between the sensor signal and sensor ground circuits. Close all vehicle doors. Turn the ignition on. With the DRBIII® in Sensors, read the Ambient Temperature Sensor voltage. Is the voltage below 0.5 volts? Yes → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the IPM C3 harness connector. Measure the voltage between the Ambient Temperature Sensor Signal circuit and ground. Is there any voltage present? Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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FCM - AMBIENT TEMP SENSOR INPUT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the IPM C3 harness connector. Measure the resistance of the Sensor Ground circuit between the IPM C2 harness connector and the Sensor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the IPM C3 harness connector. Disconnect the Ambient Temperature Sensor harness connector. Measure the resistance of the Ambient Temperature Sensor Signal circuit between the IPM C2 harness connector and the Sensor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

SET COMPASS VARIANCE AS PER SERVICE INFORMATION

POSSIBLE CAUSES
SET COMPASS VARIANCE

TEST	ACTION	APPLICABILITY
1	Refer to the Service Information for the Compass Variance procedure. View repair for the Verification Test. Repair When the Compass Variance procedure is complete perform the Verification Test. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

***AVERAGE FUEL ECONOMY INACCURATE OR WRONG**
***DISTANCE TO EMPTY INACCURATE OR WRONG**
***ELAPSED IGNITION ON TIME INACCURATE OR WRONG**
***TRIP ODOMETER INACCURATE OR WRONG**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be *AVERAGE FUEL ECONOMY INACCURATE OR WRONG.

POSSIBLE CAUSES
CMTC

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any FCM, PCM, or Communication DTCs before proceeding with this test.** **NOTE: Ensure that the CMTC has been configured for the correct fuel tank size. Use the DRBIII® to verify or modify the fuel tank size configuration.** Perform the CMTC Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the RESET and C/T buttons. Turn the ignition on. Continue to hold both buttons until the software version is displayed, then release the buttons. Observe the CMTC display when the self test is complete. Did the CMTC display ″FAILED SELF TEST″? Yes → Replace and configure the CMTC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:

*CMTC OR EVIC INOPERATIVE

POSSIBLE CAUSES
FUSED B(+) CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
GROUND CIRCUIT OPEN
COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any MIC, FCM, PCM, or Communication DTCs before proceeding.** Turn the ignition off. Disconnect the Overhead Console harness connector. Measure the voltage between the Fused B+ circuit and ground. Is the voltage above 10.5 volts? Yes → Go To 2 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Overhead Console harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output circuit and ground. Is the voltage below 10.5 volts? Yes → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Overhead Console harness connector. Measure the resistance between ground and the CMTC ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace and configure the CMTC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***COMPASS TEST FAILURE**

POSSIBLE CAUSES
COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	Perform the CMTC self test. Turn the ignition off. Depress and hold the RESET and C/T buttons while turning the ignition on. **NOTE: This test may also be performed using the DRBIII®.** Does the CMTC or DRBIII® display ″FAILED SELF TEST″? Yes → Replace the CMTC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:

*TEMPERATURE DISPLAY INACCURATE OR INOPERATIVE

POSSIBLE CAUSES
AMBIENT TEMPERATURE SENSOR
COMPASS/MINI-TRIP COMPUTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any FCM, CMTC, PCM, or Communication DTCs before proceeding with this test.** **NOTE: The Ambient Temperature Sensor is hardwired to the FCM (Diesel), or to the PCM. Ambient temperature information is transmitted to the CMTC via the PCI Bus.** Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Measure the resistance of the Ambient Temperature Sensor using the following temperature/resistance values: 10°C (50°F) Sensor Resistance = 17.99 - 21.81 Kilohms 20°C (68°F) Sensor Resistance = 11.37 - 13.61 Kilohms 25°C (77°F) Sensor Resistance = 9.12 - 10.88 Kilohms 30°C (86°F) Sensor Resistance = 7.37 - 8.75 Kilohms 40°C (104°F) Sensor Resistance = 4.90 - 5.75 Kilohms 50°C (122°F) Sensor Resistance = 3.33 - 3.88 Kilohms Is the Ambient Temperature Sensor resistance measurement within the min/max specifications? Yes → Go To 2 No → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1.	All
2	Perform the CMTC self test. Turn the ignition off. Press and hold the C/T and Reset buttons. Turn the ignition on. **NOTE: The self test can also be performed using the DRBIII®.** Observe the CMTC display at the conclusion of the self test. Does the CMTC display ″Passed Self Test″? Yes → Test Complete. No → Replace and configure the CMTC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***DRIVER DOOR AJAR CIRCUIT OPEN**

POSSIBLE CAUSES
DRIVER DOOR AJAR SWITCH
DRIVER DOOR AJAR SWITCH GROUND CIRCUIT OPEN
DRIVER DOOR AJAR SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER -DRIVER DOOR AJAR OPEN

TEST	ACTION	APPLICABILITY
1	Disconnect the Driver Door Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the DRV DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Driver Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Driver Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, test the Ground circuit for continuity. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Driver Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Door Ajar Switch connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Driver Door Ajar Switch Sense circuit between the Instrument Cluster connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Driver Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster.	All

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Symptom:

***DRIVER DOOR AJAR CIRCUIT SHORTED TO GROUND**

POSSIBLE CAUSES
DRIVER DOOR AJAR SWITCH SHORTED TO GROUND
DRIVER DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER - DRIVER DOOR AJAR SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the DRV DOOR AJAR SW state. While monitoring the DRBIII®, disconnect the Driver Door Ajar Switch harness connector. Did the Switch State change from CLOSED to OPEN? Yes → Replace the Driver Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Driver Door Ajar Switch harness connector. Disconnect the Instrument Cluster C3 harness connector. Using a 12-volt test light connected to 12-volts, probe the Driver Door Ajar Switch Sense circuit and test for a short to ground. Does the test light illuminate brightly? Yes → Repair the Driver Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*LEFT REAR DOOR AJAR CIRCUIT OPEN

POSSIBLE CAUSES
LEFT REAR DOOR AJAR SWITCH
LEFT REAR DOOR AJAR SWITCH GROUND CIRCUIT OPEN
LEFT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER - LEFT REAR DOOR AJAR OPEN

TEST	ACTION	APPLICABILITY
1	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 Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Left Rear Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, probe the Ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Left Rear Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Left Rear Door Ajar Switch harness connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Left Rear Door Ajar Switch Sense circuit between the Instrument Cluster C1 connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Left Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*LEFT REAR DOOR AJAR CIRCUIT SHORT TO GROUND

POSSIBLE CAUSES
LEFT REAR DOOR AJAR SWITCH SHORTED TO GROUND
LEFT REAR DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER - DRIVER DOOR AJAR SHORTED

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 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 Instrument Cluster C3 harness connector. Using a 12-volt test light connected to 12-volts, probe the Left Rear Door Ajar Switch Sense circuit and test for a short to ground. Does the test light illuminate brightly? Yes → Repair the Left Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*PASSENGER DOOR AJAR CIRCUIT SHORTED TO GROUND

POSSIBLE CAUSES
PASSENGER DOOR AJAR SWITCH SHORTED TO GROUND
PASSENGER DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER - PASSENGER DOOR AJAR SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. While monitoring the DRBIII®, disconnect the Passenger Door Ajar Switch harness connector. Did the Switch State change from CLOSED to OPEN? Yes → Replace the Passenger Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Passenger Door Ajar Switch harness connector. Disconnect the Instrument Cluster C3 harness connector. Using a 12-volt test light connected to 12-volts, probe the Driver Door Ajar Switch Sense circuit and test for a short to ground. Does the test light illuminate brightly? Yes → Repair the Passenger Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***PASSENGER DOOR AJAR CKT OPEN**

POSSIBLE CAUSES
PASSENGER DOOR AJAR SWITCH
PASSENGER DOOR AJAR SWITCH GROUND CIRCUIT OPEN
PASSENGER DOOR AJAR SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER - PASSENGER DOOR AJAR OPEN

TEST	ACTION	APPLICABILITY
1	Disconnect the Passenger Door Ajar Switch connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Passenger Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Passenger Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, test the Ground circuit for continuity. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Passenger Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Passenger Door Ajar Switch connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Passenger Door Ajar Switch Sense circuit between the Instrument Cluster connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Passenger Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster.	All

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Symptom:

*RIGHT REAR DOOR AJAR CIRCUIT OPEN

POSSIBLE CAUSES
RIGHT REAR DOOR AJAR SWITCH
RIGHT REAR DOOR AJAR SWITCH GROUND CIRCUIT OPEN
RIGHT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER - RIGHT REAR DOOR AJAR OPEN

TEST	ACTION	APPLICABILITY
1	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 2	All
2	Disconnect the Right Rear Door Ajar switch connector. Using a 12-volt Test Light connected to 12-volts, probe the Ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Right Rear Door Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Right Rear Door Ajar Switch harness connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Right Rear Door Ajar Switch Sense circuit between the Instrument Cluster C1 connector and the Door Ajar Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Right Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***RIGHT REAR DOOR AJAR CIRCUIT SHORT TO GROUND**

POSSIBLE CAUSES
RIGHT REAR DOOR AJAR SWITCH SHORTED TO GROUND
RIGHT REAR DOOR AJAR SWITCH SENSE CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER - RIGHT REAR DOOR AJAR SHORTED

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 harness connector. Did the Switch State change from CLOSED to OPEN? Yes → Replace the Door Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Right Rear Door Ajar Switch harness connector. Disconnect the Instrument Cluster C3 harness connector. Using a 12-volt test light connected to 12-volts, probe the Right Rear Door Ajar Switch Sense circuit and test for a short to ground. Does the test light illuminate brightly? Yes → Repair the Right Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

DEFOG RELAY CONTROL CKT SHORTED TO BATT

When Monitored and Set Condition:

DEFOG RELAY CONTROL CKT SHORTED TO BATT

When Monitored: With the Ignition on and the Rear Defogger switch depressed.

Set Condition: This DTC will set when the A/C Heater Control Module senses excessive current on the Defogger Relay Control circuit.

POSSIBLE CAUSES
CHECK FOR HVAC DTCS
RELAY SHORTED
A/C HEATER CONTROL MODULE SHORTED TO BATTERY
DEFOGGER RELAY CONTROL SHORTED TO BATTERY
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTCs. Depress the EBL Switch on the A/C Heater Control Module. With the DRBIII®, read the active DTCs. Does the DRBIII® display DEFOG RELAY CONTROL CKT SHORTED TO BATT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Refer to any Hotline letters or Technical Service Bulletins that may apply. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. One at a time remove and install a known good relay in place of the Heated Mirror Relay and then the EBL relay if equipped. **NOTE: Do the following steps for each relay.** Turn the ignition on. With the DRBIII®, record and erase DTCs. Depress the EBL Switch on the A/C Heater Control Module. With the DRBIII®, read the active DTCs. Does the DRBIII® display DEFOG RELAY CONTROL CKT SHORTED TO BATT? Yes → Go To 3 No → Replace the Relay that set the DTC. Perform BODY VERIFICATION TEST - VER 1.	All

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DEFOG RELAY CONTROL CKT SHORTED TO BATT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Remove the Heated Mirror Relay and the EBL relay if equipped from the Integrated Power Module. Disconnect the A/C Heater Control Module C1 harness connector. Measure the voltage on the Defogger Relay Control circuit at the A/C Heater Control Module C1 connector with the Ignition off and on. Is there any voltage present? Yes → Go To 4 No → Replace the A/C Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Integrated Power Module C5 harness connector. Disconnect the A/C Heater Control Module C1 harness connector. Measure the voltage on the Defogger Relay Control circuit at the A/C Heater Control Module C1 connector with the Ignition off and on. Is there any voltage present? Yes → Repair the Defogger Relay Control circuit for a short to battery. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM-FRONT FOG LAMP RELAY OUTPUT CIRCUIT HIGH

When Monitored and Set Condition:

FCM-FRONT FOG LAMP RELAY OUTPUT CIRCUIT HIGH

When Monitored: With the ignition on.

Set Condition:

POSSIBLE CAUSES
INTERMITTENT CONDITION
FOG LAMP RELAY
FRONT CONTROL MODULE
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Fog Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Front Fog Lamp Relay Output Circuit High? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and install a known good relay in place of the Fog Lamp Relay. Do the Fog Lamps operate normally? Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the Fog Lamp Relay from the IPM. Remove the Front Control Module from the IPM. Measure the voltage of the Fog Lamp Relay Control circuit and ground. Is the voltage above 1.0 volts? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-FRONT FOG LAMP RELAY OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
FOG LAMP RELAY
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Front Fog Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Front Fog Lamp Relay Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a know good relay in place of the Fog Lamp Relay. Turn the ignition on. Actuate the Fog Lamps. Do the Fog Lamps operate normally? Yes → Go To 3 No → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Remove the Fog Lamp Relay. Remove the FCM from the IPM. Measure the resistance between ground and the Fog Lamp Relay control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-FRONT FOG LAMP RELAY OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
MISSING RELAY
FOG LAMP RELAY
FRONT CONTROL MODULE
FOG LAMP RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Front Fog Lamps on. With the DRBIII®, read the DTC information. Doe the DRBIII® read: Front Fog Lamp Relay Output Circuit Open. Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the IPM 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. 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 4	All
4	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 Front Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fog Lamp Relay Output Circuit. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-FRONT LEFT TURN OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT FRONT TURN LAMP DRIVER CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Left Front Turn Signal on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Front Left Turn Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Left Front Turn Lamp Driver circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Left Front Turn Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Left Front Turn Lamp Driver circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-FRONT LEFT TURN OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
FRONT CONTROL MODULE
LEFT FRONT TURN SIGNAL OUTPUT CIRCUIT OPEN
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Left Front Turn Signal on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Front Left Turn Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector Measure the resistance of the Left Front Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Left Front Turn Signal Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM harness connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Left Front Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-FRONT RIGHT TURN OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT FRONT TURN LAMP DRIVER CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Right Front Turn Signal on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Front Right Turn Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Right Front Turn Lamp Driver circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Right Front Turn Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Right Front Turn Lamp Driver circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-FRONT RIGHT TURN OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT FRONT TURN SIGNAL OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Right Front Turn Signal on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Front Right Turn Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector Measure the resistance of the Right Front Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Right Front Turn Signal Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C3 harness connector. Measure the resistance of the Right Front Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT HIGHBEAM OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT HIGHBEAM OUTPUT CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the High Beams Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Highbeam Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Left Highbeam Output circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Left Highbeam Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Left Highbeam Output circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT HIGHBEAM OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT HIGHBEAM OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Highbeam Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Highbeam Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector Measure the resistance of the Left Highbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Left Highbeam Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C7 harness connector. Measure the resistance of the Left Highbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT LOWBEAM OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT LOWBEAM OUTPUT CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Lowbeam Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Lowbeam Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Left Lowbeam Output circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Left Lowbeam Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Left Lowbeam Output circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT LOWBEAM OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT LOWBEAM OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Lowbeam Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Lowbeam Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector Measure the resistance of the Left Lowbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Left Lowbeam Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C7 harness connector. Measure the resistance of the Left Lowbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT STOP LAMP OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT BRAKE LAMP FEED CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Stop Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Stop Lamp Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Left Brake Lamp Feed circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Left Brake Lamp Feed circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Left Brake Lamp Feed circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT STOP LAMP OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT BRAKE LAMP FEED CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Stop Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Stop Lamp Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector Measure the resistance of the Left Brake Lamp Feed circuit. Is the resistance above 5.0 ohms? Yes → Repair the Left Brake Lamp Feed circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C3 harness connector. Measure the resistance of the Left Brake Lamp Feed circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT TRAIL RELAY OUTPUT CIRCUIT HIGH

POSSIBLE CAUSES
INTERMITTENT CONDITION
FRONT CONTROL MODULE
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Trailer Tow Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Trailer Relay Output Circuit High? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Front Control Module from the IPM. Measure the voltage of the Trailer Tow Relay Control circuit and ground. Is the voltage above 1.0 volts? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT TRAIL RELAY OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Trailer Tow Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Trailer Relay Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off Remove the FCM from the IPM. Measure the resistance between ground and the Trailer Tow Relay control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-LEFT TRAIL RELAY OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
INTEGRATED POWER MODULE
FRONT CONTROL MODULE
TRAILER RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Trailer Tow Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Trailer Relay Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the IPM to make certain the Left Trailer Tow Relay is present. Is the Trailer Tow Relay present? Yes → Go To 3 No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Measure the voltage of the Fused B+ circuit of the Trailer Tow Relay in the IPM. Is the voltage above 10 volts? Yes → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Trailer Lamp Relay Output Circuit. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-PARK LAMP RELAY OUTPUT CIRCUIT HIGH

POSSIBLE CAUSES
INTERMITTENT CONDITION
PARK LAMP RELAY
FRONT CONTROL MODULE
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Park Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Park Lamp Relay Output Circuit High? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and install a known good relay in place of the Park Lamp Relay. Do the Park Lamps operate normally? Yes → Replace the Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the Park Lamp Relay from the IPM. Remove the Front Control Module from the IPM. Measure the voltage of the Park Lamp Relay Control circuit and ground. Is the voltage above 1.0 volts? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-PARK LAMP RELAY OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
PARK LAMP RELAY
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Park Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Park Lamp Relay Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a know good relay in place of the Park Lamp Relay. Turn the ignition on. Actuate the Park Lamps. Do the Park Lamps operate normally? Yes → Go To 3 No → Replace the Park Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Remove the Park Lamp Relay. Remove the FCM from the IPM. Measure the resistance between ground and the Park Lamp Relay control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-PARK LAMP RELAY OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
MISSING RELAY
PARK LAMP RELAY
FRONT CONTROL MODULE
PARK LAMP RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Park Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Park Lamp Relay Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the IPM 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. 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 4	All
4	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 Front Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Park Lamp Relay Output Circuit. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-REAR LEFT TURN OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
REAR LEFT TURN LAMP DRIVER CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Left Turn signal lamp. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Left Turn Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Rear Left Turn Lamp Driver circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Rear Left Turn Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Rear Left Turn Lamp Driver circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-REAR LEFT TURN OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
REAR LEFT TURN SIGNAL OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Left Rear Turn Signal lamp. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Left Turn Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector Measure the resistance of the Rear Left Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Rear Left Turn Signal Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM harness connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Rear Left Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-REAR RIGHT TURN OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
REAR RIGHT TURN LAMP DRIVER CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Right Rear Turn Signal lamp. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Right Turn Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Rear Right Turn Lamp Driver circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Rear Right Turn Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Rear Right Turn Lamp Driver circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-REAR RIGHT TURN OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
REAR RIGHT TURN SIGNAL OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Right Rear Turn Signal lamp. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Right Turn Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C3 harness connector Measure the resistance of the Rear Right Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Rear Right Turn Signal Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM harness connector. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the Rear Right Turn Signal Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT HIGHBEAM OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT HIGHBEAM OUTPUT CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Highbeams headlamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Highbeam Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Right Highbeam Output circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Right Highbeam Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Right Highbeam Output circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT HIGHBEAM OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT HIGHBEAM OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Highbeam headlamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Highbeam Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector Measure the resistance of the Right Highbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Right Highbeam Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C7 harness connector. Measure the resistance of the Right Highbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT LOWBEAM OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT LOWBEAM OUTPUT CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Lowbeam headlamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Lowbeam Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Right Lowbeam Output circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Right Lowbeam Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C7 harness connector. Measure the resistance between ground and the Right Lowbeam Output circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT LOWBEAM OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT LOWBEAM OUTPUT CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Lowbeam headlamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Lowbeam Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C7 harness connector Measure the resistance of the Right Lowbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Repair the Right Lowbeam Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C7 harness connector. Measure the resistance of the Right Lowbeam Output circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT STOP LAMP OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT BRAKE LAMP FEED CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Stop Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Stop Lamp Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C4 harness connector. Measure the resistance between ground and the Right Brake Lamp Feed circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Right Brake Lamp Feed circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Disconnect the FCM connector. Disconnect the IPM C4 harness connector. Measure the resistance between ground and the Right Brake Lamp Feed circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT STOP LAMP OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT BRAKE LAMP FEED CIRCUIT OPEN
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Stop Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Stop Lamp Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C4 harness connector Measure the resistance of the Right Brake Lamp Feed circuit. Is the resistance above 5.0 ohms? Yes → Repair the Right Brake Lamp Feed circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off Disconnect the FCM from the IPM. Disconnect the IPM C4 harness connector. Measure the resistance of the Right Brake Lamp Feed circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT TRAIL RELAY OUTPUT CIRCUIT HIGH

POSSIBLE CAUSES
INTERMITTENT CONDITION
FRONT CONTROL MODULE
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Trailer Tow Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Trailer Relay Output Circuit High? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Front Control Module from the IPM. Measure the voltage of the Accessory Relay Control circuit and ground. Is the voltage above 1.0 volts? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT TRAIL RELAY OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Trailer Tow Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Trailer Relay Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off Remove the FCM from the IPM. Measure the resistance between ground and the Right Trailer Tow Relay control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center(PDC). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-RIGHT TRAIL RELAY OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
INTEGRATED POWER MODULE
FRONT CONTROL MODULE
TRAILER LAMP RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Trailer Tow Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Trailer Relay Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check the IPM to make certain the Right Trailer Tow Relay is present. Is the Trailer Tow Relay present? Yes → Go To 3 No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off Measure the voltage of the Fused B+ circuit of the Trailer Tow relay in the IPM. Is the voltage above 10 volts? Yes → Replace the Front Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Trailer Lamp Relay Output Circuit. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
MIC-HEADLAMP SWITCH INPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
HEADLAMP SWITCH
HEADLAMP SWITCH MUX CIRCUIT OPEN
INSTRUMENT CLUSTER
HEADLAMP SWITCH SENSE CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Headlamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Headlamp Switch Input Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Headlamp Switch connector. Turn the ignition on. Connect a jumper between the Headlamp Switch MUX and Sense circuit of the multifunction switch. With the DRBIII®, read the headlamp switch voltage. Does the DRBIII® display 0.0 volts? Yes → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the left side multifunction switch connector. Disconnect the instrument cluster C2 connector. Measure the resistance of the Headlamp Switch MUX circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Headlamp Switch MUX circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.	All

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MIC-HEADLAMP SWITCH INPUT CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off Disconnect the left side Multifunction Switch connector. Disconnect the Instrument Cluster C2 connector. Measure the resistance of the Headlamp Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Headlamp Switch Sense circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
MIC-HEADLAMP SWITCH INPUT CIRCUIT SHORTED

POSSIBLE CAUSES
INTERMITTENT CONDITION
HEADLAMP SWITCH
HEADLAMP SWITCH MUX CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Headlamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Headlamp Switch Input Circuit Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Headlamp Switch connector. Turn the ignition on. Does the DRBIII® display Headlamp Switch 5.0 volts? Yes → Go To 3 No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Headlamp Switch connector. Disconnect the instrument cluster C3 connector. Measure the resistance of the Headlamp Switch MUX circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Headlamp Switch MUX circuit for a short to ground condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
MIC-TURN HAZARD SWITCH INPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
MULTIFUNCTION SWITCH
WIPER/TURN/BEAM SELECT SWITCH SENSE
INSTRUMENT CLUSTER
TURN LAMPS SWITCH FEED CIRCUIT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Actuate the Hazard Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Turn Hazard Switch Input Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Multifunction Switch connector. Turn the ignition on. Measure the voltage of the Multifunction Switch between the Sense circuit and the Feed circuit. Does the voltage read 0.0volts? Yes → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Multifunction Switch connector. Disconnect the Instrument Cluster C3 connector. Measure the resistance of the Wipe/Turn/Beam select sense circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Wiper/Turn/Beam Select Switch Sense circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off Disconnect the Multifunction Switch connector. Disconnect the Instrument Cluster C2 connector. Measure the resistance of the Turn Lamps Switch Feed circuit. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Turn Lamps Switch Feed circuit. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
MIC-TURN HAZARD SWITCH INPUT CIRCUIT SHORT

POSSIBLE CAUSES
INTERMITTENT CONDITION
MULTIFUNCTION SWITCH
WIPER/TURN/BEAM SELECT SWITCH SENSE CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Actuate the Hazard Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Turn Hazard Switch Input Circuit Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Multifunction Switch connector. Turn the ignition on. Does the DRBIII® display Multifunction Switch 5.0 volts? Yes → Go To 3 No → Replace the Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Multifunction Switch connector. Disconnect the Instrument Cluster C3 connector. Measure the resistance of the Wiper/Turn/Beam Select Switch Sense circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Wiper/Turn/Beam select switch sense circuit.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

A/C SWITCH FAULT (ACTIVE)
CHECKSUM FAILURE (ACTIVE)
DEFOG SWITCH FAULT (ACTIVE)
RECIRC SWITCH FAULT (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be A/C SWITCH FAULT (ACTIVE).

When Monitored and Set Condition:

A/C SWITCH FAULT (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C on/off switch stays closed for 10 minutes.

CHECKSUM FAILURE (ACTIVE)

When Monitored: At every power up (five seconds after ignition is on).

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

DEFOG SWITCH FAULT (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the EBL switch stays closed for 10 minutes.

RECIRC SWITCH FAULT (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the MAX on/off switch stays closed for 10 minutes.

POSSIBLE CAUSES
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	View repair Repair Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

A/C SWITCH FAULT (STORED)
BACKLIGHT DIMMING RX FAILURE (STORED)
BLEND OVERCURRENT (STORED)
CHECKSUM FAILURE (STORED)
DEFOG SWITCH FAULT (STORED)
ENGINE GAUGE RX FAILURE (STORED)
EVAPORATOR TEMPERATURE SENSOR CIRCUIT OPEN (STORED)
EVAPORATOR TEMPERATURE SENSOR CIRCUIT SHORTED (STORED)
LOOPBACK TEST FAILURE (STORED)
MODE 1 OVERCURRENT (STORED)
MODE 2 OVERCURRENT (STORED)
PCM COMMUNICATION FAILURE (STORED)
RECIRC OVERCURRENT (STORED)
RECIRC SWITCH FAULT (STORED)
REFRIGERANT PRESS RX FAILURE (STORED)
TX FAILURE (STORED)
VIN RX FAILURE (STORED)
ZONE OVERCURRENT (STORED)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be A/C SWITCH FAULT (STORED).

When Monitored and Set Condition:

A/C SWITCH FAULT (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C on/off switch stays closed for 10 minutes.

BACKLIGHT DIMMING RX FAILURE (STORED)

When Monitored: With the ignition on.

Set Condition: If the A/C - Heater Control Module does not receive the dimming function message from the Instrument Cluster for more than 5 seconds, then the A/C - Heater Control Module backlighting will default to full brightness and the DTC will set.

BLEND OVERCURRENT (STORED)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive the Blend (single-zone) or Passenger Blend (dual-zone) actuator. Only one overcurrent DTC can set per ignition cycle.

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A/C SWITCH FAULT (STORED) — Continued

CHECKSUM FAILURE (STORED)

When Monitored: At every power up (five seconds after ignition is on).

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

DEFOG SWITCH FAULT (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the EBL switch stays closed for 10 minutes.

ENGINE GAUGE RX FAILURE (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the message from the PCM for more than 5 seconds. This message provides Battery Voltage, Battery Temperature, and Engine Coolant Temperature.

EVAPORATOR TEMPERATURE SENSOR CIRCUIT OPEN (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module sees voltage above 4.9 volts on the Evaporator Temperature Sensor Signal circuit.

EVAPORATOR TEMPERATURE SENSOR CIRCUIT SHORTED (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module sees voltage below 0.06 volts on the Evaporator Temperature Sensor Signal circuit.

LOOPBACK TEST FAILURE (STORED)

When Monitored: When the A/C - Heater Control Module executes an internal loopback test.

Set Condition: If the A/C - Heater Control Module fails to send a message, or none of the expected messages arrive for 5 seconds, an internal loopback test is executed. If the internal loopback test fails, the DTC will set.

MODE 1 OVERCURRENT (STORED)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive this actuator. Only one overcurrent DTC can set per ignition cycle.

MODE 2 OVERCURRENT (STORED)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive this actuator. Only one overcurrent DTC can set per ignition cycle.

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A/C SWITCH FAULT (STORED) — Continued

PCM COMMUNICATION FAILURE (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the message from the PCM for more than 5 seconds. This message provides Engine RPM and Vehicle Speed.

RECIRC OVERCURRENT (STORED)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive this actuator. Only one overcurrent DTC can set per ignition cycle.

RECIRC SWITCH FAULT (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the MAX on/off switch stays closed for 10 minutes.

REFRIGERANT PRESS RX FAILURE (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the Refrigerant Pressure message from the PCM for more than 20 seconds.

TX FAILURE (STORED)

When Monitored: When the ignition is on.

Set Condition: This DTC will set if the A/C - Heater Control Module is unable to send a PCI Bus message.

VIN RX FAILURE (STORED)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the VIN message from the PCM for more than 5 seconds.

ZONE OVERCURRENT (STORED)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive the Driver Blend (dual-zone) actuator. Only one overcurrent DTC can set per ignition cycle.

POSSIBLE CAUSES
CHECK FOR ACTIVE HVAC DTCS AND SYSTEM TEST FAULT MESSAGES
STORED CODE(S) TEST COMPLETE

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A/C SWITCH FAULT (STORED) — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: Active DTCs must be resolved before diagnosing stored DTCs.** **NOTE: Anytime a DTC becomes active, or a Cooldown Test fault message, Actuator Circuit Test fault message, or Door Recalibration fault message is displayed, proceed to the conclusion question.** Turn the ignition on. Turn the mode select control to the panel position. Verify that the blower motor operates correctly in all speeds. Diagnose and repair all blower related faults before proceeding with this test. For vehicles that are not equipped with A/C, skip the next 6 steps of this procedure. Turn the blower control to the low speed position. Make sure that the A/C switch is turned off (status indicator not illuminated). Turn the blower control to the off position. Start the engine. Turn the blower control to the high speed position. **CAUTION: The evaporator temperature must be above 12.7°C (55°F) and the work area ambient temperature must be above 21.1°C (70°F) to test A/C system operation.** With the DRBIII® in HVAC, System Tests, actuate the AC Cooldown Test. Allow one minute for test to complete. If not done previously, start the engine. Turn the blower control to the low speed position. Set the blend/driver blend (dual-zone) control to the full cold position. If equipped, set the passenger blend control to the full cold position. Monitor the DRBIII® for active HVAC DTCs during the following test steps. If equipped, press the A/C switch on, wait 30 seconds, and then press it off. On Dual-Zone systems, press the MAX switch on, wait 30 seconds, and then press it off. If equipped, press the EBL switch on, wait 30 seconds, and then press it off. Move the blend/driver blend (dual-zone) control from full cold to full hot, wait 30 seconds, and then move it back to full cold. If equipped, move the passenger blend control from full cold to full hot, wait 30 seconds, and then moved it back to full cold. Turn the mode select control to the defrost position, wait 30 seconds, and then turn it to the panel position (dual-zone) or MAX panel position (single-zone). With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. With the DRBIII® in HVAC, System Tests, actuate the HVAC Door Recalibration Test. Does the DRBIII® display any HVAC DTCs or System Test fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE
BLEND CIRCUIT SHORTED TO GROUND
BLEND CIRCUIT SHORTED TO IGN OR BATT
COMMON DRIVER SHORTED TO GROUND
COMMON DRIVER SHORTED TO IGN OR BATT
MODE 1 CIRCUIT SHORTED TO GROUND
MODE 1 CIRCUIT SHORTED TO IGN OR BATT
MODE 2 CIRCUIT SHORTED TO GROUND
MODE 2 CIRCUIT SHORTED TO IGN OR BATT
RECIRC CIRCUIT SHORTED TO GROUND
RECIRC CIRCUIT SHORTED TO IGN OR BATT
SHORT TOO COMPLEX
ZONE CIRCUIT SHORTED TO GROUND
ZONE CIRCUIT SHORTED TO IGN OR BATT

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE.

When Monitored and Set Condition:

ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: If two or more drivelines shorted together.

BLEND CIRCUIT SHORTED TO GROUND

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short low on the Blend Door Driver circuit (single-zone) or the Passenger Blend Door Driver circuit (dual-zone).

BLEND CIRCUIT SHORTED TO IGN OR BATT

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short high on the Blend Door Driver circuit (single-zone) or the Passenger Blend Door Driver circuit (dual-zone).

COMMON DRIVER SHORTED TO GROUND

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short low on the Common Door Driver circuit.

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ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE — Continued

COMMON DRIVER SHORTED TO IGN OR BATT

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short high on the Common Door Driver circuit.

MODE 1 CIRCUIT SHORTED TO GROUND

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short low on the Mode Door 1 Driver circuit.

MODE 1 CIRCUIT SHORTED TO IGN OR BATT

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short high on the Mode Door 1 Driver circuit.

MODE 2 CIRCUIT SHORTED TO GROUND

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short low on the Mode Door 2 Driver circuit.

MODE 2 CIRCUIT SHORTED TO IGN OR BATT

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short high on the Mode Door 2 Driver circuit.

RECIRC CIRCUIT SHORTED TO GROUND

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short low on the Recirculation Door Driver circuit.

RECIRC CIRCUIT SHORTED TO IGN OR BATT

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short high on the Recirculation Door Driver circuit.

SHORT TOO COMPLEX

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects more than three drivers being shorted in the same direction (for example, four drivers, all shorted to ground) or if two or more drivers are shorted with at least one driver shorted to ignition/battery and one driver shorted to ground.

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ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE — Continued

ZONE CIRCUIT SHORTED TO GROUND

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short low on the Driver Blend Door Driver circuit (dual-zone).

ZONE CIRCUIT SHORTED TO IGN OR BATT

When Monitored: When the Actuator Circuit Test is executed.

Set Condition: This message will set if the A/C - Heater Control detects a short high on the Driver Blend Door Driver circuit (dual-zone).

POSSIBLE CAUSES
DOOR DRIVER CIRCUIT SHORTED LOW
DOOR ACTUATOR SHORTED
DOOR DRIVER CIRCUIT SHORTED HIGH
A/C - HEATER CONTROL MODULE
INTERMITTENT WIRING PROBLEM
DOOR DRIVER CIRCUITS SHORTED HIGH
DOOR DRIVER CIRCUITS SHORTED LOW
DOOR DRIVER CIRCUITS SHORTED TOGETHER
DOOR DRIVER CIRCUITS SHORTED TO COMMON DOOR DRIVER CIRCUIT
DOOR ACTUATORS SHORTED
A/C - HEATER CONTROL MODULE
INTERMITTENT WIRING PROBLEM

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ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE — Continued

TEST	ACTION	APPLICABILITY
1	**CAUTION: To ensure a proper diagnosis, repair all Short Too Complex messages first, all common door driver ckt related messages next, and all other messages last.** **CAUTION: The DRBIII® can display up to three Actuator Circuit Test messages at a time. After repairing each Actuator Circuit Test message, cycle the ignition switch, then rerun the Actuator Circuit Test to ensure no new messages exist.** **CAUTION: If Overcurrent DTCs are active and the DRBIII® displays Actuator Circuit Test Passed, proceed to Act Ckt Test Pass, Overcurrent DTCs Activ when asked Which Actuator Circuit Test Message Is Present.** Which Actuator Circuit Test message is present? XXX Driver/Ckt Short to Gnd Go To 2 XXX Driver/Ckt Short to Ign or Batt Go To 4 Short Too Complex Go To 6 XXX Drv/Ckt Short to Gnd & to Ign or Bat Go To 8 Act Ckt Test Pass, Overcurrent DTCs Acti Go To 8	All
2	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Measure the resistance between ground and the applicable door driver circuit. Is the resistance below 10K ohms? Yes → Repair the door driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Measure the resistance between the Common Door Driver circuit and the applicable door driver circuit. Is the resistance below 30.0 ohms? Yes → Replace the door actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
4	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Turn the ignition on. Measure the voltage between the applicable door driver circuit and ground. Is there any voltage present? Yes → Repair the door driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

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ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Ensure that the A/C - Heater Control C1 harness connector is connected to the A/C - Heater Control Module. Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. What message does the DRBIII® display? Same msg as from start of test Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. Different msg than from start of test Using the wiring diagram as a guide, inspect the wiring & connectors for conditions causing an intermittent short that set the original test msg. Repair as necessary. If DRB displays a msg for a different door driver ckt, return to Test 1 of this Symptom. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Turn the ignition on. Measure the voltage between each of the door driver circuits and ground. Is there any voltage present on any of the circuits? Yes → Repair all door driver circuits with voltage present for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Measure the resistance between ground and each of the door driver circuits. Is the resistance below 10K ohms on any of the circuits? Yes → Repair all door driver circuits with a resistance below 10K ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All

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ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. **NOTE: If the Actuator Circuit Test messages, displayed on the DRBIII®, identified which circuits are shorted together, then only measure the resistance between those circuits. Otherwise, proceed as follows:** Measure the resistance between the Recirculation Door Driver ckt, and the Blend Door Driver ckt, the Mode Door 1 Driver ckt, the Mode Door 2 Driver ckt, and, if applicable, the Passenger Blend Door Driver ckt. Measure the resistance between the Blend Door Driver ckt, and the Mode Door 1 Driver ckt, the Mode Door 2 Driver ckt, and, if applicable, the Passenger Blend Door Driver ckt. Measure the resistance between the Mode Door 1 Driver ckt, and the Mode Door 2 Driver ckt, and, if applicable, the Passenger Blend Door Driver ckt. Measure the resistance between the Mode Door 2 Driver ckt and, if applicable, the Passenger Blend Door Driver ckt. Is the resistance below 10K ohms on any of the circuits? Yes → Repair the door driver circuits with a resistance below 10K ohms for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Measure the resistance between the Common Door Driver circuit and each of the remaining door driver circuits. Is the resistance below 30.0 ohms on any of the circuits? Yes → Go To 10 No → Go To 11	All
10	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Disconnect all door actuator harness connectors whose circuit resistance was below 30.0 ohms. Measure the resistance between the Common Door Driver circuit and each applicable door driver circuit. Is the resistance below 10K ohms on any of the circuits? Yes → Repair the door driver circuits with a resistance below 10K ohms for a short to the Common Door Driver circuit. Perform BODY VERIFICATION TEST - VER 1. No → Replace all door actuators with a resistance below 30.0 ohms in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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ACT CKT TEST PASSED, OVERCURRENT DTCS ACTIVE — Continued

TEST	ACTION	APPLICABILITY
11	Turn the ignition off. Ensure that the A/C - Heater Control C1 harness connector is connected to the A/C - Heater Control Module. Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. What message does the DRBIII® display? Same msg as from start of test Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. Different msg than from start of test Using the wiring diagram as a guide, inspect the wiring & connectors for conditions causing an intermittent short that set the original test msg. Repair as necessary. If DRB displays a msg for a different door driver ckt, return to Test 1 of this Symptom. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
BACKLIGHT DIMMING RX FAILURE (ACTIVE)

When Monitored and Set Condition:

BACKLIGHT DIMMING RX FAILURE (ACTIVE)

When Monitored: With the ignition on.

Set Condition: If the A/C - Heater Control Module does not receive the dimming function message from the Instrument Cluster for more than 5 seconds, then the A/C - Heater Control Module backlighting will default to full brightness and the DTC will set.

POSSIBLE CAUSES
CHECK FOR INSTRUMENT CLUSTER (MIC) DTCS
DIMMING MESSAGE NOT SEEN AT RATE EXPECTED
A/C - HEATER CONTROL MODULE
MIC - NO DIM MESSAGE TO A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® in Body, Electro/Mech Cluster (MIC), read DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Instrument Cluster category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. Turn the Headlamp switch on. Turn the Blower control to low speed. If equipped, press the A/C switch on. If equipped, press the EBL switch on. If equipped, press the Max switch on. Rotate the Cargo Dome switch in both directions while watching the A/C (if equipped), EBL (if equipped), and MAX (if equipped) status indicators on the A/C-Heater Control Module. Do the status indicators dim and brighten respectively while rotating the switch? Yes → No problem found at this time. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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BACKLIGHT DIMMING RX FAILURE (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition on. With the DRBIII® in Monitor Display, PCI Bus Messages, look for the VF DIM Msg Present. Does the DRB display: VF DIM Msg present: Yes? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

BLEND CALIBRATION FAULT
MODE 1 CALIBRATION FAULT
MODE 2 CALIBRATION FAULT
RECIRCULATION CALIBRATION FAULT
ZONE CALIBRATION FAULT

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

When Monitored and Set Condition:

BLEND CALIBRATION FAULT

When Monitored: When the HVAC Door Recalibration is executed.

Set Condition: If the blend (single-zone) or passenger blend (dual-zone) door's span is found outside the tolerance due to: open door actuator electrical circuits; a bad door actuator; broken door linkage; a bound up door; door actuator electrical circuits shorted to voltage; door actuator electrical circuits shorted to ground. A short to voltage or ground on the door actuator electrical circuits will also set door actuator overcurrent faults.

MODE 1 CALIBRATION FAULT

When Monitored: When the HVAC Door Recalibration is executed.

Set Condition: If the Mode 1 door's span is found outside the tolerance due to: open door actuator electrical circuits; a bad door actuator; broken door linkage; a bound up door; door actuator electrical circuits shorted to voltage; door actuator electrical circuits shorted to ground. A short to voltage or ground on the door actuator electrical circuits will also set door actuator overcurrent faults.

MODE 2 CALIBRATION FAULT

When Monitored: When the HVAC Door Recalibration is executed.

Set Condition: If the Mode 2 door's span is found outside the tolerance due to: open door actuator electrical circuits; a bad door actuator; broken door linkage; a bound up door; door actuator electrical circuits shorted to voltage; door actuator electrical circuits shorted to ground. A short to voltage or ground on the door actuator electrical circuits will also set door actuator overcurrent faults.

RECIRCULATION CALIBRATION FAULT

When Monitored: When the HVAC Door Recalibration is executed.

Set Condition: If the recirculation door's span is found outside the tolerance due to: open door actuator electrical circuits; a bad door actuator; broken door linkage; a bound up door; door actuator electrical circuits shorted to voltage; door actuator electrical circuits shorted to ground. A short to voltage or ground on the door actuator electrical circuits will also set door actuator overcurrent faults.

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BLEND CALIBRATION FAULT — Continued

ZONE CALIBRATION FAULT

When Monitored: When the HVAC Door Recalibration is executed.

Set Condition: If the driver blend (dual-zone) door's span is found outside the tolerance due to: open door actuator electrical circuits; a bad door actuator; broken door linkage; a bound up door; door actuator electrical circuits shorted to voltage; door actuator electrical circuits shorted to ground. A short to voltage or ground on the door actuator electrical circuits will also set door actuator overcurrent faults.

POSSIBLE CAUSES
CHECK FOR ACTUATOR CIRCUIT TEST FAULT MESSAGES
CHECK FOR HVAC DTCS
DOOR ACTUATOR DRIVER CIRCUIT OPEN
COMMON DOOR DRIVER CIRCUIT OPEN
DOOR ACTUATOR
DOOR ACTUATOR/LINKAGE/DOOR
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. Does the DRBIII® display any Actuator Circuit Test fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII®, read HVAC DTCs. Does the DRBIII® display any HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Measure the resistance between the Common Door Driver circuit and the applicable door driver circuit. Is the resistance above 70.0 ohms? Yes → Go To 4 No → Go To 6	All

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BLEND CALIBRATION FAULT — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Disconnect the applicable door actuator harness connector. Measure the resistance of the applicable door driver circuit between the A/C - Heater Control Module C1 harness connector and the door actuator harness connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the applicable door driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Disconnect the applicable door actuator harness connector. Measure the resistance of the Common Door Driver circuit between the applicable door actuator harness connector and the A/C - Heater Control Module C1 harness connector. Is the resistance below 5.0 ohms? Yes → Replace the applicable door actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Common Door Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Remove the applicable door actuator from the A/C - Heater Housing Assembly. Disconnect the door actuator harness connector. By hand, attempt to rotate the door actuator in both directions. Inspect the A/C - Heater Housing Assembly for missing and broken actuator linkage. Inspect the linkage and the actuator for broken and missing teeth. Check the doors for binding and loss of full range. Is the door actuator, the linkage, and the door in good condition and functioning correctly? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

BLEND OVERCURRENT (ACTIVE)
MODE 1 OVERCURRENT (ACTIVE)
MODE 2 OVERCURRENT (ACTIVE)
RECIRC OVERCURRENT (ACTIVE)
ZONE OVERCURRENT (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BLEND OVERCURRENT (ACTIVE).

When Monitored and Set Condition:

BLEND OVERCURRENT (ACTIVE)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive the Blend (single-zone) or Passenger Blend (dual-zone) actuator. Only one overcurrent DTC can set per ignition cycle.

MODE 1 OVERCURRENT (ACTIVE)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive this actuator. Only one overcurrent DTC can set per ignition cycle.

MODE 2 OVERCURRENT (ACTIVE)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive this actuator. Only one overcurrent DTC can set per ignition cycle.

RECIRC OVERCURRENT (ACTIVE)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive this actuator. Only one overcurrent DTC can set per ignition cycle.

ZONE OVERCURRENT (ACTIVE)

When Monitored: When actuator movement is requested.

Set Condition: This DTC will set if the A/C - Heater Control Module detects an excessive current draw on any of the door driver circuits while attempting to drive the Driver Blend (dual-zone) actuator. Only one overcurrent DTC can set per ignition cycle.

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BLEND OVERCURRENT (ACTIVE) — Continued

POSSIBLE CAUSES
RUN THE ACTUATOR CIRCUIT TEST

TEST	ACTION	APPLICABILITY
1	View repair Repair With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. Read the Actuator Circuit Test message(s). Return to the symptom list and choose the symptom(s). If two or more drivelines are shorted together when running the Actuator Ckt Test, the DRBIII® may display Actuator Ckt Test Passed even though Overcurrent DTCs are active. If this occurs, refer to symptom Act Ckt Test Passed, Overcurrent DTCs Active. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
BLOWER NOT ON HIGH

When Monitored and Set Condition:

BLOWER NOT ON HIGH

When Monitored: When executing the Cooldown Test.

Set Condition: This message will be displayed if the blower is not operating at high speed while the Cooldown Test is running.

POSSIBLE CAUSES
CHECK FOR HVAC DTCS
TEST SET UP CONDITIONS NOT MET
BLOWER/RELATED CIRCUITS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read HVAC DTCs. Does the DRBIII® display any HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). After the repair is complete, with the DRBIII®, erase the DTC(s). Cycle the ignition switch. Start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Was the blower control set to high speed the entire time the Cooldown Test was actuated? Yes → Check the blower motor and related circuits for blower operation problems. Repair as necessary. After repair is complete, start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

COOLDOWN TEST SENSOR FAILURE
COOLDOWN TIME EXCESSIVE FAULT

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

When Monitored and Set Condition:

COOLDOWN TEST SENSOR FAILURE

When Monitored: When executing the Cooldown Test.

Set Condition: This message will be displayed if a fault is detected with the Evaporator Temperature Sensor/circuit when executing the Cooldown Test.

COOLDOWN TIME EXCESSIVE FAULT

When Monitored: When executing the Cooldown Test.

Set Condition: This message will be displayed if the A/C system is unable to bring the evaporator temperature down 6.7°C (20°F) within one minute.

POSSIBLE CAUSES
CHECK FOR HVAC DTCS
CHECK FOR PCM DTCS
A/C SYSTEM TESTING

TEST	ACTION	APPLICABILITY
1	**CAUTION: The evaporator temperature must be above 12.7°C (55°F) to test A/C system operation.** Turn the ignition on. With the DRBIII®, read HVAC DTCs. Does the DRBIII® display any HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). After the repair is complete, with the DRBIII®, erase the DTC(s). Cycle the ignition switch. Start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

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COOLDOWN TEST SENSOR FAILURE — Continued

TEST	ACTION	APPLICABILITY
2	**CAUTION: The evaporator temperature must be above 12.7°C (55°F) to test A/C system operation.** Turn the ignition on. With the DRBIII®, check the PCM for any DTCs. Are any DTCs present? Yes → Refer to Powertrain Diagnostic Information. After the repair is complete, with the DRBIII®, erase the DTC(s). Cycle the ignition switch. Start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the Service Information for additional Cooldown Test related diagnostic information and testing procedures. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
COOLDOWN TEST TOO COLD TO START

When Monitored and Set Condition:

COOLDOWN TEST TOO COLD TO START

When Monitored: When executing the Cooldown Test.

Set Condition: This message will be displayed if the A/C - Heater Control Module sees evaporator temperature below 12.7°C (55°F) when executing the Cooldown Test.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE TOO LOW
CHECK FOR HVAC DTCS
CHECK FOR PCM DTCS
EVAPORATOR TEMPERATURE SENSOR
SENSOR GROUND CIRCUIT HIGH RESISTANCE
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT HIGH RESISTANCE
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**CAUTION: The work area ambient temperature must be above 21.1°C (70°F) to test A/C system operation.** Start the engine. Turn the A/C off. Turn the blower on high. Allow the blower to run for 5 minutes to ensure that the Evaporator Temperature Sensor temperature is above 12.7°C (55°F). With the DRBIII®, actuate the Cooldown Test. Does the DRBIII® display: Cooldown Test Too Cold To Start? Yes → Go To 2 No → Perform additional testing as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	**CAUTION: The work area ambient temperature must be above 21.1°C (70°F) to test A/C system operation.** Turn the ignition on. With the DRBIII®, read HVAC DTCs. Does the DRBIII® display any HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). After the repair is complete, with the DRBIII®, erase the DTC(s). Cycle the ignition switch. Start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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COOLDOWN TEST TOO COLD TO START — Continued

TEST	ACTION	APPLICABILITY
3	**CAUTION: The work area ambient temperature must be above 21.1°C (70°F) to test A/C system operation.** Turn the ignition on. With the DRBIII®, check the PCM for any DTCs. Are any DTCs present? Yes → Refer to the Powertrain Diagnostic Information. After the repair is complete, with the DRBIII®, erase the DTC(s). Cycle the ignition switch. Start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensor Display, read the Evaporator Temperature Sensor voltage. Is the voltage above 4.9 volts? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Connect a jumper wire between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit at the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensor Display, read the Evaporator Temperature Sensor voltage. Is the voltage below 0.10 volt? Yes → Replace the Evaporator Temperature Sensor in accordance with the Service Information. After the repair is complete, start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	**NOTE: Ensure that the Evaporator Temperature Sensor harness connector is connected to the Evaporator Temperature Sensor.** **NOTE: Ensure that the voltmeter leads meet the terminals in the connector and that there is good terminal to wire connection.** **NOTE: Ensure the voltmeter leads are connected for positive polarity.** Back probe the Sensor Ground circuit between the Evaporator Temperature Sensor harness connector and the A/C - Heater Control Module C1 harness connector. Turn the ignition on. Is the voltage below 0.10 volt? Yes → Go To 7 No → Repair the high resistance in the Sensor Ground circuit. After the repair is complete, start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1.	All

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COOLDOWN TEST TOO COLD TO START — Continued

TEST	ACTION	APPLICABILITY
7	**NOTE: Ensure that the Evaporator Temperature Sensor harness connector is connected to the Evaporator Temperature Sensor.** **NOTE: Ensure the voltmeter leads meet the terminals in the connector and that there is good terminal to wire connection.** **NOTE: Ensure the voltmeter leads are connected for positive polarity** Back probe the Evaporator Temperature Sensor Signal circuit between the Evaporator Temperature Sensor harness connector and the A/C - Heater Control Module C1 harness connector. Turn the ignition on. Is the voltage below 0.10 volt? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the high resistance in the Evaporator Temperature Sensor Signal circuit. After the repair is complete, start the engine. Set the blower control to high speed. With the DRBIII®, actuate the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

DEFOG RELAY CONTROL CKT SHORTED TO BATT

When Monitored and Set Condition:

DEFOG RELAY CONTROL CKT SHORTED TO BATT

When Monitored: With the ignition on and the EBL switch depressed.

Set Condition: This DTC will set when the A/C Heater Control Module senses excessive current on the Heated Mirror Relay Control circuit.

POSSIBLE CAUSES
DEFOG RELAY CONTROL CKT SHORTED TO BATT

TEST	ACTION	APPLICABILITY
1	View repair. Repair Refer to symptom Defog Relay Control Ckt Shorted to Batt in the Electrically Heated Systems Category. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

ENGINE GAUGE RX FAILURE (ACTIVE)
PCM COMMUNICATION FAILURE (ACTIVE)
REFRIGERANT PRESSURE RX FAILURE (ACTIVE)
VIN RX FAILURE (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ENGINE GAUGE RX FAILURE (ACTIVE).

When Monitored and Set Condition:

ENGINE GAUGE RX FAILURE (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the message from the PCM for more than 5 seconds. This message provides Battery Voltage, Battery Temperature, and Engine Coolant Temperature.

PCM COMMUNICATION FAILURE (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the message from the PCM for more than 5 seconds. This message provides Engine RPM and Vehicle Speed.

REFRIGERANT PRESSURE RX FAILURE (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the Refrigerant Pressure message from the PCM for more than 20 seconds.

VIN RX FAILURE (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module does not receive the VIN message from the PCM for more than 5 seconds.

POSSIBLE CAUSES
CHECK FOR ADDITIONAL HVAC DTCS
CHECK FOR PCM DTCS
A/C - HEATER CONTROL MODULE
PCM - NO MESSAGE TO A/C - HEATER CONTROL MODULE

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ENGINE GAUGE RX FAILURE (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read HVAC DTCs. Does the DRBIII® display additional HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, check the PCM for any DTCs. Are any DTCs present? Yes → Refer to the Powertrain Diagnostic Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With the DRB in HVAC, Monitor Display, PCI Bus Msgs, look for the applicable message and displayed value (″A/C Hi Side Press: XX,″ ″Veh Spd: XX,″ ″Eng RPM: XX,″ ″Coolant Temp: XX,″ ″Batt Volts: XX,″ ″Batt Temp: XX,″ ″VIN Msg Pres: YES″). Does the DRB display NO RESPONSE after the applicable message? Yes → Refer to symptom *No Response From PCM (PCI Bus) in the Communication category. Perform BODY VERIFICATION TEST - VER 1. No → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
EVAPORATOR TEMPERATURE SENSOR CIRCUIT OPEN (ACTIVE)

When Monitored and Set Condition:

EVAPORATOR TEMPERATURE SENSOR CIRCUIT OPEN (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module sees voltage above 4.9 volts on the Evaporator Temperature Sensor Signal circuit.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORTED HIGH
EVAPORATOR TEMPERATURE SENSOR
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN
SENSOR GROUND CIRCUIT OPEN
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Turn the ignition on. Measure the voltage between the Evaporator Temperature Sensor Signal circuit and ground. Is there any voltage present? Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. **NOTE: Ensure that the A/C - Heater Control Module C1 harness connector is connected to the A/C - Heater Control Module.** Disconnect the Evaporator Temperature Sensor harness connector. Connect a jumper wire between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit at the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensor Display, read the Evaporator Temperature Sensor voltage. Is the voltage below 0.10 volt? Yes → Replace the Evaporator Temperature Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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EVAPORATOR TEMPERATURE SENSOR CIRCUIT OPEN (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance of the Evaporator Temperature Sensor Signal circuit between the A/C - Heater Control Module C1 harness connector and the Evaporator Temperature Sensor harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Evaporator Temperature Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance of the Sensor Ground circuit between the A/C - Heater Control Module C1 harness connector and the Evaporator Temperature Sensor harness connector. Is the resistance below 5.0 ohms? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

EVAPORATOR TEMPERATURE SENSOR CIRCUIT SHORTED (ACTIVE)

When Monitored and Set Condition:

EVAPORATOR TEMPERATURE SENSOR CIRCUIT SHORTED (ACTIVE)

When Monitored: With the ignition on.

Set Condition: This DTC will set if the A/C - Heater Control Module sees voltage below 0.06 volts on the Evaporator Temperature Sensor Signal circuit.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE SENSOR
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORTED TO GROUND
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORTED TO SENSOR GROUND CIRCUIT
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensor Display, read the Evaporator Temperature Sensor voltage. Does the DRBIII® display: 4.9 volts or greater? Yes → Replace the Evaporator Temperature Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the A/C - Heater Control Module C1 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance between ground and the Evaporator Temperature Sensor Signal circuit. Is the resistance above 10K ohms? Yes → Go To 3 No → Repair the Evaporator Temperature Sensor Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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EVAPORATOR TEMPERATURE SENSOR CIRCUIT SHORTED (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Disconnect the A/C - Heater Control Module C1 harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit. Is the resistance above 10K ohms? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Evaporator Temperature Sensor Signal circuit for a short to the Sensor Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
LOOPBACK TEST FAILURE (ACTIVE)

When Monitored and Set Condition:

LOOPBACK TEST FAILURE (ACTIVE)

When Monitored: When the A/C - Heater Control Module executes an internal loopback test.

Set Condition: If the A/C - Heater Control Module fails to send a message, or none of the expected messages arrive for 5 seconds, an internal loopback test is executed. If the internal loopback test fails, the DTC will set.

POSSIBLE CAUSES
CHECK FOR ADDITIONAL HVAC DTCS
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read HVAC DTCs. Does the DRBIII® display additional HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
TX FAILURE (ACTIVE)

When Monitored and Set Condition:

TX FAILURE (ACTIVE)

When Monitored: When the ignition is on.

Set Condition: This DTC will set if the A/C - Heater Control Module is unable to send a PCI Bus message.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE HVAC MODULE
CHECK FOR ADDITIONAL HVAC DTCS
ATTEMPT TO COMMUNICATE WITH THE PCM AND MIC
A/C - HEATER CONTROL MODULE
INTERMITTENT WIRING PROBLEM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the HVAC Module. Was the DRBIII® able to I/D or communicate with the HVAC Module? 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®, read HVAC DTCs. Does the DRBIII® display additional HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. With the DRBIII®, attempt to communicate with the MIC. Was the DRBIII® able to I/D or communicate with the PCM and the MIC? Yes → Go To 4 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

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TX FAILURE (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition on. With the DRBIII®, erase HVAC DTCs. Cycle the ignition switch and wait approximately 1 minute. With the DRBIII®, read HVAC DTC's. Did this DTC reset? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors to help isolate a possible intermittent wiring condition. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*A/C - HEATER CONTROL ILLUMINATION INOPERATIVE

POSSIBLE CAUSES
CHECK FOR INSTRUMENT CLUSTER (MIC) DTCS
INOPERATIVE BULB(S)
A/C - HEATER CONTROL MODULE
PANEL LAMPS DRIVER CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® in Body, Electro/Mech Cluster (MIC), read DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Instrument Cluster category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the Headlamp switch on. Rotate the Cargo Dome switch to the full brightness setting. **CAUTION: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe the Panel Lamps Driver circuit in the A/C-Heater Control Module C1 harness connector. Does the test light illuminate brightly? Yes → Go To 3 No → Go To 4	All
3	For Dual-Zone HVAC systems, proceed directly to the conclusion of this test and answer Yes to the question. For Single-Zone HVAC systems, proceed as follows: Turn the ignition off. Remove the inoperative bulb(s) from the A/C - Heater Control Module. **NOTE: If necessary, hold the bulb in front of a lamp to see the filament.** Inspect the bulb(s). Is each inoperative bulb Ok? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the inoperative bulb(s). Perform BODY VERIFICATION TEST - VER 1.	All

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*A/C - HEATER CONTROL ILLUMINATION INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the A/C - Heater Control C1 harness connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Panel Lamps Driver circuit between the A/C - Heater Control C1 harness connector and the Instrument Cluster C3 harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Panel Lamps Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

***A/C STATUS INDICATOR FLASHING**
***EBL STATUS INDICATOR FLASHING**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be *A/C STATUS INDICATOR FLASHING.

POSSIBLE CAUSES
AC COOLDOWN TEST NEEDS TO BE RUN
HVAC DOOR RECALIBRATION NEEDS TO BE RUN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Which status indicator is flashing on the A/C-Heater Control Module? A/C Status Indicator Go To 2 EBL Status Indicator Go To 3	All
2	**CAUTION: The evaporator temperature must be above 12.7°C (55°F) and the work area ambient temperature must be above 21.1°C (70°F) to test A/C system operation.** **NOTE: The A/C status indicator can flash at two different rates, twice per second (fast rate) when the control is indicating that the AC Cooldown Test needs to be run, and once every two seconds (slow rate) when the AC Cooldown Test is in progress.** **NOTE: When the A/C status indicator is flashing, it will not indicate A/C operating status. However, the A/C switch will continue to function normally.** **NOTE: When the A/C status indicator is flashing, the EBL status indicator will not function. However, the EBL switch will continue to function normally.** Start the engine. Turn the Blower control to the High position. With the DRBIII® in HVAC, System Tests, actuate the AC Cooldown Test. Allow one minute for test to complete. Does the DRBIII® display: Cooldown Test Passed? Yes → Test Complete. No → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

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*A/C STATUS INDICATOR FLASHING — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: The EBL status indicator can flash at two different rates, twice per second (fast rate) when the control is indicating that the HVAC Door Recal needs to be run, and once every two seconds (slow rate) when the HVAC Door Recal is in progress.** **NOTE: When the EBL status indicator is flashing, it will not indicate EBL operating status. However, the EBL switch will continue to function normally.** **NOTE: When the EBL status indicator is flashing, the A/C status indicator will not function. However, the A/C switch will continue to function normally.** With the DRBIII® in HVAC, System Tests, actuate the HVAC Door Recalibration Test. Does the DRBIII® display: Recalibration Test Passed? Yes → Test Complete. No → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***A/C STATUS INDICATOR WILL NOT ILLUMINATE -- A/C - HEATER CONTROL WITHOUT EBL SW**

POSSIBLE CAUSES
HVAC DOOR RECALIBRATION FAILED
A/C - HEATER CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the HVAC Door Recalibration Test. Does the DRBIII® display: Recalibration Test Failed? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*BLEND/MODE/RECIRC DOOR OPERATION IMPROPER -- DUAL-ZONE

POSSIBLE CAUSES
CHECK FOR ACTUATOR CIRCUIT TEST FAULT MESSAGES
CHECK FOR ACTIVE HVAC DTCS
CHECK FOR HVAC DOOR RECALIBRATION FAULT MESSAGES
MODE DOOR ACTUATOR(S)/LINKAGE(S)/DOOR(S)
PASSENGER BLEND DOOR ACTUATOR/LINKAGE/DOOR
DRIVER BLEND DOOR ACTUATOR/LINKAGE/DOOR
RECIRCULATION DOOR ACTUATOR/LINKAGE/DOOR

TEST	ACTION	APPLICABILITY
1	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. Does the DRBIII® display any Actuator Circuit Test fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII®, read active HVAC DTCs. Does the DRBIII® display any active HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the HVAC Door Recalibration Test. Does the DRBIII® display any HVAC Door Recalibration fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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*BLEND/MODE/RECIRC DOOR OPERATION IMPROPER -- DUAL-ZONE — Continued

TEST	ACTION	APPLICABILITY
4	Which door did customer ID as faulty? Mode Doors Go To 5 Passenger Blend Door Go To 6 Driver Blend Door Go To 7 Recirculation Door Go To 8	All
5	Start the engine. Turn the blower control to the high speed position. **NOTE: The Mode 1 door must be at its physical end of travel in the panel position to correctly direct airflow to the Mode 2 door.** **NOTE: The Mode 2 door must be at its physical end of travel in the floor-defrost position to correctly direct airflow to the Mode 1 door.** Turn the mode control to each door position for a minimum of 30 seconds and check for airflow from the corresponding vents. Does air flow from the correct vents for each door position? Yes → Test Complete. No → Remove door actuators from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuators in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
6	Start the engine. Turn the blower control to the high speed position. Turn the mode control to the panel position. Move the passenger blend control to the full hot position. Move the passenger blend control to the full cold position, in 25% increments, while checking for a change in airflow air temperature coming from the passenger's panel vents. Does the airflow air temperature change with respect to the position of the blend control? Yes → Test Complete. No → Remove door actuator from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuator in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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*BLEND/MODE/RECIRC DOOR OPERATION IMPROPER -- DUAL-ZONE — Continued

TEST	ACTION	APPLICABILITY
7	Start the engine. Turn the blower control to the high speed position. Turn the mode control to the panel position. Move the driver blend control to the full hot position. Move the driver blend control to the full cold position, in 25% increments, while checking for a change in airflow air temperature coming from the driver's panel vents. Does the airflow air temperature change with respect to the position of the blend control. Yes → Test Complete. No → Remove door actuator from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuator in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
8	Start the engine. Turn the blower control to the high speed position. Press the MAX control off (LED not Illuminated). Press the MAX control on (LED Illuminated). The sound of the air flowing through the ducts should get louder as the recirculation door opens to bring in recirc air. Does the sound of the airflow get louder after pressing the MAX control on? Yes → Test Complete. No → Remove door actuator from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuator in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***BLEND/MODE/RECIRC DOOR OPERATION IMPROPER -- SINGLE-ZONE**

POSSIBLE CAUSES
CHECK FOR ACTUATOR CIRCUIT TEST FAULT MESSAGES
CHECK FOR ACTIVE HVAC DTCS
CHECK FOR HVAC DOOR RECALIBRATION FAULT MESSAGES
MODE DOOR ACTUATOR(S)/LINKAGE(S)/DOOR(S)
BLEND DOOR ACTUATOR/LINKAGE/DOOR
RECIRCULATION DOOR ACTUATOR/LINKAGE/DOOR

TEST	ACTION	APPLICABILITY
1	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. Does the DRBIII® display any Actuator Circuit Test fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII®, read active HVAC DTCs. Does the DRBIII® display any active HVAC DTCs? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**NOTE: All Actuator Circuit Test fault messages and Overcurrent DTCs must be repaired before diagnosing Calibration fault messages.** Turn the ignition on. With the DRBIII® in HVAC, System Tests, actuate the HVAC Door Recalibration Test. Does the DRBIII® display any HVAC Door Recalibration fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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*BLEND/MODE/RECIRC DOOR OPERATION IMPROPER -- SINGLE-ZONE — Continued

TEST	ACTION	APPLICABILITY
4	Which door did customer ID as faulty? Mode Doors Go To 5 Blend Door Go To 6 Recirculation Door Go To 7	All
5	Start the engine. Turn the blower control to the high speed position. **NOTE: The Mode 1 door must be at its physical end of travel in the panel position to correctly direct airflow to the Mode 2 door.** **NOTE: The Mode 2 door must be at its physical end of travel in the floor-defrost position to correctly direct airflow to the Mode 1 door.** Turn the mode control to each door position for a minimum of 30 seconds and check for airflow from the corresponding vents. Does air flow from the correct vents for each door position? Yes → Test Complete. No → Remove door actuators from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuators in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
6	Start the engine. Turn the blower control to the high speed position. Turn the mode control to the panel position. Turn the blend control to the full hot position. Turn the blend control to the full cold position, in 25% increments, while checking for a change in airflow air temperature coming from the panel vents. Does the airflow air temperature change with respect to the position of the blend control? Yes → Test Complete. No → Remove door actuator from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuator in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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*BLEND/MODE/RECIRC DOOR OPERATION IMPROPER -- SINGLE-ZONE — Continued

TEST	ACTION	APPLICABILITY
7	Start the engine. Turn the blower control to the high speed position. Turn the mode control to the panel position. Turn the mode control to the MAX panel position. The sound of the air flowing through the ducts should get louder as the recirculation door opens to bring in recirc air. Does the sound of the airflow get louder after turning the control to the MAX panel position? Yes → Test Complete. No → Remove door actuator from A/C-Heater Housing Assy. By hand, attempt to rotate the door actuator in both directions. Also, inspect for disconnected, missing, or broken door actuator linkage. Repair as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***BLOWER MOTOR INOPERATIVE**

POSSIBLE CAUSES
IPM FUSE #4
BLOWER MOTOR FEED CIRCUIT SHORTED TO GROUND
FUSED B(+) SHORTED TO GROUND
BLOWER MOTOR SHORTED TO GROUND
BLOWER MOTOR
BLOWER MOTOR HIGH DRIVER CIRCUIT OPEN
GROUND CIRCUIT OPEN
A/C - HEATER CONTROL MODULE OPEN
BLOWER MOTOR FEED CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
IGNITION SWITCH OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect IPM Fuse #4. Is the fuse open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Replace IPM Fuse #4. Turn the ignition on. Turn the blower on and operate it in all speeds and modes. Does the blower motor operate properly without blowing the fuse? Yes → Check the Blower Motor Feed circuit and the Fused B(+) circuit for an intermittent short to ground. Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Blower Motor harness connector. Measure the resistance between ground and the Blower Motor Feed circuit. Is the resistance below 10K ohms? Yes → Repair the Blower Motor Feed circuit for a short to ground and replace the fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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*BLOWER MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Ignition Switch harness connector. Measure the resistance between ground and the Fused B(+) circuit. Is the resistance below 10K ohms? Yes → Repair the Fused B(+) circuit for a short to ground and replace the fuse. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Blower Motor and fuse in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe the Blower Motor Feed circuit in the Blower Motor harness connector. Does the test light illuminate brightly? Yes → Go To 6 No → Go To 9	All
6	Turn the ignition off. Connect a jumper wire between ground and the Blower Motor High Driver circuit in the Blower Motor harness connector. Turn the ignition on. Does the blower motor run at high speed? Yes → Go To 7 No → Replace the Blower Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Disconnect the Blower Motor harness connector. Measure the resistance of the Blower Motor High Driver circuit between the A/C - Heater Control Module C2 harness connector and the Blower Motor harness connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Blower Motor High Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms? Yes → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*BLOWER MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe the Blower Motor Feed circuit in the Ignition Switch harness connector. Does the test light illuminate brightly? Yes → Repair the Blower Motor Feed circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All
10	**NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe the Fused B(+) circuit in the Ignition Switch harness connector. Does the test light illuminate brightly? Yes → Replace the Ignition Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*BLOWER MOTOR SPEEDS INCORRECT

POSSIBLE CAUSES
BLOWER MOTOR DRIVER CIRCUIT(S) SHORTED TO GROUND
A/C - HEATER CONTROL MODULE
BLOWER MOTOR DRIVER CIRCUIT(S) SHORTED TO VOLTAGE
BLOWER MOTOR DRIVER CIRCUITS SHORTED TOGETHER
A/C - HEATER CONTROL MODULE - SPEEDS INCORRECT
BLOWER MOTOR DRIVER CIRCUIT(S) OPEN
BLOWER MOTOR RESISTOR BLOCK - OPEN SPEED

TEST	ACTION	APPLICABILITY
1	Turn the Blower control to the Off position. Turn the ignition on. Does the blower run? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Disconnect the Blower Motor Resistor Block harness connector. Measure the resistance between ground and each of the Blower Motor Driver circuits. Is the resistance below 10K ohms on any of the circuits? Yes → Repair all Blower Motor Driver circuits with a resistance below 10K ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe each of the Blower Motor Driver circuits (cavities 2, 3, 7, and 10) in the A/C - Heater Control Module C2 harness connector. Does the test light illuminate brightly on each circuit? Yes → Go To 4 No → Go To 6	All

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*BLOWER MOTOR SPEEDS INCORRECT — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Disconnect the Blower Motor Resistor Block harness connector. Measure the voltage of each of the Blower Motor Driver circuits (cavities 2, 3, 7, and 10). Is there any voltage present? Yes → Repair all Blower Motor Driver circuits with voltage present for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Disconnect the Blower Motor Resistor Block harness connector. Measure the resistance between the Low Blower Motor Driver circuit and the M1, M2, and Blower Motor High Driver circuit. Measure the resistance between the M1 Blower Motor Driver circuit and the M2 and Blower Motor High Driver circuit. Measure the resistance between the M2 Blower Motor Driver circuit and the Blower Motor High Driver circuit. Is the resistance below 10K ohms between any of the circuits? Yes → Repair the Blower Motor Driver circuits with a resistance below 10K ohms for a short to each other. Perform BODY VERIFICATION TEST - VER 1. No → Replace the A/C - Heater Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the A/C - Heater Control Module C2 harness connector. Disconnect the Blower Motor Resistor Block harness connector. Measure the resistance of each Blower Motor Driver circuit between the Blower Motor Resistor Block harness connector and the A/C - Heater Control Module C2 harness connector. Is the resistance below 5.0 ohms on each of the circuits? Yes → Replace the Blower Motor Resistor Block in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair all Blower Motor Driver circuits with a resistance above 5 ohms for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*HVAC SYSTEM TEST

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK FOR HVAC RELATED DTCS IN THE PCM
CHECK FOR ACTIVE HVAC DTCS AND SYSTEM TEST FAULT MESSAGES
CHECK FOR HVAC RELATED DTCS IN THE PCM
MANUAL A/C SYSTEM TEST

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Powertrain Control Module (PCM). Was the DRBIII® able to 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®, read Powertrain Computer DTCs. Are any HVAC related DTCs present? Yes → Refer to the Powertrain Diagnostic Procedures Manual for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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*HVAC SYSTEM TEST — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Active DTCs must be resolved before diagnosing stored DTCs.** **NOTE: Anytime a DTC becomes active, or a Cooldown Test fault message, Actuator Circuit Test fault message, or Door Recalibration fault message is displayed, proceed to the conclusion question.** Turn the ignition on. Turn the mode select control to the panel position. Verify that the blower motor operates correctly in all speeds. Diagnose and repair all blower related faults before proceeding with this test. For vehicles that are not equipped with A/C, skip the next 6 steps of this procedure. Turn the blower control to the low speed position. Make sure that the A/C switch is turned off (status indicator not illuminated). Turn the blower control to the off position. Start the engine. Turn the blower control to the high speed position. **CAUTION: The evaporator temperature must be above 12.7°C (55°F) and the work area ambient temperature must be above 21.1°C (70°F) to test A/C system operation.** With the DRBIII® in HVAC, System Tests, actuate the AC Cooldown Test. Allow one minute for test to complete. If not done previously, start the engine. Turn the blower control to the low speed position. Set the blend/driver blend (dual-zone) control to the full cold position. If equipped, set the passenger blend control to the full cold position. Monitor the DRBIII® for active HVAC DTCs during the following test steps. If equipped, press the A/C switch on, wait 30 seconds, and then press it off. On Dual-Zone systems, press the MAX switch on, wait 30 seconds, and then press it off. If equipped, press the EBL switch on, wait 30 seconds, and then press it off. Move the blend/driver blend (dual-zone) control from full cold to full hot, wait 30 seconds, and then move it back to full cold. If equipped, move the passenger blend control from full cold to full hot, wait 30 seconds, and then moved it back to full cold. Turn the mode select control to the defrost position, wait 30 seconds, and then turn it to the panel position (dual-zone) or MAX panel position (single-zone). With the DRBIII® in HVAC, System Tests, actuate the Actuator Circuit Test. With the DRBIII® in HVAC, System Tests, actuate the HVAC Door Recalibration Test. Does the DRBIII® display any HVAC DTCs or System Test fault messages? Yes → Return to the symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	With the DRBIII®, read PCM DTCs. Are any HVAC related DTCs present? Yes → Refer to the Powertrain Diagnostic Procedures Manual for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Recheck the climate control system performance. Refer to Service Information for additional information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

BATTERY 1 VOLTAGE OPEN

POSSIBLE CAUSES
CHECK FUSE #13
OPEN FUSED B+ CIRCUITS
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC must be active to perform this test. If DTC is stored, erase DTC and check for an intermittent condition.** Turn the ignition off. Check fuse #13 in the IPM. Is the fuse open? Yes → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove the Front Control Module from the IPM. Using a 12-volt test light connected to ground, probe both Fused B+ circuits (cavs 3 and 4). Is the test light illuminated for both circuits? Yes → Replace the Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Distribution Center (PDC) in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
BATTERY 2 VOLTAGE OPEN

POSSIBLE CAUSES
CHECK FUSE #11
OPEN FUSED B+ CIRCUITS
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC must be active to perform this test. If DTC is stored, erase DTC and check for an intermittent condition.** Turn the ignition off. Check fuse #11 in the IPM. Is the fuse open? Yes → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove the Front Control Module from the IPM. Using a 12-volt test light connected to ground, probe both Fused B+ circuits (cavs 6 and 7). Is the test light illuminated for both circuits? Yes → Replace the Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Distribution Center (PDC) in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
BATTERY VOLTAGE OPEN

POSSIBLE CAUSES
OPEN B+ CIRCUIT
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC must be active to perform this test. If DTC is stored, erase DTC and check for an intermittent condition.** Turn the ignition off. Remove the Front Control Module from the IPM. Using a 12-volt test light connected to ground, probe the B+ circuit (cav 10). Is the test light illuminated? Yes → Replace the Front Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Distribution Center (PDC) in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

HORN RELAY CONTROL CIRCUIT HIGH

When Monitored and Set Condition:

HORN RELAY CONTROL CIRCUIT HIGH

When Monitored: With the ignition ON.

Set Condition: When the Front Control Module detects excessive current on the Horn Relay Control circuit.

POSSIBLE CAUSES
FRONT CONTROL MODULE
INTEGRATED POWER MODULE
INTERMITTENT DTC

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase FCM DTC's. With the DRBIII®, actuate the Horn Relay. With the DRBIII®, read FCM DTC's. Does the DRBIII® display a HORN RELAY CONTROL CIRCUIT DTC active? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Remove the Front Control Module from the Integrated Power Module. **NOTE: Check connectors - Clean/repair as necessary.** Use a fused jumper wire for the next step. Momentarily jumper the Horn Relay Control circuit to ground at the FCM connector. Does the Horn sound? Yes → Replace the Front Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Visually inspect the related circuit connectors. Look for broken, bent, pushed out, or corroded terminals. Refer to any Hotline letters or Technical Service Bulletins that may apply. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom List:

HORN RELAY CONTROL CIRCUIT LOW
HORN RELAY CONTROL CIRCUIT OPEN

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be HORN RELAY CONTROL CIRCUIT LOW.

When Monitored and Set Condition:

HORN RELAY CONTROL CIRCUIT LOW

When Monitored: With the ignition ON.

Set Condition: When the Front Control Module detects a short on the Horn Relay Control circuit.

HORN RELAY CONTROL CIRCUIT OPEN

When Monitored: With the ignition ON.

Set Condition: When the Front Control Module detects an open on the Horn Relay Control circuit.

POSSIBLE CAUSES
FRONT CONTROL MODULE
FUSE #45
INTEGRATED POWER MODULE
INTERMITTENT DTC

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase FCM DTC's. With the DRBIII®, read FCM DTC's. Does the DRBIII® display a HORN RELAY CONTROL CIRCUIT DTC active? Yes → Go To 2 No → Go To 4	All
2	Turn the ignition off. Check fuse #45 in the IPM. Is the fuse open? Yes → Replace the fuse. Check for a short to ground in the Horn Relay Output circuit from the IPM to the horns. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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HORN RELAY CONTROL CIRCUIT LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Reinstall the fuse if previously removed. Remove the Front Control Module from the Integrated Power Module. **NOTE: Check connectors - Clean/repair as necessary.** Measure the voltage of the Horn Relay Control circuit. Is the voltage above 11.0 volts? Yes → Replace the Front Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Visually inspect the related circuit connectors. Look for broken, bent, pushed out, or corroded terminals. Refer to any Hotline letters or Technical Service Bulletins that may apply. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:
IGNITION RUN/START MISMATCH

POSSIBLE CAUSES
INSTRUMENT CLUSTER
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE
POWER DISTRIBUTION CENTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any Airbag, MIC or PCM DTCs before proceeding with this test.** With the DRBIII®, select MIC, Monitors, then Ignition State. Does the DRBIII® display ″Run″ and ″Start″? Yes → Go To 2 No → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: Ensure that the battery is fully charged before proceeding with this test.** Turn the ignition on. Measure the voltage of the IPM Fuse #50. Is the voltage above 10.5 volts? Yes → Go To 3 No → Replace the PDC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the FCM from the IPM. Measure the internal resistance of the IPM between the #50 Fuse output terminal and the IPM/FCM connector pin 48. Is the resistance above 5.0 ohms? Yes → Replace the PDC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the FCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***HORNS INOPERATIVE**

POSSIBLE CAUSES
HORN GROUND CIRCUIT OPEN
HORN RELAY OUTPUT CIRCUIT OPEN
HORNS
INSTRUMENT CLUSTER
DTC PRESENT
CLOCKSPRING
FRONT CONTROL MODULE
FUSE #45
HORN SWITCH
HORN SWITCH GROUND
HORN SWITCH SENSE OPEN
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read FCM DTC's. Does the DRBIII® display a HORN RELAY CONTROL CIRCUIT DTC active? Yes → Refer to symptom list. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII®, actuate the Horn Relay. Do the horns operate? Yes → Go To 3 No → Go To 7	All
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Gain access to the horn switch. Measure the resistance of the Horn Switch ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the horn switch ground as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

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*HORNS INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **CAUTION: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Gain access to the horn switch connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Momentarily connect a jumper wire between the Horn Switch Sense circuit at the Horn switch connector and ground. Did the horns sound? Yes → Replace the horn switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the clockspring C1 connector. Momentarily connect a jumper wire between the Horn Switch Sense circuit at the clockspring connector and ground. Did the horns sound? Yes → Replace the clockspring. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the clockspring C1 connector. Disconnect the Instrument Cluster C3 connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Horn Switch Sense circuit between the clockspring C1 connector and the Instrument Cluster C3 connector. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Horn Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Check fuse #45 in the IPM. Is the fuse open? Yes → Replace the fuse. Check for a short to ground in the Horn Relay Output circuit from the IPM to the horns. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect a horn connector. With the DRBIII®, actuate the Horn Relay. Using a 12-volt test light connected to ground, check the Horn Relay Output circuit. Does the test light illuminate brightly? Yes → Go To 9 No → Go To 10	All

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*HORNS INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	Disconnect the Horn connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit in the horn connector. Does the test light illuminate brightly? Yes → Replace the Horns. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Gain access to the IPM C1 connector. Using a 12-volt test light connected to ground, back probe the Horn Relay Output circuit in the IPM C1 connector. With the DRBIII®, the actuate the horn relay. Does the test light illuminate brightly? Yes → Repair the Horn Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Turn the ignition off. Remove the Front Control Module from the Integrated Power Module. **NOTE: Check connectors - Clean/repair as necessary.** **NOTE: The test light is still connected to the C1 connector.** Momentarily jumper the Horn Relay Control circuit to ground at the FCM connector. Does the test light illuminate brightly? Yes → Replace the Front Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

ABS INDICATOR OUTPUT CIRCUIT OPEN
ABS INDICATOR OUTPUT CIRCUIT SHORTED
AIRBAG WARNING INDICATOR OUTPUT CIRCUIT OPEN
AIRBAG WARNING INDICATOR OUTPUT CIRCUIT SHORT
MIL INDICATOR OUTPUT CIRCUIT OPEN
MIL INDICATOR OUTPUT CIRCUIT SHORTED
WAIT TO START INDICATOR OUTPUT CIRCUIT OPEN
WAIT TO START INDICATOR OUTPUT CIRCUIT SHORTED

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ABS INDICATOR OUTPUT CIRCUIT OPEN.

When Monitored and Set Condition:

ABS INDICATOR OUTPUT CIRCUIT OPEN

When Monitored: With the ignition on and when requested to turn on by the ABS module.

Set Condition: The Instrument Cluster feedback status on the ABS Lamp shows that an open circuit condition exists. (Above 5.0 volts when ON).

ABS INDICATOR OUTPUT CIRCUIT SHORTED

When Monitored: With the ignition on and when requested to turn on by the ABS module.

Set Condition: The Instrument Cluster feedback status on the ABS Lamp shows that a short circuit condition exists. (Below 0.3 volts when ON).

AIRBAG WARNING INDICATOR OUTPUT CIRCUIT OPEN

When Monitored: With the ignition on and when requested to turn on by the Airbag Control Module.

Set Condition: The Instrument Cluster feedback status on the Airbag Lamp shows that an open circuit condition exists. (Above 5.0 volts when ON).

AIRBAG WARNING INDICATOR OUTPUT CIRCUIT SHORT

When Monitored: With the ignition on and when requested to turn on by the Airbag Control Module.

Set Condition: The feedback status of the Airbag Lamp, when ON, to the Instrument Cluster is below 0.3 volts

MIL INDICATOR OUTPUT CIRCUIT OPEN

When Monitored: With the ignition on and when requested to turn on by the Powertrain Control Module.

Set Condition: The Instrument Cluster feedback status on the MIL Lamp shows that an open circuit condition exists. (Above 5.0 volts when ON).

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ABS INDICATOR OUTPUT CIRCUIT OPEN — Continued

MIL INDICATOR OUTPUT CIRCUIT SHORTED

When Monitored: With the ignition on and when requested to turn on by the Powertrain Control Module.

Set Condition: The Instrument Cluster feedback status on the MIL Lamp shows that a short circuit condition exists. (Below 0.3 volts when ON).

WAIT TO START INDICATOR OUTPUT CIRCUIT OPEN

When Monitored: With the ignition on and when requested to turn on by the Engine Control Module.

Set Condition: The Instrument Cluster feedback status on the Wait-to-Start Lamp shows that an open circuit condition exists. (Above 5.0 volts when ON).

WAIT TO START INDICATOR OUTPUT CIRCUIT SHORTED

When Monitored: With the ignition on and when requested to turn on by the Engine Control Module.

Set Condition: The Instrument Cluster feedback status on the Wait-to-Start Lamp shows that a short circuit condition exists. (Below 0.3 volts when ON).

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any PCM (ECM if diesel equipped), or Communication DTCs before proceeding with this test.** **NOTE: If any indicator being diagnosed operates during the Instrument Cluster bulb check, refer to the appropriate system category for diagnostics.** The Instrument Cluster indicator LEDs are not replaceable, view repair. Repair Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

ABS MESSAGES NOT RECEIVED
ACM MESSAGES NOT RECEIVED
FCM MESSAGES NOT RECEIVED
SKIM MESSAGES NOT RECEIVED
TCCM MESSAGES NOT RECEIVED
TCM MESSAGES NOT RECEIVED

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ABS MESSAGES NOT RECEIVED.

When Monitored and Set Condition:

ABS MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the ABS (CAB) module for at least 5 seconds.

ACM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the ACM for at least 5 seconds.

FCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the FCM for at least 5 seconds.

SKIM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the SKIM for at least 5 seconds.

TCCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the TCCM for at least 5 seconds.

TCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the TCM for at least 5 seconds.

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ABS MESSAGES NOT RECEIVED — Continued

POSSIBLE CAUSES
BUS MESSAGE NOT RECEIVED DTC PRESENT
INSTRUMENT CLUSTER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, attempt to communicate with the module that corresponds to the DTC that is set. Was the DRBIII® able to I/D or communicate with the Module in question? Yes → Go To 2 No → Refer to Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: If this is an active DTC, answer yes to the question.** With the DRBIII®, erase DTCs. Cycle the ignition, wait approximately 1 minute. With the DRBIII®, read DTCs. Did the DTC reset? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

BTSI OUTPUT CIRCUIT SHORTED OR OPEN

When Monitored and Set Condition:

BTSI OUTPUT CIRCUIT SHORTED OR OPEN

When Monitored: With the ignition in the Unlock or On position and the operator's foot applied to the brake pedal. (Customer Complaint: Vehicle can be shifted out of Park without pressing the brake pedal.)

Set Condition: The Instrument Cluster detects a ″0″ or low value on the input circuit for the BTSI when ON.

POSSIBLE CAUSES
TCM DTC PRESENT
BTSI SOLENOID GROUND CIRCUIT OPEN
BTSI SOLENOID CONTROL CIRCUIT OPEN
BTSI SOLENOID CONTROL CIRCUIT SHORT TO BTSI SOLENOID GROUND CIRCUIT
BTSI SOLENOID CONTROL CIRCUIT SHORT TO GROUND
BTSI SOLENOID
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display any TCM DTCs? Yes → Refer to Transmission for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Measure the resistance between ground and the BTSI Solenoid Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the BTSI Solenoid Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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BTSI OUTPUT CIRCUIT SHORTED OR OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between the BTSI Solenoid Control circuit and the BTSI Solenoid Ground circuit. Is the resistance below 5.0 ohms? Yes → Repair the BTSI Solenoid Control circuit for a short to the BTSI Solenoid Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the BTSI Solenoid Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the BTSI Solenoid Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance of the BTSI Solenoid Control circuit between the Solenoid connector and the Instrument Cluster C1 connector. Is the resistance above 5.0 ohms? Yes → Repair the BTSI Solenoid Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, check the BTSI Solenoid Control circuit. With the DRBIII®, actuate the BTSI Solenoid. Does the test light illuminate brightly? Yes → Replace the BTSI Solenoid in accordance with the Service Information. 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

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Symptom:
INCORRECT ODOMETER VALUE FOUND

When Monitored and Set Condition:

INCORRECT ODOMETER VALUE FOUND

When Monitored: During power up.

Set Condition: If the Instrument Cluster detects the odometer value memory is corrupted, this code will set. When this code is set the VF Odometer displays [- -].

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**CAUTION: Do not attempt to exchange or "swap" an Instrument Cluster from one vehicle to another. Module memory/configuration damage may occur. Refer to the Instrument Cluster Caution in the Service Information.** **NOTE: When this code is set the VF Odometer will display dashes (- -).** **NOTE: If the PCM has been replaced, program the new module with the correct VIN.** Ensure that the Instrument Cluster has not been damaged or previously installed in a different vehicle. With the DRBIII®, erase DTCs. Cycle the ignition. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom List:

INTERNAL MODULE BOOTLOADER FAILURE
INTERNAL MODULE FLASH MEMORY CHECKSUM FAILURE

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

When Monitored and Set Condition:

INTERNAL MODULE BOOTLOADER FAILURE

When Monitored: At power up for the module.

Set Condition: If the checksum value does not equate to the calculated value.

INTERNAL MODULE FLASH MEMORY CHECKSUM FAILURE

When Monitored: At power up for the module.

Set Condition: If the checksum value does not equate to the calculated value. Indicates that the Instrument Cluster internal memory is corrupted.

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	When this code is set, the Instrument Cluster must be replaced. Repair Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

PCI BUS INTERNAL FAILURE

When Monitored and Set Condition:

PCI BUS INTERNAL FAILURE

When Monitored: Continuous

Set Condition: The Instrument Cluster fails the loopback test on the PCI Bus.

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: If this is an active DTC, answer yes to the question.** 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

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Symptom:

PCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

PCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The MIC does not receive any messages from the PCM for at least 5 seconds.

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

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: To proceed in this test, the DTC must be active.** With the DRB, enter SYSTEM MONITORS then J1850 MODULE SCAN. Is the PCM active on the BUS? Yes → Check the condition of the J1850 Bus circuit wiring. Erase DTC, if DTC resets replace the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition 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

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PCM MESSAGES NOT RECEIVED — Continued

TEST	ACTION	APPLICABILITY
3	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 PCM connector (from special tool #8815 if NGC) and the DLC. Is the resistance below 5.0 ohms? Yes → Replace and program the Powertrain Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

PRNDL SWITCH INPUT CIRCUIT OPEN (DIESEL ONLY)

When Monitored and Set Condition:

PRNDL SWITCH INPUT CIRCUIT OPEN (DIESEL ONLY)

When Monitored: With the ignition on.

Set Condition: The instrument Cluster detects that an open condition exists in the PRNDL circuit.

POSSIBLE CAUSES
TRANSMISSION RANGE SENSOR
TRS MUX CIRCUIT OPEN
TRANSMISSION RANGE SENSOR 5 VOLT SUPPLY CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the correct Instrument Cluster is installed and is correctly configured for the vehicle.** Turn the ignition off. Disconnect the Transmission Range Sensor harness connector. Connect a jumper wire between cavity 2 and cavity 5. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display PRNDL Switch Input Circuit Shorted? Yes → Replace the Transmission Range Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Transmission Range Sensor harness connector. Disconnect the Instrument Cluster C3 harness connector. Measure the resistance of the Transmission Range Sensor MUX circuit. Is the resistance above 5.0 ohms? Yes → Repair the Transmission Range Sensor MUX circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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PRNDL SWITCH INPUT CIRCUIT OPEN (DIESEL ONLY) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Transmission Range Sensor harness connector. Disconnect the Instrument Cluster C2 harness connector. Measure the resistance of the Transmission Range Sensor 5 Volt Supply circuit. Is the resistance above 5.0 ohms? Yes → Repair the TRS 5 Volt Supply 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

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Symptom:

PRNDL SWITCH INPUT CIRCUIT SHORTED (DIESEL ONLY)

When Monitored and Set Condition:

PRNDL SWITCH INPUT CIRCUIT SHORTED (DIESEL ONLY)

When Monitored: With the ignition on.

Set Condition: The instrument Cluster detects that a short condition exists in the PRNDL circuit.

POSSIBLE CAUSES
TRANSMISSION RANGE SENSOR
TRS 5 VOLT SUPPLY CIRCUIT SHORT TO TRS MUX CIRCUIT
TRS 5 VOLT SUPPLY CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the correct Instrument Cluster is installed and is correctly configured for the vehicle.** Turn the ignition off. Disconnect the Transmission Range Sensor harness connector. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display PRNDL Input Circuit Open? Yes → Replace the Transmission Range Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Transmission Range Sensor harness connector. Disconnect the Instrument Cluster C2 and C3 harness connectors. Measure the resistance between the TRS 5 Volt Supply circuit and the TRS MUX circuit. Is the resistance below 5.0 ohms? Yes → Repair the TRS 5 Volt Supply circuit for a short to the TRS MUX circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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PRNDL SWITCH INPUT CIRCUIT SHORTED (DIESEL ONLY) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Transmission Range Sensor harness connector. Disconnect the Instrument Cluster C2 harness connector. Measure the resistance between ground and the TRS 5 Volt Supply circuit. Is the resistance below 5.0 ohms? Yes → Repair the TRS 5 Volt Supply circuit for a short to ground. 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

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Symptom List:

VIN CHECKSUM ERROR
VIN PREVIOUSLY STORED

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

When Monitored and Set Condition:

VIN CHECKSUM ERROR

When Monitored: With the ignition on.

Set Condition: Once the Instrument Cluster learns a valid VIN and another valid VIN is transmitted on the bus. The Instrument Cluster decodes the VIN that is transmitted on the bus by the PCM. If the VIN is valid the Instrument Cluster stores the information. If the VIN information does not equate to the encrypted value then the fault is set.

VIN PREVIOUSLY STORED

When Monitored: With the ignition on.

Set Condition: Once the Instrument Cluster learns a valid VIN and another VIN is transmitted on the bus. This code can only be set if a PCM or MIC has been exchanged or ″swapped″ from another vehicle. The VIN is embedded in both the cluster and the PCM and cannot be used in any other vehicle.

POSSIBLE CAUSES
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: The V.I.N. is embedded into the Instrument Cluster memory during production and can not be modified. Do not attempt to ″swap″ a cluster from one vehicle to another. Refer to the Instrument Cluster Caution in the Service Information.** **NOTE: This code will only be set if the PCM has been exchanged or ″swapped″ into this vehicle from another.** If any components have been exchanged or ″swapped″, reinstall the original parts. With the DRBIII®, erase DTCs. Cycle the ignition. With the DRBIII®, read DTCs. If this code resets, view repair. Repair Replace and program the Powertrain Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*ALL GAUGES INOPERATIVE

POSSIBLE CAUSES
NO RESPONSE - PCI BUS
PCI BUS - POWERTRAIN CONTROL MODULE
PCI BUS - INSTRUMENT CLUSTER
FUSED IGNITION SWITCH OUTPUT CIRCUIT (UNLOCK/RUN) SHORT TO GROUND
INSTRUMENT CLUSTER GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT (RUN/START) CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT (RUN/START) CIRCUIT SHORT TO GROUND
FUSED IGNITION SWITCH OUTPUT (UNLOCK/RUN) CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any MIC, PCM (ECM if diesel equipped), or Communication DTCs before proceeding with this test.** 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 COMMUNICATION category and perform the appropriate symptom. 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 COMMUNICATION category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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*ALL GAUGES INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Inspect the #20 Fuse in the PDC. If the fuse is open, replace with proper rated fuse. Turn the ignition on for one minute. Turn the ignition off. Inspect the #20 Fuse in the PDC. Is the fuse open? Yes → Repair the Fused Ignition Switch Output (Unlock/Run) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Remove and inspect the #29 Fuse in the PDC. If the fuse is open, replace with the proper rated fuse. Turn the ignition on for 1 minute. Turn the ignition off. Remove and inspect the #29 Fuse in the PDC. Is the fuse open? Yes → Repair the Fused Ignition Switch Output (Run/Start) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output (Unlock/Run) circuit and ground. Is the voltage below 10.5 volts? Yes → Repair the Fused Ignition Switch Output (Unlock/Run) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output (Run/Start) circuit and ground. Is the voltage below 10.5 volts? Yes → Repair the Fused Ignition Switch Output (Run/Start) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All

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*ALL GAUGES INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the Instrument Cluster C1 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

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Symptom:
*ANY PCI 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. Perform BODY VERIFICATION TEST - VER 1.	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. Perform BODY VERIFICATION TEST - VER 1. 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. Perform BODY VERIFICATION TEST - VER 1. 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. 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

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Symptom:
*BRAKE WARNING INDICATOR ALWAYS ON

POSSIBLE CAUSES
BRAKE FLUID LEVEL SWITCH
BRAKE FLUID LEVEL SWITCH SENSE CIRCUIT SHORT TO GROUND
PARK BRAKE SWITCH
PARK BRAKE SWITCH SENSE CIRCUIT SHORT TO GROUND
CONTROL MODULE
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any MIC, Brake, or Communication DTCs before proceeding with this test.** Disconnect the Brake Fluid Level Switch harness connector. Measure the resistance of the Brake Fluid Level Switch between pin 1 and pin 2. Does the resistance measure less than 900 ohms? Yes → Replace the Brake Fluid Level Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Disconnect the CAB Module harness connector, (C2 for ABS equipped vehicles). Measure the resistance between ground and the Brake Fluid Level Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Brake Fluid Level Switch Sense 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 Brake Switch harness connector. Turn the ignition on. Observe the Brake warning indicator. Did the Brake warning indicator illuminate briefly and then turn off? Yes → Replace the Park Brake Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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*BRAKE WARNING INDICATOR ALWAYS ON — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Park Brake Switch harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Park Brake Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Park Brake Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Reconnect any harness connector(s) that were previously disconnected. Turn the ignition on. With the DRBIII® in Inputs/Outputs, read the Fluid Level Switch state. Does the DRBIII® display ″Closed″? Yes → Replace the CAB Module in accordance with the Service Information. 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

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Symptom:
*BRAKE WARNING INDICATOR INOPERATIVE

POSSIBLE CAUSES
BRAKE FLUID LEVEL SWITCH GROUND CIRCUIT OPEN
BRAKE FLUID LEVEL SWITCH
BRAKE FLUID LEVEL SWITCH SENSE CIRCUIT OPEN
PARK BRAKE SWITCH
PARK BRAKE SWITCH SENSE CIRCUIT OPEN
CONTROL MODULE
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any MIC, ABS, or Communication DTCs before proceeding with this test.** Is the Brake warning indicator only inoperative using the Park Brake? Yes → Go To 2 No → Go To 4	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 C1 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

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*BRAKE WARNING INDICATOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Connect a jumper wire between cavity 1 and cavity 2. Turn the ignition on. Does the Brake warning indicator illuminate? Yes → Replace the Brake Fluid Level Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. 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 Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Disconnect the ABS Module harness connector, (C2 for ABS equipped vehicles). Measure the resistance of the Brake Fluid Level Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the Brake Fluid Level Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the CAB harness connector, (C2 for ABS equipped vehicles). Connect a jumper wire between the Brake Fluid Level Switch Sense circuit and ground. With the DRBIII® in Inputs/Outputs, read the Fluid Level Switch state. Does the DRBIII® display ″Closed″? Yes → Replace and configure the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the CAB Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*FUEL GAUGE INACCURATE

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER
FUEL LEVEL SENSOR WIRING
FUEL LEVEL SENSOR

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any PCI Bus problems before proceeding with this test.** Turn the ignition on. With the DRBIII®, read the PCM DTCs. Does the DRBIII® display any Fuel Level Sensor related DTC? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform (NGC) POWERTRAIN VERIFICATION TEST VER - 5. No → Go To 2	All
2	Perform the Instrument Cluster Self Test as follows: Turn the ignition off. Press and hold the Trip/Reset button. Turn the ignition on. Observe the Fuel Gauge during the Self Test. The Fuel Gauge pointer should pause at each of these following positions: E, 1/4, 1/2, 3/4, Full, and back to E. Does the Fuel Gauge function as described above? Yes → Go To 3 No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Disconnect the PCM C2 and C3 harness connectors. Measure the resistance of the Fuel Level Sensor Signal circuit between the Fuel Pump Module harness connector and the PCM harness connector. Measure the resistance of the Sensor Ground circuit between the Fuel Pump Module harness connector and the PCM harness connector. Is the resistance below 5.0 ohms on both circuits. Yes → Replace the Fuel Level Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the circuits with a resistance above 5.0 ohms for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*ONE GAUGE INOPERATIVE - GAS ENGINES

POSSIBLE CAUSES
POWERTRAIN CONTROL MODULE DTCS
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display any PCM DTCs? Yes → Refer to the DRIVEABILITY category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	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, 20, 60, 90 Tachometer Gas: 0, 1000, 3000, 6000 Fuel: E, 1/4, 1/2, 3/4, F Coolant: Cold, 1/4, 1/2, 3/4, HI Volts: 6, 9, 12, 15, 17 Did the gauge in question 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 (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. 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

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Symptom:

*PRNDL NOT DISPLAYING CORRECT POSITION (EATX VEHICLES)

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the correct Instrument Cluster is installed and is correctly configured for the vehicle.** **NOTE: Ensure that there is communication between the Cluster and PCM before proceeding with this test.** **NOTE: Diagnose and repair any DTCs before proceeding with this test.** **NOTE: Ensure that the PCM passes the Shift Lever Test with the DRBIII® before proceeding with this test.** Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display any MIC or PCM DTCs? Yes → Refer to the correct symptom list for problems related to DTCs. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Perform the Instrument Cluster Self Test. Turn the ignition off. Press and hold the Trip/Reset button. Turn the ignition on. Observe the PRNDL display during the Self Test. Did any part of the VF display fail to illuminate? Yes → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wiring harness. refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***SEAT BELT WARNING INDICATOR ALWAYS OFF**

POSSIBLE CAUSES
SEAT BELT SWITCH SENSE CIRCUIT SHORT TO GROUND
INSTRUMENT C;USTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Seat Belt Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Seat Belt Switch Sense circuit for a short to ground. 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

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Symptom:

***SEAT BELT WARNING INDICATOR ALWAYS OFF - STANDARD CAB**

POSSIBLE CAUSES
SEAT BELT SWITCH SENSE CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the seat Belt Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Seat Belt Switch Sense circuit for a short to ground. 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

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Symptom:

*SEAT BELT WARNING INDICATOR ALWAYS ON

POSSIBLE CAUSES
SEAT BELT SWITCH
SEAT BELT SWITCH GROUND CIRCUIT OPEN
SEAT BELT SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Connect a jumper wire between cavity 1 and cavity 2. Turn the ignition on. Observe the Seat Belt Warning Indicator. Did the Seat Belt Warning Indicator illuminate for approximately 4 seconds and then turn off? Yes → Replace the Seat Belt Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Measure the resistance between ground and the Seat Belt Switch Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Seat Belt Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance of the Seat Belt Switch Sense circuit between the Seat Belt Switch connector and the Instrument Cluster C1 connector. Is the resistance above 5.0 ohms? Yes → Repair the Seat Belt 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

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Symptom:

*SEAT BELT WARNING INDICATOR ALWAYS ON - STANDARD CAB

POSSIBLE CAUSES
FUSED IGNITION SWITCH OUTPUT (RUN-ACC) CIRCUIT OPEN
SEAT BELT TENSIONER REDUCER
SEAT BELT SWITCH
SEAT BELT SWITCH GROUND CIRCUIT OPEN
SEAT BELT SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Seat Belt Tensioner Reducer harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output (Run-Acc) circuit and ground in the Tensioner Reducer harness connector. Is the voltage above 10.5 volts? Yes → Go To 2 No → Repair the Fused Ignition Switch Output (Run-Acc) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. Ensure that the Seat Belt Tensioner Reducer harness connector is connected. Measure the voltage between the Seat Belt Switch Sense circuit and ground in the Seat Belt Tensioner Reducer harness connector (cavity 2). Is there any voltage present? Yes → Go To 3 No → Replace the Seat Belt Tensioner Reducer in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Connect a jumper wire between cavity 1 and cavity 2. Turn the ignition on. Observe the Seat Belt Warning Indicator. Did the Seat Belt Warning Indicator illuminate? Yes → Replace the Seat Belt Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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*SEAT BELT WARNING INDICATOR ALWAYS ON - STANDARD CAB — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Seat Belt Switch harness connector. Measure the resistance between ground and the Seat Belt Switch circuit. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Seat Belt Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Seat Belt Switch harness connector. Measure the resistance of the Seat Belt Switch Sense circuit between the Seat Belt Switch connector and the Instrument Cluster C1 connector. Is the resistance above 5.0 ohms? Yes → Repair the Seat Belt 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

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Symptom:
MIC-CARGO LAMP OUTPUT CIRCUIT SHORTED OR OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
HEADLAMP SWITCH
CARGO LAMP OUTPUT CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Cargo Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Cargo Lamp Output Circuit Short/Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Headlamp Switch connector. Turn the ignition on. Does the DRBIII® display Headlamp Switch 5.0 volts? Yes → Go To 3 No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Headlamp Switch connector. Disconnect the Instrument Cluster C1 connector. Measure the resistance of the Cargo Lamp Output circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Cargo Lamp Output circuit.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

MIC-COURTESY-DOME LAMP OUTPUT CIRCUIT SHORTED OR OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
HEADLAMP SWITCH
COURTESY LAMP OUTPUT CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Dome Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Courtesy/Dome Lamp Output Circuit Short/Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Headlamp Switch connector. Turn the ignition on. Does the DRBIII® display Headlamp Switch 5.0 volts? Yes → Go To 3 No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Headlamp Switch connector. Disconnect the Instrument Cluster C1 connector. Measure the resistance of the Courtesy Lamp Output circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Courtesy Lamp Output circuit.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
MIC-GLOVE BOX-MAP LAMP OUTPUT CIRCUIT SHORT OR OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
GLOVEBOX-MAP LAMP OUTPUT CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Glove Box Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Glove box/Map Lamp Output Circuit Short/Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Glovebox Lamp Switch Harness connector. Disconnect the Instrument Cluster C1 connector. Measure the resistance of the Glovebox Lamp Output circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Glovebox-Map Lamp Output circuit.. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

ALL DOOR LOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE

When Monitored and Set Condition:

ALL DOOR LOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE

When Monitored: Whenever the instrument cluster is awake.

Set Condition: The instrument cluster monitors the door lock output circuits and when one of them is shorted to ground or to voltage, this code will set. This code will only set when the door locks are actuated.

POSSIBLE CAUSES
DTC PRESENT
DOOR LOCK DRIVER LEFT DOORS SHORTED TO DOOR UNLOCK DRIVER LEFT DOORS
DOOR LOCK DRIVER RIGHT DOORS SHORTED TO DOOR UNLOCK DRIVER RIGHT DOORS
DOOR LOCK DRIVER LEFT DOORS CIRCUIT SHORTED TO GROUND
DOOR LOCK DRIVER RIGHT DOORS CIRCUIT SHORTED TO GROUND
DOOR LOCK DRIVER RIGHT DOORS CIRCUIT SHORTED TO VOLTAGE
DOOR LOCK DRIVER LEFT DOORS CIRCUIT SHORTED TO VOLTAGE
INSTRUMENT CLUSTER - SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF. With the DRBIII®, read DTC's. Operate the door locks several times from a door lock switch while monitoring the DRBIII®. Does the DRBIII® display ALL DOOR LOCK OUTPUT SHT GROUND OR VOLTAGE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check for any possible shorted conditions between the instrument cluster and the door lock motors. Perform BODY VERIFICATION TEST - VER 1.	All

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ALL DOOR LOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: If only one motor is inoperative when the door locks are actuated, disconnect that motor and retest to see if the DTC is still active. If it is not, replace that motor.** Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between the Door Lock Driver Right Doors circuit and the Door Unlock Driver Right Doors circuit in the Instrument Cluster connector. Is the resistance below 1.6 ohms? Yes → Repair the Door Lock Driver Right Doors circuit for a short to the Door Unlock Driver Right Doors circuit (could be a shorted motor). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. **NOTE: If this is a 2 door vehicle, answer NO to the question and continue.** Measure the resistance between the Door Lock Driver Left Doors circuit and the Door Unlock Driver Left Rear circuit in the Instrument Cluster connector. Is the resistance below 2.5 ohms? Yes → Repair the Door Lock Driver Left Doors circuit for a short to the Door Unlock Driver Left Rear circuit (could be a shorted motor). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between ground and the Door Lock Driver Left Doors circuit in the Instrument Cluster C1 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Door Lock Driver Left Doors circuit for a short to ground. The short may be in the Door Lock Driver Left Doors wire, the Door Unlock Driver Left Rear Wire, instrument panel wiring or one of the left side motors. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between ground and the Door Lock Driver Right Doors circuit in the Instrument Cluster C1 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Door Lock Driver Right Doors circuit for a short to ground. The short may be in the Door Lock Driver Right Doors wire, the Door Unlock Driver Right Doors wire or in a right side motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All

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ALL DOOR LOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
6	Disconnect the Instrument Cluster C1 connector. Turn the ignition on. Measure the voltage between ground and the Door Lock Driver Right Doors circuit. Is there any voltage present? Yes → Repair the Door Lock or Unlock Driver Right Doors circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Disconnect the Instrument Cluster C1 connector. Turn the ignition on. Measure the voltage between ground and the Door Lock Driver Left Doors circuit. Is there any voltage present? Yes → Repair the Door Lock or Door Unlock Driver Left Doors circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

ALL DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE

When Monitored and Set Condition:

ALL DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE

When Monitored: Whenever the instrument cluster is awake.

Set Condition: The instrument cluster monitors the door unlock output circuits and when one of them is shorted to ground or to voltage, this code will set. This code will only set when the door locks are actuated.

POSSIBLE CAUSES
DTC PRESENT
DOOR LOCK DRIVER RIGHT DOORS SHORTED TO DOOR UNLOCK DRIVER RIGHT DOORS
DOOR LOCK DRIVER LEFT DOORS SHORTED TO DOOR UNLOCK DRIVER LEFT DOORS
DOOR UNLOCK DRIVER RIGHT DOORS CIRCUIT SHORTED TO GROUND
DOOR UNLOCK DRIVER LEFT REAR CIRCUIT SHORTED TO GROUND
DOOR UNLOCK DRIVER RIGHT DOORS CIRCUIT SHORTED TO VOLTAGE
DOOR UNLOCK DRIVER LEFT REAR CIRCUIT SHORTED TO VOLTAGE
INSTRUMENT CLUSTER - SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off. Wait 30 seconds and then turn the ignition on. With the DRBIII®, read DTC's. Operate the door locks several times from a door lock switch while monitoring the DRBIII®. Does the DRBIII® display ALL DOOR UNLOCK OUTPUT SHT GROUND OR VOLTAGE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check for any possible shorted conditions between the instrument cluster and the door lock motors. Perform BODY VERIFICATION TEST - VER 1.	All

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ALL DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: If only one motor is inoperative when the door locks are actuated, disconnect that motor and retest to see if the DTC is still present. If it is not, replace that motor.** Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between the Door Lock Driver Right Doors circuit and the Door Unlock Driver Right Doors circuit in the Instrument Cluster connector. Is the resistance below 1.6 ohms? Yes → Repair the Door Lock Driver Right Doors circuit for a short to the Door Unlock Driver Right Doors circuit (could be a shorted motor). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. **NOTE: If this is a 2 door vehicle, answer NO to the question and continue.** Measure the resistance between the Door Lock Driver Left Doors circuit and the Door Unlock Driver Left Rear circuit in the Instrument Cluster connector. Is the resistance below 2.5 ohms? Yes → Repair the Door Lock Driver Left Doors circuit for a short to the Door Unlock Driver Left Rear circuit (could be a shorted motor). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between ground and the Door Unlock Driver Right Doors circuit in the Instrument Cluster C1 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Door Unlock Driver Right Doors circuit for a short to ground. The short may be in the Door Unlock Driver Right Doors wire, the Door Lock Driver Right Doors wire or a right side door lock motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	**NOTE: If this is a 2 door vehicle, answer NO to the question and continue.** Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between ground and the Door Unlock Driver Left Rear circuit in the Instrument Cluster C1 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Door Unlock Driver Left Rear circuit for a short to ground. The short may be in the Door Unlock Driver Left Rear wire, the Door Lock Driver Left Doors wire or in a left side door lock motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All

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ALL DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
6	Disconnect the Instrument Cluster C1 connector. Turn the ignition on. Measure the voltage between ground and the Door Unlock Driver Right Doors circuit. Is there any voltage present? Yes → Repair the Door Lock or Door Unlock Driver Right Doors circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	**NOTE: If this a 2 Door vehicle, answer NO to the question and continue.** Disconnect the Instrument Cluster C1 connector. Turn the ignition on. Measure the voltage between ground and the Door Unlock Driver Left Rear circuit. Is there any voltage present? Yes → Repair the Door Lock Driver Left Doors or the Door Unlock Driver Left Rear circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

DRIVER CYLINDER LOCK SWITCH INPUT CIRCUIT SHORTED (WITH VTSS ONLY)

When Monitored and Set Condition:

DRIVER CYLINDER LOCK SWITCH INPUT CIRCUIT SHORTED (WITH VTSS ONLY)

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the Instrument Cluster senses voltage to the driver cylinder lock switch below 0.25 volts for over 10 seconds.

POSSIBLE CAUSES
DTC PRESENT
CYLINDER LOCK SWITCH SHORTED
DRIVER CYLINDER LOCK SWITCH MUX SHORTED
INSTRUMENT CLUSTER - - DRIVER CYLINDER LOCK SWITCH INPUT SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door locks several times from the Driver Cylinder Lock Switch by cycling the key clockwise while monitoring the DRBIII®. Does the DRBIII® display DR CYL LOCK SW INPUT CIRCUIT SHORTED? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Cylinder Lock Switch connector. With the DRBIII® in Sensors, read the DRV CYL LOCK SW MUX circuit Is the voltage above 4.8 volts? Yes → Replace the Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Driver Cylinder Lock Switch connector. Disconnect the Instrument Cluster C2. connector. Measure the resistance between Driver Cylinder Lock Switch Mux circuit and ground. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Cylinder Lock Switch Mux circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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DRIVER CYLINDER LOCK SWITCH INPUT CIRCUIT SHORTED (WITH VTSS ONLY) — Continued

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

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Symptom:

DRIVER CYLINDER LOCK SWITCH INPUT STUCK (WITH VTSS ONLY)

When Monitored and Set Condition:

DRIVER CYLINDER LOCK SWITCH INPUT STUCK (WITH VTSS ONLY)

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the Instrument Cluster senses voltage to the driver cylinder lock switch between 1.3 and 3.75 for over 10 seconds.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - DRIVER CYLINDER LOCK SWITCH VOLTAGE INCORRECT
DRIVER CYLINDER LOCK SWITCH MUX CIRCUIT PARTIAL SHORT TO GROUND
CYLINDER LOCK SWITCH STUCK

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door locks several times from the Driver Cylinder Lock Switch while monitoring the DRBIII®. Does the DRBIII® display DRV CYL LOCK SW INPUT STUCK? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check the cylinder lock switch for a possible intermittent sticking condition Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® in Sensors, read the DRV CYL LOCK SW MUX voltage. Does the DRBIII® display voltage between 1.3 and 4.15 volts? Yes → Go To 3 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Cylinder Lock Switch connector. Measure the voltage between Driver Cylinder Lock Switch Mux circuit and ground. Is the voltage above 4.9 volts? Yes → Replace the Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Driver Cylinder Lock Switch Mux circuit for a partial short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

DRIVER DOOR LOCK SWITCH INPUT CIRCUIT OPEN OR SHORT TO VOLTAGE

When Monitored and Set Condition:

DRIVER DOOR LOCK SWITCH INPUT CIRCUIT OPEN OR SHORT TO VOLTAGE

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the Instrument Cluster senses voltage to the driver door lock switch above 4.85 volts.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - DRIVER DOOR LOCK SWITCH VOLTAGE LOW
DOOR LOCK SWITCH GROUND OPEN
DRIVER DOOR LOCK SWITCH MUX WIRE SHORT TO VOLTAGE
INSTRUMENT CLUSTER - VOLTAGE TO HIGH
DRIVER DOOR LOCK SWITCH MUX CIRCUIT OPEN
DOOR LOCK SWITCH - SHORT TO VOLTAGE
DOOR LOCK SWITCH OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF. With the DRBIII®, read DTC's. Operate the door locks from the Driver Door Lock Switch while monitoring the DRBIII®. Does the DRBIII® display DRV DOOR LOCK SW INPUT OPEN? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check for any possible loose connections at the instrument cluster and the door lock switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® in Sensors, read the DR DOOR LOCK SW voltage. Voltage reading is:. Above 5.2 volts Go To 3 Between 4.9 and 5.1 volts Go To 5 Below 4.8 volts Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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DRIVER DOOR LOCK SWITCH INPUT CIRCUIT OPEN OR SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Instrument Cluster C2 connector. Measure the voltage between Driver Door Lock Switch Mux circuit and ground. Is there any voltage present? Yes → Go To 4 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Driver Door Lock Switch (Driver Door Module C1) connector. Disconnect the Instrument Cluster C2 connector. Measure the voltage between Driver Door Lock Switch Mux circuit and ground. Is there any voltage present? Yes → Repair the Driver Door Lock Switch Mux circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Driver Door Lock Switch (Driver Door Module C1) connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Does the test light illuminate brightly? Yes → Go To 6 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Driver Door Lock Switch (Driver Door Module C1) connector. Measure the voltage between Driver Door Lock Switch Mux circuit and ground. Is the voltage above 4.6 volts? Yes → Go To 7 No → Repair the Driver Door Lock Switch Mux circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module.. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

DRIVER DOOR LOCK SWITCH INPUT CIRCUIT SHORTED

When Monitored and Set Condition:

DRIVER DOOR LOCK SWITCH INPUT CIRCUIT SHORTED

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the Instrument Cluster senses voltage to the driver door lock switch below .25 volts, the input circuit is not valid and this code will set.

POSSIBLE CAUSES
DTC PRESENT
DOOR LOCK SWITCH SHORTED
DOOR LOCK SWITCH MUX SHORTED
INSTRUMENT CLUSTER - - DRIVER DOOR LOCK SWITCH INPUT SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door locks several times from the Driver Door Lock Switch while monitoring the DRBIII®. Does the DRBIII® display DR DOOR LOCK SW INPUT CIRCUIT SHORTED? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Door Lock Switch (Driver Door Module C1) connector. With the DRBIII® in sensors, read the DRV DOOR LOCK SW MUX circuit. Is the voltage above 4.6 volts? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Driver Door Lock Switch (Driver Door Module C1) connector. Disconnect the Instrument Cluster C2. connector. Measure the resistance between Driver Door Lock Switch Mux circuit and ground. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Door Lock Switch Mux circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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DRIVER DOOR LOCK SWITCH INPUT CIRCUIT SHORTED — Continued

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

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Symptom:
DRIVER DOOR LOCK SWITCH INPUT CIRCUIT STUCK

When Monitored and Set Condition:

DRIVER DOOR LOCK SWITCH INPUT CIRCUIT STUCK

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the instrument cluster senses voltage to the driver door lock switch between 1.3 and 3.75 for over 20 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - DOOR LOCK SWITCH VOLTAGE INCORRECT
DOOR LOCK SWITCH MUX CIRCUIT PARTIAL SHORT TO GROUND
DOOR LOCK SWITCH STUCK

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door lock several times from the Driver Door Lock Switch while monitoring the DRBIII®. Does the DRBIII® display DR DOOR LOCK SW INPUT STUCK? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check the door lock switch for a possible intermittent sticking condition Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® in Sensors, read the DR DOOR LOCK SW voltage. Does the DRBIII® display voltage between 1.3 and 3.75 volts? Yes → Go To 3 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Door Lock Switch (Driver Door Module C1) connector. Measure the voltage between Door Lock Switch Mux circuit and ground. Is the voltage above 4.6 volts? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Driver Door Lock Switch Mux circuit for a partial short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

DRIVER DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE

When Monitored and Set Condition:

DRIVER DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE

When Monitored: Whenever the instrument cluster is awake.

Set Condition: The instrument cluster monitors the driver door unlock output circuit and when it is shorted to ground or to voltage, this code will set. This code will only set when the door locks are actuated.

POSSIBLE CAUSES
DTC PRESENT
DOOR UNLOCK DRIVER LEFT FRONT WIRE SHORTED TO GROUND
DOOR LOCK DRIVER LEFT DOORS SHORTED TO DOOR UNLOCK DRIVER LEFT FRONT
DOOR LOCK DRIVER LEFT DOORS WIRE SHORTED TO GROUND
DOOR UNLOCK DRIVER LEFT FRONT CIRCUIT SHORTED TO VOLTAGE
DRIVER DOOR LOCK MOTOR SHORT TO GROUND
INSTRUMENT CLUSTER - SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF. With the DRBIII®, read DTC's. Operate the door locks several times from a door lock switch while monitoring the DRBIII®. Does the DRBIII® display DRIVER DOOR UNLOCK OUTPUT SHT GROUND OR VOLTAGE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check for any possible shorted conditions between the instrument cluster and the Driver door lock motor. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between the Door Unlock Driver Left Front circuit and the Door Lock Driver Left Doors circuit in the Instrument Cluster connector. Is the resistance below 3.0 ohms? Yes → Repair the Door Lock Driver Left Doors circuit for a short to the Door Unlock Driver Left Front circuit (could be a shorted motor). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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DRIVER DOOR UNLOCK OUTPUT CIRCUIT SHORT TO GROUND OR VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Measure the resistance between ground and the Door Unlock Driver Left Front circuit in the Instrument Cluster C1 connector. Is the resistance below 1000.0 ohms? Yes → Go To 4 No → Go To 7	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Disconnect the Driver Door Lock Motor connector. Measure the resistance between ground and the Door Unlock Driver Left Front circuit in the Instrument Cluster connector. Is the resistance below 1000.0 ohms? Yes → Repair the Door Unlock Driver Left Front wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Disconnect the Driver Door Lock Motor connector. Measure the resistance between ground and the Door Lock Driver Left Doors circuit in the Instrument Cluster connector. Is the resistance below 1000.0 ohms? Yes → Repair the Door Lock Driver Left Doors wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Instrument Cluster C1 connector. Turn the ignition on. Measure the voltage between ground and the Door Unlock Driver Left Front circuit. Is there any voltage present? Yes → Repair the Door Unlock Driver Left Front or Door Lock Driver Left Doors circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT OPEN OR SHORT TO VOLTAGE

When Monitored and Set Condition:

PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT OPEN OR SHORT TO VOLTAGE

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the Instrument Cluster senses voltage to the passenger door lock switch above 4.85 volts this code will set and the input will not be valid..

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - PASSENGER DOOR LOCK SWITCH VOLTAGE LOW
DOOR LOCK SWITCH GROUND OPEN
INSTRUMENT CLUSTER - VOLTAGE TO HIGH
PASSENGER DOOR LOCK SWITCH MUX WIRE SHORT TO VOLTAGE
PASSENGER DOOR LOCK SWITCH MUX CIRCUIT OPEN
DOOR LOCK SWITCH - SHORT TO VOLTAGE
DOOR LOCK SWITCH OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF. With the DRBIII®, read DTC's. Operate the door locks from the Passenger Door Lock Switch while monitoring the DRBIII®. Does the DRBIII® display PASS DOOR LOCK SW INPUT OPEN? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check for any possible loose connections at the instrument cluster and the door lock switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® in Sensors, read the PASS DOOR LOCK SW MUX voltage. Voltage reading is:. Above 5.2 volts Go To 3 Between 4.9 and 5.1 volts Go To 5 Below 4.8 volts Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT OPEN OR SHORT TO VOLTAGE — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Instrument Cluster C2 connector. Measure the voltage between Passenger Door Lock Switch Mux circuit and ground. Is there any voltage present? Yes → Go To 4 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Passenger Door Lock Switch connector. Disconnect the Instrument Cluster C2 connector. Measure the voltage between Passenger Door Lock Switch Mux circuit and ground. Is there any voltage present? Yes → Repair the Passenger Door Lock Switch Mux circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
5	Disconnect the Passenger Door Lock Switch connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Does the test light illuminate brightly? Yes → Go To 6 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Passenger Door Lock Switch connector. Measure the voltage between Passenger Door Lock Switch Mux circuit and ground. Is the voltage above 4.6 volts? Yes → Go To 7 No → Repair the Passenger Door Lock Switch Mux circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	If there are no possible causes remaining, view repair. Repair Replace the Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT SHORTED

When Monitored and Set Condition:

PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT SHORTED

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the Instrument Cluster senses voltage to the passenger door lock switch below .25 volts, the input circuit is not valid and this code will set.

POSSIBLE CAUSES
DTC PRESENT
DOOR LOCK SWITCH SHORTED
DOOR LOCK SWITCH MUX SHORTED
INSTRUMENT CLUSTER - - PASSENGER DOOR LOCK SWITCH INPUT SHORTED

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door locks several times from the Passenger Door Lock Switch while monitoring the DRBIII®. Does the DRBIII® display PASS DOOR LOCK SW INPUT CIRCUIT SHORTED? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Door Lock Switch connector. With the DRBIII® in Sensors, read the PASS DOOR LOCK SW MUX circuit Is the voltage above 4.6 volts? Yes → Replace the Door Lock Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Passenger Door Lock Switch connector. Disconnect the Instrument Cluster C2. connector. Measure the resistance between Passenger Door Lock Switch Mux circuit and ground. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Door Lock Switch Mux circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT SHORTED — Continued

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

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Symptom:

PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT STUCK

When Monitored and Set Condition:

PASSENGER DOOR LOCK SWITCH INPUT CIRCUIT STUCK

When Monitored: At all times when battery power is supplied to the Instrument Cluster.

Set Condition: When the instrument cluster senses voltage to the passenger door lock switch between 1.3 and 3.95 for over 20 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - DOOR LOCK SWITCH VOLTAGE INCORRECT
DOOR LOCK SWITCH MUX CIRCUIT PARTIAL SHORT TO GROUND
DOOR LOCK SWITCH STUCK

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door lock several times from the Passenger Door Lock Switch while monitoring the DRBIII®. Does the DRBIII® display Pass DOOR LOCK SW INPUT STUCK? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Check the door lock switch for a possible intermittent sticking condition Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® in Sensors, read the PASS DOOR LOCK SW MUX voltage. Does the DRBIII® display voltage between 1.3 and 3.95 volts? Yes → Go To 3 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Passenger Door Lock Switch connector. Measure the voltage between Door Lock Switch Mux circuit and ground. Is the voltage above 4.6 volts? Yes → Test Complete. No → Repair the Passenger Door Lock Switch Mux circuit for a partial short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RKE FOB BATTERY LOW

When Monitored and Set Condition:

RKE FOB BATTERY LOW

When Monitored: Upon activation of any button on the Remote Keyless Entry transmitter (fob).

Set Condition: The RKE module monitors the input from the fobs and determines if the voltage is within tolerance. If the battery voltage of the RKE fob falls between 2.0 and 3.5 volts the RKE module will communicates this to the Instrument Cluster which in turn will set this code.

POSSIBLE CAUSES
BATTERIES LOW
CODE ACTIVE
TRANSMITTER - LOW VOLTAGE OUTPUT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Using the RKE transmitter, press the UNLOCK button six times or more. With the DRBIII®, read DTCs. Does the DRBIII® display RKE KEY FOB BATTERY LOW? Yes → Go To 2 No → Problem is intermittent and not present at this time. Check the other transmitters used with this vehicle to determine which one set the code. Check the voltage of each battery in FOB and ensure they above 2.9 volts each. Perform BODY VERIFICATION TEST - VER 1.	All
2	Test the voltage of each battery in the RKE transmitter.. Is the voltage at or above 2.9 in each battery? Yes → Replace the RKE Transmitter. Perform BODY VERIFICATION TEST - VER 1. No → Replace the batteries and press the unlock button on the transmitter six times to clear the DTC.. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

RKE MODULE COMMUNICATION LINK

When Monitored and Set Condition:

RKE MODULE COMMUNICATION LINK

When Monitored: Whenever battery power is applied the Instrument Cluster.

Set Condition: The Instrument Cluster has learned that the vehicle is equipped with Remote Keyless Entry, but then is unable to communicate with that module, this code will set. The Instrument Cluster provides power for the RKE module and communicates by the PCI bus.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - OPEN LINK
RKE MODULE OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the door locks several times from the RKE transmitter while observing the DRBIII®. Does the DRBIII® display RKE MODULE COMM LINK? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Instrument Cluster. Replace the RKE module with a known good module. With the DRBIII®, Program the RKE transmitter. Operate the door locks using the RKE transmitter. Do the door locks respond correctly with the RKE transmitter? Yes → Replace the original RKE module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*ALL DOOR LOCKS INOPERATIVE

POSSIBLE CAUSES
DTC PRESENT
FUSE #22 OPEN
FUSE B+ CIRCUIT OPEN
INSTRUMENT CLUSTER - OPEN CIRCUIT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTC's. Does the DRBIII® display any Door Lock related DTC's? Yes → Refer to symptom list for problems related to Power Door Locks. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Test both sides of fuse #22 in the PDC. Is there 12 volts on both sides of fuse #22? Yes → Go To 3 No → Replace the fuse if open and retry the system. If the fuse blows, locate and repair a short to the Instrument Cluster. The 12 volt supply to the fuse is a bus bar in the PDC. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the instrument cluster. Measure the voltage between the Fused B+ circuit and ground (cavity 2 in the C1 connector to ground). Is the voltage above 10.0 volts on the Fused B+ circuit? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*AUTO (ROLLING) DOOR LOCKS INOPERATIVE

POSSIBLE CAUSES
CHECK THE DOOR AJAR SWITCH STATUS
WITH THE DRB CHECK FOR PCM DTC'S
WITH THE DRB ENABLE AUTO DOOR LOCKS
INSTRUMENT CLUSTER - AUTO DOOR LOCKS FAIL

TEST	ACTION	APPLICABILITY
1	Ensure all doors are closed. With the DRBIII, enter ″Electro/Mech Cluster″ then ″Input/Output″ and observe all of the Door Ajar states. Does the DRBIII display CLOSED for any door ajar state? Yes → Refer to symptom for the appropriate DOOR AJAR CIRCUIT SHORTED in the DOOR AJAR category. No → Go To 2	All
2	With the DRBIII read ″Engine″ DTC's. Does the DRBIII display any TPS or VSS related DTC's? Yes → Refer to symptom list for problems related to DRIVEABILITY. No → Go To 3	All
3	With the DRBIII, enter ″Electron/Mech Cluster″ then ″Miscellaneous″ and observe the rolling door lock status. Does the DRBIII display ROLLING DOOR LOCKS: ENABLED Yes → Go To 4 No → With the DRBIII, enable the Auto Door Locks.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom List:

***CYLINDER LOCK SWITCH INOPERATIVE**
***CYLINDER LOCK SWITCH WILL NOT ARM AND/OR DISARM ALARM**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be *CYLINDER LOCK SWITCH INOPERATIVE.

POSSIBLE CAUSES
DTC PRESENT
CYLINDER LOCK SWITCH GROUND OPEN
CYLINDER LOCK SWITCH MUX CIRCUIT OPEN
CYLINDER LOCK SWITCH OPEN
INSTRUMENT CLUSTER - OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTC's. Are there any Power Door Lock related trouble codes? Yes → Refer to symptom list for problems related to Power Door Locks. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Cylinder Lock Switch connector. Measure the voltage between Cylinder Lock Switch Mux circuit and ground. Is the voltage between 4.6 and 5.2 volts? Yes → Go To 3 No → Go To 4	All
3	Disconnect the Cylinder Lock Switch connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Does the test light illuminate brightly? Yes → Replace the Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*CYLINDER LOCK SWITCH INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Disconnect the Cylinder Lock Switch connector. Disconnect the Instrument Cluster C2 connector. Measure the resistance of the Cylinder Lock Switch Mux circuit between the Switch connector and the Instrument Cluster connector. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Cylinder Lock Switch Mux circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***DOOR LOCK INHIBIT INOPERATIVE**

POSSIBLE CAUSES
CHIME INOPERATIVE
INSTRUMENT CLUSTER - DOOR LOCK INHIBIT INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off but leave the key in the ignition switch. Open the drivers door. Does the chime sound? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Refer to symptom CHIME INOPERATIVE WITH KEY-IN IGNITION AND DRIVER DOOR OPEN in the CHIME category. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*LEFT DOORS FAIL TO LOCK AND UNLOCK - QUAD CAB

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - DOOR LOCK DRIVER LEFT DOORS OPEN
DOOR UNLOCK DRIVER LEFT DOORS WIRE OPEN
DOOR LOCK DRIVER LEFT DOORS WIRE OPEN
DOOR LOCK MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTC's. Does the DRBIII® display any Door Lock related DTC's? Yes → Refer to symptom list for problems related to Power Door Locks. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Connect a jumper wire between the Door Unlock Driver Left Doors circuit in the Instrument Cluster C1 connector and ground. Momentarily connect a fused jumper wire between the Fused B+ circuit and the Door Lock Driver Left Doors circuit in the Instrument Cluster C1 connector. Reverse the jumper wires to drive the motors in the opposite direction. Did the left doors lock and unlock? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Disconnect a left side Door Lock Motor/Ajar Switch connector. Measure the resistance of the Door Lock Driver Left Doors circuit between the Instrument Cluster C1 connector and the Door Lock Motor connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Door Lock Driver Left Doors wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Disconnect a left side Door Lock Motor/Ajar Switch connector. Measure the resistance of the Door Unlock Driver Left Doors circuit between the Instrument Cluster C1 connector and the Door Lock Motor connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Door Unlock Driver Left Doors wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*LEFT DOORS FAIL TO LOCK AND UNLOCK - QUAD CAB — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view repair. Repair Replace the door lock motor. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***ONE DOOR LOCK MOTOR INOPERATIVE**

POSSIBLE CAUSES
DOOR LOCK MOTOR OPEN
CHECK DOOR LOCK MOTOR CIRCUIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read DTCs. If there are any door lock related DTC's, refer to symptom list for problems related to Power Door Locks. Disconnect the inoperative Door Lock Motor/Ajar Switch connector. Connect a 12 volt test light between the Door Lock Driver and the Door Unlock Driver circuits in the motor connector. Operate the door locks several time in the lock and unlock positions from a door lock switch and observe the test light. Does the test light illuminate brightly when the locks are actuated in both directions? Yes → Replace the door lock motor. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Door Lock Driver or Door Unlock Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*RIGHT DOORS FAIL TO LOCK AND UNLOCK - QUAD CAB

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER - DOOR LOCK DRIVER RIGHT DOORS OPEN
DOOR UNLOCK DRIVER RIGHT DOORS WIRE OPEN
DOOR LOCK DRIVER RIGHT DOORS WIRE OPEN
DOOR LOCK MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTC's. Does the DRBIII® display any Door Lock related DTC's? Yes → Refer to symptom list for problems related to Power Door Locks. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Connect a jumper wire between the Door Unlock Driver Right Doors circuit in the Instrument Cluster C1 connector and ground. Momentarily connect a fused jumper wire between the Fused B+ circuit and the Door Lock Driver Right Doors circuit in the Instrument Cluster C1 connector. Reverse the jumper wires to drive the motors in the opposite direction. Did the right doors lock and unlock? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Disconnect a right side Door Lock Motor/Ajar Switch connector. Measure the resistance of the Door Lock Driver Right Doors circuit between the Instrument Cluster C1 connector and the Door Lock Motor connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Door Lock Driver Right Doors circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 connector. Disconnect a right side Door Lock Motor/Ajar Switch connector. Measure the resistance of the Door Unlock Driver Right Doors circuit between the Instrument Cluster C1 connector and the Door Lock Motor connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Door Unlock Driver Right Doors wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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*RIGHT DOORS FAIL TO LOCK AND UNLOCK - QUAD CAB — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view repair. Repair Replace the Door Lock Motor(s). Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***RKE INOPERATIVE**

POSSIBLE CAUSES
TEST TRANSMITTER WITH TESTER
RKE TRANSMITTER NOT PROGRAMMED
DTC PRESENT
TRANSMITTER NOT PROGRAMMED
SUBSTITUTE TRANSMITTER
REMOTE KEYLESS ENTRY MODULE - RKE OPEN
RKE MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read DTCs. Attempt to operate the door locks with the RKE transmitter. Does the DRBIII® display RKE FOB BATTERY LOW? Yes → Refer to symptom RKE FOB BATTERY LOW in the POWER DOOR LOCK/RKE category. No → Go To 2	All
2	Do you have access to the Miller Special Tool ″9001 RF DETECTOR″? No → Go To 3 Yes → Go To 5	All
3	Turn the ignition on. Place transmission in the Park position. Ensure Vehicle Theft Security System (if equipped) is in Disarm Mode. With the DRBIII®, select ELECTRO/MECH CLUSTER, MISCELLANEOUS, PROGRAM New Fob. Follow the instructions on the DRBIII screen Programming mode will last for 30 seconds. To get out of Programming Mode sooner, press PAGE BACK. Try the door locks using the Transmitter. Does the RKE System operate properly? Yes → Repair complete. Check with the customer to see if the other transmitter(s) are operating properly. They may have to be programmed also. No → Go To 4	All

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*RKE INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Secure a known good transmitter. Turn the ignition on. Place transmission in the Park position. Ensure Vehicle Theft Security System (if equipped) is in Disarm Mode. With the DRBIII®, select ELECTRO/MECH CLUSTER, MISCELLANEOUS, PROGRAM New Fob. Follow the instructions on the DRBIII screen. Programming mode will last for 30 seconds. To get out of Programming Mode sooner, press PAGE BACK. Lock and Unlock the vehicle using the transmitter. Does the RKE System operate properly? Yes → Replace the original transmitter and program all transmitters that will be used with this vehicle. No → Replace the Remote Keyless Entry Module and reprogram all transmitters used with this vehicle. Perform BODY VERIFICATION TEST - VER 1.	All
5	Using the 9001 RF Detector, follow the instructions on the back of the tester and test the transmitter several times. Does the signal strength measure ″STRONG″? Yes → Go To 6 No → Replace the transmitter.	All
6	Turn the ignition on Place transmission in the Park position. Ensure Vehicle Theft Security System (if equipped) is in Disarm Mode. With the DRBIII®, select ELECTRO/MECH CLUSTER, MISCELLANEOUS, then PROGRAM New Fob. Follow the instructions on the screen. Exit PROGRAM RKE. Activate the Door Locks using the RKE Transmitter. Did the door locks respond properly to the RKE transmitter commands? Yes → Repair complete. No → Replace the Remote Keyless Entry Module and reprogram all transmitters used with this vehicle. **NOTE: When repairs are complete, ensure all transmitters used with the vehicle have been programmed.**	All

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Symptom:
AUDIO HARDWARE MESSAGE NOT RECEIVED

When Monitored and Set Condition:

AUDIO HARDWARE MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the bus message from the radio indicating what kind of radio the vehicle is equipped with.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, attempt to communicate with the Radio. Was the DRBIII® able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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.

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BLUETOOTH ERROR — Continued

POSSIBLE CAUSES
HFM INTERNAL DTC FAILURE

TEST	ACTION	APPLICABILITY
1	**NOTE: This trouble code indicates an internal Hands Free Module fault.** With the DRBIII®, read and record the HFM DTCs and then erase the DTCs. Perform 5 ignition key cycles, leaving the ignition key on for a minimum of 90 seconds per cycle. With the DRBIII®, read the DTCs. Did the same DTC return? Yes → Replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom List:

BODY STYLE MESSAGE NOT RECEIVED
INVALID BODY STYLE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BODY STYLE MESSAGE NOT RECEIVED.

When Monitored and Set Condition:

BODY STYLE MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the body style message from the PCM.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK PCM IS ACTIVE ON BUS
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select System Monitors then J1850 Module Scan. Is the PCM one of the modules present on the bus? Yes → Go To 3 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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

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GENERAL MICROPHONE FAULT — Continued

TEST	ACTION	APPLICABILITY
4	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? Yes → Go To 5 No → Repair the Microphone circuits for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the 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? Yes → Go To 6 No → Refer the Microphone circuits for a short together. Perform BODY VERIFICATION TEST - VER 1.	All
6	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? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
7	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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 MIC.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE MIC
MODULE

TEST	ACTION	APPLICABILITY
1	Start and idle the engine. With the DRBIII®, attempt to I/D and communicate with the MIC. Was the DRBIII® able to I/D or communicate with the MIC? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the 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

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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 Left Audio Output circuit.

LEFT AUDIO OUTPUT 1 SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to voltage on the Left Audio Output circuit.

POSSIBLE CAUSES
HANDS FREE AUDIO OUTPUT COMMON CKT OPEN
HANDS FREE MODULE
LEFT AUDIO OUTPUT AND RIGHT AUDIO OUTPUT CIRCUITS SHORTED TOGETHER
LEFT AUDIO OUTPUT CIRCUIT OPEN
LEFT AUDIO OUTPUT CIRCUIT SHORT TO GROUND
LEFT AUDIO OUTPUT CIRCUIT SHORT TO VOLTAGE
INTERMITTENT CONDITION

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LEFT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Left Audio Output circuit. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Left Audio Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance between ground and the Left Audio Output circuit. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Left Audio Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Turn the ignition on. Measure the voltage of the Left Audio Output circuit. Is the voltage below 1.0 volt? Yes → Go To 5 No → Repair the Left Audio Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance of the Hands Free Audio Output Common circuit. Is the resistance below 10.0 ohms? Yes → Go To 6 No → Repair the Hands Free Audio Output Common circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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LEFT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance between the Left Audio Output circuit and the Right Audio Output circuit. Is the resistance above 1000 ohms? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Audio Output circuit for a short to the Right Audio Output circuit. Perform BODY VERIFICATION TEST - VER 1.	All
7	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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 MICROPHONE HSD FEED OPEN
HANDS FREE MICROPHONE HSD FEED SHORT TO GROUND
HANDS FREE MICROPHONE HSD FEED SHORT TO OTHER CIRCUITS
HANDS FREE MICROPHONE HSD FEED SHORT TO VOLTAGE
HANDS FREE MODULE
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 connector. Measure the resistance of the Hands Free Microphone HSD Feed. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Hands Free Microphone HSD Feed 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 connector. Measure the resistance between ground and the Hands Free Microphone HSD Feed. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Hands Free Microphone HSD Feed for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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MIRROR POWER CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connector. Turn the ignition on. Measure the voltage of the Hands Free Microphone HSD Feed. Is the voltage below 1.0 volt? Yes → Go To 5 No → Repair the Hands Free Microphone HSD Feed for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. Disconnect the Hands Free Module harness connector. Measure the resistance between the Hands Free Microphone HSD Feed and each of the other circuits in the Automatic Day/Night Mirror harness connector. Is the resistance above 1000 ohms for each measurement? Yes → Go To 6 No → Repair the Hands Free Microphone HSD Feed for a short to other circuits. Perform BODY VERIFICATION TEST - VER 1.	All
6	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? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
7	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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

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PCI BUS BUSY — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRBIII® will not be able to communicate with any modules on the vehicle (except the PCM).** **NOTE: Clear the code. If this code continues to set and the DRBIII® can still communicate with the module, it will be necessary to replace the module.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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

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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	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. Voltage is above 5.3 volts Go To 2 Voltage is between 4.7 and 5.3 volts Go To 3 Voltage is below 4.7 volt Go To 4	All
2	Turn the ignition off. Disconnect the 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? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the VR/Phone Switch Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All

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PHONE SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connectors. 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? Yes → Replace the Automatic Day/Night Mirror in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the 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? Yes → Go To 5 No → Repair the VR/Phone Switch Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the 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? Yes → Go To 6 No → Repair the Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the 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? Yes → Go To 7 No → Repair the VR/Phone Switch Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

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PHONE SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
7	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? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the VR/Phone Switch Signal circuit for a short to Sensor Ground. Perform BODY VERIFICATION TEST - VER 1.	All

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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

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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

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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 Right Audio Output circuit.

RIGHT AUDIO OUTPUT 1 SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to voltage on the Right Audio Output circuit.

POSSIBLE CAUSES
HANDS FREE AUDIO OUTPUT COMMON CKT OPEN
HANDS FREE MODULE
LEFT AUDIO OUTPUT AND RIGHT AUDIO OUTPUT CIRCUITS SHORTED TOGETHER
RIGHT AUDIO OUTPUT CIRCUIT OPEN
RIGHT AUDIO OUTPUT CIRCUIT SHORT TO GROUND
RIGHT AUDIO OUTPUT CIRCUIT SHORT TO VOLTAGE
INTERMITTENT CONDITION

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RIGHT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance of the Right Audio Output circuit. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Right Audio Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance between ground and the Right Audio Output circuit. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Right Audio Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Turn the ignition on. Measure the voltage of the Right Audio Output circuit. Is the voltage below 1.0 volt? Yes → Go To 5 No → Repair the Right Audio Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance of the Hands Free Audio Output Common circuit. Is the resistance below 10.0 ohms? Yes → Go To 6 No → Repair the Hands Free Audio Output Common circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

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RIGHT AUDIO INPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance between the Left Audio Output circuit and the Right Audio Output circuit. Is the resistance above 1000 ohms? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Audio Output circuit for a short to the Right Audio Output circuit. Perform BODY VERIFICATION TEST - VER 1.	All
7	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:
RPM MESSAGE NOT RECEIVED

When Monitored and Set Condition:

RPM MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not detect a Bus message indicating current engine rpm.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
MODULE

TEST	ACTION	APPLICABILITY
1	Start and idle the engine. With the DRBIII®, select Engine and read the Engine RPM. Was the DRBIII® able to I/D or communicate with the PCM and read RPM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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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

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Symptom:
VIN MISMATCH

When Monitored and Set Condition:

VIN MISMATCH

When Monitored: With the ignition on.

Set Condition: The Hands Free Module will receive and monitor the VIN message from the PCM and record the VIN if different from the last VIN.

POSSIBLE CAUSES
PCM DTC'S
MODULE-VIN MISMATCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read PCM DTCs. Are there any PCM DTC's? Yes → Refer to the Driveability category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII®, erase the HFM DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

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Symptom:

***ALARM TRIPS ON ITS OWN**

POSSIBLE CAUSES
DRB DISPLAY LAST VTSS CAUSE
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the Last VTSS Cause state. Were there any causes displayed? Yes → Check for a possible intermittent condition with the circuit indicated by the DRBIII®. Perform VTSS VERIFICATION TEST - 1A. No → 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 VTSS VERIFICATION TEST - 1A.	All

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Symptom:

*DRIVER DOOR DOES NOT TRIP VTSS

POSSIBLE CAUSES
DRIVER DOOR AJAR CIRCUIT
VERIFY VTSS OPERATION
VTSS NOT ENABLED IN FCM
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the DRVR DOOR AJAR SW status. Open the driver door. Does the DRBIII® display CLOSED? Yes → Go To 2 No → Refer to symptom DRIVER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.	All
2	Open the driver's door window. Remove key from ignition switch. Use the RKE or power door lock switch to lock the doors then close all doors. Wait approximately 15 seconds for the VTSS indicator to flash at a slower rate indicating the Vehicle Theft Security System is armed. Manually unlock the driver door lock. Attempt to trip the VTSS by opening the drivers door. Did the VTSS trip when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Go To 3	All
3	Turn the ignition Off to the lock position. Disconnect the negative battery cable wait 5 seconds then reconnect. Turn the ignition to the On position for 10 seconds then back Off to the lock position and remove key. Arm the VTSS and attempt to trip to alarming state by manually unlocking door and opening. Did the VTSS trip to the alarming state when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

***HEADLAMPS FAIL TO FLASH WHEN ALARM IS TRIPPED**

POSSIBLE CAUSES
FCM DTCS OR EXTERIOR LAMP OPERATION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Attempt to operate the exterior lamps with the headlamp switch. With the DRBIII®, read FCM DTCs. Were there any problems found? Yes → Refer to symptom list for problems related to Exterior Lighting. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

*HORN FAILS TO SOUND WHEN ALARM IS TRIPPED

POSSIBLE CAUSES
DTC PRESENT
HORN CIRCUIT
INSTRUMENT CLUSTER - VTSS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read FCM DTC's. Does the DRBIII® display a HORN RELAY CONTROL CIRCUIT DTC active? Yes → Refer to the Ignition, Power, Accessory category for the related symptom(s). Perform VTSS VERIFICATION TEST - 1A. No → Go To 2	All
2	Does the horn operate from the horn button? Yes → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to symptom Horns Inoperative in the Ignition, Power, Accessory category. Perform VTSS VERIFICATION TEST - 1A.	All

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Symptom:

*LEFT REAR DOOR DOES NOT TRIP VTSS (4 DOOR)

POSSIBLE CAUSES
PASSENGER DOOR AJAR CIRCUIT
VERIFY VTSS OPERATION
VTSS NOT ENABLED IN FCM
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the PASS DOOR AJAR SW status. Open the Left Rear door. Does the DRBIII® display CLOSED? Yes → Go To 2 No → Refer to symptom LEFT REAR DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.	All
2	Open the left rear door window. Remove key from ignition switch. Use the RKE or power door lock switch to lock the doors then close all doors. Wait approximately 15 seconds for the VTSS indicator to flash at a slower rate indicating the Vehicle Theft Security System is armed. Manually unlock the left rear door lock. Attempt to trip the VTSS by opening the left rear door. Did the VTSS trip when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Go To 3	All
3	Turn the ignition Off to the lock position. Disconnect the negative battery cable wait 5 seconds then reconnect. Turn the ignition to the On position for 10 seconds then back Off to the lock position and remove key. Arm the VTSS and attempt to trip to alarming state by manually unlocking door and opening. Did the VTSS trip to the alarming state when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*PASSENGER DOOR DOES NOT TRIP VTSS

POSSIBLE CAUSES
PASSENGER DOOR AJAR CIRCUIT
VERIFY VTSS OPERATION
VTSS NOT ENABLED IN FCM
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the PASS DOOR AJAR SW status. Open the passenger door. Does the DRBIII® display CLOSED? Yes → Go To 2 No → Refer to symptom PASSENGER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.	All
2	Open the passenger door window. Remove key from ignition switch. Use the RKE or power door lock switch to lock the doors then close all doors. Wait approximately 15 seconds for the VTSS indicator to flash at a slower rate indicating the Vehicle Theft Security System is armed. Manually unlock the passenger door lock. Attempt to trip the VTSS by opening the passenger door. Did the VTSS trip when the door was opened? Yes → Test complete. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition Off to the lock position. Disconnect the negative battery cable wait 5 seconds then reconnect. Turn the ignition to the On position for 10 seconds then back Off to the lock position and remove key. Arm the VTSS and attempt to trip to alarming state by manually unlocking door and opening. Did the VTSS trip to the alarming state when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*RIGHT REAR DOOR DOES NOT TRIP VTSS (4 DOOR)

POSSIBLE CAUSES
PASSENGER DOOR AJAR CIRCUIT MALFUNCTION
VERIFY VTSS OPERATION
VTSS NOT ENABLED IN FCM
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the PASS DOOR AJAR SW status. Open the Right Rear door. Does the DRBIII® display CLOSED? Yes → Go To 2 No → Refer to symptom RIGHT REAR DOOR AJAR CIRCUIT OPEN in the DOOR AJAR section. Perform VTSS VERIFICATION TEST - 1A.	All
2	Open the right rear door window. Remove key from ignition switch. Use the RKE or power door lock switch to lock the doors then close all doors. Wait approximately 15 seconds for the VTSS indicator to flash at a slower rate indicating the Vehicle Theft Security System is armed. Manually unlock the right rear door lock. Attempt to trip the VTSS by opening the right rear door. Did the VTSS trip when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Go To 3	All
3	Turn the ignition Off to the lock position. Disconnect the negative battery cable wait 5 seconds then reconnect. Turn the ignition to the On position for 10 seconds then back Off to the lock position and remove key. Arm the VTSS and attempt to trip to alarming state by manually unlocking door and opening. Did the VTSS trip to the alarming state when the door was opened? Yes → Test complete. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
*VTSS WILL NOT ARM PROPERLY

POSSIBLE CAUSES
VTSS NOT ENABLED
CHECK FOR DTCS AND VTSS ARMING INHIBITORS
CHECK FOR SKIM NO RESPONSE
CYLINDER LOCK SWITCH GROUND OPEN
INSTRUMENT CLUSTER
CYLINDER LOCK SWITCH MUX CIRCUIT OPEN
CYLINDER LOCK SWITCH OPEN
INSTRUMENT CLUSTER - CYLINDER LOCK SWITCH MUX OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition Off to the lock position. Disconnect the battery negative cable wait 5 seconds then reconnect battery cable. Turn the ignition to the On position for 10 seconds, then back Off to the lock position and remove key. Close all doors. Using the key, lock the vehicle with the Driver Door Cylinder Lock Switch and observe the VTSS indicator. Did the VTSS indicator flash rapidly, then flash at a slower rate indicating the VTSS is armed? Yes → Go To 2 No → Go To 3	All
2	Unlock the vehicle to disarm the VTSS. Ensure all doors are closed. Using the RKE key fob, lock the vehicle and observe the VTSS indicator. Did the VTSS indicator flash rapidly, then flash at a slower rate indicating the VTSS is armed? Yes → Test Complete. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, attempt to communicate with the SKIM. Does the DRBIII® communicate with the SKIM? Yes → Go To 4 No → Refer to communication category for the related symptom(s). Perform VTSS VERIFICATION TEST - 1A.	All

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*VTSS WILL NOT ARM PROPERLY — Continued

TEST	ACTION	APPLICABILITY
4	Ensure the doors are closed. With the DRBIII®, read the active DTC's and the ajar switch states. Does the DRBIII® display any closed switches or related DTC's? Yes → Refer to the Symptom List and diagnose the appropriate symptom in the DOOR AJAR or related category. Perform VTSS VERIFICATION TEST - 1A. No → Go To 5	All
5	Turn the ignition on. With the DRBIII®, read the Driver Cylinder Lock Switch MUX volts while turning the key in the driver door lock cylinder. Did the MUX voltage change from approximately 5.0 volts to 4.0 for lock and 2.4 for unlock? Yes → Replace and program the Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Cylinder Lock Switch connector. Measure the voltage between Cylinder Lock Switch Mux circuit and ground. Is the voltage between 4.6 and 5.2 volts? Yes → Go To 7 No → Go To 8	All
7	Disconnect the Cylinder Lock Switch connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Does the test light illuminate brightly? Yes → Replace the Cylinder Lock Switch. Perform VTSS VERIFICATION TEST - 1A. No → Repair the Ground circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All
8	Disconnect the Cylinder Lock Switch connector. Disconnect the Instrument Cluster C2 connector. Measure the resistance of the Cylinder Lock Switch Mux circuit between the Switch connector and the Instrument Cluster connector. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster. Perform VTSS VERIFICATION TEST - 1A. No → Repair the Cylinder Lock Switch Mux circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All

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Symptom:

FCM-WASHER FLUID LEVEL SENSOR CIRCUIT FAILURE

When Monitored and Set Condition:

FCM-WASHER FLUID LEVEL SENSOR CIRCUIT FAILURE

When Monitored: Continuous with the ignition on.

Set Condition: The FCM detects the Washer Fluid Level Switch circuit voltage is below 0.05 volts or above 5.0 volts.

POSSIBLE CAUSES
WASHER FLUID LEVEL SWITCH
WASHER FLUID LEVEL SENSOR SIGNAL CIRCUIT OPEN
WASHER FLUID LEVEL SWITCH GROUND CIRCUIT OPEN
WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT SHORT TO GROUND
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Connect a jumper wire between cavity 1 and cavity 2. With the DRBIII®, in Sensors, read the Washer Fluid Level Switch Volts. Does the DRBIII® read below 1 volt? Yes → Replace the Washer Fluid Level Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the FCM harness connector. Disconnect the Washer Fluid Level Switch harness connector. Measure the resistance of the Washer Fluid Level Switch Signal circuit. Is the resistance above 5.0 ohms? Yes → Repair the Washer Fluid Level Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the FCM harness connector. Disconnect the Washer Fluid Level Switch harness connector. Measure the resistance of the Washer Fluid Level Switch Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Washer Fluid Level Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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FCM-WASHER FLUID LEVEL SENSOR CIRCUIT FAILURE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the FCM harness connector. Disconnect the Washer Fluid Level Switch harness connector. Measure the resistance between ground and the Washer Fluid Level Switch Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Washer Fluid Level Switch Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM-WASHER PUMP OUTPUT CIRCUIT LOW

When Monitored and Set Condition:

FCM-WASHER PUMP OUTPUT CIRCUIT LOW

When Monitored: With the igntion on.

Set Condition: The FCM detects less than 0.05 volts on the Washer Pump Motor Control circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION
WASHER PUMP MOTOR - FRONT
WASHER PUMP MOTOR CONTROL CIRCUIT SHORT TO GROUND
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Wiper Washers. With the DRBIII®, read the DTC information. Does the DRBIII® read: Washer Pump Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Washer Pump Motor - Front harness connector. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: Washer Pump Output Circuit Open? Yes → Replace the Washer Pump Motor - Front in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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FCM-WASHER PUMP OUTPUT CIRCUIT LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Integrated Power Module C3 harness connector. Disconnect the Washer Pump Motor harness connector. Measure the resistance between ground and the Washer Pump Motor Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Washer Pump Motor Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the FCM from the IPM. Disconnect the IPM C3 harness connector. Measure the resistance between ground and the IPM Washer Pump Motor Control circuit terminal pin. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

FCM-WASHER PUMP OUTPUT CIRCUIT OPEN

When Monitored and Set Condition:

FCM-WASHER PUMP OUTPUT CIRCUIT OPEN

When Monitored: With the igntion on.

Set Condition: The FCM detects more than 5.0 volts on the Washer Pump Motor Control circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION
WASHER PUMP MOTOR
WASHER PUMP MOTOR GROUND CIRCUIT OPEN
WASHER PUMP MOTOR CONTROL CIRCUIT OPEN
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Wiper Washers. With the DRBIII®, read the DTC information. Does the DRBIII® read: Washer Pump Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Washer Pump Motor harness connector. Connect a jumper wire between cavity 1 and cavity 2. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: Washer Pump Output Circuit Low? Yes → Replace the Washer Pump Motor - Front in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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FCM-WASHER PUMP OUTPUT CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Washer Pump Motor harness connector. Measure the resistance between ground and the Washer Pump Motor Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Washer Pump Motor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Washer Pump Motor harness connector. Disconnect the IPM C3 harness connector. Measure the resistance of the Washer Pump Motor Control circuit. Is the resistance above 5.0 ohms? Yes → Repair the Washer Pump Motor Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the FCM from the IPM. Disconnect the IPM C3 harness connector. Measure the internal resistance of the IPM Washer Pump Motor Control circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER ON-OFF RELAY OUTPUT CIRCUIT HIGH

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER ON/OFF RELAY
POWER DISTRIBUTION CENTER INTERNAL SHORT TO VOLTAGE
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Wipers ON than OFF. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper ON-OFF Relay Output Circuit High? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Turn the ignition on. Activate the Wiper Switch to all speed positions. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper On/Off Relay Output Circuit High? Yes → Replace the Wiper On/Off Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Remove the FCM from the IPM. Measure the voltage between the Wiper On/Off Relay Control circuit and ground in the IPM. Is there any voltage present? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER ON-OFF RELAY OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER ON/OFF RELAY
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Wipers ON then OFF. 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 that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper On/Off Relay Output Circuit Low? Yes → Go To 3 No → Replace the Wiper On/Off Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Remove the Wiper On/Off Relay. Remove the FCM from the IPM. Measure the resistance between ground and the Wiper On/Off Relay Control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER ON-OFF RELAY OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER ON/OFF RELAY
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Wipers ON then OFF. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper ON-OFF Relay Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper On/Off Relay Output Circuit Open? Yes → Go To 3 No → Replace the Wiper On/Off Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Remove the FCM from the IPM. Measure the resistance of the Wiper On/Off Control circuit in the IPM. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER PARK SWITCH INPUT PERFORMANCE

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER MOTOR PARK SWITCH GROUND CIRCUIT OPEN
WIPER MOTOR
WIPER PARK SWITCH SENSE CIRCUIT SHORT TO VOLTAGE
WIPER PARK SWITCH SENSE CIRCUIT SHORT TO GROUND
WIPER PARK SWITCH SENSE CIRCUIT OPEN
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Turn the Wipers ON then OFF. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper Park Switch Input Performance? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Wiper Motor harness connector. Measure the resistance between ground and the Wiper Motor Park Switch Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Wiper Motor Park Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Wiper Motor harness connector. Measure the internal resistance of the Wiper Motor between terminal pin 2 and pin 3. Is the resistance above 5.0 ohms? Yes → Replace the Wiper Motor - Front in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

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FCM-WIPER PARK SWITCH INPUT PERFORMANCE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the IPM C4 harness connector. Disconnect the Wiper Motor harness connector. Measure the voltage between the Wiper Park Switch Sense circuit and ground. Is there any voltage present? Yes → Repair the Wiper Park Switch Sense circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the IPM C4 harness connector. Disconnect the Wiper Motor harness connector. Measure the resistance between ground and the Wiper Park Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Wiper Park Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the IPM C4 harness connector. Disconnect the Wiper Motor harness connector. Measure the resistance of the Wiper Park Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the Wiper Park Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Remove the FCM from the IPM. Disconnect the IPM C4 harness connector. Measure the internal resistance of the Wiper Park Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER SPEED RELAY OUTPUT CIRCUIT HIGH

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER HIGH/LOW RELAY
POWER DISTRIBUTION CENTER INTERNAL SHORT TO VOLTAGE
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Wipers in all speed positions. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper Speed Relay Output Circuit High? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Wiper High/Low Relay from the IPM. Turn the ignition on. Activate the Wiper Switch to all speed positions. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper Speed Relay Output Circuit Open? Yes → Replace the Wiper High/Low Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the Wiper High/Low Relay from the IPM. Remove the FCM from the IPM. Measure the voltage between the Wiper High/Low Relay Control circuit and ground in the IPM. Is there any voltage present? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER SPEED RELAY OUTPUT CIRCUIT LOW

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER HIGH/LOW RELAY
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all FCM DTC's. Actuate the Wipers in all speed positions. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper Speed Relay Output Circuit Low? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the Wiper High/Low Relay. Turn the ignition on. Activate the Wiper Switch to all speed positions. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper Speed Relay Output Circuit Low? Yes → Go To 3 No → Replace the Wiper High/Low Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Remove the Wiper High/Low Relay. Remove the FCM from the IPM. Measure the resistance between ground and the Wiper High/Low Relay Control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:
FCM-WIPER SPEED RELAY OUTPUT CIRCUIT OPEN

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER HIGH/LOW RELAY
POWER DISTRIBUTION CENTER
FRONT CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII ®, clear all FCM DTC's. Actuate the Wipers in all speed positions. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper Speed Relay Output Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the Wiper High/Low Relay. Turn the ignition on. Activate the Wiper Switch to all speed positions. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper Speed Relay Output Circuit Open? Yes → Go To 3 No → Replace the Wiper High/Low Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Remove the Wiper High/Low Relay from the IPM. Remove the FCM from the IPM. Measure the resistance of the Wiper High/Low Control circuit in the IPM. Is the resistance above 5.0 ohms? Yes → Replace the Power Distribution Center (PDC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Control Module (FCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

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Symptom:

MIC-WASH-BEAM INPUT CIRCUIT SHORTED

When Monitored and Set Condition:

MIC-WASH-BEAM INPUT CIRCUIT SHORTED

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster detects less than 0.05 volts on the Wash/Beam Select Switch Feed circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION
MULTI- FUNCTION SWITCH
WASH/BEAM SELECT SWITCH FEED CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Wipers on. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wash-Beam Input Circuit Shorted? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Multi- Function Switch harness connector. Turn the ignition on. With the DRBIII® in Sensors, read the Wash - Beam SW Volts. Does the DRBIII® display more than 4.5 volts? Yes → Replace the Multi- Function Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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MIC-WASH-BEAM INPUT CIRCUIT SHORTED — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Disconnect the Multi- Function Switch harness connector. Measure the resistance between ground and the Wash/beam Select Switch Feed circuit. Is the resistance below 5.0 ohms? Yes → Repair the Wash/Beam Select Switch Feed circuit for a short to ground. 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

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Symptom:

MIC-WIPER SWITCH INPUT CIRCUIT OPEN

When Monitored and Set Condition:

MIC-WIPER SWITCH INPUT CIRCUIT OPEN

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster detects above 5.0 volts on the multi-function circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION
MULTI- FUNCTION SWITCH
INTERMITTENT WIPER SWITCH SENSE CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Wipers ON. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper Switch Input Circuit Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Multi- Function Switch harness connector. Ensure that the Multi- Function Switch is in the Off position. Measure the internal resistance of the Multi- Function Switch between cavity 2 and cavity 4. Does the Multi- Function Switch measure more than 5.0 ohms? Yes → Replace the Multi- Function Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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MIC-WIPER SWITCH INPUT CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Multi- Function Switch harness connector. Disconnect the Instrument Cluster C2 harness connector. Measure the resistance of the Intermittent Wiper Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the Intermittent Wiper 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

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Symptom:

MIC-WIPER SWITCH INPUT CIRCUIT SHORTED

When Monitored and Set Condition:

MIC-WIPER SWITCH INPUT CIRCUIT SHORTED

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster detects the multifunction circuit voltage is below 0.05 volts.

POSSIBLE CAUSES
INTERMITTENT CONDITION
MULTI- FUNCTION SWITCH
INTERMITTENT WIPER SWITCH SENSE CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all MIC DTC's. Turn the Wipers ON. With the DRBIII®, read the DTC information. Does the DRBIII® read: Wiper Switch Input Circuit Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Multi- Function Switch harness connector. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: Wiper Switch Input Circuit Open? Yes → Replace the Multi- Function Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

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MIC-WIPER SWITCH INPUT CIRCUIT SHORTED — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Multi- Function Switch harness connector. Disconnect the Instrument Cluster C2 harness connector. Measure the resistance between ground and the Intermittent Wiper Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Intermittent Wiper Switch Sense circuit for a short to ground. 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

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Verification Tests

(NGC) 45RFE/545RFE TRANSMISSION VERIFICATION TEST - VER 1	APPLICABILITY
1. NOTE: After completion of the Transmission Verification Test, the Powertrain Verification Test must be performed. 2. Connect the DRBIII® to the Data Link Connector (DLC). 3. Reconnect any disconnected components. 4. With the DRBIII®, perform a BATTERY DISCONNECT, this will clear the EATX EVENT DATA 5. With the DRBIII®, erase all Transmission and Engine DTC's. **6. NOTE: If the PCM has been replaced or if the transmission has been repaired or replaced it is necessary to perform the DRBIII® Quick Learn Procedure.** 7. With the DRBIII®, display Transmission Temperature. Start and run the engine until the Transmission Temperature is HOT, above 43° C or 110° F. 8. Check the Transmission fluid level and adjust if necessary. Refer to the Service Information for the Fluid Fill procedure. 9. Road test the vehicle. 10. Perform the following shifts from a standing start with a constant throttle opening of 20 to 25 degrees to the speeds of 97 Km/h or 60 MPH; make fifteen to twenty 1 to 2, 2 to 3, 3 to 4 upshifts and for 545RFE, 4 to 4-prime. 11. Perform the following shifts with speeds below 40 Km/h or 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. 12. Check for DTC's during the road test. **13. NOTE: Use the EATX OBDII task manager to run Good Trip time in each gear, this will confirm the repair and to ensure that the DTC has not re-matured.** Were there any Diagnostic Trouble Codes (DTCs) set during the road test? Yes → Refer to the Symptom List for the appropriate diagnostic tests. No → Repair is complete.	All

(NGC) POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
1. NOTE: If this vehicle is equipped with a 5.7L NGCII system and the APP Sensors, PCM, or Throttle Body Assembly has been replaced use the DRBIII® under the Misc. Menu. to perform the LEARN ETC function. **2. NOTE: After completing the Powertrain Verification Test the Transmission Verification Test must be performed.** **3. 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.** **4. 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.** 5. Inspect the vehicle to ensure that all components related to the repair are properly installed and connected. 6. Inspect the engine oil for fuel contamination. Replace the oil and filter as necessary. 7. Attempt to start the engine. 8. 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. 9. Run the engine for one warm-up cycle to verify operation. 10. With the DRBIII®, confirm that no DTCs or Secondary Indicators are present and that all components are functioning properly. Are any DTCs or symptoms remaining? Yes → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptom list (Diagnostic Procedure). No → Repair is complete.	All

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Verification Tests — Continued

(NGC) POWERTRAIN VERIFICATION TEST VER - 5	APPLICABILITY
1. NOTE: After completing the Powertrain Verification Test the Transmission Verification Test must be performed. **2. NOTE: If the PCM has been replaced and the correct VIN and mileage have not been programmed, a DTC will set in the ABS Module, Airbag Module and the SKIM.** **3. NOTE: If the vehicle is equipped with a Sentry Key Immobilizer System, Secret Key data must be updated. Refer to the Service Information for the PCM, SKIM and the Transponder (ignition key) for programming information.** **4. NOTE: If this vehicle is equipped with a 5.7L NGCII system and the APP Sensors, PCM, or Throttle Body Assembly has been replaced use the DRBIII® under the Misc. Menu. to perform the LEARN ETC function.** **5. NOTE: When replacing an O2 Sensor, the PCM RAM memory must be cleared, either by disconnecting the PCM C-1 connector or momentarily disconnecting the Battery negative terminal.** 6. The NGC learns the characteristics of each O2 heater element and these old values should be cleared when installing a new O2 sensor. The customer may experience driveability issues if this is not performed. 7. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 8. Connect the DRBIII® to the data link connector. 9. Ensure the fuel tank has at least a quarter tank of fuel. Turn off all accessories. 10. If the Catalyst was replaced, with the DRBIII® go to the Miscellaneous Menu Option ″Catalyst Replaced″ and press enter. 11. If a Comprehensive Component DTC was repaired, perform steps 9 - 12. If a Major OBDII Monitor DTC was repaired skip those steps and continue verification. 12. After the ignition has been off for at least 10 seconds, restart the vehicle and run 2 minutes. 13. With the DRBIII®, monitor the appropriate pre-test enabling conditions until all conditions have been met. Once the conditions have been met, switch screen to the appropriate OBDII monitor, (Audible beeps when the monitor is running). 14. If the repaired OBDII trouble code has reset or was seen in the monitor while on the road test, the repair is not complete. Check for any related technical service bulletins or flash updates and return to Symptom List. 15. If the conditions cannot be duplicated, erase all DTCs with the DRBIII®. 16. If another DTC has set, return to the Symptom List and follow the path specified for that DTC. Did the OBDII Monitor run successfully and has the Good Trip Counter changed to one or more? Yes → Repair is complete. No → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptom list (Diagnostic Procedure).	All

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Verification Tests — Continued

ABS VERIFICATION TEST - VER 1	APPLICABILITY
1. Turn the ignition off. 2. Connect all previously disconnected components and connectors. 3. Ensure all accessories are turned off and the battery is fully charged. 4. Ensure that the Ignition is on, and with the DRBIII®, erase all Diagnostic Trouble Codes from ALL modules. Start the engine and allow it to run for 2 minutes and fully operate the system that was malfunctioning. 5. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII, read DTC's from ALL modules. 6. If any Diagnostic Trouble Codes are present, return to Symptom list and troubleshoot new or recurring symptom. 7. If there are no DTC's present after turning ignition on, road test the vehicle for at least 5 minutes. Perform several antilock braking stops. **8. Caution: Ensure braking capability is available before road testing.** 9. Again, with the DRBIII® read DTC's. If any DTC's are present, return to Symptom list. 10. If there are no Diagnostic Trouble Codes (DTC's) present, and the customer's concern can no longer be duplicated, the repair is complete. Are any DTC's present or is the original concern still present? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

BODY VERIFICATION TEST - VER 1	APPLICABILITY
1. Disconnect all jumper wires and reconnect all previously disconnected components and connectors. **2. NOTE: If the SKIM, PCM or FCM was replaced, refer to the service information for proper programming procedures.** 3. If the Instrument Cluster was replaced, disconnect the negative battery cable for 5 seconds to power down FCM then reconnect and turn the ignition on for 15 seconds to learn VIN. 4. If the Instrument Cluster was replaced and the vehicle is equipped with VTSS, cycle the key in the driver door cylinder lock switch to enable VTSS. 5. Program tire size, country code, radio EQ setting and all RKE transmitters (if RKE Module was replaced) and other options as necessary. 6. If any HVAC door actuator circuits were repaired, with the DRBIII® in HVAC, System Tests, select Actuator Circuit Test. 7. If any HVAC door actuators were replaced/door linkage was repaired, with the DRBIII® in HVAC, System Tests, select HVAC Door Recalibration. 8. Ensure all accessories are turned off and the battery is fully charged. 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. 10. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTC's from ALL modules. Are any DTC's present or is the original condition still present? Yes → Repair is not complete, refer to the appropriate symptom. No → Repair is complete.	All

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Verification Tests — Continued

POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 2. Inspect the engine oil for contamination. If oil contamination is suspected, change the oil and filter. 3. If the PCM was not replaced skip steps 4 through 6 and continue the verification. 4. If the PCM was replaced the correct VIN and mileage must be programmed or a DTC will set in the ABS and Air Bag modules. In addition, if the vehicle is equipped with Sentry Key Immobilizer Module (SKIM), Secret Key data must be updated to enable start. 5. For ABS and Air Bag systems: Enter correct VIN and Mileage in PCM. Erase codes in ABS and Air Bag modules. 6. For SKIM theft alarm: Connect DRBIII® to data link conn. Go to Theft Alarm, SKIM, Misc. and place SKIM in secured access mode, by using the appropriate PIN code for this vehicle. Select Update the Secret Key data. Data will be transferred from SKIM to PCM 7. Attempt to start the engine. Is the vehicle still unable to start or are there any DTCs or symptoms remaining? Yes → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptoms list (Diagnostic Procedure). No → Repair is complete.	All

POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL)	APPLICABILITY
1. Clear the DTC before continuing. 2. Check if any of the following conditions exist. 3. The ECM has been disconnected or replaced. 4. The battery power has been disconnected. 5. The APPS has been disconnected or replaced. 6. If any of the conditions exist, perform the following steps, otherwise go to step 8. 7. APPS Programming Procedure: Reassemble all components. Turn the ignition key to the ON or RUN position. Without starting the engine, slowly press the throttle pedal to the floor and then slowly release. 8. This step must be done (only once) to ensure the accelerator pedal position sensor calibration has been programmed in the ECM. **9. CAUTION: Do not attempt to adjust screws or disassemble the APPS sensor. These settings are set at the factory and are not intended to be changed.** 10. If the ECM has been replaced, do the following: (Other go to step 12). **11. NOTE: If the Engine Control Module has been replaced and the correct VIN and mileage have not been programmed, a DTC will be set in the ABS, Airbag Modules and SKIM module.** 12. For ABS and Airbag Systems: Action: Enter correct VIN and Mileage in PCM. Erase ABS and Airbag Module codes. 13. If the ECM has not been replaced, do the following. 14. Inspect the vehicles to ensure that all engine components are connected. Reassemble and reconnect components as necessary. 15. Attempt to start the engine. 16. If the engine is unable to start, look for any Technical Service Bulletins that may relate to this condition. Return to Symptom list if necessary. 17. If the there are no DTCs present and all components are functional, the repair is complete. Are any DTC(s) present? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

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Verification Tests — Continued

SKIS VERIFICATION	APPLICABILITY
1. Reconnect all previously disconnected components and connectors. 2. Obtain the vehicle's unique Personal Identification Number (PIN) assigned to it's original SKIM. This number can be obtained from the vehicle's invoice or Chrysler's Customer Center (1-800-992-1997). **3. NOTE: When entering the PIN, care should be taken because the SKIM will only allow 3 consecutive attempts to enter the correct PIN. If 3 consecutive incorrect PINs are entered, the SKIM will Lock Out the DRB for 1 hour.** 4. To exit Lock Out mode, the ignition key must remain in the Run position continually for 1 hour. Turn off all accessories and connect a battery charger if necessary. 5. With the DRB, select Theft Alarm, SKIM and Miscellaneous. Then, select the desired procedure and follow the steps that will be displayed. 6. If the SKIM has been replaced, ensure all of the vehicle ignition keys are programmed to the new SKIM. **7. NOTE: Prior to returning vehicle to the customer, perform a module scan to be sure that all DTCs are erased. Erase any DTCs that are found.** 8. With the DRB, erase all DTCs. Perform 5 ignition key cycles leaving the key on for at least 90 seconds per cycle. 9. With the DRB, read the SKIM DTCs. Are there any SKIM DTCs? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

TRANSFER CASE VERIFICATION TEST	APPLICABILITY
1. Disconnect all jumper wires and reconnect all previously disconnected components and connectors. 2. Connect the DRBIII® to the Data Link Connector and erase DTC's 3. Ensure all accessories are turned off and the battery is fully charged. 4. Rotate the Transfer Case Selector Switch to the desired position. 5. Test drive the vehicle in each of the Transfer Case ranges and ensure that it is functioning properly in each of the ranges selected. **6. NOTE: To select or deselect 2WD/AWD mode or 4HI mode the vehicle must be below 55 mph (88 km/h) and all wheels at vehicle speed.** **7. CAUTION: If the front and rear wheels are at different speeds and a transfer case shift is requested, damage to the transfer case may result.** **8. NOTE: To select or deselect 4LO(If Equipped), the vehicle must be less than 3 Mph - 5 Km/h or completely stopped, ignition ON and the Automatic Transmission Selector in Neutral or the clutch depressed on Manual Transmissions.** **9. NOTE: Press the recessed Neutral button (If Equipped) on the Transfer Case Selector Switch until the Neutral indicator is illuminated.** **10. WARNING: Apply Parking Brake. The vehicle may roll with the transfer case in Neutral.** **11. NOTE: To select or deselect Transfer Case Neutral, the vehicle must be stopped, ignition key in the ON position with the engine OFF, brake pedal applied and the Automatic Transmission Selector in Neutral or clutch depressed on Manual Transmissions.** 12. To verify the transfer case is in Neutral, shift the Automatic Transmission selector into Reverse, release the brake pedal for three seconds or the Manual Transmission into gear and slowly release the clutch to ensure that there is no vehicle movement. 13. With the DRBIII®, read DTCs from the Transfer Case Control Module (TCCM). Are there any Transfer Case DTC's? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

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Verification Tests — Continued

VTSS VERIFICATION TEST - 1A	APPLICABILITY
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. Close all doors and observe the VTSS Indicator lamp. 5. - If the VTSS Indicator Lamp flashes rapidly and then after approximately 15 seconds changes to a slower flash, indicates the system is armed. 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. 7. - Manually unlock the driver's door and open door to verify the alarm will trip to the alarming state. Does the VTSS Indicator Lamp flash as specified and does the alarm trip and operate properly? Yes → Repair is complete. No → Repair is not complete, refer to appropriate symptom.	All

__AIRBAG VERIFICATION TEST - VER 1	APPLICABILITY
1. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **2. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** 3. Connect the DRBIII® to the Data Link Connector - use the most current software available. 4. Use the DRBIII® and erase the stored codes in all airbag system modules. 5. Turn the ignition off, and wait 15 seconds, then turn the ignition on. 6. Wait one minute, and read active codes and if there are none present read the stored codes. 7. Note: If equipped with Airbag On - Off switch, read the DTC's in all switch positions. 8. Note: Read the DTC's in all airbag system related modules. 9. If the DRBIII® shows any active or stored codes, return to the Symptom list and follow path specified for that trouble code. If no active or stored codes are present, the repair is complete. Are any DTC's present or is the original condition still present? YES Repair is not complete, refer to appropriate symptom list. NO Repair is complete.	All

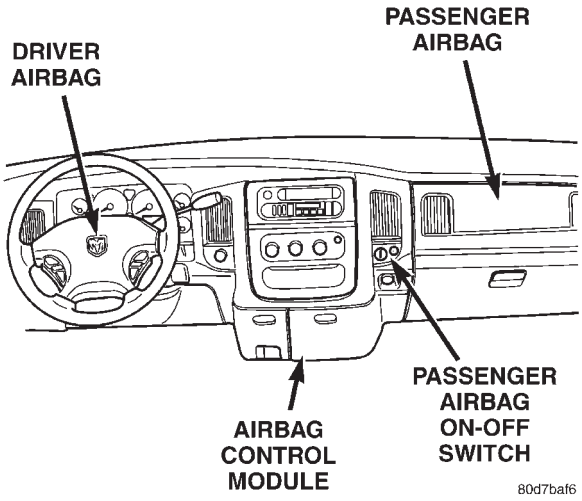
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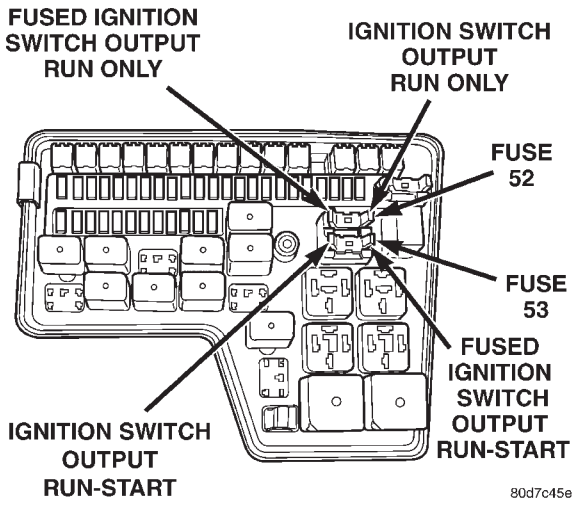
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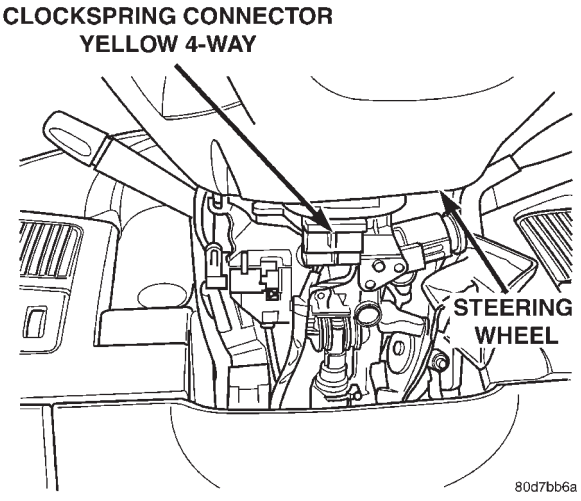
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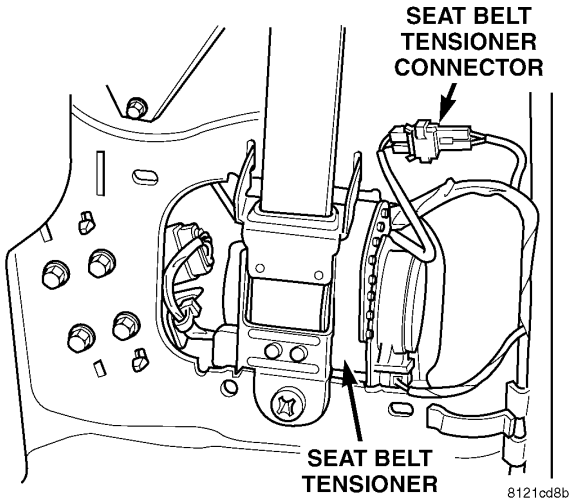
8.0 COMPONENT LOCATIONS

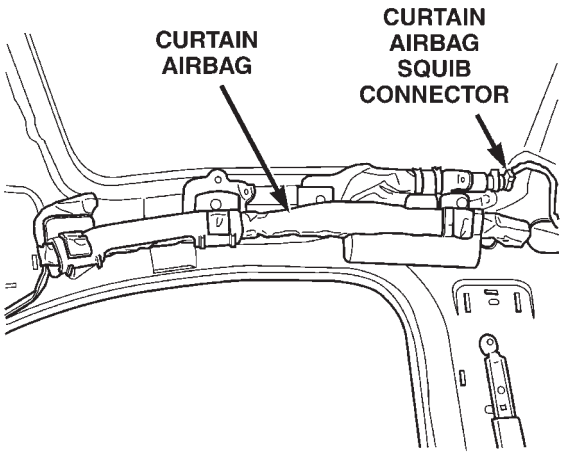
8.1 AIRBAG SYSTEM

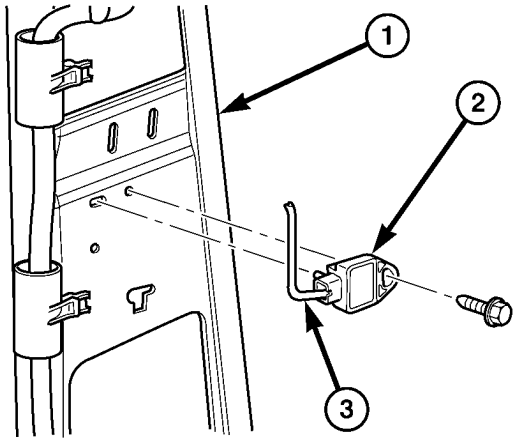












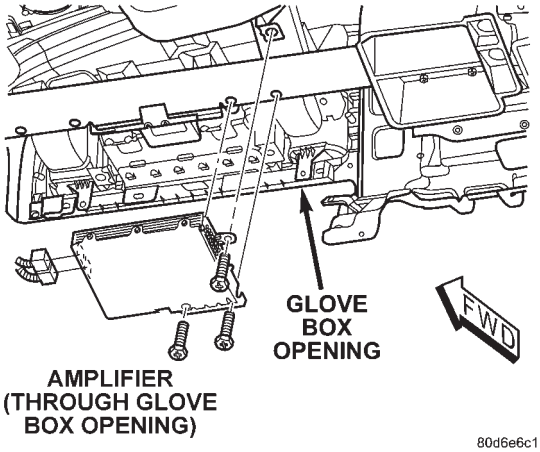
1. "B" POST
2. SIDE IMPACT SENSOR
3. SIDE IMPACT SENSOR CONNECTOR

81209670

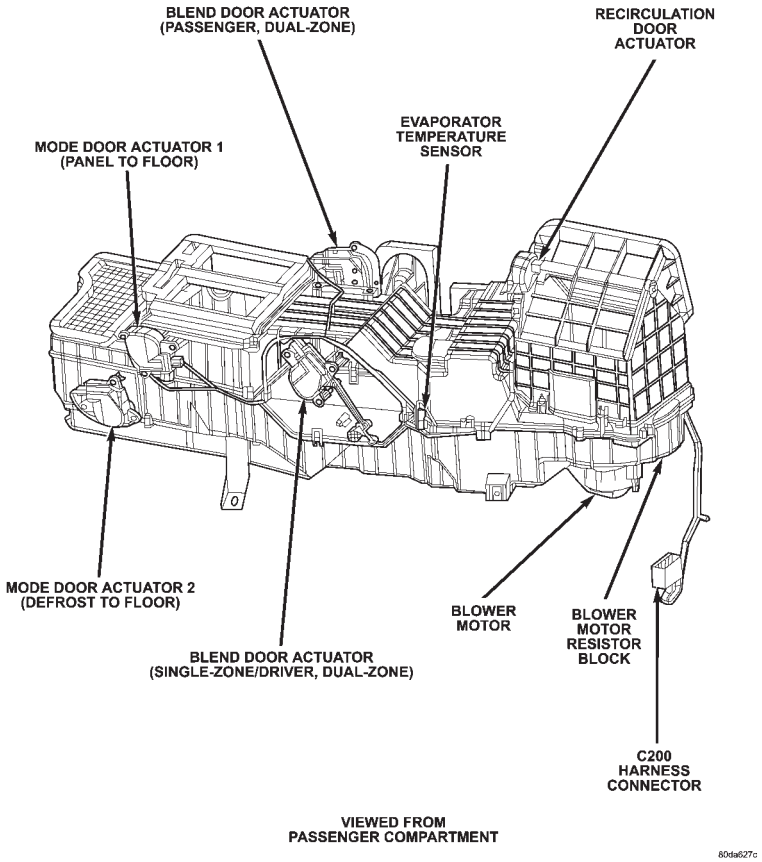
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8.2 AUDIO

8.2.1 AMPLIFIER

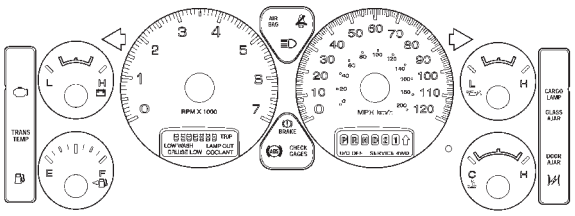


8.3 HEATING & A/C



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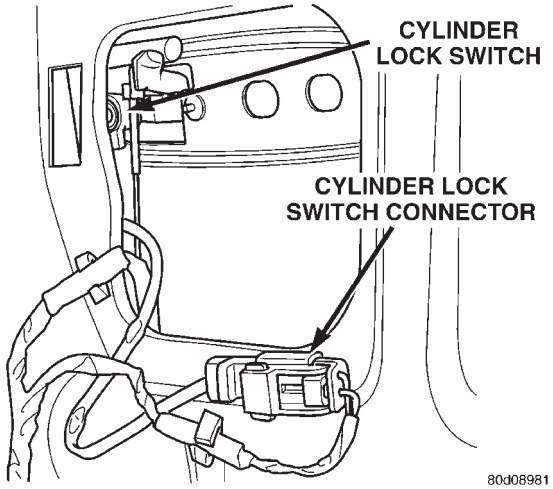
8.4 INSTRUMENT CLUSTER



80dc2087

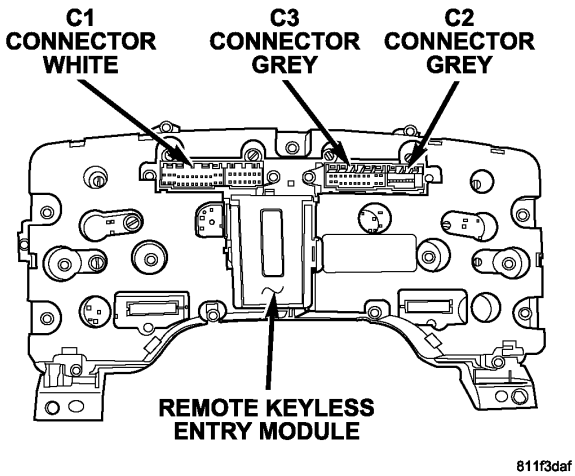
8.5 POWER DOOR LOCKS/RKE

8.5.1 CYLINDER LOCK SWITCH



80d08981

8.5.2 RKE MODULE



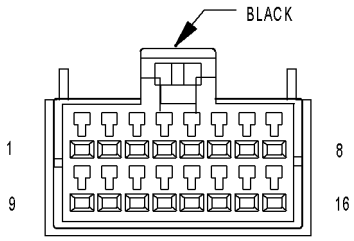
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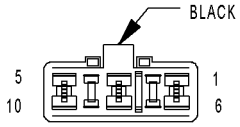
9.0 CONNECTOR PINOUTS



A/C
HEATER
CONTROL C1

A/C HEATER CONTROL C1 - BLACK 16 WAY

CAV	CIRCUIT	FUNCTION
1	F504 20GY/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
2	Z24 18BK/OR	GROUND
3	C121 20DB/DG	SENSOR GROUND
4	C29 20DB	MODE DOOR 2 DRIVER
5	-	-
6	C21 20DB/LG	EVAPORATOR TEMPERATURE SENSOR SIGNAL
7	-	-
8	E16 20OR/GY	PANEL LAMPS DRIVER
9	C61 20DB/LG	BLEND DOOR DRIVER
10	C801 20DB/OR	MODE DOOR 1 DRIVER
11	C34 20DB/LB	COMMON DOOR DRIVER
12	C32 20DB/TN	RECIRCULATION DOOR DRIVER
13	C33 20LB/BR (DUAL ZONE)	PASSENGER BLEND DOOR DRIVER
14	-	-
15	C110 20DB/LB	DEFOGGER RELAY CONTROL
16	D25 20WT/VT	PCI BUS

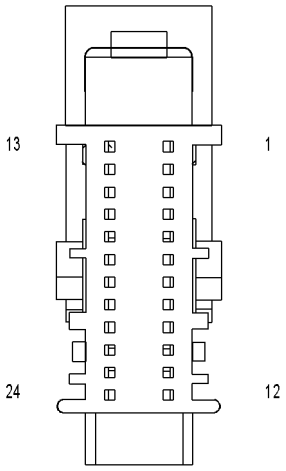


A/C
HEATER
CONTROL C2

A/C HEATER CONTROL C2 - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	C71 16DB/BR	BLOWER MOTOR LOW DRIVER
3	C73 14DB/VT	BLOWER MOTOR M2 DRIVER
4	-	-
5	Z134 10BK/LG	GROUND
6	-	-
7	C72 16DB/OR	BLOWER MOTOR M1 DRIVER
8	-	-
9	-	-
10	C70 10DB/YL	BLOWER MOTOR HIGH DRIVER

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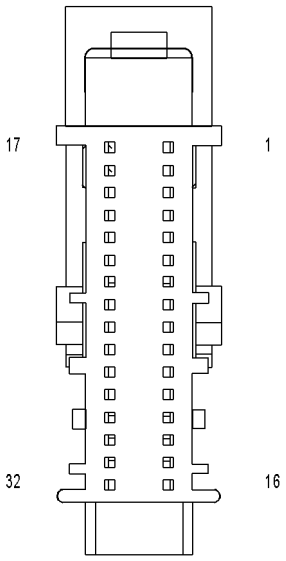


AIRBAG CONTROL MODULE C1

AIRBAG CONTROL MODULE C1 - 24 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	D25 20WT/VT	PCI BUS
4	-	-
5	Z104 18BK/LG	GROUND
6	G104 20VT/GY	PASSENGER AIRBAG INDICATOR DRIVER
7	R104 20LB/LG	PASSENGER AIRBAG MUX SWITCH RETURN
8	R106 20LG/LB	PASSENGER AIRBAG MUX SWITCH SENSE
9	-	-
10	-	-
11	-	-
12	-	-
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

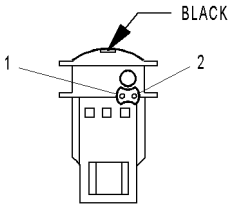
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AIRBAG CONTROL MODULE C2

AIRBAG CONTROL MODULE C2 - 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 18LB/WT (LIGHT DUTY)	LEFT CURTAIN SQUIB 1 LINE 2
14	R3 18LB/OR (LIGHT DUTY)	LEFT CURTAIN SQUIB 1 LINE 1
15	R4 18OR/LB (LIGHT DUTY)	RIGHT CURTAIN SQUIB 1 LINE 1
16	R2 18WT/LB (LIGHT DUTY)	RIGHT CURTAIN SQUIB 1 LINE 2
17	F201 18PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
18	F100 18PK/VT	FUSED IGNITION SWITCH OUTPUT (RUN)
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	R14 20TN/LG (LIGHT DUTY)	RIGHT SIDE IMPACT SENSOR 1 SIGNAL
28	R16 20BR/LG (LIGHT DUTY)	RIGHT SIDE IMPACT SENSOR 1 GROUND
29	R15 20LG/BR (LIGHT DUTY)	LEFT SIDE IMPACT SENSOR 1 GROUND
30	R13 20LG/TN (LIGHT DUTY)	LEFT SIDE IMPACT SENSOR 1 SIGNAL
31	-	-
32	-	-

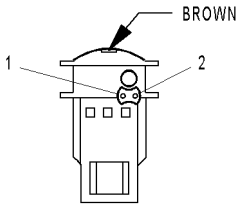


AIRBAG-DRIVER SQUIB 1

AIRBAG-DRIVER SQUIB 1 - (SENSOR SIDE)

CAV	CIRCUIT	FUNCTION
1	R43 20LG/LB	DRIVER SQUIB 1 LINE 1
2	R45 20LG/OR	DRIVER SQUIB 1 LINE 2

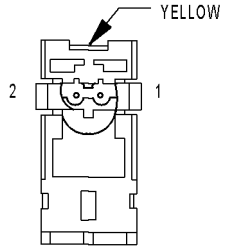
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AIRBAG-DRIVER SQUIB 2

AIRBAG-DRIVER SQUIB 2 - (SENSOR SIDE)

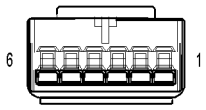
CAV	CIRCUIT	FUNCTION
1	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
2	R63 20LG/WT	DRIVER SQUIB 2 LINE 2



AIRBAG-LEFT CURTAIN

AIRBAG-LEFT CURTAIN - YELLOW 2 WAY

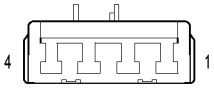
CAV	CIRCUIT	FUNCTION
1	R3 18LB/OR	LEFT CURTAIN SQUIB 1 LINE 1
2	R1 18LB/WT	LEFT CURTAIN SQUIB 1 LINE 2



AIRBAG-PASSENGER ON/OFF SWITCH

AIRBAG-PASSENGER ON/OFF SWITCH - 6 WAY

CAV	CIRCUIT	FUNCTION
1	R106 20LG/LB	PASSENGER AIRBAG MUX SWITCH SENSE
2	R104 20LB/LG	PASSENGER AIRBAG MUX SWITCH RETURN
3	G104 20VT/GY	PASSENGER AIRBAG INDICATOR DRIVER
4	F201 18PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	-	-
6	-	-

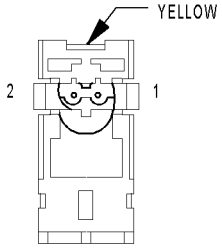


AIRBAG-PASSENGER SQUIB

AIRBAG-PASSENGER SQUIB - 4 WAY

CAV	CIRCUIT	FUNCTION
1	R44 20LB/OR	PASSENGER SQUIB 1 LINE 2
2	R42 20LB/BR	PASSENGER SQUIB 1 LINE 1
3	R64 20LB/WT	PASSENGER SQUIB 2 LINE 1
4	R62 20LB/VT	PASSENGER SQUIB 2 LINE 2

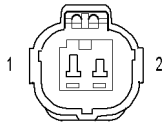
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AIRBAG-RIGHT CURTAIN

AIRBAG-RIGHT CURTAIN - YELLOW 2 WAY

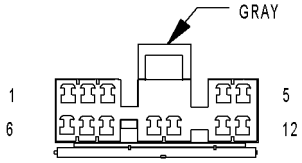
CAV	CIRCUIT	FUNCTION
1	R4 18OR/LB	RIGHT CURTAIN SQUIB 1 LINE 1
2	R2 18WT/LB	RIGHT CURTAIN SQUIB 1 LINE 2



AMBIENT TEMPERATURE SENSOR

AMBIENT TEMPERATURE SENSOR - 2 WAY

CAV	CIRCUIT	FUNCTION
1	G31 20VT/LG	AAT SIGNAL
2	K900 20DB/DG	SENSOR GROUND

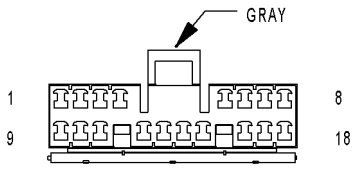


AMPLIFIER AUDIO C1 (PREMIUM)

AMPLIFIER AUDIO C1 (PREMIUM) - GRAY 12 WAY

CAV	CIRCUIT	FUNCTION
1	X53 20DG	LEFT FRONT SPEAKER (+)
2	X55 20DG/BR	LEFT FRONT SPEAKER (-)
3	X57 20DG/OR	LEFT REAR SPEAKER (-)
4	Z513 18BK	GROUND
5	X11 20DG	RADIO 12 VOLT OUTPUT
6	X56 20GY/BR	RIGHT FRONT SPEAKER (-)
7	X54 20GY	RIGHT FRONT SPEAKER (+)
8	X51 20DG/DB	LEFT REAR SPEAKER (+)
9	X58 20GY/OR	RIGHT REAR SPEAKER (-)
10	X52 20GY/DB	RIGHT REAR SPEAKER (+)
11	Z907 18BK	GROUND
12	D25 20WT/VT	PCI BUS

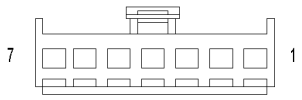
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AMPLIFIER
AUDIO C2
(PREMIUM)

AMPLIFIER AUDIO C2 (PREMIUM) - GRAY 18 WAY

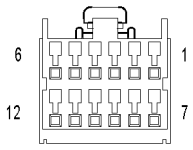
CAV	CIRCUIT	FUNCTION
1	A116 18YL/RD	FUSED B(+)
2	-	-
3	-	-
4	X295 18GY/DG	LEFT REAR SPEAKER (-)
5	X154 18GY/YL	RIGHT FRONT DOOR SPEAKER (+)
6	X153 18DG/YL	LEFT FRONT DOOR SPEAKER (+)
7	X208 18GY/DG	RIGHT INSTRUMENT PANEL SPEAKER (+)
8	X299 18GY/YL	LEFT INSTRUMENT PANEL SPEAKER (-)
9	A116 18YL/RD	FUSED B(+)
10	-	-
11	-	-
12	X205 18GY/LG	LEFT REAR SPEAKER (+)
13	X296 18DG/GY	RIGHT REAR SPEAKER (-)
14	X206 18DG/LG	RIGHT REAR SPEAKER (+)
15	X156 18GY/LB	RIGHT FRONT DOOR SPEAKER (-)
16	X155 18DG/LB	LEFT FRONT DOOR SPEAKER (-)
17	X298 18GY/LG	RIGHT INSTRUMENT PANEL SPEAKER (-)
18	X209 18GY/OR	LEFT INSTRUMENT PANEL SPEAKER (+)



AUTOMATIC
DAY/NIGHT
MIRROR C1
(EXCEPT BASE)

AUTOMATIC DAY/NIGHT MIRROR C1 (EXCEPT BASE) - 7 WAY

CAV	CIRCUIT	FUNCTION
1	F21 20PK/DG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	Z13 20BK/WT	GROUND
3	L1 20WT/LG	BACKUP LAMP FEED
4	-	-
5	-	-
6	-	-
7	-	-

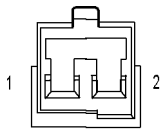


AUTOMATIC
DAY/NIGHT
MIRROR C2
(TELEMATICS)

AUTOMATIC DAY/NIGHT MIRROR C2 (TELEMATICS) - 12 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	X722 20LB/DG	MICROPHONE 2 IN (+)
5	X735 20BR	HANDSFREE MICROPHONE SHIELD
6	X712 20DG/LB	MICROPHONE 1 IN (+)
7	X793 20DG/YL	HANDSFREE MICROPHONE HSD FEED
8	-	-
9	X730 20GY/YL	VOICE RECOGNITION/PHONE SWITCH SIGNAL
10	-	-
11	X835 20OR/GY	SENSOR GROUND
12	X792 20LB/DG	MICROPHONE IN (-)

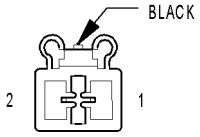
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BLEND DOOR ACTUATOR (SINGLE ZONE)

BLEND DOOR ACTUATOR (SINGLE ZONE) - 2 WAY

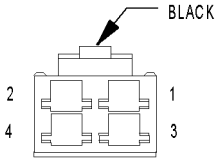
CAV	CIRCUIT	FUNCTION
1	C34 20DB/LB	COMMON DOOR DRIVER
2	C61 20DB/LG	BLEND DOOR DRIVER



BLOWER MOTOR

BLOWER MOTOR - BLACK 2 WAY

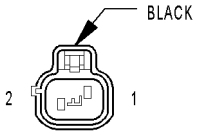
CAV	CIRCUIT	FUNCTION
1	C70 10DB/YL	BLOWER MOTOR HIGH DRIVER
2	C7 10DB	BLOWER MOTOR FEED



BLOWER MOTOR RESISTOR BLOCK

BLOWER MOTOR RESISTOR BLOCK - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	C72 16DB/OR	BLOWER MOTOR M1 DRIVER
2	C70 12DB/YL	BLOWER MOTOR HIGH DRIVER
3	C71 16DB/BR	BLOWER MOTOR LOW DRIVER
4	C73 14DB/VT	BLOWER MOTOR M2 DRIVER

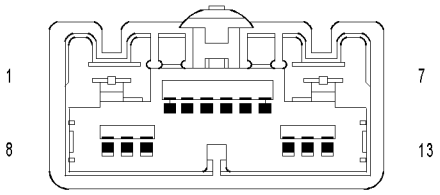


BRAKE TRANSMISSION SHIFT INTERLOCK SOLENOID

BRAKE TRANSMISSION SHIFT INTERLOCK SOLENOID - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	K32 18DB/YL	BRAKE TRANSMISSION SHIFT INTERLOCK SOLENOID CONTROL
2	Z101 18BK/VT	GROUND

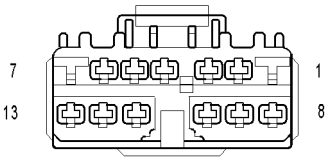
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C200

C200 - (HVAC SIDE)

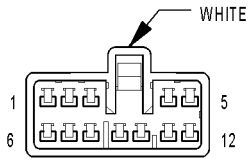
CAV	CIRCUIT
1	C70 10DB/YL
2	C34 20DB/LB
3	C71 16DB/BR
4	C32 20DB/TN
5	C73 14DB/VT
6	C72 16DB/OR
7	C7 10DB
8	C29 20DB
9	C21 20DB/LG (EXCEPT BASE A/C)
10	C121 20DB/DG
11	C33 20LB/BR
12	C61 20DB/LG
12	C33 20LB/BR (DUAL ZONE)
13	C801 20DB/OR



C200

C200 - (I/P SIDE)

CAV	CIRCUIT
1	C70 10DB/YL
2	C34 20DB/LB
3	C71 16DB/BR
4	C32 20DB/TN
5	C73 14DB/VT
6	C72 16DB/OR
7	C7 10DB
8	C29 20DB
9	C21 20DB/LG
10	C121 20DB/DG
11	C61 20DB/LG
12	C33 20LB/BR (SLT)
13	C801 20DB/OR

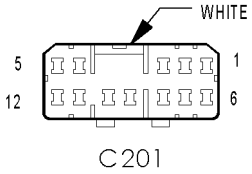


C201

C201 - WHITE (HEADLINER SIDE)

CAV	CIRCUIT
1	D25 20WT/VT (PREMIUM)
2	Z13 20BK/WT (PREMIUM)
3	L50 20WT/TN
4	Z350 20BK/TN
5	A919 20RD (PREMIUM)
6	F21 20PK/DG (PREMIUM)
7	L14 20WT/TN
8	Z964 20BK
9	M20 20YL/LB
10	M22 20YL/OR (PREMIUM)
11	L1 20WT/LG (PREMIUM)
12	M288 20YL/GY (PREMIUM)

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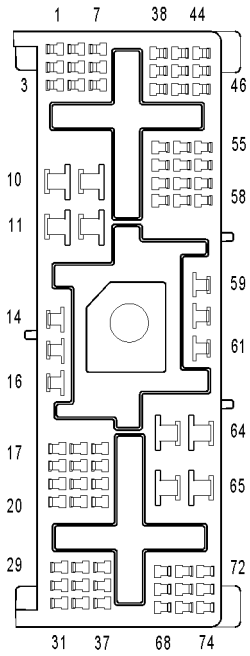


C201

C201 - WHITE (I/P SIDE)

CAV	CIRCUIT
1	D25 20WT/VT (PREMIUM)
2	Z13 18BK/WT
3	L50 18WT/TN
4	Z350 18BK/TN
5	A919 20RD (PREMIUM)
6	F21 20PK/DG
7	L14 20WT/TN
8	Z964 18BK
9	M20 20YL/LB
10	M22 20YL/OR
11	L1 20WT/LG
12	M288 18YL/GY

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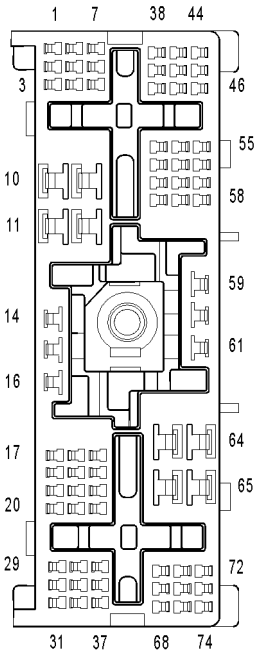


C219

C219 - (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	C110 20DB/LB (TRAILER TOW)
2	D15 18WT/DG (NGC)
3	L50 18WT/TN
4	F1 16PK/WT (NGC)
5	D21 20WT/BR
6	A103 18GY/RD
7	T751 16YL
8	D20 20WT/LG
9	E11 20OR/DB (ELECTRONIC TRANSFER CASE)
10	A970 10RD
11	A991 10RD (TRAILER TOW)
12	-
13	-
14	-
15	-
16	V38 20VT/OR (5.7L)
17	V37 20VT
18	T6 20DG (GAS/DIESEL A/T)
19	L70 18WT/GY
20	F21 20PK/DG
21	V32 20VT/YL
22	-
23	A921 16RD
24	B25 20DG/WT
25	F202 20PK/GY (5.7L)
25	V30 20VT/WT (GAS EXCEPT 5.7L/ DIESEL A/T)
26	A114 18GY/RD
27	L1 18WT/LG
28	-
29	-
30	V937 20VT/BR (5.7L)
30	K900 20DB/DG (EXCEPT 5.7L)
31	A944 20RD
32	F504 20GY/PK
33	A941 18RD
34	-
35	-
36	F984 18PK/YL
37	-
38	F951 16PK/LG
39	T917 20YL/TN (DIESEL A/T)
40	-
41	A951 16RD
42	F202 20PK/GY
43	A72 18RD/OR (TRAILER TOW)
44	D16 18WT/OR (GAS)
45	-
46	K77 18BR/WT (MAUAL TRANSFER CASE)
47	T117 20DG/YL (MANUAL TRANSFER CASE EXCEPT NGC)
48	A205 18RD/OR
49	A116 18YL/RD
50	-
51	-
52	-
53	R79 20LB/VT (NGC EXCEPT 5.7L ABS)
54	R81 20LB/WT (NGC EXCEPT 5.7L ABS)
55	-
56	F100 18PK/VT
57	R80 20VT/LB (NGC EXCEPT 5.7L ABS)
58	R82 20WT/LB (NGC EXCEPT 5.7L ABS)
59	-
60	A981 14RD
61	F982 14PK/YL
62	-
63	-
64	-
65	-
66	F922 16PK/YL
67	F201 18PK/OR
68	L89 18WT/YL (TRAILER TOW)
69	B29 20DG/WT
70	A919 20RD
71	-
72	D25 20VT/PK
73	F983 20PK/YL
74	-

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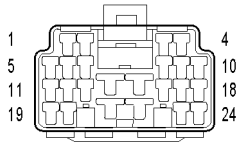


C219

C219 - (I/P SIDE)

CAV	CIRCUIT
1	C110 20DB/LB (EXCEPT BASE)
2	D15 18WT/DG
3	L50 18WT/TN
4	F1 16PK/WT
5	D21 18WT/BR
6	A103 18GY/RD
7	T751 16YL
8	D20 20WT/LG
9	E11 20OR/DB (EXCEPT BASE)
10	A970 10RD
11	A991 10RD
12	-
13	-
14	-
15	-
16	-
16	V38 20VT/OR
17	V37 20VT
18	T6 20DG
19	L70 18WT/GY
20	F21 20PK/DG
21	V32 20VT/YL
22	-
23	A921 16RD
24	B25 20DG/WT
25	V30 20VT/WT
26	A114 18GY/RD
27	L1 20WT/LG
28	-
29	-
30	V937 20VT/BR
31	A944 20RD
32	F504 20GY/PK
33	A941 18RD
34	-
35	-
36	F984 18PK/YL
37	-
38	F951 16PK/LG
39	T917 20YL/TN
40	-
41	A951 16RD
42	F202 20PK/GY (EXCEPT BASE)
43	A72 18RD/OR (EXCEPT BASE)
44	D16 18WT/OR
45	-
46	K77 18BR/WT
47	T117 20DG/YL
48	A205 18RD/OR
49	A116 18YL/RD
50	-
51	-
52	-
53	
54	
55	-
56	F100 18PK/VT
57	
58	
59	-
60	A981 14RD
61	F982 14PK/YL
62	-
63	-
64	-
65	-
66	F922 16PK/YL
67	F201 18PK/OR
68	L89 20WT/YL (EXCEPT BASE)
69	B29 20DG/WT
70	A919 20RD
71	-
72	D25 20WT/VT
73	F983 20PK/YL
74	-

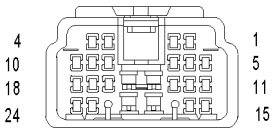
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C220

C220 - (I/P SIDE)

CAV	CIRCUIT
1	F983 20PK/YL
2	X295 18GY/DG
3	-
4	X153 18DG/YL
5	G75 20VT
6	G77 20VT/GY
7	X155 18DG/LB
8	G10 20VT/LG
9	G163 20VT/LB (SLT)
10	X205 18GY/LG
11	P5 18TN/OR (SLT)
12	F100 18PK/VT
13	F201 18PK/OR
14	-
15	-
16	-
17	P393 18LG (SLT)
18	G161 20VT/DG (SLT)
19	-
20	P1 18TN/LG (SLT)
21	-
22	F30 12PK/YL (SLT)
23	-
24	-

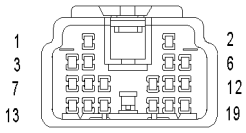


C220

C220 - NATURAL (BODY SIDE)

CAV	CIRCUIT
1	F983 20PK/YL
2	X295 18GY/DG
3	-
4	X153 18DG/YL
5	G75 20VT
6	G77 20VT/OR
7	X155 18DG/LB
8	G10 20VT/LG
9	G163 20VT/LB (SLT)
10	X205 18GY/LG
11	P5 18TN/OR (SLT)
12	F100 18PK/VT
13	F201 18PK/OR
14	-
15	-
16	-
17	P393 18LG (SLT)
18	G161 20VT/DG (SLT)
19	-
20	P1 18TN/LG (SLT)
21	-
22	F30 12PK/YL (SLT)
23	-
24	-

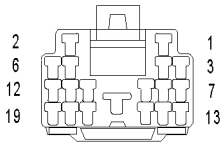
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C308

C308 - (BODY SIDE)

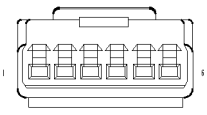
CAV	CIRCUIT
1	G74 20VT/WT
2	G162 20VT/LB (SLT)
3	D25 20WT/VT
4	X154 18GY/YL
5	G160 20VT/LG (SLT)
6	G76 20TN/YL
7	F201 18PK/OR
8	P392 18LG/DB (SLT)
9	G778 18VT/LB (SLT)
10	F21 20PK/DG (SLT)
11	-
12	-
13	-
14	X206 18DG/LG
15	X296 18DG/GY
16	-
17	-
18	Z105 18BK
19	X156 18GY/LB



C308

C308 - (I/P SIDE)

CAV	CIRCUIT
1	G74 20VT/WT
2	-
3	-
4	X154 18GY/YL
5	G160 20VT/LG (SLT)
6	G76 20VT/YL
7	-
8	P392 18LG/DB (SLT)
9	G778 18VT/LB (SLT)
10	F21 20PK/DG
11	-
12	-
13	-
14	X206 18DG/LG
15	X296 18DG/GY
16	-
17	-
18	-
19	X156 18GY/LB

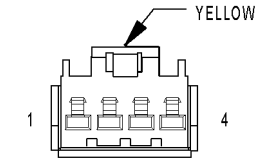


CLOCKSPRING-C1

CLOCKSPRING C1 - 6 WAY

CAV	CIRCUIT	FUNCTION
1	Z909 20BK (DSAB ETC)	GROUND
2	X20 20GY/WT (DSAB ETC)	RADIO CONTROL MUX
3	V38 20VT/OR	S/C SWITCH NO. 2 SIGNAL
4	V37 20VT	S/C SWITCH NO. 1 SIGNAL
5	V937 20VT/BR	S/C SWITCH RETURN
6	X3 20DG/VT	HORN SWITCH SENSE

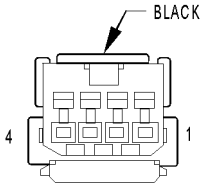
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CLOCKSPRING C2

CLOCKSPRING C2 - YELLOW 4 WAY

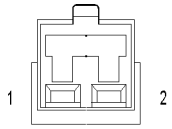
CAV	CIRCUIT	FUNCTION
1	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
2	R63 20LG/WT	DRIVER SQUIB 2 LINE 2
3	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
4	R45 20LG/OR	DRIVER SQUIB 1 LINE 2



CLOCKSPRING C3

CLOCKSPRING C3 - BLACK 4 WAY

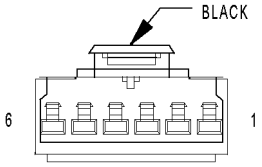
CAV	CIRCUIT	FUNCTION
1	X3 20DG/VT	HORN SWITCH SENSE
2	V937 20VT/BR	S/C SWITCH RETURN
3	V37 20VT	S/C SWITCH NO. 1 SIGNAL
4	V38 20VT/OR (DSAB ETC)	S/C SWITCH NO. 2 SIGNAL



CLOCKSPRING C2

CLOCKSPRING C4 - 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z909 22BK	GROUND
2	X20 22GY/WT	RADIO CONTROL MUX

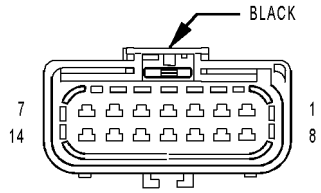


COMPASS/MINI-TRIP COMPUTER (EXCEPT BASE)

COMPASS/MINI-TRIP COMPUTER (EXCEPT BASE) - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	F21 20PK/DG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	Z13 20BK/WT	GROUND
4	A919 20RD	FUSED B(+)
5	D25 20WT/VT	PCI BUS
6	-	-

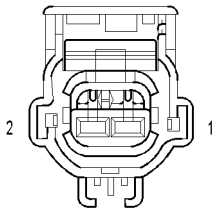
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CONTROLLER ANTILOCK BRAKE C1

CONTROLLER ANITLOCK BRAKE C1 - BLACK 14 WAY

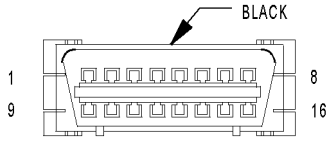
CAV	CIRCUIT	FUNCTION
1	B4 20DG/GY	REAR WHEEL SPEED SENSOR (+)
2	B222 20DG/WT (ETC)	VEHICLE SPEED SIGNAL NO. 2
3	D25 20WT/VT	PCI BUS
4	F500 20DG/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
5	B9 20DG/LG (ETC)	LEFT FRONT WHEEL SPEED SENSOR (+)
6	Z107 12BK/DG	GROUND
7	A111 14DG/RD	FUSED B(+)
8	B3 20DG/YL	REAR WHEEL SPEED SENSOR (-)
9	B29 20DG/WT	BRAKE SWITCH SIGNAL
10	B8 20DG/TN (ETC)	LEFT FRONT WHEEL SPEED SENSOR (-)
11	B20 20DG/OR	BRAKE FLUID LEVEL SWITCH SENSE
12	B22 20DG/YL	VEHICLE SPEED SIGNAL NO. 1
13	Z127 12BK/DG (ABS)	GROUND
14	A111 14DG/RD (ABS)	FUSED B(+)



CYLINDER LOCK SWITCH-DRIVER (PREMIUM)

CYLINDER LOCK SWITCH-DRIVER (PREMIUM) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	G163 20VT/LB	DRIVER CYLINDER LOCK SWITCH MUX
2	Z463 20BK/LB	GROUND

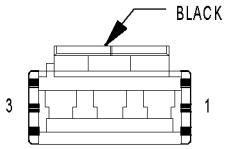


DATA LINK CONNECTOR

DATA LINK CONNECTOR - BLACK 16 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20WT/VT	PCI BUS
3	-	-
4	Z11 18BK/LG	GROUND
5	Z111 18BK/WT	GROUND
6	-	-
7	D21 18WT/BR	SCI TRANSMIT (PCM)
8	-	-
9	D16 18WT/OR	SCI RECEIVE (TCM)
10	-	-
11	-	-
12	D20 20WT/LG	SCI RECEIVE (PCM)
13	-	-
14	-	-
15	D15 18WT/DG	SCI TRANSMIT (TCM)
16	A114 18GY/RD	FUSED B(+)

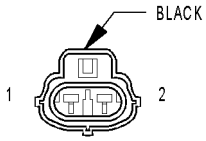
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DOME LAMP

DOME LAMP - BLACK 3 WAY

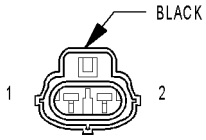
CAV	CIRCUIT	FUNCTION
1	-	-
2	M20 20YL/LB	COURTESY LAMPS DRIVER
3	Z964 20BK	GROUND



DOOR AJAR SWITCH-DRIVER

DOOR AJAR SWITCH-DRIVER - BLACK 2 WAY

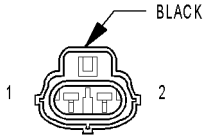
CAV	CIRCUIT	FUNCTION
1	G75 20VT	DRIVER DOOR AJAR SWITCH SENSE
2	Z75 20BK/VT	GROUND



DOOR AJAR SWITCH-LEFT REAR

DOOR AJAR SWITCH-LEFT REAR - BLACK 2 WAY

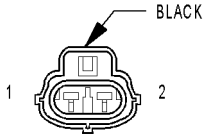
CAV	CIRCUIT	FUNCTION
1	G77 20VT/GY	LEFT REAR DOOR AJAR SWITCH SENSE
2	Z79 20LG/BK	GROUND



DOOR AJAR SWITCH-PASSENGER

DOOR AJAR SWITCH-PASSENGER - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	G74 20VT/WT	PASSENGER DOOR AJAR SWITCH SENSE
2	Z74 20BK/WT	GROUND

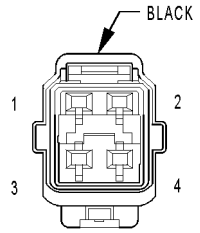


DOOR AJAR SWITCH-RIGHT REAR

DOOR AJAR SWITCH-RIGHT REAR - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	G76 20VT/GY	RIGHT REAR DOOR AJAR SWITCH SENSE
2	Z72 20LG/BK	GROUND

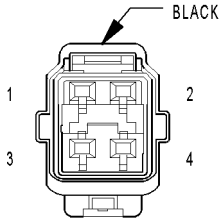
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DOOR LOCK MOTOR/
AJAR SWITCH-DRIVER

DOOR LOCK MOTOR/AJAR SWITCH-DRIVER - BLACK 4 WAY

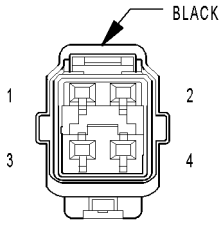
CAV	CIRCUIT	FUNCTION
1	G75 20VT	DRIVER DOOR AJAR SWITCH SENSE
2	Z75 20BK/VT	GROUND
3	P1 18TN/LG	DOOR UNLOCK DRIVER LEFT FRONT
4	P393 18LG	DOOR LOCK DRIVER LEFT DOORS



DOOR LOCK MOTOR/
AJAR SWITCH-
LEFT REAR

DOOR LOCK MOTOR/AJAR SWITCH-LEFT REAR - BLACK 4 WAY

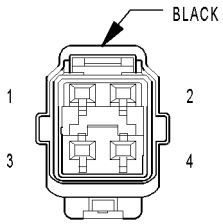
CAV	CIRCUIT	FUNCTION
1	G77 20VT/GY	LEFT REAR DOOR AJAR SWITCH SENSE
2	Z79 20LG/BK	GROUND
3	P5 18TN/OR	DOOR UNLOCK DRIVER LEFT REAR
4	P393 18LG	DOOR LOCK DRIVER LEFT DOORS



DOOR LOCK MOTOR/
AJAR SWITCH-
PASSENGER

DOOR LOCK MOTOR/AJAR SWITCH-PASSENGER - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	G74 20VT/WT	PASSENGER DOOR AJAR SWITCH SENSE
2	Z74 20BK/WT	GROUND
3	G778 18VT/LB	DOOR UNLOCK DRIVER RIGHT DOORS
4	P392 18LG/DB	DOOR LOCK DRIVER RIGHT DOORS

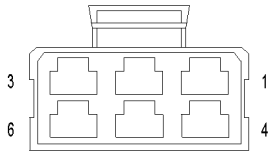


DOOR LOCK MOTOR/
AJAR SWITCH-
RIGHT REAR

DOOR LOCK MOTOR/AJAR SWITCH-RIGHT REAR - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	G76 20VT/GY (VIRTUAL)	RIGHT REAR DOOR AJAR SWITCH SENSE
2	Z72 20LG/BK (VIRTUAL)	GROUND
3	G778 18TN/OR (VIRTUAL)	DOOR UNLOCK DRIVER RIGHT DOORS
4	P392 18LG (VIRTUAL)	DOOR LOCK DRIVER RIGHT DOORS

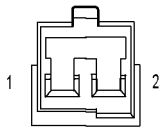
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DOOR
LOCK
SWITCH-PASSENGER

DOOR LOCK SWITCH-PASSENGER - 6 WAY

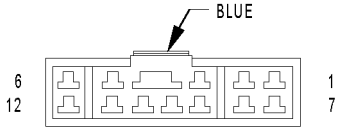
CAV	CIRCUIT	FUNCTION
1	G160 20VT/LG	PASSENGER DOOR LOCK SWITCH MUX
2	F21 20PK/DG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	-	-
4	-	-
5	Z461 20BK/DG	GROUND
6	-	-



DRIVER
BLEND
DOOR
ACTUATOR
(DUAL ZONE)

DRIVER BLEND DOOR ACTUATOR (DUAL ZONE)

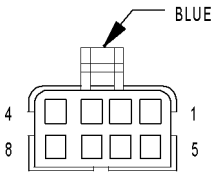
CAV	CIRCUIT	FUNCTION
1	C61 20DB/LG	BLEND DOOR DRIVER
2	C34 20DB/LB	COMMON DOOR DRIVER



DRIVER
DOOR
MODULE C1

DRIVER DOOR MODULE C1 - BLUE 12 WAY

CAV	CIRCUIT	FUNCTION
1	Q612 14OR/DB	RIGHT REAR WINDOW DRIVER (DOWN)
2	Q412 14OR/LB	RIGHT REAR WINDOW DRIVER (UP)
3	Q16 14OR/TN	MASTER WINDOW SWITCH RIGHT FRONT (UP)
4	Q411 14OR/WT	LEFT REAR WINDOW DRIVER (UP)
5	Q11 14OR/LG	LEFT FRONT WINDOW DRIVER (UP)
6	Q26 14OR/GY	MASTER WINDOW SWITCH RIGHT FRONT (DOWN)
7	G161 20VT/DG	DRIVER DOOR LOCK SWITCH MUX
8	Z421 14BK/BR	GROUND
9	F30 14PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	Q611 14OR/GY	LEFT REAR WINDOW DRIVER (DOWN)
11	Z941 20BK	GROUND
12	Q21 14OR/WT	LEFT FRONT WINDOW DRIVER (DOWN)

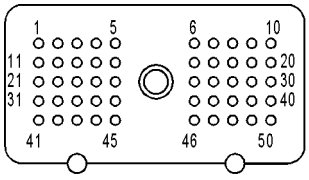


DRIVER
DOOR
MODULE C2

DRIVER DOOR MODULE C2 - BLUE 8 WAY

CAV	CIRCUIT	FUNCTION
1	P71 18TN/DG	LEFT MIRROR UP DRIVER
2	P195 18LG/YL	LEFT MIRROR COMMON DRIVER (RIGHT/DOWN)
3	A930 18RD	FUSED B(+)
4	P74 18TN/OR	RIGHT MIRROR LEFT DRIVER
5	Z461 20BK/DG	GROUND
6	P75 18TN/LG	LEFT MIRROR LEFT DRIVER
7	P72 18TN/GY	RIGHT MIRROR UP DRIVER
8	Q15 14OR/LB	POWER WINDOW SWITCH FEED

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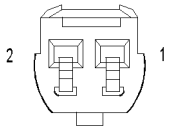


ENGINE CONTROL
MODULE C2
(DIESEL)

ENGINE CONTROL MODULE C2 (DIESEL) - 50 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	K615 18VT/WT	INLET AIR TEMPERATURE SENSE
3	K615 18BR/WT (M/T)	INLET AIR TEMPERATURE SENSE
4	V35 18VT/OR (A/T)	S/C VENT CONTROL
5	K176 18BR/OR	INTAKE AIR HEATER RELAY NO 2 CONTROL
6	K174 18BR/YL	INTAKE AIR HEATER RELAY NO 1 CONTROL
7	V32 18VT/YL (A/T)	SPEED CONTROL SUPPLY
8	-	-
9	T41 18YL/DB (A/T)	PARK/NEUTRAL POSITION SWITCH SENSE (T41)
10	K161 18BR/LB	FAN SPEED SENSOR
11	B22 18DG/YL	VEHICLE SPEED SENSOR SIGNAL NO. 1
12	G6 18VT/GY	OIL PRESSURE SIGNAL
13	T6 18DG (A/T)	TOW/HAUL OVERDRIVE OFF SWITCH SENSE
14	T118 18DG (A/T)	GOVERNOR PRESSURE SOLENOID CONTROL
15	T9 18DG/TN (A/T)	3-4 SOLENIOD CONTROL
16	D21 18WT/BR	SCI TRANSMIT (PCM)
16	D21 18PK (M/T)	SCI TRANSMIT
17	-	-
18	T38 18YL/BR (A/T)	GOVERNOR PRESSURE SENSOR SIGNAL
19	D20 18WT/LG	SCI RECEIVE (PCM)
20	A209 16RD	FUSED B(+)
21	Z902 16BK	GROUND
22	-	-
23	F856 18YL/PK	5 VOLT SUPPLY
24	K900 18DB/DG	SENSOR GROUND
25	T75 18YL/LB (A/T)	TORQUE CONVERTER CLUTCH SOLENOID CONTROL
26	N4 18DB/WT	FUEL LEVEL SENSOR SIGNAL
27	-	-
28	D25 18WT/VT	PCI BUS
29	T54 18DG/OR (A/T)	TRANSMISSION TEMPERATURE SENSOR SIGNAL
30	A209 16RD	FUSED B(+)
31	T515 18YL/DB (A/T)	TRANSMISSION CONTROL RELAY CONTROL
32	F202 18PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)
33	K854 18VT/BR (M/T)	5 VOLT SUPPLY
34	V36 18VT/YL (A/T)	S/C VACUUM CONTROL
35	K616 18BR/YL	INLET AIR PRESSURE SENSE
36	V32 18VT/YL (M/T)	SPEED CONTROL SUPPLY
37	B29 18DG/WT	BRAKE SWITCH SIGNAL
38	-	-
39	-	-
40	A209 16RD	FUSED B(+)
41	C13 18LB/OR	A/C CLUTCH RELAY CONTROL
42	-	-
43	K160 18BR/OR	PARK LOCKOUT SOLENOID CONTROL
44	T14 18DG/BR (A/T)	OUTPUT SPEED SENSOR SIGNAL
45	T13 18DG/VT (A/T)	SENSOR GROUND
46	V37 18VT	S/C SWITCH NO. 1 SIGNAL
47	K25 18DB/VT	BATT TEMP SIGNAL
48	K400 18BR/VT (M/T)	APPS NO.2 RETURN
49	Z902 16BK	GROUND
50	Z902 16BK	GROUND

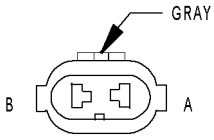
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EVAPORATOR TEMPERATURE SENSOR

EVAPORATOR TEMPERATURE SENSOR - 2 WAY

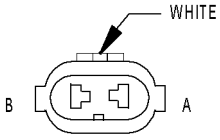
CAV	CIRCUIT	FUNCTION
1	C121 20DB/DG	SENSOR GROUND
2	C21 20DB/LG	EVAPORATOR TEMPERATURE SENSOR SIGNAL



FOG LAMP-LEFT

FOG LAMP-LEFT - GRAY 2 WAY

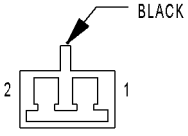
CAV	CIRCUIT	FUNCTION
A	Z926 18BK	GROUND
B	L89 18WT/YL	FOG LAMP RELAY OUTPUT



FOG LAMP-RIGHT

FOG LAMP-RIGHT - WHITE 2 WAY

CAV	CIRCUIT	FUNCTION
A	Z926 18BK	GROUND
B	L89 18WT/YL	FOG LAMP RELAY OUTPUT

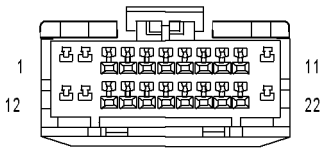


GLOVE BOX LAMP AND SWITCH

GLOVE BOX LAMP AND SWITCH - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z328 20BK/TN	GROUND
2	M228 18YL/LB	COURTESY LAMP DRIVER

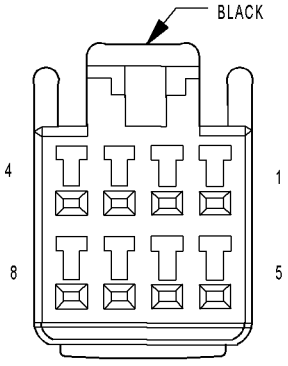
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HANDS FREE MODULE (TELEMATICS)

HANDS FREE MODULE (TELEMATICS) - 22 WAY

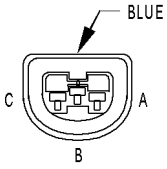
CAV	CIRCUIT	FUNCTION
1	A114 18GY/RD	FUSED B(+)
2	F983 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	-	-
4	-	-
5	X722 18LB/DG	MICROPHONE 2 IN (+)
6	-	-
7	-	-
8	X703 18DG/OR	LEFT AUDIO OUTPUT
9	X704 18DG/YL	RIGHT AUDIO OUTPUT
10	X795 18DG	HANDS FREE AUDIO OUTPUT COMMON
11	-	-
12	-	-
13	-	-
14	D25 20WT/VT	PCI BUS
15	X730 18GY/YL	VOICE RECOGNITION/PHONE SWITCH SIGNAL
16	X712 18DG/LB	MICROPHONE 1 IN (+)
17	X792 18LB/DG	MICROPHONE IN (-)
18	X735 22NA	HANDSFREE MICROPHONE SHIELD
19	-	-
20	X793 18DG/YL	HANDSFREE MICROPHONE HSD FEED
21	X835 18OR/GY	SENSOR GROUND
22	Z970 18BK	GROUND



HEADLAMP SWITCH

HEADLAMP SWITCH - BLACK 8 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	E19 20OR/BR	PANEL LAMPS DIMMER SIGNAL
4	Z407 20BK/OR	GROUND
5	L89 20WT/YL (FOG LAMPS)	FOG LAMP RELAY OUTPUT
6	E2 20OR/BR	PANEL LAMPS DIMMER SIGNAL
7	L115 20WT/YL	HEADLAMP SWITCH RETURN
8	L116 20WT/LG	HEADLAMP SWITCH SIGNAL



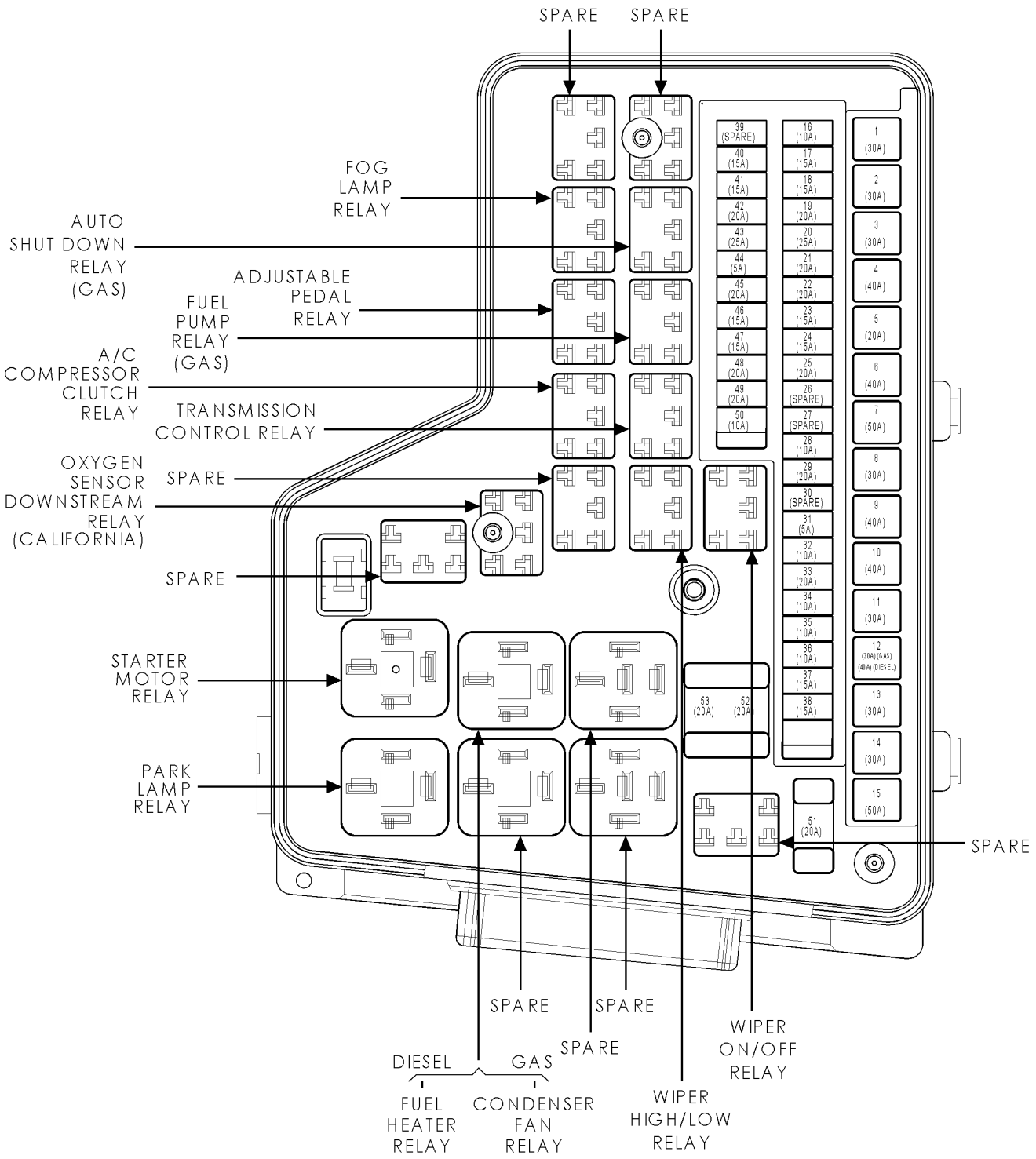
HEADLAMP-LEFT

HEADLAMP-LEFT - BLUE 3 WAY

CAV	CIRCUIT	FUNCTION
A	L43 18WT/DB	LEFT LOW BEAM OUTPUT
B	Z345 18BK/LB	GROUND
C	L33 18WT/LG	LEFT HIGH BEAM OUTPUT

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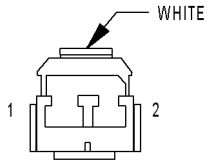
INTEGRATED POWER MODULE



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HEATED MIRROR RELAY - 5 WAY

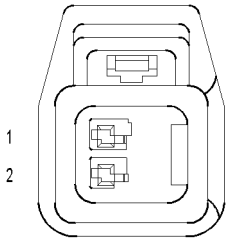
CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
86	C110 20DB/LB	DEFOGGER RELAY CONTROL
87	C16 16 DB/GY	HEATED MIRROR RELAY OUTPUT
87A	-	-



HORN SWITCH

HORN SWITCH - WHITE 2 WAY

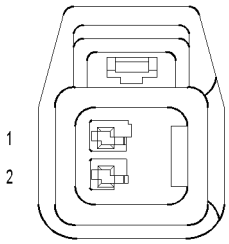
CAV	CIRCUIT	FUNCTION
1	X3 20DG/VT	HORN SWITCH SENSE
2	-	-



HORN-HIGH NOTE

HORN-HIGH NOTE - 2 WAY

CAV	CIRCUIT	FUNCTION
1	X2 18DG/OR	HORN RELAY OUTPUT
2	Z299 18BK/OR	GROUND

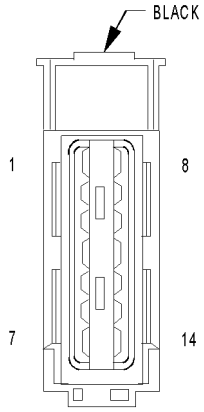


HORN-LOW NOTE

HORN-LOW NOTE - 2 WAY

CAV	CIRCUIT	FUNCTION
1	X2 18DG/OR	HORN RELAY OUTPUT
2	Z298 18BK/DB	GROUND

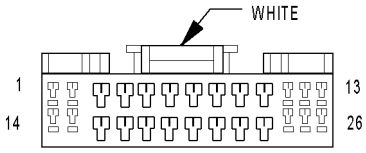
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IGNITION SWITCH

IGNITION SWITCH - BLACK 14 WAY

CAV	CIRCUIT	FUNCTION
1	A970 10RD	FUSED B(+)
2	F1 16PK/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
3	F951 16PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
4	A951 16RD	FUSED B(+)
5	G15 20VT/TN	KEY IN IGNITION SWITCH SENSE
6	Z943 20BK	GROUND
7	A921 16RD	FUSED B(+)
8	C7 10DB	BLOWER MOTOR FEED
9	F982 14PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	F991 10PK/YL (POWER WINDOWS)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
11	A981 14RD	FUSED B(+)
12	A991 10RD (POWER WINDOWS)	FUSED B(+)
13	T751 16YL	FUSED IGNITION SWITCH OUTPUT (START)
14	F922 16PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN)

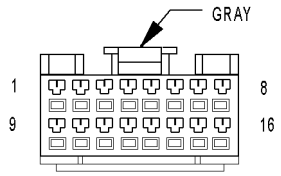


INSTRUMENT CLUSTER C1

INSTRUMENT CLUSTER C1 - WHITE 26 WAY

CAV	CIRCUIT	FUNCTION
1	P1 18TN/LG (SLT)	DOOR UNLOCK DRIVER LEFT FRONT
2	A941 18RD	FUSED B(+)
3	K32 18DB/YL	BTSI SOLENOID CONTROL
4	-	-
5	-	-
6	-	-
7	E16 20OR/GY	PANEL LAMPS DRIVER
8	E14 20OR/TN	PANEL LAMPS DRIVER
9	E19 20OR/BR	PANEL LAMPS DIMMER SIGNAL
10	P393 18LG (SLT)	DOOR LOCK DRIVER LEFT DOORS
11	P392 18LG/DB (SLT)	DOOR LOCK DRIVER RIGHT DOORS
12	-	-
13	Z921 18BK	GROUND
14	Z108 20BK/LG	GROUND
15	M288 18YL/GY	FUSED B(+)
16	P85 20LG/WT (SLT+)	HEATED SEAT SWITCH SUPPLY
17	M228 18YL/LB (SLT)	COURTESY LAMP DRIVER
18	L14 20WT/TN	CARGO LAMP DRIVER
19	P301 20LG/OR (SLT+)	PANEL LAMPS DRIVER
20	E11 20OR/DB (SLT)	PANEL LAMPS DRIVER
21	M20 20YL/LB	COURTESY LAMPS DRIVER
22	M22 20YL/OR	COURTESY LAMPS DRIVER
23	P5 18TN/OR (SLT)	DOOR UNLOCK DRIVER LEFT REAR
24	G778 18VT/LB (SLT)	DOOR UNLOCK DRIVER RIGHT DOORS
25	A944 20RD	FUSED B(+)
26	A944 20RD	FUSED B(+)

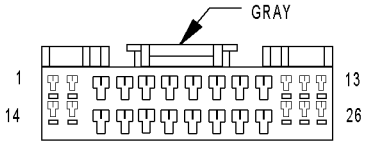
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INSTRUMENT CLUSTER C2

INSTRUMENT CLUSTER C2 - GRAY 16 WAY

CAV	CIRCUIT	FUNCTION
1	G194 20VT/LG	WASH/BEAM SELECT SWITCH SIGNAL
2	G160 20VT/LG (SLT)'	PASSENGER DOOR LOCK SWITCH MUX
3	G161 20VT/DG (SLT)	DRIVER DOOR LOCK SWITCH MUX
4	E2 20OR/BR	PANEL LAMPS DIMMER SIGNAL
5	L116 20WT/LG	HEADLAMP SWITCH SIGNAL
6	-	-
7	G163 20VT/LB (SLT)	DRIVER CYLINDER LOCK SWITCH MUX
8	L12 20WT/OR	TURN LAMPS SWITCH SIGNAL
9	-	-
10	W52 20BR/YL	INTERMITTENT WIPER SWITCH SIGNAL
11	T117 20DG/YL	TRANS RANGE SENSOR ELECTRONIC CLUSTER 5 VOLT SUPPLY
12	X20 20GY/WT (SLT PREMIUM RADIO)	RADIO CONTROL MUX
13	-	-
14	-	-
15	-	-
16	-	-



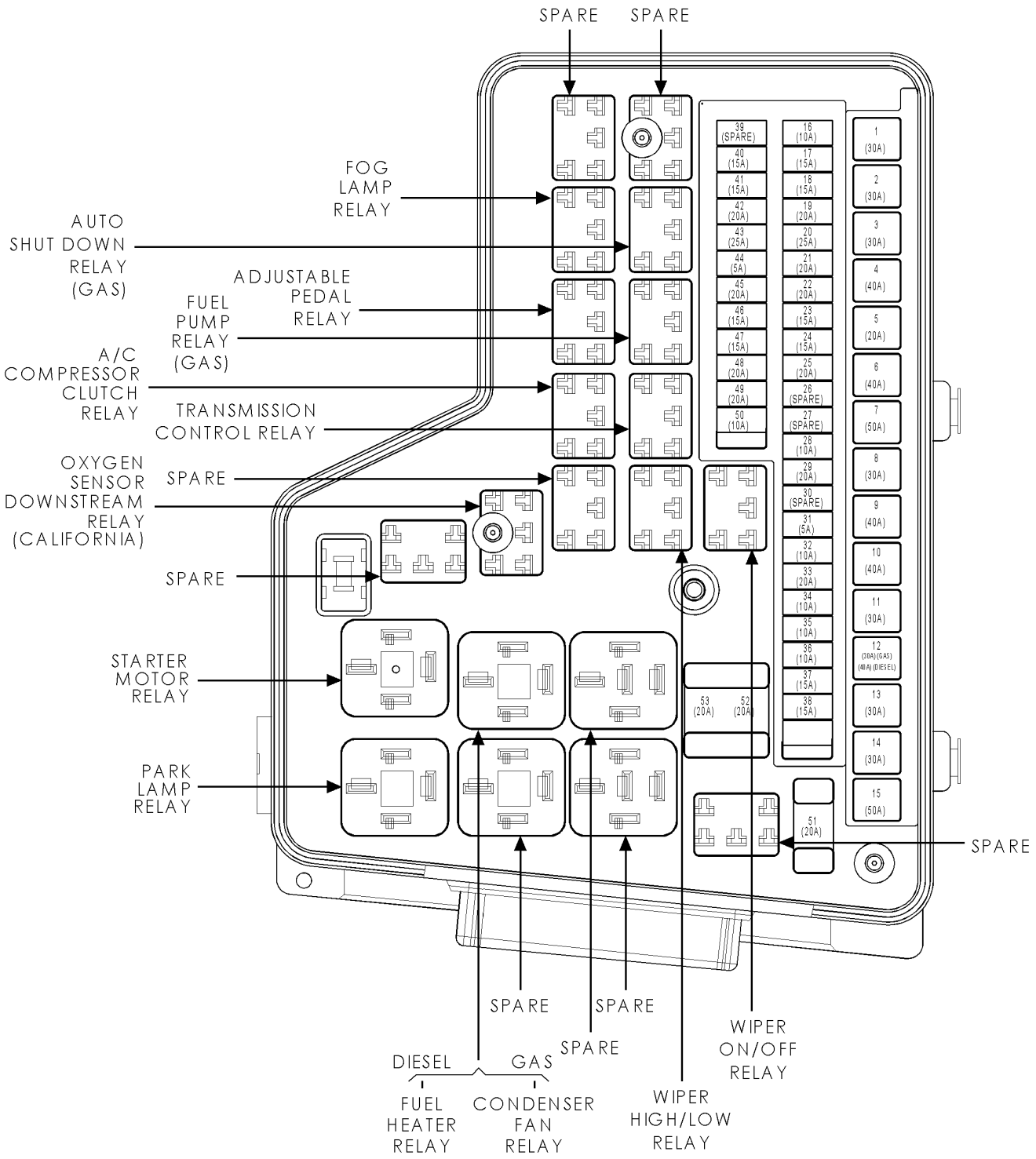
INSTRUMENT CLUSTER C3

INSTRUMENT CLUSTER C3 - GRAY 26 WAY

CAV	CIRCUIT	FUNCTION
1	G75 20VT	DRIVER DOOR AJAR SWITCH SENSE
2	G77 20VT/GY	LEFT REAR DOOR AJAR SWITCH SENSE
3	G76 20VT/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
4	G74 20VT/WT	PASSENGER DOOR AJAR SWITCH SENSE
5	-	-
6	-	-
7	K77 18BR/WT	TRANSFER CASE POSITION SENSOR INPUT
8	L900 20WT/YL	WIPER/TURN/BEAM SELECT SWITCH RETURN
9	L115 20WT/YL	HEADLAMP SWITCH RETURN
10	T917 20YL/TN	TRANS RANGE SENSOR ELECTRONIC CLUSTER MUX
11	-	-
12	-	-
13	Z18 20BK/LB	GROUND
14	X3 20DG/VT	HORN SWITCH SENSE
15	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
16	G15 20VT/TN	KEY IN IGNITION SWITCH SENSE
17	-	-
18	-	-
19	D25 20WT/VT	PCI BUS
20	G10 20VT/LG	SEAT BELT SWITCH SENSE
21	-	-
22	B25 20DG/WT	PARK BRAKE SWITCH SENSE
23	F983 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
24	F1 16PK/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
25	F21 20PK/DG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
26	A114 18GY/RD	FUSED B(+)

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INTEGRATED POWER MODULE



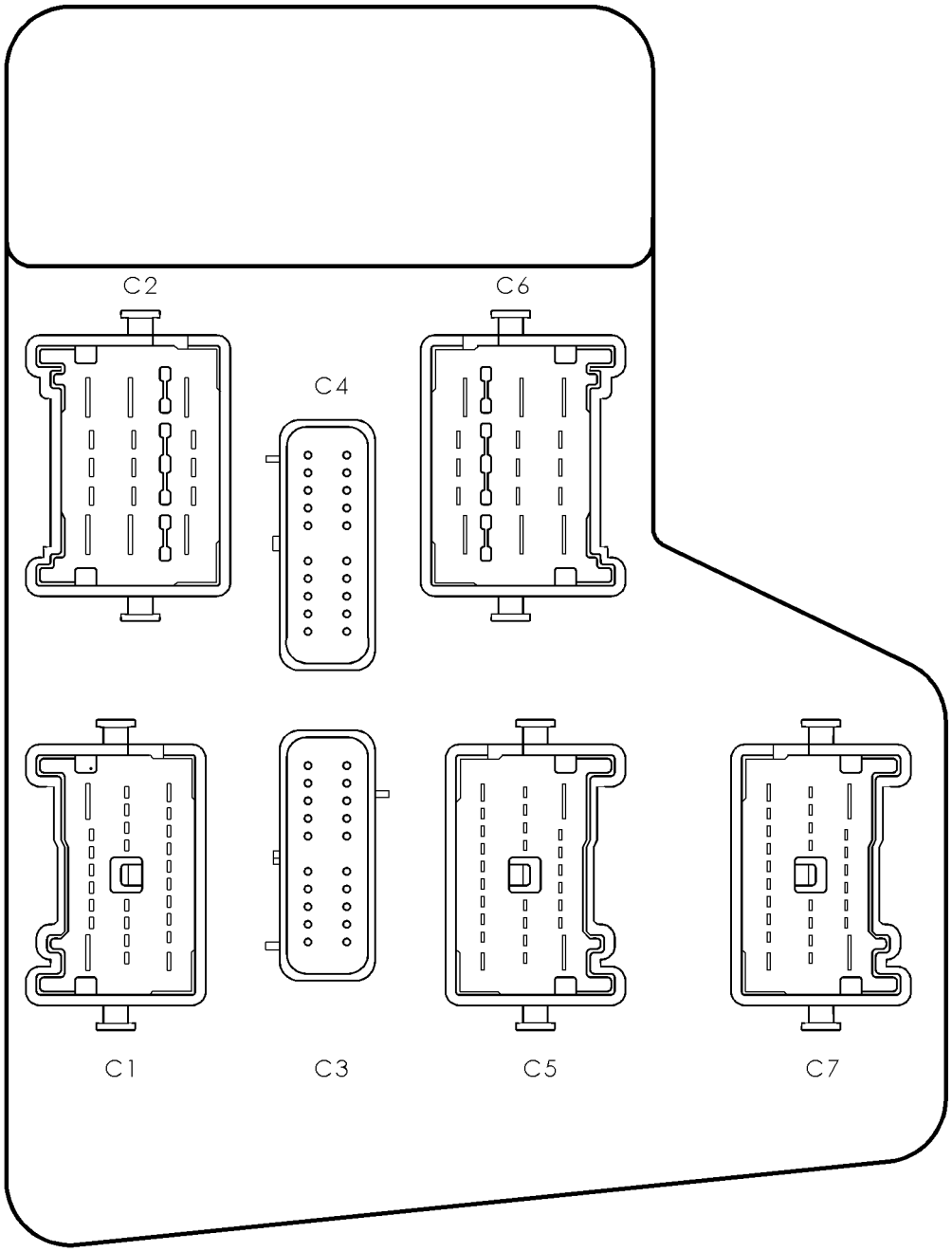
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INTEGRATED POWER MODULE (FCM) - 49 WAY

CAV	CIRCUIT	FUNCTION
1	L44 18WT/TN	RIGHT LOW BEAM DRIVER
2	L33 18WT/LG	LEFT HIGH BEAM DRIVER
3	INTERNAL	FUSED B(+)
4	INTERNAL	FUSED B(+)
5	W10 20BR	WASHER PUMP MOTOR SENSE
6	INTERNAL	FUSED B(+)
7	INTERNAL	FUSED B(+)
8	L34 18WT/GY	RIGHT HIGH BEAM DRIVER
9	L43 18WT/DB	LEFT LOW BEAM DRIVER
10	INTERNAL	FUSED B(+)
11	-	-
12	Z117 18BK/WT	GROUND
13	-	-
14	INTERNAL	TRAILER TOW LEFT TURN RELAY CONTROL
15	INTERNAL	PARK LAMP RELAY CONTROL
16	-	-
17	INTERNAL	WIPER ON/OFF RELAY CONTROL
18	INTERNAL	FOG LAMP RELAY CONTROL
19	L62 18WT/YL	RIGHT REAR TURN LAMP DRIVER
20	-	-
21	-	-
22	L1 18WT/LG	BACKUP LAMP FEED
23	-	-
24	-	-
25	-	-
26	-	-
27	Z116 18BK/VT	GROUND
28	W1 20BR/TN	WASHER FLUID SWITCH SENSE
29	G31 20VT/LG (DIESEL)	AAT SIGNAL
30	Z118 18BK/YL	GROUND
31	Z117 18BK/WT	GROUND
32	INTERNAL	HORN RELAY CONTROL
33	-	-
34	INTERNAL	TRAILER TOW RIGHT TURN RELAY CONTROL
35	INTERNAL	ADJUSTABLE PEDAL RELAY CONTROL
36	-	-
37	INTERNAL	WIPER SPEED RELAY CONTROL
38	D25 20VT/PK	PCI BUS
39	-	-
40	-	-
41	L54 18WT/LG	RIGHT STOP LAMP DRIVER
42	L61 18WT/LG	LEFT FRONT TURN LAMP DRIVER
43	L53 18DG/WT	LEFT STOP LAMP DRIVER
44	L63 18WT/DG	LEFT REAR TURN LAMP DRIVER
45	L60 18WT/TN	RIGHT FRONT TURN LAMP DRIVER
46	G180 20 VT/YL (DIESEL)	SENSOR GROUND
47	Z118 18BK/YL	GROUND
48	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
49	W7 20BR/GY	WIPER PARK SWITCH SENSE

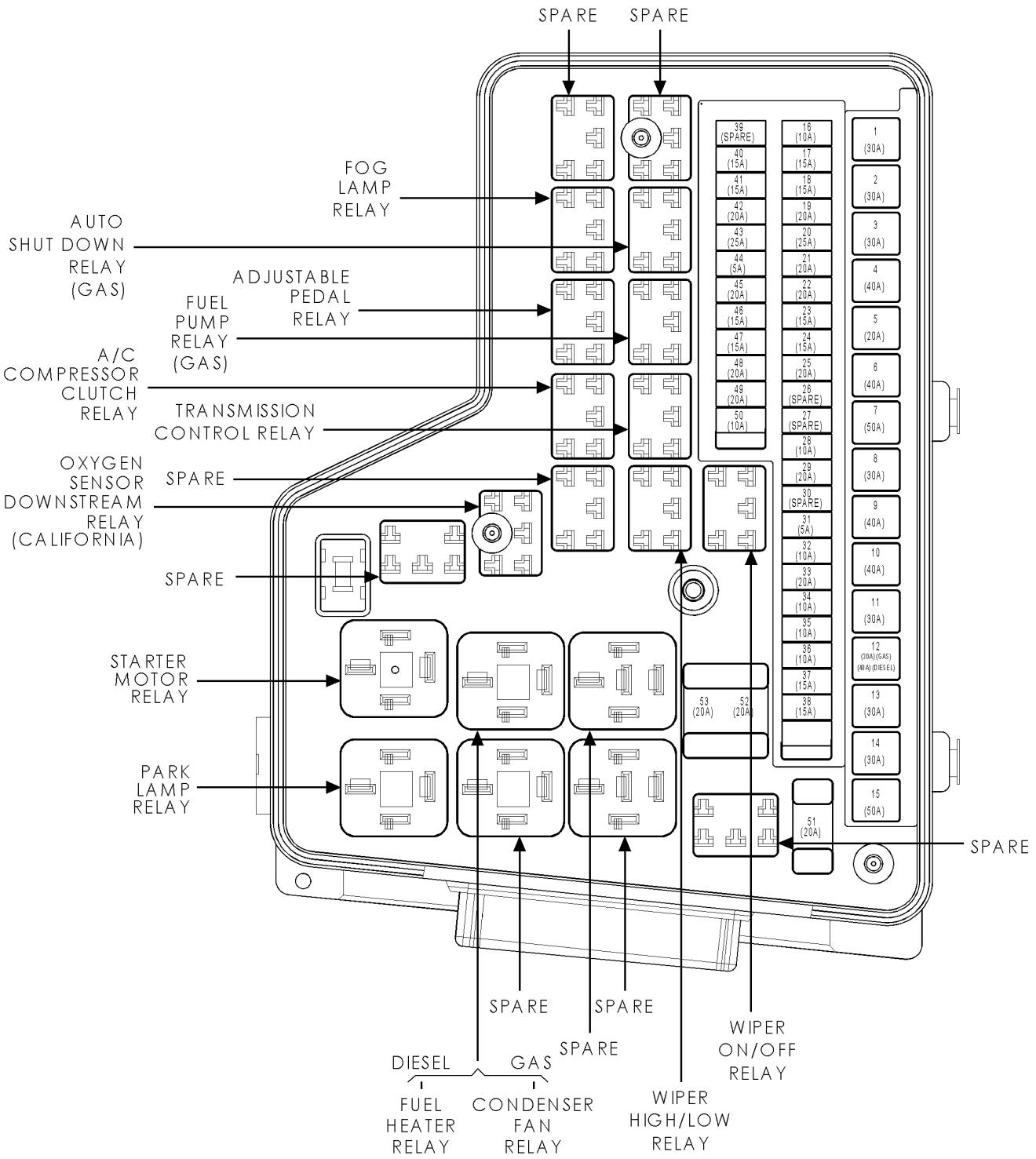
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INTEGRATED POWER MODULE
(REAR VIEW)



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INTEGRATED POWER MODULE



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FOG LAMP RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	FOG LAMP RELAY CONTROL
87	L89 18WT/YL	FOG LAMP RELAY OUTPUT
87A	-	-

HORN RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	HORN RELAY CONTROL
87	X2 18DG/OR	HORN RELAY OUTPUT
87A	-	-

WIPER HIGH/LOW RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	WIPER CONTROL
85	INTERNAL	WIPER HIGH/LOW RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	W4 16BR/OR	WIPER RELAY HIGH SPEED OUTPUT
87A	W3 16BR/WT	WIPER RELAY LOW SPEED OUTPUT

PARK LAMP RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	PARK LAMP RELAY CONTROL
87	INTERNAL	PARK LAMP RELAY OUTPUT
87A	-	-

TRAILER TOW LEFT TURN RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	TRAILER TOW LEFT TURN RELAY CONTROL
87	L673 18YL	TRAILER TOW LEFT TURN RELAY OUTPUT
87A	-	-

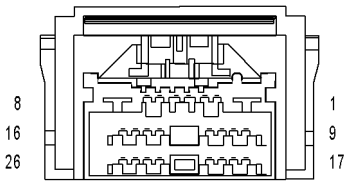
TRAILER TOW RIGHT TURN RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	TRAILER TOW RIGHT TURN RELAY CONTROL
87	L674 18LG	TRAILER TOW RIGHT TURN RELAY OUTPUT
87A	-	-

WIPER ON/OFF RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	WIPER CONTROL
85	INTERNAL	WIPER ON/OFF RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	Z920 12BK	GROUND

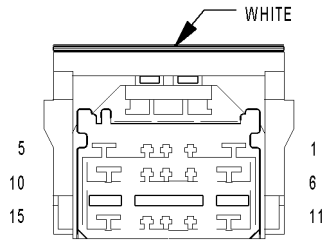
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INTEGRATED POWER MODULE C1

INTEGRATED POWER MODULE C1 - 26 WAY

CAV	CIRCUIT	FUNCTION
1	A960 14RD (DIESEL)	FUSED B(+)
1	A16 16RD/BR (NGC)	FUSED B(+)
2	F21 20PK/DG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	-	-
4	F500 20DG/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
5	L673 18YL	TRAILER TOW LEFT TURN RELAY OUTPUT
6	-	-
7	L674 18LG	TRAILER TOW RIGHT TURN RELAY OUTPUT
8	A981 14RD	FUSED B(+)
9	A114 18GY/RD	FUSED B(+)
10	L70 18WT/GY	FUSED PARK LAMP RELAY OUTPUT
11	F951 16PK/LG	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	A941 18RD	FUSED B(+)
13	A919 20RD	FUSED B(+)
14	X2 18DG/OR	HORN RELAY OUTPUT
15	-	-
16	A103 18GY/RD	FUSED B(+)
17	L678 18BR	PARK LAMP RELAY OUTPUT
18	-	-
19	L7 18WT/YL	FUSED PARK LAMP RELAY OUTPUT
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-

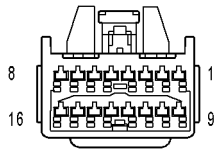


INTEGRATED POWER MODULE C2

INTEGRATED POWER MODULE C2 - WHITE 15 WAY

CAV	CIRCUIT	FUNCTION
1	A991 10RD	FUSED B(+)
2	A34 16RD/WT (ELECTRONIC TRANSFERCASE))	FUSED B(+)
3	A405 18RD/DB	FUSED B(+)
4	-	-
5	A210 12OR/RD	FUSED B(+)
6	A970 10RD	FUSED B(+)
7	A100 14RD/VT	FUSED B(+)
8	A111 14DG/RD	FUSED B(+)
9	A205 18RD/OR	FUSED B(+)
10	A921 16RD	FUSED B(+)
11	-	-
12	F984 18PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
13	A116 18YL/RD	FUSED B(+)
14	A951 16RD	FUSED B(+)
15	-	-

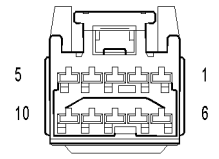
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INTEGRATED POWER MODULE C3

INTEGRATED POWER MODULE C3 - 16 WAY

CAV	CIRCUIT	FUNCTION
1	W10 20BR	WASHER PUMP MOTOR CONTROL
2	L62 18WT/YL	RIGHT REAR TURN LAMP DRIVER
3	Z117 18BK/WT	GROUND
4	G31 20VT/LG (DIESEL)	AAT SIGNAL
5	Z118 18BK/YL	GROUND
6	L1 18WT/LG	BACKUP LAMP FEED
7	-	-
8	-	-
9	-	-
10	D25 20VT/PK	PCI BUS
11	-	-
12	L61 18WT/LG	LEFT FRONT TURN LAMP DRIVER
13	L53 18DG/WT	LEFT STOP LAMP FEED
14	L63 18WT/DG	LEFT REAR TURN LAMP DRIVER
15	L60 18WT/TN	RIGHT FRONT TURN LAMP DRIVER
16	G180 20VT/YL (DIESEL)	SENSOR GROUND

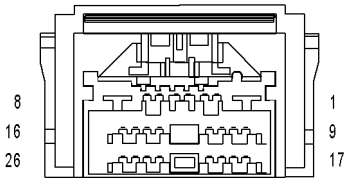


INTEGRATED POWER MODULE C4

INTEGRATED POWER MODULE C4 - 10 WAY

CAV	CIRCUIT	FUNCTION
1	Z116 18BK/VT	GROUND
2	L54 18WT/LG	RIGHT STOP LAMP FEED
3	W1 20BR/TN	WASHER FLUID SWITCH SENSE
4	-	-
5	-	-
6	F941 20PK/LG (DIESEL)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
7	W7 20BR/GY	WIPER PARK SWITCH SENSE
8	-	-
9	-	-
10	F202 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)

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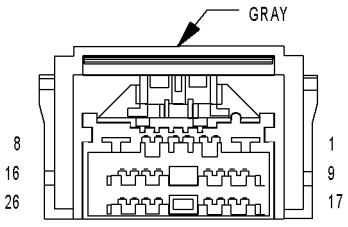


INTEGRATED
POWER
MODULE C5

INTEGRATED POWER MODULE C5 - 26 WAY

CAV	CIRCUIT	FUNCTION
1	F922 16PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
2	F941 20PK/LG (DIESEL)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	Z912 20BK (GAS)	GROUND
3	-	-
4	L10 18WT/GY	FUSED IGNITION SWITCH OUTPUT (RUN)
5	-	-
6	-	-
7	-	-
8	Z920 12BK	GROUND
9	C110 20DB/LB	DEFOGGER RELAY CONTROL
10	-	-
11	C13 20LB/OR	A/C CLUTCH RELAY CONTROL
12	-	-
13	-	-
14	Z114 20BK/LG (DIESEL)	GROUND
14	K173 18BR/VT (NGC)	CONDENSER FAN RELAY CONTROL
15	F202 20PK/GY (DIESEL)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
15	A16 16RD/BR (NGC)	FUSED B(+)
16	T515 20YL/DB	TRANSMISSION CONTROL RELAY CONTROL
17	C16 16DB/GY	HEATED MIRROR RELAY OUTPUT
18	C3 20DB/YL	A/C CLUTCH RELAY OUTPUT
19	-	-
20	-	-
21	C110 20DB/LB	DEFOGGER RELAY CONTROL
22	W4 16BR/OR	WIPER RELAY HIGH SPEED OUTPUT
23	F100 18PK/VT	FUSED IGNITION SWITCH OUTPUT (RUN)
24	F201 18PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN)
25	-	-
26	F504 20GY/PK	FUSED IGNITION SWITCH OUTPUT (RUN)

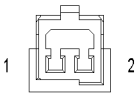
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INTEGRATED POWER MODULE C7

INTEGRATED POWER MODULE C7 - GRAY 26 WAY

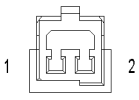
CAV	CIRCUIT	FUNCTION
1	T750 14YL/GY	STARTER MOTOR RELAY OUTPUT
2	W3 16BR/WT	WIPER RELAY LOW SPEED OUTPUT
3	F983 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	A930 18RD	FUSED B(+)
5	-	-
6	L43 18WT/DB	LEFT LOW BEAM OUTPUT
7	L34 18WT/GY	RIGHT HIGH BEAM OUTPUT
8	-	-
9	A109 16OR/RD (GAS)	FUEL PUMP RELAY OUTPUT
10	-	-
11	K51 20BR/WT (GAS)	ASD RELAY CONTROL
13	-	-
14	-	-
15	L33 18WT/LG	LEFT HIGH BEAM OUTPUT
16	-	-
16	A72 18RD/OR	ADJUSTABLE PEDAL RELAY OUTPUT
17	-	-
17	C15 16DB/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
18	-	-
19	K31 20BR	FUEL PUMP RELAY CONTROL
20	-	-
20	L89 18WT/YL (FOG LAMPS)	FOG LAMP RELAY OUTPUT
21	T751 16YL	FUSED IGNITION SWITCH OUTPUT (START)
22	L44 18WT/TN	RIGHT LOW BEAM OUTPUT
23	T41 20YL/DB (EXCEPT NGC)	TRS T41 SENSE
23	T752 20DG/OR (NGC)	STARTER RELAY CONTROL
24	A944 20RD	FUSED B(+)
26	-	-



MODE DOOR ACTUATOR 1 (PANEL TO FLOOR)

MODE DOOR ACTUATOR 1 (PANEL TO FLOOR) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	C34 20DB/LB	COMMON DOOR DRIVER
2	C801 20DB/OR	MODE DOOR 1 DRIVER

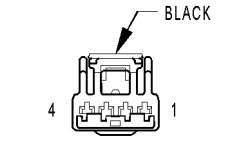


MODE DOOR ACTUATOR 2 (DEFROST TO FLOOR)

MODE DOOR ACTUATOR 2 (DEFROST TO FLOOR) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	C34 20DB/LB	COMMON DOOR DRIVER
2	C29 20DB	MODE DOOR 2 DRIVER

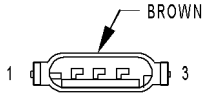
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MULTI-FUNCTION SWITCH

MULTI-FUNCTION SWITCH - BLACK 4 WAY

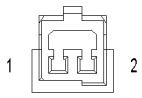
CAV	CIRCUIT	FUNCTION
1	G194 20VT/LG	WASH/BEAM SELECT SWITCH SIGNAL
2	L900 20WT/YL	WIPER/TURN/BEAM SELECT SWITCH RETURN
3	L12 20WT/OR	TURN LAMPS SWITCH SIGNAL
4	W52 20BR/YL	INTERMITTENT WIPER SWITCH SIGNAL



PARK/TURN SIGNAL LAMP-LEFT FRONT

PARK/TURN SIGNAL LAMP-LEFT FRONT - BROWN 3 WAY

CAV	CIRCUIT	FUNCTION
1	L61 18WT/LG	LEFT FRONT TURN LAMP DRIVER
2	L7 18WT/YL	FUSED PARK LAMP RELAY OUTPUT
3	Z377 18BK/BR	GROUND

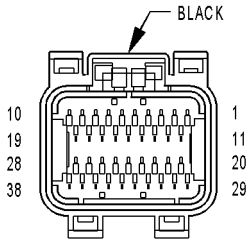


PASSENGER BLEND DOOR ACTUATOR (DUAL-ZONE)

PASSENGER BLEND DOOR ACTUATOR (DUAL-ZONE) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	C34 20DB/LB	COMMON DOOR DRIVER
2	C33 20LB/BR	PASSENGER BLEND DOOR DRIVER

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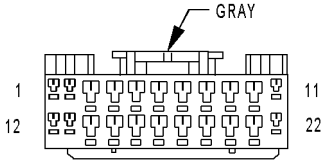


POWERTRAIN CONTROL MODULE C1 (NGC)

POWERTRAIN CONTROL MODULE C1 (NGC) - BLACK 38 WAY

CAV	CIRCUIT	FUNCTION
1	K98 18DB/YL (EXCEPT 3.7L)	COIL CONTROL NO. 8
2	-	-
3	K97 18BR/YL (4.7L)	COIL CONTROL NO. 7
3	K97 18BR (5.7L)	COIL CONTROL NO. 7
4	K28 18BR/LB (EXCEPT 3.7L)	INJECTOR CONTROL NO. 8
5	K26 18BR/YL (EXCEPT 3.7L)	INJECTOR CONTROL NO. 7
6	-	-
7	-	-
8	B222 20DG/WT	VEHICLE SPEED SIGNAL NO. 2
9	Z130 16BK/BR	GROUND
10	-	-
11	F202 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	F1 16PK/WT	FUSED IGNITION SWITCH OUTPUT (OFF-RUN-START)
13	B22 20DG/YL	VEHICLE SPEED SIGNAL NO. 1
14	-	-
15	-	-
16	-	-
17	-	-
18	Z131 16BK/DG	GROUND
19	-	-
20	G6 18VT/GY	OIL PRESSURE SIGNAL
21	C918 18BK/LB	A/C PRESSURE SIGNAL
22	G31 18VT/LG	AAT SIGNAL
23	-	-
24	-	-
25	D20 20WT/LG (5.7L)	SCI RECEIVE (PCM)
25	D20 17WT/LG (EXCEPT 5.7L)	SCI RECEIVE (PCM)
26	D16 18WT/OR (EXCEPT 3.7L M/T)	SCI RECEIVE (TCM)
27	F856 18YL/PK	5 VOLT SUPPLY
28	-	-
29	A919 20RD	FUSED B(+)
30	T751 16YL	FUSED IGNITION SWITCH OUTPUT (START)
31	K141 18DB/YL	O2 1/2 SIGNAL
32	K902 18BR/DG	O2 RETURN (UP)
33	K243 18BR	O2 2/2 SIGNAL
34	-	-
35	-	-
36	D21 20WT/BR (5.7L)	SCI TRANSMIT (PCM)
36	D21 18WT/BR (EXCEPT 5.7L)	SCI TRANSMIT (PCM)
37	D15 18WT/DG (EXCEPT 3.7L)	SCI TRANSMIT (TCM)
38	D25 20WT/VT	PCI BUS

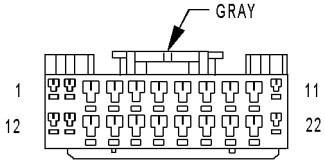
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RADIO C1
(EXCEPT INFINITY)

RADIO C1 (EXCEPT INFINITY) - GRAY 22 WAY

CAV	CIRCUIT	FUNCTION
1	A114 18GY/RD	FUSED B(+)
2	F983 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	E14 20OR/TN	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X154 18GY/YL	RIGHT FRONT DOOR SPEAKER (+)
8	X156 18GY/LB	RIGHT FRONT DOOR SPEAKER (-)
9	X155 18DG/LB	LEFT FRONT DOOR SPEAKER (-)
10	X153 18DG/YL	LEFT FRONT DOOR SPEAKER (+)
11	Z514 18BK/LG	GROUND
12	A114 18GY/RD	FUSED B(+)
13	-	-
14	D25 20WT/VT	PCI BUS
15	-	-
16	-	-
17	-	-
18	X205 18GY/LG	LEFT REAR SPEAKER (+)
19	X295 18GY/DG	LEFT REAR SPEAKER (-)
20	X296 18DG/GY	RIGHT REAR SPEAKER (-)
21	X206 18DG/LG	RIGHT REAR SPEAKER (+)
22	Z515 18BK	GROUND

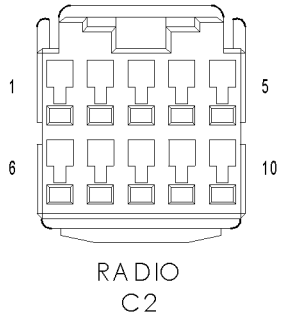


RADIO C1
(INFINITY)

RADIO C1 (INFINITY) - GRAY 22 WAY

CAV	CIRCUIT	FUNCTION
1	A114 18GY/RD	FUSED B(+)
2	F983 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	E14 20OR/TN	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X56 20GY/BR	RIGHT FRONT SPEAKER (+)
8	X54 20GY	RIGHT FRONT SPEAKER (-)
9	X55 20DG/BR	LEFT FRONT SPEAKER (-)
10	X53 20DG	LEFT FRONT SPEAKER (+)
11	Z514 18BK/LG	GROUND
12	A114 18GY/RD	FUSED B(+)
13	X11 20DG	RADIO 12 VOLT OUTPUT
14	D25 20WT/VT	PCI BUS
15	-	-
16	-	-
17	-	-
18	X51 20DG/DB	LEFT REAR SPEAKER (+)
19	X57 20DG/OR	LEFT REAR SPEAKER (-)
20	X58 20GY/OR	RIGHT REAR SPEAKER (-)
21	X52 20GY/DB	RIGHT REAR SPEAKER (+)
22	Z515 18BK	GROUND

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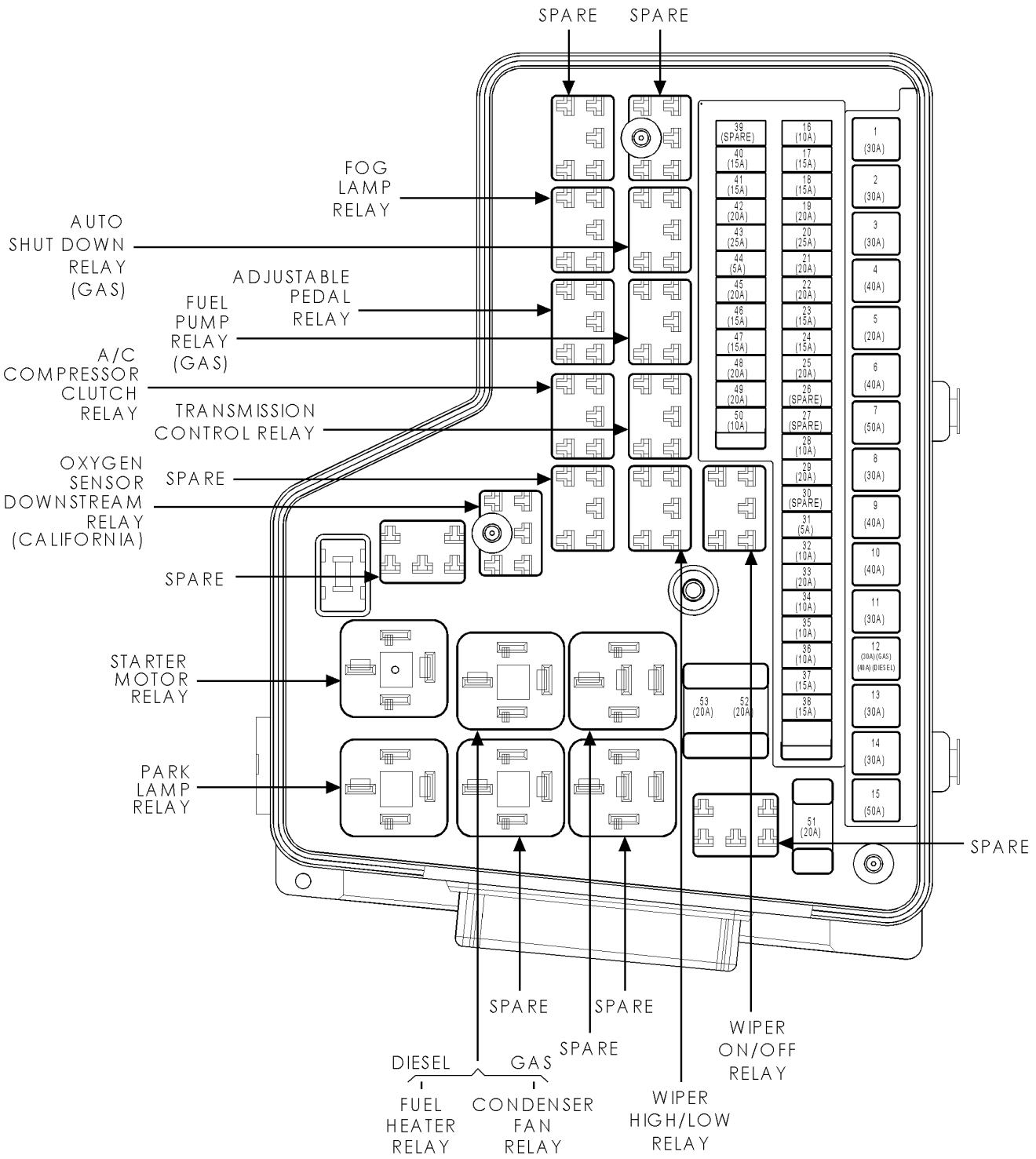


RADIO C2 - 10 WAY

CAV	CIRCUIT	FUNCTION
1	X704 18DG/YL	RIGHT AUDIO OUTPUT
2	X795 18DG	HANDS FREE AUDIO OUTPUT COMMON
3	-	-
4	-	-
5	-	-
6	X703 18DG/OR	LEFT AUDIO OUTPUT
7	-	-
8	-	-
9	-	-
10	-	-

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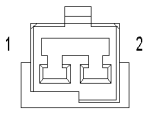
INTEGRATED POWER MODULE



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REAR WINDOW DEFOGGER RELAY

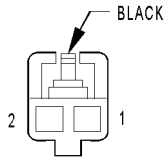
CAV	CIRCUIT	FUNCTION
30	C15 16DB/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
85	C110 20DB/LB	DEFOGGER RELAY CONTROL
86	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
87	INTERNAL	FUSED B(+)
87A	-	



RECIRCULATION DOOR ACTUATOR

RECIRCULATION DOOR ACTUATOR - 2 WAY

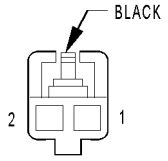
CAV	CIRCUIT	FUNCTION
1	C34 20DB/LB	COMMON DOOR DRIVER
2	C32 20DB/TN	RECIRCULATION DOOR DRIVER



REMOTE RADIO SWITCH-LEFT

REMOTE RADIO SWITCH-LEFT - BLACK 2 WAY

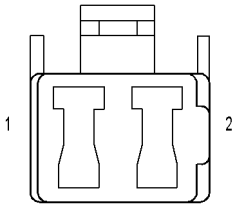
CAV	CIRCUIT	FUNCTION
1	X20 22GY/WT	RADIO CONTROL MUX
2	Z909 22BK	GROUND



REMOTE RADIO SWITCH-RIGHT

REMOTE RADIO SWITCH-RIGHT - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	X20 22GY/WT	RADIO CONTROL MUX
2	Z909 22BK	GROUND

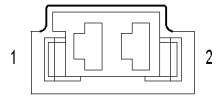


SEAT BELT TENSIONER REDUCER (STANDARD CAB)

SEAT BELT TENSIONER REDUCER (STANDARD CAB) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	F983 20PK/YL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	G10 20VT/LG	SEAT BELT SWITCH SENSE

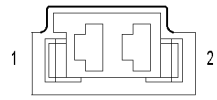
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SEAT BELT TENSIONER-DRIVER

SEAT BELT TENSIONER-DRIVER - 2 WAY

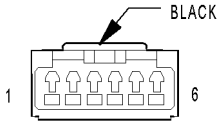
CAV	CIRCUIT	FUNCTION
1	R55 20LG/DG	DRIVER SEAT BELT TENSIONER LINE 1
2	R53 20LG/YL	DRIVER SEAT BELT TENSIONER LINE 2



SEAT BELT TENSIONER-PASSENGER

SEAT BELT TENSIONER-PASSENGER - 2 WAY

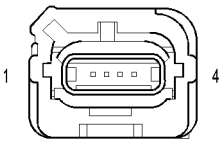
CAV	CIRCUIT	FUNCTION
1	R54 20LB/YL	PASSENGER SEAT BELT TENSIONER LINE 2
2	R56 20LB/DG	PASSENGER SEAT BELT TENSIONER LINE 1



SENTRY KEY IMMOBILIZER MODULE

SENTRY KEY IMMOBILIZER MODULE (SKIM) - BLACK 6 WAY

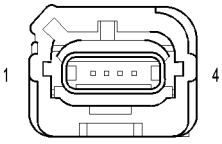
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20WT/VT	PCI BUS
3	-	-
4	F202 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	Z120 20BK/WT	GROUND
6	A919 20RD	FUSED B(+)



SIDE IMPACT SENSOR-LEFT

SIDE IMPACT SENSOR-LEFT - 4 WAY

CAV	CIRCUIT	FUNCTION
1	R13 20LG/TN	LEFT SIDE IMPACT SENSOR 1 SIGNAL
2	R15 20LG/BR	LEFT SIDE IMPACT SENSOR 1 GROUND
3	-	-
4	-	-

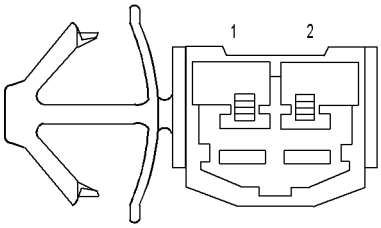


SIDE IMPACT SENSOR-RIGHT

SIDE IMPACT SENSOR-RIGHT - 4 WAY

CAV	CIRCUIT	FUNCTION
1	R14 20TN/LG	RIGHT SIDE IMPACT SENSOR 1 SIGNAL
2	R16 20BR/LG	RIGHT SIDE IMPACT SENSOR 1 GROUND
3	-	-
4	-	-

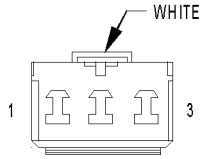
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SPEAKER-
CENTER
INSTRUMENT
PANEL

SPEAKER-CENTER INSTRUMENT PANEL - 2 WAY

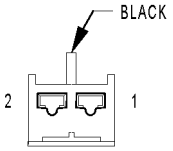
CAV	CIRCUIT	FUNCTION
1	X299 18GY/YL	LEFT INSTRUMENT PANEL SPEAKER (-)
2	X208 18GY/DG	RIGHT INSTRUMENT PANEL SPEAKER (+)



SPEAKER-
LEFT FRONT
DOOR

SPEAKER-LEFT FRONT DOOR - WHITE 3 WAY

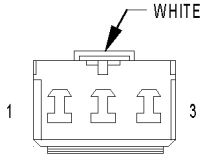
CAV	CIRCUIT	FUNCTION
1	X155 18DG/LB	LEFT FRONT DOOR SPEAKER (-)
2	-	-
3	X153 18DG/YL	LEFT FRONT DOOR SPEAKER (+)



SPEAKER-
LEFT INSTRUMENT
PANEL

SPEAKER-LEFT INSTRUMENT PANEL - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	X209 18GY/OR	LEFT INSTRUMENT PANEL SPEAKER (+)
2	X299 18GY/YL	LEFT INSTRUMENT PANEL SPEAKER (-)

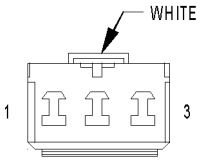


SPEAKER-
LEFT REAR

SPEAKER-LEFT REAR - WHITE 3 WAY

CAV	CIRCUIT	FUNCTION
1	X205 18GY/LG	LEFT REAR SPEAKER (+)
2	-	-
3	X295 18GY/DG	LEFT REAR SPEAKER (-)

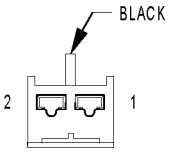
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SPEAKER-
RIGHT FRONT
DOOR

SPEAKER-RIGHT FRONT DOOR - WHITE 3 WAY

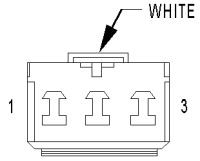
CAV	CIRCUIT	FUNCTION
1	X156 18GY/LB	RIGHT FRONT DOOR SPEAKER (-)
2	-	-
3	X154 18GY/YL	RIGHT FRONT DOOR SPEAKER (+)



SPEAKER-
RIGHT INSTRUMENT
PANEL

SPEAKER-RIGHT INSTRUMENT PANEL - BLACK 2 WAY

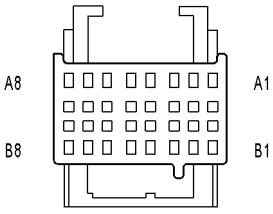
CAV	CIRCUIT	FUNCTION
1	X208 18GY/DG	RIGHT INSTRUMENT PANEL SPEAKER (+)
2	X298 18GY/LG	RIGHT INSTRUMENT PANEL SPEAKER (-)



SPEAKER-RIGHT
REAR

SPEAKER-RIGHT REAR - WHITE 3 WAY

CAV	CIRCUIT	FUNCTION
1	X206 18GY/LG	RIGHT REAR SPEAKER (+)
2	-	-
3	X296 18GY/DG	RIGHT REAR SPEAKER (-)

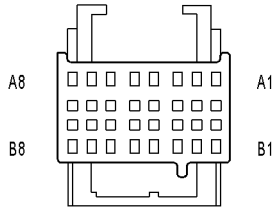


TRANSFER CASE
CONTROL MODULE C1
(ELECTRIC 4x4)

TRANSFER CASE CONTROL MODULE C1 (ELECTRIC 4x4) - 16 WAY

CAV	CIRCUIT	FUNCTION
A1	D25 20VT/DB	PCI BUS
A2	-	-
A3	-	-
A4	G92 20VT/OR	4WD LOW INDICATOR
A5	G91 20VT/WT	4WD HIGH INDICATOR
A6	K977 20BR/WT	MODE SELECT
A7	T885 20YL/GY	MODE SENSOR GROUND
A8	Z905 18BK	GROUND
A9	-	-
A10	-	-
A11	-	-
A12	G95 20VT/BR	NEUTRAL INDICATOR
A13	G2 20BR/WT	IGNITION SWITCH SENSE
A14	D200 20WT/LG	MODE SENSOR D
A15	-	-
A16	Z905 20BK	GROUND

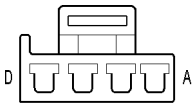
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TRANSFER CASE CONTROL MODULE C2 (ELECTRIC 4x4)

TRANSFER CASE CONTROL MODULE C2 (ELECTRIC 4x4) - 16 WAY

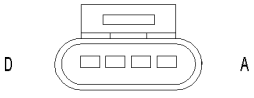
CAV	CIRCUIT	FUNCTION
B1	D202 20WT/VT	MODE SENSOR B
B2	D201 20WT/DG	MODE SENSOR A
B3	-	-
B4	-	-
B5	-	-
B6	T41 20YL/DB	TRS T41 SENSE
B7	-	-
B8	T313 20YL/LG	5 VOLT MODE SENSOR SUPPLY
B9	-	-
B10	D203 20WT/BR	MODE SENSOR C
B11	-	-
B12	-	-
B13	-	-
B14	-	-
B15	-	-
B16	T322 20DG/GY	5 VOLT SELECTOR SWITCH SUPPLY



TRANSFER CASE CONTROL MODULE C3 (ELECTRIC 4x4)

TRANSFER CASE CONTROL MODULE C3 (ELECTRIC 4x4) - 4 WAY

CAV	CIRCUIT	FUNCTION
1	Z905 16BK	GROUND
2	A34 16RD/WT	FUSED B(+)
3	T315 16YL/BR	SHIFT MOTOR CONTROL A
4	T316 16YL/GY	SHIFT MOTOR CONTROL B



WIPER MOTOR

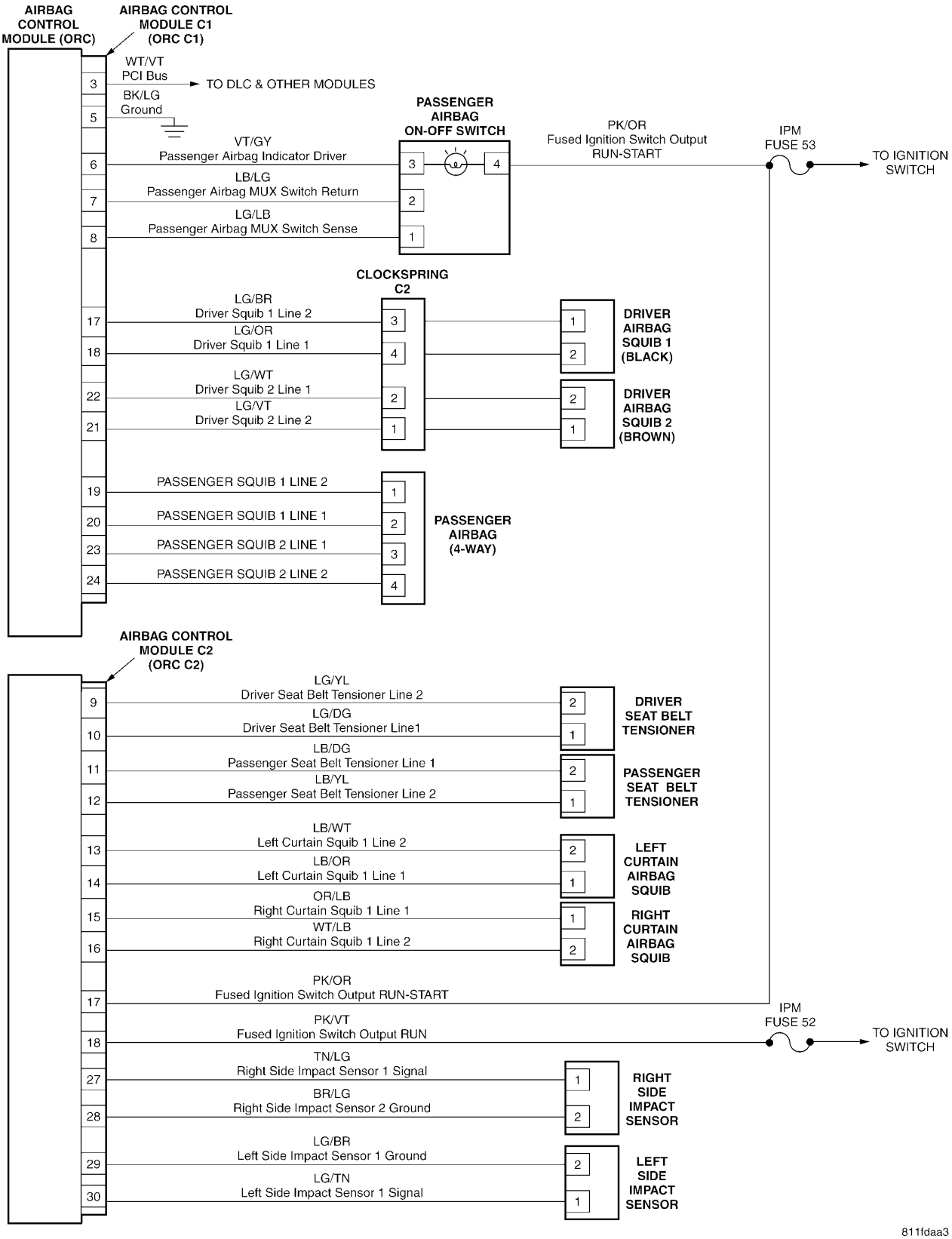
WIPER MOTOR - 4 WAY

CAV	CIRCUIT	FUNCTION
1	W7 20BR/GY	WIPER PARK SWITCH SENSE
2	Z103 18BK/WT	GROUND
3	W3 16BR/WT	WIPER RELAY LOW SPEED OUTPUT
4	W4 16BR/OR	WIPER RELAY HIGH SPEED OUTPUT

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10.0 SCHEMATIC DIAGRAMS

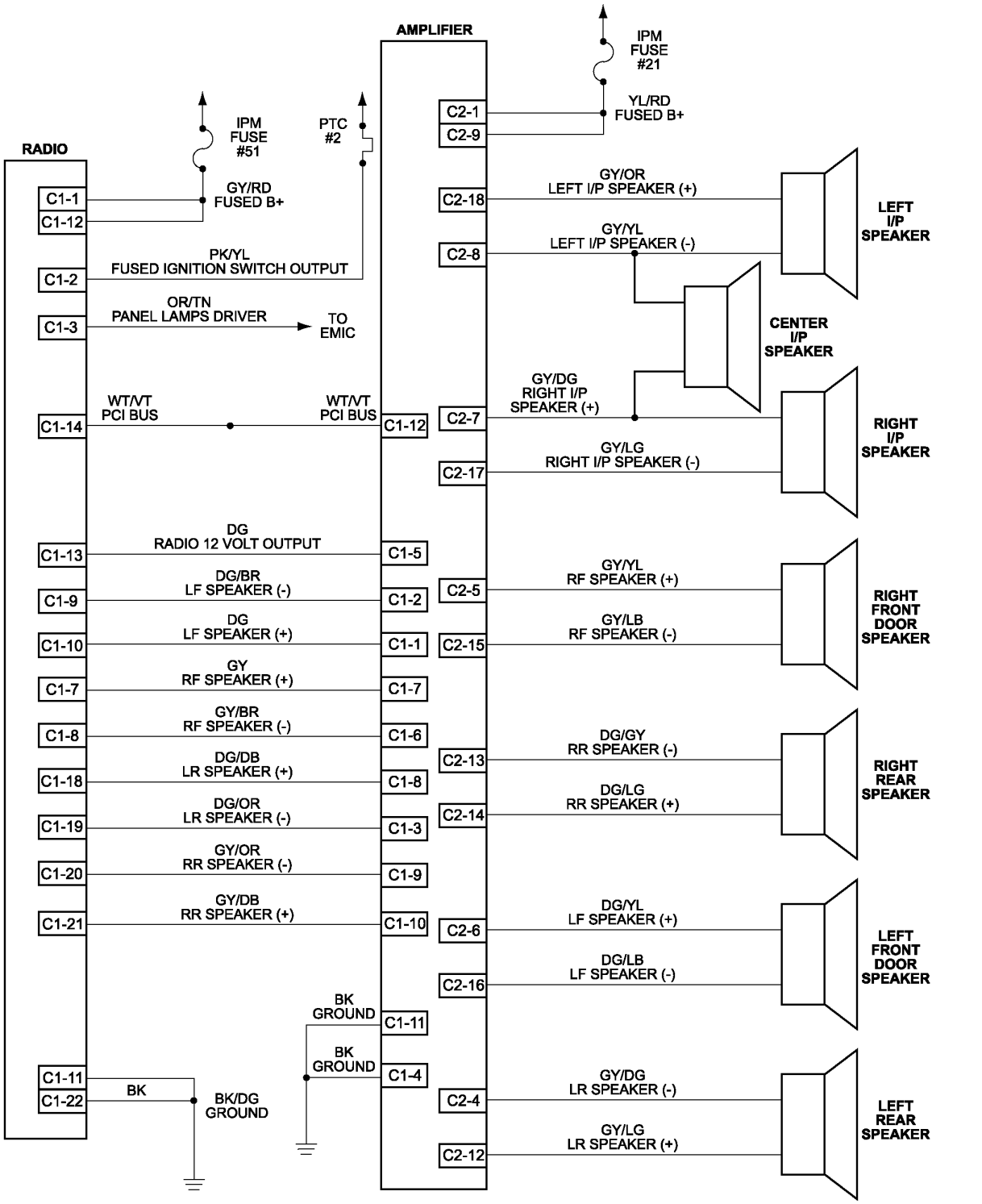
10.1 AIRBAG SYSTEM



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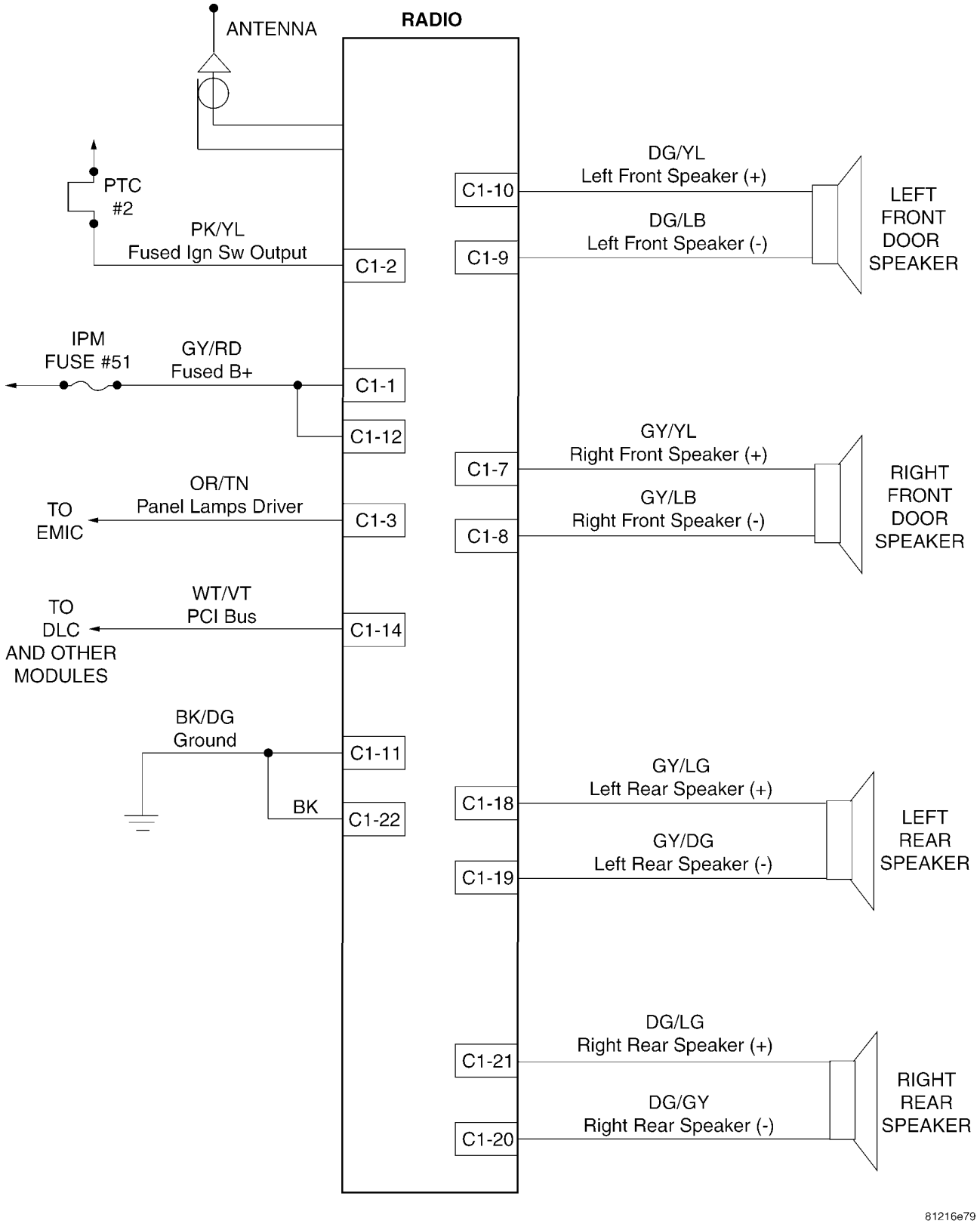
10.2 AUDIO SYSTEM

10.2.1 PREMIUM AUDIO SYSTEM



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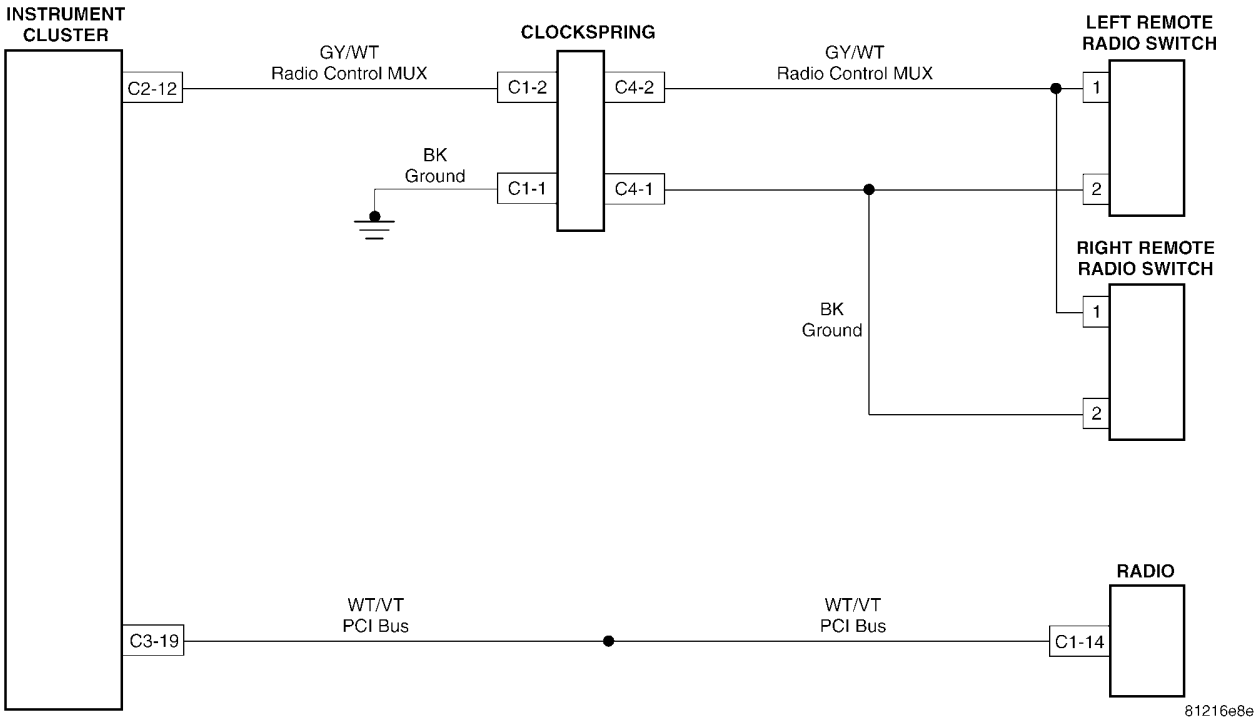
10.2.2 BASE AUDIO SYSTEM



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10.2 AUDIO SYSTEM (Continued)

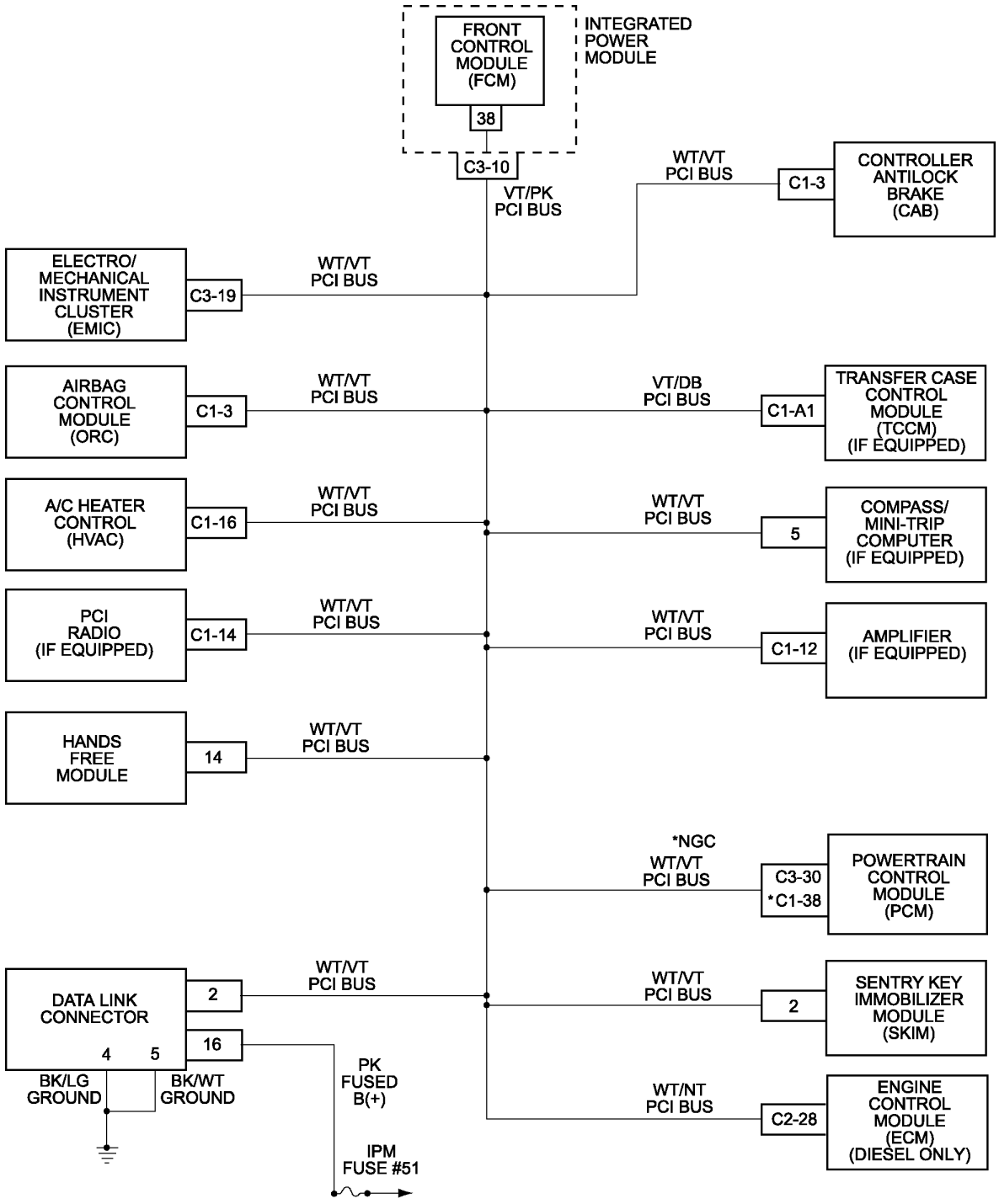
10.2.3 REMOTE RADIO CONTROLS



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10.3 COMMUNICATION

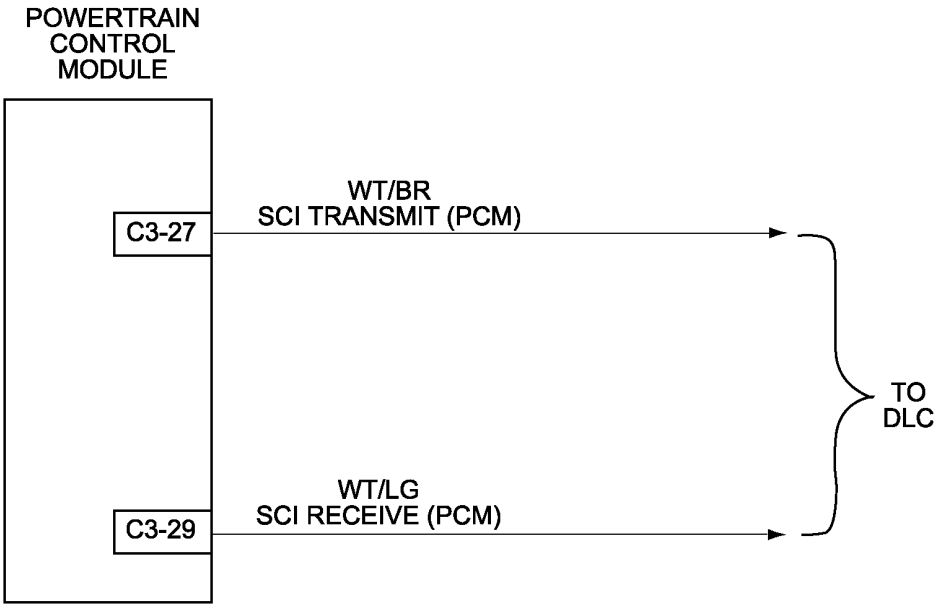
10.3.1 PCI BUS COMMUNICATION



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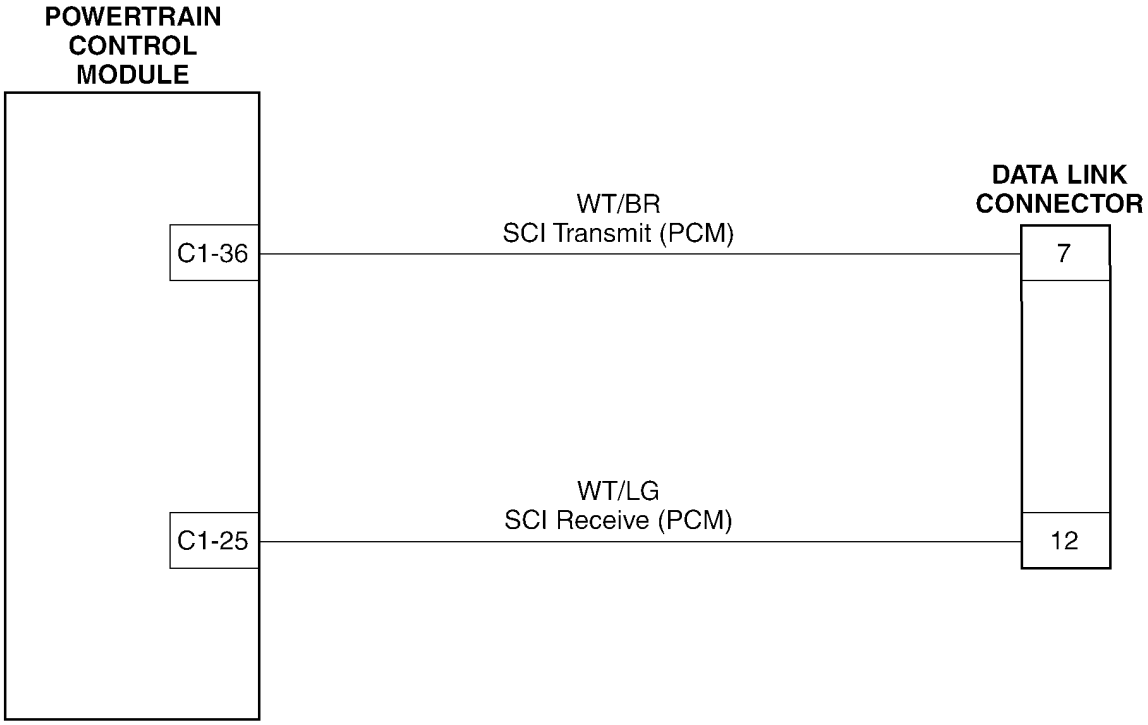
10.3 COMMUNICATION (Continued)

10.3.2 PCM COMMUNICATION - JTEC



81216f17

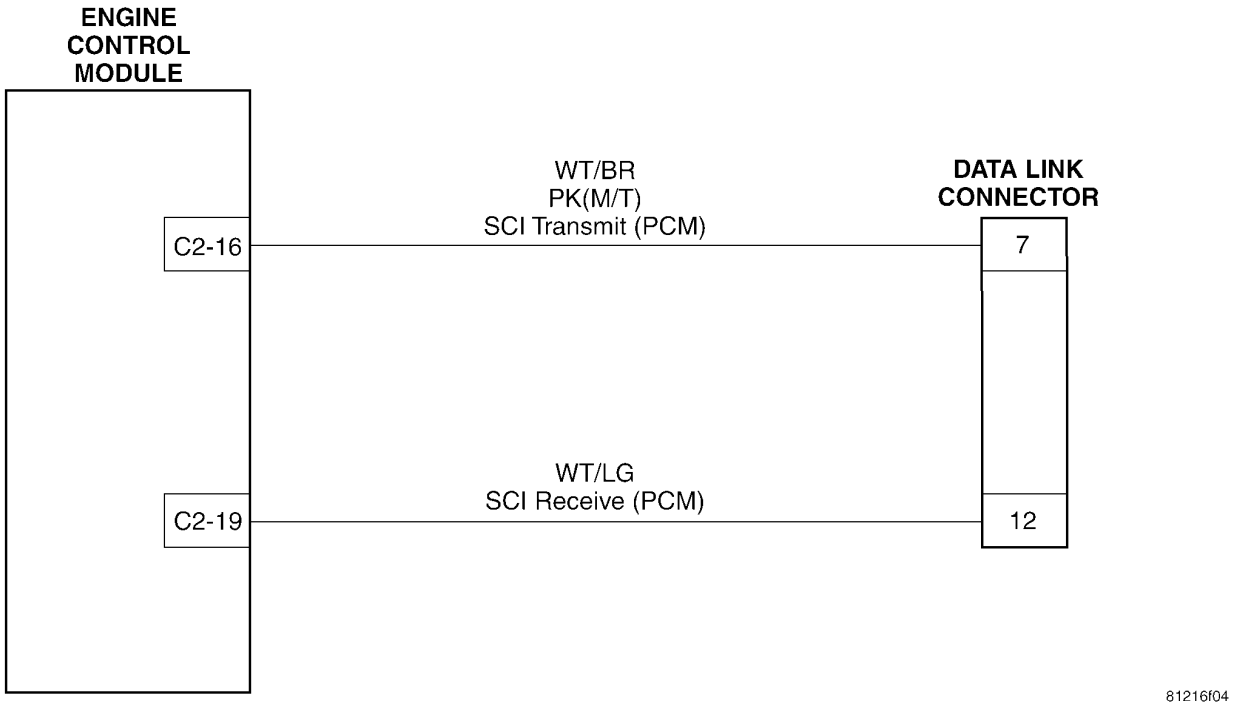
10.3.3 PCM COMMUNICATION - NGC



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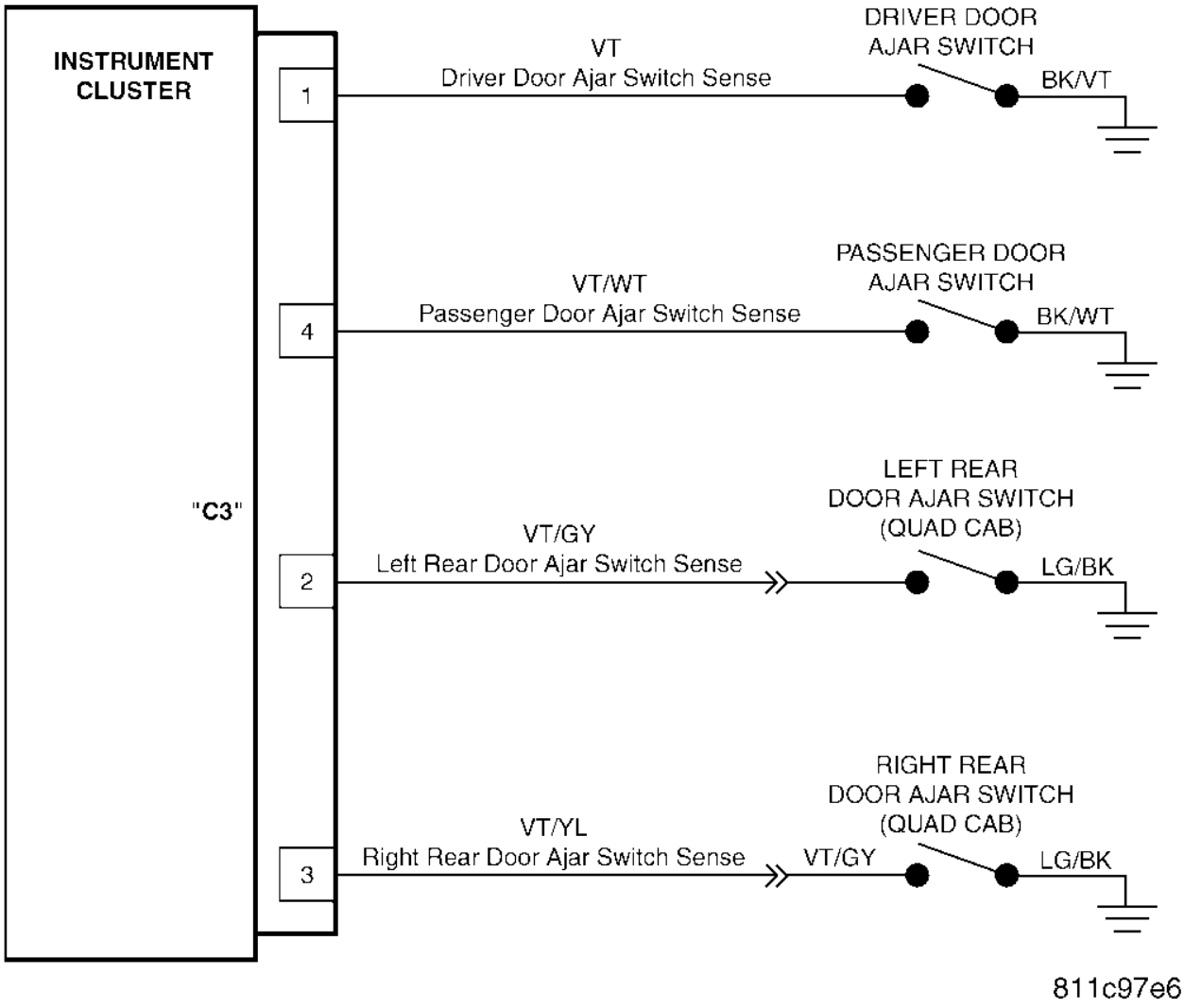
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10.3.4 ECM COMMUNICATION - DIESEL



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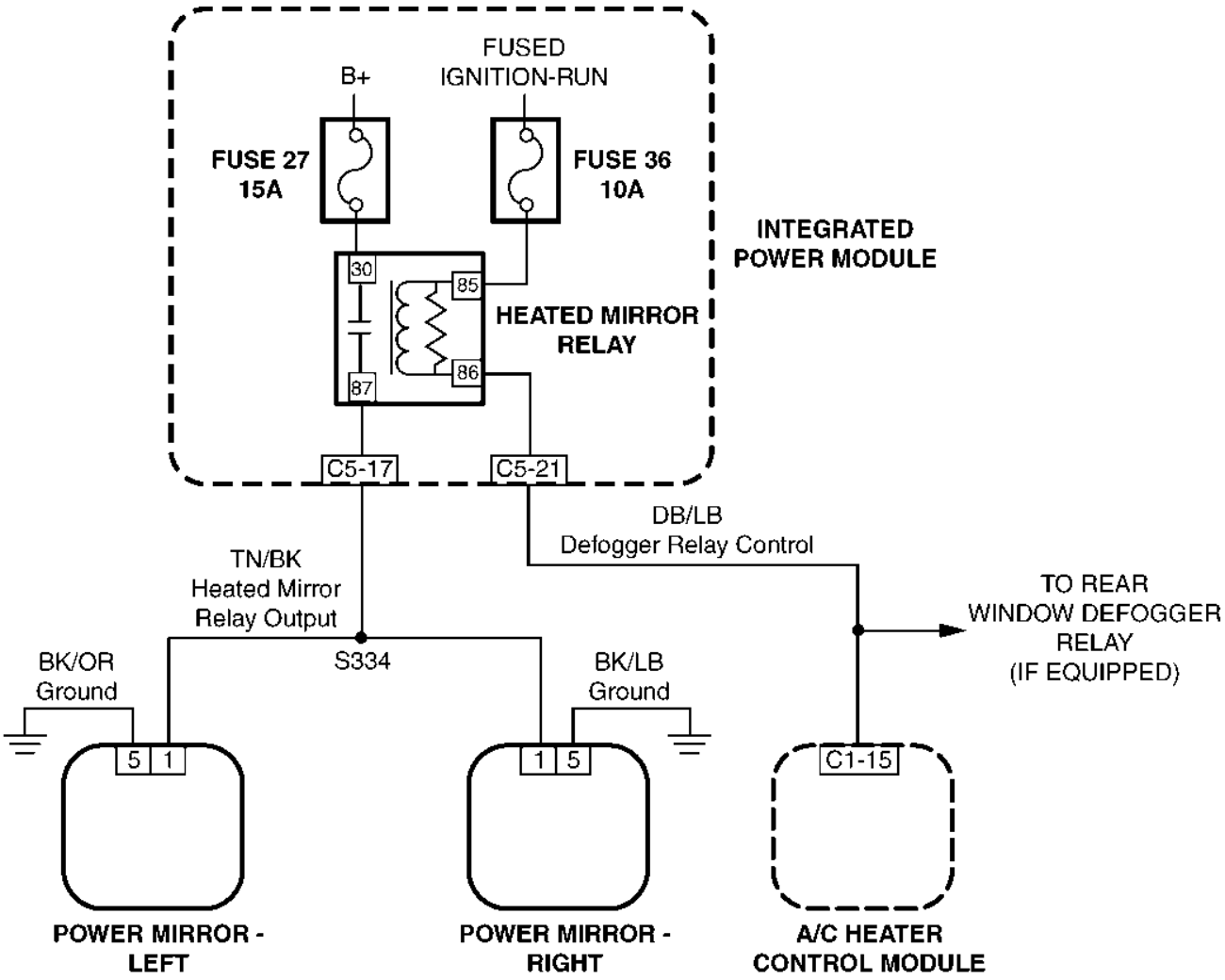
10.4 DOOR AJAR SYSTEM



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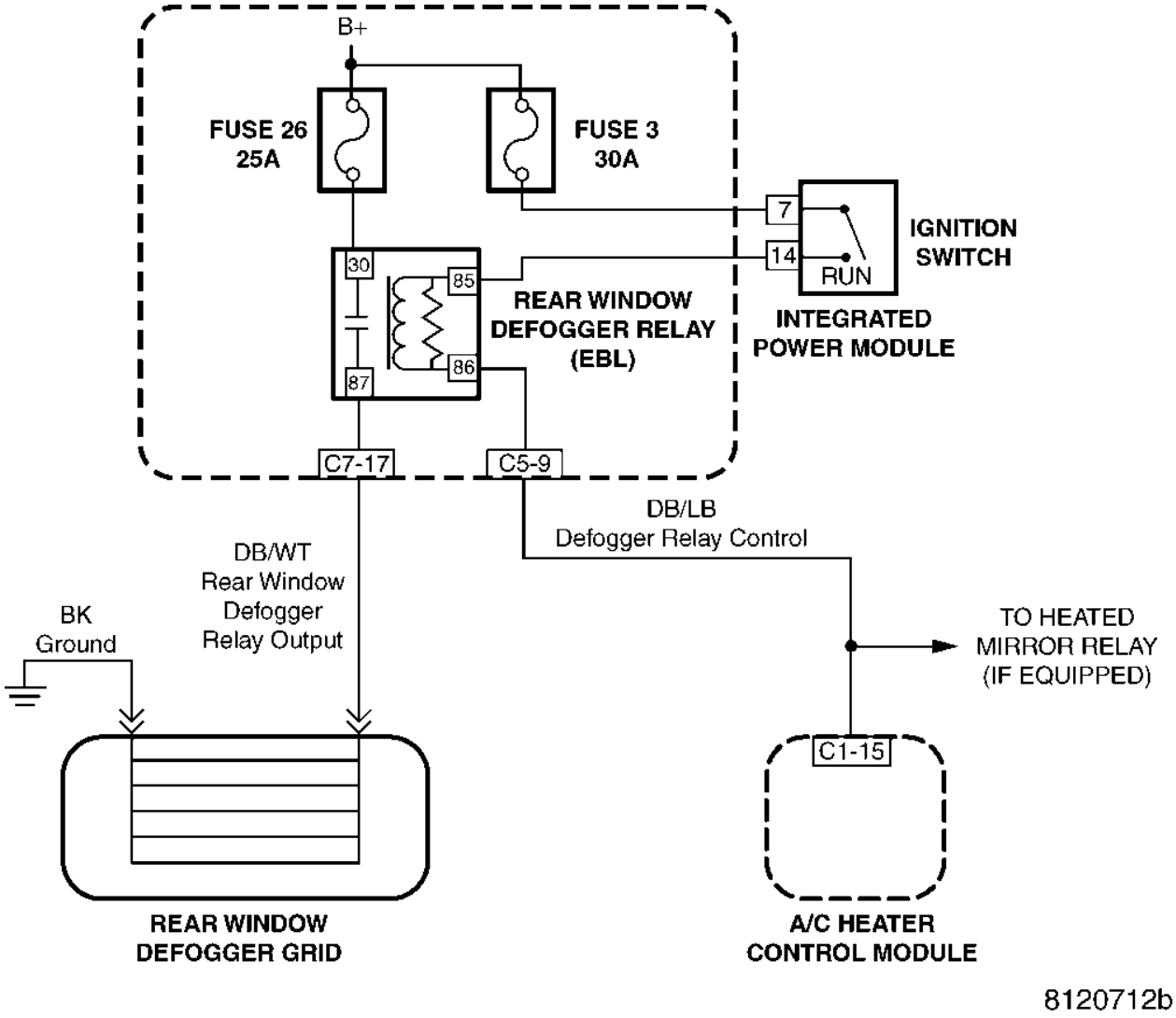
10.5 ELECTRICALLY HEATED SYSTEMS

10.5.1 HEATED MIRROR SYSTEM



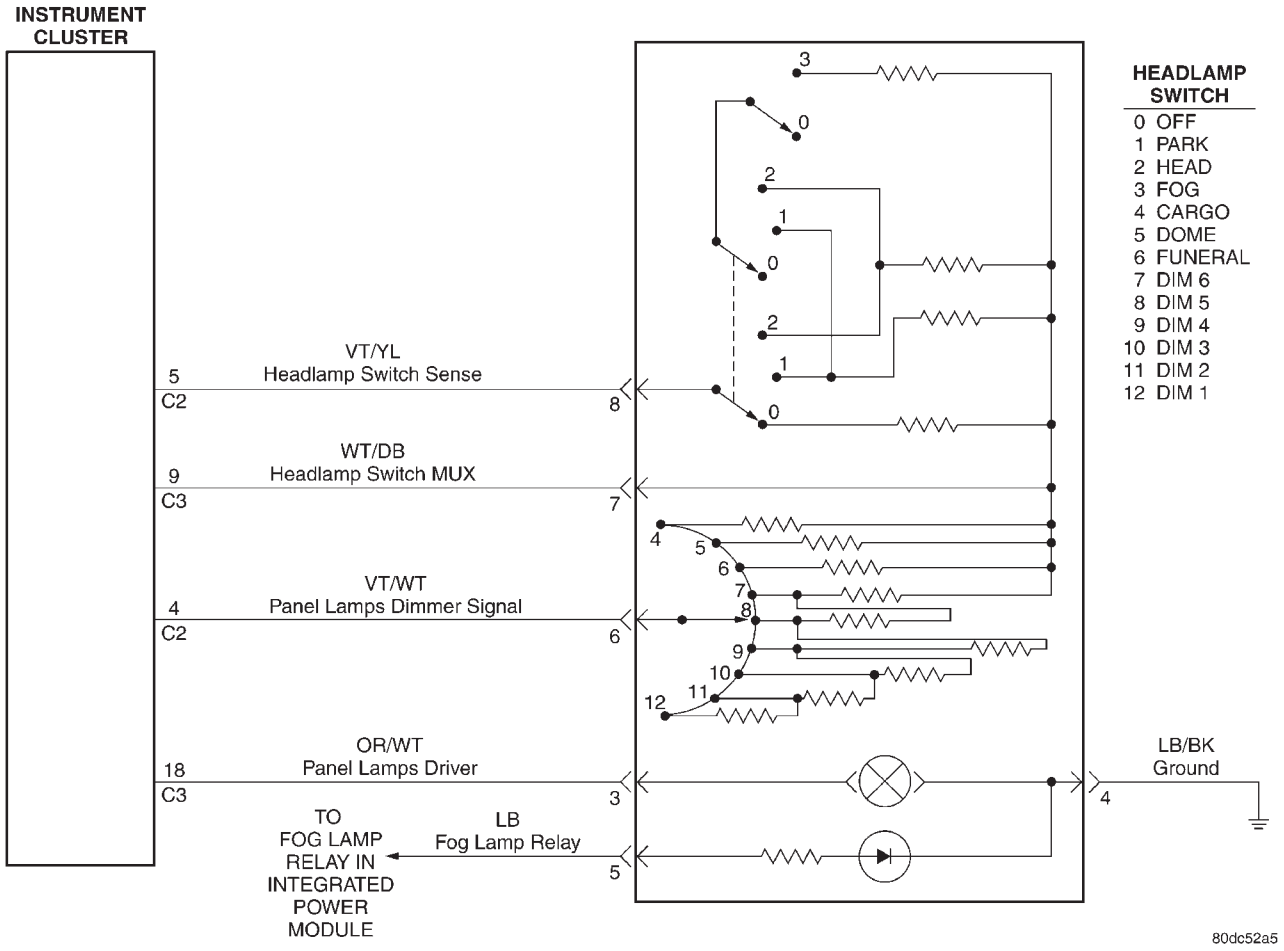
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10.5 ELECTRICALLY HEATED SYSTEMS (Continued)
10.5.2 REAR WINDOW DEFOGGER



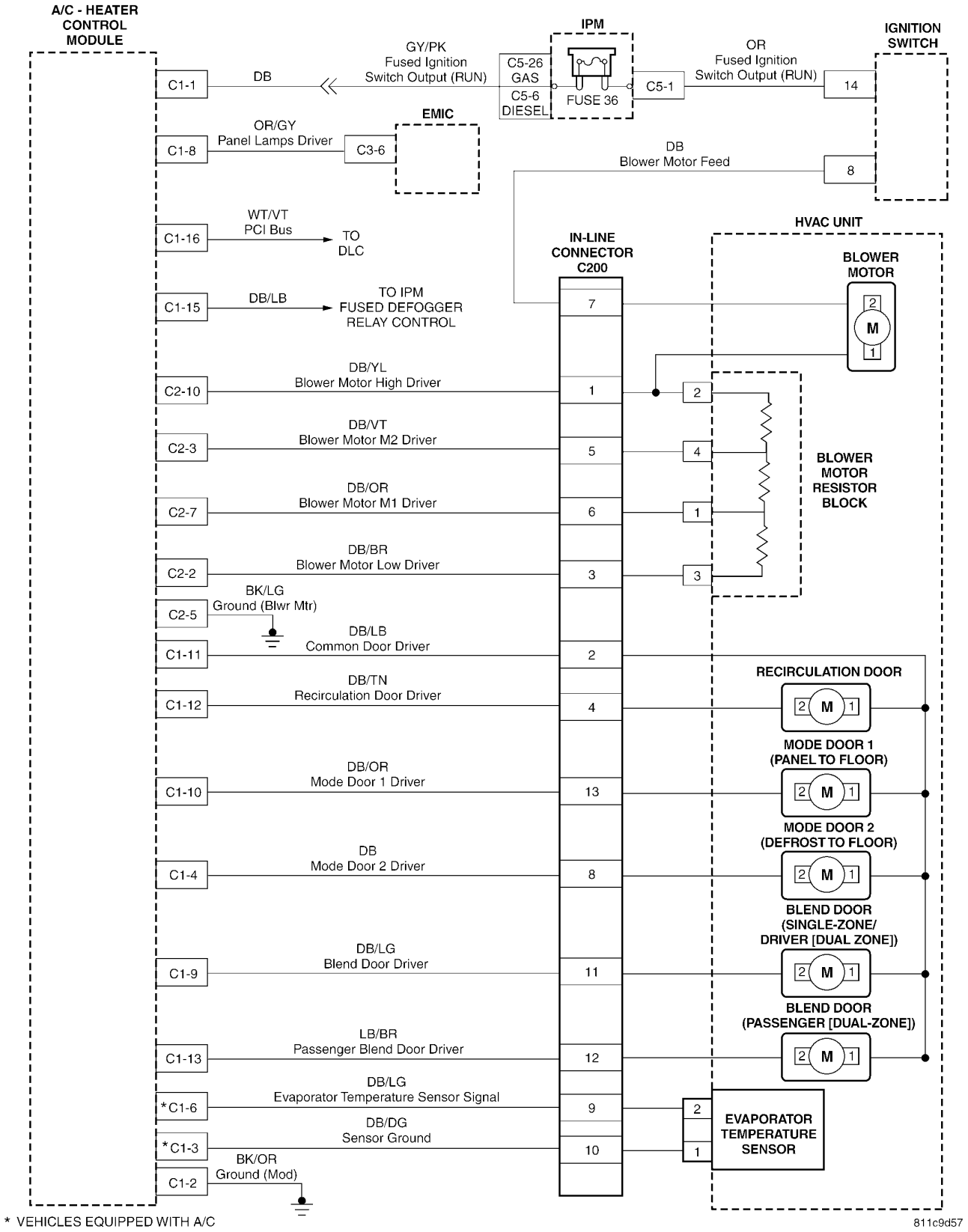
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10.6 EXTERIOR LIGHTS



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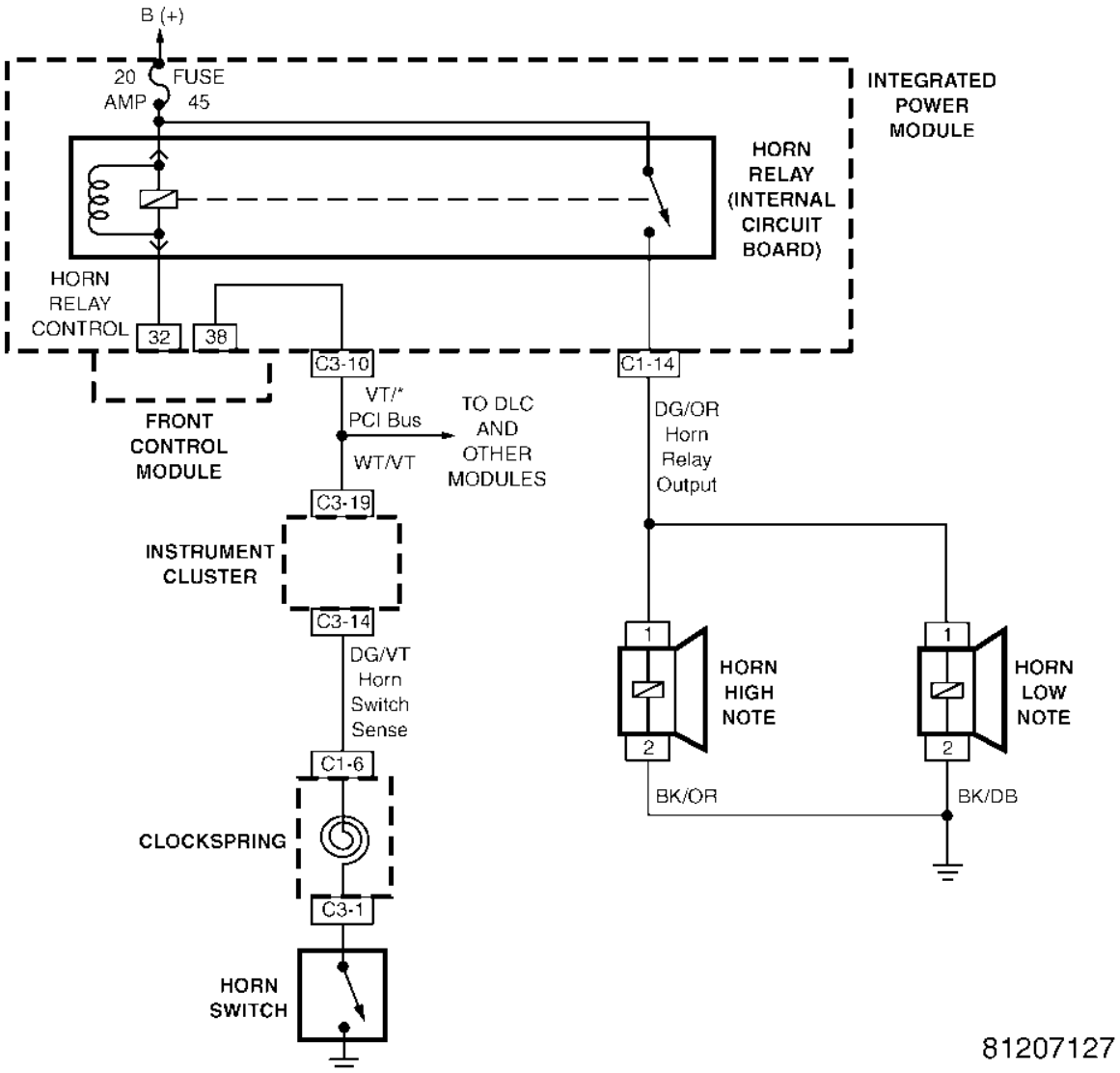
10.7 HEATING A/C SYSTEM



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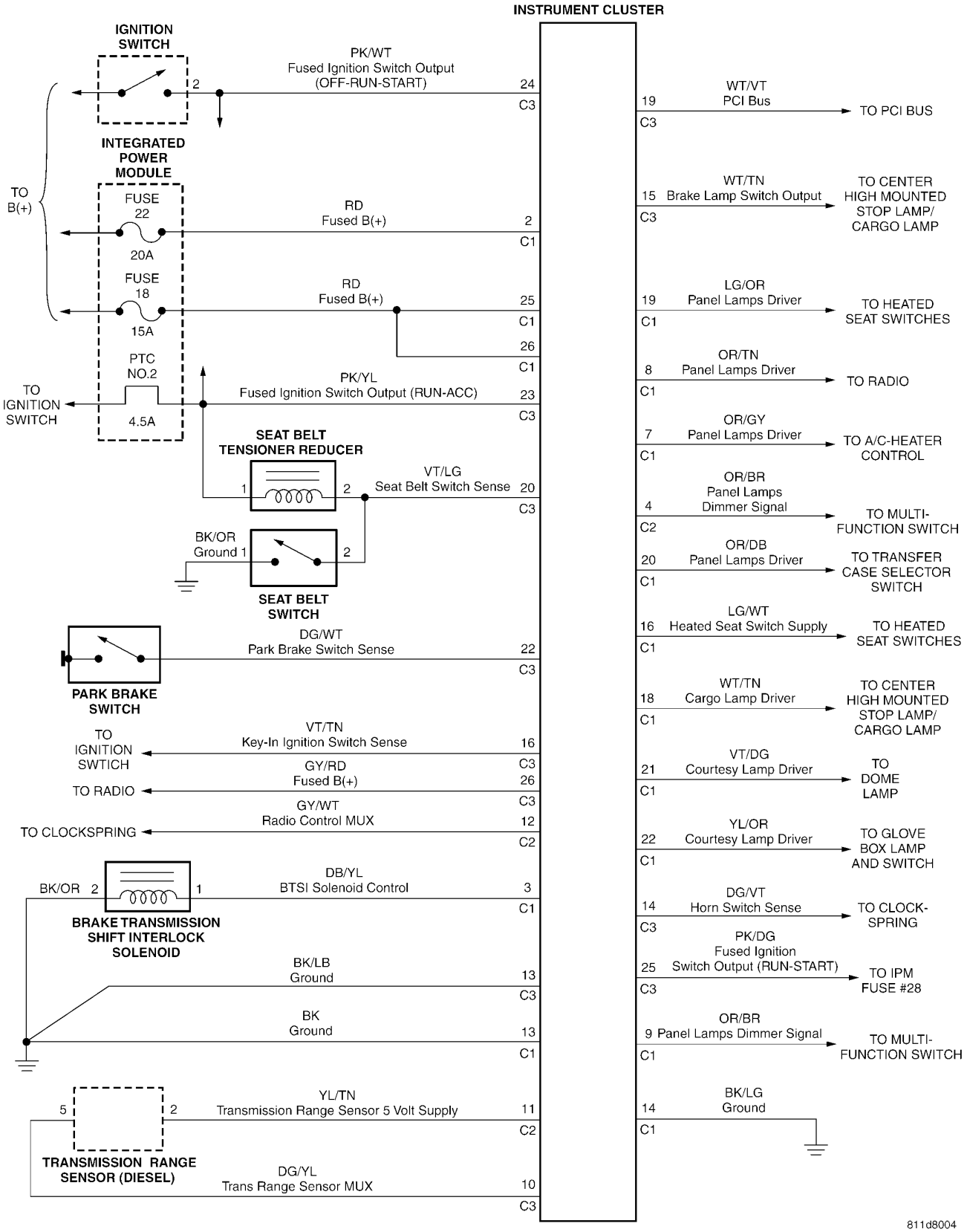
10.8 IGNITION, POWER, ACCESSORY

10.8.1 HORN SYSTEM



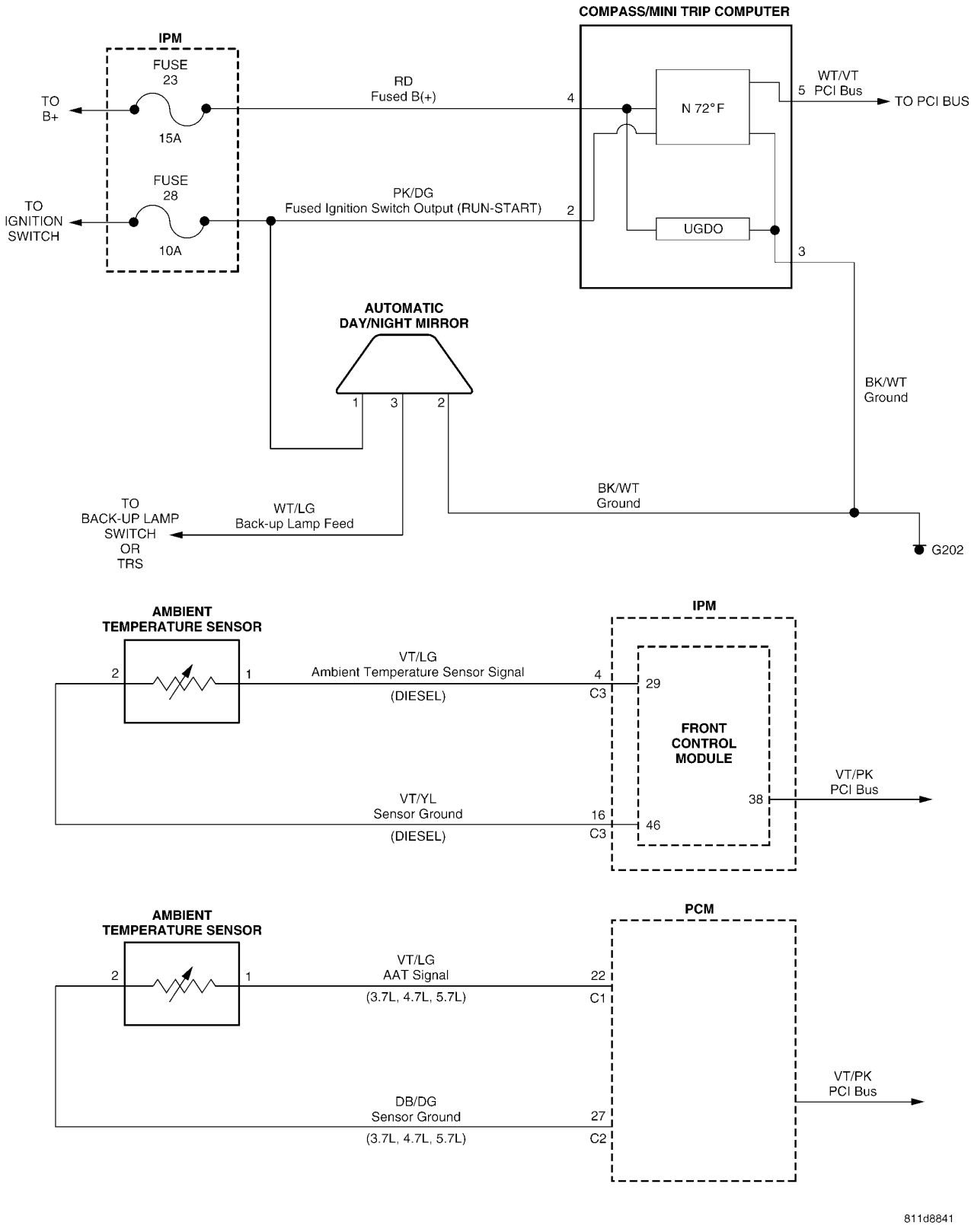
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10.9 INSTRUMENT CLUSTER



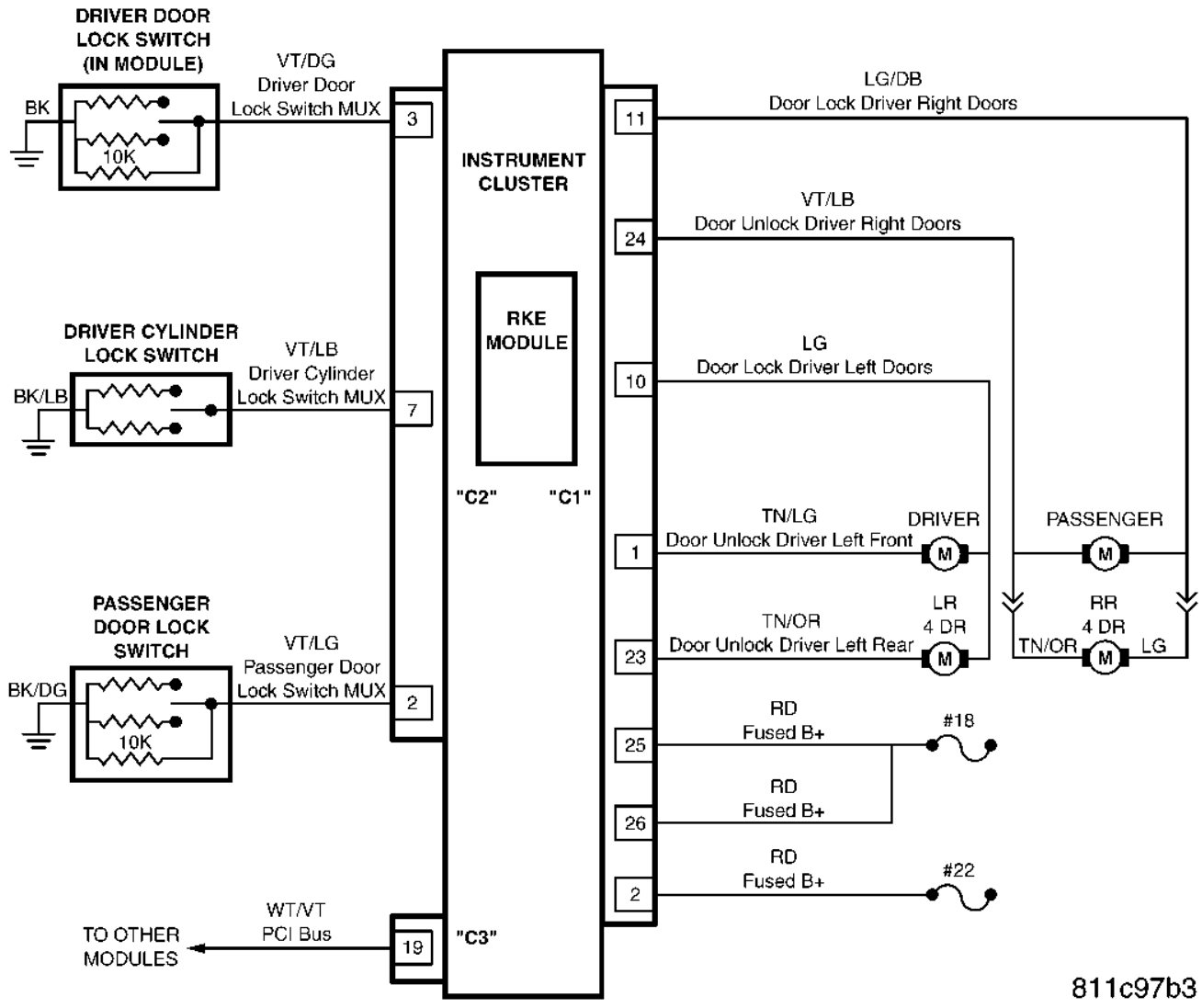
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10.10 OVERHEAD CONSOLE



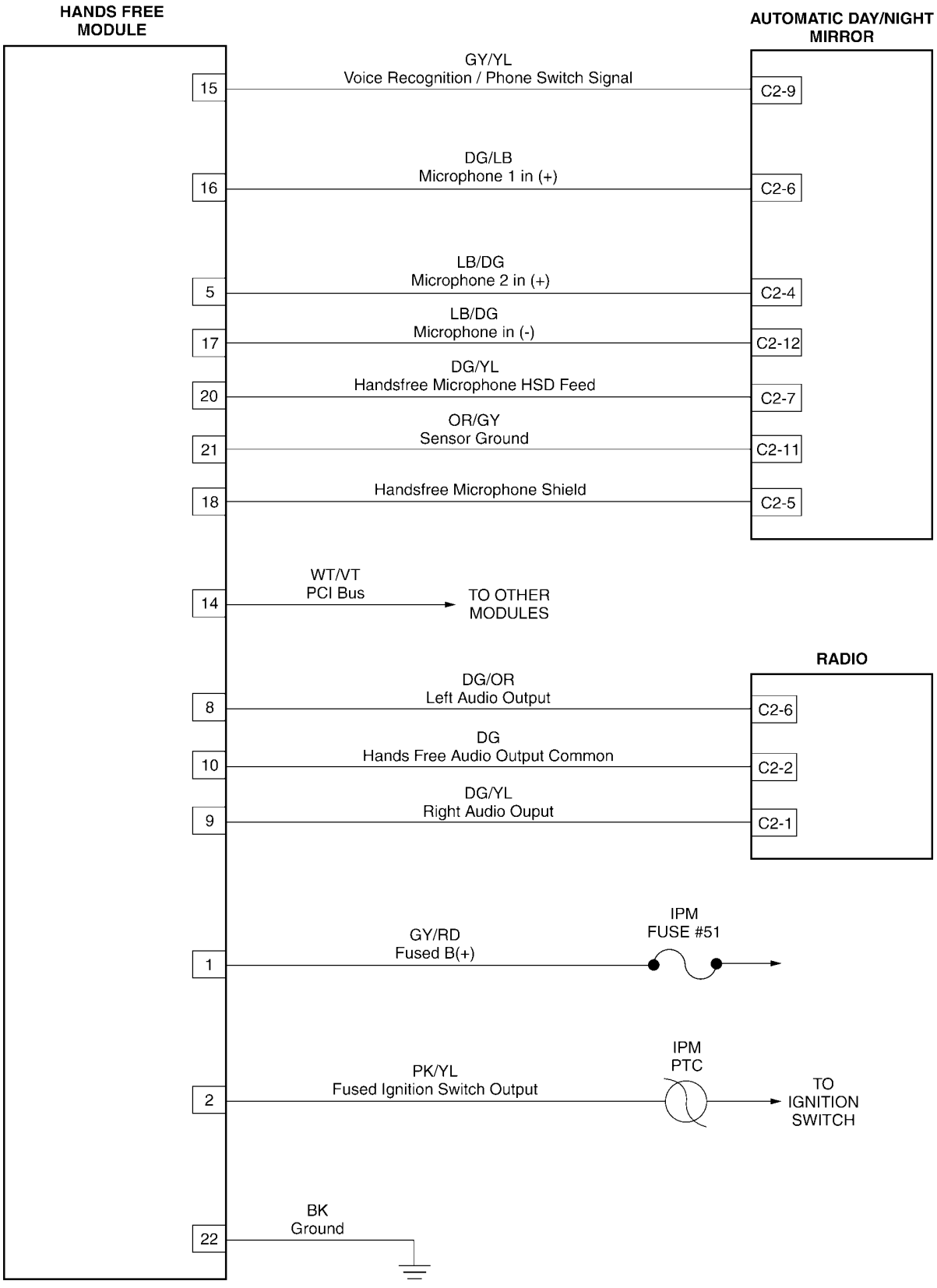
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10.11 POWER DOOR LOCKS



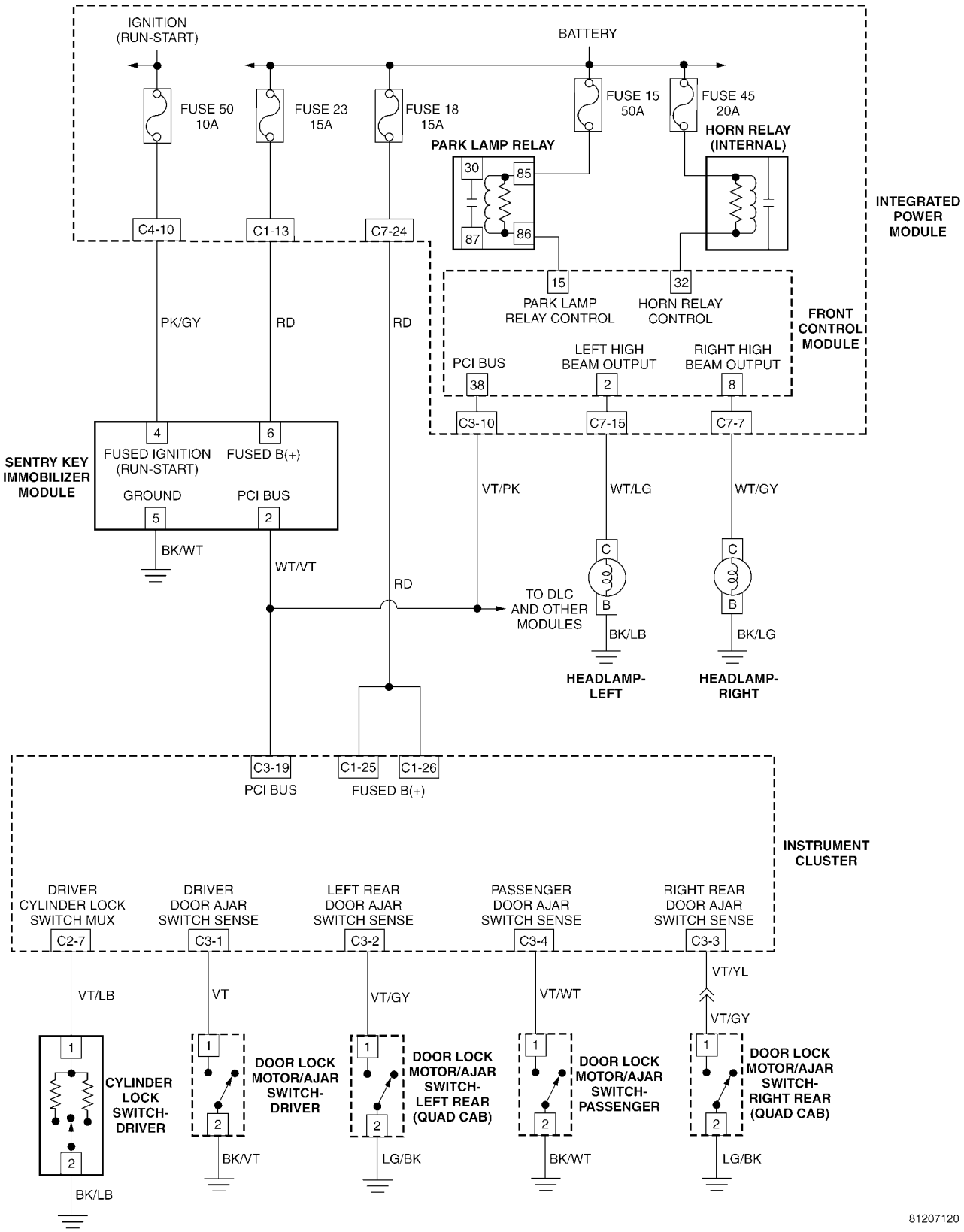
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10.12 TELECOMMUNICATIONS - HANDS FREE SYSTEM



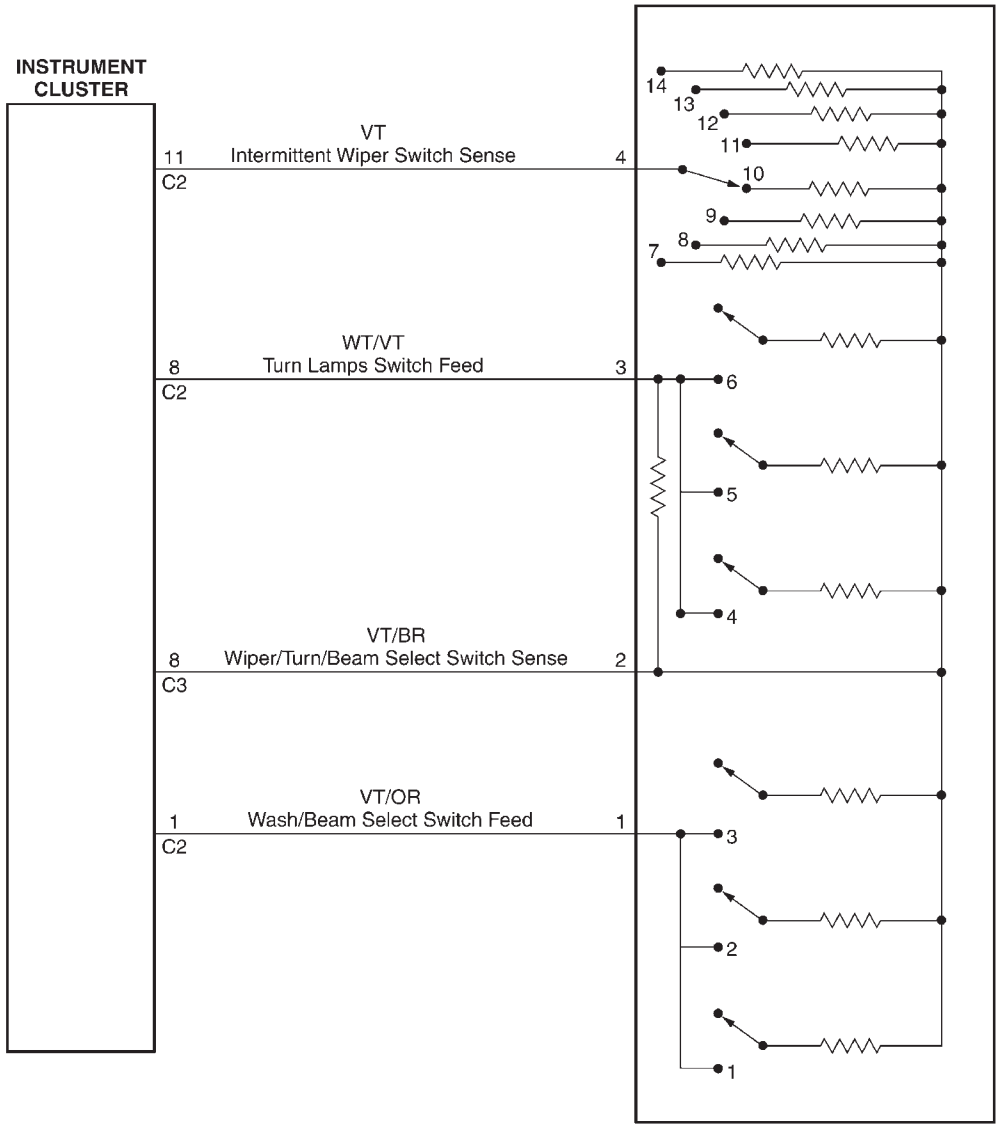
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10.13 VEHICLE THEFT SECURITY SYSTEM



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10.14 WIPERS



MULTI-FUNCTION SWITCH

1 HIGH BEAM
2 OPTICAL HORN
3 WASH
4 RIGHT TURN
5 LEFT TURN
6 HAZARD
7 HI
8 LOW
9 WIPE 5
10 WIPE 4
11 WIPE 3
12 WIPE 2
13 WIPE 1
14 OFF

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11.0 CHARTS AND GRAPHS

11.1 DIAGNOSTIC TROUBLE CODE

INSTRUMENT CLUSTER DIAGNOSTIC TROUBLE CODE	
DTC	DESCRIPTION
01	Airbag warning indicator output circuit shorted
02	Airbag warning indicator output circuit open
03	ABS indicator output circuit shorted
04	ABS indicator output circuit open
05	MIL indicator output circuit shorted
06	MIL indicator output circuit open
07	Wait to start indicator output circuit shorted
08	Wait to start indicator output circuit open
0B	BTSI output circuit shorted or open
0C	PRNDL switch input circuit shorted
0D	PRNDL switch input circuit open
20	Panel dimmer input circuit shorted
21	Panel dimmer input circuit open
22	Headlamp switch input circuit shorted
23	Headlamp switch input circuit open
24	Turn hazard switch input circuit shorted
25	Turn hazard switch input circuit open
26	Panel illumination output circuit shorted or open
27	Courtesy/dome lamp output circuit shorted or open
28	Glovebox/map lamp output circuit shorted or open
29	Cargo lamp output circuit shorted or open
40	Wiper switch input circuit shorted
41	Wiper switch input circuit open
42	Wash/beam input circuit shorted
60	Passenger door lock switch input circuit shorted
61	Passenger door lock switch input circuit open or short to voltage
62	Passenger door lock switch input circuit stuck
63	Driver door lock switch input circuit shorted
64	Driver door lock switch input circuit open or short to voltage
65	Driver door lock switch input circuit stuck
66	All door lock output circuit shorted to ground or voltage
67	All door unlock output circuit shorted to ground or voltage
68	Driver door unlock output circuit shorted to ground or voltage
69	Passenger cylinder lock switch input circuit shorted
6B	Passenger cylinder lock switch input circuit stuck
6C	Driver cylinder lock switch input circuit shorted
6E	Driver cylinder lock switch input circuit stuck
80	Incorrect odometer value found
81	Remote radio switch circuit high
82	Remote radio switch circuit stuck
A0	Internal module FLASH memory checksum failure
A1	Internal module bootloader failure
A3	BATTERY voltage open
A4	Ignition RUN/START circuit rationality check
A5	TCCM messages not received
A6	Ignition UNLOCK circuit rationality check
A7	VIN checksum error
A8	VIN previously stored
A9	PCI Bus internal failure
AA	PCM messages not received
AB	TCM messages not received
AC	ABS messages not received
AD	FCM messages not received
AE	ACM messages not received
AF	SKIM messages not received
B0	RKE fob battery low
B1	RKE module communication link
B2	Cluster mismatch
00	DONE

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Model _____ **Year** _____ **Body Type** _____ **Engine** _____

Transmission _____ **Vehicle Mileage** _____ **MDH** _____

Diagnostic Procedure _____ **Book No.** _____ **Page** _____

Comments/recommendations (if necessary, draw sketch)

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