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NOTES

1.0 INTRODUCTION

The procedures contained in this manual include all the specifications, instructions, and graphics needed to diagnose 2001 body system problems. The diagnostics in this manual are based on the failure condition or symptom being present at the time of diagnosis.

Please follow the recommendations below when choosing your diagnostic path.

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

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

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

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

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

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

1.1 SYSTEM COVERAGE

This diagnostic manual covers 2001 Jeep Cherokee (XJ) 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 System (ACM)
- Compass Mini-Trip Computer (CMTC)
- Mechanical Instrument Cluster (MIC)
- Remote Keyless Entry (RKE)
- Vehicle Communication

3.0 SYSTEM DESCRIPTION AND FUNCTIONAL OPERATION

The body system on the 2001 Jeep Cherokee consists of five modules that communicate over the CCD bus (Chrysler Collision Detection multiplex system). There are two additional modules, the Powertrain Control Module (PCM) and the Transmission Control Module (TCM) that are not part of the body system, but do utilize the CCD bus for communication. The TCM also utilizes the bus for diagnostics. The PCM sends and receives messages on the CCD bus; however, diagnostics are performed through the Serial Communication Interface or SCI, the same as last year. All of the information about the functioning of all the systems is organized, controlled and communicated by the CCD bus, described in Section 3.6 (Vehicle Communication) of this general information.

Through the CCD 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 although a module may not require all information to perform its function. Each module will only respond to messages "addressed" to it through a binary coding process. This method of data transmission significantly reduces the complexity of the wiring in the vehicle and the size of wiring harnesses.

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

When replacing any bulbs, do not touch the new bulb with your fingers. Oil contamination will se-

verely shorten bulb life. If the new bulb comes in contact with an oily surface, clean the bulb with rubbing alcohol.

3.1 AIRBAG SYSTEM

A dual front airbag system is a standard equipment safety feature on this model. The airbag system is designed to provide increased driver and passenger protection if the vehicle is involved in a front-end collision. A DRBIII® scan tool is required for diagnosis of the airbag system. The system is the most effective when used in conjunction with the seat belt system. The airbag system consists of the Airbag Control Module (ACM), Mechanical Instrument Cluster (MIC), driver and hybrid passenger airbag module, clock spring, data link connector and the Chrysler Collision Detection multiplex system (CCD bus). There are no external impact sensors in this system.

The ACM is an electronic module that monitors the airbag system for proper operation, stores Diagnostic Trouble Codes (DTCs), controls the airbag warning lamp, and contains an energy storage capacitor. This capacitor stores enough electrical energy to deploy the airbags for up to one second following a battery disconnect or failure during an impact. The purpose of the capacitor is to provide airbag system protection in a severe secondary impact if the initial impact has damaged or disconnected the battery, but was not severe enough to deploy the airbag.

The ACM is mounted on the center tunnel floor pan of the vehicle, behind the parking brake mechanism. The ACM provides DTCs to the technician through the DRBIII® via the CCD bus. Some circuits are tested continuously; others are checked only under certain circumstances. The Mechanical Instrument Cluster (MIC) turns the warning lamp on or off based on CCD bus messages from the ACM. The ACM cannot be repaired and must be replaced if it is damaged or faulty.

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

NEVER STRIKE OR KICK THE AIRBAG CONTROL MODULE BECAUSE IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF AN AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT.

The deceleration or g-force resulting from the impact of a front-end collision causes the safing sensor inside the ACM to close. As soon as the ACM internal accelerometer and the safing sensor are closed an electrical charge is sent to the airbag module. This causes the inflator to be actuated, thus deploying the airbags. The total time from the closure of the sensors to deployment and deflation of the airbags is 1/10 of one second.

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 “run” or “start” position, the MIC performs a lamp check by turning the AIRBAG warning lamp on for six to eight seconds. If after that the lamp turns off, it means that the ACM has checked the system and found it to be free of discernible malfunctions. If the lamp remains on, there could be an active fault in the system or the MIC lamp circuit may be defective. If the lamp comes on and stays on for a period longer than six to eight seconds and then goes off, there is usually an intermittent problem in the system. The MIC monitors the airbag warning lamp for an open or defective lamp driver circuit. This information is sent to the ACM via a CCD bus message. The CCD bus messages listed below can be monitored using DRBIII® and selecting “passive restraints,” “AIRBAG,” “MONITOR DISPLAY,” and “WARNING LAMP STATUS.”

ACM LAMP REQUEST (on or off)

MIC BULB STATE (ok or failed)

MIC DRIVER STATE (ok or failed)

Perform the WARNING LAMP CIRCUIT OPEN procedure in this book to find the cause of any customer complaint regarding the AIRBAG warning lamp, such as:

- Warning lamp does not illuminate
- Warning lamp stays illuminated with no active DTCs

NOTE: THE AIRBAG WARNING LAMP WILL BE ILLUMINATED IF THE INSTRUMENT CLUSTER LOSES CCD BUS COMMUNICATION WITH THE AIRBAG MODULE OR PCM. THE CCD BUS SYSTEM MUST BE REPAIRED FIRST.

Service and general information labels about the airbag system can be found on the driver's sun visor, and in the engine compartment.

To ensure that the airbag will be ready to deploy in a collision, have the system serviced by an authorized dealer.

IMPORTANT NOTE: IF THE POWERTRAIN CONTROL MODULE HAS BEEN CHANGED AND THE CORRECT VIN AND MILEAGE HAVE NOT BEEN PROGRAMMED, A DTC WILL BE SET IN THE AIRBAG MODULE. IN ADDITION, IF THE VEHICLE IS EQUIPPED WITH A SENTRY KEY IMMOBILIZER MODULE (SKIM). SECRET KEY DATA MUST BE UPDATED TO ENABLE STARTING.

FOR AIRBAG SYSTEM:

ACTION:

1. Enter correct VIN and Mileage in PCM.
2. Erase codes in Airbag module.

DRIVER AIRBAG MODULE (DAB)

The Driver Airbag Module (DAB) protective trim cover is the most visible part of the driver side airbag system. The module is mounted directly to the steering wheel. The protective trim cover is fitted to the front of the airbag module and forms a decorative cover in the center of the steering wheel. Upon airbag deployment, this cover will split at a predetermined breakout line. Located under the airbag module 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 inflator are attached and sealed. The airbag module cannot be repaired and must be replaced if deployed or is damaged or defective in any way. The inflator assembly is mounted to the back of the airbag module. When supplied with the proper electrical signal, the inflator seals the hole in the airbag cushion so it can discharge the gas it produces directly into the cushion.

THE AIRBAG MODULE INFLATOR ASSEMBLY CONTAINS SODIUM AZIDE AND POTASSIUM NITRATE. THESE MATERIALS ARE POISIONOUS AND EXTREMELY FLAMMABLE. CONTACT WITH ACID, WATER OR HEAVY METALS MAY PRODUCE HARMFUL OR IRRITATING GASES (SODIUM HYDROXIDE IS FORMED IN THE PRESENCE OF MOISTURE) OR COMBUSTIBLE COMPOUNDS. IN ADDITION, THE PASSENGER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 2500 PSI. DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURES EXCEEDING 93°C (200°F).

The DAB is connected to the ACM through a mechanical device called a clock spring. The clockspring allows the DAB to be hardwired through the steering wheel to the ACM. A yellow quick disconnect connector is located under the steering column at the lower edge of the knee blocker panel. This connector when disconnected will disable both the DAB and PAB modules.

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PASSENGER AIRBAG MODULE (PAB)

The airbag door on the instrument panel above the glove box is the most visible part of the passenger side airbag system. Under the airbag door are the airbag cushion and its supporting components. The airbag module includes a housing to which the cushion, inflator and canister of compressed gas are attached and sealed. The airbag module cannot be repaired and must be replaced if deployed or damaged. The inflator seals the hole in the airbag cushion so it can discharge the gas it produces directly into the cushion when supplied with the proper electrical signal. The airbag door is secured to the airbag module and the instrument panel base, and has predetermined breakout lines concealed beneath its decorative cover. Upon airbag deployment, the airbag door will split at the breakout lines and the door will pivot out of the way. The

airbag door is serviced as a unit with the airbag module. If an airbag module assembly is defective and non-deployed, refer to the Chrysler Corporation current parts return list in the Warranty Policies and Procedures manual for the proper handling procedures.

THE AIRBAG MODULE INFLATOR ASSEMBLY CONTAINS SODIUM AZIDE AND POTASSIUM NITRATE. THESE MATERIALS ARE POISONOUS AND EXTREMELY FLAMMABLE. CONTACT WITH ACID, WATER OR HEAVY METALS MAY PRODUCE HARMFUL AND IRRITATING GASES (SODIUM HYDROXIDE IS FORMED IN THE PRESENCE OF MOISTURE) OR COMBUSTIBLE COMPOUNDS, IN ADDITION, THE PASSENGER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 2500 PSI. DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURES EXCEEDING 93°C (200°F).

A yellow quick disconnect connector is located under the steering column at the lower edge of the knee blocker panel. This connector when disconnected will disable both the DAB and PAB module.

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

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. ANYTIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE CHRYSLER MOPAR PARTS CATALOG.

3.1.1 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 code(s).

Each diagnostic trouble code is diagnosed by following a specific testing procedure. The diagnostic test procedures contain step-by-step instructions for determining the cause of the trouble codes. It is not necessary to perform all of the tests in this book to diagnose an individual code.

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

3.1.2 ACTIVE CODES

An active trouble code indicates an ongoing 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.

3.1.3 STORED CODES

Airbag codes are automatically stored in the ACM's memory after 1 minute of occurance 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 occurs, the AIRBAG warning lamp illuminates for 12 seconds minimum (even if the problem existed for less than 12 seconds). The code is stored, along with the time in minutes it was active, and the number of times the ignition has been cycled since the problem was last detected.

The minimum time shown for any code will be one minute, even if the code was actually present for less than one minute. Thus, the time shown for

a code that was present for two minutes 13 seconds, for example, would be three minutes.

If a malfunction is detected, a diagnostic trouble code is stored and will remain stored as long as the malfunction exists. When and if the malfunction ceases to exist, an ignition cycle count will be initiated for that code. If the ignition cycle count reaches 100 without a recurrence of that same malfunction, that diagnostic trouble code is erased and that ignition cycle counter is reset to zero. If the malfunction recurs 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 text procedure, the active code diagnostic test will not locate the source of the problem. In this case, the stored code can indicate an area to inspect.

If no obvious problems are found, erase stored codes. With the ignition "on," wiggle the wire harness and connectors, then 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.

3.1.4 AIRBAG TROUBLE CODES

The airbag control module may report any of the following diagnostic trouble codes.

For the following active or stored codes, replace the Airbag Control Module (ACM):

- AECM Accelerometer
- Internal Diagnostic 1
- Internal Diagnostic 2
- AECM Output Driver
- AECM Stored Energy Logic
- AECM Stored Energy Driver
- AECM Stored Energy Passenger
- Internal Diagnostic 3
- Internal Diagnostic 4
- Safing Sensor Shorted

For these codes, refer to the appropriate diagnostic procedure:

- Driver Squib Circuit Open
- Driver Squib Circuit Shorted
- Loss of Ignition Run Only
- Loss of Ignition Run/Start
- No Cluster CCD Bus Message
- No CCD Communication
- Passenger Squib Circuit Open
- Passenger Squib Circuit Shorted
- Either Squib Term Shorted to Battery
- Either Squib Term Shorted to Ground
- Warning Lamp Circuit Open/Shorted

3.2 COMPASS/MINI−TRIP COMPUTER

The Compass/Mini−Trip Computer (CMTC) is in the overhead console. It displays the following information:

- Compass direction
- Current outside temperature
- Elapsed Time (ET)
- Distance To Empty (DTE)
- Average Fuel Economy (AVE ECO)
- Instantaneous Fuel Economy (ECO)
- Trip Odometer (ODO)

All of the information required by the CMTC except the ambient temperature and compass direction is transmitted over the CCD bus.

The CMTC can perform an independent self-test. This can be accomplished by using either the DRB or pressing both US/M and STEP buttons and then turning the ignition key on. All segments of the CMTC should light while the CMTC checks its internal function. If there are internal failures, the CMTC will display "FAIL." If there is a problem with the CCD communication, the CMTC will display "CCD." Refer to the "Compass/Mini-Trip" section of this manual for further diagnosis.

3.2.1 SETTING THE COMPASS

The compass/mini-trip module is self-calibrated and requires no adjustment. The word CAL will be displayed to indicate that the compass is in the fast calibrating mode. CAL will turn off after the vehicle has gone in three complete circles without stopping, in an area free of magnetic disturbance.

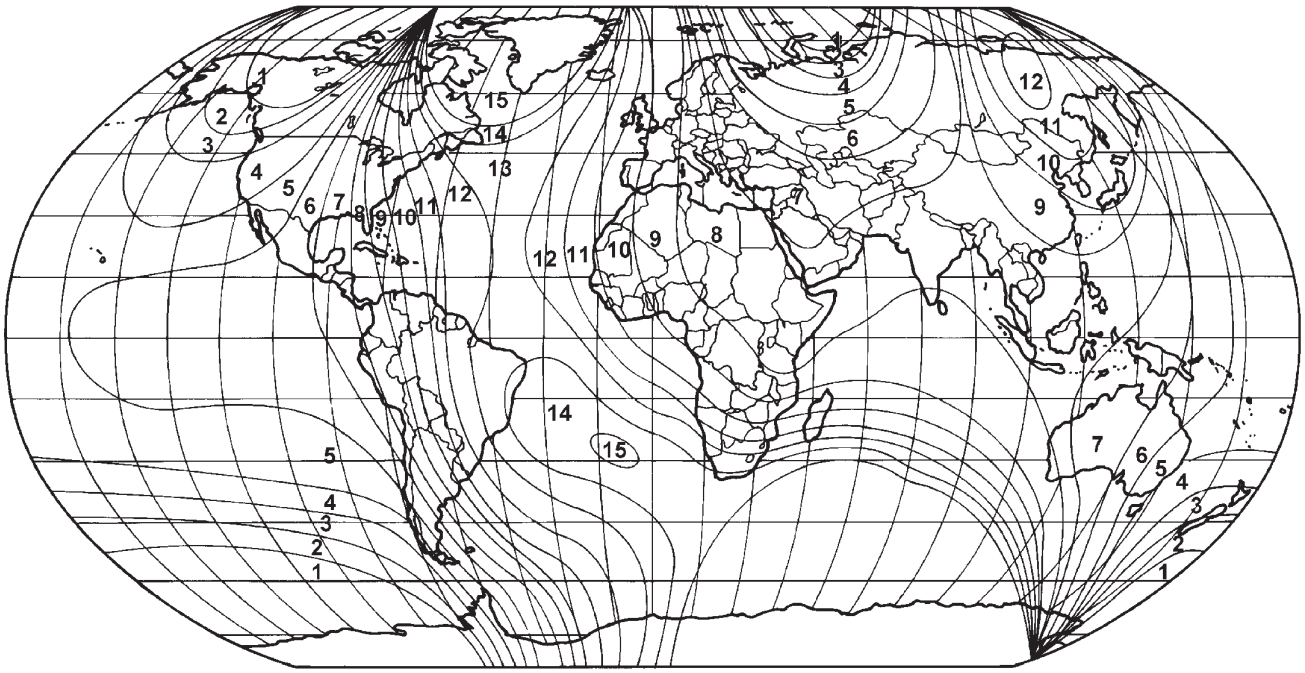
If the module displays the temperature while the compass is blank, or displays a false reading, the vehicle must be demagnetized. See the service manual for the proper procedure.

If the compass still goes blank after the vehicle is demagnetized, the compass/mini-trip module must be replaced.

3.2.2 SETTING THE COMPASS VARIANCE

Variance is the difference between magnetic north and geographic north. To determine the variance for the area you are in, refer to the zone map on the next page. The number shown for your area is the variance number for your area.

1. Set the compass/mini-trip console to compass/temperature mode.
2. Press and hold down both the US/METRIC button and the STEP button for 5 seconds.
3. The VAR light will come on and the last variance setting will be displayed.



80a13863

4. Enter the correct variance number by pressing the US/M button.
5. Press the STEP button to set the zone number and resume normal operation.

NOTE: DO NOT ATTACH ANY MAGNETIC DEVICE SUCH AS A MAGNETIC CB ANTENNA TO THE VEHICLE. THIS CAN CAUSE THE COMPASS TO GIVE FALSE READINGS.

3.3 INSTRUMENT CLUSTER

The instrument cluster for Jeep Cherokee (XJ) is available in two different versions: base with two gauges, and premium with six gauges. The gauges are positioned with information received by the cluster over the CCD bus from the PCM. Some of the warning lamps are hardwired; and some are controlled by the cluster, using CCD bus information. The vehicle chime function is contained on the cluster circuit board, as well as the timer for the rear window defogger. There is a self-test available for the cluster that will actuate all the gauges and place them at their calibration points. The test will not run if the cluster sees engine RPM or vehicle speed. This test will light all CCD controlled lamps for verification of lamp operation. It also forces the odometer Vacuum Fluorescent (VF) display to count up from all zero's through all nine's. The self-test routine can be entered by pushing and holding the trip reset button, while rotating the ignition key from the "off" to the "on" position, release the button after the ignition key cycle.

The VF display is also capable of displaying PCM DTC's. This feature is accessed the same as in previous years by turning the key from "off" to "run" three times and staying in position.

The instrument cluster will provide bus bias and termination and the PCM controller provides a second termination. If cluster is disconnected, the bus will not be biased.

The cluster will be serviced as an assembly. There will be limited parts available: bulbs and sockets, the front lens, the trip odometer stem cover and the hood and rear cover assembly. No internal parts of the lowline or highline cluster will be serviced.

Normal Operation: At key "on", the cluster will light the low fuel, oil pressure, temperature battery, seat belt, check gauges and airbag lamps. The check engine, ABS, and SKIM lamps are bulb tested by their system modules. As the key is turned farther toward the start position, the brake warning lamp will illuminate. The Vacuum Fluorescent (VF) display will indicate the mileage stored inside the cluster. If there is a bus failure and the cluster cannot receive distance pulses from the engine controller, the cluster will display the last mileage stored until the ignition key is turned off. If the cluster is receiving bus messages, but is unable to display odometer information because of an internal failure, the odometer display dashes. VF dimming is handled by the potentiometer that controls instrumentation illumination.

3.3.1 HEATED REAR WINDOW DEFOGGER

The timing circuit for the rear window defogger is contained in the cluster. The operation is as follows:

With the ignition on, the first push of the defogger button will start a 10-minute timer. After 10 minutes have elapsed, the defogger will be turned off. If the button is pushed a second time during the same ignition cycle, the timer will turn the defogger on for five minutes. Every consecutive push will operate the defogger for five minutes. When the defogger is on, it can be turned off with a second push of the defogger button.

3.3.2 CHIME

The chime function is a 1000 Hz tone within the cluster. The cluster will not generate more than one chime per condition in the same ignition cycle. If a problem occurs that requires a second chime while the first one is currently being generated, the second chime request will be ignored. The chime will sound for the following conditions:
Headlamps on and driver's door open
Seat Belt Warning — Six seconds after key on
Key in Ignition Warning — Driver's front door open with key in ignition
Engine Temp High — When gauges enter red zone
Low Fuel — When fuel reaches 1/8 of a tank
When overhead console is reset
Skim key successfully programmed

3.3.3 LAMPS (HARDWIRED)

The following lamps are hardwired to the cluster and are not part of the self-test:
Brake Warning (Red) - bulb test performed when the ignition switch is turned to the crank position
Full Time 4WD
Part Time 4WD
High Beam
Left Turn Signal
Liftgate Ajar

The following lamps are bulb tested at ignition on by the appropriate system module.
ABS (Amber)
Check engine
SKIM

3.3.4 LAMPS (CCD)

The following lamps are controlled by the cluster via CCD messages. They are bulb tested (actuated) during the self-test procedure.
Airbag
Cruise Control
Low Fuel Warning
Low Washer Fluid
Upshift (If equipped)
Seat Belt
Sentry Key Immobilizer
Engine Temp (If equipped)
Battery (If equipped)
Low Oil Pressure Warning (If equipped)
Check Gauges

The lowline cluster does not contain a check gauges telltale.

NOTE: THE SEAT BELT AND LOW WASHER FLUID SWITCHES ARE HARDWIRED TO THE CLUSTER. THE CLUSTER THEN DECIDES IF THE LAMP SHOULD ILLUMINATE BASED ON THE HARDWIRED INPUT.

3.3.5 DIAGNOSTICS

3.3.5.1 Gauges

The Mechanical Instrument Cluster (MIC) will not store any DTCs. Because the Powertrain Control Module (PCM) gathers all the gauge information and sends it to the cluster via the bus, it is the PCM's responsibility to monitor these inputs and store DTCs for them. For this reason, the first item to be checked regarding a gauge problem (except oil pressure) should be the PCM for any DTCs relating to the gauge in question.

There are DTCs associated with all the gauges except for the oil pressure gauge. When diagnosing gauges, the input that is used for the gauge message (fuel level sender, for example) must be valid. Because of OBD II requirements, most of the information used for monitoring the OBD II system is the same information used by the controller to formulate the gauge bus messages. OBD II requirements state the fuel level sender must be checked for rationality. This includes determining if the sending unit voltage is too high or too low, or if the voltage has not changed over time. If the PCM has determined the sender information is not valid, it will set the DTC. The presence or absence of the fuel level sending code in the PCM is an important factor to determine whether a fuel gauge problem is in the sending unit or the cluster.

This same situation is used in all cluster diagnostics related to gauge operation with the exception of the oil pressure gauge. OBD II requirements do not include oil pressure monitoring. Therefore, oil pressure diagnostics would dictate that a mechanical oil pressure gauge be attached to the engine for absolute verification of oil pressure readings.

3.3.5.2 Hardwired Lamps

The cluster contains several hardwired lamps described earlier. These lamps are set up in two configurations: The lamp is supplied power by the cluster and the ground is supplied by the circuit being monitored, or the lamp is supplied with a ground in the cluster and power comes from a module or other device. Refer to the schematic in General Information for the specific details on the lamp in question. Verification of the bulb filament

may be required in all cases of an inoperative lamp. This will require removal of the cluster and bulb in question.

3.3.5.3 CCD Controlled Lamps

The cluster contains several CCD controlled lamps as described earlier. These lamps are part of the diagnostic self-test. When entering the self-test mode, operation of these lamps can be observed. If the bulb fails to operate during the self-test and the bulb filament is good, the cluster assembly will need to be replaced.

3.4 REMOTE KEYLESS ENTRY (RKE)

The Remote Keyless Entry (RKE) module is in the overhead console or in the dome lamp assembly. It operates on a RF signal, which makes it less dependent on the aiming of the transmitter. When an unlock signal is received (from a transmitter), the module will ground the unlock control circuit, therefore actuating the passenger door module and at the same time grounding the courtesy lamps driver circuit, actuating the illuminated entry. The RKE module is capable of retaining four individual vehicle access codes (four transmitters). This system incorporates a rolling code feature. A horn chirp feature is also part of this system and is customer programmable.

The RKE module has some DRBIII® functions. The Door Lock, Door Unlock, Horn and Illuminated Entry can be actuated. The horn and illuminated entry activation time is adjustable using the DRBIII®. The DRBIII® can also turn the horn chirp and illuminated entry on and off.

The XJ will be shipped with the horn chirp enabled. It can be deactivated manually using the following procedure: Press and hold the LOCK button on the transmitter for 5-10 seconds, and then while the LOCK button is pressed, press and release the UNLOCK button. The horn chirp feature can be reactivated by repeating the procedure.

3.4.1 PROGRAMMING AN RKE TRANSMITTER

Programming a transmitter can be accomplished using the DRBIII®. Using the DRBIII® select “Theft Alarm,” “VTSS” (even though “Vehicle Theft Security System” is not available for this vehicle) then “Miscellaneous” then “Programming RKE”. Select a transmitter (1 - 4). The locks will cycle to verify you are in programming mode. Press the unlock button on the transmitter. The locks will cycle again to verify programming has taken place. When you program to a position, that code will overwrite the code that was in that position and because you have no way of knowing if a valid code was there or not, it is recommended that whenever it is necessary to program a transmitter, all transmitters that are to be used with that vehicle should be programmed at that time.

3.4.2 SYNCHRONIZATION (ROLLING CODE) BUTTON TRANSMITTERS

The transmitter will go out of synchronization if the button is pressed more than 128 times outside of the range of the receiver. In other words the transmitter will not unlock the doors. The transmitter will go out of synchronization if the batteries are removed and replaced. To synchronize the code of the particular transmitter with the receiver, press and hold the “lock” button while within the receiver range.

3.5 SENTRY KEY IMMOBILIZER SYSTEM (SKIS)

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

3.5.1 SKIS OPERATION

When ignition power is supplied to the SKIM, the SKIM performs an internal self-test. After the self-test is completed, the SKIM energizes the antenna (this activates the transponder chip) and sends a challenge to the transponder chip. The transponder chip responds to the challenge by generating an encrypted response message using the following:

Secret Key — This an electronically stored value (identification number) that is unique to each SKIS. The secret key is stored in the SKIM, PCM and all ignition key transponders.

Challenge — This is a random number that is generated by the SKIM at each ignition key cycle.

The secret key and challenge are plugged into an algorithm that produces the encrypted response message. The transponder uses the crypto algorithm to receive, decode and respond to the message sent by SKIM. After responding to the coded message, the transponder sends a transponder I.D. message to the SKIM. The SKIM compares the transponder I.D. to the available valid key codes in SKIM memory (8 key maximum). After validating the key the SKIM sends a CCD Bus message called

a “Seed Request” to the PCM then waits for a controller response. If the PCM does not respond, the SKIM will send the seed request again. After three failed attempts the SKIM will stop sending the seed request and store a trouble code. If the PCM sends a seed response, the SKIM sends a valid/invalid key message to the PCM. This is an encrypted message that is generated using the following:

VIN — Vehicle Identifcation Number

Seed — This is a random number that is generated by the PCM at each ignition key cycle.

The VIN and seed are plugged into a rolling code algorithm that encrypts the “valid/invalid key” message. The PCM uses the rolling code algorithm to receive, decode and respond to the valid/invalid key message sent by SKIM. After sending the valid/invalid key message the SKIM waits 3.5 seconds for a PCM status message from the PCM. If the PCM does not respond with a valid key message to the SKIM, a fault is detected and trouble code stored.

The SKIS incorporates a warning lamp located in the instrument cluster. The lamp is actuated when the SKIM sends a CCD Bus message to the instrument cluster requesting the lamp on. The SKIM will request lamp operation for the following:

- bulb check at ignition on
- to alert the vehicle operator to a SKIS malfunction

For all faults except transponder faults and VIN mismatch, the lamp remains on steady. In the event of a transponder fault the light flashes at the rate of 1 Hz (once per second). If a fault is present the lamp will remain on or flashing for the complete ignition cycle. If a fault is stored in SKIM memory which prevents the system from operating properly, the PCM will allow the engine to start and run (for 2 seconds) up to six times. After the sixth attempt, the PCM disables the starter relay until the fault is corrected.

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

3.6 VEHICLE COMMUNICATION

The Chrysler Collision Detection multiplex system (CCD bus) consists of a twisted pair of wires. These wires run from one module to another. They receive and deliver coded information between the modules. The information is coded to identify the message, as well as the importance of the message. When there are multiple messages trying to access the CCD bus at one time, the code determines the message that has higher priority and is then allowed to access the bus first.

The two wires of the twisted pair that make up the CCD multiplex system are called “bus+” (bus plus) and “bus−” (bus minus) respectively. Each wire has a measurable voltage level of roughly 2.5 volts. In order to maintain the 2.5 volts on each line and provide a means of transportation for the coded messages, there is a “voltage divider network.” This network consists of the Mechanical Instrument Cluster (MIC) that supplies both bias and termination and the PCM that provides a second termination. Bias is the part of the voltage divider network that places both bus+ and bus− at 2.5 volts. Termination in the circuitry is required to complete the voltage divider network and it also provides some electromagnetic protection for the bus.

NOTE: COMMUNICATION OVER THE BUS IS ESSENTIAL TO THE PROPER OPERATION OF SOME VEHICLE SYSTEMS, ON BOARD DIAGNOSTIC (OBD) SYSTEMS AND COMMUNICATION WITH THE DRB. PROBLEMS WITH THE OPERATION OF THE BUS OR DRB MUST BE CORRECTED BEFORE PROCEEDING WITH DIAGNOSTIC TESTING. IF THERE IS A PROBLEM, REFER TO THE VEHICLE COMMUNICATIONS SECTION IN THIS MANUAL.

3.6.1 CCD BUS FAILURE MESSAGES

Short to Battery - Either or both of the bus wires are shorted to the battery potential, or a specific ground may be open.

Short to 5 Volts - Either or both of the bus wires are shorted to a 5-Volt potential.

Short to Ground - Either or both of the bus wires are shorted to ground.

Bus (+) and Bus (−) Shorted Together - The two bus wires are shorted together.

Bus (+) Open - The bus (+) wire has lost connection with termination and/or bias.

Bus (-) Open - The bus (-) wire has lost connection with termination and/or bias.

Bus Bias Level Too Low - Either or both of the bus wire potentials are significantly below their normal 2.5 volts.

Bus Bias Level Too High - Either or both of the bus wire potentials are significantly above their normal 2.5 volts.

No Termination - The bus system has lost connection with all of its terminators. The Instrument Cluster (MIC) and Powertrain Control Module Supply Termination (PCM).

No Bus Bias - The bus system has lost connection with all modules that provide bias. The Instrument Cluster (MIC) provides the CCD bus bias.

Not Receiving Bus Messages Correctly - The DRB cannot communicate over the bus and does not know why.

3.7 USING THE DRBIII®

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

3.8 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 DRB should display any other error message, record the entire display and call the MDS Hotline, or call for information and assistance at 1-800-825-8737. This is a sample of such an error message display.

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

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

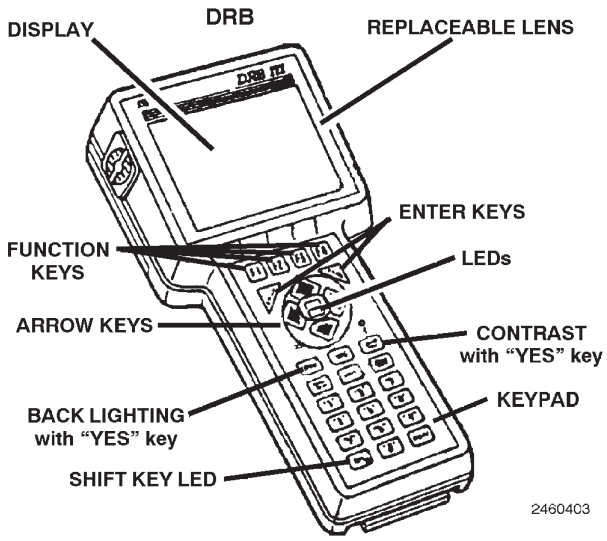
3.8.1 DRBIII® DOES NOT POWER UP

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

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

3.8.2 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: ENGINES PRODUCE CARBON MONOXIDE THAT IS ODORLESS, CAUSES SLOWER REACTION TIME, AND CAN LEAD TO SERIOUS INJURY. WHEN THE ENGINE IS OPERATING, KEEP SERVICE AREAS WELL VENTILATED OR ATTACH THE VEHICLE EXHAUST SYSTEM TO THE SHOP EXHAUST REMOVAL SYSTEM.

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

When servicing a vehicle, always wear eye protection, and remove any metal jewelry such as watchbands or bracelets that might make an inadvertent electrical contact.

When diagnosing a body system problem, it is important to follow approved procedures where applicable. These procedures can be found in the

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

4.2.2 VEHICLE PREPARATION FOR TESTING

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

4.2.3 SERVICING SUB-ASSEMBLIES

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

4.2.4 DRBIII® SAFETY INFORMATION

WARNING: EXCEEDING THE LIMITS OF THE DRB MULTIMETER IS DANGEROUS. IT CAN EXPOSE YOU TO SERIOUS OR POSSIBLY FATAL INJURY. CAREFULLY READ AND UNDERSTAND THE CAUTIONS AND THE SPECIFICATION LIMITS.

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

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

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

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

4.3 WARNINGS

4.3.1 VEHICLE DAMAGE WARNINGS

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

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

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

4.3.2 ROAD TESTING A COMPLAINT VEHICLE

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

CAUTION: BEFORE ROAD TESTING A VEHICLE, BE SURE THAT ALL COMPONENTS ARE REASSEMBLED. DURING THE TEST DRIVE, DO NOT TRY TO READ THE DRB SCREEN WHILE IN MOTION. DO NOT HANG THE DRB FROM THE REAR VIEW MIRROR OR OPERATE IT YOURSELF. HAVE AN ASSISTANT AVAILABLE TO OPERATE THE DRB.

5.0 REQUIRED TOOLS AND EQUIPMENT

DRBIII® (diagnostic read-out box)
jumper wires
ohmmeter
voltmeter

6.0 GLOSSARY OF TERMS

ACM	airbag control module (AECM or ASDM)
AECM	airbag electronic control module (ACM)
airbag module	also called “squib” initiator. It is located inside the driver and passenger airbag module assembly.
ASDM	airbag system diagnostic module (ACM)
CCD	Chrysler collision detection (vehicle communication bus)
CMTC	compass/mini-trip computer
DAB	driver airbag
DLC	data link connector
IC	instrument cluster (mic)
ODO	odometer
PAB	passenger airbag
PCM	powertrain control module
PDC	power distribution center
RKE	remote keyless entry
SUV	sport utility vehicle
TCM	transmission control module
SKIM	Sentry Key Immobilizer Module
SKIS	Sentry Key Immobilizer System

7.0

DIAGNOSTIC INFORMATION AND PROCEDURES

Symptom List:

ACM ACCELEROMETER - ACTIVE
ACM ACCELEROMETER - STORED
ACM INTERNAL 1 - ACTIVE
ACM INTERNAL 1 - STORED
ACM INTERNAL 2 - ACTIVE
ACM INTERNAL 2 - STORED
ACM INTERNAL 3 - ACTIVE
ACM INTERNAL 3 - STORED
ACM INTERNAL 4 - ACTIVE
ACM INTERNAL 4 - STORED
ACM OUTPUT DRIVER - ACTIVE
ACM OUTPUT DRIVER - STORED
ACM STORED ENERGY DRIVER - ACTIVE
ACM STORED ENERGY DRIVER - STORED
ACM STORED ENERGY LOGIC - ACTIVE
ACM STORED ENERGY LOGIC - STORED
ACM STORED ENERGY PASSENGER - ACTIVE
ACM STORED ENERGY PASSENGER - STORED
NO CCD COMMUNICATION - ACTIVE
SAFING SENSOR SHORT - ACTIVE
SAFING SENSOR SHORT - STORED

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

When Monitored and Set Condition:

ACM ACCELEROMETER - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM ACCELEROMETER - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 1 - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM ACCELEROMETER - ACTIVE — Continued

ACM INTERNAL 1 - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 2 - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 2 - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 3 - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 3 - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 4 - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM INTERNAL 4 - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM OUTPUT DRIVER - ACTIVE

When Monitored: Continuously with ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM OUTPUT DRIVER - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM STORED ENERGY DRIVER - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected an diagnostic condition, replace the module.

ACM ACCELEROMETER - ACTIVE — Continued

ACM STORED ENERGY DRIVER - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM STORED ENERGY LOGIC - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM STORED ENERGY LOGIC - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM STORED ENERGY PASSENGER - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

ACM STORED ENERGY PASSENGER - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

NO CCD COMMUNICATION - ACTIVE

When Monitored: The ACM monitors the CCD Bus for ACM transmitted messages continuously with the ignition on.

Set Condition: The code will set if ACM transmitted messages are not detected on the CCD BUS for 5 consecutive seconds.

SAFING SENSOR SHORT - ACTIVE

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

SAFING SENSOR SHORT - STORED

When Monitored: Continuously with the ignition on.

Set Condition: The ACM has detected a diagnostic condition, replace the module.

POSSIBLE CAUSES
ACM, ACTIVE AND STORED CODE

ACM ACCELEROMETER - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** View repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

Symptom:
DRIVER SQUIB CIRCUIT OPEN - ACTIVE

When Monitored and Set Condition:

DRIVER SQUIB CIRCUIT OPEN - ACTIVE

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

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

POSSIBLE CAUSES
DRIVER AIRBAG CIRCUITS OPEN
CLOCKSPRING, DRIVER AIRBAG CIRCUITS OPEN
DRIVER AIRBAG LINE 1 OPEN
DRIVER AIRBAG LINE 2 OPEN
ACM, DRIVER AIRBAG CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the battery is fully charged.** **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.** Disconnect the Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool # 8310 brown cable and jumper harness to the Driver Airbag connector. Turn the ignition on, then reconnect the battery. With the DRBIII®, read the active Airbag DTC's. Does the DRB show DRIVER SQUIB CIRCUIT OPEN? Yes → Go To 2 No → Replace the Driver Airbag. 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

DRIVER SQUIB CIRCUIT OPEN - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Ensure that the battery is fully charged.** **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.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 black cable and jumper harness to the Clockspring connector. Turn the ignition on, then reconnect the battery. With the DRBIII®, read the active Airbag DTC's. Does the DRB show DRIVER SQUIB CIRCUIT OPEN? Yes → Go To 3 No → Replace the Clockspring. 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
3	**NOTE: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. Disconnect the ACM connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Airbag Line 1 circuit between the ACM Adaptor and the Clockspring connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open or high resistance in the Driver Airbag Line 1 circuit. 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

DRIVER SQUIB CIRCUIT OPEN - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean / repair as necessary.** Connect the Airbag System Load Tool # 8310 ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Airbag Line 2 circuit between the ACM Adaptor and the Clockspring connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair open or high resistance in the Driver Airbag Line 2 circuit. 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	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** View repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

Symptom List:

DRIVER SQUIB CIRCUIT OPEN - STORED
DRIVER SQUIB CIRCUIT SHORT - STORED
EITHER SQUIB TERM SHORT TO BATTERY - STORED
EITHER SQUIB TERM SHORT TO GROUND - STORED
LOSS OF IGNITION RUN-START - STORED
NO CLUSTER MESSAGE - STORED
PASSENGER SQUIB CIRCUIT OPEN - STORED
PASSENGER SQUIB CIRCUIT SHORT - STORED
WARNING LAMP OPEN - SHORT - STORED

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER SQUIB CIRCUIT OPEN - STORED.

When Monitored and Set Condition:

DRIVER SQUIB CIRCUIT OPEN - STORED

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

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

DRIVER SQUIB CIRCUIT SHORT - STORED

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

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

EITHER SQUIB TERM SHORT TO BATTERY - STORED

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

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

EITHER SQUIB TERM SHORT TO GROUND - STORED

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

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

LOSS OF IGNITION RUN-START - STORED

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 4.5 volts, the code will set.

DRIVER SQUIB CIRCUIT OPEN - STORED — Continued

PASSENGER SQUIB CIRCUIT OPEN - STORED

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

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

PASSENGER SQUIB CIRCUIT SHORT - STORED

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

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

WARNING LAMP OPEN - SHORT - STORED

When Monitored: When the ignition is On, the ACM monitors the CCD Bus for a message from the MIC containing the airbag warning lamp bulb and driver status.

Set Condition: The code is set if the lamp state is open for 2 consecutive messages or 2 seconds.

POSSIBLE CAUSES
ACTIVE OR STORED CODE PRESENT
STORED CODE OR INTERMITTENT CONDITION

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

Symptom:
DRIVER SQUIB CIRCUIT SHORT - ACTIVE

When Monitored and Set Condition:

DRIVER SQUIB CIRCUIT SHORT - ACTIVE

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

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

POSSIBLE CAUSES
DRIVER AIRBAG MODULE LINE 1 SHORT TO LINE 2
CLOCKSPRING, DRIVER AIRBAG CIRCUITS LINE 1 SHORT TO LINE 2
DRIVER AIRBAG LINE 1 SHORT TO LINE 2
ACM, DRIVER AIRBAG CIRCUIT SHORT

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 brown cable and jumper harness to the Driver Airbag connector. Turn the ignition on, then reconnect the battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show DRIVER SQUIB CIRCUIT SHORT? Yes → Go To 2 No → Replace Driver Airbag Module. 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

DRIVER SQUIB CIRCUIT SHORT - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag. Disconnect the Clockspring connector. **Note: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 black cable and jumper harness to the Clockspring connector. Turn Ignition On, and then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs Does the DRB show DRIVER SQUIB CIRCUIT SHORT? Yes → Go To 3 No → Replace Clockspring. 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
3	**NOTE: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Clockspring connector. Disconnect the ACM connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM Adaptor to the Airbag Control Module connector. Measure the resistance between the Driver Airbag Line 1 and Line 2 at the Clockspring connector. Is the resistance below 5.0 ohms? Yes → Repair Driver Airbag Line 1 circuit Short to Driver Airbag Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 4 **Note: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

DRIVER SQUIB CIRCUIT SHORT - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
4	**The Driver Airbag circuits must** **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.** View repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **Note: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

Symptom:
EITHER SQUIB TERM SHORT TO BATTERY - ACTIVE

When Monitored and Set Condition:

EITHER SQUIB TERM SHORT TO BATTERY - ACTIVE

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

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

POSSIBLE CAUSES
DRIVER AIRBAG MODULE SHORT TO BATTERY
CLOCKSPRING DAB CIRCUITS SHORT TO BATTERY
PASSENGER AIRBAG MODULE CIRCUITS SHORT TO BATTERY
EITHER SQUIB LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, EITHER SQUIB SHORT TO BATTERY

TEST	ACTION	APPLICABILITY
1	**Note: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag Module. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 brown cable and jumper harness to the Driver Airbag connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show EITHER SQUIB TERM SHORTED TO BATTERY? Yes → Go To 2 No → Replace the Driver Airbag. 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

EITHER SQUIB TERM SHORT TO BATTERY - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag Module. Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System load tool 8310 black cable and jumper harness to the Clockspring connector. Turn Ignition On, then reconnect the Battery. With the DRB, read the active codes. Does the DRB show EITHER SQUIB TERM SHORTED TO BATTERY ? Yes → Go To 3 No → Replace the Clockspring. 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
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Passenger Airbag Module. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 brown cable and jumper harness to the Passenger Airbag connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show EITHER SQUIB TERM SHORTED TO BATTERY? Yes → Go To 4 No → Replace Passenger Airbag. 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

EITHER SQUIB TERM SHORT TO BATTERY - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag Module. Disconnect the Clockspring connector. Disconnect the Passenger Airbag. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM Adaptor to the Airbag Control Module connector. Turn Ignition On, then reconnect the Battery. Measure the voltage at the Driver Airbag Line 1 and Line 2 circuits and then Passenger Airbag Line 1 and Line 2 circuits at the ACM Adaptor. Is there any voltage present? Yes → Repair Squib Line 1 or Line 2 circuit short to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

Symptom:
EITHER SQUIB TERM SHORT TO GROUND - ACTIVE

When Monitored and Set Condition:

EITHER SQUIB TERM SHORT TO GROUND - ACTIVE

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

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

POSSIBLE CAUSES
DRIVER AIRBAG MODULE SHORT TO GROUND
CLOCKSPRING DAB CIRCUITS SHORT TO GROUND
PASSENGER AIRBAG CIRCUIT SHORT TO GROUND
EITHER SQUIB LINE 1 OR LINE 2 SHORT TO GROUND
ACM, EITHER SQUIB TERM SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	**Note: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag Module. **Note: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool # 8310 brown cable and jumper harness to the Driver Airbag connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show EITHER SQUIB TERM SHORTED TO GROUND? Yes → Go To 2 No → Replace the Driver Airbag. 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

EITHER SQUIB TERM SHORT TO GROUND - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag. Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 black cable and jumper harness to the Clockspring connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show EITHER SQUIB TERM SHORT TO GROUND? Yes → Go To 3 No → Replace the Clockspring. Perform AIRBAG VERIFICATION TEST - VER 1. **When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	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.** Disconnect the Passenger Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 brown cable and jumper harness to the Passenger Airbag connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show EITHER SQUIB TERM SHORT TO GROUND? Yes → Go To 4 No → Replace the Passenger Airbag. 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

EITHER SQUIB TERM SHORT TO GROUND - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Driver Airbag. Disconnect the Clockspring connector. Disconnect the Passenger Airbag. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Airbag Line 1 and Line 2 circuits and the Passenger Airbag Line 1 and Line 2 circuits at the Airbag Control Module Adaptor. Is the resistance below 5.0 Ohms on any circuit? Yes → Repair Airbag Squib Line 1 or Line 2 short to ground. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

Symptom:
LOSS OF IGNITION RUN ONLY - ACTIVE

When Monitored and Set Condition:

LOSS OF IGNITION RUN ONLY - ACTIVE

When Monitored: With the ignition in the run only position the ACM monitors the Fused Ignition Switch Output Run circuit for proper system voltage.

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

POSSIBLE CAUSES
IGNITION SWITCH OUTPUT RUN CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT RUN CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT RUN CIRCUIT SHORT TO GROUND
OPEN AIRBAG FUSE
ACM, FUSED IGNITION OUTPUT RUN CIRCUIT OPEN
ACM, FUSED IGNITION RUN CIRCUIT SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Remove Junction Block Airbag Run circuit fuse. **Note: Check connectors - Clean and repair as necessary.** Turn Ignition On (Engine Off). Measure the voltage on the Ignition Switch Output Run circuit at the Junction Block Run circuit Fuse . Is the voltage above 4.5 volts? Yes → Go To 2 No → Repair the open Ignition Switch Output Run circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All
2	Turn Ignition off. Remove and inspect the Airbag Run Fuse. Is the Fuse open? Yes → Go To 3 No → Go To 5 **Note: Reinstall the fuse if it is not open.**	All

LOSS OF IGNITION RUN ONLY - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Airbag Run fuse. **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the Fused Ignition Switch Output Run circuit at the ACM connector. Is the resistance below 5.0 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 4 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
4	Reconnect all preciously disconnected connectors and components. Turn ignition off. Install a new Fused Ignition Switch Output Run circuit Run fuse and turn the ignition on. Did the Fused Ignition Switch Output Run circuit fuse blow? Yes → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Replace Airbag Run fuse. Perform AIRBAG VERIFICATION TEST - VER 1. No → The Airbag fuse was defective and has been replaced as part of the previous test. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Turn 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 4.5 volts? Yes → Go To 6 No → Repair open Fused Ignition Switch Output Run circuit. 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

LOSS OF IGNITION RUN ONLY - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
6	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** View repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

Symptom:
LOSS OF IGNITION RUN-START - ACTIVE

When Monitored and Set Condition:

LOSS OF IGNITION RUN-START - ACTIVE

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 4.5 volts, the code will set.

POSSIBLE CAUSES
IGNITION SWITCH RUN - START CIRCUIT
AIRBAG RUN - START FUSE TEST
FUSED IGNITION SWITCH OUTPUT RUN - START CIRCUIT SHORT TO GROUND
FUSED IGNITION SWITCH OUTPUT RUN - START CIRCUIT OPEN
ACM, FUSED IGNITION SWITCH OUTPUT RUN - START SHORT TO GROUND
ACM, FUSED IGNITION OUTPUT RUN - START CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Remove Airbag Run - Start Fuse. **NOTE: Check connectors - Clean and repair as necessary.** Turn the ignition on. Measure the voltage of the Ignition Switch Output circuit at the Airbag Run - Start Fuse. Is the voltage above 4.5 volts? Yes → Go To 2 No → Repair the open Ignition Switch Output Run - Start circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All
2	Turn Ignition off. Remove and inspect the Airbag Run - Start Fuse. Is the Fuse open? Yes → Go To 3 No → Go To 5 **Note: Reinstall the fuse if it is not open.**	All
3	Remove the Airbag Run - Start Fuse. Turn the ignition off. Measure the resistance of the Fused Ignition Switch Output Run/Start circuit at the Airbag Run - Start Fuse. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Replace Airbag Run - Start Fuse. Perform AIRBAG VERIFICATION TEST - VER 1.	All

LOSS OF IGNITION RUN-START - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
4	**Warning: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the Fused Ignition Switch Output Run - Start circuit at the Airbag Control Module connector. Is the resistance below 5.0 ohms? Yes → Repair the Fused Ignition Switch Output Run - Start circuit short to ground. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Replace Airbag Run - Start Fuse. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Turn Ignition On, then reconnect the Battery. Measure the voltage of the Fused Ignition Switch Output Run - Start Circuit from the Airbag Control Module connector to ground. Is the voltage above 4.5 volts? Yes → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. No → Repair open Fused Ignition Switch Output Run - Start circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All

Symptom:

NO CCD COMMUNICATION - STORED

When Monitored and Set Condition:

NO CCD COMMUNICATION - STORED

When Monitored: The ACM monitors the CCD Bus for ACM transmitted messages continuously with the ignition on.

Set Condition: The code will set if ACM transmitted messages are not detected on the CCD BUS for 5 consecutive seconds.

POSSIBLE CAUSES
NO CCD BUS DTCS
INTERMITTENT CCD BUS TEST

TEST	ACTION	APPLICABILITY
1	Turn ignition on. **NOTE: Ensure the battery is fully charged.** Active codes must be resolved before diagnosing stored codes. Read both active and stored codes, and record them. With the DRBIII® monitor stored codes as you work through the system. **NOTE: Check for partially seated connectors and spread terminals - Clean and repair as necessary.** Wiggle the wiring harness of each module on the CCD Bus. While monitoring the DRB, road test the vehicle. Is there a wiring, connector problem, or NO CCD COMMUNICATION DTC? Yes → Repair the CCD Bus wiring, connectors or terminals as necessary. Perform AIRBAG VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform AIRBAG VERIFICATION TEST - VER 1.	All

Symptom:

NO CLUSTER MESSAGE - ACTIVE

POSSIBLE CAUSES
MIC, NO CLUSTER MESSAGE - ACTIVE

TEST	ACTION	APPLICABILITY
1	Note: Ensure communications with the Mechanical Instrument Cluster. With the DRB select PASSIVE RESTRAINTS, AIRBAG and MONITOR DISPLAY, WARNING LAMP STATUS. Using the DRB, read the MIC LAMP STATUS monitor. Cycle the ignition key and observe the warning lamp monitors. Does the DRBIII® show MIC LAMP STATUS: ON or OFF? YES Test Complete. NO Replace Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASSENGER SQUIB CIRCUIT OPEN - ACTIVE

When Monitored and Set Condition:

PASSENGER SQUIB CIRCUIT OPEN - ACTIVE

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

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

POSSIBLE CAUSES
PASSENGER AIRBAG OPEN
PASSENGER AIRBAG LINE 1 CIRCUIT OPEN
PASSENGER AIRBAG LINE 2 CIRCUIT OPEN
ACM, PASSENGER AIRBAG OPEN

TEST	ACTION	APPLICABILITY
1	**Note: Ensure the battery is fully charged.** **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.** Disconnect the Passenger Airbag Module. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 brown cable and jumper harness to the Passenger Airbag Module connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read the active Airbag DTCs. Does the DRB show PASSENGER SQUIB OPEN? Yes → Go To 2 No → Replace Passenger Airbag. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

PASSENGER SQUIB CIRCUIT OPEN - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
2	**Note: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Passenger Airbag. Disconnect the ACM connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM adaptor to the Airbag Control Module connector. Measure the resistance of the Passenger Airbag Line 1 circuit between the ACM Adaptor and the Passenger Airbag connector. Is the resistance below 5.0 ohms ? Yes → Go To 3 No → Repair open or high resistance in Passenger Airbag Line 1. 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
3	**Note: Ensure that the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Passenger Airbag. Disconnect the ACM connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM adaptor to the Airbag Control Module connector. Measure the resistance of the Passenger Airbag Line 2 circuit at the ACM Adaptor and the Passenger Airbag connector and the Passenger Airbag connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair open or high resistance in Passenger Airbag Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1. **Note: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

PASSENGER SQUIB CIRCUIT OPEN - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** View repair. Repair Replace the Airbag Control Module (ACM) in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **Note: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

Symptom:
PASSENGER SQUIB CIRCUIT SHORT - ACTIVE

When Monitored and Set Condition:

PASSENGER SQUIB CIRCUIT SHORT - ACTIVE

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

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

POSSIBLE CAUSES
PASSENGER AIRBAG MODULE SHORT
PASSENGER AIRBAG LINE 1 SHORT TO LINE 2
ACM, PASSENGER AIRBAG SHORT

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Passenger Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 brown cable and jumper harness to the Passenger Airbag connector. Turn Ignition On, then reconnect the Battery. With the DRBIII®, read active Airbag DTCs. Does the DRB show PASSENGER SQUIB CIRCUIT SHORT? Yes → Go To 2 No → Replace Passenger Airbag. Perform AIRBAG VERIFICATION TEST - VER 1. **Note: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

PASSENGER SQUIB CIRCUIT SHORT - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Ensure the battery is fully charged.** **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Passenger Airbag connector. Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** Connect the Airbag System Load Tool 8310 ACM adaptor to the Airbag Control Module connector. Measure the resistance between the Passenger Airbag Line 1 and Line 2 circuit at the Load Tool ACM Adaptor. Is the resistance below 5.0 Ohms? Yes → Repair Passenger Airbag Line 1 short to Line 2. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** View repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

Symptom:

WARNING LAMP OPEN - SHORT - ACTIVE

When Monitored and Set Condition:

WARNING LAMP OPEN - SHORT - ACTIVE

When Monitored: With ignition On, or the ACM needs to turn the lamp on because of detection of a code, or during a lamp check.

Set Condition: With voltage and current on, the airbag warning lamp driver circuit is other than expected.

POSSIBLE CAUSES
MIC DRIVER STATUS
INSPECT AIRBAG LAMP
ACM, AIRBAG INDICATOR OPEN/SHORT
ACM, INDICATOR DRIVER SHORT

TEST	ACTION	APPLICABILITY
1	With the DRBIII® select PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY and WARNING LAMP STATUS. With the DRBIII®, read the MIC BULB STATE monitor. Does the DRB show MIC BULB STATE: OK ? YES Go To 2 NO Go To 3	All
2	With the DRBIII® select PASSIVE RESTRAINTS, AIRBAG and MONITOR DISPLAY, WARNING LAMP STATUS. With the DRBIII®, read the MIC DRIVER STATE monitor. Does the DRBIII® show MIC DRIVER STATE: OK ? YES Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. NO Replace the Instrument Cluster. Perform AIRBAG VERIFICATION TEST - VER 1.	All

WARNING LAMP OPEN - SHORT - ACTIVE — Continued

TEST	ACTION	APPLICABILITY
3	Remove and inspect the airbag indicator bulb from the Instrument Cluster. Is the airbag bulb open? YES Replace the Airbag indicator bulb. Perform BODY VERIFICATION TEST - VER 1. NO Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1.	All

Symptom:
*AIRBAG INDICATOR ON WITHOUT ACTIVE TROUBLE CODES

POSSIBLE CAUSES
INSTRUMENT CLUSTER PROBLEMS
AIRBAG INDICATOR ON WITHOUT TROUBLE CODES

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® select MONITOR DISPLAY, WARNING LAMP STATUS and read the PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY, PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY, WARNING LAMP STATUS. With no active DTCs, Does the ACM LAMP REQ: display ON? Yes → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Perform AIRBAG VERIFICATION TEST - VER 1. No → Refer to symptom list for problems related to Instrument Cluster. Perform AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

Symptom:
*BUS (+) AND BUS (-) OPEN

POSSIBLE CAUSES
DRB OR DRB CABLE
CCD BUS (+) OR BUS (-) CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Disconnect the DRB from the Data Link Connector (DLC). Measure the voltage of the CCD Bus (+) and the CCD Bus (-) circuits in the DLC. Is the voltage between 1.8 and 2.8 volts on both circuits? Yes → Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove the Instrument Cluster. Measure the resistance of the CCD Bus (+) and the CCD Bus (-) circuits between the Instrument Cluster C2 harness connector and the DLC. Is the resistance below 5.0 ohms on both circuits? Yes → Go To 3 No → Repair the CCD Bus (+) or CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*BUS (+) AND BUS (-) SHORTED TOGETHER

POSSIBLE CAUSES
BUS SYSTEM MODULE/COMPONENT INTERNALLY SHORTED
BUS (+) AND BUS (-) CIRCUITS SHORTED TOGETHER
DRB/DRB CABLE BUS (+) AND BUS (-) SHORTED TOGETHER

TEST	ACTION	APPLICABILITY
1	Ensure the ignition key is off while disconnecting the following Modules. Disconnect the following Components (if equipped) one at a time in an orderly manner (be sure to turn the ignition off before disconnecting any Module). After disconnecting, turn the ignition back on. Observe the DRB Bus Test message for a change after each Module is disconnected which will identify that module as being the cause of the original Bus Failure Message. Disconnect the PCM C3 harness connector. Disconnect the TCM harness connector. Disconnect the SKIM harness connector. Disconnect the RKE Module harness connector. Disconnect the Overhead Console harness connector. Disconnect the Instrument Cluster C2 harness connector. TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN IGNITION ON, THEN RECONNECT THE BATTERY. Did the DRB display a different bus message after disconnecting any one module/component? Yes → Replace the Module/Component causing the BUS FAILURE MESSAGE. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	All modules must be disconnected from the CCD Bus circuit at this time. Measure the resistance between the CCD Bus (+) circuit and the CCD Bus (-) circuit at the Data Link connector. Is the resistance below 100.0 ohms? Yes → Repair the CCD Bus (+) circuit for a short to the CCD Bus (-) circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*BUS (+) OPEN OR BUS (-) OPEN

POSSIBLE CAUSES
DRB OR DRB CABLE
CCD BUS (+) OR BUS (-) CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Disconnect the DRB from the Data Link Connector (DLC). Measure the voltage of the CCD Bus (+) and the CCD Bus (-) circuits in the DLC. Is the voltage between 1.8 and 2.8 volts on both circuits? Yes → Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove the Instrument Cluster. Measure the resistance of the CCD Bus (+) and the CCD Bus (-) circuits between the Instrument Cluster C2 harness connector and the DLC. Is the resistance below 5.0 ohms on both circuits? Yes → Go To 3 No → Repair the CCD Bus (+) or CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***BUS BIAS LEVEL TOO HIGH**

POSSIBLE CAUSES
DRB OR DRB CABLE
POWERTRAIN CONTROL MODULE
AIRBAG CONTROL MODULE
SENTRY KEY IMMOBILIZER MODULE (IF EQUIPPED)
REMOTE KEYLESS ENTRY MODULE (IF EQUIPPED)
OVERHEAD CONSOLE (IF EQUIPPED)
TRANSMISSION CONTROL MODULE (IF EQUIPPED)
GROUND CIRCUIT OPEN
CCD BUS (+) OR BUS (-) CIRCUIT OPEN
CCD BUS (+) OR BUS (-) CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Disconnect the DRB from the Data Link Connector (DLC). Measure the voltage of the CCD Bus (+) and the CCD Bus (-) circuits in the DLC. Is the voltage between 1.8 and 2.8 volts on both circuits? Yes → Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the PCM C3 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Airbag Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*BUS BIAS LEVEL TOO HIGH — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the SKIM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Sentry Key Immobilizer Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the RKE Module harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Compass Mini Trip Computer (overhead console) harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Compass Mini Trip Computer (Overhead Console). Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the TCM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Transmission Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. **NOTE: Ensure the interior lights are off.** Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*BUS BIAS LEVEL TOO HIGH — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Remove the Instrument Cluster. Measure the resistance of the CCD Bus (+) and the CCD Bus (-) circuits between the Instrument Cluster C2 harness connector and the DLC. Is the resistance below 5.0 ohms on both circuits? Yes → Go To 10 No → Repair the CCD Bus (+) or CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the negative battery cable. Remove the Instrument Cluster. Measure the resistance between ground and the CCD Bus (+) and the CCD Bus (-) circuits. Is the resistance below 1000.0 ohms on either circuit? Yes → Repair the CCD Bus (+) or CCD Bus (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***BUS BIAS LEVEL TOO LOW**

POSSIBLE CAUSES
DRB OR DRB CABLE
POWERTRAIN CONTROL MODULE
AIRBAG CONTROL MODULE
SENTRY KEY IMMOBILIZER MODULE (IF EQUIPPED)
REMOTE KEYLESS ENTRY MODULE (IF EQUIPPED)
OVERHEAD CONSOLE (IF EQUIPPED)
TRANSMISSION CONTROL MODULE (IF EQUIPPED)
GROUND CIRCUIT OPEN
CCD BUS (+) OR BUS (-) CIRCUIT OPEN
CCD BUS (+) OR BUS (-) CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Disconnect the DRB from the Data Link Connector (DLC). Measure the voltage of the CCD Bus (+) and the CCD Bus (-) circuits in the DLC. Is the voltage between 1.8 and 2.8 volts on both circuits? Yes → Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the PCM C3 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Airbag Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*BUS BIAS LEVEL TOO LOW — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the SKIM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Sentry Key Immobilizer Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the RKE Module harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Compass Mini Trip Computer (overhead console) harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Compass Mini Trip Computer (Overhead Console). Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the TCM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Transmission Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. **NOTE: Ensure the interior lights are off.** Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*BUS BIAS LEVEL TOO LOW — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Remove the Instrument Cluster. Measure the resistance of the CCD Bus (+) and the CCD Bus (-) circuits between the Instrument Cluster C2 harness connector and the DLC. Is the resistance below 5.0 ohms on both circuits? Yes → Go To 10 No → Repair the CCD Bus (+) or CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the negative battery cable. Remove the Instrument Cluster. Measure the resistance between ground and the CCD Bus (+) and the CCD Bus (-) circuits. Is the resistance below 1000.0 ohms on either circuit? Yes → Repair the CCD Bus (+) or CCD Bus (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO BUS BIAS FAILURE

POSSIBLE CAUSES
DRB OR DRB CABLE
INSPECT JUNCTION BLOCK FUSE #9
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Disconnect the DRB from the Data Link Connector (DLC). Measure the voltage of the CCD Bus (+) and the CCD Bus (-) circuits in the DLC. Is the voltage between 1.8 and 2.8 volts on both circuits? Yes → Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove and inspect Fuse #9 in the Junction Block. Is the fuse open? Yes → Refer to the wiring diagrams located in the service information to help isolate a possible short to ground on the Fused Ignition Switch Output circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. **NOTE: Ensure Fuse #9 is installed in the Junction Block.** Disconnect the Instrument Cluster C1 harness connector. Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit. Is the voltage above 10.0 volts? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open. Perform 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

Symptom:
*NO RESPONSE FROM AIRBAG CONTROL MODULE

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
AIRBAG CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**WARNING: Turn the ignition off, disconnect the battery and wait two minutes before proceeding.** **NOTE: When reconnecting the ACM, the ignition must be off and the battery must be disconnected.** **WARNING: If the ACM is dropped at any time, it must be replaced.** **NOTE: Ensure both fuse #26 and fuse #27 are not open before continuing.** Turn the ignition off. Disconnect the ACM harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the Ground circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.	All
2	**WARNING: Turn the ignition off, disconnect the battery and wait two minutes before proceeding.** **NOTE: When reconnecting the ACM, the ignition must be off and the battery must be disconnected.** **WARNING: If the ACM is dropped at any time, it must be replaced.** **NOTE: Ensure both fuse #26 and fuse #27 are not open before continuing.** Disconnect the ACM harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 3 No → Repair the CCD Bus (+) circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM AIRBAG CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: Turn the ignition off, disconnect the battery and wait two minutes before proceeding.** **NOTE: When reconnecting the ACM, the ignition must be off and the battery must be disconnected.** **WARNING: If the ACM is dropped at any time, it must be replaced.** **NOTE: Ensure both fuse #26 and fuse #27 are not open before continuing.** Disconnect the ACM harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 4 No → Repair the CCD Bus (-) circuit for an open. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module. Perform AIRBAG VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM COMPASS MINI TRIP COMPUTER (OVERHEAD CONSOLE)**

POSSIBLE CAUSES
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
COMPASS MINI TRIP COMPUTER (OVERHEAD CONSOLE)

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the Overhead Console harness connector. Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit. Is the voltage above 10.0 volts? Yes → Go To 2 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the Overhead Console harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 3 No → Repair the CCD Bus (+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the Overhead Console harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 4 No → Repair the CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM COMPASS MINI TRIP COMPUTER (OVERHEAD CONSOLE) — Continued

TEST	ACTION	APPLICABILITY
4	If there are no possible causes remaining, view repair. Repair Replace the Compass Mini Trip Computer (Overhead Console). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK FUSE #25 IN JUNCTION BLOCK
OPEN GROUND CIRCUITS
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
SCI TRANSMIT CIRCUIT OPEN
CONTROLLER ANTILOCK BRAKE

TEST	ACTION	APPLICABILITY
1	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 2 No → Refer to symptom list for problems related to No Response From PCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect fuse #25 in the Junction Block. Is the fuse open? Yes → Refer to the wiring diagrams located in the service information to help isolate a possible short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the CAB harness connector. Measure the resistance between ground and each ground circuit (cavs 8 and 24). Is the resistance below 5.0 ohms for each measurement? Yes → Go To 4 No → Repair the ground circuit that measured above 5.0 ohms for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. **NOTE: Ensure fuse #25 is installed in the Junction Block.** Disconnect the CAB harness connector. Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit. Is the voltage above 10.0 volts? Yes → Go To 5 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the CAB harness connector. Measure the resistance of the SCI Transmit circuit between the CAB connector and the DLC. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the SCI Transmit circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Controller Antilock Brake. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*NO RESPONSE FROM INSTRUMENT CLUSTER

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 3 No → Repair the CCD Bus (+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 4 No → Repair the CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM PCM-ENGINE STARTS (GAS ONLY)

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH ANOTHER VEHICLE
CHECK PCM POWERS AND GROUNDS
TRANSMISSION CONTROL MODULE
CONTROLLER ANTILOCK BRAKE
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	Turn the ignition on. **NOTE: Make sure the vehicle starts and runs before proceeding, if not refer to the appropriate symptom for a no response and a no start condition.** Connect the DRB to another vehicle. Will the DRB communicate with this vehicle? Yes → Go To 2 No → Repair or replace the DRB or DRB cable as necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
2	Perform the symptom Checking PCM Power and Ground Circuits in the Driveability category. Did the vehicle pass this test? Yes → Go To 3 No → Repair as necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
3	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRB from the DLC. Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Go To 6	All
4	Turn the ignition off. Disconnect the TCM harness connector (if equipped). Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Replace the Transmission Control Module. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

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

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the CAB harness connector (if equipped). 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 Controller Antilock Brake. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
6	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRB 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 7	All
7	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRB 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 8 No → Repair the SCI Receive circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
8	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRB 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 9 No → Repair the SCI Transmit circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
9	**NOTE: Ensure the SCI Transmit and Receive circuits are not shorted to voltage, damage to the PCM may result.** If there are no possible causes remaining, view repair. Repair Replace the Powertrain Control Module. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

Symptom:

***NO RESPONSE FROM REMOTE KEYLESS ENTRY MODULE**

POSSIBLE CAUSES
FUSED B+ OPEN
GROUND CIRCUIT OPEN
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
RKE MODULE - OPEN COMMUNICATION

TEST	ACTION	APPLICABILITY
1	Disconnect the RKE module harness connector. Measure the voltage of the Fused B(+) circuit. Is the voltage above 10.0 volts? Yes → Go To 2 No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the RKE module harness connector. Turn all lights off. Measure the resistance between ground and the Ground circuit in the RKE Module 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	Turn the ignition off. Disconnect the RKE module harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 4 No → Repair the CCD Bus (+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the RKE module harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 5 No → Repair the CCD Bus (-) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM REMOTE KEYLESS ENTRY MODULE — Continued

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

Symptom:

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

POSSIBLE CAUSES
REPLACE PDC FUSE
FUSED B+ CIRCUIT SHORTED TO GROUND
SKIM - FUSED B+ CIRCUIT SHORTED TO GROUND
FUSED B+ CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
GROUND CIRCUIT OPEN
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
SENTRY KEY IMMOBILIZER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect fuse #27 in the PDC. Is the fuse open? Yes → Go To 2 No → Go To 4	All
2	Turn the ignition off. Replace fuse #27 in the PDC. Turn the ignition on. Turn the ignition off and inspect fuse #27 in the PDC. Is the fuse open? Yes → Go To 3 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short to ground. Perform SKIS VERIFICATION.	All
3	Turn the ignition off. Disconnect the SKIM harness connector. Measure the resistance between ground and the Fused B+ circuit. Is the resistance below 5.0 ohms? Yes → Repair the Fused B+ circuit for a short to ground. Perform SKIS VERIFICATION. No → Replace the Sentry Key Immobilizer Module. Perform SKIS VERIFICATION.	All

*NO RESPONSE FROM SENTRY KEY IMMOBILIZER MODULE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. **NOTE: Ensure fuse #27 is installed in the PDC.** Disconnect the SKIM harness connector. Measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts? Yes → Go To 5 No → Repair the Fused B(+) circuit for an open. Perform SKIS VERIFICATION.	All
5	Turn the ignition off. Disconnect the SKIM harness connector. Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit. Is the voltage above 10.0 volts? Yes → Go To 6 No → Repair the Fused Ignition Switch Output circuit for an open. Perform SKIS VERIFICATION.	All
6	Turn the ignition off. Disconnect the SKIM harness connector. Turn all lights off. Measure the resistance between ground and both Ground circuits in the SKIM connector. Is the resistance below 5.0 ohms for each measurement? Yes → Go To 7 No → Repair the Ground circuit for an open. Perform SKIS VERIFICATION.	All
7	Turn the ignition off. Disconnect the SKIM harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 8 No → Repair the CCD Bus (+) circuit for an open. Perform SKIS VERIFICATION.	All
8	Turn the ignition off. Disconnect the SKIM harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 9 No → Repair the CCD Bus (-) circuit for an open. Perform SKIS VERIFICATION.	All
9	If there are no possible causes remaining, view repair. Repair Replace the Sentry Key Immobilizer Module. Perform SKIS VERIFICATION.	All

Symptom:

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
TRANSMISSION CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the TCM harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the Ground circuit for an open. Perform AW4 TRANS VERIFICATION TEST-VER1.	All
2	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the TCM harness connector. Turn the ignition on. Measure the voltage of the Fused Ignition Switch Output circuit. Is the voltage above 10.0 volts? Yes → Go To 3 No → Repair the Fused Ignition Switch Output circuit for an open. Perform AW4 TRANS VERIFICATION TEST-VER1.	All
3	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the TCM harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 4 No → Repair the CCD Bus (+) circuit for an open. Perform AW4 TRANS VERIFICATION TEST-VER1.	All

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the DRB can establish communications with the PCM before beginning.** Turn the ignition off. Disconnect the TCM harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 5 No → Repair the CCD Bus (-) circuit for an open. Perform AW4 TRANS VERIFICATION TEST-VER1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Transmission Control Module. Perform AW4 TRANS VERIFICATION TEST-VER1.	All

Symptom:

***NO TERMINATION FAILURE**

POSSIBLE CAUSES
CCD BUS (+) CIRCUIT OPEN
CCD BUS (-) CIRCUIT OPEN
PCM AND INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the PCM C3 harness connector. Connect a jumper wire between the CCD Bus (+) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 2 No → Repair the CCD Bus (+) circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 2.	All
2	Turn the ignition off. Disconnect the PCM C3 harness connector. Connect a jumper wire between the CCD Bus (-) circuit and ground. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 3 No → Repair the CCD Bus (-) circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 2.	All
3	If there are no possible causes remaining, view repair. Repair If there are no possible causes remaining, replace the PCM and the Instrument Cluster. Note: For this Bus Failure Message to appear both Instrument Cluster and Powertrain Control Modules would have to be open. Perform POWERTRAIN VERIFICATION TEST VER - 2.	All

Symptom:

***NOT RECEIVING BUS MESSAGES CORRECTLY**

POSSIBLE CAUSES
POWERTRAIN CONTROL MODULE
AIRBAG CONTROL MODULE
SENTRY KEY IMMOBILIZER MODULE (IF EQUIPPED)
REMOTE KEYLESS ENTRY MODULE (IF EQUIPPED)
OVERHEAD CONSOLE (IF EQUIPPED)
TRANSMISSION CONTROL MODULE (IF EQUIPPED)
DRB OR DRB CABLE
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the PCM C3 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Airbag Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the SKIM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Sentry Key Immobilizer Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*NOT RECEIVING BUS MESSAGES CORRECTLY — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the RKE Module harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Compass Mini Trip Computer (overhead console) harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Compass Mini Trip Computer (Overhead Console). Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the TCM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: BUS OPERATIONAL? Yes → Replace the Transmission Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Try another DRB and Cable. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB still display: NOT RECEIVING BUS MESSAGES CORRECTLY? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair/replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***SHORT TO 5 VOLTS FAILURE**

POSSIBLE CAUSES
CONTINUITY BETWEEN BUS(+) OR (-) AND 5 VOLT SUPPLY CIRCUITS
POWERTRAIN CONTROL MODULE
BUS (+) OR BUS (-) CIRCUIT SHORTED TO VOLTAGE
DRB OR DRB CABLE
MODULE/COMPONENT SHORTED INTERNALLY
CCD BUS CIRCUIT SHORTED TO A 5 VOLT CIRCUIT

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the PCM C3 harness connector. Turn the ignition on. Does the DRB display: BUS OPERATIONAL after disconnecting the PCM? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Disconnect the PCM harness connectors. Measure the resistance between the CCD Bus (+) circuit and the 5 volt supply circuits at the PCM connectors. Measure the resistance between the CCD Bus (-) circuit and the 5 volt supply circuits at the PCM connectors. Was the resistance below 800.0 ohms on either of the CCD Bus circuits to any 5 volt supply circuit? Yes → Repair the CCD Bus (+) or the CCD Bus (-) circuit for a short to a 5 volt supply circuit. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*SHORT TO 5 VOLTS FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	Ensure the ignition key is off while disconnecting the following Modules. Disconnect the following Components from the CCD Bus one at a time in an orderly manner (be sure to turn the ignition off before disconnecting any Module). After disconnecting, turn the ignition back on. Observe the DRB Bus message for a change after each Module is disconnected which will identify that module/circuits as being the cause of the Bus Failure Message. Disconnect the TCM harness connector if equipped. Disconnect the Overhead Console harness connector if equipped. Remove the Instrument Cluster from the Instrument Panel. Disconnect the RKE Module harness connector if equipped. Disconnect the SKIM harness connector if equipped. TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN IGNITION ON, THEN RECONNECT THE BATTERY. Did the DRB Bus message change after disconnecting any one module/component? Yes → Go To 4 No → Go To 5	All
4	Turn the ignition off. Disconnect the harness connectors on the module that when disconnected the bus failure message was eliminated. Measure the resistance between the CCD Bus (+) circuit and each 5 volt circuit in the harness connector. Measure the resistance between the CCD Bus (-) circuit and each 5 volt circuit in the harness connector. Is the resistance below 100.0 ohms on any of the measurements? Yes → Repair the CCD Bus circuit for a short to a 5 volt circuit. Perform BODY VERIFICATION TEST - VER 1. No → Replace the module/component that caused the bus failure message. Perform BODY VERIFICATION TEST - VER 1.	All
5	All modules must be disconnected from the CCD Bus circuit at this time. Turn the ignition on. Measure the CCD Bus (+) circuit and the CCD Bus (-) circuit at the Data Link connector for voltage. Is the voltage above 4.0 volts on either Bus circuit? Yes → Repair the CCD Bus (+) or the CCD Bus (-) circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Repair/Replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***SHORT TO BATTERY FAILURE**

POSSIBLE CAUSES
POWERTRAIN CONTROL MODULE OPEN GROUND CIRCUITS
POWERTRAIN CONTROL MODULE - INTERNAL SHORT TO BATTERY
AIRBAG CONTROL MODULE
INSTRUMENT CLUSTER GROUND CIRCUIT OPEN
INSTRUMENT CLUSTER - INTERNAL SHORT TO BATTERY
SENTRY KEY IMMOBILIZER MODULE (IF EQUIPPED)
SENTRY KEY IMMOBILIZER MODULE GROUND CIRCUIT OPEN
SENTRY KEY IMMOBILIZER MODULE - INTERNAL SHORT TO BATTERY
REMOTE KEYLESS ENTRY MODULE GROUND CIRCUIT OPEN
REMOTE KEYLESS ENTRY MODULE - INTERNAL SHORT TO BATTERY
OVERHEAD CONSOLE GROUND CIRCUIT OPEN
OVERHEAD CONSOLE - INTERNAL SHORT TO BATTERY
TRANSMISSION CONTROL MODULE (IF EQUIPPED)
CCD BUS (+) OR BUS (-) CIRCUIT SHORTED TO BATTERY
DRB OR DRB CABLE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the PCM C3 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 2 No → Go To 13	All
2	TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 3 No → Replace the Airbag Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*SHORT TO BATTERY FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 4 No → Go To 12	All
4	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the SKIM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 5 No → Go To 11	All
5	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the RKE Module harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 6 No → Go To 10	All
6	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the Overhead Console harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 7 No → Go To 9	All
7	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the TCM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO BATTERY? Yes → Go To 8 No → Replace the Transmission Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*SHORT TO BATTERY FAILURE — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the ACM harness connector. Disconnect the Instrument Cluster C2 harness connector. Disconnect the SKIM harness connector (If equipped). Disconnect the RKE Module harness connector (If equipped). Disconnect the Overhead Console harness connector (If equipped). Disconnect the TCM harness connector (If equipped). Turn the ignition on. Measure the voltage of the CCD Bus (+) and the CCD Bus (-) circuits at the DLC. Is the voltage above 0.5 volts? Yes → Repair the CCD Bus (+) or CCD Bus (-) circuit for a short to battery. Perform BODY VERIFICATION TEST - VER 1. No → Repair/replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
9	Turn the ignition off. Disconnect the Overhead Console harness connector. Turn all lights off. Measure the resistance between ground and the Ground circuit (cavity 12). Is the resistance below 5.0 ohms? Yes → Replace the Compass Mini Trip Computer (Overhead Console). Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the RKE module harness connector. Turn all lights off. Measure the resistance between ground and the Ground circuit in the RKE Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
11	Turn the ignition off. Disconnect the SKIM harness connector. Turn all lights off. Measure the resistance between ground and both Ground circuits in the SKIM connector. Is the resistance below 5.0 ohms for each measurement? Yes → Replace the Sentry Key Immobilizer Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*SHORT TO BATTERY FAILURE — Continued

TEST	ACTION	APPLICABILITY
12	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the ground circuit. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
13	Turn the ignition off. Disconnect the PCM C1 harness connector. Measure the resistance between ground and each ground circuit (cavs 31 and 32). Is the resistance below 5.0 ohms for each measurement? Yes → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the ground circuit that measured above 5.0 ohms for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***SHORT TO GROUND FAILURE**

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
POWERTRAIN CONTROL MODULE
AIRBAG CONTROL MODULE
INSTRUMENT CLUSTER
SENTRY KEY IMMOBILIZER MODULE (IF EQUIPPED)
REMOTE KEYLESS ENTRY MODULE (IF EQUIPPED)
OVERHEAD CONSOLE (IF EQUIPPED)
TRANSMISSION CONTROL MODULE (IF EQUIPPED)
CCD BUS (+) OR BUS (-) CIRCUIT SHORTED TO GROUND
DRB OR DRB CABLE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the DRB from the DLC. Measure the resistance between ground and the ground circuit (cavity 5) at the DLC. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the PCM C3 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 3 No → Replace the Powertrain Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Disconnect the ACM harness connector. TURN THE IGNITION ON, THEN RECONNECT THE BATTERY. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 4 No → Replace the Airbag Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*SHORT TO GROUND FAILURE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Instrument Cluster C2 harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 5 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
5	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the SKIM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 6 No → Replace the Sentry Key Immobilizer Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the RKE Module harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 7 No → Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1.	All
7	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the Compass Mini Trip Computer (overhead console) harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 8 No → Replace the Compass Mini Trip Computer (Overhead Console). Perform BODY VERIFICATION TEST - VER 1.	All
8	**NOTE: Answer Yes to the question if the vehicle is not equipped with this module.** Turn the ignition off. Disconnect the TCM harness connector. Turn the ignition on. With the DRB, enter SYSTEM MONITORS then CCD Bus Test. Does the DRB display: SHORT TO GROUND? Yes → Go To 9 No → Replace the Transmission Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*SHORT TO GROUND FAILURE — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Disconnect the negative battery cable. Disconnect the PCM C3 harness connector. Disconnect the ACM harness connector. Disconnect the Instrument Cluster C2 harness connector. Disconnect the SKIM harness connector (If equipped). Disconnect the RKE Module harness connector (If equipped). Disconnect the Overhead Console harness connector (If equipped). Disconnect the TCM harness connector (If equipped). Measure the resistance between ground and the CCD Bus (+) and the CCD Bus (-) circuits at the DLC. Is the resistance below 1000.0 ohms on either circuit? Yes → Repair the CCD Bus (+) or CCD Bus (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All
10	If there are no possible causes remaining, view repair. Repair Repair/replace the DRB or DRB cable as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ALL CCD CLUSTER LAMPS INOPERATIVE

POSSIBLE CAUSES
INOPERATIVE BULB OR SOCKET
INSTRUMENT CLUSTER - CCD LAMP INOPERATIVE
NO PCM COMMUNICATIONS

TEST	ACTION	APPLICABILITY
1	Press and hold the trip/reset button on the Instrument Cluster. Turn the Ign. from the off to the run position, wait until the odometer starts displaying mileage on the odometer, then release the button (this will start the Instrument Cluster self test). While the Instrument Cluster is performing it's self test, observe the CCD controlled lamp that is not operating. The Following are CCD Lamps: Airbag, Cruise Control, Low Fuel, Low Washer Fluid, Upshift (if equipped), Seat Belt Warning, Sentry Key, Engine Temp. (if equipped), Battery, Low Oil Pressure Warning (if equipped), Check Gauges. Did the lamp light? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRB III®, establish communications with the PCM. Are you able to communicate with the PCM? Yes → Test Complete. No → Refer to symptoms in the Communications category. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Gain access to the back of the Instrument Cluster. Remove the inoperative bulb, inspect the bulb and socket. Is there a problem with the bulb or socket? Yes → Replace the bulb and or socket, in accordance with the Service Information.. Perform BODY VERIFICATION TEST - VER 1. No → If there are no possible causes remaining, replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***ALL GAUGES NOT OPERATING**

POSSIBLE CAUSES
PDC FUSE #16 OPEN
NO RESPONSE - CCD BUS (POWERTRAIN CONTROL MODULE)
FUSED B+ CIRCUIT, OPEN
FUSED B+ CIRCUIT SHORTED TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Be sure the fuse cavity being checked has the correct fuse. Replace with the correct fuse if necessary. Inspect fuse #16 of the PDC for an open. Is the correct fuse open? Yes → Using the Wiring Diagram/Schematic as a guide, inspect the wiring and other components connected to this circuit, for a possible cause of the open fuse. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII®, select SYSTEM TEST. Does the DRBIII® display PCM INACTIVE ON THE BUS? Yes → Refer to symptom *NO RESPONSE FROM THE POWERTRAIN CONTROL MODULE in the COMMUNICATIONS category. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Turn the ignition on. Measure the voltage of the Fused B+ circuit in the Instrument Cluster C1 connector. Is the voltage above 10.5 volts? No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 4	All
4	Turn the ignition off. Remove PDC fuse #16 Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Fused B+ circuit at the Instrument ″C1″connector. Is the resistance above 5.0 ohms? Yes → Go To 5 No → Repair the Fused B+ circuit for a short to ground. Replace the blown PDC fuse #16. Perform BODY VERIFICATION TEST - VER 1.	All

*ALL GAUGES NOT OPERATING — Continued

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

Symptom:

***ALL HARD WIRED CLUSTER WARNING LAMPS INOPERATIVE**

POSSIBLE CAUSES
BULB OR SOCKET (HARD WIRED) - OPEN
HARD WIRED INPUT TO CLUSTER
INSTRUMENT CLUSTER - HARD WIRED LAMPS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Gain access to the back of the Instrument Cluster. Remove the inoperative bulb, inspect the bulb and socket. The following are Hardwired Lamps: Red Brake Warning , Full and Part Time 4WD, High Beam, Left Turn Signal, Right Turn Signal, Liftgate Ajar, ABS(check w/ignition on), and Check Engine. Is there a problem with the bulb or socket? Yes → Repair or replace the defective bulb or socket as needed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	The Instrument Cluster has several hard wired inputs. These inputs either provide voltage or a ground to the cluster. Using the wiring diagram determine if the correct voltage or ground is present at the input of the Instrument Cluster. The following are Hardwired Lamps: Red Brake Warning (crank pos.), Full and Part Time 4WD, High Beam, Left Turn Signal, Right Turn Signal, Liftgate Ajar, ABS(check w/ignition on), Check Engine (check w/ignition on), SKIM (check w/ignition on). Is the correct voltage or ground present? Yes → If there are no possible causes remaining, replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Repair the incorrect voltage or ground at the input to the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***CHIME INOPERATIVE**

POSSIBLE CAUSES
INSTRUMENT CLUSTER - CHIME OPERATIVE

TEST	ACTION	APPLICABILITY
1	The Following are chime set conditions: Seat Belt, Ignition Key in w/Dr door open, Engine Temp, Low Fuel, Overhead reset, Skim programmed. Turn the ignition on. Did the chime sound on when actuated, by turning the ignition on? No → If there are no possible causes remaining, replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. Yes → Test Complete.	All

Symptom:

***ONE GAUGE NOT OPERATING PROPERLY**

POSSIBLE CAUSES
PCM COMMUNICATIONS
NO VEHICLE SPEED SENSOR SIGNAL
PCM - RELATED POWERTRAIN PROBLEMS
PCM - RELATED POWERTRAIN PROBLEMS (ECT SENSOR DTC'S)
PCM - RELATED POWERTRAIN PROBLEMS (FUEL LEVEL UNIT DTC'S)
PCM - RELATED POWERTRAIN PROBLEMS (OIL PRESSURE SENSOR DTC'S)
INSTRUMENT CLUSTER
INSTRUMENT CLUSTER - WILL NOT PASS SELF TEST

TEST	ACTION	APPLICABILITY
1	Ensure the Instrument Cluster is communicating on the bus before proceeding. Press and hold the trip/reset button on the Instrument Cluster. Turn the Ign. from the off to the run position, wait until 1111 is displayed on the odometer, then release the button (this will start the Instrument Cluster self test). While the Instrument Cluster is performing it's self test, observe the gauge that is not operating. The gauges should reach the following calibration points. Speedometer: 0, 20, 55, Full Fuel: Empty, 1/8, 1/4, Full Volts: 8, Low end of normal, High end of normal, 18 Oil: Low, Low end of normal, High end of normal, High Temperature: Cold, Low end of normal, High end of normal, Hot Tachometer: 0, 1000, 3000, 6000 Did the gauge reach the calibration points? Yes → Go To 2 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII® select: Body, Electro/Mech Cluster, System Test then read the PCM monitor status. Does the DRBIII® display PCM ACTIVE ON THE BUS? Yes → Go To 3 No → Refer to symptom NO RESPONSE FROM POWERTRAIN CONTROL MODULE in the Communications category. Perform BODY VERIFICATION TEST - VER 1.	All

*ONE GAUGE NOT OPERATING PROPERLY — Continued

TEST	ACTION	APPLICABILITY
3	Stop the self test if it was used in a previous test. **Note: Identify the faulty gauge and perform the indicated test.** Which of the following is the problem? Speedometer Gauge Go To 4 Oil Pressure Gauge Refer to Powertrain symptom list for problems related to the Oil Pressure Sensor. Perform BODY VERIFICATION TEST - VER 1. Temperature Gauge Refer to Powertrain for problems related to the ECT Sensor (DTC's). Perform BODY VERIFICATION TEST - VER 1. Fuel Level Gauge Refer to Powertrain for problems related to the FUEL LEVEL SENDING UNIT (DTC's). Perform BODY VERIFICATION TEST - VER 1. Tachometer Gauge Refer to symptoms in the Powertrain category (or book). Perform BODY VERIFICATION TEST - VER 1. Voltage Gauge Refer to symptoms in the Powertrain category (or book). Perform BODY VERIFICATION TEST - VER 1.	All
4	Raise all four wheels off the ground and properly support the vehicle. Start the engine. Put the transmission in a forward gear. With the DRB III®, read the VSS (Vehicle Speed Signal) status while the driven wheels are moving forward. Does the DRB III® display the same speed as the Instrument Cluster? Yes → Refer to the Powertrain symptom list for problems related to P-0500 NO VEHICLE SPEED SENSOR SIGNAL. Perform BODY VERIFICATION TEST - VER 1. No → If there are no possible causes remaining, replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

***CMTC AVERAGE MPH OR FUEL ECONOMY WRONG**
***CMTC DISTANCE TO EMPTY INOPERATIVE OR WRONG**

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

POSSIBLE CAUSES
PCM COMMUNICATIONS
NO VEHICLE SPEED SENSOR SIGNAL
CMTC - AVERAGE MPH/FUEL ECONOMY WRONG
PCM - RELATED POWERTRAIN PROBLEMS (FUEL LEVEL UNIT DTC'S)

TEST	ACTION	APPLICABILITY
1	With the DRB III® select: Body, Electro/Mech Cluster, System Test; then read the PCM monitor status. Does the DRBIII® display PCM ACTIVE ON THE BUS? Yes → Go To 2 No → Refer to symptom NO RESPONSE FROM POWERTRAIN CONTROL MODULE in the Communications category. Perform BODY VERIFICATION TEST - VER 1.	All
2	Raise all four wheels off the ground and properly support the vehicle. Start the engine. Put the transmission in a forward gear. With the DRB III®, read the VSS (Vehicle Speed Signal) status while the driven wheels are moving forward. Does the DRB III® display the approximate wheel speed ? Yes → Go To 3 No → Refer to the Powertrain symptom list for problems related to P-0500 NO VEHICLE SPEED SENSOR SIGNAL. Perform BODY VERIFICATION TEST - VER 1.	All
3	Verify that the Fuel Gauge is working accurately. Is the Fuel Gauge working properly? No → Refer to Powertrain for problems related to the FUEL LEVEL SENDING UNIT (DTC's). Perform BODY VERIFICATION TEST - VER 1. Yes → If there are no possible causes remaining, replace the CMTC. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***CMTC BUTTONS INOPERATIVE**

POSSIBLE CAUSES
CMTC - BUTTONS STUCK ON
CMTC - BUTTONS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Using the DRBIII® in Compass/Mini Trip, Inputs/Outputs, read the Button state. Does the DRBIII® display either button pressed? Yes → Replace the CMTC Push Button Module assembly in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Using the DRBIII® in Compass/Mini Trip, Inputs/Outputs, read the Button state. While observing the DRB press the STEP button, then the US/M button. Does the DRBIII® display PRESSED after pressing each button? No → Replace the CMTC Push Button Module assembly in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. Yes → Test Complete.	All

Symptom:

***CMTC DISPLAY SEGMENTS FAIL TO OPERATE**

POSSIBLE CAUSES
CMTC SEGMENTS FAIL TO LIGHT UP

TEST	ACTION	APPLICABILITY
1	Perform the Compass/Mini Trip Auto Self Test. A Display Segment test will be run. Did all the segments light? Yes → Test Complete. No → Replace the Compass Mini Trip Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*CMTC DISPLAYS - CCD

POSSIBLE CAUSES
*CMTC DISPLAYS - CCD

TEST	ACTION	APPLICABILITY
1	Does the CMTC display - CCD? Yes → Refer to symptom list for problems related to Communications. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
*CMTC DISPLAYS - SC

POSSIBLE CAUSES
CHECKING AMBIENT TEMPERATURE SENSOR
AMBIENT TEMPERATURE SENSOR SIGNAL SHORT TO GROUND
CMTC - AMBIENT TEMPERATURE INCORRECT (SHORTED)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Replace the Ambient Temperature Sensor harness connector **Note: Check connectors - Clean/repair as necessary.** Remove the Ambient Temperature Sensor. Measure the resistance of the Ambient Temperature Sensor. Using the resistance/degrees specifications compare the resistance reading of the Ambient Temp Sensor, to the air temperature. SENSOR SPECIFICATIONS: 32°F= 29.3 - 36 Ohms, 50°F= 18 - 22 Ohms, 68°F= 11.4 - 13.6 Ohms, 77°F= 9.1 - 10.8 Ohms, 86°= 7.4 - 8.7 Ohms, 104°= 4.9 - 5,7 Ohms, 122°= 3.3 - 3.8 Ohms Is the resistance measurement with in the min/max readings, for the current temperature? Yes → Go To 2 No → Replace the Ambient Temperature Sensor in accordance with the Service Information. **Note: After any repair for an ambient temperature sensor problem, the vehicle must be driven over 3 miles above 25 mph continuouly in order to update the CMTC display**	All
2	Turn the ignition off. Disconnect the Ambient Temperature Sensor. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance of the ambient temperature sensor signal circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Ambient Temperature Sensor circuit for a short to ground. No → Go To 3	All
3	If there are no possible causes remaining, replace the CTMC. If there are no possible causes remaining, view repair. Repair If there are no possible causes remaining, replace the CMTC.	All

Symptom:
*CMTC DISPLAYS- OC

POSSIBLE CAUSES
AMBIENT TEMP SENSOR GROUND CIRCUIT OPEN
AMBIENT TEMPERATURE SIGNAL CIRCUIT OPEN
CHECKING AMBIENT TEMPERATURE SENSOR
AMBIENT TEMP SENSOR GROUND CIRCUIT OPEN
AMBIENT TEMPERATURE SIGNAL CIRCUIT OPEN
CMTC - AMBIENT TEMPERATURE INCORRECT

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the ambient temperature sensor harness connector **Note: Check connectors - Clean/repair as necessary.** Remove the ambient temperature sensor. Measure the resistance of the ambient temperature sensor. Using the resistance/degrees specifications compare the resistance reading of the Ambient Temp Sensor, to the air temperature. SENSOR SPECIFICATIONS: 32°F= 29.3 - 36 Ohms, 50°F= 18 - 22 Ohms, 68°F= 11.4 - 13.6 Ohms, 77°F= 9.1 - 10.8 Ohms, 86°= 7.4 - 8.7 Ohms, 104°= 4.9 - 5,7 Ohms, 122°= 3.3 - 3.8 Ohms Is the resistance measurement with in the min/max readings, for the current temperature? Yes → Go To 2 No → Replace the ambient temperature sensor. Perform BODY VERIFICATION TEST - VER 1. **Note: After any repair for an ambient temperature sensor problem, the vehicle must be driven over 3 miles above 25 mph continuouly in order to update the CMTC display**	All
2	Turn the ignition off, wait 1 minute. Disconnect the ambient temperature sensor harness connector. Measure the resistance between ground and the Ambient Sensor Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open in the ambient temperature ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

*CMTC DISPLAYS- OC — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the CMTC harness connector. Disconnect the ambient temperature sensor. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance of the ambient temp signal circuit from the CMTC harness connector to the ambient temp harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Ambient Temperature Signal circuit for an open Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the CMTC harness connector. Disconnect the ambient temperature sensor. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance of the ambient temp signal circuit from the CMTC harness connector to the ambient temp harness connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Ambient Temperature Signal circuit for an open Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off, wait 1 minute. Disconnect the ambient temperature sensor harness connector. Measure the resistance between ground and the Ambient Sensor Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the open in the Ambient Temperature Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the CMTC. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***CMTC INCORRECT ELAPSED TIME**

POSSIBLE CAUSES
CMTC INTERNAL FAULT

TEST	ACTION	APPLICABILITY
1	Verify that the symptom still exists. Is the symptom present now? Yes → If there are no possible causes remaining, replace the CMTC. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
*CMTC INCORRECT TEMP READING

POSSIBLE CAUSES
CHECKING AMBIENT TEMPERATURE SENSOR
AMBIENT TEMP SENSOR GROUND CIRCUIT OPEN
AMBIENT TEMPERATURE SIGNAL CIRCUIT OPEN
CMTC - AMBIENT TEMPERATURE INCORRECT (OC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the ambient temperature sensor harness connector **Note: Check connectors - Clean/repair as necessary.** Remove the ambient temperature sensor. Measure the resistance of the ambient temperature sensor. Using the resistance/degrees specifications compare the resistance reading of the Ambient Temp Sensor, to the air temperature. SENSOR SPECIFICATIONS: 32°F= 29.3 - 36 Ohms, 50°F= 18 - 22 Ohms, 68°F= 11.4 - 13.6 Ohms, 77°F= 9.1 - 10.8 Ohms, 86°= 7.4 - 8.7 Ohms, 104°= 4.9 - 5,7 Ohms, 122°= 3.3 - 3.8 Ohms Is the resistance measurement with in the min/max readings, for the current temperature? Yes → Go To 2 No → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. **Note: After any repair for an ambient temperature sensor problem, the vehicle must be driven over 3 miles above 25 mph continuouly in order to update the CMTC display**	All
2	Turn the ignition off, wait 1 minute. Disconnect the ambient temperature sensor harness connector. Measure the resistance between ground and the Ambient Sensor Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open in the Ambient Temperature Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the CMTC harness connector. Disconnect the ambient temperature sensor. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance of the ambient temp signal circuit from the CMTC harness connector to the ambient temp harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Ambient Temperature Signal circuit for an open Perform BODY VERIFICATION TEST - VER 1.	All

*CMTC INCORRECT TEMP READING — Continued

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

Symptom:

*CMTC TRIP ODOMETER INCORRECT OR INOPERATIVE

POSSIBLE CAUSES
PCM COMMUNICATIONS
NO VEHICLE SPEED SENSOR SIGNAL
TRIP ODOMETER INOPERATIVE/WRONG

TEST	ACTION	APPLICABILITY
1	With the DRB III® select: Body, Electro/Mech Cluster, System Test; then read the PCM monitor status. Does the DRBIII® display PCM ACTIVE ON THE BUS? Yes → Go To 2 No → Refer to symptom NO RESPONSE FROM POWERTRAIN CONTROL MODULE in the Communications category. Perform BODY VERIFICATION TEST - VER 1.	All
2	Raise all four wheels off the ground and properly support the vehicle. Start the engine. Put the transmission in a forward gear. With the DRB III®, read the VSS (Vehicle Speed Signal) status while the driven wheels are moving forward. Does the DRB III® display the approximate wheel speed ? Yes → Go To 3 No → Refer to the Powertrain symptom list for problems related to P-0500 NO VEHICLE SPEED SENSOR SIGNAL. Perform BODY VERIFICATION TEST - VER 1.	All
3	Verify that the symptom still exists. Is the symptom present now? Yes → If there are no possible causes remaining, replace the CMTC. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

***ENABLE/DISABLE HORN CHIRP**

POSSIBLE CAUSES
ENABLE/DISABLE HORN CHIRP

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Open the driver window and close all doors Hold the lock button on the RKE transmitter down for 5 seconds. Continue holding the lock button and press the unlock button. View repair options Repair To change back, repeat the procedure again.	All

Symptom:

*ILLUMINATED ENTRY INOPERATIVE

POSSIBLE CAUSES
CHECKING D00R LOCKS WITH RKE
COURTESY LAMPS OPERATIONAL
COURTESY LAMP DRIVER CIRCUIT OPEN
RKE MODULE - ILLUMINATED ENTRY INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Check the operation of the Door Lock/Unlock with the RKE Transmitter. Do the Power Door Locks operate with the RKE Transmitter? Yes → Go To 2 No → Refer to symptom list for problems related to the Remote Keyless Entry Inoperative. Perform BODY VERIFICATION TEST - VER 1.	All
2	Operate Courtesy Lamps with the Doors and with the Dash switch. Do the Courtesy Lamps operate properly? Yes → Go To 3 No → Refer to Service Information for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the RKE Module harness connector. Connect a jumper wire between Courtesy Lamps Driver circuit and ground. Did the Courtesy Lamps illuminate? Yes → Replace the Remote Keyless Entry Module Perform BODY VERIFICATION TEST - VER 1. No → Repair the Courtesy Lamps Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REMOTE KEYLESS ENTRY INOPERATIVE**

POSSIBLE CAUSES
BATTERIES LOW
RKE DOOR UNLOCK CONTROL WIRE OPEN
RKE DOOR LOCK CONTROL WIRE OPEN
PASSENGER DOOR MODULE OPEN
PROGRAM RKE
FUSED B+ OPEN
GROUND CIRCUIT OPEN
RKE MODULE - OPEN

TEST	ACTION	APPLICABILITY
1	Ensure Power Door Locks operate properly before proceeding. Remove the batteries from the RKE transmitter. Measure the voltage of the the batteries. Is the voltage above 3.0 volts in each battery? Yes → Go To 2 No → Replace the batteries as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, select ″Theft Alarm″, ″VTSS″, Miscellaneous″ and ″Program RKE″. Follow the instructions on the DRB and program the transmitter. Operate the door locks from the transmitter. Did the door locks operate properly from the transmitter? Yes → Program all transmitters that will be used with this vehicle. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the RKE module connector. Measure the voltage between Fused B(+) circuit and ground. Is the voltage above 10.0 volts? Yes → Go To 4 No → Repair the open Fused B(+) circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the RKE module connector. Turn all lights off. Measure the resistance of BOTH Ground circuits in the RKE Module connector. Is the resistance below 5.0 ohms in both ground circuits? Yes → Go To 5 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*REMOTE KEYLESS ENTRY INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the RKE module connector. Momentarily connect a jumper wire between the RKE Door Unlock Control circuit in the RKE module connector and ground. Did the door lock motors actuate? Yes → Go To 6 No → Go To 8	All
6	Disconnect the RKE module connector. Momentarily connect a jumper wire between the RKE Door Lock Control circuit in the RKE module connector and ground. Did the door lock motors actuate? Yes → Go To 7 No → Go To 8	All
7	If there are no possible causes remaining, view repair. Repair Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the RKE module connector. Remove the Passenger Door panel to gain access to the Passenger Door Module. Disconnect the Passenger Door Module C2 connector. Measure the resistance of the RKE Door Unlock Control circuit between the Passenger Door Module C2 connector and the RKE Module connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the RKE Door Unlock Control wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
9	Disconnect the RKE module connector. Remove the Passenger Door panel to gain access to the Passenger Door Module. Disconnect the Passenger Door Module C2 connector. Measure the resistance of the RKE Door Lock Control circuit between the Passenger Door Module C2 connector and the RKE Module connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the RKE Door Lock Control wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	If there are no possible causes remaining, view repair. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Verification Tests

AIRBAG VERIFICATION TEST - VER 1	APPLICABILITY
1. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. 2. Turn the Ignition key On and reconnect the Battery. 3. Connect the DRB to the Data Link Connector - use the most current software available. 4. Use the DRB III and erase the stored codes. 5. Turn the Ignition Off,and wait 15 seconds before turning the Ignition On. 6. Wait one minute, and read active codes and if there are none present read the stored codes. 7. Note: If equipped with Passenger Airbag On/Off switch, read the DTC's in both switch positions. 8. If the DRB 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 codes present? YES Select the appropriate system from the category List and continue diagnostics. NO Repair is complete.	All

AW4 TRANS VERIFICATION TEST-VER1	APPLICABILITY
1. Connect the DRBIII® to the Data Link Connector (DLC). 2. Reconnect any disconnected components. 3. With the DRBIII®, erase all Transmission DTC's, also erase the PCM DTC's. 4. Check the transmission fluid and adjust if necessary. Refer to the Service Information for the Fluid Fill procedure. 5. Road test the vehicle. With the DRBIII®, monitor the engine RPM. Make 15 to 20 1-2, 2-3, 3-4 upshifts. Perform these shifts from a standing start to 45 MPH with a constant throttle opening of 20 to 25 degrees. 6. Below 25 MPH, make 5 to 8 wide open throttle kickdowns to 1st gear. Allow at least 5 seconds each in 2nd and 3rd gear between each kickdown. 7. Attempt to reset the specific DTC, drive the vehicle to the When Monitored/When Set conditions for the DTC to verify the DTC is repaired.. 8. Check for Diagnostic Trouble Codes (DTC's) during the road test. If a DTC sets during the road test , return to the Symptom list and perform the diagnostics. **9. NOTE: Erase P0700 DTC in the PCM after making transmission repairs. This will turn the MIL off.** Were any DTC's set during the road test? Yes refer to the symptom list Repair is not complete, refer to appropriate symptom. No Test Complete Repair is complete.	All

Verification Tests — Continued

BODY VERIFICATION TEST - VER 1	APPLICABILITY
1. Disconnect all jumper wires and reconnect all previously disconnected components and connectors. 2. If the Sentry Key Immobilizer Module (SKIM) or the Powertrain Control Module (PCM) were replaced, proceed to number 4. If the SKIM or PCM were not replaced, continue to the next number. 3. If the Remote Keyless Entry module was replaced, using the DRBIII® select ″Theft Alarm″ ″VTSS″ ″Miscellaneous″ and ″Program RKE″. Program all transmitters used with this vehicle. Proceed to number 11. 4. Obtain the Vehicle's unique PIN number assigned to it's original SKIM module from either the vehicle's invoice or from Chrysler's Customer Center (1-800-992-1997). 5. With the DRBIII, select THEFT ALARM, SKIM, MISCELLANEOUS and select ″Skim Module Replaced″ function. Enter the 4 digit PIN number to put SKIM in ″Access Mode″. 6. The DRBIII will prompt you through the following steps. (1) Program the country code into the SKIM's memory. (2) Program the vehicle's VIN number into the SKIM's memory. (3) Transfer the vehicle's Secret Key data from the PCM. 7. Once secured access mode is active, the SKIM will remain in that mode for 60 seconds. 8. Using the DRBIII, program all customer keys into the SKIM's memory. This requires that the SKIM be in secured access mode, using the 4 digit code. 9. Note: If the PCM is replaced, the unique Secret Key data must be transferred from the SKIM to the PCM. This procedure requires the SKIM to be placed in secured access mode using the 4-digit code. 10. Note: If 3 attempts are made to enter secured access mode using an incorrect PIN, secured access mode will be locked out for 1 hour which causes the DRB III to display ″Bus +\- Signals Open″. To exit this mode, turn ignition to the ″Run″ pos. for 1 hour. 11. Ensure all accessories are turned off and the battery is fully charged. 12. 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. 13. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTC's from ALL modules. 14. If ANY codes are present, select the appropriate symptom from the Symptom List and continue diagnostics. If NO codes are present and the customers complaint cannot be duplicated, the repair is complete.	All

POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 2. Inspect the engine oil for contamination. If it is contaminated, change the oil and filter. 3. Perform the steps 4 through 6 if the PCM has been replaced. Then proceed with the verification. If the PCM has not been replaced skip those steps and continue verification. 4. If PCM has been changed and correct VIN and mileage have not been programmed a DTC will be set in ABS and Air Bag modules. In addition, if vehicle is equipped with a 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. 8. 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. 9. If the engine starts and stays running, the repair is now complete.	All

Verification Tests — Continued

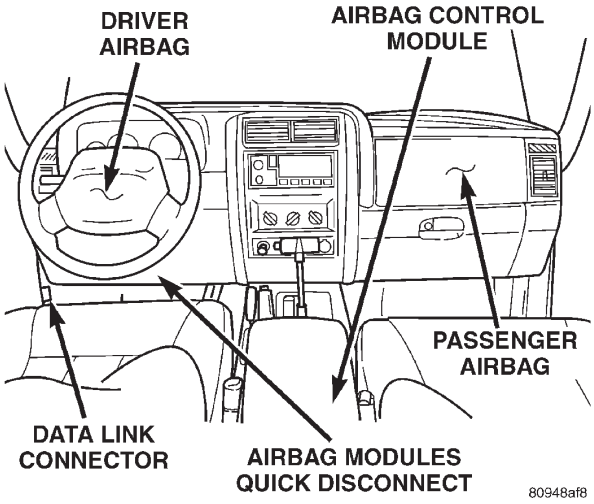
POWERTRAIN VERIFICATION TEST VER - 2	APPLICABILITY
1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 2. If this verification procedure is being performed after a NO TROUBLE CODE repair, perform steps 3 and 4. 3. Check to see if the initial symptom still exists. If there are DTCs or the symptom no longer exists, the repair was successful and testing is complete. 4. If the initial or another symptom exists, the repair is not complete. Check all technical service bulletins or flash updates and return to Symptoms if necessary. 5. If this verification procedure is being performed after a DTC repair, perform steps 6 through 11. 6. Connect the DRBIII® to the data link connector. With the DRBIII®, erase DTCs and reset all values. 7. If the PCM has been replaced, perform steps 8 through 10, then proceed with the verification. If the PCM has not been replaced, skip those steps and continue verification. 8. If PCM has been replaced and correct VIN and mileage have not been programmed, a DTC will be set in ABS and Air bag modules. In addition, if vehicle is equipped with a Sentry Key Immobilizer System (SKIS), Secret Key data must be updated to enable start. 9. For ABS and Air Bag systems: Enter correct VIN and Mileage in PCM. Erase codes in ABS and Air Bag modules. 10. For SKIS theft alarm: Connect DRBIII® to data link conn. Go to Theft Alarm, SKIM, and Misc. Place SKIM in secured access mode by using the appropriate PIN code for this vehicle. Select Update the Secret Key data. Data will be transferred from SKIM to PCM 11. Road test the vehicle. If the test is for an A/C DTC, ensure it is operating during the following test. Drive the vehicle for at least 5 minutes. 12. Drive the vehicle at least 64 kmh (40 mph). Ensure the trans shifts through all gears. At some point stop the vehicle, turn off the engine for at least 10 seconds. When finished read DTCs with the DRB. If a DTC has set, return to Symptoms and follow path. 13. If the original DTC did not return and there are no new DTCs, the repair was successful and testing is complete.	All

SKIS VERIFICATION	APPLICABILITY
1. Reconnect all previously disconnected components and connectors. 2. Obtain the vehicle's unique Personal Identification Number (PIN) assigned to it's original SKIM. This number can be obtained from the vehicle's invoice or Chrysler's Customer Center (1-800-992-1997). **3. NOTE: When entering the PIN, care should be taken because the SKIM will only allow 3 consecutive attempts to enter the correct PIN. If 3 consecutive incorrect PIN's are entered the SKIM will Lock Out the DRB III for 1 hour.** 4. To exit Lock Out mode, the ignition key must remain in the Run position continually for 1 hour. Turn off all accessories and connect a battery charger if necessary. 5. With the DRB III, select Theft Alarm, SKIM and Miscellaneous. Then select desired procedure and follow the steps that will be displayed. 6. If the 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 costumer, perform a module scan to be sure that all DTC's are erased. Erase any DTC's that are found.** 8. With the DRB III erase all DTC's. Perform 5 ignition key cycles leaving the key on for at least 90 seconds per cycle. 9. With the DRB III, read the SKIM DTC's. Are there any SKIM DTC's? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

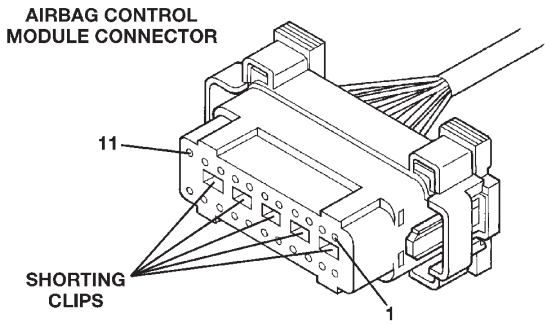
8.0 COMPONENT LOCATIONS

8.1 AIRBAG

DRIVER & PASSENGER AIRBAG MODULES



SHORTING CLIPS



A SHORTING CLIP IS ONE SAFEGUARD BUILT INTO THE AIRBAG SYSTEM TO PREVENT ACCIDENTAL DEPLOYMENT WHEN HANDLING THE AIRBAG ASSEMBLY. STATIC CHARGES OR RADIO FREQUENCY NOISE CAN CAUSE ELECTRICAL POTENTIAL TO DEVELOP IN THE AIRBAG INITIATOR. SHORTING CLIPS PREVENT THIS WHEN THE CONNECTOR IS REMOVED FROM THE CONTROL MODULE.

DO NOT PROBE, BEND OR REMOVE SHORTING CLIPS

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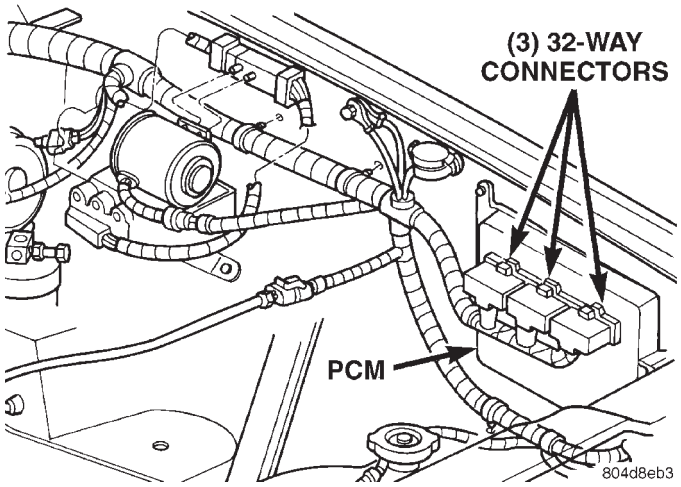
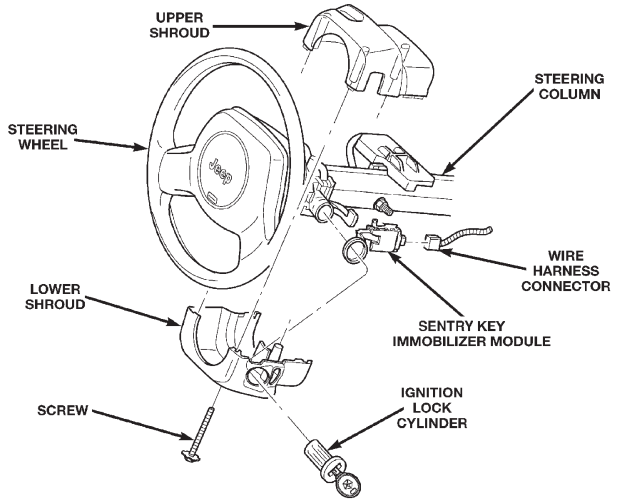
8.2 COMMUNICATION

8.2.1 POWERTRAIN CONTROL MODULE

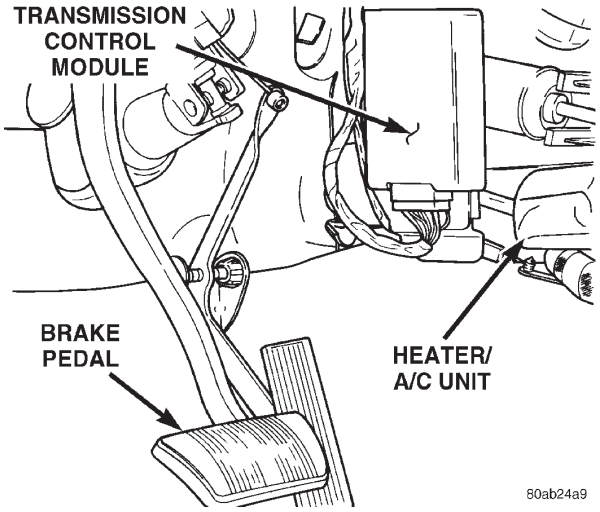


8.2.2 SENTRY KEY IMMOBILIZER MODULE



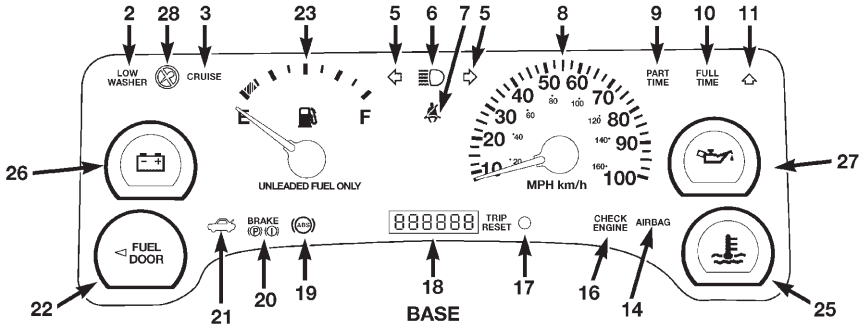
8.2 COMMUNICATION (Continued)

8.2.3 TRANSMISSION CONTROL MODULE



8.3 INSTRUMENT CLUSTER

8.3.1 BASE CLUSTER



2. Low Windshield Washer Fluid Warning Light
3. Cruise Light
5. Turn Signal Indicator Light
6. Headlight High Beam Indicator
7. Seat Belt Warning Light
8. Speedometer
9. Part Time 4WD Indicator Light
10. Full Time 4WD Indicator Light
11. Manual Transmission Upshift Indicator Light
14. Airbag Light
16. Check Engine Light
17. Odometer/Trip Odometer Button
18. Odometer/Trip Odometer
19. ABS Light
20. Brake Warning Light
21. Liftgate Ajar
22. Fuel Door Location Indicator
23. Fuel Gauge
25. Engine Coolant Temperature Warning Light
26. Charging System Warning Light
27. Oil Pressure Warning Light
28. Immobilizer Light

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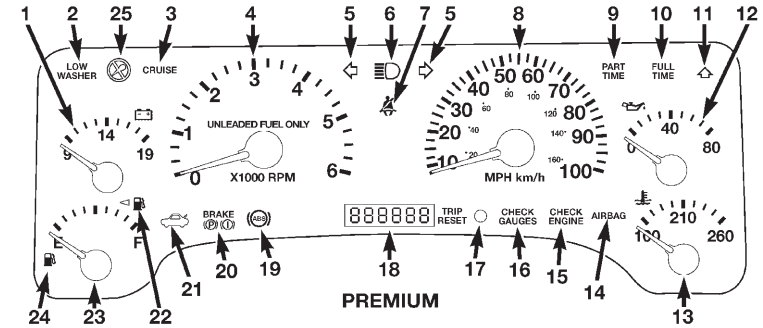
8.3.2 PREMIUM CLUSTER



1. Voltmeter
2. Low Windshield Washer Fluid Warning Light
3. Cruise Light
4. Tachometer
5. Turn Signal Indicator Light
6. Headlights High Beam Indicator Light
7. Seat Belt Warning Light
8. Speedometer
9. Part Time 4WD Indicator Light
10. Full Time 4WD Indicator Light
11. Manual Transmission Upshift Indicator Light
12. Engine Oil Pressure Gauge
13. Engine Coolant Temperature Gauge
14. Airbag Light
15. Check Gauges Light
16. Check Engine Light
17. Odometer/Trip Odometer Button
18. Odometer/Trip Odometer
19. ABS Light
20. Brake Warning Light
21. Liftgate Ajar
22. Fuel Door Location Indicator
23. Fuel Gauge
24. Low Fuel Warning Light
25. Immobilizer Light

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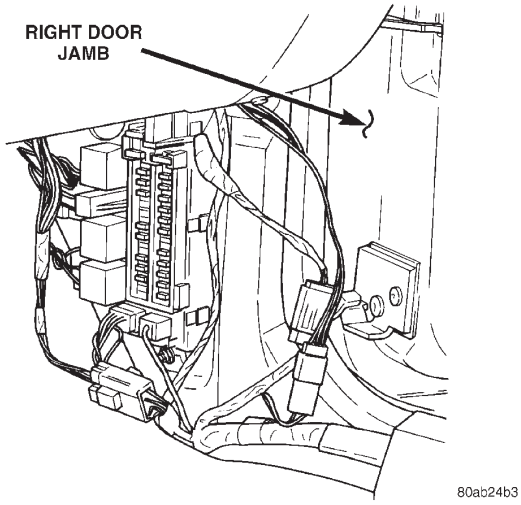
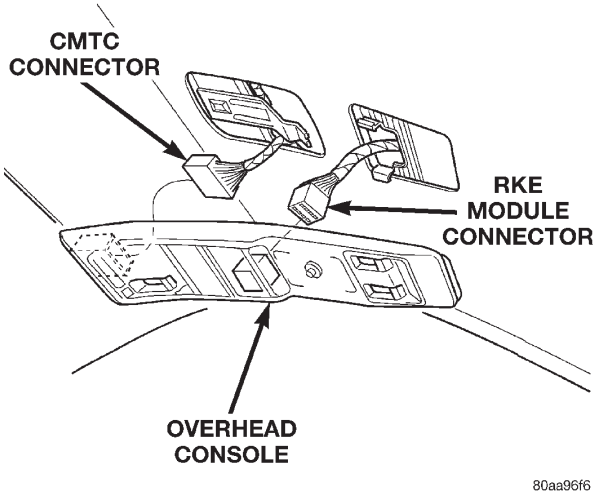
8.4 JUNCTION BLOCK

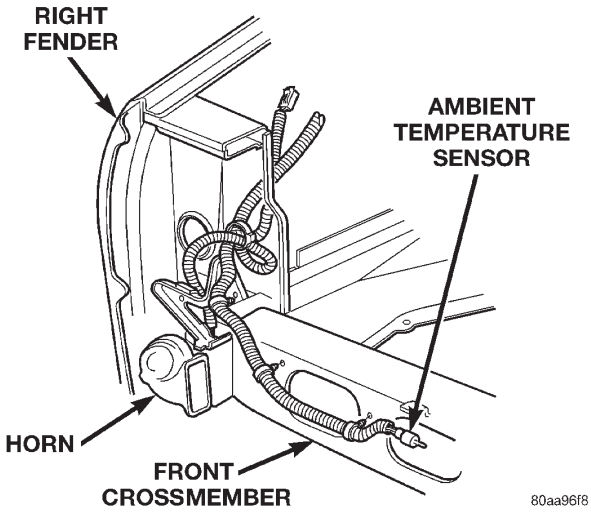


8.5 OVERHEAD CONSOLE

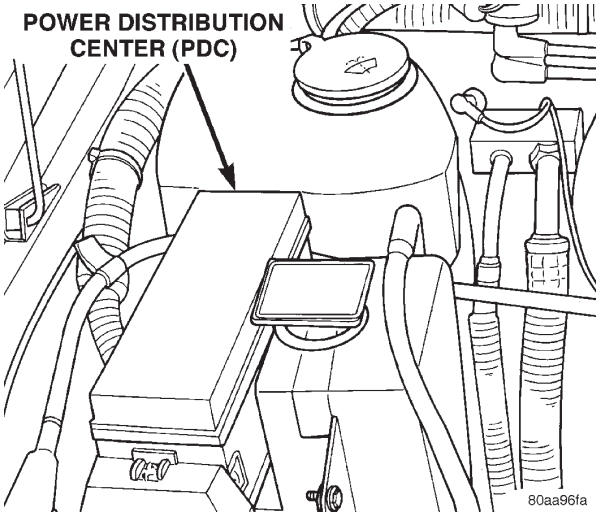
8.5.1 COMPASS MINI-TRIP COMPUTER



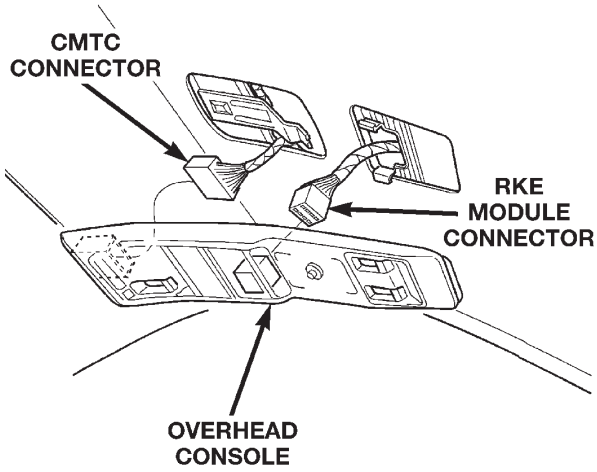
8.5.2 AMBIENT TEMPERATURE SENSOR

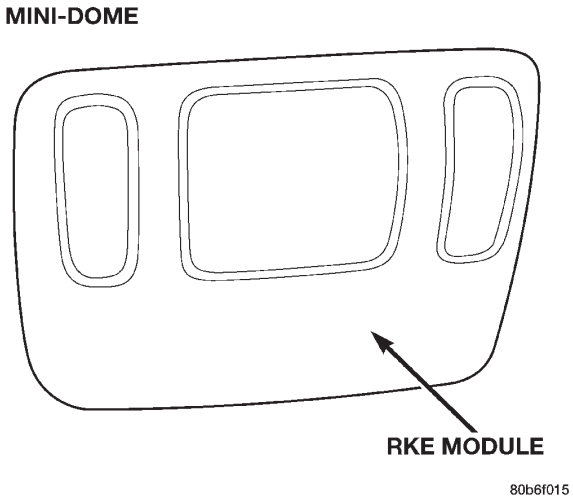


8.6 POWER DISTRIBUTION CENTER

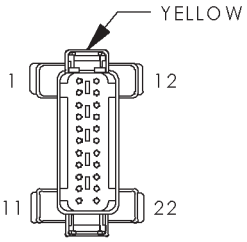


8.7 REMOTE KEYLESS ENTRY





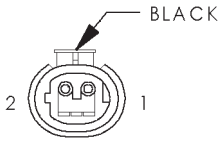
9.0 CONNECTOR PINOUTS



AIRBAG CONTROL MODULE

AIRBAG CONTROL MODULE - YELLOW 22 WAY

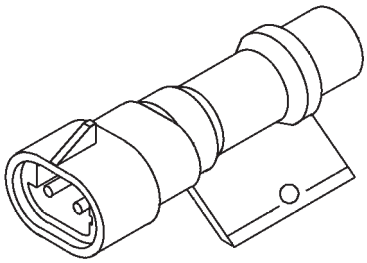
CAV	CIRCUIT	FUNCTION
1	R45 18DG/LB	DRIVER AIRBAG LINE 2
2	R43 18BK/LB	DRIVER AIRBAG LINE 1
3	-	-
4	-	-
5	R42 18BK/YL	PASSENGER AIRBAG LINE 1
6	R44 18DG/YL	PASSENGER AIRBAG LINE 2
7	-	-
8	-	-
9	-	-
10	Z6 18BK/PK	GROUND
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
18	D2 18WT/BK	CCD BUS(-)
19	D1 18VT/BR	CCD BUS(+)
20	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN)



AMBIENT TEMPERATURE SENSOR

AMBIENT TEMPERATURE SENSOR - BLACK 2 WAY

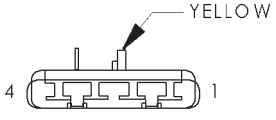
CAV	CIRCUIT	FUNCTION
1	G31 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
2	G32 20BK/LB	SENSOR GROUND



AMBIENT TEMPERATURE SENSOR (SENSOR SIDE)

AMBIENT TEMPERATURE SENSOR -2 WAY (SENSOR SIDE)

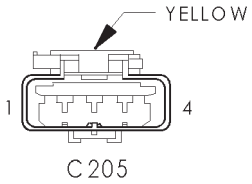
CAV	CIRCUIT	FUNCTION
1	-	AMBIENT TEMPERATURE SENSOR SIGNAL
2	-	SENSOR GROUND



C205

C205 - YELLOW (UNIBODY SIDE)

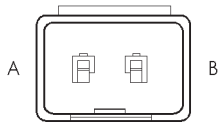
CAV	CIRCUIT
1	R42 18BK/YL
2	R44 18DG/YL
3	R43 18BK/LB
4	R45 18DG/LB



C205

C205 - YELLOW (INSTRUMENT PANEL SIDE)

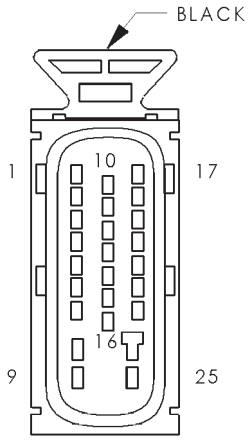
CAV	CIRCUIT
1	R42 18BK/YL
2	R44 18DG/YL
3	R43 18BK/LB
4	R45 18DG/LB



CLOCKSPRING - C3

CLOCKSPRING C3 - 2 WAY

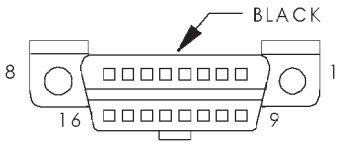
CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL



CONTROLLER ANTI-LOCK BRAKE

CONTROLLER ANTILOCK BRAKE - BLACK 25 WAY

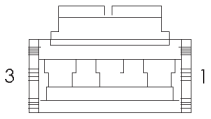
CAV	CIRCUIT	FUNCTION
1	B1 18YL/DB	RIGHT REAR WHEEL SPEED SENSOR (-)
2	B3 18LG/DB	LEFT REAR WHEEL SPEED SENSOR (-)
3	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR (+)
4	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR (+)
5	-	-
6	B41 18YL/VT	G SWITCH NO. 1 SENSE
7	B42 18TN/WT	G SWITCH NO. 2 SENSE
8	Z1 12BK	GROUND
9	A20 12RD/DB	FUSED B(+)
10	B4 18LG	LEFT REAR WHEEL SPEED SENSOR (+)
11	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR (-)
12	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
13	B43 18PK/OR	G SWITCH TEST SIGNAL
14	-	-
15	-	-
16	G83 18GY/BK	ABS RELAY CONTROL
17	B2 18YL	RIGHT REAR WHEEL SPEED SENSOR (+)
18	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR (+)
19	-	-
20	D21 18PK	SCI TRANSMIT
21	-	-
22	-	-
23	F15 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
24	Z1 12BK	GROUND
25	A10 12RD/DG	FUSED B(+)



DATA LINK CONNECTOR

DATA LINK CONNECTOR - BLACK 16 WAY

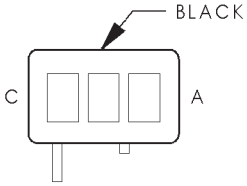
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	D1 18VT/BR	CCD BUS (+)
4	Z1 18BK	GROUND
5	Z12 18BK/TN	GROUND
6	D20 20LG/BK	SCI RECEIVE
7	D21 20PK	SCI TRANSMIT
8	-	-
9	-	-
10	-	-
11	D2 18WT/BK	CCD BUS (-)
12	-	-
13	-	-
14	-	-
15	-	-
16	F34 18TN/BK	FUSED B(+)



DOME LAMP (BASE/POLICE)

DOME LAMP (BASE/POLICE) - 3 WAY

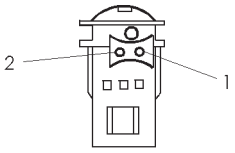
CAV	CIRCUIT	FUNCTION
1	-	-
2	M1 20PK	FUSED B(+)
3	M2 20YL	COURTESY LAMPS DRIVER



DOME LAMPS SWITCH (MIDLINE)

DOME LAMPS SWITCH (MIDLINE) - BLACK 3 WAY

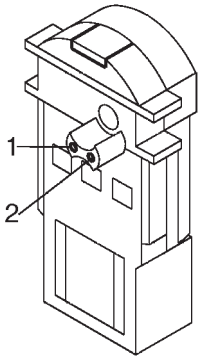
CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	M2 20YL	COURTESY LAMPS DRIVER
C	M1 20PK	FUSED B(+)



DRIVER AIRBAG

DRIVER AIRBAG - 2 WAY

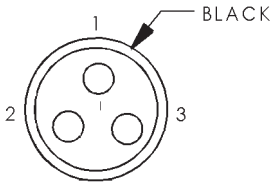
CAV	CIRCUIT	FUNCTION
1	BK	DRIVER AIRBAG LINE 2
2	BK	DRIVER AIRBAG LINE 1



DRIVER AIRBAG SQUIB

DRIVER AIRBAG SQUIB - 2 WAY

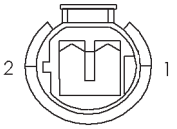
CAV	CIRCUIT	FUNCTION
1	BK	DRIVER AIRBAG LINE 1
2	BK	DRIVER AIRBAG LINE 2



DRIVER DOOR AJAR SWITCH

DRIVER DOOR AJAR SWITCH - BLACK 3 WAY

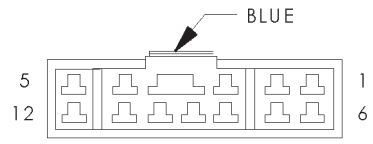
CAV	CIRCUIT	FUNCTION
1	M2 18YL	COURTESY LAMPS DRIVER
2	G16 18BK/LB	DRIVER DOOR AJAR SWITCH SENSE
3	Z1 18BK	GROUND



DRIVER DOOR POWER LOCK MOTOR

DRIVER DOOR LOCK MOTOR - 2 WAY

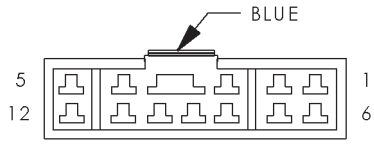
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



DRIVER DOOR
MODULE-C1
(LHD)
(FULL OPTIONS)

DRIVER DOOR MODULE C1 (LHD) (FULL OPTIONS) - BLUE 12 WAY

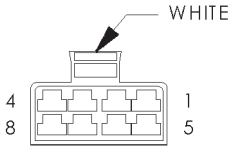
CAV	CIRCUIT	FUNCTION
1	Q28 14DG/WT	MASTER WINDOW SWITCH RIGHT REAR DOWN
2	Q18 14GY/BK	RIGHT REAR WINDOW DRIVER UP
3	Q16 14BR/WT	MASTER WINDOW SWITCH PASSENGER UP
4	Q17 14DB/WT	LEFT REAR WINDOW DRIVER UP
5	Q11 14LB	DRIVER WINDOW DRIVER UP
6	Q26 14VT/WT	MASTER WINDOW SWITCH PASSENGER DOWN
7	P35 18OR/VT	DOOR LOCK SWITCH OUTPUT (LOCK)
8	Z1 14BK	GROUND
9	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	Q27 14RD/BK	LEFT REAR WINDOW DRIVER DOWN
11	P36 18PK/VT	DOOR LOCK SWITCH OUTPUT (UNLOCK)
12	Q21 14WT	DRIVER WINDOW DRIVER DOWN



DRIVER DOOR
MODULE-C1
(RHD)
(FULL OPTIONS)

DRIVER DOOR MODULE C1 (RHD) (FULL OPTIONS) - BLUE 12 WAY

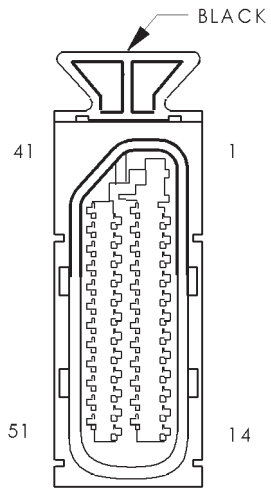
CAV	CIRCUIT	FUNCTION
1	Q28 14DG/WT	MASTER WINDOW SWITCH RIGHT REAR DOWN
2	Q18 14GY/BK	RIGHT REAR WINDOW DRIVER UP
3	Q11 14BR	DRIVER WINDOW DRIVER UP
4	Q17 14DB/WT	LEFT REAR WINDOW DRIVER UP
5	Q16 14BR/WT	MASTER WINDOW SWITCH PASSENGER UP
6	Q21 14VT	DRIVER WINDOW DRIVER DOWN
7	P35 18OR/VT	DOOR LOCK SWITCH OUTPUT (LOCK)
8	Z1 14BK	GROUND
9	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	Q27 14RD/BK	LEFT REAR WINDOW DRIVER DOWN
11	P36 18PK/VT	DOOR LOCK SWITCH OUTPUT (UNLOCK)
12	Q26 14VT/WT	MASTER WINDOW SWITCH PASSENGER DOWN



DRIVER DOOR
MODULE-C2
(FULL OPTIONS)

DRIVER DOOR MODULE C2 (FULL OPTIONS) - WHITE 8 WAY

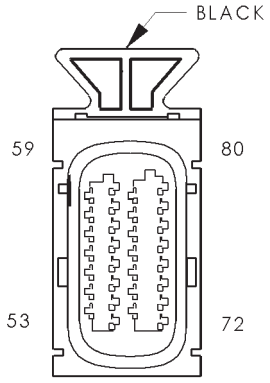
CAV	CIRCUIT	FUNCTION
1	P71 20YL (LHD)	LEFT MIRROR VERTICAL DRIVER
1	P71 20YL/LB (RHD)	LEFT MIRROR VERTICAL DRIVER
2	P76 20OR/YL	MIRROR COMMON DRIVER
3	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	P74 20DB	RIGHT MIRROR HORIZONTAL DRIVER
5	Z1 14BK (LHD)	GROUND
5	Z1 16BK (RHD)	GROUND
6	P75 20DB/WT	LEFT MIRROR HORIZONTAL DRIVER
7	P72 20YL/BK	RIGHT MIRROR VERTICAL DRIVER
8	Q1 14YL	WINDOW SWITCH FEED



ENGINE CONTROL
MODULE - C1
(DIESEL)

ENGINE CONTROL MODULE C1 (DIESEL) - BLACK 51 WAY

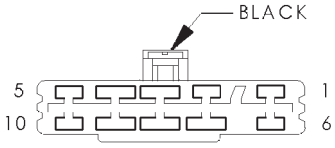
CAV	CIRCUIT	FUNCTION
1	Z12 14BK/TN	GROUND
2	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
3	-	-
4	-	-
5	C13 20DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
6	K159 18VT/RD	ENGINE SPEED SENSOR SIGNAL
7	-	-
8	C103 18DG	A/C REQUEST INPUT
9	K29 20WT/PK	BRAKE LAMP SWITCH SENSE
10	C22 20DB/WT	A/C PRESSURE SWITCH SENSE
11	K6 20VT/WT	5V SUPPLY
12	K151 20WT	LOW IDLE POSITION SWITCH SIGNAL
13	K21 20BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL
14	-	-
15	-	-
16	-	-
17	C27 18DB/PK	RADIATOR FAN RELAY CONTROL
18	G8 18LB/BK	FUEL MONITOR OUTPUT SIGNAL
19	-	-
20	L50 20WT/TN	BRAKE LAMP SWITCH OUTPUT
21	-	-
22	-	-
23	K255 20WT/DG	ACCELERATOR PEDAL POSITION SENSOR GROUND
24	K22 20OR/DB	ACCELERATOR PEDAL POSITION SENSOR SIGNAL
25	-	-
26	-	-
27	Z12 16BK/TN	GROUND
28	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
29	K35 18GY/YL	EGR SOLENOID CONTROL
30	V66 18RD/LG	SPEED CONTROL INDICATOR SIGNAL
31	-	-
32	K185 20OR/LB	WAIT TO START INDICATOR DRIVER
33	K51 20DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
34	K48 18OR/RD	FAULT INDICATOR REQUEST INPUT
35	-	-
36	-	-
37	-	-
38	G55 18OR/BK	ENGINE DISABLE SIGNAL
39	K9 20LB	5V SUPPLY
40	K1 20DG/RD	BOOST PRESSURE SENSOR SIGNAL
41	-	-
42	K152 18WT	GLOW PLUG RELAY CONTROL
43	-	-
44	-	-
45	D21 20PK	SCI TRANSMIT
46	-	-
47	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
48	C48 18TN	RADIATOR FAN REQUEST
49	-	-
50	-	-
51	G7 20WT/OR	VEHICLE SPEED SENSOR SIGNAL



ENGINE CONTROL
MODULE - C2
(DIESEL)

ENGINE CONTROL MODULE C2 (DIESEL) - BLACK 29 WAY

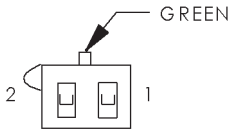
CAV	CIRCUIT	FUNCTION
52	-	-
53	K156 20GY	FUEL TEMPERATURE SENSOR SIGNAL
54	K2 20TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
55	K68 18LG/YL	NEEDLE MOVEMENT SENSOR GROUND
56	K134 20LB/BK	CONTROL SLEEVE POSITION SENSOR SIGNAL
57	K57 20LG/OR	CONTROL SLEEVE POSITION SENSOR MIDDLE TAP
58	K135 20WT/BK	CONTROL SLEEVE POSITION SENSOR MEASURE COIL
59	K140 18TN/WT	FUEL QUANTITY ACTUATOR CONTROL
60	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL
61	K4 20BK/LB	SENSOR GROUND
62	K67 18BR/BK	NEEDLE MOVEMENT SENSOR SIGNAL
63	-	-
64	-	-
65	-	-
66	K140 18TN/WT	FUEL QUANTITY ACTUATOR CONTROL
67	K24 20GY/BK	ENGINE SPEED SENSOR SIGNAL
68	-	-
69	K3 20LG/BK	ENGINE SPEED SENSOR GROUND
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	K153 18OR	FUEL SHUTDOWN SOLENOID CONTROL
78	-	-
79	K126 18LG	FUEL TIMING SOLENOID CONTROL
80	K140 18TN/WT	FUEL QUANTITY ACTUATOR CONTROL



IGNITION
SWITCH - C1

IGNITION SWITCH C1 - BLACK 10 WAY

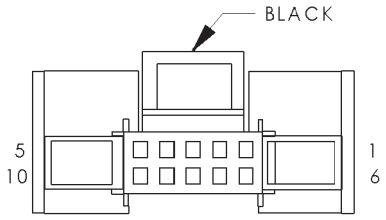
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
3	A2 12PK/BK	FUSED B(+)
4	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
5	-	-
6	-	-
7	A1 12RD	FUSED B(+)
8	A31 12BK/WT	IGNITION SWITCH OUTPUT (RUN-ACC)
9	A21 12DB	IGNITION SWITCH OUTPUT (RUN-START)
10	A41 14YL	IGNITION SWITCH OUTPUT (START)



IGNITION
SWITCH - C2

IGNITION SWITCH C2 - GREEN 2 WAY

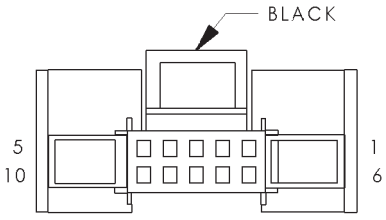
CAV	CIRCUIT	FUNCTION
1	G26 20LB	KEY-IN IGNITION SWITCH SENSE
2	G16 20BK/LB	DRIVER DOOR AJAR SWITCH SENSE



INSTRUMENT CLUSTER - C1 (LHD)

INSTRUMENT CLUSTER C1 (LHD) - BLACK 10 WAY

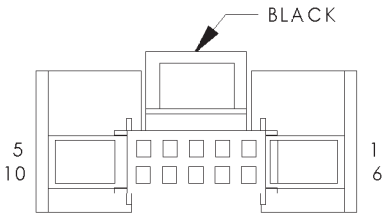
CAV	CIRCUIT	FUNCTION
1	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
2	G99 20GY/WT	RED BRAKE WARNING INDICATOR DRIVER
3	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
4	G19 20LG/OR	ABS WARNING INDICATOR DRIVER
5	G34 16RD/GY	HIGH BEAM INDICATOR DRIVER
6	Z2 20BK/LG	GROUND
7	G29 20BK/LB	LOW WASHER FLUID SENSE
8	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
9	M1 20PK	FUSED B(+)
10	L61 20LG/WT	LEFT TURN SIGNAL



INSTRUMENT CLUSTER - C1 (RHD)

INSTRUMENT CLUSTER C1 (RHD) - BLACK 10 WAY

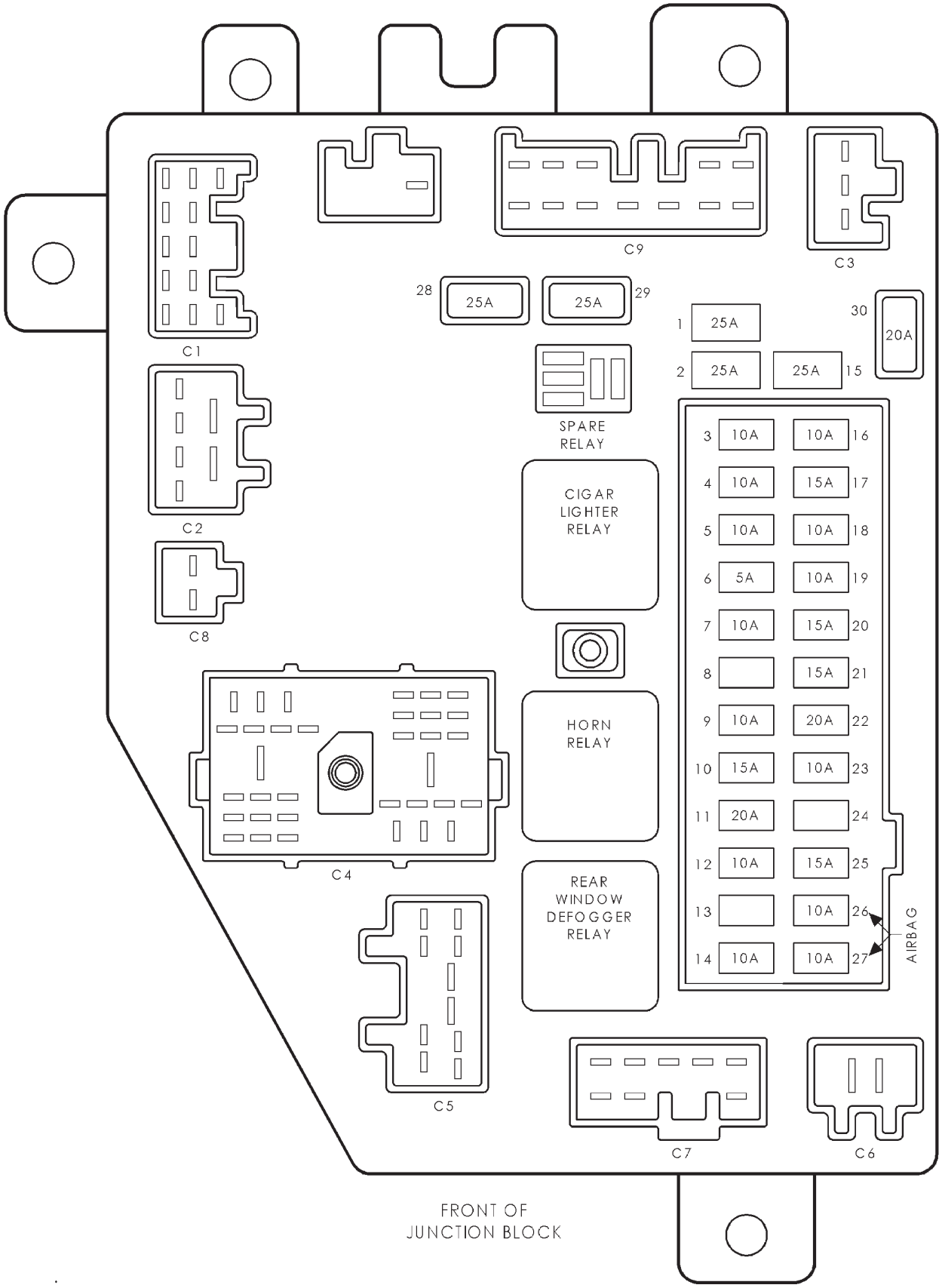
CAV	CIRCUIT	FUNCTION
1	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
2	G99 20GY/WT	RED BRAKE WARNING INDICATOR DRIVER
3	E2 20OR	FUSED PANEL LAMPS SWITCH SIGNAL
4	G19 20LG/OR	ABS WARNING INDICATOR DRIVER
5	L3 16RD/OR	DIMMER SWITCH HIGH BEAM OUTPUT
6	Z2 20BK/LG	GROUND
7	G29 20BK/LB	LOW WASHER FLUID SENSE
8	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
9	M1 20PK	FUSED B(+)
10	L61 20LG/WT	LEFT TURN SIGNAL



INSTRUMENT CLUSTER - C2

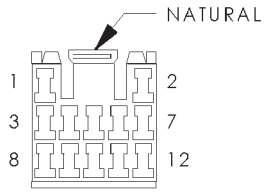
INSTRUMENT CLUSTER C2 - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	D2 20WT/BK	CCD BUS(-)
2	D1 20VT/BR	CCD BUS(+)
3	C81 20LB/WT	REAR WINDOW DEFOGGER RELAY CONTROL
4	C80 20DB/WT	REAR WINDOW DEFOGGER SWITCH SENSE
5	G107 20BK/RD	4WD SWITCH SENSE (PART-TIME)
6	L60 20TN	RIGHT TURN SIGNAL
7	G106 20BK/WT	4WD SWITCH SENSE (FULL-TIME)
8	G26 20LB	KEY-IN IGNITION SWITCH SENSE
9	Z2 18BK/LG	GROUND
10	G10 20LG/RD	SEAT BELT SWITCH SENSE


C1
C2
C3
C4
C5
C6
C7
C8
C9
28
25A
25A
29
1
25A
2
25A
25A
15
30
20A
SPARE
RELAY
CIGAR
LIGHTER
RELAY
HORN
RELAY
REAR
WINDOW
DEFOGGER
RELAY
3 10A 10A 16
4 10A 15A 17
5 10A 10A 18
6 5A 10A 19
7 10A 15A 20
8 15A 21
9 10A 20A 22
10 15A 10A 23
11 20A 24
12 10A 15A 25
13 10A 26
14 10A 10A 27
AIRBAG
FRONT OF
JUNCTION BLOCK

FUSES (JB)

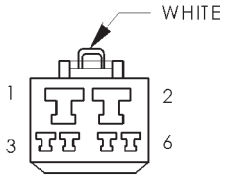
FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	25A	INTERNAL	FUSED B(+)
2	25A	INTERNAL	FUSED B(+)
3	10A	INTERNAL	DIMMER SWITCH HIGH BEAM OUTPUT
4	10A	INTERNAL	DIMMER SWITCH HIGH BEAM OUTPUT
5	10A	INTERNAL	DIMMER SWITCH HIGH BEAM OUTPUT
6	5A	E2 20OR	PANEL LAMPS DIMMER SWITCH SIGNAL
7	10A	INTERNAL	HEADLAMP SWITCH OUTPUT
8	-	-	-
9	10A	F87 20WT/BK	IGNITION SWITCH OUTPUT (RUN-START)
10	15A	F20 18WT	IGNITION SWITCH OUTPUT (RUN-START)
11	20A	F12 18DB/WT	IGNITION SWITCH OUTPUT (RUN-START)
12	10A	INTERNAL	IGNITION SWITCH OUTPUT (RUN)
13	-	-	-
14	10A	INTERNAL	REAR WINDOW DEFOGGER RELAY OUTPUT
15	25A	INTERNAL	FUSED B(+)
16	10A	INTERNAL	DIMMER SWITCH HIGH BEAM OUTPUT
17	15A	INTERNAL	IGNITION SWITCH OUTPUT (RUN-ACC)
18	10A	INTERNAL	IGNITION SWITCH OUTPUT (RUN-ACC)
19	10A	F45 20YL/RD	IGNITION SWITCH OUTPUT (START)
20	15A	A6 20RD/OR	FUSED B(+)
21	15A	INTERNAL	FUSED B(+)
22	20A	V23 18BR/PK	IGNITION SWITCH OUTPUT (RUN)
23	10A	INTERNAL	HEADLAMP SWITCH OUTPUT
24	-	-	-
25	15A	INTERNAL	IGNITION SWITCH OUTPUT (RUN)
26	10A	F14 18LG/YL	IGNITION SWITCH OUTPUT (RUN)
27	10A	F23 18DB/YL	IGNITION SWITCH OUTPUT (RUN-START)



JUNCTION BLOCK - C1

JUNCTION BLOCK C1 - NATURAL 12 WAY

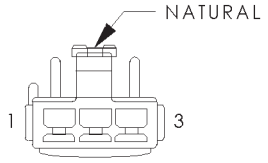
CAV	CIRCUIT	FUNCTION
1	L44 20VT/RD	FUSED RIGHT LOW BEAM OUTPUT
2	-	-
3	F45 20YL/RD	FUSED B(+) ENGINE STARTER MOTOR RELAY
4	-	-
5	L78 20DG/YL (DIESEL)	FUSED HEADLAMP SWITCH OUTPUT
6	F15 20DB/WT (ABS)	FUSED IGNITION SWITCH OUTPUT (RUN)
7	-	-
8	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
9	L33 20RD	FUSED LEFT HIGH BEAM OUTPUT
10	L43 20VT	FUSED LEFT LOW BEAM OUTPUT
11	L34 20RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
12	M1 20PK	FUSED B(+)
5	L78 20DG/YL (GAS)	FUSED HEADLAMP SWITCH OUTPUT



JUNCTION BLOCK - C2

JUNCTION BLOCK C2 - WHITE 6 WAY

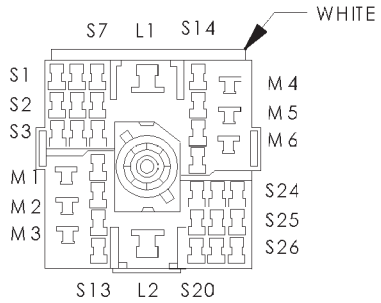
CAV	CIRCUIT	FUNCTION
1	A4 12BK/PK	FUSED B(+)
2	A7 10RD/BK	FUSED B(+)
3	-	-
4	X2 20DG/RD	HORN RELAY OUTPUT
5	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	L77 20BR/YL (GAS)	FUSED HEADLAMP SWITCH OUTPUT
6	L77 18BR/YL	FUSED HEADLAMP SWITCH OUTPUT



JUNCTION BLOCK - C3

JUNCTION BLOCK C3 - NATURAL 3 WAY

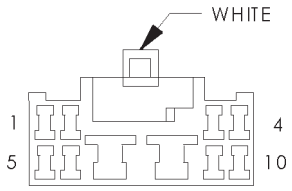
CAV	CIRCUIT	FUNCTION
1	M2 20YL	COURTESY LAMPS DRIVER
2	Z1 20BK (OVERHEAD CONSOLE)	GROUND
3	M1 20PK	FUSED B(+)



JUNCTION BLOCK - C4

JUNCTION BLOCK C4 - WHITE 34 WAY

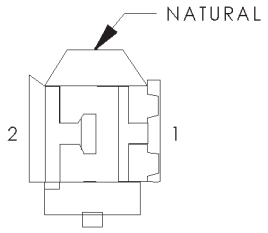
CAV	CIRCUIT	FUNCTION
L1	A31 12BK/WT	IGNITION SWITCH OUTPUT (RUN-ACC)
L2	A21 12DB	IGNITION SWITCH OUTPUT (RUN-START)
M1	A41 14YL	IGNITION SWITCH OUTPUT (START)
M2	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
M3	L7 18BK/YL	HEADLAMP SWITCH OUTPUT
M4	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
M5	F38 16RD/LB	FUSED B(+)
M6	F30 16RD	CIGAR LIGHTER RELAY OUTPUT
S1	E1 20TN	PANEL LAMPS DIMMER SWITCH SIGNAL
S2	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
S3	L4 16VT/WT	DIMMER SWITCH LOW BEAM OUTPUT
S4	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
S5	Z1 14BK	GROUND
S6	-	-
S7	L3 16RD/OR	DIMMER SWITCH HIGH BEAM OUTPUT
S8	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
S9	X12 16RD/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
S10	-	-
S11	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
S12	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
S13	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
S14	-	-
S15	-	-
S16	-	-
S17	-	-
S18	M1 20PK	FUSED B(+)
S19	C16 20LB/YL (LHD)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
S19	C16 20BK/WT (RHD)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
S20	L5 20BK	FUSED IGNITION SWITCH OUTPUT (RUN)
S21	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
S22	X3 20BK/RD	HORN RELAY CONTROL
S23	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
S24	-	-
S25	M2 20YL	COURTESY LAMPS DRIVER
S26	C81 20LB/WT	REAR WINDOW DEFOGGER RELAY CONTROL



JUNCTION BLOCK - C5

JUNCTION BLOCK C5 - WHITE 10 WAY

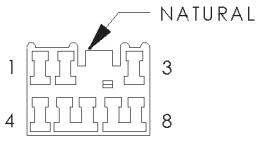
CAV	CIRCUIT	FUNCTION
1	X3 20BK/RD	HORN RELAY CONTROL
2	P76 20OR/YL	MIRROR COMMON DRIVER
3	P91 20WT/BK	MIRROR COMMON DRIVER
4	-	-
5	C16 20LB/YL (RHD)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
6	-	-
7	F35 16RD (RHD)	FUSED B(+)
8	F81 12TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
9	P74 20DB (RHD)	LEFT MIRROR HORIZONTAL DRIVER
9	P74 20DB (LHD)	RIGHT MIRROR HORIZONTAL DRIVER
10	P72 20YL/BK (RHD)	LEFT MIRROR VERTICAL DRIVER
10	P72 20YL/BK (LHD)	RIGHT MIRROR VERTICAL DRIVER



JUNCTION BLOCK - C6

JUNCTION BLOCK C6 - NATURAL 2 WAY

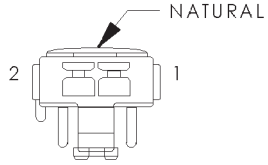
CAV	CIRCUIT	FUNCTION
1	C15 12BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
2	F37 14RD/LB (POWER SEATS)	FUSED B(+)



JUNCTION BLOCK - C7

JUNCTION BLOCK C7 - NATURAL 8 WAY

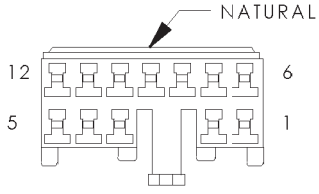
CAV	CIRCUIT	FUNCTION
1	P33 16OR/BK (FULL OPTIONS)	DOOR LOCK DRIVER
2	L77 18BR/YL	FUSED HEADLAMP SWITCH OUTPUT
3	P91 20WT/BK (RHD EXCEPT FULL OPTIONS)	MIRROR COMMON DRIVER
4	M1 20PK	FUSED B(+)
5	P34 16PK/BK (FULL OPTIONS)	DOOR UNLOCK DRIVER
6	L78 18DG/YL	FUSED HEADLAMP SWITCH OUTPUT
7	M2 20YL	COURTESY LAMPS DRIVER
8	A6 20RD/OR	FUSED B(+)



JUNCTION BLOCK - C8

JUNCTION BLOCK C8 - NATURAL 2 WAY

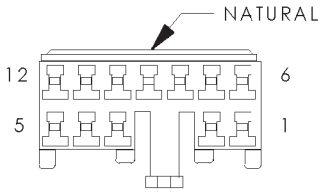
CAV	CIRCUIT	FUNCTION
1	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	-	-



JUNCTION BLOCK - C9 (LHD)

JUNCTION BLOCK C9 (LHD) - NATURAL 12 WAY

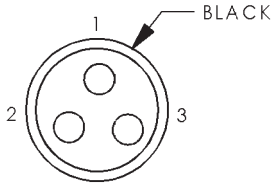
CAV	CIRCUIT	FUNCTION
1	P33 16OR/BK	DOOR LOCK DRIVER
2	P74 20DB (POWER MIRROR)	RIGHT MIRROR HORIZONTAL DRIVER
3	C16 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	-	-
5	-	-
6	P72 20YL/BK (POWER MIRROR)	RIGHT MIRROR VERTICAL DRIVER
7	P91 20WT/BK (POWER MIRROR)	MIRROR COMMON DRIVER
8	-	-
9	F35 16RD	FUSED B(+)
10	P76 20OR/YL (POWER MIRROR)	MIRROR COMMON DRIVER
11	Z1 18BK (POWER MIRROR)	GROUND
11	Z1 16BK (FULL OPTIONS)	GROUND
12	P34 16PK/BK	DOOR UNLOCK DRIVER



JUNCTION BLOCK - C9 (RHD)

JUNCTION BLOCK C9 (RHD) - NATURAL 12 WAY

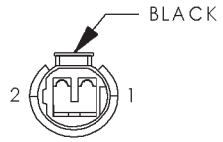
CAV	CIRCUIT	FUNCTION
1	P33 16OR/BK	DOOR LOCK DRIVER
2	P75 20DB/WT	LEFT MIRROR HORIZONTAL DRIVER
3	C16 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	-	-
5	-	-
6	P71 20YL/LB	LEFT MIRROR VERTICAL DRIVER
7	P91 20WT/BK (POWER MIRROR)	MIRROR COMMON DRIVER
8	-	-
9	-	-
10	P76 20OR/YL	MIRROR COMMON DRIVER
11	Z1 16BK (POWER MIRROR)	GROUND
12	P34 16PK/BK	DOOR UNLOCK DRIVER



LEFT REAR DOOR AJAR SWITCH

LEFT REAR DOOR AJAR SWITCH - BLACK 3 WAY

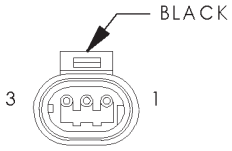
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z1 18BK	GROUND
3	M2 18YL	COURTESY LAMPS DRIVER



LEFT REAR DOOR POWER LOCK MOTOR

LEFT REAR DOOR POWER LOCK MOTOR - BLACK 2 WAY

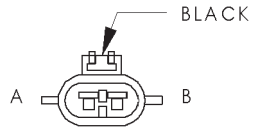
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



LIFTGATE AJAR SWITCH

LIFTGATE AJAR SWITCH - BLACK 3 WAY

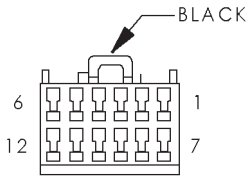
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
3	M4 20VT/YL	LIFTGATE COURTESY LAMP DRIVER



LIFTGATE POWER LOCK MOTOR

LIFTGATE POWER LOCK MOTOR - BLACK 2 WAY

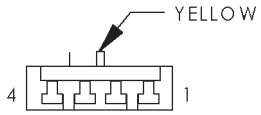
CAV	CIRCUIT	FUNCTION
A	P33 16OR/BK	DOOR LOCK DRIVER
B	P34 16PK/BK	DOOR UNLOCK DRIVER



OVERHEAD CONSOLE

OVERHEAD CONSOLE - BLACK 12 WAY

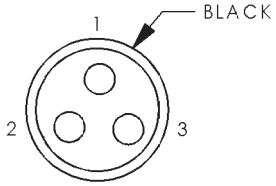
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	M1 20PK	FUSED B(+)
3	-	-
4	G31 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
5	D1 20VT/BR	CCD BUS (+)
6	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
7	M2 20YL	COURTESY LAMPS DRIVER
8	-	-
9	-	-
10	G32 20BK/LB	SENSOR GROUND
11	D2 20WT/BK	CCD BUS(-)
12	Z2 20BK/LG	GROUND



PASSENGER AIRBAG

PASSENGER AIRBAG - YELLOW 4 WAY

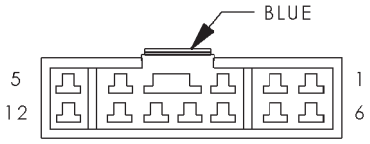
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R42 18BK/YL	PASSENGER AIRBAG LINE 2
4	R44 18DG/YL	PASSENGER AIRBAG LINE 1



PASSENGER DOOR AJAR SWITCH

PASSENGER DOOR AJAR SWITCH - BLACK 3 WAY

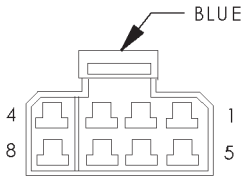
CAV	CIRCUIT	FUNCTION
1	M2 18YL	COURTESY LAMPS DRIVER
2	G16 18BK/LB	DRIVER DOOR AJAR SWITCH SENSE
3	Z1 18BK	GROUND



PASSENGER
DOOR MODULE-C1
(FULL OPTIONS)

PASSENGER DOOR MODULE C1 (FULL OPTIONS) - BLUE 12 WAY

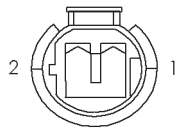
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	Q22 14VT	PASSENGER FRONT WINDOW DRIVER DOWN
3	Q26 14VT/WT	MASTER WINDOW SWITCH PASSENGER FRONT DOWN
4	Q16 14BR/WT	MASTER WINDOW SWITCH PASSENGER FRONT UP
5	P33 16OR/BK	DOOR LOCK DRIVER
6	-	-
7	-	-
8	-	-
9	Q12 14BR	PASSENGER FRONT WINDOW DRIVER UP
10	Q1 14YL	WINDOW SWITCH FEED
11	-	-
12	-	-



PASSENGER
DOOR MODULE-C2
(FULL OPTIONS)

PASSENGER DOOR MODULE C2 (FULL OPTIONS) - BLUE 8 WAY

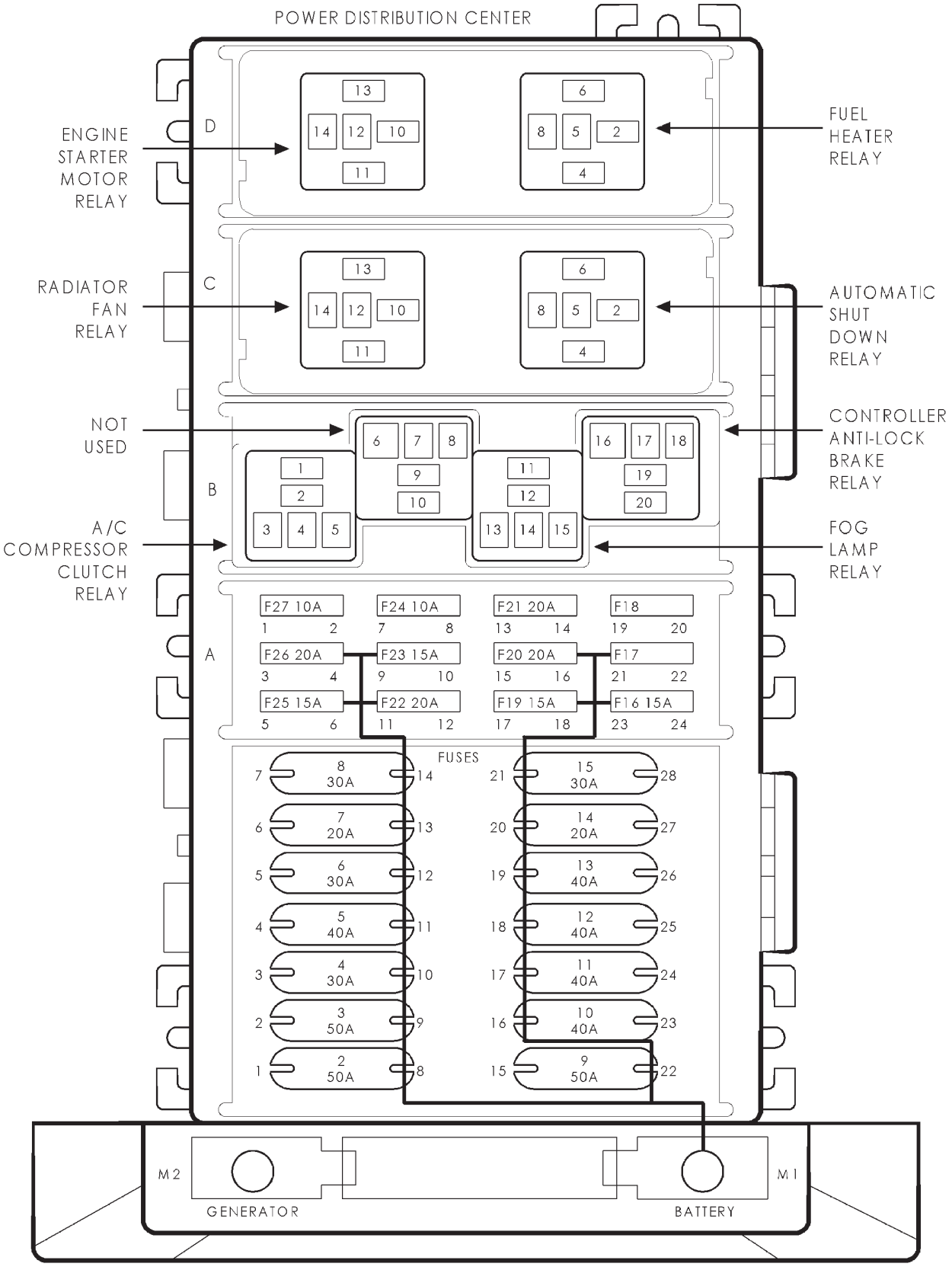
CAV	CIRCUIT	FUNCTION
1	P59 20LB/RD	DOOR LOCK CONTROL
2	P55 20DB/PK (LHD)	DOOR UNLOCK RELAY CONTROL
2	P55 20DB (RHD)	DOOR UNLOCK RELAY CONTROL
3	P35 20OR/VT (LHD)	DOOR LOCK SWITCH OUTPUT (LOCK)
3	P36 18PK/VT (RHD)	DOOR LOCK SWITCH OUTPUT (UNLOCK)
4	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	F35 16RD	FUSED B(+)
6	Z1 14BK	GROUND
7	P36 20PK/VT (LHD)	DOOR LOCK SWITCH OUTPUT (UNLOCK)
7	P35 18OR/VT (RHD)	DOOR LOCK SWITCH OUTPUT (LOCK)
8	G26 20LB	KEY-IN IGNITION SWITCH SENSE



PASSENGER DOOR
POWER LOCK
MOTOR

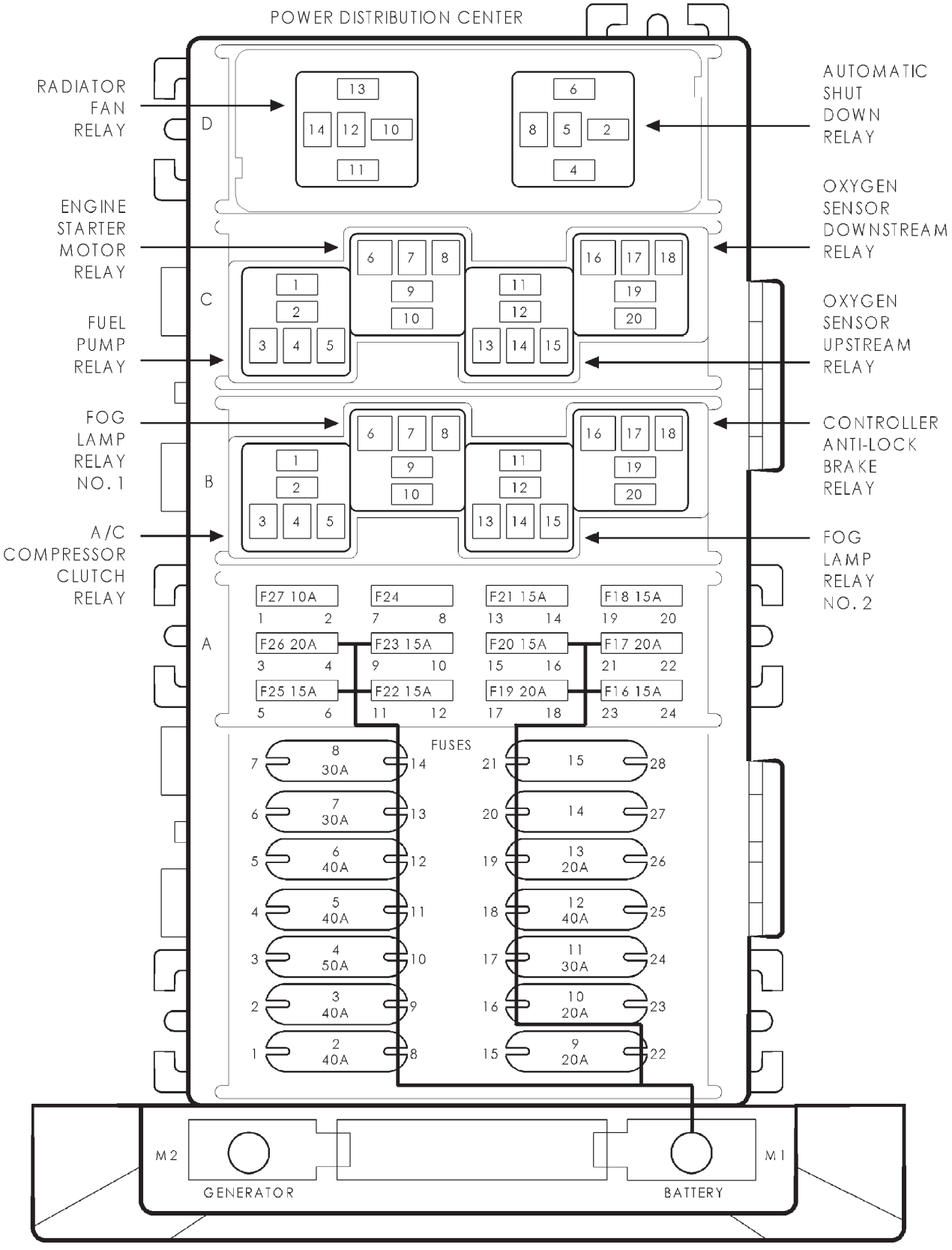
PASSENGER DOOR POWER LOCK MOTOR - 2 WAY

CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER


POWER DISTRIBUTION CENTER
ENGINE STARTER MOTOR RELAY
RADIATOR FAN RELAY
NOT USED
A/C COMPRESSOR CLUTCH RELAY
FUEL HEATER RELAY
AUTOMATIC SHUT DOWN RELAY
CONTROLLER ANTI-LOCK BRAKE RELAY
FOG LAMP RELAY
D
C
B
A
F27 10A
F24 10A
F21 20A
F18
F26 20A
F23 15A
F20 20A
F17
F25 15A
F22 20A
F19 15A
F16 15A
FUSES
8 30A
7 20A
6 30A
5 40A
4 30A
3 50A
2 50A
15 30A
14 20A
13 40A
12 40A
11 40A
10 40A
9 50A
M2
GENERATOR
BATTERY
M1

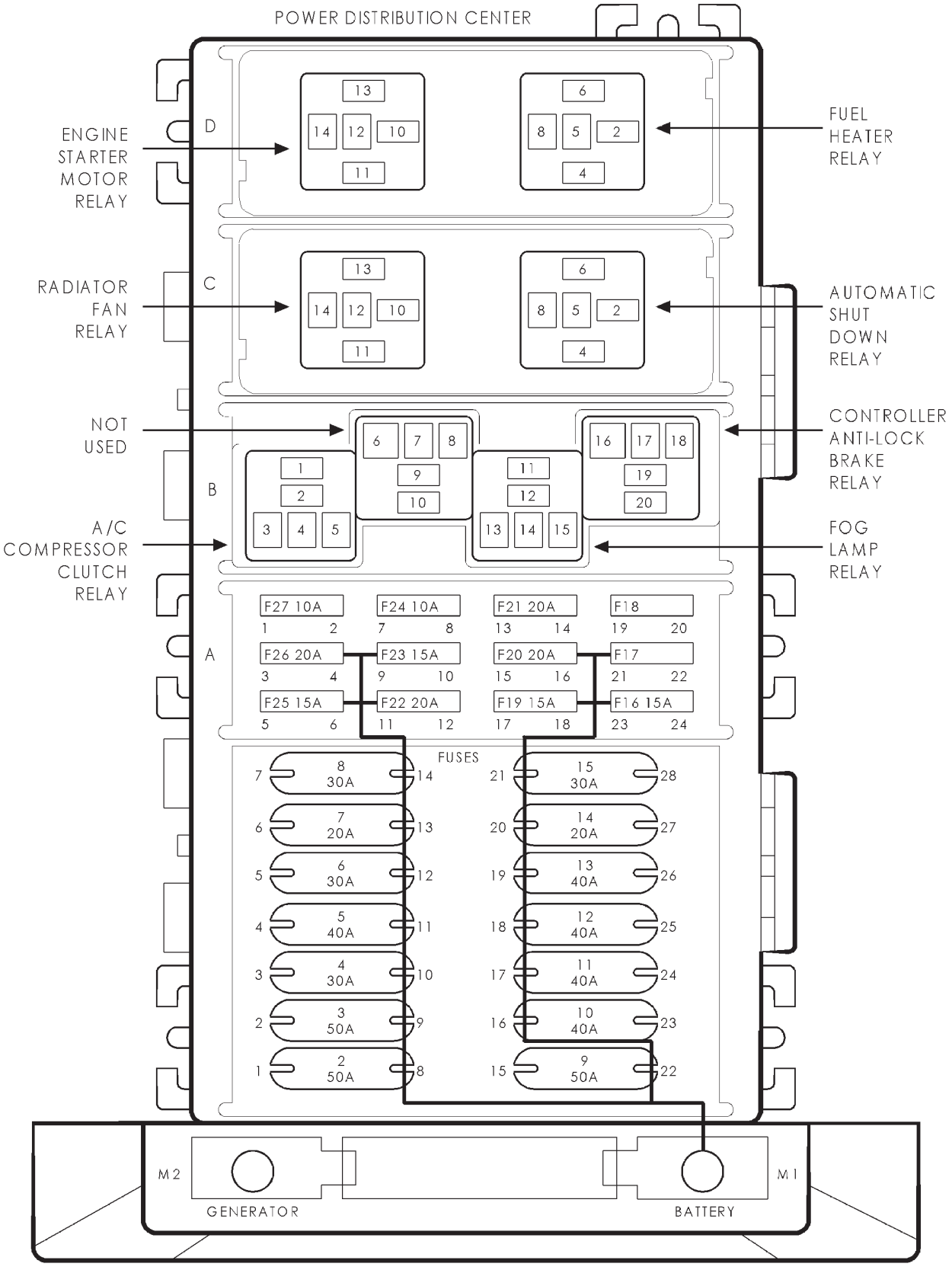
FUSES (DIESEL)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	-	-	-
2	50A	A54 12RD/GY	FUSED B(+)
3	50A	A54 12RD/GY	FUSED B(+)
4	30A	A16 12RD/LG	FUSED B(+)
5	40A	A1 12RD	FUSED B(+)
6	30A	A61 14LG/RD	FUSED B(+)
7	20A	A41 16YL	FUSED B(+)
8	30A	A3 14RD/WT	FUSED B(+)
9	50A	A7 10RD/BK	FUSED B(+)
10	40A	A2 12PK/BK	FUSED B(+)
11	40A	A111 12RD/LG	FUSED B(+)
12	40A	F141 12LG/RD	FUSED B(+)
13	40A	F141 12LG/RD	FUSED B(+)
14	20A	A20 12RD/DB	FUSED B(+)
15	30A	A4 12BK/PK	FUSED B(+)
16	15A	M1 20PK	FUSED B(+)
16	15A	M1 20PK	FUSED B(+)
17	-	-	-
18	-	-	-
19	15A	F32 20PK/DB	FUSED B(+)
20	20A	A17 18RD/BK	FUSED B(+)
20	20A	A17 16RD/BK	FUSED B(+)
21	20A	F142 16DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
22	20A	F75 16VT	FUSED B(+)
23	15A	L9 20BK/PK	FUSED B(+)
24	10A	F16 16RD/LG	FUSED B(+)
25	15A	F61 20WT/OR	FUSED B(+)
26	20A	F34 18TN/BK	FUSED B(+)
27	10A	F1 20DB/GY	FUSED B(+)


POWER DISTRIBUTION CENTER
RADIATOR FAN RELAY
ENGINE STARTER MOTOR RELAY
FUEL PUMP RELAY
FOG LAMP RELAY NO. 1
A/C COMPRESSOR CLUTCH RELAY
AUTOMATIC SHUT DOWN RELAY
OXYGEN SENSOR DOWNSTREAM RELAY
OXYGEN SENSOR UPSTREAM RELAY
CONTROLLER ANTI-LOCK BRAKE RELAY
FOG LAMP RELAY NO. 2
D
C
B
A
F27 10A
F24
F21 15A
F18 15A
F26 20A
F23 15A
F20 15A
F17 20A
F25 15A
F22 15A
F19 20A
F16 15A
FUSES
8 30A
7 30A
6 40A
5 40A
4 50A
3 40A
2 40A
15
14
13 20A
12 40A
11 30A
10 20A
9 20A
M2
GENERATOR
BATTERY
M1

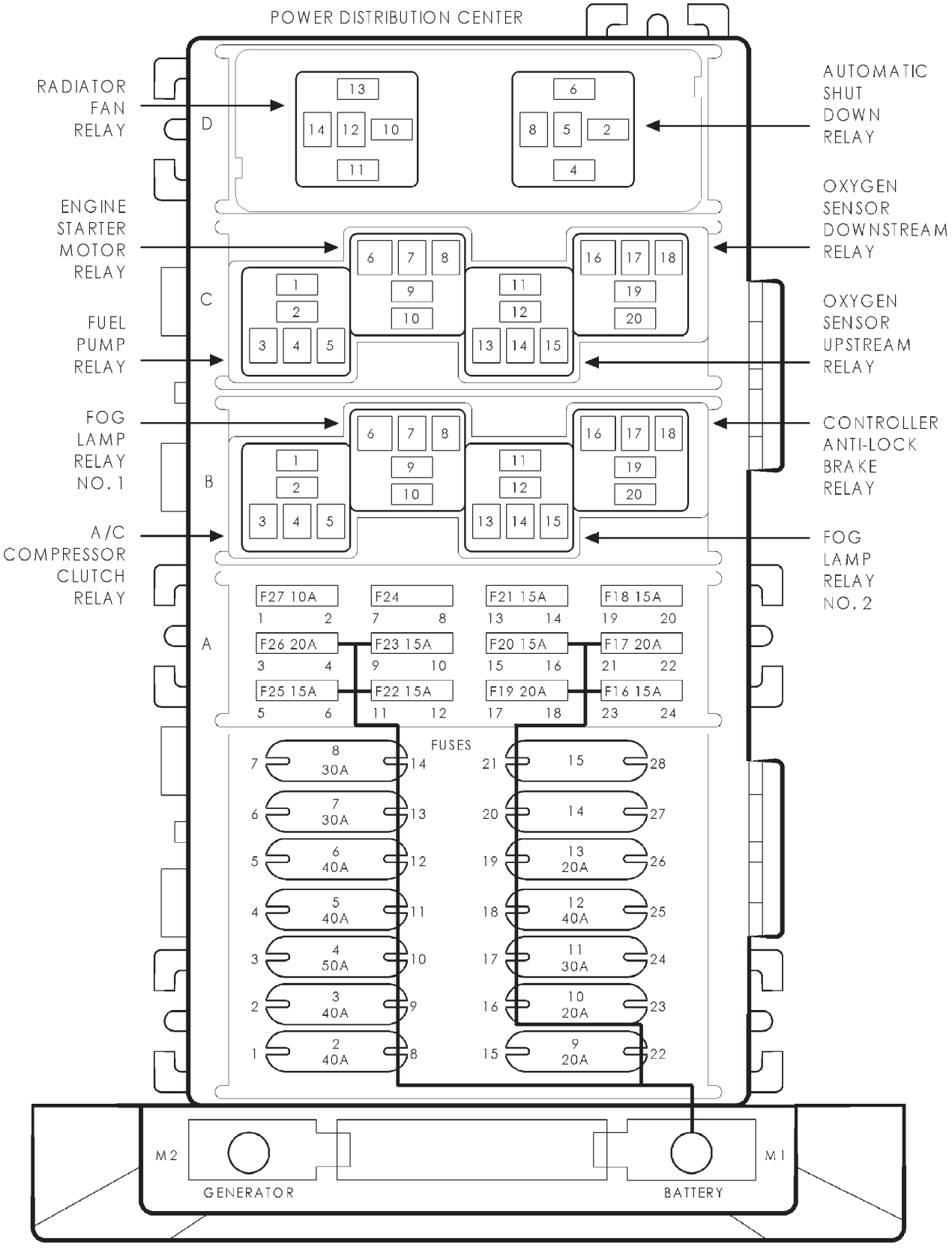
FUSES (PDC)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	-	-	-
2	40A	A1 12RD	FUSED B(+)
3	40A	A2 12PK/BK	FUSED B(+)
4	50A	A7 10RD/BK	FUSED B(+)
5	40A	F141 12LG/RD	FUSED B(+)
6	40A	A111 12RD/LG	FUSED B(+)
7	30A	A3 14RD/WT	FUSED B(+)
7	30A	A3 14RD/WT (DRL)	FUSED B(+)
8	30A	A16 14RD/LG	FUSED B(+)
9	20A	A17 16RD/BK	FUSED B(+)
9	20A	A17 16RD/BK	FUSED B(+)
10	20A	A41 16YL	FUSED B(+)
11	30A	A4 12BK/PK	FUSED B(+)
12 (ABS)	40A	A10 12RD/DG	FUSED B(+)
13 (ABS)	20A	A20 12RD/DB	FUSED B(+)
14	-	-	-
15	-	-	-
16	15A	M1 20PK	FUSED B(+)
17	20A	F99 18RD	FUSED B(+)
18	15A	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
19	20A	F34 18TN/BK	FUSED B(+)
20	15A	L9 20BK/PK	FUSED B(+)
21	15A	F142 18DG/WT	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
22	15A	A61 14DG/BK	FUSED B(+)
23	15A	F32 20PK/DB	FUSED B(+)
24	-	-	-
25	15A	F61 20WT/OR	FUSED B(+)
26	20A	F75 16VT	FUSED B(+)
27 (ABS)	10A	F1 20DB/GY	A17 16RD/BK


POWER DISTRIBUTION CENTER
ENGINE STARTER MOTOR RELAY
RADIATOR FAN RELAY
NOT USED
A/C COMPRESSOR CLUTCH RELAY
FUEL HEATER RELAY
AUTOMATIC SHUT DOWN RELAY
CONTROLLER ANTI-LOCK BRAKE RELAY
FOG LAMP RELAY
D
C
B
A
F27 10A
F24 10A
F21 20A
F18
F26 20A
F23 15A
F20 20A
F17
F25 15A
F22 20A
F19 15A
F16 15A
FUSES
8 30A
7 20A
6 30A
5 40A
4 30A
3 50A
2 50A
15 30A
14 20A
13 40A
12 40A
11 40A
10 40A
9 50A
M2
GENERATOR
BATTERY
M1

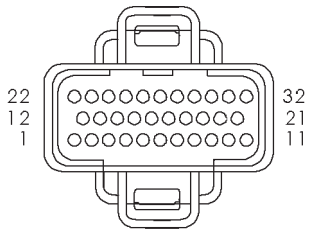
AUTOMATIC SHUT DOWN RELAY (DIESEL)

CAV	CIRCUIT	FUNCTION
C2	A16 12RD/LG	FUSED B(+)
C4	A16 12RD/LG	FUSED B(+)
C5	-	-
C6	K51 20DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
C8	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
C8	A142 18DG	AUTOMATIC SHUT DOWN RELAY OUTPUT


POWER DISTRIBUTION CENTER
RADIATOR FAN RELAY
ENGINE STARTER MOTOR RELAY
FUEL PUMP RELAY
FOG LAMP RELAY NO. 1
A/C COMPRESSOR CLUTCH RELAY
AUTOMATIC SHUT DOWN RELAY
OXYGEN SENSOR DOWNSTREAM RELAY
OXYGEN SENSOR UPSTREAM RELAY
CONTROLLER ANTI-LOCK BRAKE RELAY
FOG LAMP RELAY NO. 2
D
C
B
A
F27 10A
F24
F21 15A
F18 15A
F26 20A
F23 15A
F20 15A
F17 20A
F25 15A
F22 15A
F19 20A
F16 15A
FUSES
8 30A
7 30A
6 40A
5 40A
4 50A
3 40A
2 40A
15
14
13 20A
12 40A
11 30A
10 20A
9 20A
M2
GENERATOR
BATTERY
M1

AUTOMATIC SHUT DOWN RELAY (GAS)

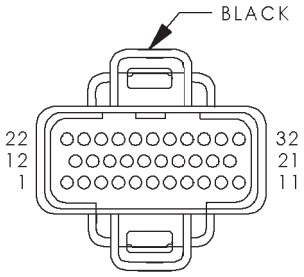
CAV	CIRCUIT	FUNCTION
D2	A16 14RD/LG	FUSED B(+)
D4	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
D5	-	-
D6	K51 18DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
D8	A999 16RD	AUTOMATIC SHUT DOWN RELAY OUTPUT
D8	A999 16RD	AUTOMATIC SHUT DOWN RELAY OUTPUT



POWERTRAIN
CONTROL MODULE - C1
(DIESEL)

POWERTRAIN CONTROL MODULE C1 (DIESEL) - 32 WAY

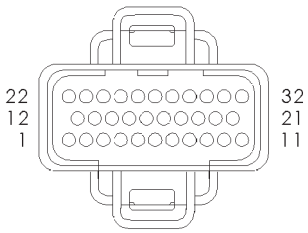
CAV	CIRCUIT	FUNCTION
1	-	-
2	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
3	-	-
4	K167 18BR/YL	SENSOR GROUND
5	-	-
6	-	-
7	-	-
8	K159 18VT/RD	ENGINE SPEED SENSOR SIGNAL
9	-	-
10	-	-
11	-	-
12	G18 18PK/BK	COOLANT LEVEL SWITCH SIGNAL
13	-	-
14	-	-
15	-	-
16	K222 18TN/RD	ENGINE COOLANT TEMP SENSOR SIGNAL
17	K7 18OR	5V SUPPLY
18	G8 18LB/BK	FUEL MONITOR OUTPUT SIGNAL
19	-	-
20	-	-
21	-	-
22	F16 16RD/LG	FUSED B(+)
23	-	-
24	-	-
25	-	-
26	-	-
27	G123 18DG/WT	WATER IN FUEL SENSOR SIGNAL
28	-	-
29	-	-
30	-	-
31	Z12 14BK/TN	GROUND
32	Z12 14BK/TN	GROUND



POWERTRAIN CONTROL MODULE - C1 (GAS)

POWERTRAIN CONTROL MODULE C1 (GAS) - BLACK 32 WAY

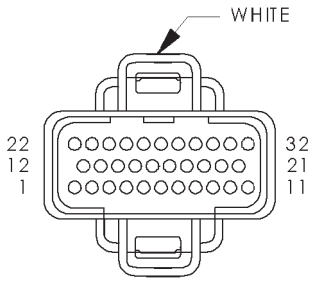
CAV	CIRCUIT	FUNCTION
1	K18 18RD/YL	IGNITION COIL NO. 3 DRIVER
2	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	-	-
4	K167 18BR/YL	SENSOR GROUND
5	-	-
6	T41 18BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE
7	K19 18GY	IGNITION COIL NO. 1 DRIVER
8	K24 18GY/BK	CRANKSHAFT POSITION SENSOR SIGNAL
9	-	-
10	K60 18YL/BK	IDLE AIR CONTROL NO. 2 DRIVER
11	K40 18BR/WT	IDLE AIR CONTROL NO. 3 DRIVER
12	K78 18GY (A/T)	IDLE ACTUATOR
13	-	-
14	-	-
15	K21 18BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL
16	K2 18TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
17	K7 18OR	5V SUPPLY
18	K44 18TN/YL	CAMSHAFT POSITION SENSOR SIGNAL
19	K39 18GY/RD	IDLE AIR CONTROL NO. 1 DRIVER
20	K59 18VT/BK	IDLE AIR CONTROL NO. 4 DRIVER
21	-	-
22	A61 14DG/BK	FUSED B(+)
23	K22 18OR/DB	THROTTLE POSITION SENSOR SIGNAL
24	K41 18BK/DG	OXYGEN SENSOR 1/1 SIGNAL
25	K141 18TN/WT	OXYGEN SENSOR 1/2 SIGNAL
26	K241 18LG/RD (CALIFORNIA/BUILT UP EXPORT)	OXYGEN SENSOR 2/1 SIGNAL
27	K1 18DG/RD	MANIFOLD ABSOLUTE PRESSURE SENSOR SIGNAL
28	-	-
29	K341 18TN (CALIFORNIA/ BUILT UP EXPORT)	OXYGEN SENSOR 2/2 SIGNAL
30	-	-
31	Z12 14BK/TN	GROUND
32	Z12 14BK/TN	GROUND



POWERTRAIN
CONTROL MODULE - C2
(DIESEL)

POWERTRAIN CONTROL MODULE C2 (DIESEL) - 32 WAY

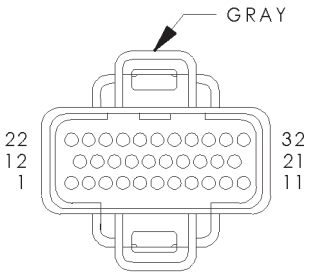
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	K20 18DG	GENERATOR FIELD
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	V66 18RD/LG	SPEED CONTROL INDICATOR SIGNAL
19	-	-
20	-	-
21	-	-
22	-	-
23	G60 18GY/YL	ENGINE OIL PRESSURE SENSOR SIGNAL
24	-	-
25	-	-
26	-	-
27	G7 18WT/OR	VEHICLE SPEED SENSOR SIGNAL
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-



POWERTRAIN
CONTROL MODULE - C2
(GAS)

POWERTRAIN CONTROL MODULE C2 (GAS) - WHITE 32 WAY

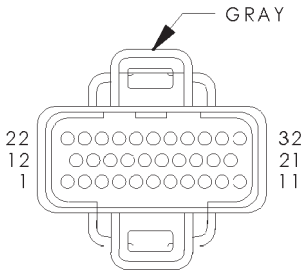
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	K11 18WT/DB	FUEL INJECTOR NO. 1 DRIVER
5	K13 18YL/WT	FUEL INJECTOR NO. 3 DRIVER
6	K15 18PK/BK	FUEL INJECTOR NO. 5 DRIVER
7	-	-
8	-	-
9	K17 18DB/TN	IGNITION COIL NO. 2 DRIVER
10	K20 18DG	GENERATOR FIELD
11	-	-
12	K16 18LG/BK	FUEL INJECTOR NO. 6 DRIVER
13	-	-
14	-	-
15	K12 18TN	FUEL INJECTOR NO. 2 DRIVER
16	K14 18LB/BR	FUEL INJECTOR NO. 4 DRIVER
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	G60 18GY/YL	ENGINE OIL PRESSURE SENSOR SIGNAL
24	-	-
25	-	-
26	-	-
27	G7 18WT/OR	VEHICLE SPEED SENSOR SIGNAL
28	-	-
29	-	-
30	-	-
31	K6 18VT/OR	5V SUPPLY
32	-	-



POWERTRAIN
CONTROL MODULE - C3
(DIESEL)

POWERTRAIN CONTROL MODULE C3 (DIESEL) - 32 WAY

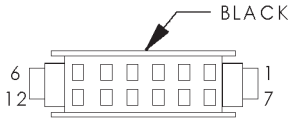
CAV	CIRCUIT	FUNCTION
1	C103 18DG	A/C REQUEST OUTPUT
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	G154 18VT/LG	LOW COOLANT INDICATOR DRIVER
9	G86 18TN/OR	WATER IN FUEL INDICATOR DRIVER
10	-	-
11	-	-
12	A142 16DG/OR	AUTOMATIC HUT DOWN RELAY OUTPUT
13	-	-
14	-	-
15	K118 18PK/YL	BATTERY TEMPERATURE SENSOR SIGNAL
16	G55 18OR/BK	ENABLE DISABLE SIGNAL
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	K48 18OR/RD	FAULT INDICATOR REQUEST INPUT
23	C90 18LG	A/C SWITCH SENSE
24	-	-
25	K72 18DG/OR	GENERATOR SOURCE
26	K226 18DB/LG	FUEL LEVEL SENSOR SIGNAL
27	D21 18BK	SCI TRANSMIT
28	D2 18WT/BK	CCD BUS (-)
29	D20 18LG/BK	SCI RECEIVE
30	D1 18VT/BR	CCD BUS (+)
31	-	-
32	-	-



POWERTRAIN CONTROL MODULE - C3 (GAS)

POWERTRAIN CONTROL MODULE C3 (GAS) - GRAY 32 WAY

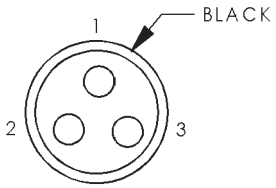
CAV	CIRCUIT	FUNCTION
1	C13 18DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
2	C27 18DB/PK	RADIATOR FAN RELAY CONTROL
3	K51 18DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
4	V36 18TN/RD	SPEED CONTROL VACUUM SOLENOID CONTROL
5	V35 18LG/RD	SPEED CONTROL VENT SOLENOID CONTROL
6	-	-
7	-	-
8	K73 18BR/OR	OXYGEN SENSOR UPSTREAM RELAY CONTROL
9	K74 18BR/VT	OXYGEN SENSOR DOWNSTREAM RELAY CONTROL
10	K106 18WT/DG (LEAK DETECTION)	LEAK DETECTION PUMP SOLENOID CONTROL
11	V32 18YL/RD	SPEED CONTROL SUPPLY
12	F142 18DG/WT	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
13	C48 18TN	RADIATOR FAN REQUEST
14	K105 18WT/OR (LEAK DETECTION)	LEAK DETECTION PUMP SWITCH SENSE
15	K118 18PK/YL	BATTERY TEMPERATURE SENSOR SIGNAL
16	-	-
17	-	-
18	-	-
19	K31 18BR	FUEL PUMP RELAY CONTROL
20	K52 18PK/BK	DUTY CYCLE EVAP/PURGE SOLENOID CONTROL
21	-	-
22	C22 18DB/WT	A/C SWITCH SENSE
23	C90 18LG	A/C SELECT INPUT
24	K29 18WT/PK	BRAKE LAMP SWITCH SENSE
25	K72 18DG/OR	GENERATOR SOURCE
26	K226 18DB/LG	FUEL LEVEL SENSOR SIGNAL
27	D21 18PK	SCI TRANSMIT
28	D2 18WT/BK	CCD BUS(-)
29	D20 18LG/BK	SCI RECEIVE
30	D1 18VT/BR	CCD BUS(+)
31	-	-
32	V37 18RD/LG	SPEED CONTROL SWITCH SIGNAL



REMOTE KEYLESS ENTRY MODULE

REMOTE KEYLESS ENTRY MODULE - BLACK 12 WAY

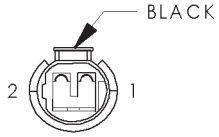
CAV	CIRCUIT	FUNCTION
1	M2 20YL	COURTESY LAMPS DRIVER
2	M1 20PK	FUSED B(+)
3	Z1 20BK	GROUND
4	-	-
5	P55 20DB	RKE DOOR UNLOCK CONTROL
6	D1 20VT/BR	CCD BUS(+)
7	-	-
8	-	-
9	Z1 20BK	GROUND
10	X3 20BK/RD	HORN RELAY CONTROL
11	P59 20LB/RD	DOOR LOCK CONTROL
12	D2 20WT/BK	CCD BUS(-)



RIGHT REAR DOOR AJAR SWITCH

RIGHT REAR DOOR AJAR SWITCH - BLACK 3 WAY

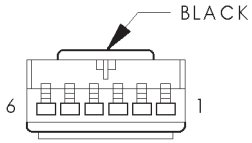
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z1 18BK	GROUND
3	M2 18YL	COURTESY LAMPS DRIVER



RIGHT REAR DOOR POWER LOCK MOTOR

RIGHT REAR DOOR POWER LOCK MOTOR - BLACK 2 WAY

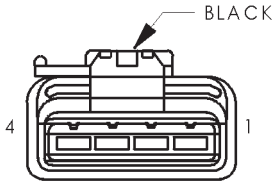
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



SENTRY KEY IMMOBILIZER MODULE

SENTRY KEY IMMOBILIZER MODULE - BLACK 6 WAY

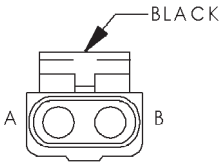
CAV	CIRCUIT	FUNCTION
1	D1 20VT/BR	CCD BUS(+)
2	D2 20WT/BK	CCD BUS(-)
3	Z2 20BK/LG	GROUND
4	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	Z2 20BK/LG	GROUND
6	F1 20DB/GY	FUSED B(+)



SPEED CONTROL SERVO

SPEED CONTROL SERVO - BLACK 4 WAY

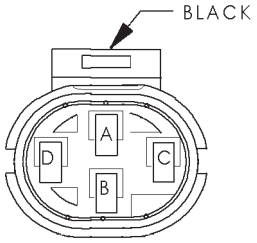
CAV	CIRCUIT	FUNCTION
1	V36 18TN/RD	SPEED CONTROL VACUUM SOLENOID CONTROL
2	V35 18LG/RD	SPEED CONTROL VENT SOLENOID CONTROL
3	V30 20DB/RD	SPEED CONTROL BRAKE SWITCH OUTPUT
4	Z1 18BK	GROUND



TRANSFER CASE SWITCH (231 4WD)

TRANSFER CASE SWITCH (231 4WD) - BLACK 2 WAY

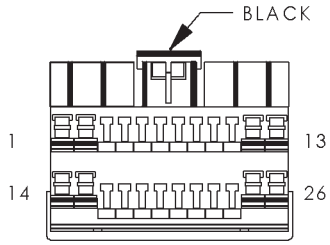
CAV	CIRCUIT	FUNCTION
A	G107 20BK/RD	4WD SWITCH SENSE (PART-TIME)
B	Z1 20BK	GROUND



TRANSFER
CASE SWITCH
(242 4WD)

TRANSFER CASE SWITCH (242 4WD) - BLACK 4 WAY

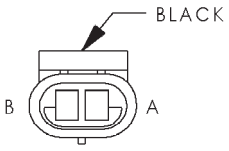
CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	G106 20BK/WT	4WD SWITCH SENSE (FULL-TIME)
C	-	-
D	G107 20BK/RD	4WD SWITCH SENSE (PART-TIME)



TRANSMISSION
CONTROL
MODULE

TRANSMISSION CONTROL MODULE - BLACK 26 WAY

CAV	CIRCUIT	FUNCTION
1	T31 20VT/LG	INPUT SPEED SENSOR GROUND
2	T52 20RD/BK	INPUT SPEED SENSOR SIGNAL
3	T13 20DB/BK	OUTPUT SPEED SENSOR GROUND
4	T14 20LG/WT	OUTPUT SPEED SENSOR SIGNAL
5	-	-
6	D2 20WT/BK	CCD BUS(-)
7	D1 20VT/BR	CCD BUS(+)
8	-	-
9	T3 18VT	TRS 3 SENSE
10	-	-
11	T22 20DB/WT	SOLENOID C CONTROL
12	T19 20WT	SOLENOID A CONTROL
13	T60 20OR/WT	SOLENOID B CONTROL
14	D21 20PK	SCI TRANSMIT
15	-	-
16	K167 20BR/YL	SENSOR GROUND
17	K22 20OR/DB	THROTTLE POSITION SENSOR SIGNAL
18	L10 18BR/LG	TRS REVERSE SENSE
19	-	-
20	-	-
21	T42 18VT/WT	TRS 1-2 SENSE
22	T1 18LG/BK	TRS OVERDRIVE SENSE
23	K29 20WT/PK	BRAKE LAMP SWITCH SENSE
24	Z12 18BK/TN	GROUND
25	M1 20PK	FUSED B(+)
26	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)



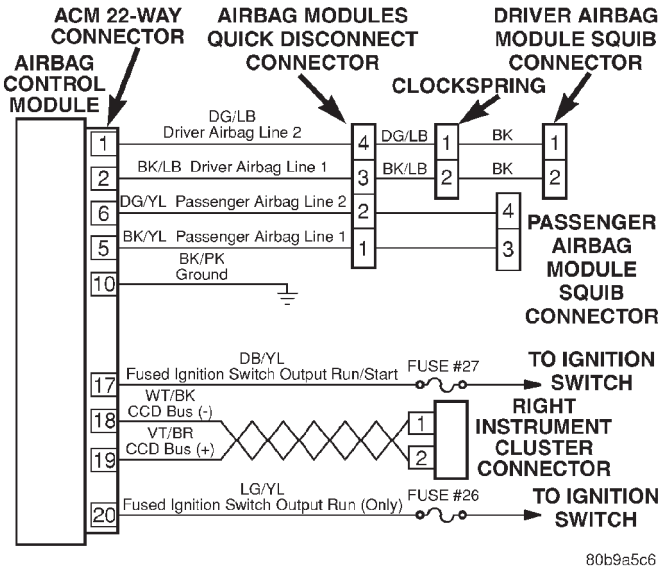
WASHER
FLUID LEVEL
SWITCH

WASHER FLUID LEVEL SWITCH - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	G29 20BK/LB	LOW WASHER FLUID SENSE

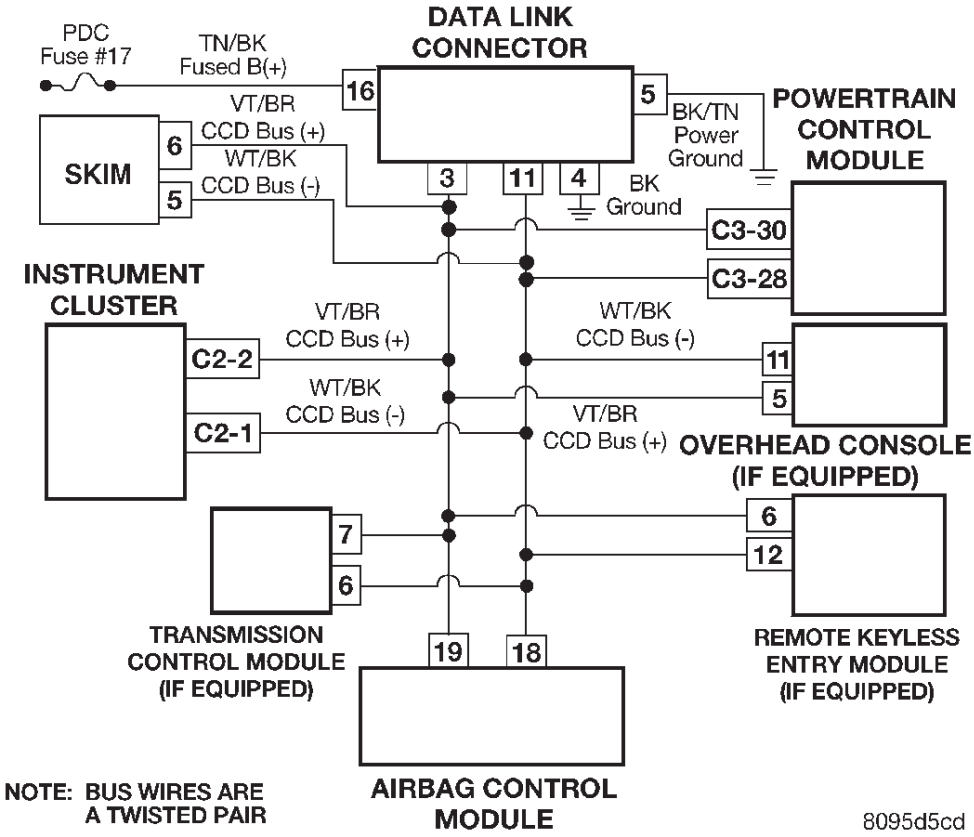
10.0 SCHEMATIC DIAGRAMS

10.1 AIRBAG

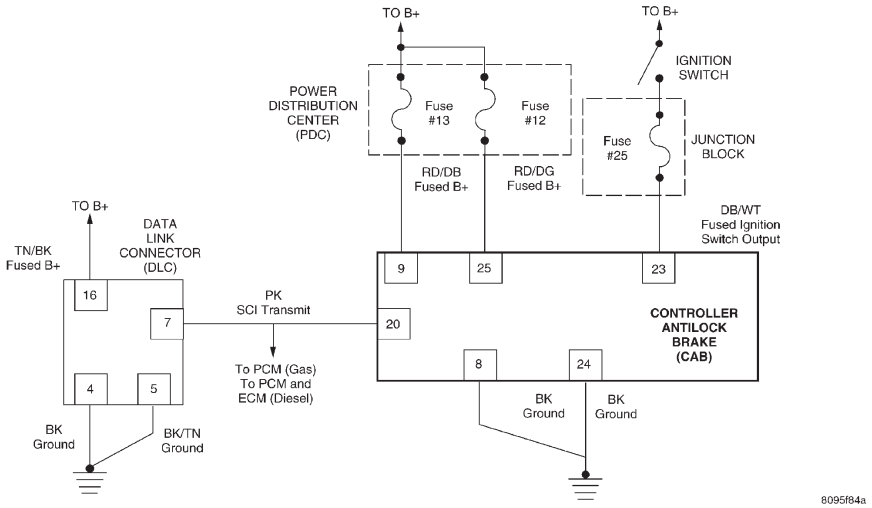


10.2 COMMUNICATION

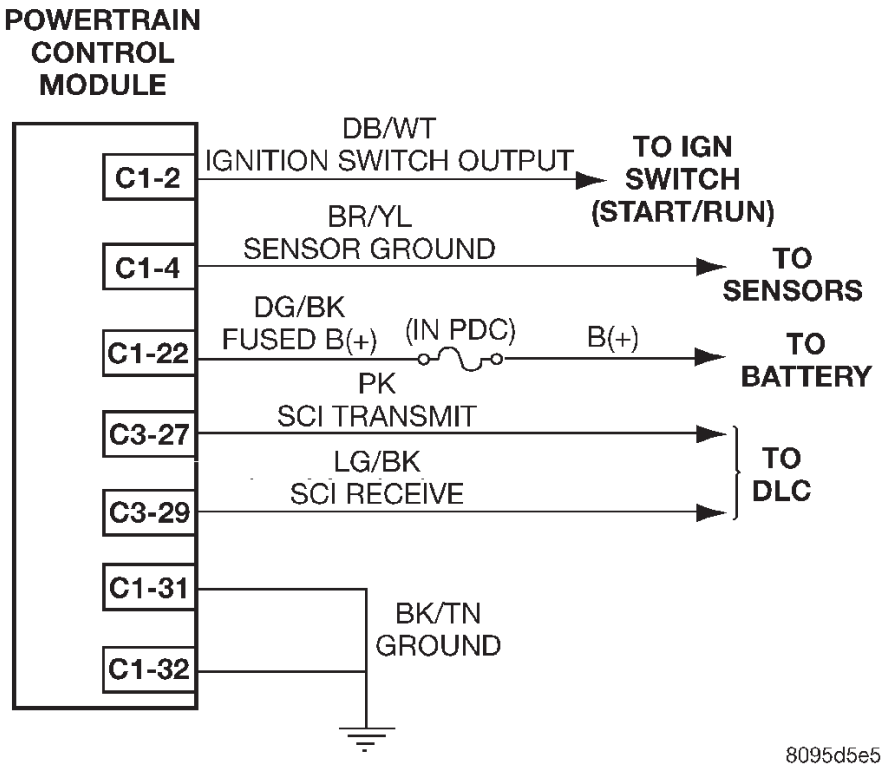
10.2.1 VEHICLE COMMUNICATION



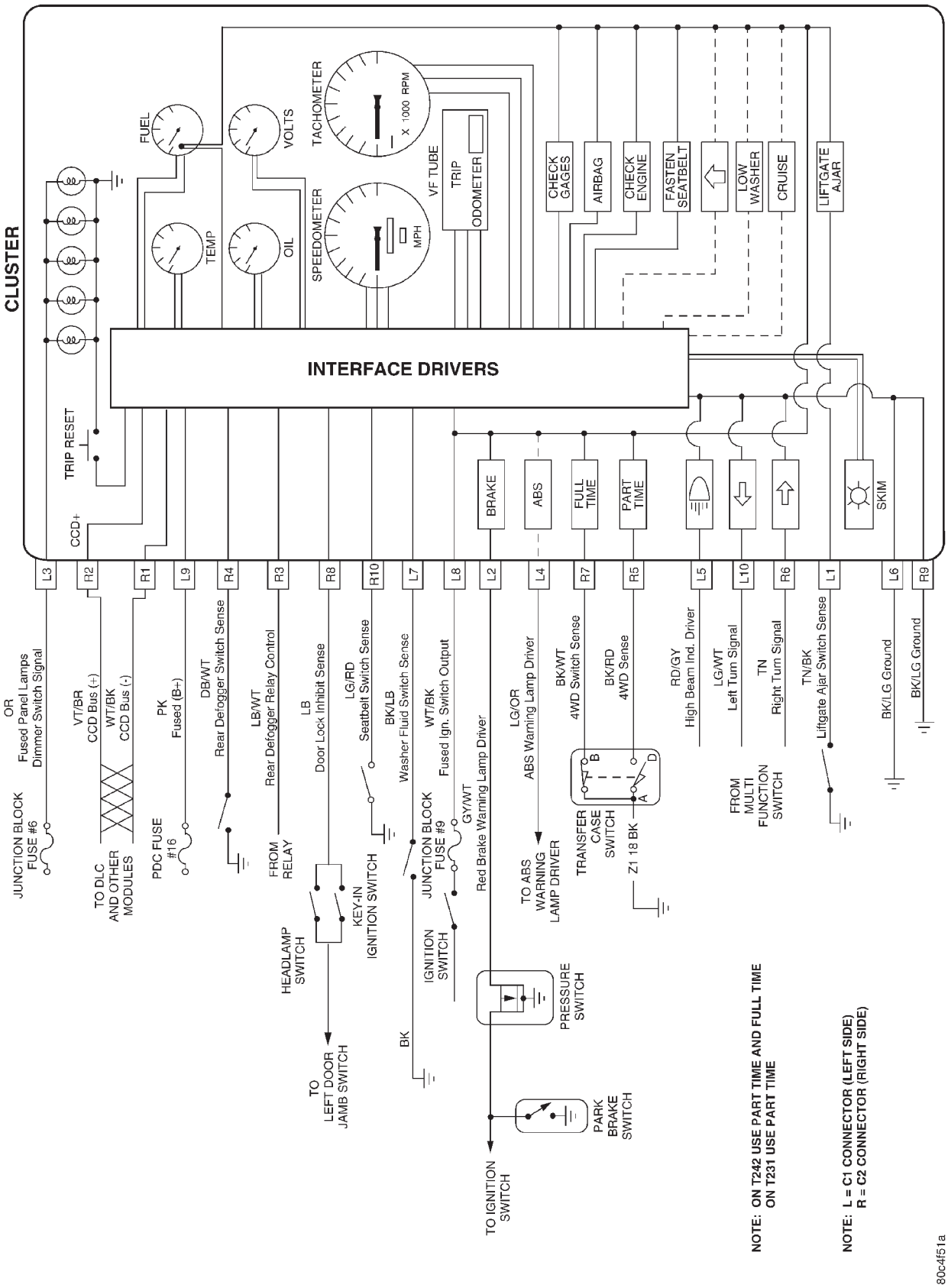
10.2.2 ANTILOCK BRAKE SYSTEM



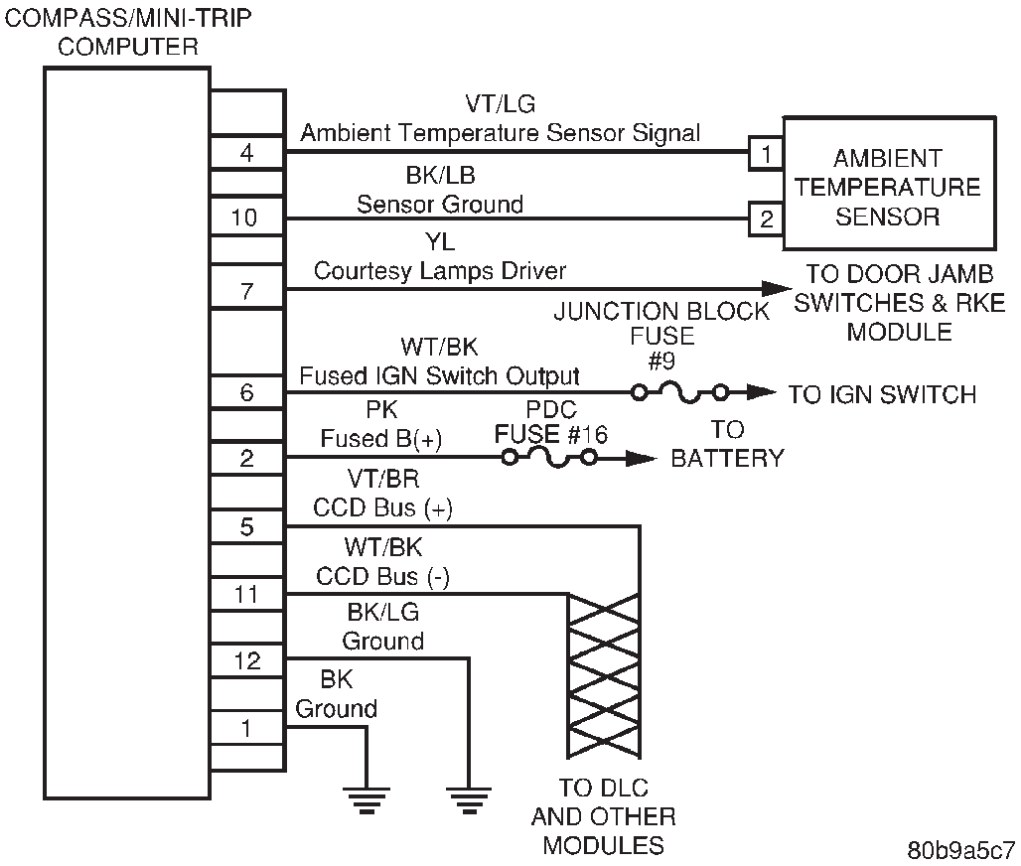
10.2.3 POWERTRAIN CONTROL MODULE



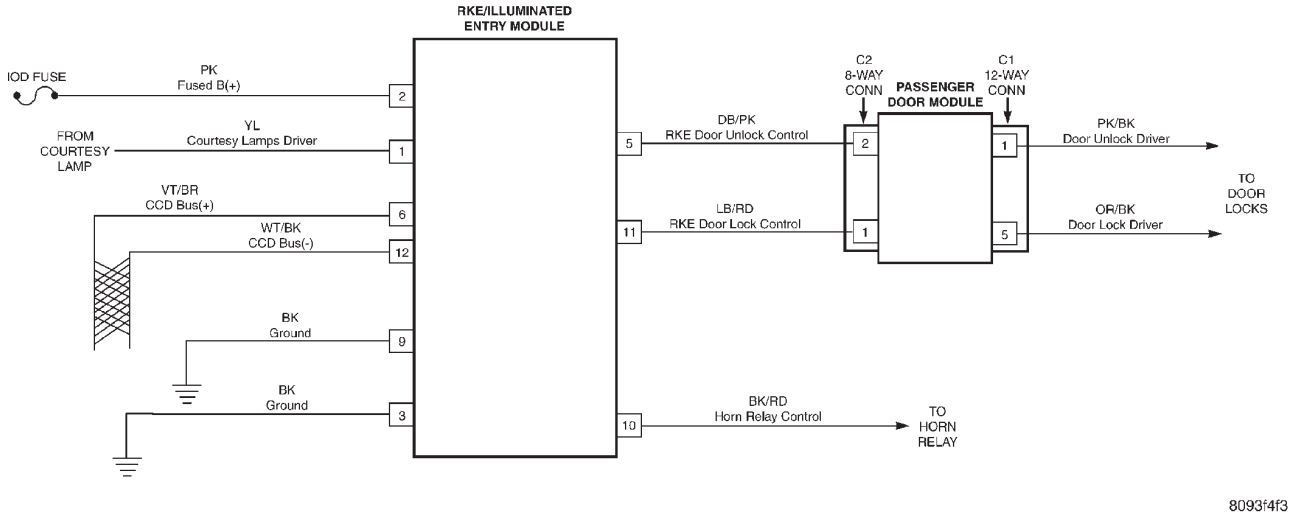
10.3 INSTRUMENT CLUSTER



10.4 OVERHEAD CONSOLE



10.5 REMOTE KEYLESS ENTRY



NOTES