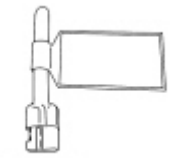
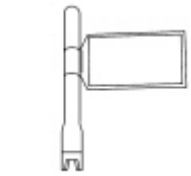
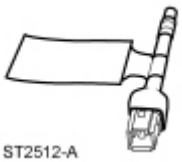
Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS)

Special Tool(s)

 ST2507-A	Diagnostic Tool, Restraint System (2 Required) 418-133
 ST2502-A	Diagnostic Tool, Restraint System (3 Required) 418-F395
 ST2512-A	Diagnostic Tool, Restraint System (1 Required) 418-F403
 ST2574-A	Flex Probe Kit 105-R025C or equivalent
 ST1137-A	FLUKE 73III Automotive Meter 105-R0057 or equivalent
 ST2834-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

Principles of Operation

During a frontal or side crash, the Restraints Control Module (RCM) may deploy the safety belt retractor pretensioners, side air bag(s) and/or none, one or both stages of the driver/passenger dual-stage air bag based on crash severity and conditions. The fact that the pretensioners or air bag(s) did not deploy for both front seat occupants in a collision does not indicate a fault with the Supplemental Restraint System (SRS).

In a frontal collision, the front impact severity sensor detects sudden vehicle deceleration and sends an electrical signal to the RCM . The RCM uses the information from the front impact severity sensor, safety belt buckle switches and the Occupant Classification System Module (OCSM) to determine deployment. If deployment is required, the RCM sends voltage and current to the air bag module(s) and safety belt retractor pretensioner(s).

In a side collision, the side impact sensor(s) detects sudden vehicle lateral deceleration and sends an electrical signal to the RCM . The RCM uses the information from the side impact sensor, safety belt buckle switches and the OCSM to determine deployment. If deployment is required, the RCM sends voltage and current to the side air bag module(s) and safety belt retractor pretensioner(s).

The RCM performs a complete system "self-test" during each startup. If an SRS fault exists, the air bag warning indicator will illuminate and remain illuminated for the rest of the ignition cycle. In addition to the self-test at start up, the RCM continuously monitors all SRS components and circuitry for correct operation. The RCM communicates current and historical DTCs through the Data Link Connector (DLC) using a scan tool. The RCM also communicates to the OCSM on a dedicated High Speed Controller Area Network (HS-CAN) communication system.

Air Bag Warning Indicator

The air bag warning indicator:

- is located in the Instrument Cluster (IC) module.
- and circuitry prove out is a function of the RCM . The RCM will prove out the air bag warning indicator by lighting the air bag warning indicator for 6 seconds and then turn off.
- will flash and/or illuminate based on the SRS fault.
- will illuminate if the RCM is disconnected.

Air Bag Module Second Stage Deployment Check

Because the driver and passenger front air bags each have 2 deployment stages, it is possible that Stage 1 has deployed and Stage 2 has not.

If a front air bag module has deployed, it is **mandatory** that the front air bag module be remotely deployed using the appropriate air bag disposal procedure.

- For information on driver air bag module and/or passenger air bag module remote deployment, refer to Pyrotechnic Device Disposal in this section.

Clockspring

The clockspring:

- is mounted on the steering column, behind the steering wheel.
- allows for continuous electrical connections between the driver air bag module and the RCM when the steering wheel is turned.
- allows for continuous electrical connections between the steering mounted controls and various other components.

Driver Air Bag Module

The driver air bag module:

- is installed new as an assembly.
- is a dual-stage air bag, deploying at 1 of 2 different rates depending upon impact severity.
- is mounted in the center of the steering wheel.
- will deploy upon receiving a flow of current from the RCM .

Impact Sensors

The impact sensors provide data to the RCM for use in calculating impact severity. This is accomplished using various electrical sensors located throughout the vehicle. A front impact severity sensor is located in the front-center of the vehicle, behind the radiator grille. In addition, there are side impact sensors located near the base of each B-pillar.

Loops/Squibs

All deployable devices contain an initiating device called a squib. The squib is part of the deployment loop. Air bag/safety canopies modules can contain more than one squib, some vehicles may have up to 4 squibs in one air bag module. Squibs are often referred to as loops during the diagnostic process.

Occupant Classification Sensor (OCS) System

The OCS system is found only on the front passenger seat. The front passenger seat OCS system is comprised of a silicone gel-filled bladder mounted in the seat cushion, a pressure sensor that is mounted to the seat frame and an OCSM which is also mounted to the seat frame. Pressure is applied to the OCS system bladder when the weight of any occupant or object in the front passenger seat is sensed. The pressure is then transferred through a tube, is sensed by the OCS system pressure sensor, then electronically communicated to the OCSM . Based on preprogrammed set points (Empty, Below Threshold, Indeterminate and/or Above Threshold), the OCSM will inform the RCM of the necessary information via a dedicated HS-CAN communication system. The RCM uses this information in determining if the passenger air bag module is to be deployed in the event of a deployable collision. The RCM may also use this information to illuminate/not illuminate the Passenger Air Bag Deactivation (PAD) indicator.

When an OCS system fault is present, the OCSM communicates the fault information to the RCM . Upon receiving the fault information from the OCSM , the RCM will illuminate the air bag warning indicator or the air bag warning chime will be activated (if an air bag warning indicator fault is present). The SRS then defaults the passenger air bag module to ON (activated) regardless of the size of the occupant in the front outboard passenger seat.

The OCS system is also used for operation of the passenger Belt-Minder®. For information on the passenger Belt-Minder® feature, refer to Section 501-20A . To deactivate or reactivate the passenger Belt-Minder® feature, refer to Section 413-01 or the Owner's Literature.

The OCSM components (seat cushion foam pad, bladder with pressure sensor and OCSM) are calibrated to each other and are serviced as an assembly. **OCS system components are not to be installed separately** .

The OCSM also interprets a variable voltage signal provided by the Belt Tension Sensor (BTS) to identify the presence of a properly fastened child safety seat in the front outboard passenger seat. The OCSM then communicates with the RCM , automatically deactivating the passenger air bag module. Refer to BTS in this section.

Passenger Air Bag Deactivation (PAD) Indicator

NOTICE: **The PAD indicator is part of the hazard/traction control switch assembly and cannot be serviced separately.**

The PAD indicator is a visual indicator used to inform the front seat occupants of the passenger air bag deactivation state. The PAD indicator is located in a position visible to each front seat occupant.

The RCM controls the state of the PAD indicator through a direct hardwire connection, based on information provided by the OCSM . The PAD indicator is lit to indicate the passenger air bag module is deactivated (OFF). An exception to this is when the front passenger seat is determined to be empty, and therefore indication of a deactivated passenger air bag module is not necessary. In all other cases, the PAD indicator is unlit when the passenger air bag module is enabled.

When the ignition is in the RUN position, the PAD indicator prove-out period is initiated by the RCM . The RCM briefly activates the PAD indicator to verify operation.

When an OCS system fault is present, the SRS defaults the passenger air bag module to enabled regardless of the size of the occupant in the front outboard passenger seat. The PAD indicator will be unlit.

The following table indicates the passenger air bag status and the PAD indicator status based the size of the front outboard passenger occupant.

Passenger Air Bag and Passenger Air Bag Deactivation (PAD) Indicator Status

Occupant Size	Passenger Safety Belt Buckle Status	Passenger Air Bag Status	PAD Indicator Status
None	Unbuckled	Disabled	Unlit
None	Buckled	Disabled	Lit
Small	Buckled/ Unbuckled	Disabled	Lit
Large	Buckled/ Unbuckled	Enabled	Unlit

Passenger Air Bag Module

The passenger air bag module:

- is a dual-stage air bag, deploying at 1 of 2 different rates depending upon impact severity and safety belt usage.
- will deploy upon receiving a flow of current from the RCM .
- is installed as an assembly.
- is mounted in the right side of the instrument panel.

Restraints Control Module (RCM)

WARNING: If a vehicle has been in a crash, inspect the restraints control module (RCM) and the impact sensor (if equipped) mounting areas for deformation. If damaged, restore the mounting areas to the original production configuration. A new RCM and sensors must be installed whether or not the air bags have deployed. Failure to follow these instructions may result in serious personal injury or death in a crash.

NOTE: This vehicle may be equipped with the SYNC® feature which contains the 911 assist option. Refer to the Owner's Literature.

The RCM is mounted on the center tunnel under the instrument panel. The RCM :

- deploys the air bags in the event of a deployable impact.
- activates the safety belt retractor pretensioners to remove slack from the safety belt webbing.
- monitors the SRS for faults.
- illuminates the air bag warning indicator if a fault is detected.
- illuminates the PAD indicator when conditions warrant illumination.
- flashes the air bag warning indicator to indicate the Lamp Fault Code (LFC) detected.
- communicates through the DLC the current or historical DTCs.
- will active the chime, located in the IC module, if an air bag warning indicator fault is present and another SRS fault exists.
- records deployable and non-deployable impact data.

The RCM monitors the SRS for possible faults. If a fault is detected, the RCM will illuminate the air bag warning

indicator.

When the ignition is turned off and then on, the air bag warning indicator will prove out the air bag warning indicator by lighting for 6 seconds. If an SRS fault exists, the air bag warning indicator will then flash the 2-digit LFC associated with that fault. The air bag warning indicator will flash the LFC 5 times, then remain illuminated for the rest of the ignition cycle. The RCM will communicate current and historical DTCs through the DLC using a scan tool. If the air bag warning indicator does not function, and the RCM detects a fault condition, the RCM will signal activate an audible chime.

LFCs are prioritized. If 2 or more faults occur at the same time, the fault having the highest priority will be displayed first. After that fault has been corrected, the next highest priority fault will be displayed.

The RCM includes a backup power supply. This feature provides sufficient power to deploy the front air bags, seat side air bags and the safety belt retractor pretensioners in the event that the ignition circuit is damaged in a collision before the air bags are deployed. The backup power supply will deplete its stored energy reserve in approximately one minute after the power and/or ground is removed from the RCM .

Restraint System Diagnostic Tool Warning

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

Safety Belt Buckle Switch

The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the RCM whether the safety belt buckles are buckled or unbuckled.

The safety belt buckle switches are also used for the driver safety belt warning system and the driver and passenger Belt-Minder®. Refer to Section 501-20A .

Safety Belt Pretensioners

The pretensioners remove excess slack from the safety belt webbing. The pretensioners are activated by the RCM when the module detects an impact event force exceeding a programmed limit. Refer to Section 501-20A .

Belt Tension Sensor (BTS)

The BTS

- is a 3-wire hall-effect sensor and is part of the front passenger safety belt and retractor assembly.
- is used in conjunction with the OCS system.

The BTS is used by the OCS system to identify the presence of a child safety seat on the front passenger seat. The BTS senses the tension on the safety belt then provides an output to the OCSM , indicating that the safety belt assembly is cinched. After sensing the weight applied to the seat and using the BTS input, the OCSM determines how the occupant should be classified and communicates this information to the RCM . If the occupant is classified to be a child, the RCM will then automatically deactivate the passenger air bag module.

Seat Side Air Bag Module

The seat side air bag module:

- will deploy upon receiving a flow of current from the RCM , initiated by the side impact sensor and internal RCM circuitry.
- is mounted in the driver/passenger seat backrest.

Seat Track Position Sensor

The seat track position sensor indicates the position of the driver seat, forward or rearward, to the RCM . The RCM uses this information in determining the deployment rate of the dual-stage driver air bag module.

Secondary Air Bag Warning (Chime)

The secondary air bag warning chime is an audible chime generated by the IC module and controlled by the RCM . If the RCM has detected a fault with the air bag warning indicator, a DTC will be stored in memory of the RCM . When a Supplemental Restraint System (SRS) fault has been detected and an air bag warning indicator fault is present, the RCM will sound the secondary air bag warning chime in a pattern of 5 sets of 5 beeps.

Diagnostic Instructions

Lamp Fault Code (LFC)

When the RCM detects a system fault, it will cause the air bag warning indicator to flash a coded sequence; a LFC . The code is 2 digits. The first digit is flashed with a 0.5-second interval between pulses. There is a 2-second pause before the second digit is flashed which also has a 0.5-second interval between pulses. There is a 5-second pause between each display of a LFC .

Each LFC is flashed 5 times after which the air bag indictor will remain lit for the remainder of the ignition cycle. If there are multiple LFCs , each LFC will flash in order of priority.

Each LFC has one or more associated DTCs.

Bit-Mapped DTCs

Many of the continuous memory and on-demand DTCs that can be present in the RCM provide general fault information and require accessing the bit-mapped fault PIDs to identify the specific concern. DTCs that use fault PIDs are conceptually different from conventional DTCs.

Conventional DTCs identify a specific concern for a given component and point to a particular diagnostic path. In the diagnostic path, PIDs are sometimes used to determine the root cause.

DTCs that use fault PIDs do not identify the specific concern. The DTC identifies the component(s) or type of components in which the concern exists. The next level, fault PIDs, identifies the specific device and fault condition. Fault PIDs are available for both on-demand (active) and CMDTCs (historic). Those associated PIDs are an extension of the information provided by the DTC and are identified by the same DTC number. Using both DTC and the fault PID is necessary to define the specific fault present (in the same manner as normal DTCs).

A scan tool must be used to view DTCs and their fault PIDs. Once a scan tool has retrieved a DTC, use the scan tool to view the fault PIDs. Viewing the fault PIDs must be carried out to identify the specific concern that is present. When the viewing of fault PIDs has been carried out, the scan tool can display the PIDs associated with that DTC, including the status or state that exists (on-demand DTC) or existed (CMDTCs). Refer to the manufacturer's instructions for the scan tool being used on how to view fault PIDs.

Prove Out Procedure

Turn the ignition from the OFF to the ON position and monitor the air bag warning indicator with all SRS components connected or restraint system diagnostic tools installed. The air bag warning indicator will light continuously for approximately 6 seconds and then turn off. If an SRS fault is present, the air bag warning indicator will:

- fail to light.
- remain lit continuously.
- flash.

The flashing might not occur until approximately 30 seconds after the ignition has been turned from the OFF to the ON position. This is the time required for the RCM to complete the testing of the SRS . If the air bag warning indicator is inoperative and an SRS fault exists, a chime will sound in a pattern of 5 sets of 5 beeps. If this occurs, the air bag warning indicator will need to be repaired before diagnosis can continue.

Air Bag Module Second Stage Deployment Check

Because the driver and passenger front air bags each have 2 deployment stages, it is possible that Stage 1 has deployed and Stage 2 has not.

If a front air bag module has deployed, it is **mandatory** that the front air bag module be remotely deployed using the appropriate air bag disposal procedure to make sure the second stage has been deployed.

- For information on driver or passenger air bag module remote deployment, refer to Pyrotechnic Device Disposal in this section.

Inspection and Verification

1. Verify the customer concern.

2. Visually inspect for obvious signs of mechanical or electrical damage.

Visual Inspection Chart

Mechanical	Electrical
• Damaged Restraints Control Module (RCM) or loose mounting • Damaged Occupant Classification Sensor (OCS) system component • Damaged front impact severity sensor(s) or loose mounting • Damaged side impact sensor(s) or loose mounting • Damaged or disconnected Passenger Air Bag Deactivation (PAD) indicator	• Open Smart Junction Box (SJB) fuse 17 (10A) • Damaged wiring harness • Loose, damaged or corroded connectors • Circuitry open/shorted • Damaged shorting bars

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

4. **NOTE:** Make sure to use the latest scan tool software release.

   If the cause is not visually evident, connect the scan tool to the Data Link Connector (DLC).

5. **NOTE:** The Vehicle Communication Module (VCM) LED prove out confirms power and ground from the DLC are provided to the VCM .

If the scan tool does not communicate with the VCM :

- check the VCM connection to the vehicle.
- check the scan tool connection to the VCM .
- refer to Section 418-00 , No Power To The Scan Tool, to diagnose no power to the scan tool.

6. If the scan tool does not communicate with the vehicle:
   - verify the ignition is in the ON position.
   - verify the scan tool operation with a known good vehicle.
   - refer to Section 418-00 to diagnose no response from the PCM.

7. Carry out the network test.
   - If the scan tool responds with no communication for one or more modules, refer to Section 418-00 .
   - If the network test passes, retrieve and record CMDTCs .

8. Clear the CMDTCs and carry out the self-test diagnostics for the RCM .

9. If the DTCs retrieved are related to the concern, go to the DTC Chart. For all other DTCs, refer to Section 419-10 .

10. If no DTCs related to the concern are retrieved, GO to Symptom Chart .

DTC Chart

While the Lamp Fault Codes (LFCs) are an indication of a general concern in the passive restraints system, the DTCs are more specific. The DTCs can be retrieved from theRestraints Control Module (RCM) with a scan tool via the Data Link Connector (DLC).

RCM DTC Chart

DTC [a]	LFC [b]	Description	Action To Take
—	Continuous	The Air Bag Warning Indicator is Illuminated Continuously	GO to Pinpoint Test A .
B1231	13	Event Threshold Exceeded	INSTALL a new Restraints Control Module (RCM) and impact sensors.
B1317	Continuous	Battery Voltage High	GO to Pinpoint Test Y .
B1318	Continuous	Battery Voltage Low	GO to Pinpoint Test Y .
B1342	12	ECU Is Faulted	INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section.
B1869	NONE Continuous lamp Secondary air bag warning sounds if another fault is present	Lamp Air Bag Warning Indicator Circuit Open	GO to Pinpoint Test B .
B1870	NONE Continuous lamp Secondary air bag warning sounds if another fault is present	Lamp Air Bag Warning Indicator Circuit Short To Battery	GO to Pinpoint Test C .
B1884	18	PAD Warning Lamp Circuit Failure	GO to Pinpoint Test D .

B1890	18	PAD Warning Lamp Circuit Short to Battery	GO to Pinpoint Test E .
B1891	53	Air Bag Tone Warning Indicator Short to Battery	GO to Pinpoint Test F .
B1892	53	Air Bag Tone Warning Indicator Circuit Failure	GO to Pinpoint Test G .
B1921	14	Air Bag Diagnostic Monitor Ground Circuit Open	GO to Pinpoint Test H .
B2290	16	Occupant Classification System Fault	GO to Pinpoint Test I .
B2292	33	Restraint System — Seatbelt Pretensioner Fault (Driver Pretensioner Circuit Failure)	GO to Pinpoint Test J .
B2292	34	Restraint System — Seatbelt Pretensioner Fault (Passenger Pretensioner Circuit Failure)	GO to Pinpoint Test J .
B2293	19	Restraint System — Airbag Fault (Driver Front Air Bag Circuit Failure)	GO to Pinpoint Test K .
B2293	21	Restraint System — Airbag Fault (Passenger Front Air Bag Circuit Failure)	GO to Pinpoint Test K .
B2295	22	Restraint System — Side Airbag Fault (Driver Seat Side Air Bag Circuit Failure)	GO to Pinpoint Test L .
B2295	23	Restraint System — Side Airbag Fault (Passenger Seat Side Air Bag Circuit Failure)	GO to Pinpoint Test L .
B2296	42	Restraint System — Impact Sensor Fault (Front Impact Severity Sensor Circuit Failure)	GO to Pinpoint Test M .
B2296	43	Restraint System — Impact Sensor Fault (Driver Side Impact Sensor Circuit Failure)	GO to Pinpoint Test M .
B2296	44	Restraint System — Impact Sensor Fault (Passenger Side Impact Sensor Circuit Failure)	GO to Pinpoint Test M .
B2434	51	Drivers Seat Belt Buckle Switch Circuit Short to Ground	GO to Pinpoint Test N .
B2435	51	Driver Seat Belt Buckle Switch Resistance out of Range	GO to Pinpoint Test O .
B2438	52	Passengers Seat Belt Buckle Switch Circuit Short to Ground	GO to Pinpoint Test P .
B2439	52	Passengers Seat Belt Buckle Switch Resistance out of Range	GO to Pinpoint Test Q .
B2477	NONE Continuous lamp Secondary air bag warning sounds if another fault is present	Module Configuration Failure	INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section.
B2691	51	Seat Belt Buckle Switch Circuit Fault, Front Driver's side	GO to Pinpoint Test R .
B2692	52	Front Passenger's Seat Belt Buckle Switch Circuit Fault	GO to Pinpoint Test S .
B2909	16	Belt Tension Sensor Fault	GO to Pinpoint Test T .

C1414	15	Incorrect Module Design Level	GO to Pinpoint Test U .
C1947	49	Front Driver's Seat Track Position Switch Circuit Short to Ground	GO to Pinpoint Test V .
C1948	49	Front Driver's Seat Track Position Switch Circuit Resistance Out of Range	GO to Pinpoint Test W .
C1981	49	Front Driver's Seat Track Position Switch Circuit Fault	GO to Pinpoint Test X .
—	—	No Communication with the Restraints Control Module (RCM)	REFER to Section 418-00 to diagnose the no communication concern.

[a] Retrieved using scan tool.
[b] Flashed on air bag warning indicator.

Symptom Chart

Symptom Chart

Condition	Possible Sources	Action
• The air bag warning indicator is illuminated continuously	• Fuse • Ignition circuits • Ground circuits • Restraints Control Module (RCM) • Connector shorting bar • RCM camming beam • RCM disconnected • Other circuitry • Instrument Cluster (IC) module	• GO to Pinpoint Test A .
• Air bag warning indicator flashing	• Supplemental Restraint System (SRS) fault • RCM connector not fully seated	• REFER to DTC Chart. • ENGAGE the RCM connector.
• Audible tone — DTCs retrieved	• SRS system fault and air bag warning indicator fault	• REFER to DTC Chart.
• No communication with the RCM	• Fuse • Diagnostic tool • Data Link Connector (DLC) • RCM internal concern • Circuitry	• REFER to Section 418-00 to diagnose the no communication concern.

Pinpoint Tests

Pinpoint Test A: The Air Bag Warning Indicator is Illuminated Continuously

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

NOTE: Be sure to cycle the ignition and look for a 6-second indicator prove-out without Lamp Fault Code (LFC).

Normal Operation

During normal operation, the air bag warning indicator will illuminate continuously for approximately 6 seconds and then go out after the ignition is placed in the ON or START position and no air bag fault exists. The air bag warning indicator will remain illuminated continuously after 5 cycles of a LFC , if a fault exists. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section. Be sure to cycle the ignition and look for an approximate 6 second indicator prove out without LFCs .

The Restraints Control Module (RCM) will communicate DTCs to the scan tool through the Data Link Connector (DLC). If the scan tool displays NO COMMUNICATION when retrieving continuous DTCs, refer to Section 418-00 to diagnose the no communication concern.

This pinpoint test is intended to diagnose the following:

- Fuse
- Wiring, terminals or connectors
- Damaged ignition circuit
- RCM disconnected from the vehicle harness
- Loss of RCM signal ground
- RCM
- Instrument Cluster (IC) module

PINPOINT TEST A: THE AIR BAG WARNING INDICATOR IS ILLUMINATED CONTINUOUSLY

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

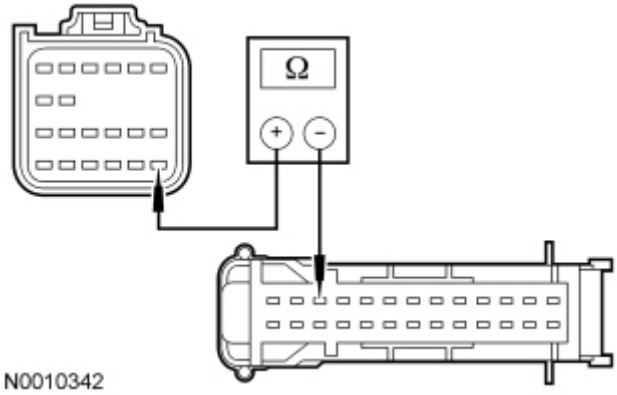
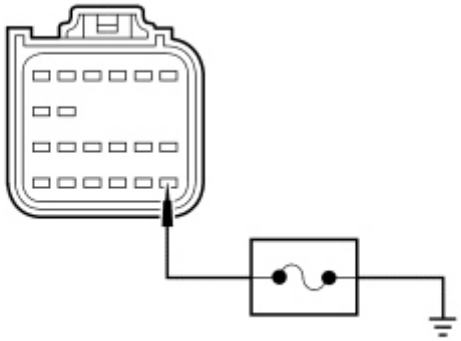
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
A1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Were any continuous or on-demand DTCs retrieved during the self test?**	**Yes** If CMDTCs were retrieved, GO to A2 . If on-demand DTCs were retrieved, GO to the DTC Chart in this section for pinpoint test direction.

	No GO to A2.
A2 CHECK THE RCM CONNECTION • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Connect: RCM C2041a. • Make sure RCM C2041a is connected and fully seated. • **Is RCM C2041a fully connected and the connector locking tab engaged?**	**Yes** GO to A3. **No** CONNECT C2041a and ENGAGE the locking tab. GO to A5.
A3 CHECK CIRCUIT 608 (BK/YE) FOR AN OPEN • Disconnect: IC Module C220. • Disconnect: RCM C2041a. • Measure the resistance between IC module C220-24, circuit 608 (BK/YE), harness side and RCM C2041a-19, circuit 608 (BK/YE), harness side.  N0010342 • **Is resistance less than 0.5 ohm?**	**Yes** GO to A4. **No** REPAIR circuit 608 (BK/YE). GO to A5.
A4 CHECK THE AIR BAG WARNING INDICATOR OPERATION (DRIVE LAMP OFF) • Deactivate the SRS. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section. • Connect: IC Module C220. • Ignition ON. • Connect a fused jumper between the RCM C2041a-19, circuit 608 (BK/YE), harness side and ground.  A0049155 • **Is the air bag warning indicator off?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to A5. **No** INSTALL a new IC module. REFER to Section 413-01. GO to A5.
A5 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test

• Reconnect all SRS components (if previously disconnected).
  ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
  ▪ If previously directed to deactivate the SRS , reactivate the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section.
• Ignition ON.
• Enter the following diagnostic mode on the scan tool: Self Test — RCM .
• **Are any RCM DTCs retrieved on-demand during the self test?**
	direction.
	
	No
	CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test B: DTC B1869

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

During normal operation, the air bag warning indicator will illuminate continuously for approximately 6 seconds and then go out after the ignition is placed in the ON or START position and no air bag fault exists. The Restraints Control Module (RCM) turns the air bag warning indicator off by supplying a ground on the air bag warning indicator circuit.

If the RCM detects an open or short to ground on the air bag warning indicator circuit, it will store DTC B1869 in memory.

- DTC B1869 Lamp Air Bag Warning Indicator Circuit Open — If the RCM detects an open circuit or short to ground on the air bag warning indicator circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- RCM
- Instrument Cluster (IC) module

PINPOINT TEST B: DTC B1869

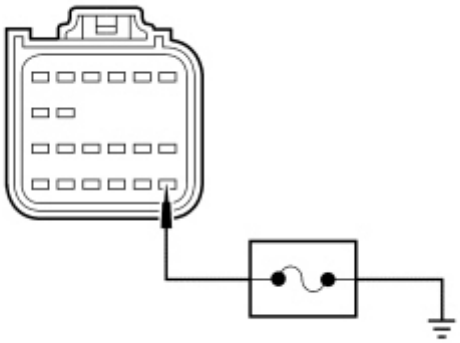
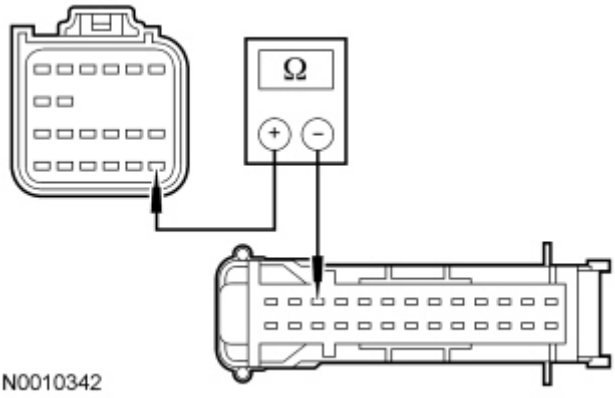
WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

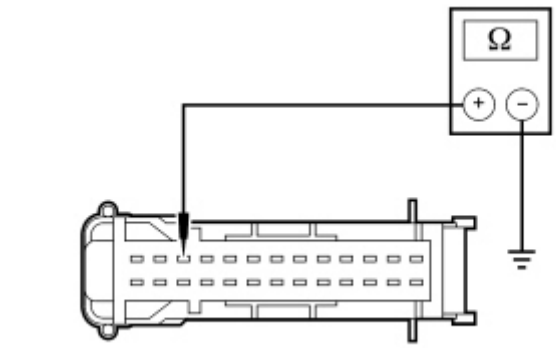
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
B1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1869 retrieved on-demand during the self test?**	**Yes** If the air bag warning indicator **does** illuminate, GO to B2. If the air bag warning indicator **does not** illuminate, GO to B4. **No** This is an intermittent fault when present as a CMDTCs only. The fault condition is not present at this time. GO to B6.
B2 CHECK THE AIR BAG WARNING INDICATOR OPERATION (DRIVE LAMP OFF) • Ignition OFF. • Deactivate the SRS. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section. • Disconnect: RCM C2041a and C2041b. • Ignition ON. • Connect a fused jumper lead between RCM C2041a-19, circuit 608 (BK/YE), harness side and ground.  A0049155 • **Is the air bag warning indicator OFF?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to B7. **No** GO to B3.
B3 CHECK CIRCUIT 608 (BK/YE) FOR AN OPEN • Ignition OFF. • Disconnect: IC Module C220. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between IC module C220-24, circuit 608 (BK/YE), harness side and RCM C2041a-19, circuit 608 (BK/YE), harness side.  N0010342 • **Is resistance less than 0.5 ohm?**	**Yes** INSTALL a new IC module. REFER to Section 413-01. GO to B7. **No** REPAIR circuit 608 (BK/YE). GO to B7.

B4 CHECK THE AIR BAG WARNING INDICATOR OPERATION (DRIVE LAMP ON)	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • **Is the air bag warning indicator ON?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to B7. **No** GO to B5.
B5 CHECK CIRCUIT 608 (BK/YE) FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Connect: RCM C2041a and C2041b. • Disconnect: IC Module C220. • Measure the resistance between IC module C220-24, 608 (BK/YE), harness side and ground.  N0010341 • **Is resistance greater than 10,000 ohms?**	**Yes** INSTALL a new IC module. REFER to Section 413-01. GO to B7. **No** REPAIR circuit 608 (BK/YE). GO to B7.
B6 CHECK FOR AN INTERMITTENT FAULT	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1869 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. If the air bag warning indicator **does** illuminate, GO to B2. If the air bag warning indicator **does not** illuminate, GO to B4. **No** CHECK for causes of intermittent open or short to ground on circuit 608 (BK/YE). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to

	B7 .
B7 CHECK FOR ADDITIONAL SRS DTCs	

• Ignition OFF.
• **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
• Reconnect all SRS components (if previously disconnected).
  ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
  ▪ If previously directed to deactivate the SRS , reactivate the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section.
• Ignition ON.
• Enter the following diagnostic mode on the scan tool: Self Test — RCM .
• **Are any RCM DTCs retrieved on-demand during the self test?**
	Yes
	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction.
	
	No
	CLEAR all RCM CMDTCs .
	PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test C: DTC B1870

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

During normal operation, the air bag warning indicator will illuminate continuously for approximately 6 seconds and then go out after the ignition is placed in the ON or START position and no air bag fault exists. The Restraints Control Module (RCM) illuminates the air bag warning indicator by removing the ground on the air bag warning indicator circuit.

If the RCM detects a short to battery on the air bag warning indicator circuit, it will store DTC B1870 in memory. If any other DTCs are detected with this DTC active, the secondary air bag warning tone will be activated.

- DTC B1870 Air Bag Warning Indicator Circuit Short to Battery — If the RCM detects a short to battery on the air bag warning indicator circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- RCM
- Instrument Cluster (IC) module

PINPOINT TEST C: DTC B1870

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

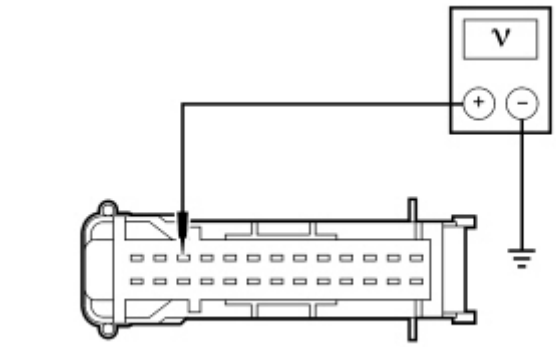
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure**

to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
C1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1870 retrieved on-demand during the self test?**	**Yes** GO to C2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to C4 .
C2 CHECK CIRCUIT 608 (BK/YE) FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: IC Module C220. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between IC module C220-24, circuit 608 (BK/YE), harness side and ground.  N0010340 • **Is any voltage present?**	**Yes** REPAIR circuit 608 (BK/YE). GO to C5 . **No** GO to C3 .
C3 CHECK THE RCM	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **NOTE:** DTC B1869 should be retrieved when carrying out the on-demand self test due to an open on circuit 608 (BK/YE), DTC B1870 should not be retrieved at this time. • **Was RCM DTC B1870 retrieved on-demand during the self**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to C5 . **No** REPAIR or INSTALL a new IC module. REFER to Section 413-01 . GO to C5 .

test?	
C4 CHECK FOR AN INTERMITTENT FAULT	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1870 retrieved on-demand during the self test?**	**Yes** GO to C2 . **No** CHECK for causes of intermittent short to battery on circuit 608 (BK/YE). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire bundle. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to C5 .
C5 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test D: LFC 18/B1884

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

NOTE: The Passenger Air Bag Deactivation (PAD) indicator is part of the hazard switch assembly and cannot be serviced separately.

Normal Operation

When the ignition is in the ON position, the PAD indicator prove-out period is initiated by the Restraints Control Module (RCM). The RCM briefly activates the PAD indicator by supplying a ground on the PAD indicator circuit to verify operation. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

If the RCM detects an open or short to ground on the PAD indicator circuit, it will store DTC B1884 in memory and flash Lamp Fault Code (LFC) 18 on the air bag warning indicator.

- DTC B1884 PAD Warning Lamp Circuit Failure — If the RCM detects an open circuit or short to ground on the PAD indicator circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors

- PAD indicator
- RCM

PINPOINT TEST D: LFC 18/DTC B1884

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

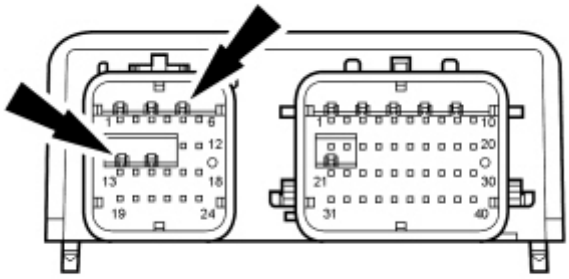
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
D1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1884 retrieved on-demand during the self test?**	**Yes** If the PAD indicator **does not** illuminate, GO to D2 . If the PAD indicator **does** illuminate, GO to D5 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to D9 .
D2 CHECK THE RCM CONNECTOR	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Inspect the RCM C2041a component side for damaged camming beams.	**Yes** CORRECT the connector concerns. GO to D10 . **No** GO to D3 .



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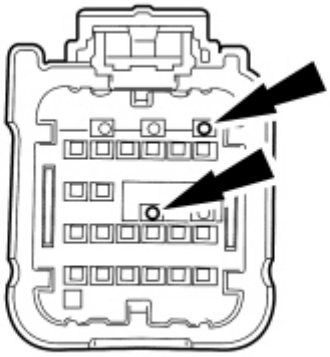
- **NOTE:** The shorting bars can be accessed by prying out the cover from the harness side of the connector. Do not remove or defeat the shorting bars.
- Inspect RCM C2041a harness side for worn, damaged or dislodged shorting bars. Inspect for foreign material. Inspect for pushed out connector terminals.



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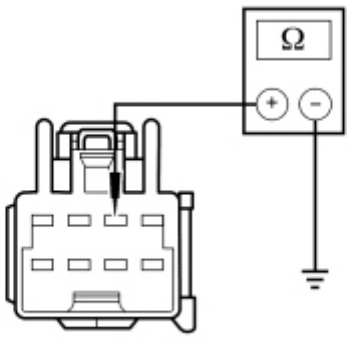
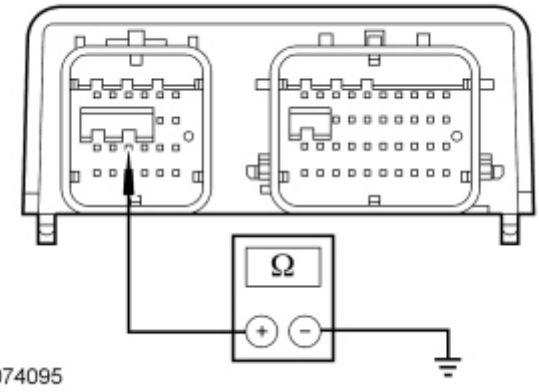
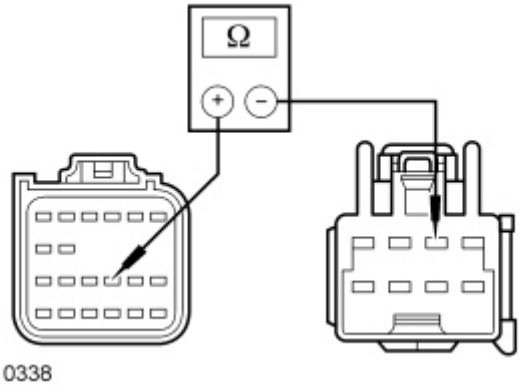
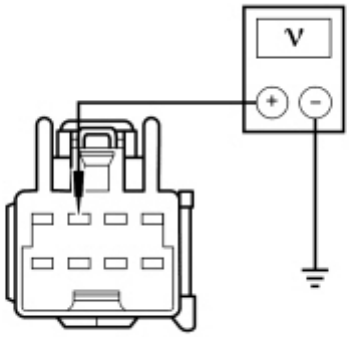
- **Were any RCM connector concerns found?**

D3 CHECK CIRCUIT 1632 (TN/LB) FOR SHORT TO GROUND	
• Connect: RCM C2041a and C2041b. • Disconnect: PAD Indicator C2039. • Measure the resistance between PAD indicator C2039-2, circuit 1632 (TN/LB), harness side and ground.  N0010339 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to D8. **No** GO to D4.
D4 CHECK THE RCM	
• Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-15, circuit 1632 (TN/LB), component side and ground.	**Yes** REPAIR circuit 1632 (TN/LB). GO to D10. **No** GO to D8.



- **Is resistance greater than 10,000 ohms?**

D5 CHECK THE PAD INDICATOR	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • **Is the PAD indicator ON?**	**Yes** GO to D8 . **No** GO to D6 .
D6 CHECK CIRCUIT 1632 (TN/LB) FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: PAD Indicator C2039. • Measure the resistance between PAD indicator C2039-2, circuit 1632 (TN/LB), harness side and RCM C2041a-15, circuit 1632 (TN/LB), harness side.  • **Is resistance less than 0.5 ohm?**	**Yes** GO to D7 . **No** REPAIR circuit 1632 (TN/LB). GO to D10 .
D7 CHECK CIRCUIT 1850 (YE) FOR AN OPEN	
• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between PAD indicator C2039-3, circuit 1850 (YE), harness side and ground.	**Yes** INSTALL a new PAD indicator. REFER to Passenger Air Bag Deactivation (PAD) Indicator in this section. GO to D10 . **No** REPAIR circuit 1850 (YE). GO to D10 .



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- **Is voltage greater than 10 volts?**

D8 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Connect: PAD Indicator C2039 (if previously disconnected). • Connect: RCM C2041a and C2041b (if previously disconnected). • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1884 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to D10. **No** CHECK for causes of intermittent open or short to ground on circuit 1632 (TN/LB). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to D10.
D9 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1884 retrieved on-demand during the self test?**	**Yes** GO to D2. **No** CHECK for causes of intermittent open or short to ground on circuit 1632 (TN/LB). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to D10.
D10 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction.

in the event of an accidental deployment. • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	**No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test E: LFC 18/DTC B1890

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

Normal Operation

When the ignition is in the ON position, the Passenger Air Bag Deactivation (PAD) indicator prove-out period is initiated by the Restraints Control Module (RCM). The RCM briefly activates the PAD indicator by supplying a ground on the indicator circuit to verify operation. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

If the RCM detects a short to battery on the PAD warning lamp circuit, it will store DTC B1890 in memory and flash Lamp Fault Code (LFC) 18 on the air bag warning indicator.

- DTC B1890 PAD Warning Lamp Circuit Short to Battery — If the RCM detects a short to battery on the PAD indicator circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- PAD indicator
- RCM

PINPOINT TEST E: LFC 18/DTC B1890

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

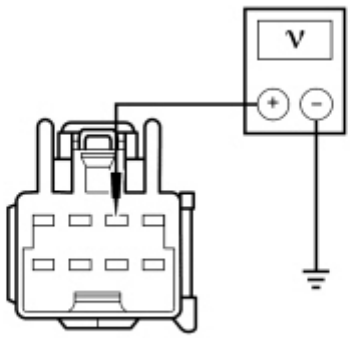
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take

E1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1890 retrieved on-demand during the self test?**	**Yes** GO to E2. **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to E4.
E2 CHECK CIRCUIT 1632 (TN/LB) FOR A SHORT TO VOLTAGE • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: PAD Indicator C2039. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between PAD indicator C2039-2, circuit 1632 (TN/LB), harness side and ground.  N0010336 • **Is any voltage present?**	**Yes** REPAIR circuit 1632 (TN/LB). GO to E5. **No** GO to E3.
E3 CHECK THE RCM • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **NOTE:** DTC B1884 should be retrieved when carrying out the on-demand self test due to an open on circuit 1632 (TN/LB), DTC B1890 should not be retrieved at this time. • **Was RCM DTC B1890 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to E5. **No** INSTALL a new PAD Indicator. REFER to Passenger Air Bag Deactivation (PAD) Indicator in this section. GO to E5.
E4 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1890 retrieved on-demand during the self test?**	**Yes** GO to E2. **No** CHECK for causes of intermittent short to battery on circuit 1632 (TN/LB). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so**

	in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. GO to E5 .
E5 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test F: LFC 53/DTC B1891

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

The connection between the Instrument Cluster (IC) module and Restraints Control Module (RCM) is used to signal a chime in the IC module if the primary air bag warning indicator is inoperative and another Supplemental Restraint System (SRS) fault exists. The RCM monitors this connection to the IC module at C220 pin 23.

If the RCM detects a circuit failure on the connection to the cluster, it will store DTC B1891 in memory and flash Lamp Fault Code (LFC) 53 (or a higher priority code if one exists) on the air bag warning indicator.

- DTC B1891 Air Bag Tone Warning Indicator Circuit Short to Battery — If the RCM detects a short to battery on the air bag tone warning indicator circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- IC module
- RCM

PINPOINT TEST F: LFC 53/DTC B1891

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

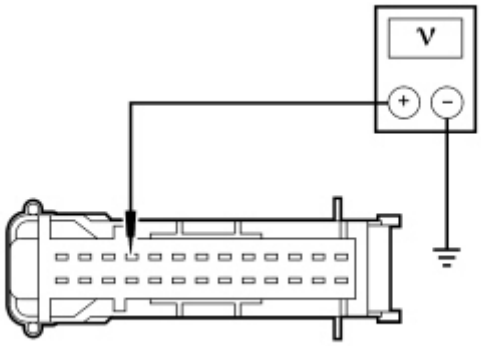
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

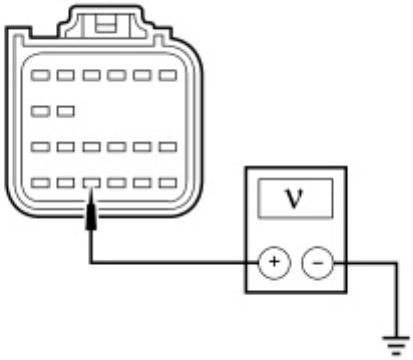
NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint**

test.

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
F1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1891 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to F2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to F4 .
F2 CHECK THE AIR BAG TONE WARNING INDICATOR CIRCUIT • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Disconnect: IC Module C220. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between IC module C220-23, circuit 1083 (LB/BK), harness side and ground.  N0010335 • **Is any voltage present?**	**Yes** REPAIR circuit 1083 (LB/BK). GO to F5 . **No** GO to F3 .
F3 CHECK THE AIR BAG TONE WARNING INDICATOR CIRCUIT • Ignition OFF. • Deactivate the SRS . Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section. • Connect: IC Module C220. • Ignition ON. • Measure the voltage between RCM C2041a-22, circuit 1083 (LB/BK), harness side and ground.	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to F5 . **No** INSTALL a new IC module. REFER to Section 413-01 . GO to F5 .

 A0039642 • **Is voltage greater than 10 volts?**	
F4 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1891 retrieved on-demand during the self test?**	**Yes** GO to F2 . **No** CHECK for causes of intermittent short to voltage on circuit 1083 (LB/BK). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to F5 .
F5 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. ▪ If previously directed to deactivate the SRS , reactivate the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test G: LFC 53/DTC B1892

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

The connection between the Instrument Cluster (IC) module and Restraints Control Module (RCM) is used to

signal a chime if the primary air bag warning indicator is inoperative and another Supplemental Restraint System (SRS) fault exists. The RCM monitors this connection to the IC module at C220 pin 23.

If the RCM detects a circuit failure on the connection to the IC module, it will store DTC B1891 in memory and flash Lamp Fault Code (LFC) 53 (or a higher priority code if one exists) on the air bag warning indicator.

- DTC B1892 Air Bag Tone Warning Indicator Circuit Failure — If the RCM detects an open circuit or short to ground on the air bag tone warning indicator circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- IC module
- RCM

PINPOINT TEST G: LFC 53/DTC B1892

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

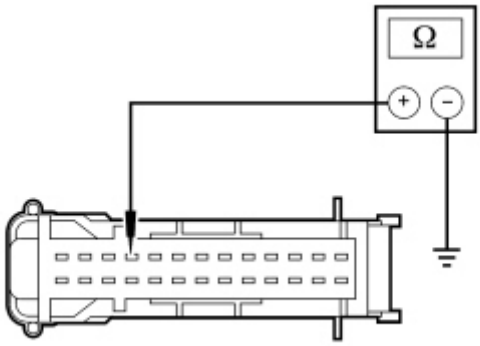
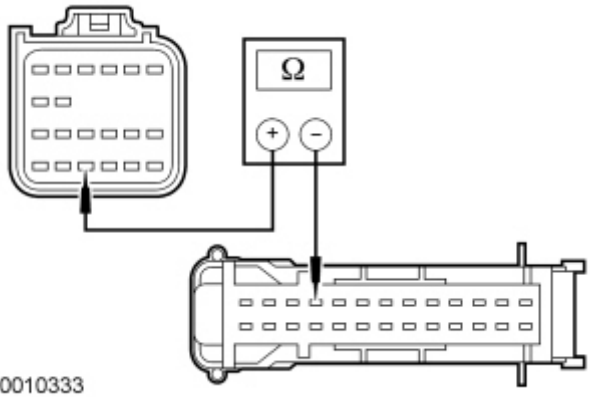
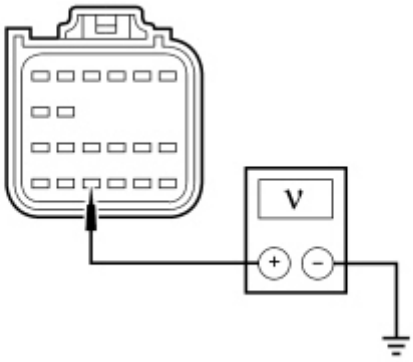
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
G1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1892 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to G2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to G5 .
G2 CHECK THE AIR BAG TONE WARNING INDICATOR CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Disconnect: IC Module C220. • Measure the resistance between IC module C220-23, circuit	**Yes** GO to G3 . **No** REPAIR circuit 1083 (LB/BK). GO to G6 .

1083 (LB/BK), harness side and ground.  N0010334 • **Is resistance greater than 10,000 ohms?**	
G3 CHECK THE AIR BAG TONE WARNING INDICATOR CIRCUIT FOR AN OPEN	
• Measure the resistance between RCM C2041a-22, circuit 1083 (LB/BK), harness side, and IC module C220-23, circuit 1083 (LB/BK), harness side.  N0010333 • **Is resistance less than 5 ohms?**	**Yes** GO to G4. **No** REPAIR circuit 1083 (LB/BK). GO to G6.
G4 CHECK THE AIR BAG TONE WARNING INDICATOR	
• Deactivate the SRS. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section. • Connect: IC Module C220. • Ignition ON. • Measure the voltage between RCM C2041a-22, circuit 1083 (LB/BK), harness side and ground.  A0039642 • **Is voltage greater than 10 volts?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to G6. **No** INSTALL a new IC module. REFER to Section 413-01. GO to G6.
G5 CHECK FOR AN INTERMITTENT FAULT	

• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1892 retrieved on-demand during the self test?**	**Yes** GO to G2 . **No** CHECK for causes of intermittent open or short to ground on circuit 1083 (LB/BK). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to G6 .
G6 CHECK FOR ADDITIONAL SRS DTCs	

• Ignition OFF.
• **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
• Reconnect all SRS components (if previously disconnected).
  ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
  ▪ If previously directed to deactivate the SRS , reactivate the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Deactivation and Reactivation in this section.
• Ignition ON.
• Enter the following diagnostic mode on the scan tool: Self Test — RCM .
• **Are any RCM DTCs retrieved on-demand during the self test?**
	Yes
	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction.
	
	No
	CLEAR all RCM CMDTCs .
	PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test H: LFC 14/DTC B1921

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.

NOTE: A resistance difference as low as 10 ohms may set this DTC.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the resistance between the ground connections at the mounting bolts and the reference ground at C2041a pin 16, circuit 1203 (BK/LB). If the RCM detects a difference in resistance, it will store DTC B1921 in memory and flash Lamp Fault Code (LFC) 14 on the air bag warning indicator.

- DTC B1921 Air Bag Diagnostic Monitor Ground Circuit Open — If the RCM detects a resistance difference between the case ground and pin 16 of C2041a, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors

- RCM mounting
- RCM

PINPOINT TEST H: LFC 14/DTC B1921

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

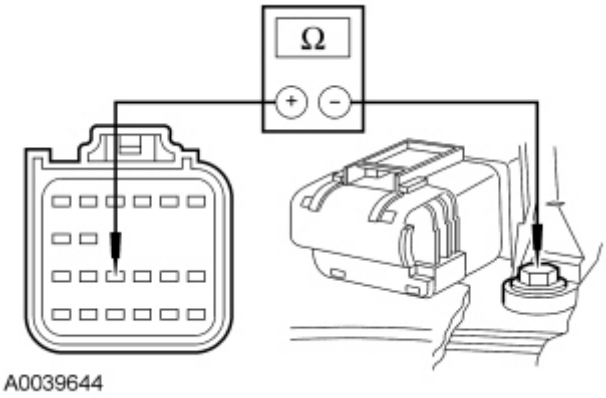
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
H1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B1921 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to H2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to H5 .
H2 INSPECT THE RCM MOUNTING AND MOUNTING SURFACE • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Inspect the RCM mounting and make sure that the retaining bolts are fully seated and tightened correctly. • Remove the RCM . Refer to Restraints Control Module (RCM) in this section. • Visually inspect the RCM and mounting surface for damage, corrosion or dirt. • **Was a significant amount of corrosion or dirt found, the RCM attached to the mounting surface incorrectly or were the RCM bolts not fully seated and tightened correctly?**	**Yes** CLEAN, TIGHTEN bolts or REPAIR the mounting surface as necessary. REINSTALL the RCM to the mounting surface. GO to H6 . **No** GO to H3 .
H3 INSTALL THE RCM AND CARRY OUT THE ON-DEMAND SELF TEST • Clean the RCM mounting surfaces and bolts. • Install the RCM . Refer to Restraints Control Module (RCM) in this section. • Repower the SRS . **Do not** prove out the SRS at this time.	**Yes** GO to H4 . **No**

Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1921 retrieved on-demand during the self test?**	Fault corrected. GO to H6.
H4 CHECK GROUND CIRCUIT 1203 (BK/LB) FOR HIGH RESISTANCE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-16, circuit 1203 (BK/LB), harness side and the RCM case ground.  A0039644 • **Is resistance less than 5 ohms?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to H6. **No** REPAIR circuit 1203 (BK/LB). GO to H6.
H5 CHECK FOR AN INTERMITTENT FAULT	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B1921 retrieved on-demand during the self test?**	**Yes** GO to H2. **No** CHECK for causes of intermittent high resistance on circuit 1203 (BK/LB) or the chassis ground. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to H6.
H6 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

— RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	

Pinpoint Test I: LFC 16/DTC B2290

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

NOTE: Lamp Fault Code (LFC) 16 is shared between DTC B2290 and DTC B2909.

Normal Operation

The Occupant Classification Sensor (OCS) system is used to classify the front passenger seat occupant in the event of a deployable impact. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The Restraints Control Module (RCM) continuously monitors messages from the Occupant Classification System Module (OCSM). If the RCM receives a fault message reported by the OCSM , it will store DTC B2290 in memory and flash LFC 16 on the air bag warning indicator.

The OCS system components (seat cushion foam pad, bladder with pressure sensor, OCSM and seat wiring harness) are calibrated to each other and are serviced as an assembly. The OCS system components are not to be installed separately. If a OCS system component or seat cushion foam pad are needed, a new OCS system service kit (seat cushion foam pad, bladder with pressure sensor, OCSM and seat wiring harness) must be installed as an assembly.

Fault PIDs [a]	Description	Fault Trigger Condition
2290_24_OD and 2290_24_CM	OCS Sensing Element Fault, Front Pass. side	When the OCSM senses a failure on one of the bladder pressure sensor circuits, a fault will be indicated.
2290_25_OD and 2290_25_CM	OCS Calibration Fault, Front Pass. side	When the OCSM senses a difference in stored data, a fault will be indicated.
2290_26_OD and 2290_26_CM	OCS Communications Fault, Front Pass. side	When the OCSM is unable to communicate with the RCM , a fault will be indicated.
2290_27_OD and 2290_27_CM	Generic OCS Module Fault, Front Pass. side	When the OCSM senses a fault with the bladder pressure sensor and/or circuits, a fault will be indicated.

[a] Fault PIDs that end in OD indicate an on-demand status and are associated with on-demand DTC B2290. Fault PIDs that end in CM indicate continuous memory status and are associated with continuous DTC B2290.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- OCS system component
- RCM

PINPOINT TEST I: LFC 16/DTC B2290

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

NOTE: To identify between a production OCS system and a OCS system service kit, inspect the OCSM electrical connector.

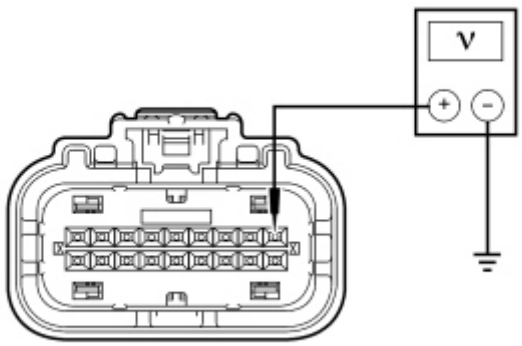
A production OCS system allows the disconnection of the OCSM electrical connector.

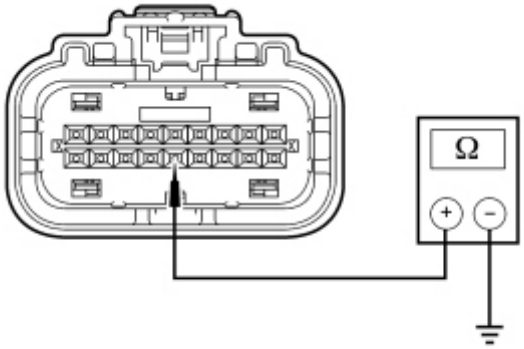
A service OCS system service kit has the electrical connector glued to the OCSM , it cannot and should not be disconnected or altered.

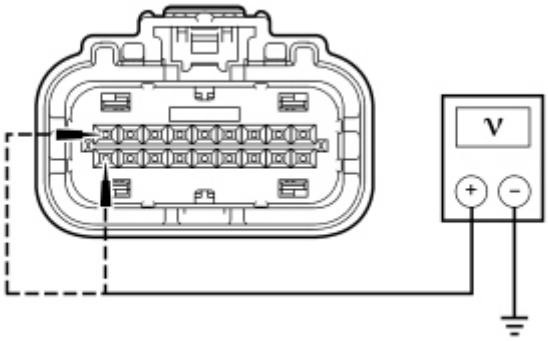
NOTE: Mounting and orientation of the OCSM is critical for correct system operation. Failure to correctly position and securely fasten the OCSM in place can set a DTC in the RCM .

If the vehicle has been in a collision in which the passenger seat may have been damaged, inspect the OCSM mounting area for deformation. If damaged, a new OCS system service kit must be installed. In addition, make sure the mounting area of the OCS system is restored to the original production configuration (install new as necessary).

Test Step	Result / Action to Take
I1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2290 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2290 fault PIDs. • **Do any on-demand DTC B2290 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. Using the fault PIDs recorded, GO to the appropriate pinpoint test step. **Vehicles with a production OCS system** For 2290_26_OD (OCS Communications Fault, Front Pass. side), GO to I2 . For 2290_24_OD (OCS Sensing Element Fault, Front Pass. side), GO to I11 . For 2290_27_OD (Generic OCS Module Fault, Front Pass. side), GO to I19 . For 2290_25_OD (OCS Calibration Fault, Front Pass. side), GO to I29 . **Vehicles with a OCS system service kit** For 2290_27_OD (Generic

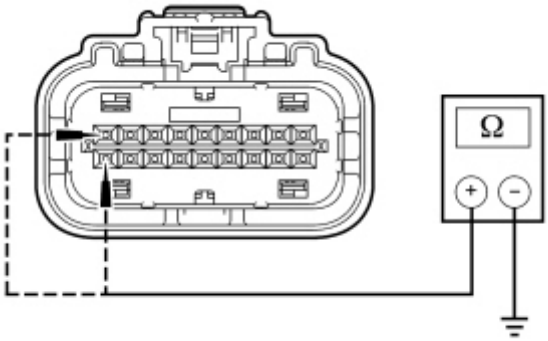
	OCS Module Fault, Front Pass. side), GO to I19 . For 2290_26_OD (OCS Communications Fault, Front Pass. side), GO to I20 . For 2290_25_OD (OCS Calibration Fault, Front Pass. side), GO to I29 . For 2290_24_OD (OCS Sensing Element Fault, Front Pass. side), INSTALL a new OCS service kit. REFER to Occupant Classification Sensor in this section. GO to I31 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to I30 .
I2 CHECK THE SEAT WIRING AND CONNECTORS • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Carry out a thorough visual inspection of the OCS system wiring, terminals and connectors, the RCM wiring, terminals and connectors at RCM C2041b pins 17 and 18, and the related seat wiring harness and body wiring harness terminals and connectors. • **Were any problems noted?**	**Yes** REPAIR the seat connectors and wiring as needed. GO to I31 . **No** GO to I3 .
I3 CHECK IGNITION CIRCUIT 937 (RD/WH) FOR VOLTAGE • Disconnect: Passenger Seat Side Air Bag C337. • Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337. • Disconnect: OCSM C3043. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between OCSM C3043-1, circuit 937 (RD/WH), harness side and ground.  N0003691 • **Is voltage greater than 10 volts?**	**Yes** GO to I4 . **No** REPAIR circuit 937 (RD/WH). GO to I31 .
I4 CHECK GROUND CIRCUIT 1203 (BK/LB) FOR AN OPEN • Ignition OFF.	**Yes**

• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between OCSM C3043-14, circuit 676 (PK/OG), harness side and ground.  N0003692 • **Is resistance less than 5 ohms?**	GO to I5 . **No** REPAIR circuit 1203 (BK/LB). GO to I31 .
I5 CHECK CIRCUITS 1918 (BN/WH) AND 1919 (PK/OG) FOR A SHORT TO VOLTAGE	

• Disconnect: RCM C2041a and C2041b.
• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between OCSM :
  ▪ C3043-18, circuit 1918 (BN/WH), harness side and ground.
  ▪ C3043-9, circuit 1919 (PK/OG), harness side and ground.
 
 	
N0003693
• **Is voltage present on either circuit?**
	Yes
	REPAIR circuit 1918 (BN/WH) or 1919 (PK/OG).
	GO to I31 .
	
	No
	GO to I6 .

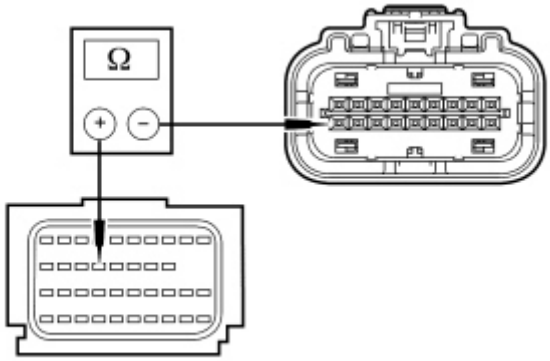
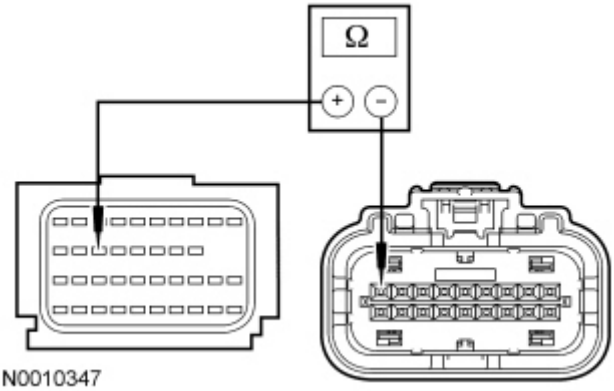
I6 CHECK CIRCUITS 1918 (BN/WH) AND 1919 (PK/OG) FOR A SHORT TO GROUND	

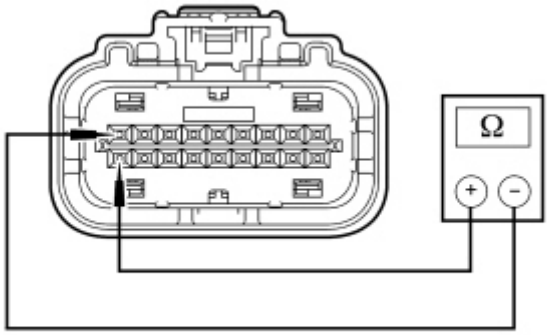
• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Measure the resistance between OCSM :
  ▪ C3043-18, circuit 1918 (BN/WH), harness side and ground.
  ▪ C3043-9, circuit 1919 (PK/OG), harness side and ground.
	Yes
	GO to I7 .
	
	No
	REPAIR circuit 1918 (BN/WH) or 1919 (PK/OG).
	GO to I31 .



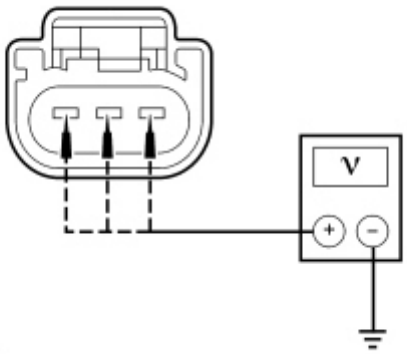
N0003694

- **Are the resistances greater than 10,000 ohms?**

I7 CHECK CIRCUIT 1918 (BN/WH) FOR AN OPEN BETWEEN THE OCS AND RCM	
• Measure the resistance between RCM C2041b-17, circuit 1918 (BN/WH), harness side and OCSM C3043-18, circuit 1918 (BN/WH), harness side.  N0010346 • **Is resistance less than 0.5 ohm?**	**Yes** GO to I8 . **No** REPAIR circuit 1918 (BN/WH). GO to I31 .
I8 CHECK CIRCUIT 1919 (PK/OG) FOR AN OPEN BETWEEN THE OCS AND RCM	
• Measure the resistance between RCM C2041b-18, circuit 1919 (PK/OG), harness side and OCSM C3043-9, circuit 1919 (PK/OG), harness side.  N0010347 • **Is resistance less than 0.5 ohm?**	**Yes** GO to I9 . **No** REPAIR circuit 1919 (PK/OG). GO to I31 .
I9 CHECK FOR A SHORT BETWEEN CIRCUITS 1918 (BN/WH) AND 1919 (PK/OG)	
• Measure the resistance between OCSM C3043-18, circuit 1918 (BN/WH), harness side and OCSM C3043-9, circuit 1919 (PK/OG), harness side.	**Yes** GO to I10 .

 N0003697 • **Is resistance greater than 10,000 ohms?**	**No** REPAIR circuits 1918 (BN/WH) and 1919 (PK/OG). GO to I31.
I10 CHECK THE RCM	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good RCM. Refer to Restraints Control Module (RCM) in this section. • Connect: OCSM C3043. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2290 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2290 fault PIDs. • **Do any on-demand DTC B2290 fault PIDs indicate a fault?**	**Yes** INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to I31. **No** Fault corrected. GO to I31.
I11 CHECK THE SEAT WIRING AND CONNECTORS	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Carry out a thorough visual inspection of the OCS system wiring, terminals and connectors and the related seat wiring harness and body wiring harness terminals and connectors. • **Were any problems noted?**	**Yes** REPAIR the seat connectors and wiring as needed. GO to I31. **No** GO to I12.
I12 CHECK OCS PRESSURE SENSOR CIRCUITS FOR A SHORT TO VOLTAGE	

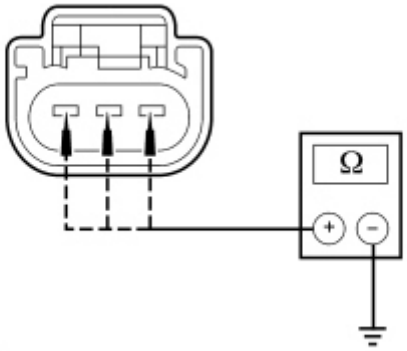
• Disconnect: Passenger Seat Side Air Bag C337.
• Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337.
• Disconnect: RCM C2041a and C2041b.
• Disconnect: OCS Pressure Sensor C3159.
• Disconnect: OCSM C3043.
• Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between OCS pressure sensor:
  ▪ C3159-1, circuit 1568 (RD/WH), harness side and ground.
  ▪ C3159-2, circuit 1570 (TN/BK), harness side and ground.
  ▪ C3159-3, circuit 1569 (GY/LB), harness side and ground.
	Yes
	REPAIR circuit 1568 (RD/WH), 1569 (GY/LB) or 1570 (TN/BK). GO to I31.
	
	No
	GO to I13.

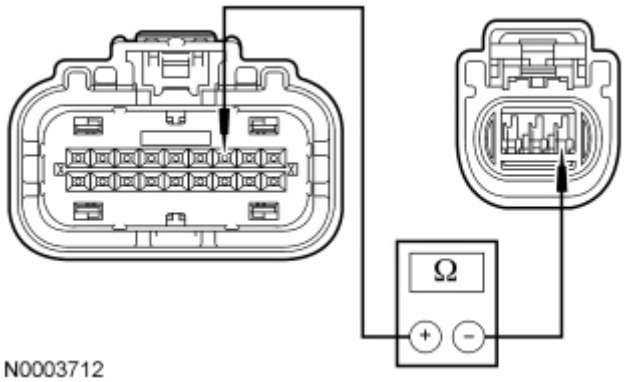


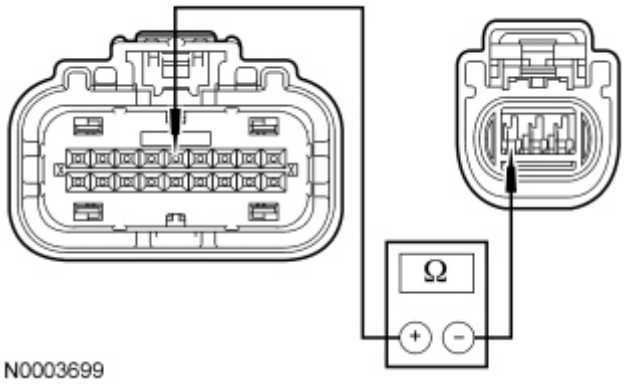
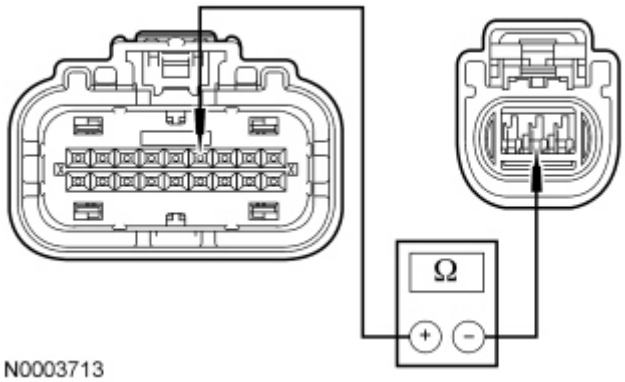
A0074066

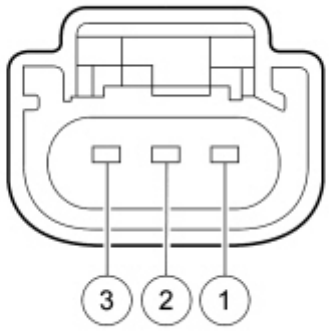
- **Is voltage present on any circuit?**

I13 CHECK OCS PRESSURE SENSOR CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Measure the resistance between OCS pressure sensor:
  ▪ C3159-1, circuit 1568 (RD/WH), harness side and ground.
  ▪ C3159-2, circuit 1570 (TN/BK), harness side and ground.
  ▪ C3159-3, circuit 1569 (GY/LB), harness side and ground.
 
 	
A0074067
• **Are the resistances greater than 10,000 ohms?**
	Yes
	GO to I14 .
	
	No
	REPAIR circuit 1568 (RD/WH), 1569 (GY/LB) or 1570 (TN/BK). GO to I31 .

I14 CHECK CIRCUIT 1568 (RD/WH) FOR AN OPEN BETWEEN THE OCS MODULE AND PRESSURE SENSOR	
• Measure the resistance between OCSM C3043-3, circuit 1568 (RD/WH), harness side and OCS pressure sensor C3159-1, circuit 1568 (RD/WH), harness side.  N0003712 • **Is resistance less than 0.5 ohm?**	**Yes** GO to I15 . **No** REPAIR circuit 1568 (RD/WH). GO to I31 .
I15 CHECK CIRCUIT 1569 (GY/LB) FOR AN OPEN BETWEEN THE	

OCS MODULE AND PRESSURE SENSOR	
• Measure the resistance between OCSM C3043-5, circuit 1569 (GY/DB), harness side and OCS pressure sensor C3159-3, circuit 1569 (GY/DB), harness side.  N0003699 • **Is resistance less than 0.5 ohm?**	**Yes** GO to I16 . **No** REPAIR circuit 1569 (GY/LB). GO to I31 .
I16 CHECK CIRCUIT 1570 (TN/BK) FOR AN OPEN BETWEEN THE OCS MODULE AND PRESSURE SENSOR	
• Measure the resistance between OCSM C3043-4, circuit 1570 (TN/BK), harness side and OCS pressure sensor C3159-2, circuit 1570 (TN/BK), harness side.  N0003713 • **Is resistance less than 0.5 ohm?**	**Yes** GO to I17 . **No** REPAIR circuit 1570 (TN/BK). GO to I31 .
I17 CHECK FOR A SHORT BETWEEN OCS PRESSURE SENSOR CIRCUITS	
• Measure the resistance between the OCS pressure sensor circuits, harness side using the following chart: **OCS Pressure Sensor** / **OCS Pressure Sensor** C3159-1, circuit 1568 (RD/WH) / C3159-2, circuit 1570 (TN/BK) C3159-1, circuit 1568 (RD/WH) / C3159-3, circuit 1569 (GY/LB) C3159-2, circuit 1570 (TN/BK) / C3159-3, circuit 1569 (GY/LB)	**Yes** GO to I18 . **No** REPAIR the affected circuits, 1568 (RD/WH), 1569 (GY/LB) and/or 1570 (TN/BK). GO to I31 .

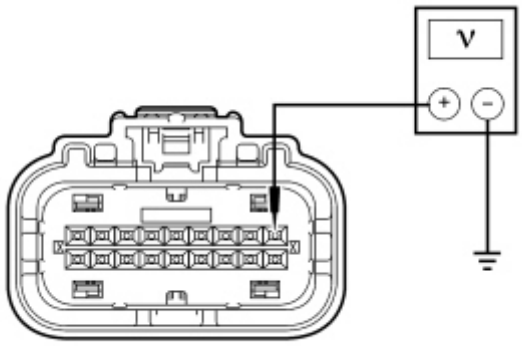


N0080718

- **Are the resistances greater than 10,000 ohms?**

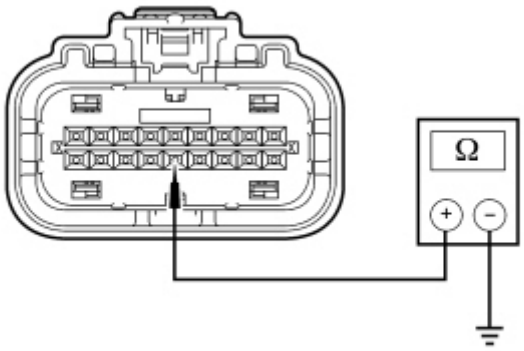
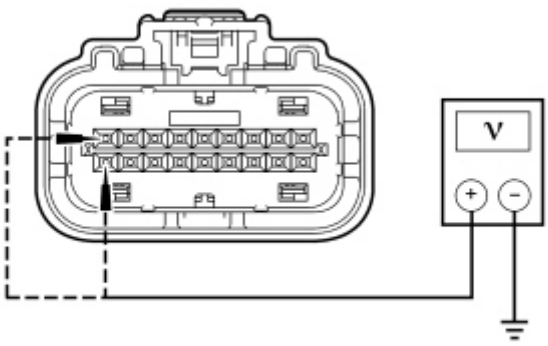
I18 CHECK THE OCS SYSTEM	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a new OCS system service kit. Refer to Occupant Classification Sensor in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • **WARNING: Make sure the front passenger seat repair is complete, the seat and all attached components (head restraint, seat side shield, etc.) are correctly assembled, and the seat is correctly installed to the vehicle before carrying out the System Reset. Failure to follow these instructions may result in incorrect operation of the occupant classification sensor (OCS) system and increases the risk of serious personal injury or death in a crash.** • ***NOTICE:*** **To prevent system failure, it is necessary to carry out the Occupant Classification Sensor (OCS) system reset when a front passenger seat cushion is disassembled, a new trim cover installed or an OCS system service kit is installed. A scan tool is used to carry out the OCS system reset.** • ***NOTICE:*** **To prevent system failure, the following precautions must be taken before carrying out the Occupant Classification Sensor (OCS) system reset:** ▪ **Make sure the voltage to the OCSM is above 8.0 volts and less than 18.0 volts.** ▪ **Make sure the OCS system is not at a temperature below 6℃ (42℉) or above 36℃ (97℉) when initiating the OCS system reset process. If the vehicle has been exposed to extreme cold or hot temperatures, the vehicle must be exposed and kept at a temperature within the limits, 6℃ to 36℃ (42℉ to 97℉) for a minimum of 30 minutes.** ▪ **Make sure nothing is present on the passenger seat before carrying out the OCS system reset and nothing is placed on the seat during the process.** ▪ **Make sure a minimum 8-second time period has passed after cycling the ignition ON before the carrying out the OCS system reset process.** • Carry out the OCS system reset. • If the first system reset attempt was unsuccessful, carry out a thorough visual inspection of the following and repair any concerns found. ▪ OCS system connector and wiring for damage ▪ Pressure sensor hose for kinks and/or damage ▪ Seat-related wiring harness and body wiring harness	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to I31. **No** Fault corrected. GO to I31.

terminals and connectors for damage • Carry out a second OCS system reset. If the second attempt is unsuccessful, install a new OCS system service kit. For additional information, refer to Occupant Classification Sensor in this section. • Ignition OFF. • **NOTE:** The ignition must be cycled after the OCS system reset. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2290 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2290 fault PIDs. • **Do any on-demand DTC B2290 fault PIDs indicate a fault?**	
I19 CHECK FOR AN OCS MOUNTING FAULT	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • **NOTE:** The OCSM must be correctly positioned and securely fastened in place. Failure to do so can set a DTC in the RCM . • Inspect the OCSM for correct mounting location and direction or for OCSM fastener tightness or for damage to the OCSM and seat cushion pan. • **Is the OCSM correctly located, are the fasteners tight and is there no damage to components?**	**Yes** INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to I31 . **No** REPAIR as necessary. REFER to Occupant Classification Sensor in this section for correct mounting location/direction of the OCSM and the correct fasteners for mounting of the OCSM . If the seat cushion pan is damaged, refer to the appropriate procedure in Section 501-10 for repair. GO to I31 .
I20 CHECK THE SEAT WIRING AND CONNECTORS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Carry out a thorough visual inspection of the OCS system wiring, terminals and connectors, the RCM wiring, terminals and connectors at RCM C2041b pins 17 and 18, and the related seat wiring harness and body wiring harness terminals and connectors. • **Were any problems noted?**	**Yes** REPAIR the seat connectors and wiring as needed. GO to I21 . **No** GO to I21 .
I21 CHECK IGNITION CIRCUIT 937 (RD/WH) FOR VOLTAGE	
• Disconnect: Passenger Seat Side Air Bag C337. • Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337. • Disconnect: OCSM C3043. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between OCSM C3043-1, circuit 937 (RD/WH), harness side and ground.	**Yes** GO to I22 . **No** REPAIR circuit 937 (RD/WH). GO to I31 .

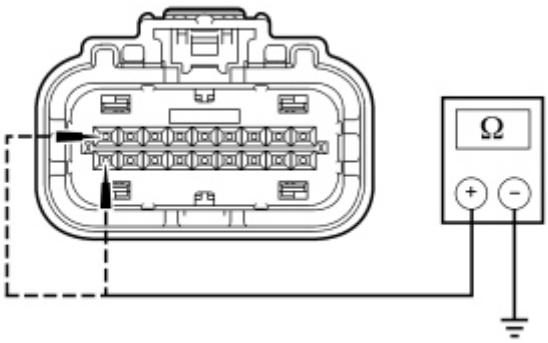


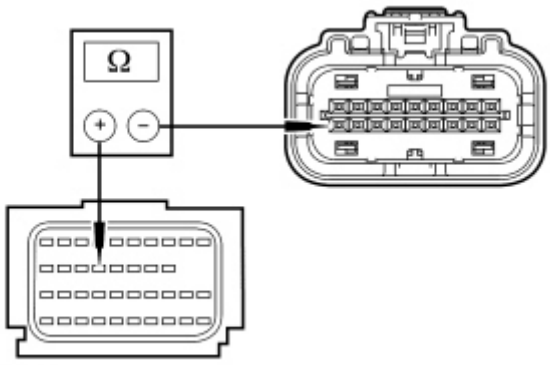
N0003691

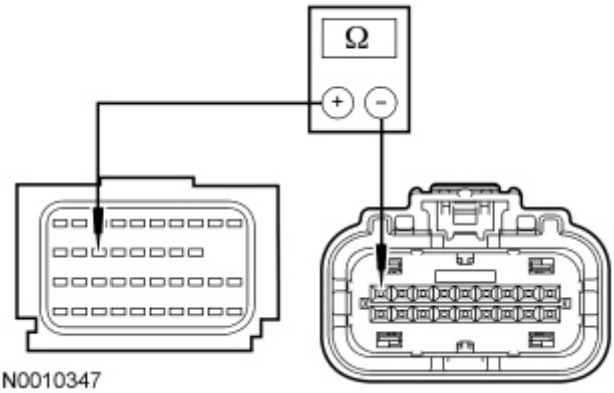
- **Is voltage greater than 10 volts?**

I22 CHECK GROUND CIRCUIT 1203 (BK/LB) FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between OCSM C3043-14, circuit 676 (PK/OG), harness side and ground.  N0003692 • **Is resistance less than 5 ohms?**	**Yes** GO to I23 . **No** REPAIR circuit 1203 (BK/LB). GO to I31 .
I23 CHECK CIRCUITS 1918 (BN/WH) AND 1919 (PK/OG) FOR A SHORT TO VOLTAGE BETWEEN THE PASSENGER SEAT AND RCM	
• Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between OCSM : ▪ C3043-18, circuit 1918 (BN/WH), harness side and ground. ▪ C3043-9, circuit 1919 (PK/OG), harness side and ground.  N0003693	**Yes** REPAIR circuit 1918 (BN/WH) or 1919 (PK/OG). GO to I31 . **No** GO to I24 .

• **Is voltage present on either circuit?**	

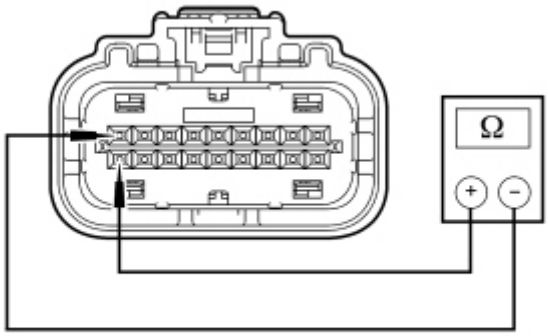
I24 CHECK CIRCUITS 1918 (BN/WH) AND 1919 (PK/OG) FOR A SHORT TO GROUND BETWEEN THE PASSENGER SEAT AND RCM
• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Measure the resistance between OCSM :
  ▪ C3043-18, circuit 1918 (BN/WH), harness side and ground.
  ▪ C3043-9, circuit 1919 (PK/OG), harness side and ground.
 
 	
N0003694
• **Are the resistances greater than 10,000 ohms?**
	Yes
	GO to I25 .
	
	No
	REPAIR circuit 1918 (BN/WH) or 1919 (PK/OG). GO to I31 .

I25 CHECK CIRCUIT 1918 (BN/WH) FOR AN OPEN BETWEEN THE PASSENGER SEAT AND RCM • Measure the resistance between RCM C2041b-17, circuit 1918 (BN/WH), harness side and OCSM C3043-18, circuit 1918 (BN/WH), harness side.  N0010346 • **Is resistance less than 0.5 ohm?**	**Yes** GO to I26 . **No** REPAIR circuit 1918 (BN/WH). GO to I31 .
I26 CHECK CIRCUIT 1919 (PK/OG) FOR AN OPEN BETWEEN THE PASSENGER SEAT AND RCM • Measure the resistance between RCM C2041b-18, circuit 1919 (PK/OG), harness side and OCSM C3043-9, circuit 1919 (PK/OG), harness side.	**Yes** GO to I27 . **No** REPAIR circuit 1919 (PK/OG). GO to I31 .



N0010347

- **Is resistance less than 0.5 ohm?**

I27 CHECK FOR A SHORT BETWEEN CIRCUITS 1918 (BN/WH) AND 1919 (PK/OG)	
• Measure the resistance between OCSM C3043-18, circuit 1918 (BN/WH), harness side and OCSM C3043-9, circuit 1919 (PK/OG), harness side.  N0003697 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to I28 . **No** REPAIR circuits 1918 (BN/WH) and 1919 (PK/OG). GO to I31 .
I28 CHECK THE RCM	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good RCM . Refer to Restraints Control Module (RCM) in this section. • Connect: OCSM C3043. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2290 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2290 fault PIDs. • **Do any on-demand DTC B2290 fault PIDs indicate a fault?**	**Yes** INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to I31 . **No** Fault corrected. GO to I31 .
I29 CHECK THE OCS SYSTEM	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition ON. • Enter the following diagnostic mode on the scan tool: OCS System	**Yes** INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to I31 .

Reset.
• **WARNING: Make sure the front passenger seat repair is complete, the seat and all attached components (head restraint, seat side shield, etc.) are correctly assembled, and the seat is correctly installed to the vehicle before carrying out the System Reset. Failure to follow these instructions may result in incorrect operation of the occupant classification sensor (OCS) system and increases the risk of serious personal injury or death in a crash.**
• ***NOTICE:*** **To prevent system failure, it is necessary to carry out the Occupant Classification Sensor (OCS) system reset when a front passenger seat cushion is disassembled, a new trim cover installed or an OCS system service kit is installed. A scan tool is used to carry out the OCS system reset command.**
• ***NOTICE:*** **To prevent system failure, the following precautions must be taken before carrying out the Occupant Classification Sensor (OCS) system reset:**
  ▪ **Make sure the voltage to the OCSM is above 8.0 volts and less than 18.0 volts.**
  ▪ **Make sure the OCS system is not at a temperature below 6℃ (42℉) or above 36℃ (97℉) when initiating the OCS system reset process. If the vehicle has been exposed to extreme cold or hot temperatures, the vehicle must be exposed and kept at a temperature within the limits, 6℃ to 36℃ (42℉ to 97℉) for a minimum of 30 minutes.**
  ▪ **Make sure nothing is present on the passenger seat before carrying out the OCS system reset and nothing is placed on the seat during the process.**
  ▪ **Make sure a minimum 8-second time period has passed after cycling the ignition ON before the carrying out the OCS system reset process.**
• Carry out the OCS system reset.
• If the first system reset attempt was unsuccessful, carry out a thorough visual inspection of the following and repair any concerns found.
  ▪ OCS system connector and wiring for damage
  ▪ Pressure sensor hose for kinks and/or damage
  ▪ Seat-related wiring harness and body wiring harness terminals and connectors for damage
• Carry out a second OCS system reset. If the second attempt is unsuccessful, install a new OCS system service kit. For additional information, refer to Occupant Classification Sensor in this section.
• Ignition OFF.
• **NOTE:** The ignition must be cycled after the OCS system reset.
• Ignition ON.
• Enter the following diagnostic mode on the scan tool: Self Test — RCM .
• Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2290 Fault PIDs .
  ▪ Refer to PID list in Normal Operation to view B2290 fault PIDs.
• **Do any on-demand DTC B2290 fault PIDs indicate a fault?**
	No
	Fault corrected. GO to I31 .

I30 CHECK FOR AN INTERMITTENT FAULT	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Seat Side Air Bag C337. • Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger —	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. Using the fault PIDs recorded, GO to the appropriate pinpoint test step.

RCM — View and Record All 2290 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2290 fault PIDs. • **Do any on-demand DTC B2290 fault PIDs indicate a fault?**	**Vehicles with a production OCS system** For 2290_26_OD (OCS Communications Fault, Front Pass. side), GO to I2 . For 2290_24_OD (OCS Sensing Element Fault, Front Pass. side), GO to I11 . For 2290_27_OD (Generic OCS Module Fault, Front Pass. side), GO to I19 . For 2290_25_OD (OCS Calibration Fault, Front Pass. side), GO to I29 . **Vehicles with a OCS system service kit** For 2290_27_OD (Generic OCS Module Fault, Front Pass. side), GO to I19 . For 2290_26_OD (OCS Communications Fault, Front Pass. side), GO to I20 . For 2290_25_OD (OCS Calibration Fault, Front Pass. side), GO to I29 . For 2290_24_OD (OCS Sensing Element Fault, Front Pass. side), INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to I31 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to I31 .
I31 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test

event of an accidental deployment. • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test J: LFC 33 and 34/DTC B2292

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

Normal Operation

The safety belt retractor pretensioners are activated by the Restraints Control Module (RCM) to remove excessive slack from the safety belt webbing when an impact exceeding preprogrammed limits is detected.

The RCM continuously checks all of the safety belt retractor pretensioners and circuits. If the RCM detects one of the following faults with any of the safety belt retractor pretensioners or circuits, it will store DTC B2292 in memory and flash, depending on the fault indicator, or Lamp Fault Code (LFC) 33 or 34 depending on the fault on the air bag warning indicator.

Fault PIDs [a]	Description	Fault Trigger Condition
2292_24_OD and 2292_24_CM	Pretensioner Circuit Short to Ground, Front Passenger Side	When the RCM senses a short to ground on either of the passenger pretensioner circuits, a fault will be indicated.
2292_25_OD and 2292_25_CM	Pretensioner Circuit Short to Battery, Front Passenger Side	When the RCM senses a short to voltage on either of the passenger pretensioner circuits, a fault will be indicated.
2292_26_OD and 2292_26_CM	Pretensioner Circuit Open, Front Passenger Side	When the RCM measures greater resistance than 5 ohms between the passenger pretensioner circuits, a fault will be indicated.
2292_27_OD and 2292_27_CM	Pretensioner Circuit Resistance Low, Front Passenger Side	When the RCM measures resistance less than 0.9 ohm between the passenger pretensioner circuits, a fault will be indicated.
2292_28_OD and 2292_28_CM	Pretensioner Circuit Short to Ground, Front Driver Side	When the RCM senses a short to ground on either of the driver pretensioner circuits, a fault will be indicated.
2292_29_OD and 2292_29_CM	Pretensioner Circuit Short to Battery, Front Driver Side	When the RCM senses a short to voltage on either of the driver pretensioner circuits, a fault will be indicated.
2292_30_OD and 2292_30_CM	Pretensioner Circuit Open, Front Driver Side	When the RCM measures resistance greater than 5 ohms between the driver pretensioner circuits, a fault will be indicated.
2292_31_OD and 2292_31_CM	Pretensioner Circuit Resistance Low, Front Driver Side	When the RCM measures resistance less than 0.9 ohm between the driver pretensioner circuits, a fault will be indicated.

[a] Fault PIDs that end in OD indicate an on-demand status and are associated with on-demand DTC B2292. Fault PIDs that end in CM indicate continuous memory status and are associated with CMDTC B2292.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Safety belt pretensioner
- RCM

PINPOINT TEST J: LFC 33 AND 34/DTC B2292

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

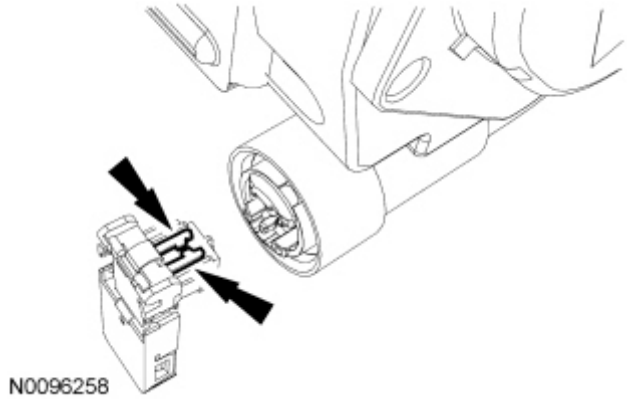
***NOTICE:* Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

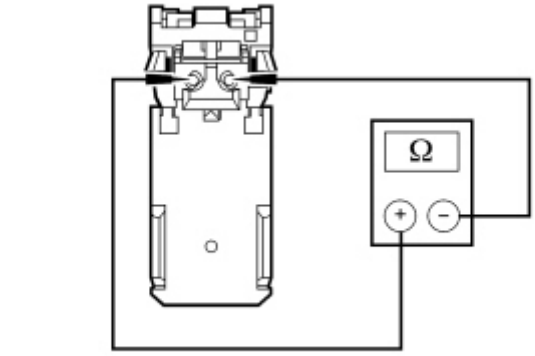
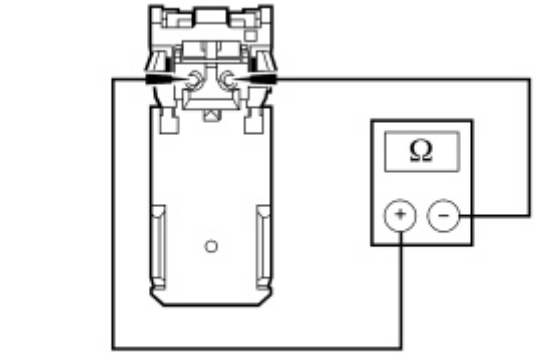
Test Step	Result / Action to Take
J1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2292 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2292 fault PIDs. • **Do any on-demand DTC B2292 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to J2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to J13 .

J2 CHECK THE SAFETY BELT RETRACTOR PRETENSIONER ELECTRICAL CONNECTOR
• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Access the safety belt retractor pretensioner and instpect for the following:
  ▪ the Connector Position Assurance (CPA) tabs are not broken or the clip is not damaged.
  ▪ the CPA clip is fully and correctly seated.
	Yes
	GO to J3
	
	No
	If the CPA clip is damaged or broken, INSTALL a new pigtail connector for the pretensioner using pigtail kit (8U2Z-14S411). GO to J14 .
	
	If the CPA clip is not correctly installed or seated, REPAIR as necessary. GO to J14 .



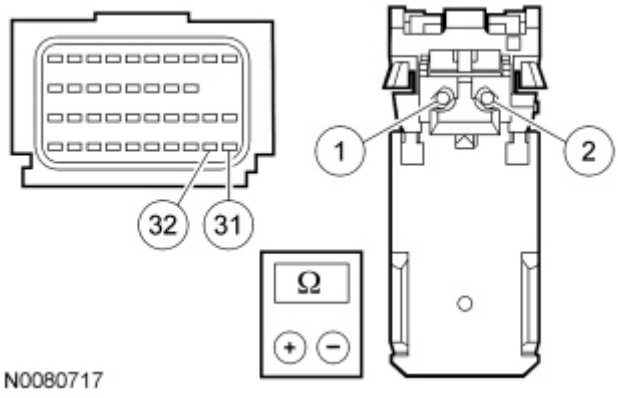
- **Is the CPA clip installed correctly, not damaged, broken and fully seated?**

J3 CHECK THE PRETENSIONERS • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: The Affected Safety Belt Retractor Pretensioner C3338 (Driver) or C3336 (Passenger). • Connect: Restraint System Diagnostic Tool 418-F395 to the Affected Safety Belt Retractor Pretensioner C3338 (Driver) or C3336 (Passenger). • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2292 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2292 fault PIDs. • **Do any on-demand DTC B2292 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. Using the fault PIDs recorded, GO to the appropriate pinpoint test step. For 2292_31_OD (Pretensioner Circuit Resistance Low, Front Driver Side), GO to J4. For 2292_30_OD (Pretensioner Circuit Open, Front Driver Side), GO to J6. For 2292_29_OD (Pretensioner Circuit Short to Battery, Front Driver Side), GO to J8. For 2292_28_OD (Pretensioner Circuit Short to Ground, Front Driver Side), GO to J10. For 2292_27_OD (Pretensioner Circuit Resistance Low, Front Passenger Side), GO to J5. For 2292_26_OD (Pretensioner Circuit Open, Front Passenger Side), GO to J7. For 2292_25_OD (Pretensioner Circuit Short to Battery, Front Passenger Side), GO to J9. For 2292_24_OD (Pretensioner Circuit Short to Ground, Front Passenger Side), GO to J11. **No** INSTALL a new driver or passenger safety belt retractor pretensioner. REFER to Section 501-20A. GO to J14.
J4 CHECK FOR A SHORT BETWEEN THE DRIVER SAFETY BELT	

RETRACTOR PRETENSIONER CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between driver safety belt retractor pretensioner C3338, circuit 1079 (LG/RD), harness side and C3338, circuit 1080 (LG/BK), harness side.  N0042444 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to J12 . **No** REPAIR circuits 1079 (LG/RD) and 1080 (LG/BK). GO to J14 .
J5 CHECK FOR A SHORT BETWEEN THE PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between passenger safety belt retractor pretensioner C3336, circuit 1081 (YE/RD), harness side and C3336, circuit 1082 (LB/BK), harness side.  N0042444 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to J12 . **No** REPAIR circuits 1081 (YE/RD) and 1082 (LB/BK). GO to J14 .
J6 CHECK DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b, harness side and driver safety belt retractor pretensioner C3338, harness side	**Yes** GO to J12 . **No** REPAIR circuit 1079 (LG/RD) or 1080 (LG/BK). GO to J14 .

using the following chart:

RCM	Circuit	Driver Safety Belt Retractor Pretensioner
C2041b-31	1079 (LG/RD)	C3338-2
C2041b-32	1080 (LG/BK)	C3338-1

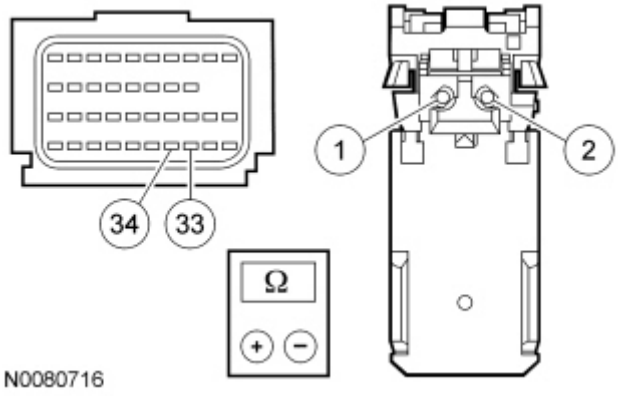


- **Are resistances less than 0.5 ohm?**

J7 CHECK PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR AN OPEN

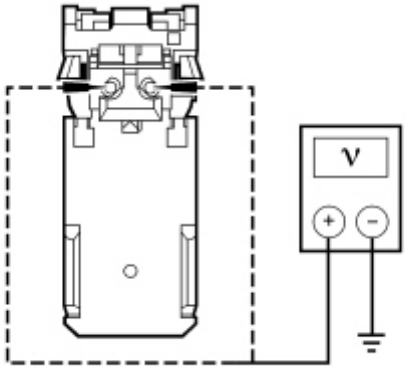
- Ignition OFF.
- Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Disconnect: Passenger Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b, harness side and passenger safety belt retractor pretensioner C3336, harness side using the following chart:

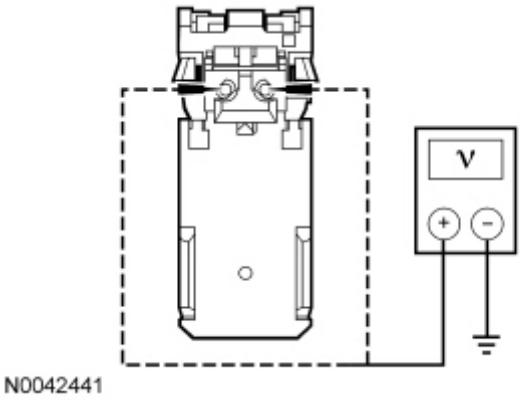
RCM	Circuit	Passenger Safety Belt Retractor Pretensioner
C2041b-33	1081 (YE/RD)	C3336-2
C2041b-34	1082 (LB/BK)	C3336-1



Yes
GO to J12 .

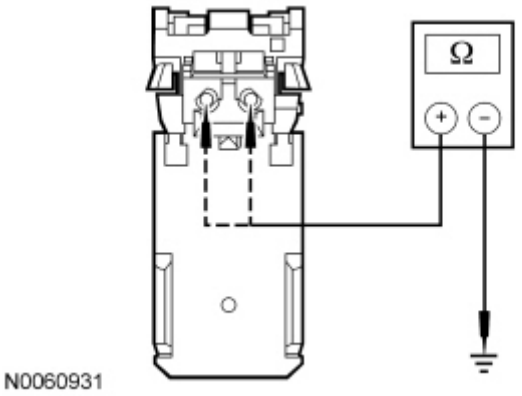
No
REPAIR circuit 1081 (YE/RD) or 1082 (LB/BK). GO to J14 .

• **Are resistances less than 0.5 ohm?**	
J8 CHECK DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between driver safety belt retractor pretensioner: ▪ C3338-2, circuit 1079 (LG/RD), harness side and ground. ▪ C3338-1, circuit 1080 (LG/BK), harness side and ground.  N0042441 • **Is voltage present on either circuit?**	**Yes** REPAIR circuit 1079 (LG/RD) or circuit 1080 (LG/BK). GO to J14 . **No** GO to J12 .
J9 CHECK PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between passenger safety belt retractor pretensioner: ▪ C3336-1, circuit 1082 (LB/BK), harness side and ground. ▪ C3336-2, circuit 1081 (YE/RD), harness side and ground.	**Yes** REPAIR circuit 1081 (YE/RD) or 1082 (LB/BK). GO to J14 . **No** GO to J12 .



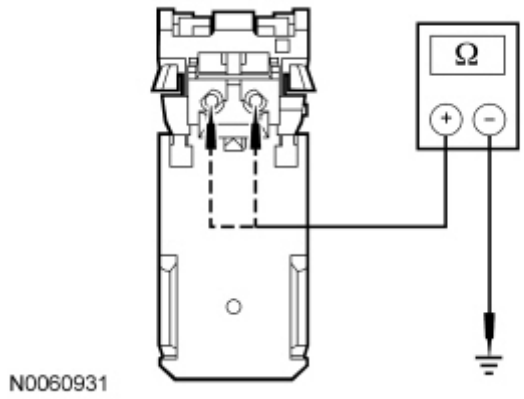
- **Is voltage present on either circuit?**

J10 CHECK DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Driver Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool.
• Disconnect: RCM C2041a and C2041b.
• Measure the resistance between driver safety belt retractor pretensioner:
  ▪ C3338-2, circuit 1079 (LG/RD), harness side and ground.
  ▪ C3338-1, circuit 1080 (LG/BK), harness side and ground.
 
 	
• **Are resistances greater than 10,000 ohms?**
	Yes
	GO to J12 .
	
	No
	REPAIR circuit 1079 (LG/RD) or 1080 (LG/BK). GO to J14 .

J11 CHECK PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Passenger Safety Belt Retractor Pretensioner Restraint Diagnostic System Tool.
• Disconnect: RCM C2041a and C2041b.
• Measure the resistance between passenger safety belt retractor pretensioner:
  ▪ C3336-2, circuit 1081 (YE/RD), harness side and ground.
  ▪ C3336-1, circuit 1082 (LB/BK), harness side and ground.
	Yes
	GO to J12 .
	
	No
	REPAIR circuit 1081 (YE/RD) or 1082 (LB/BK). GO to J14 .



- **Are the resistances greater than 10,000 ohms?**

J12 CONFIRM THE RCM FAULT **NOTE:** Make sure the safety belt retractor pretensioner restraint system diagnostic tool, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Connect: Driver and Passenger Safety Belt Retractor Pretensioner Restraint System Diagnostic Tools. • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2292 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2292 fault PIDs. • **Does the original on-demand DTC B2292 fault PID indicate a fault?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to J14 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to J14 .
J13 CHECK FOR AN INTERMITTENT FAULT • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: The Affected Safety Belt Retractor Pretensioner C3338 (Driver) C3336 (Passenger). • Connect: Restraint System Diagnostic Tool 418-F395 to the Affected Safety Belt Retractor Pretensioner C3338 (Driver) C3336 (Passenger). • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2292 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2292 fault PIDs. • **Do any on-demand DTC B2292 fault PIDs indicate a fault?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. CHECK for causes of the intermittent fault at or near the affected safety belt retractor pretensioner connector. REPAIR any intermittent concerns found. If an intermittent concern **was** found and repaired, GO to J14 . If an intermittent concern **was not** found and repaired, USE the fault PIDs recorded and GO to the appropriate pinpoint test step. For 2292_31_OD (Pretensioner Circuit Resistance Low, Front Driver Side), GO to J4 .

	For 2292_30_OD (Pretensioner Circuit Open, Front Driver Side), GO to J6. For 2292_29_OD (Pretensioner Circuit Short to Battery, Front Driver Side), GO to J8. For 2292_28_OD (Pretensioner Circuit Short to Ground, Front Driver Side), GO to J10. For 2292_27_OD (Pretensioner Circuit Resistance Low, Front Passenger Side), GO to J5. For 2292_26_OD (Pretensioner Circuit Open, Front Passenger Side), GO to J7. For 2292_25_OD (Pretensioner Circuit Short to Battery, Front Passenger Side), GO to J9. For 2292_24_OD (Pretensioner Circuit Short to Ground, Front Passenger Side), GO to J11. **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to J14.
J14 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test K: LFC 19 and 21/DTC B2293

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

Normal Operation

The front air bags will deploy upon receiving a flow of current from the Restraints Control Module (RCM).

The Restraints Control Module (RCM) continuously checks all of the front air bag circuits. If the RCM detects one of the following faults on any of the front air bag circuits, it will store DTC B2293 in memory and flash either Lamp Fault Code (LFC) 19 or 21 depending on the fault on the air bag warning indicator.

Fault PIDs [a]	Description	Fault Trigger Condition
2293_16_OD and 2293_16_CM	Air Bag Inflator Circuit Resistance Low — Loop No. 2, Front Passenger Side	When the RCM measures resistance less than 0.9 ohm between the passenger air bag loop circuits, a fault will be indicated.
2293_17_OD and 2293_17_CM	Air Bag Circuit Open — Loop No. 2, Front Passenger Side	When the RCM measures resistance greater than 5 ohms between the passenger air bag loop circuits, a fault will be indicated.
2293_18_OD and 2293_18_CM	Air Bag Circuit Short to Battery — Loop No. 2, Front Passenger Side	When the RCM senses a short to voltage on either of the passenger air bag loop circuits, a fault will be indicated.
2293_19_OD and 2293_19_CM	Air Bag Circuit Short to Ground — Loop No. 2, Front Passenger Side	When the RCM senses a short to ground on either of the passenger air bag loop circuits, a fault will be indicated.
2293_20_OD and 2293_20_CM	Air Bag Inflator Circuit Resistance Low — Loop No. 2, Front Driver Side	When the RCM measures resistance less than 0.9 ohm between the driver air bag loop circuits, a fault will be indicated.
2293_21_OD and 2293_21_CM	Air Bag Circuit Open — Loop No. 2, Front Driver Side	When the RCM measures resistance greater than 5 ohms between the driver air bag loop circuits, a fault will be indicated.
2293_22_OD and 2293_22_CM	Air Bag Circuit Short to Battery — Loop No. 2, Front Driver Side	When the RCM senses a short to voltage on either of the driver air bag loop circuits, a fault will be indicated.
2293_23_OD and 2293_23_CM	Air Bag Circuit Short to Ground — Loop No. 2, Front Driver Side	When the RCM senses a short to ground on either of the driver air bag loop circuits, a fault will be indicated.
2293_24_OD and 2293_24_CM	Air Bag Inflator Circuit Resistance Low — Loop No. 1, Front Passenger Side	When the RCM measures resistance less than 0.9 ohm between the passenger air bag loop circuits, a fault will be indicated.
2293_25_OD and 2293_25_CM	Air Bag Circuit Open — Loop No. 1, Front Passenger Side	When the RCM measures resistance greater than 5 ohms between the passenger air bag loop circuits, a fault will be indicated.
2293_26_OD and 2293_26_CM	Air Bag Circuit Short to Battery — Loop No. 1, Front Passenger Side	When the RCM senses a short to voltage on either of the passenger air bag loop circuits, a fault will be indicated.
2293_27_OD and 2293_27_CM	Air Bag Circuit Short to Ground — Loop No. 1, Front Passenger Side	When the RCM senses a short to ground on either of the passenger air bag loop circuits, a fault will be indicated.
2293_28_OD and 2293_28_CM	Air Bag Inflator Circuit Resistance Low — Loop No. 1, Front Driver Side	When the RCM measures resistance less than 0.9 ohm between the driver air bag loop circuits, a fault will be indicated.
2293_29_OD and 2293_29_CM	Air Bag Circuit Open — Loop No. 1, Front Driver Side	When the RCM measures resistance greater than 5 ohms between the driver air bag loop circuits, a fault will be indicated.
2293_30_OD and 2293_30_CM	Air Bag Circuit Short to Battery — Loop No. 1, Front Driver Side	When the RCM senses a short to voltage on either of the driver air bag loop circuits, a fault will be indicated.
2293_31_OD and	Air Bag Circuit Short to Ground —	When the RCM senses a short to ground on either

2293_31_CM	Loop No. 1, Front Driver Side	of the driver air bag loop circuits, a fault will be indicated.

[a] Fault PIDs that end in OD indicate an on-demand status and are associated with on-demand DTC B2293. Fault PIDs that end in CM indicate continuous memory status and are associated with continuous DTC B2293.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Clockspring
- Driver/passenger air bag module
- RCM

PINPOINT TEST K: LFC 19 AND 21/DTC B2293

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
K1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2293 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2293 fault PIDs. • **Do any on-demand DTC B2293 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to K2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to K38 .
K2 CHECK THE DRIVER AND THE PASSENGER AIR BAG MODULES	

• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• If the fault PID was reported for the driver air bag module:
  ▪ remove the driver air bag module. Refer to Driver Air Bag Module in this section.
  ▪ connect Restraint System Diagnostic Tool 418-F395 (2 required) to the driver air bag module loop 1 and loop 2 connectors.
	Yes
	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.
	
	Using the fault PIDs recorded in the Step K1, GO to the appropriate pinpoint test step.

- If the fault PID was reported for the passenger air bag module:
  - disconnect passenger air bag module C256.
  - connect Restraint System Diagnostic Tool 418-F403 to passenger air bag module C256.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2293 Fault PIDs .
  - Refer to PID list in Normal Operation to view B2293 fault PIDs.
- **Do any on-demand DTC B2293 fault PIDs indicate a fault?**

For 2293_31_OD (Air Bag Circuit Short to Ground - Loop No. 1, Front Driver Side), GO to K3 .

For 2293_30_OD (Air Bag Circuit Short to Battery - Loop No. 1, Front Driver Side), GO to K5 .

For 2293_29_OD (Air Bag Circuit Open - Loop No. 1, Front Driver Side), GO to K7 .

For 2293_28_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 1, Front Driver Side), GO to K11 .

For 2293_27_OD (Air Bag Circuit Short to Ground - Loop No. 1, Front Passenger Side), GO to K14 .

For 2293_26_OD (Air Bag Circuit Short to Battery - Loop No. 1, Front Passenger Side), GO to K15 .

For 2293_25_OD (Air Bag Circuit Open - Loop No. 1, Front Passenger Side), GO to K16 .

For 2293_24_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 1, Front Passenger Side), GO to K18 .

For 2293_23_OD (Air Bag Circuit Short to Ground - Loop No. 2, Front Driver Side), GO to K20 .

For 2293_22_OD (Air Bag Circuit Short to Battery - Loop No. 2, Front Driver Side), GO to K22 .

For 2293_21_OD (Air Bag Circuit Open - Loop No. 2, Front Driver Side), GO to K24 .

For 2293_20_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 2, Front Driver Side), GO to K28 .

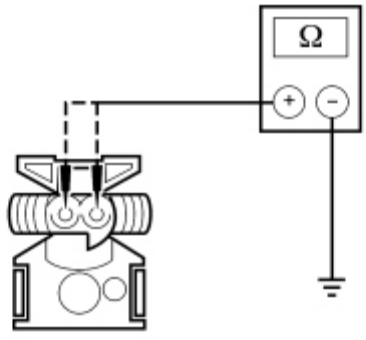
For 2293_19_OD (Air Bag Circuit Short to Ground - Loop No. 2, Front Passenger Side), GO to K31 .

For 2293_18_OD (Air Bag Circuit Short to Battery - Loop No. 2, Front Passenger Side), GO to K32 .

For 2293_17_OD (Air Bag Circuit Open - Loop No. 2, Front Passenger Side), GO to K33 .

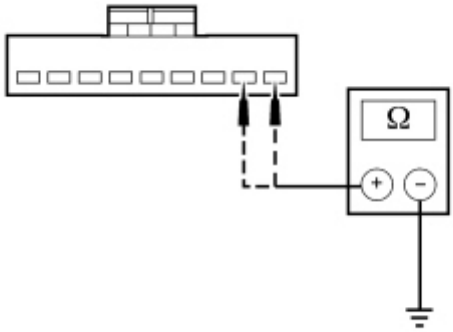
For 2293_16_OD (Air Bag Inflator

	Circuit Resistance Low - Loop No. 2, Front Passenger Side), GO to K35 . **No** If a fault PID was against driver air bag module in Step K1, INSTALL a new driver air bag module. REFER to Driver Air Bag Module in this section. GO to K39 . If a fault PID was against passenger air bag module in Step K1, INSTALL a new passenger air bag module. REFER to Passenger Air Bag Module in this section. GO to K39 .
K3 CHECK DRIVER AIR BAG MODULE LOOP 1 CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: RCM C2041a and C2041b.
• Disconnect: Driver Air Bag Module Loop 1 Restraint System Diagnostic Tool.
• Measure the resistance between driver air bag module:
  ▪ loop 1 electrical connector, circuit 614 (GY/OG), harness side and ground.
  ▪ loop 1 electrical connector, circuit 615 (GY/WH), harness side and ground.
 	
 
 	
A0088716
 	
• **Are the resistances greater than 10,000 ohms?**
	Yes
	GO to K37 .
	
	No
	GO to K4 .

K4 CHECK DRIVER AIR BAG MODULE LOOP 1 CIRCUITS FOR A SHORT TO GROUND BETWEEN THE RCM AND CLOCKSPRING	

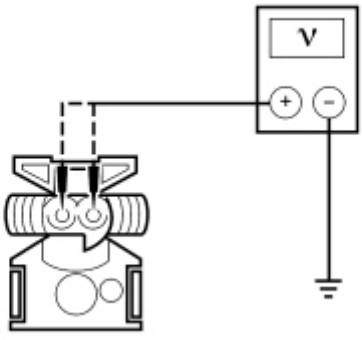
• Disconnect: Clockspring C2274.
• Measure the resistance between clockspring:
  ▪ C2274-1, circuit 614 (GY/OG), harness side and ground.
  ▪ C2274-2, circuit 615 (GY/WH), harness side and ground.
	Yes
	INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39 .
	
	No
	Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.
	
	REPAIR circuit 614 (GY/OG) or 615 (GY/WH). GO to K39 .



A0088717

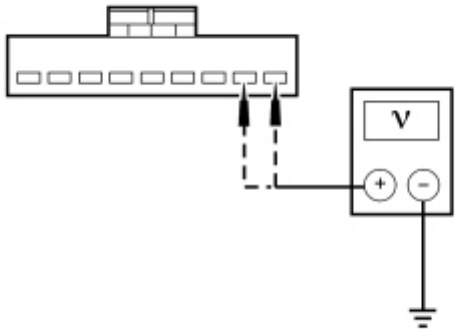
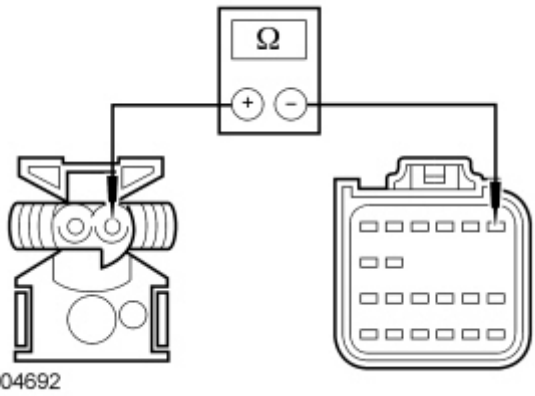
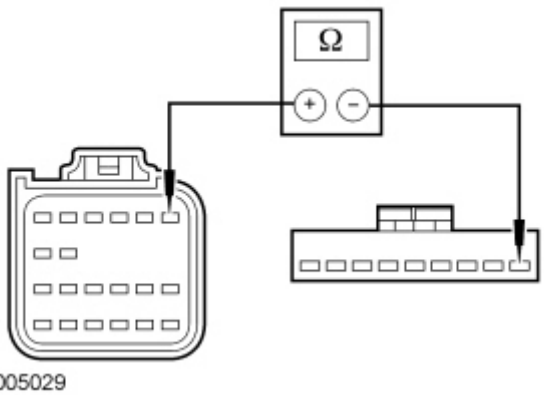
- **Are the resistances greater than 10,000 ohms?**

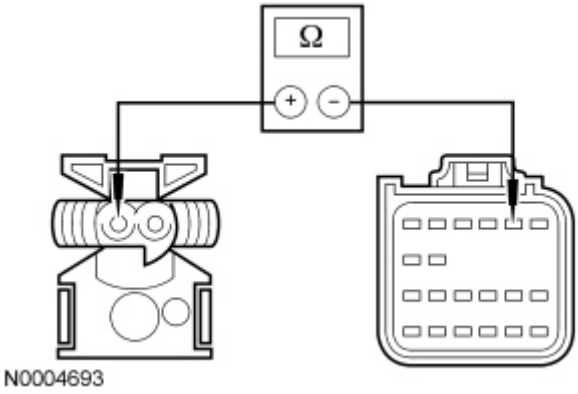
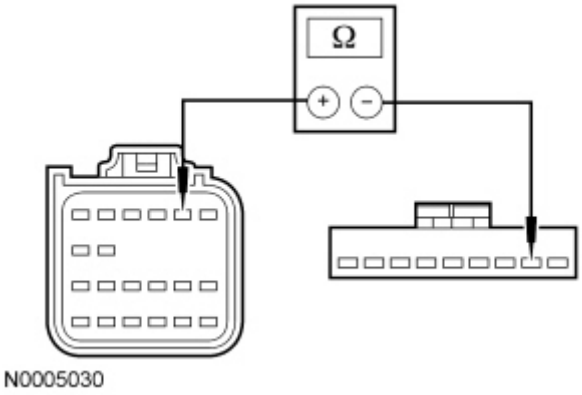
K5 CHECK DRIVER AIR BAG MODULE LOOP 1 CIRCUITS FOR A SHORT TO VOLTAGE	

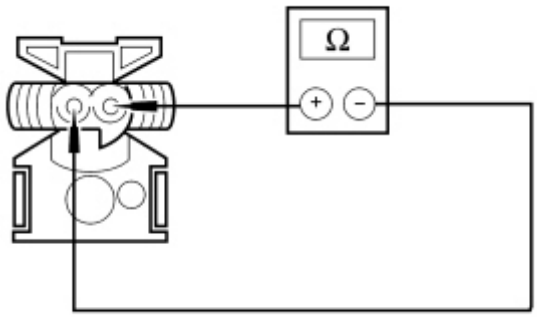
• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Driver Air Bag Module Loop 1 Restraint System Diagnostic Tool.
• Disconnect: RCM C2041a and C2041b.
• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between driver air bag module:
  ▪ loop 1 electrical connector, circuit 614 (GY/OG), harness side and ground.
  ▪ loop 1 electrical connector, circuit 615 (GY/WH), harness side and ground.
 
 	
A0088715
• **Is voltage present on either circuit?**
	Yes
	GO to K6 .
	
	No
	GO to K37 .

K6 CHECK DRIVER AIR BAG MODULE LOOP 1 CIRCUITS FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND CLOCKSPRING	

• Ignition OFF.
• Disconnect: Clockspring C2274.
• Ignition ON.
• Measure the voltage between clockspring:
  ▪ C2274-1, circuit 614 (GY/OG), harness side and ground.
  ▪ C2274-2, circuit 615 (GY/WH), harness side and ground.
	Yes
	Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.
	
	REPAIR circuit 614 (GY/OG) or 615 (GY/WH). GO to K39 .
	
	No
	INSTALL a new clockspring. REFER to Clockspring in this

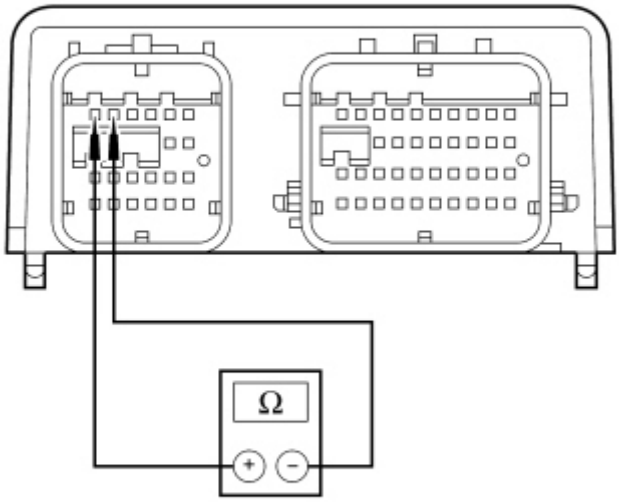
 A0088718 • **Is voltage present on either circuit?**	section. GO to K39 .
K7 CHECK FOR AN OPEN ON CIRCUIT 614 (GY/OG) BETWEEN THE RCM AND DRIVER AIR BAG MODULE LOOP 1	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Air Bag Module Loop 1 Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-1, circuit 614 (GY/OG), harness side and driver air bag module loop 1 electrical connector, circuit 614 (GY/OG), harness side.  N0004692 • **Is resistance less than 0.5 ohm?**	**Yes** GO to K9 . **No** GO to K8 .
K8 CHECK FOR AN OPEN ON CIRCUIT 614 (GY/OG) BETWEEN THE RCM AND CLOCKSPRING	
• Disconnect: Clockspring C2274. • Measure the resistance between RCM C2041a-1, circuit 614 (GY/OG), harness side and clockspring C2274-1, circuit 614 (GY/OG), harness side.  N0005029	**Yes** INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39 . **No** REPAIR circuit 614 (GY/OG). GO to K39 .

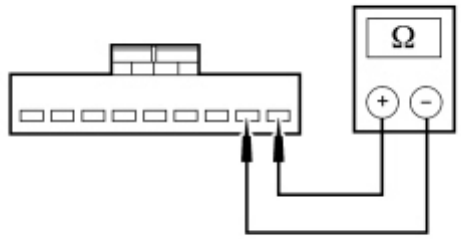
• **Is resistance less than 0.5 ohm?**	
K9 CHECK FOR AN OPEN ON CIRCUIT 615 (GY/WH) BETWEEN THE RCM AND DRIVER AIR BAG MODULE LOOP 1	
• Measure the resistance between RCM C2041a-2, circuit 615 (GY/WH), harness side and driver air bag module loop 1 electrical connector, circuit 615 (GY/WH), harness side.  N0004693 • **Is resistance less than 0.5 ohm?**	**Yes** GO to K37 . **No** GO to K10 .
K10 CHECK FOR AN OPEN ON CIRCUIT 615 (GY/WH) BETWEEN THE RCM AND CLOCKSPRING	
• Disconnect: Clockspring C2274. • Measure the resistance between RCM C2041a-2, circuit 615 (GY/WH), harness side and clockspring C2274-2, circuit 615 (GY/WH), harness side.  N0005030 • **Is resistance less than 0.5 ohm?**	**Yes** INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39 . **No** REPAIR circuit 615 (GY/WH). GO to K39 .
K11 CHECK FOR A SHORT BETWEEN DRIVER AIR BAG LOOP 1 CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Air Bag Module Loop 1 Restraint System Diagnostic Tool. • Measure the resistance between driver air bag module loop 1 electrical connector, circuit 614 (GY/OG), harness side and circuit 615 (GY/WH), harness side.	**Yes** GO to K37 . **No** GO to K12 .



A0030492

- **Is resistance greater than 10,000 ohms?**

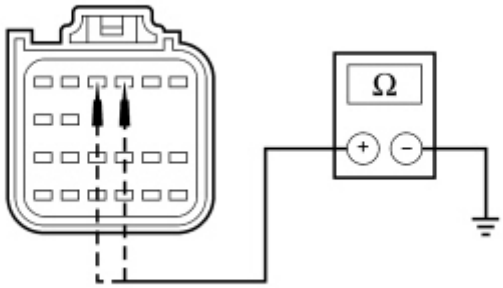
K12 CHECK THE RCM FOR LOW RESISTANCE	
• Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a pin 1, component side and pin 2, component side.  A0041266 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to K13 . **No** GO to K37 .
K13 CHECK FOR A SHORT BETWEEN CIRCUITS 614 (GY/OG) AND 615 (GY/WH)	
• Connect: RCM C2041a and C2041b. • Disconnect: Clockspring C2274. • Measure the resistance between clockspring C2274-1, circuit 614 (GY/OG), harness side and C2274-2, circuit 615 (GY/WH), harness side.	**Yes** INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39 . **No** REPAIR circuits 614 (GY/OG) and 615 (GY/WH). GO to K39 .



A0088719

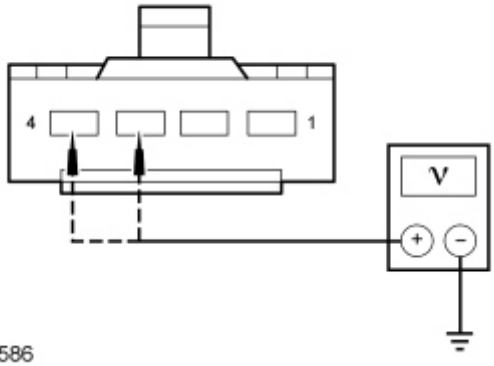
- **Is resistance greater than 10,000 ohms?**

K14 CHECK PASSENGER AIR BAG MODULE LOOP 1 CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool.
• Disconnect: RCM C2041a and C2041b.
• Measure the resistance between RCM :
  ▪ C2041a-3, circuit 607 (LB/OG), harness side and ground.
  ▪ C2041a-4, circuit 616 (PK/BK), harness side and ground.
 
 	
A0041267
• **Are the resistances greater than 10,000 ohms?**
	Yes
	GO to K37 .
	
	No
	Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.
	
	REPAIR circuit 607 (LB/OG) or 616 (PK/BK). GO to K39 .

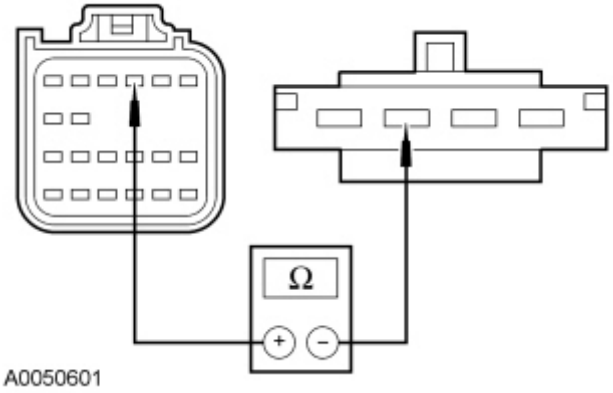
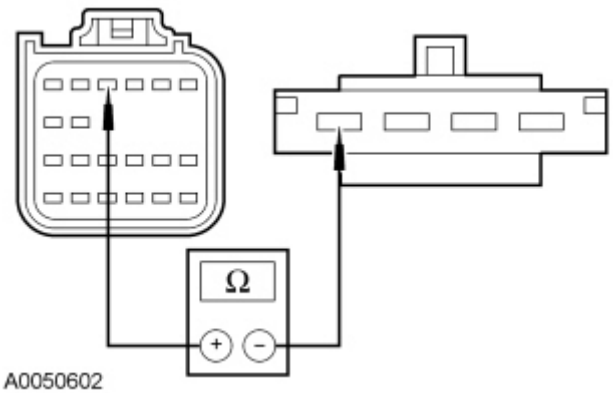
K15 CHECK PASSENGER AIR BAG MODULE LOOP 1 CIRCUITS FOR A SHORT TO VOLTAGE	

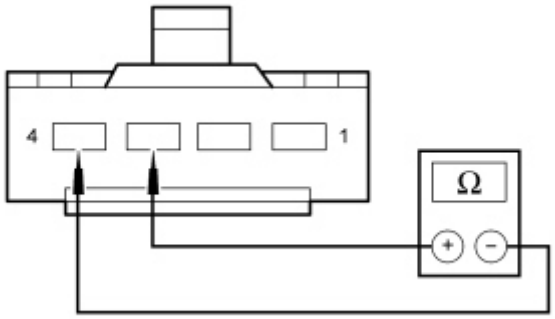
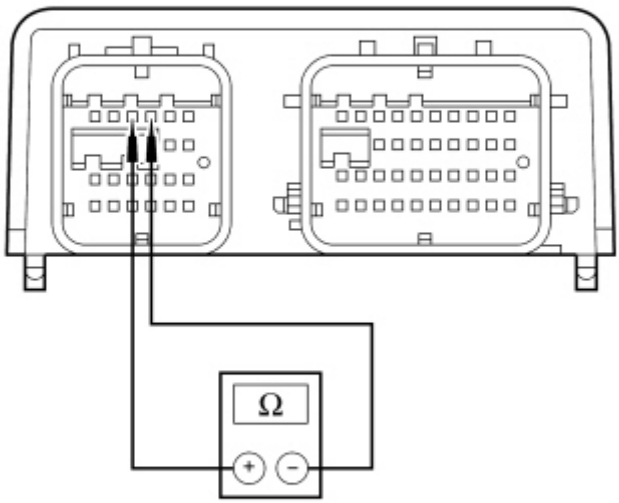
• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool.
• Disconnect: RCM C2041a and C2041b.
• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between passenger air bag module:
  ▪ C256-3, circuit 607 (LB/OG), harness side and ground.
  ▪ C256-4, circuit 616 (PK/BK), harness side and ground.
	Yes
	Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.
	
	REPAIR circuit 607 (LB/OG) or 616 (PK/BK). GO to K39 .
	
	No
	GO to K37 .

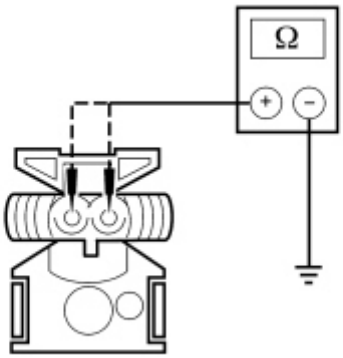


A0088586

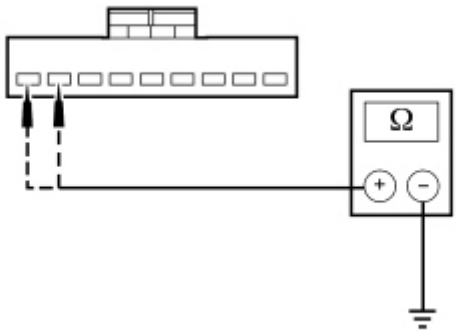
- **Is voltage present on either circuit?**

K16 CHECK FOR AN OPEN ON CIRCUIT 607 (LB/OG) BETWEEN THE RCM AND PASSENGER AIR BAG MODULE LOOP 1	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-3, circuit 607 (LB/OG), harness side and passenger air bag module C256-3, circuit 607 (LB/OG), harness side.  A0050601 • **Is resistance less than 0.5 ohm?**	**Yes** GO to K17 . **No** REPAIR circuit 607 (LB/OG). GO to K39 .
K17 CHECK FOR AN OPEN ON CIRCUIT 616 (PK/BK) BETWEEN THE RCM AND PASSENGER AIR BAG MODULE LOOP 1	
• Measure the resistance between RCM C2041a-4, circuit 616 (PK/BK), harness side and passenger air bag module C256-4, circuit 616 (PK/BK), harness side.  A0050602 • **Is resistance less than 0.5 ohm?**	**Yes** GO to K37 . **No** REPAIR circuit 616 (PK/BK). GO to K39 .

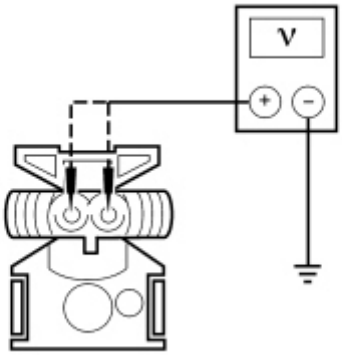
K18 CHECK FOR A SHORT BETWEEN PASSENGER AIR BAG MODULE LOOP 1 CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool. • Measure the resistance between passenger air bag module C256-3, circuit 607 (LB/OG), harness side and C256-4, circuit 616 (PK/BK), harness side.  A0029872 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to K37 . **No** GO to K19 .
K19 CHECK THE RCM FOR LOW RESISTANCE	
• Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a pin 3, component side and pin 4, component side.  A0041271 • **Is resistance greater than 10,000 ohms?**	**Yes** REPAIR circuits 607 (LB/OG) and 616 (PK/BK). GO to K39 . **No** GO to K37 .
K20 CHECK DRIVER AIR BAG MODULE LOOP 2 CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: RCM C2041a and C2041b.
• Disconnect: Driver Air Bag Module Loop 2 Restraint System Diagnostic Tool.
• Measure the resistance between driver air bag module:
  ▪ loop 2 electrical connector, circuit 1516 (YE/WH), harness side and ground.
  ▪ loop 2 electrical connector, circuit 1517 (RD/OG), harness side and ground.
 
 	
A0094161
• **Are the resistances greater than 10,000 ohms?**
	Yes
	GO to K37.
	
	No
	GO to K21.

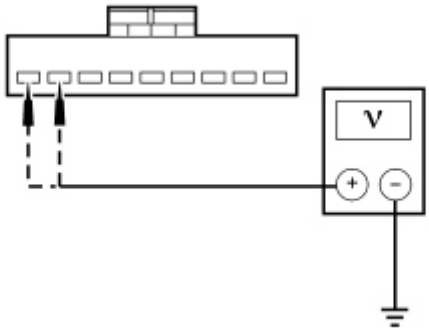
K21 CHECK DRIVER AIR BAG MODULE LOOP 2 CIRCUITS FOR A SHORT TO GROUND	

• Disconnect: Clockspring C2274.
• Measure the resistance between clockspring:
  ▪ C2274-8, circuit 1516 (YE/WH), harness side and ground.
  ▪ C2274-9, circuit 1517 (RD/OG), harness side and ground.
 
 	
A0088721
• **Are the resistances greater than 10,000 ohms?**
	Yes
	INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39.
	
	No
	Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.
	
	REPAIR circuit 1516 (YE/WH) or 1517 (RD/OG). GO to K39.

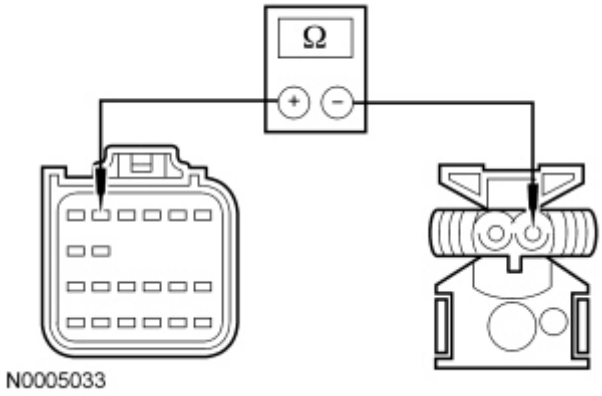
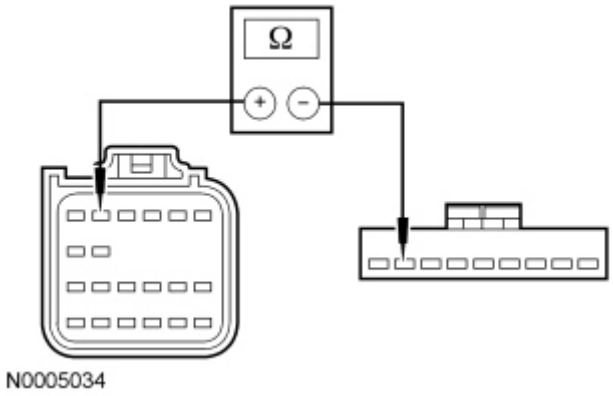
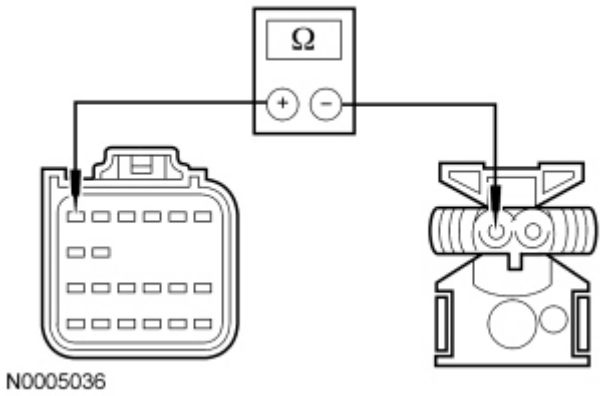
K22 CHECK DRIVER AIR BAG MODULE LOOP 2 CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Air Bag Module Loop 2 Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.	**Yes** GO to K23. **No** GO to K37.

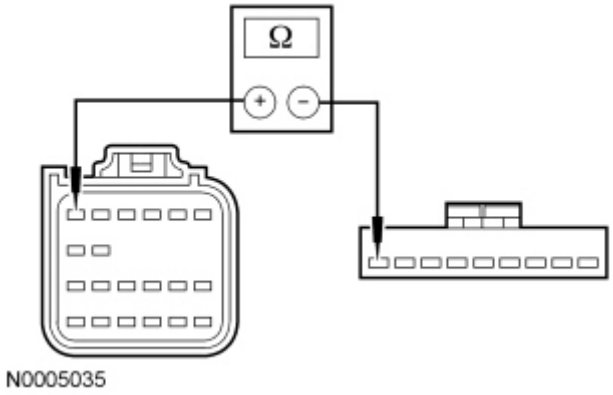
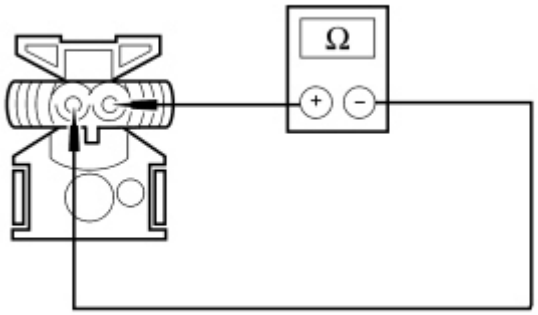
• Ignition ON.
• Measure the voltage between driver air bag module:
  ▪ loop 2 electrical connector, circuit 1516 (YE/WH), harness side and ground.
  ▪ loop 2 electrical connector, circuit 1517 (RD/OG), harness side and ground.
 
 	
A0094162
• **Is voltage present on either circuit?**	

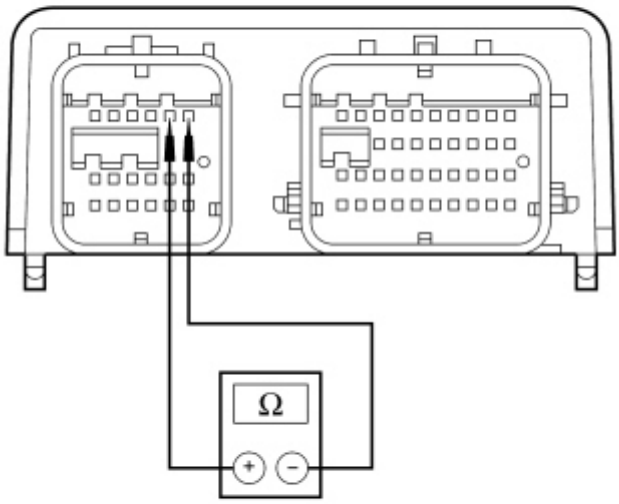
K23 CHECK DRIVER AIR BAG MODULE LOOP 2 CIRCUITS FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND CLOCKSPRING	

• Ignition OFF.
• Disconnect: Clockspring C2274.
• Ignition ON.
• Measure the voltage between clockspring connector:
  ▪ C2274-8, circuit 1516 (YE/WH), harness side and ground.
  ▪ C2274-9, circuit 1517 (RD/OG), harness side and ground.
 
 	
A0088722
• **Is voltage present on either circuit?**
	Yes
	Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.
	
	REPAIR circuit 1516 (YE/WH) or 1517 (RD/OG). GO to K39.
	
	No
	INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39.

K24 CHECK FOR AN OPEN ON CIRCUIT 1516 (YE/WH) BETWEEN THE RCM AND DRIVER AIR BAG MODULE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Air Bag Module Loop 2 Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-5, circuit 1516 (YE/WH), harness side and driver air bag module loop 2, circuit 1516 (YE/WH), harness side.	**Yes** GO to K26. **No** GO to K25.

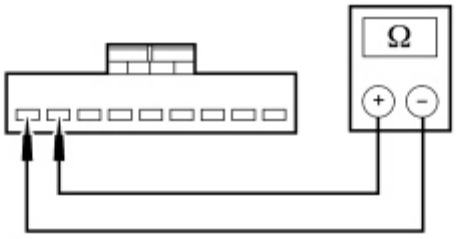
 N0005033 • **Is resistance less than 0.5 ohm?**	
K25 CHECK FOR AN OPEN ON CIRCUIT 1516 (YE/WH) BETWEEN THE RCM AND CLOCKSPRING	
• Disconnect: Clockspring C2274. • Measure the resistance between RCM C2041a-5, circuit 1516 (YE/WH), harness side and clockspring C2274-8, circuit 1516 (YE/WH), harness side.  N0005034 • **Is resistance less than 0.5 ohm?**	**Yes** INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39 . **No** REPAIR circuit 1516 (YE/WH). GO to K39 .
K26 CHECK FOR AN OPEN ON CIRCUIT 1517 (RD/OG) BETWEEN THE RCM AND DRIVER AIR BAG MODULE	
• Measure the resistance between RCM C2041a-6, circuit 1517 (RD/OG), harness side and driver air bag module loop 2, circuit 1517 (RD/OG), harness side.  N0005036 • **Is resistance less than 0.5 ohm?**	**Yes** GO to K37 . **No** GO to K27 .
K27 CHECK FOR AN OPEN ON CIRCUIT 1517 (RD/OG) BETWEEN THE RCM AND CLOCKSPRING	
• Disconnect: Clockspring C2274. • Measure the resistance between RCM C2041a-6, circuit 1517	**Yes** INSTALL a new clockspring.

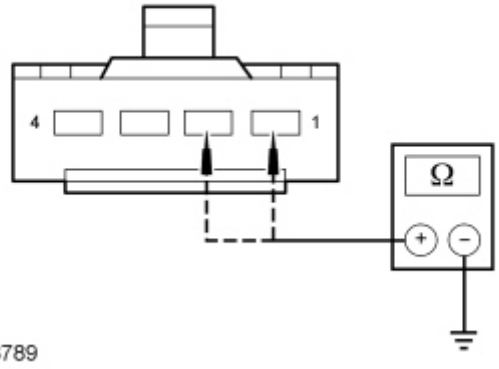
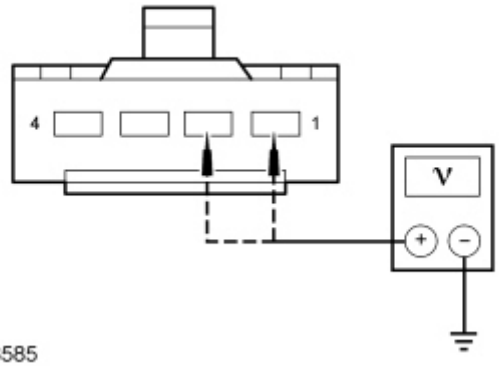
(RD/OG), harness side and clockspring C2274-9, circuit 1517 (RD/OG), harness side.  N0005035 • **Is resistance less than 0.5 ohm?**	REFER to Clockspring in this section. GO to K39 . **No** REPAIR circuit 1517 (RD/OG). GO to K39 .
K28 CHECK FOR A SHORT BETWEEN DRIVER AIR BAG MODULE LOOP 2 CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Air Bag Module Loop 2 Restraint System Diagnostic Tool. • Measure the resistance between driver air bag module loop 2 electrical connector, circuit 1516 (YE/WH), harness side, and circuit 1517 (RD/OG), harness side.  A0030495 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to K37 . **No** GO to K29 .
K29 CHECK THE RCM FOR LOW RESISTANCE	
• Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a pin 5, component side and pin 6, component side.	**Yes** GO to K30 . **No** GO to K37 .

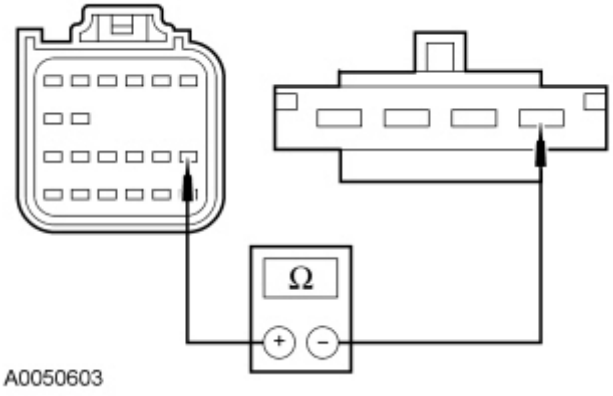


A0041276

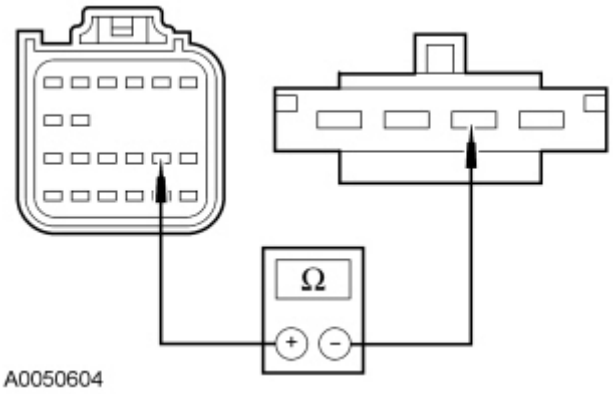
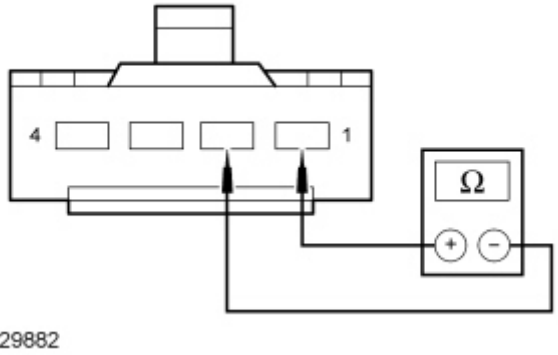
- **Is resistance greater than 10,000 ohms?**

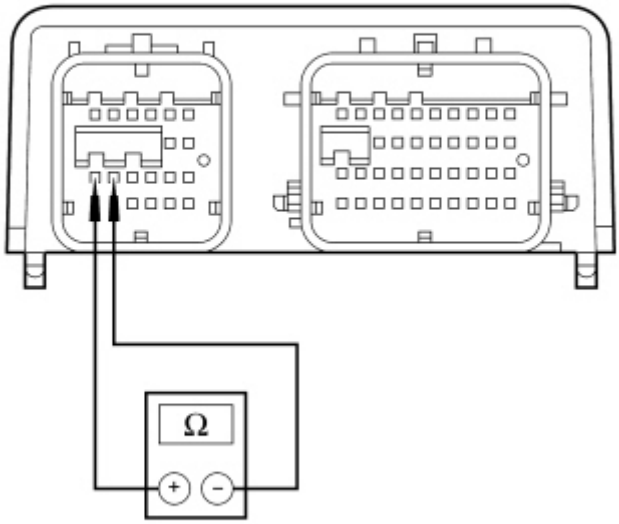
K30 CHECK FOR A SHORT BETWEEN DRIVER AIR BAG MODULE LOOP 2 CIRCUITS	
• Connect: RCM C2041a and C2041b. • Disconnect: Clockspring C2274. • Measure the resistance between clockspring C2274-8, circuit 1516 (YE/WH), harness side and C2274-9, circuit 1517 (RD/OG), harness side.  A0088725 • **Is resistance greater than 10,000 ohms?**	**Yes** INSTALL a new clockspring. REFER to Clockspring in this section. GO to K39 . **No** REPAIR circuits 1516 (YE/WH) and 1517 (RD/OG). GO to K39 .
K31 CHECK PASSENGER AIR BAG MODULE LOOP 2 CIRCUITS FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between passenger air bag module: ▪ C256-1, circuit 1518 (RD/WH), harness side and ground.	**Yes** GO to K37 . **No** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

■ C256-2, circuit 1519 (LG/RD), harness side and ground.  A0088789 • **Are the resistances greater than 10,000 ohms?**	REPAIR circuit 1518 (RD/WH) or 1519 (LG/RD). GO to K39 .
K32 CHECK PASSENGER AIR BAG MODULE LOOP 2 CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between passenger air bag module: ■ C256-1, circuit 1518 (RD/WH), harness side and ground. ■ C256-2, circuit 1519 (LG/RD), harness side and ground.  A0088585 • **Is voltage present on either circuit?**	**Yes** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit 1518 (RD/WH) or 1519 (LG/RD). GO to K39 . **No** GO to K37 .
K33 CHECK FOR AN OPEN ON CIRCUIT 1518 (RD/WH) BETWEEN THE RCM AND PASSENGER AIR BAG MODULE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-13, circuit 1518 (RD/WH), harness side and passenger air bag module C256-1, circuit 1518 (RD/WH), harness side.	**Yes** GO to K34 . **No** REPAIR circuit 1518 (RD/WH). GO to K39 .



- **Is resistance less than 0.5 ohm?**

K34 CHECK FOR AN OPEN ON CIRCUIT 1519 (LG/RD) BETWEEN THE RCM AND PASSENGER AIR BAG MODULE	
• Measure the resistance between RCM C2041a-14, circuit 1519 (LG/RD), harness side and passenger air bag module C256-2, circuit 1519 (LG/RD), harness side.  • **Is resistance less than 0.5 ohm?**	**Yes** GO to K37 . **No** REPAIR circuit 1519 (LG/RD). GO to K39 .
K35 CHECK FOR A SHORT BETWEEN PASSENGER AIR BAG MODULE LOOP 2 CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool. • Measure the resistance between passenger air bag module C256-1, circuit 1518 (RD/WH), harness side and C256-2, circuit 1519 (LG/RD), harness side.  • **Is resistance greater than 10,000 ohms?**	**Yes** GO to K37 . **No** GO to K36 .
K36 CHECK THE RCM FOR LOW RESISTANCE	

• Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a pin 13, component side and pin 14, component side.  A0041281 • **Is resistance greater than 10,000 ohms?**	**Yes** REPAIR circuits 1518 (RD/WH) and 1519 (LG/RD). GO to K39 . **No** GO to K37 .
K37 CONFIRM THE RCM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Connect: Driver or Passenger Air Bag Module Restraint System Diagnostic Tool(s). • Connect: RCM C2041a and C2041b. • Connect: Clockspring C2274 (if previously disconnected). • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2293 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2293 fault PIDs. • **Does the original on-demand DTC B2293 fault PID indicate a fault?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to K39 . **No** Fault corrected. GO to K39 .
K38 CHECK FOR AN INTERMITTENT FAULT	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • If the fault PID was reported for the driver air bag module: ▪ remove the driver air bag module. Refer to Driver Air Bag Module in this section. ▪ connect restraint system diagnostic tools 418-F395 (2	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

required) to driver air bag module loop 1 and loop 2 connectors. • If the fault PID was reported for the passenger air bag module: ▪ disconnect passenger air bag module C256. ▪ connect Restraint System Diagnostic Tool 418-F403 to passenger air bag module C256. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2293 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2293 fault PIDs. • **Do any on-demand DTC B2293 fault PIDs indicate a fault?**	CHECK for causes of the intermittent fault at or near the affected air bag module connector. REPAIR any intermittent concerns found. If an intermittent concern **was** found and repaired, GO to K39 . If an intermittent concern **was not** found, use the fault PIDs recorded and GO to the appropriate pinpoint test step. For 2293_31_OD (Air Bag Circuit Short to Ground - Loop No. 1, Front Driver Side), GO to K3 . For 2293_30_OD (Air Bag Circuit Short to Battery - Loop No. 1, Front Driver Side), GO to K5 . For 2293_29_OD (Air Bag Circuit Open - Loop No. 1, Front Driver Side), GO to K7 . For 2293_28_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 1, Front Driver Side), GO to K11 . For 2293_27_OD (Air Bag Circuit Short to Ground - Loop No. 1, Front Passenger Side), GO to K14 . For 2293_26_OD (Air Bag Circuit Short to Battery - Loop No. 1, Front Passenger Side), GO to K15 . For 2293_25_OD (Air Bag Circuit Open - Loop No. 1, Front Passenger Side), GO to K16 . For 2293_24_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 1, Front Passenger Side), GO to K18 . For 2293_23_OD (Air Bag Circuit Short to Ground - Loop No. 2, Front Driver Side), GO to K20 . For 2293_22_OD (Air Bag Circuit Short to Battery - Loop No. 2, Front Driver Side), GO to K22 . For 2293_21_OD (Air Bag Circuit Open - Loop No. 2, Front Driver Side), GO to K24 . For 2293_20_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 2, Front Driver Side), GO to K28 . For 2293_19_OD (Air Bag Circuit

	Short to Ground - Loop No. 2, Front Passenger Side), GO to K31 . For 2293_18_OD (Air Bag Circuit Short to Battery - Loop No. 2, Front Passenger Side), GO to K32 . For 2293_17_OD (Air Bag Circuit Open - Loop No. 2, Front Passenger Side), GO to K33 . For 2293_16_OD (Air Bag Inflator Circuit Resistance Low - Loop No. 2, Front Passenger Side), GO to K35 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness, cycling the ignition frequently and rotating the steering wheel (driver air bag module fault). **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to K39 .
K39 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test L: LFC 22 and 23/DTC B2295

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

The seat side air bags will deploy upon receiving a flow of current from the Restraints Control Module (RCM).

The RCM continuously checks all of the seat side air bags and circuits. If the RCM detects one of the following faults on any of the seat side air bag circuits, it will store DTC B2295 in memory and flash either Lamp Fault Code (LFC) 22 or 23 depending on the fault on the air bag warning indicator.

Fault PIDs [a]	Description	Fault Trigger Condition
2295_24_OD and 2295_24_CM	Side Air Bag Circuit Resistance Low, Front Passenger Side	When the RCM measures less than 0.9 ohm between the passenger side air bag module circuits, a fault will be indicated.
2295_25_OD and 2295_25_CM	Side Air Bag Circuit Open, Front Passenger Side	When the RCM measures greater than 5 ohms between the passenger side air bag module circuits, a fault will be indicated.
2295_26_OD and 2295_26_CM	Side Air Bag Circuit Short to Ground, Front Passenger Side	When the RCM senses a short to ground on either of the passenger side air bag module circuits, a fault will be indicated.
2295_27_OD and 2295_27_CM	Side Air Bag Circuit Short to Battery, Front Passenger Side	When the RCM senses a short to voltage on either of the passenger side air bag module circuits, a fault will be indicated.
2295_28_OD and 2295_28_CM	Side Air Bag Circuit Resistance Low, Front Driver Side	When the RCM measures less than 0.9 ohm between the driver side air bag module circuits, a fault will be indicated.
2295_29_OD and 2295_29_CM	Side Air Bag Circuit Open, Front Driver Side	When the RCM measures greater than 5 ohms between the driver side air bag module circuits, a fault will be indicated.
2295_30_OD and 2295_30_CM	Side Air Bag Circuit Short to Ground, Front Driver Side	When the RCM senses a short to ground on either of the driver side air bag module circuits, a fault will be indicated.
2295_31_OD and 2295_31_CM	Side Air Bag Circuit Short to Battery, Front Driver Side	When the RCM senses a short to voltage on either of the driver side air bag module circuits, a fault will be indicated.

[a] Fault PIDs that end in OD indicate an on-demand status and are associated with on-demand DTC B2295. Fault PIDs that end in CM indicate continuous memory status and are associated with continuous DTC B2295.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat side air bag module
- RCM

PINPOINT TEST L: LFC 22 AND 23/DTC B2295

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

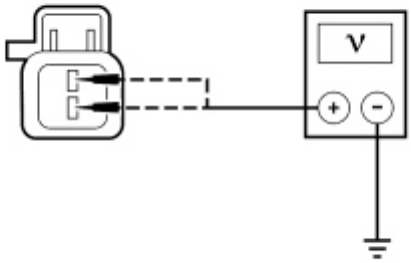
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

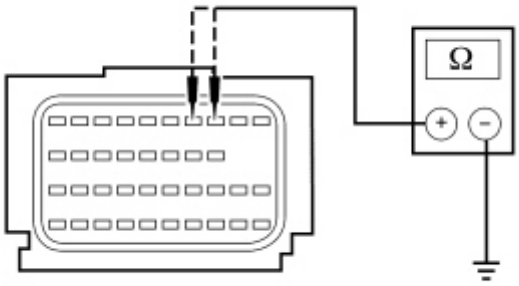
NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
L1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2295 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2295 fault PIDs. • **Do any on-demand DTC B2295 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to L2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to L16 .
L2 CHECK THE DRIVER AND PASSENGER SEAT SIDE AIR BAG MODULES	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Affected Seat Side Air Bag Module C367 (Driver) or C337 (Passenger). • Connect: Restraint System Diagnostic Tool 418-133 to Affected Seat Side Air Bag Module C367 (Driver) or C337 (Passenger). • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2295 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2295 fault PIDs. • **Do any on-demand DTC B2295 fault PIDs indicate a fault?**	**Yes** Using the fault PIDs recorded in Step L1, GO to the appropriate pinpoint test step. For 2295_31_OD (Side Air Bag Circuit Short to Battery, Front Driver Side), GO to L3 . For 2295_30_OD (Side Air Bag Circuit Short to Ground, Front Driver Side), GO to L4 . For 2295_29_OD (Side Air Bag Circuit Open, Front Driver Side), GO to L5 . For 2295_28_OD (Side Air Bag Circuit Resistance Low, Front Driver Side), GO to L7 . For 2295_27_OD (Side Air Bag Circuit Short to Battery, Front Passenger Side), GO to L9 . For 2295_26_OD (Side Air Bag Circuit Short to Ground, Front Passenger Side), GO to L10 . For 2295_25_OD (Side Air Bag Circuit Open, Front Passenger Side), GO to L11 . For passenger seat side air bag module with a low resistance fault (2295_24_OD (Side Air Bag Circuit Resistance Low, Front Passenger Side), GO to L13 . **No** REMOVE and INSPECT the seat side air bag module jumper harness for damage. If a concern

	is found, REPAIR the harness. If no concern is found in the harness or the harness cannot be repaired, INSTALL a new seat side air bag module. REFER to Side Air Bag Module in this section. GO to L17.
L3 CHECK DRIVER SEAT SIDE AIR BAG MODULE CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Seat Side Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between driver seat side air bag module: ▪ C367-1, circuit 1257 (WH/LB), harness side and ground. ▪ C367-2, circuit 1258 (RD), harness side and ground.  N0059342 • **Is voltage present on either circuit?**	**Yes** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit 1257 (WH/LB) or 1258 (RD). GO to L17. **No** GO to L15.
L4 CHECK DRIVER SEAT SIDE AIR BAG MODULE CIRCUITS) FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Seat Side Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM: ▪ C2041b-3, circuit 1257 (WH/LB), harness side and ground. ▪ C2041b-4, circuit 1258 (RD), harness side and ground.	**Yes** GO to L15. **No** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit 1257 (WH/LB) or 1258 (RD). GO to L17.



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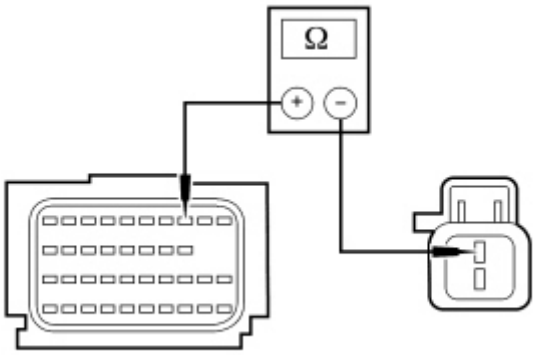
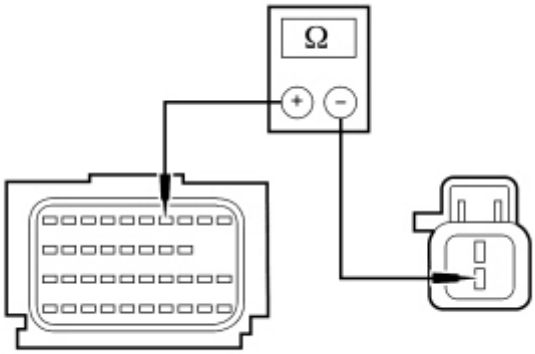
- **Are the resistances greater than 10,000 ohms?**

L5 CHECK FOR AN OPEN ON CIRCUIT 1257 (WH/LB) BETWEEN THE RCM AND DRIVER SEAT SIDE AIR BAG MODULE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Seat Side Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b-3, circuit 1257 (WH/LB), harness side and driver seat side air bag module C367-1 (or driver seat side air bag bridge resistor C3108-1), circuit 1257 (WH/LB), harness side.  N0010355 • **Is resistance less than 0.5 ohm?**	**Yes** GO to L6 . **No** REPAIR circuit 1257 (WH/LB). GO to L17 .
L6 CHECK FOR AN OPEN ON CIRCUIT 1258 (RD) BETWEEN THE RCM AND DRIVER SEAT SIDE AIR BAG MODULE	
• Measure the resistance between RCM C2041b-4, circuit 1258 (RD), harness side and driver seat side air bag module C367-2 (or driver seat side air bag bridge resistor C3108-2), circuit 1258 (RD), harness side.	**Yes** GO to L15 . **No** REPAIR circuit 1258 (RD). GO to L17 .

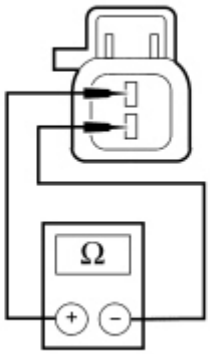


N0010354

- **Is resistance less than 0.5 ohm?**

L7 CHECK FOR A SHORT BETWEEN DRIVER SEAT SIDE AIR BAG MODULE CIRCUITS

- Ignition OFF.
- Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Disconnect: Driver Seat Side Air Bag Module Restraint System Diagnostic Tool.
- Measure the resistance between driver seat side air bag module C367-1, circuit 1257 (WH/LB), harness side and C367-2, circuit 1258 (RD), harness side.



A0029887

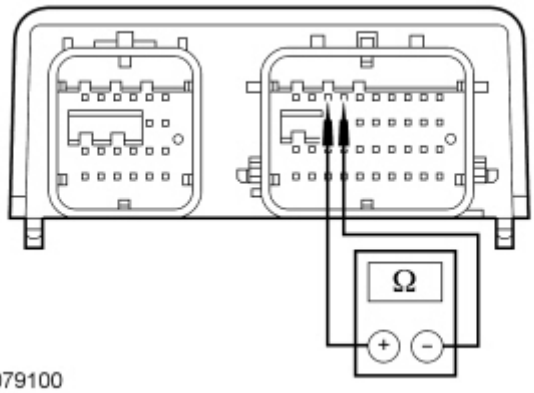
- **Is resistance greater than 10,000 ohms?**

Yes
GO to L15 .

No
GO to L8 .

L8 CHECK THE RCM FOR LOW RESISTANCE

- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b pin 3, component side and pin 4, component side.



A0079100

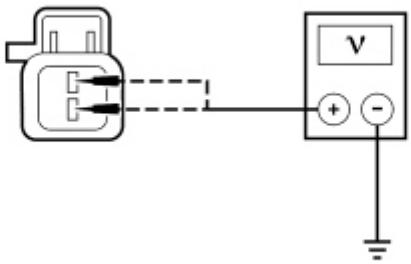
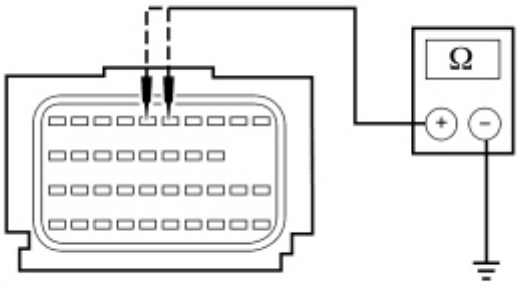
- **Is resistance greater than 10,000 ohms?**

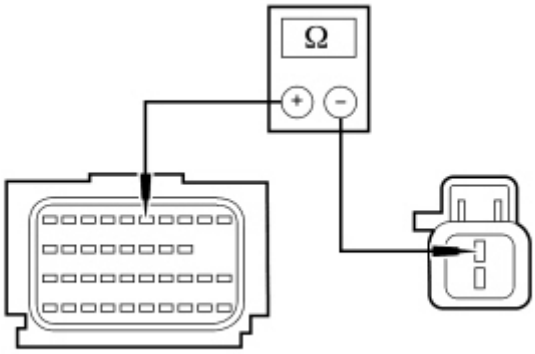
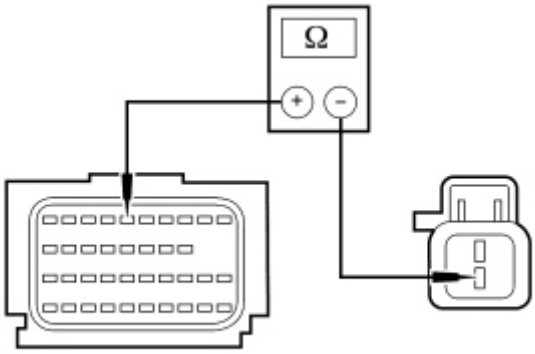
Yes
Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

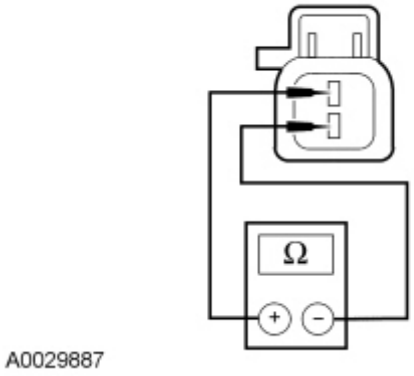
REPAIR circuits 1257 (WH/LB) and 1258 (RD). GO to L17 .

No
GO to L15 .

L9 CHECK PASSENGER SEAT SIDE AIR BAG MODULE CIRCUITS FOR A SHORT TO VOLTAGE

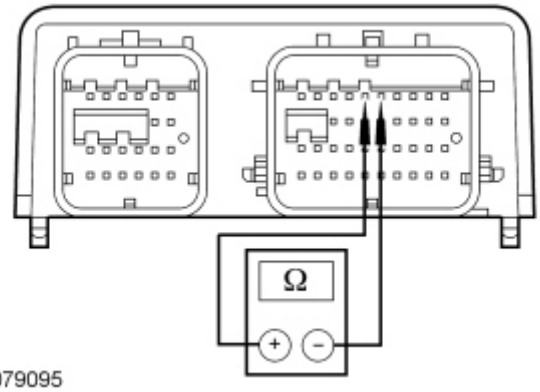
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Seat Side Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between passenger seat side air bag module: ▪ C337-1, circuit 1259 (WH/YE), harness side and ground. ▪ C337-2, circuit 1260 (BN/YE), harness side and ground.  N0059342 • **Is voltage present on either circuit?**	**Yes** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit 1259 (WH/YE) or 1260 (BN/YE). GO to L17 . **No** GO to L15 .
L10 CHECK PASSENGER SEAT SIDE AIR BAG MODULE CIRCUITS FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Seat Side Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM : ▪ C2041b-5, circuit 1259 (WH/YE), harness side and ground. ▪ C2041b-6, circuit 1260 (BN/YE), harness side and ground.  A0079098 • **Are the resistances greater than 10,000 ohms?**	**Yes** GO to L15 . **No** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit 1259 (WH/YE) or 1260 (BN/YE). GO to L17 .
L11 CHECK FOR AN OPEN ON CIRCUIT 1259 (WH/YE) BETWEEN THE RCM AND PASSENGER SEAT SIDE AIR BAG MODULE	

• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Seat Side Air Bag Module Restraint System Diagnostic Tool. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b-5, circuit 1259 (WH/YE), harness side and passenger seat side air bag module C337-1, circuit 1259 (WH/YE), harness side.  N0010353 • **Is resistance less than 0.5 ohm?**	**Yes** GO to L12 . **No** REPAIR circuit 1259 (WH/YE). GO to L17 .
L12 CHECK FOR AN OPEN ON CIRCUIT 1260 (BN/YE) BETWEEN THE RCM AND PASSENGER SEAT SIDE AIR BAG MODULE	
• Measure the resistance between RCM C2041b-6, circuit 1260 (BN/YE), harness side and passenger seat side air bag module C337-2, circuit 1260 (BN/YE), harness side.  N0010352 • **Is resistance less than 0.5 ohm?**	**Yes** GO to L15 . **No** REPAIR circuit 1260 (BN/YE). GO to L17 .
L13 CHECK FOR A SHORT BETWEEN PASSENGER SEAT SIDE AIR BAG MODULE CIRCUITS	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Seat Side Air Bag Module Restraint System Diagnostic Tool. • Measure the resistance between passenger seat side air bag module C337-1, circuit 1259 (WH/YE), harness side and C337-2, circuit 1260 (BN/YE), harness side.	**Yes** GO to L15 . **No** GO to L14 .



A0029887

- **Is resistance greater than 10,000 ohms?**

L14 CHECK THE RCM FOR LOW RESISTANCE	
• Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b pin 5, component side and pin 6, component side.  A0079095 • **Is resistance greater than 10,000 ohms?**	**Yes** Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuits 1259 (WH/YE) and 1260 (BN/YE). GO to L17 . **No** GO to L15 .
L15 CONFIRM THE RCM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Connect: Driver and Passenger Seat Side Air Bag Module Restraint System Diagnostic Tool. • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2295 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2295 fault PIDs. • **Does the original on-demand DTC B2295 fault PID indicate a fault?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to L17 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to L17 .
L16 CHECK FOR AN INTERMITTENT FAULT	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Affected Seat Side Air Bag Module C367 (Driver) or C337 (Passenger). • Connect: Restraint System Diagnostic Tool 418-133 to Affected	**Yes** CHECK for causes of the intermittent fault at or near the affected seat side air bag connector. REPAIR any intermittent concerns found.

Seat Side Air Bag Module C367 (Driver) or C337 (Passenger). • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2295 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2295 fault PIDs. • **Do any on-demand DTC B2295 fault PIDs indicate a fault?**	If an intermittent concern **was** found and repaired, GO to L17 . If an intermittent concern **was not** found, USE the fault PIDs recorded and GO to the appropriate pinpoint test step. For 2295_31_OD (Side Air Bag Circuit Short to Battery, Front Driver Side), GO to L3 . For 2295_30_OD (Side Air Bag Circuit Short to Ground, Front Driver Side), GO to L4 . For 2295_29_OD (Side Air Bag Circuit Open, Front Driver Side), GO to L5 . For 2295_28_OD (Side Air Bag Circuit Resistance Low, Front Driver Side), GO to L7 . For 2295_27_OD (Side Air Bag Circuit Short to Battery, Front Passenger Side), GO to L9 . For 2295_26_OD (Side Air Bag Circuit Short to Ground, Front Passenger Side), GO to L10 . For 2295_25_OD (Side Air Bag Circuit Open, Front Passenger Side), GO to L11 . For passenger seat side air bag module with a low resistance fault (2295_24_OD (Side Air Bag Circuit Resistance Low, Front Passenger Side), GO to L13 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to L17 .
L17 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected).	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No**

▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test M: LFC 42, 43 and 44/DTC B2296

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

Normal Operation

The impact sensor(s) provide data to the Restraints Control Module (RCM) for use in calculating impact severity. This is accomplished using various electrical and electro-mechanical sensor(s) throughout the vehicle.

The RCM continuously monitors all of the impact sensor circuits. If the RCM detects one of the following faults on any of the impact sensor circuits, it will store DTC B2296 in memory and flash either Lamp Fault Code (LFC) 42, 43 or 44 depending on the fault on the air bag warning indicator.

Fault PIDs [a]	Description	Fault Trigger Condition
2296_18_OD and 2296_18_CM	Driver/Center Front Crash Sensor Internal Fault	When the RCM senses a internal failure with the driver/center front impact sensor, a fault will be indicated.
2296_19_OD and 2296_19_CM	Driver/Center Front Crash Sensor Mount/Communication Fault	When the RCM is unable to communicate with the driver/center front impact sensor, a fault will be indicated.
2296_28_OD and 2296_28_CM	Side Crash Sensor Internal Fault, Front Passenger Side	When the RCM senses an internal failure with the passenger side first row impact sensor, a fault will be indicated.
2296_29_OD and 2296_29_CM	Side Crash Sensor Mount or Communication Fault, Front Passenger Side	When the RCM is unable to communicate with the passenger side first row impact sensor, a fault will be indicated.
2296_30_OD and 2296_30_CM	Side Crash Sensor Internal Fault, Front Driver Side	When the RCM senses an internal failure with the driver/center front impact sensor, a fault will be indicated.
2296_31_OD and 2296_31_CM	Side Crash Sensor Mount or Communication Fault, Front Driver Side	When the RCM is unable to communicate with the driver side first row impact sensor, a fault will be indicated.

[a] Fault PIDs that end in OD indicate an on-demand status and are associated with on-demand DTC B2296. Fault PIDs that end in CM indicate continuous memory status and are associated with continuous DTC B2296.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Impact sensor
- Impact sensor mounting
- RCM

PINPOINT TEST M: LFC 42, 43 AND 44/DTC B2296

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.

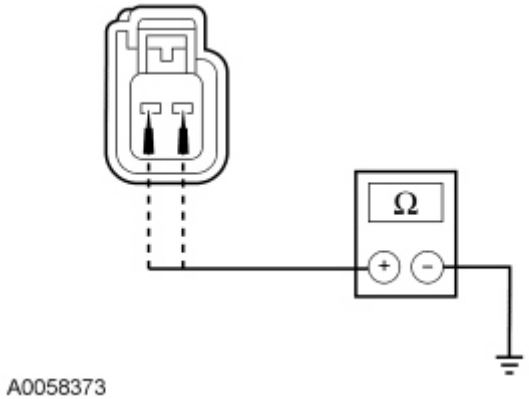
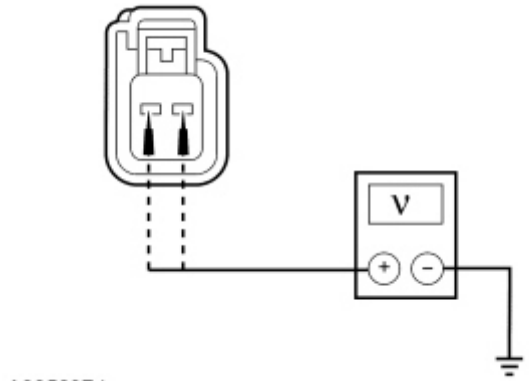
NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

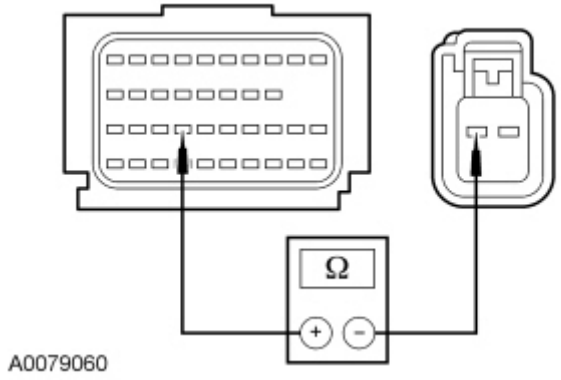
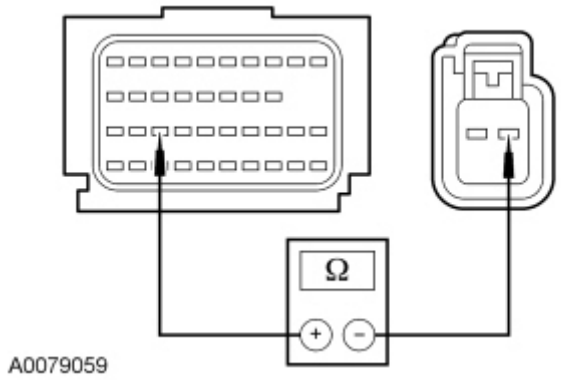
NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

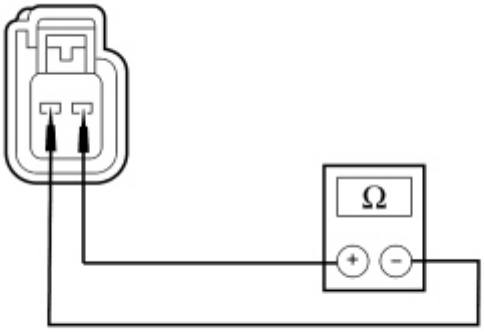
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
M1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Do any on-demand DTC B2296 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. Using the fault PIDs recorded, GO to the appropriate pinpoint test step. For 2296_31_OD (Side Crash Sensor Mount or Communication Fault, Front Driver Side), GO to M2 . For 2296_30_OD (Side Crash Sensor Internal Fault, Front Driver Side), INSTALL a new driver side impact sensor. REFER to Side Impact Sensor in this section. GO to M34 . For 2296_29_OD (Side Crash Sensor Mount or Communication Fault, Front Passenger Side), GO to M12 . For 2296_28_OD (Side Crash Sensor Internal Fault, Front Passenger Side), INSTALL a new passenger side impact sensor. REFER to Side Impact Sensor in this section. GO to M34 . For 2296_19_OD (Driver/Center Front Crash Sensor Mount/Communication Fault), GO to M22 . For 2296_18_OD (Driver/Center Front Crash Sensor Internal Fault), INSTALL a new front impact severity sensor. REFER to Front Impact Severity Sensor in this section. GO to M34 . **No**

	This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to M33.
M2 INSPECT THE DRIVER SIDE IMPACT SENSOR MOUNTING AND MOUNTING SURFACE • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Inspect the driver side impact sensor mounting and make sure that the retaining bolt is fully seated and tightened correctly. • Remove the driver side impact sensor. Refer to Side Impact Sensor in this section. • Visually inspect the driver side impact sensor and mounting surface for damage, corrosion or dirt. • **Was a significant amount of corrosion or dirt found, the driver side impact sensor attached to the mounting surface incorrectly or was the driver side impact sensor bolt not fully seated and tightened correctly?**	**Yes** CLEAN, TIGHTEN bolt or REPAIR the mounting surface as necessary. REINSTALL the driver side impact sensor. GO to M34. **No** GO to M3.
M3 INSTALL THE DRIVER SIDE IMPACT SENSOR AND CARRY OUT AN ON-DEMAND SELF TEST • Clean and repair the mounting surface as necessary. Clean the driver side impact sensor mounting bolt. • Install the driver side impact sensor. Refer to Side Impact Sensor. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the driver side impact sensor indicating a fault?**	**Yes** GO to M4. **No** Fault corrected. GO to M34.
M4 CHECK THE DRIVER SIDE IMPACT SENSOR GROUND CIRCUIT FOR HIGH RESISTANCE • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Side Impact Sensor C3209. • **NOTE:** The RCM monitors the resistance through the impact sensor to be 100 ohms or less. • Measure the resistance between driver side impact sensor C3209-1, circuit 1262 (BN/LG), harness side and the driver side impact sensor case ground. • **Is resistance less than 100 ohms?**	**Yes** GO to M6. **No** GO to M5.
M5 CLEAN THE DRIVER SIDE IMPACT SENSOR MOUNTING SURFACE AND CARRY OUT AN ON-DEMAND SELF TEST • Remove the driver side impact sensor. Refer to Side Impact Sensor. • Clean and repair the mounting surface as necessary. Clean the driver side impact sensor mounting bolt. • Install the driver side impact sensor. Refer to Side Impact Sensor. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self	**Yes** GO to M6. **No** Fault corrected. GO to M34.

Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the driver side impact sensor indicating a fault?**	
M6 CHECK DRIVER SIDE IMPACT SENSOR CIRCUITS FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Side Impact Sensor C3209. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between driver side impact sensor : ▪ C3209-2, circuit 1261 (WH/LG), harness side and ground. ▪ C3209-1, circuit 1262 (BN/LG), harness side and ground.  A0058373 • **Are the resistances greater than 10,000 ohms?**	**Yes** GO to M7 . **No** REPAIR circuit 1261 (WH/LG) or 1262 (BN/LG). GO to M34 .
M7 CHECK DRIVER SIDE IMPACT SENSOR CIRCUITS FOR A SHORT TO VOLTAGE	
• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between driver side impact sensor: ▪ C3209-2, circuit 1261 (WH/LG), harness side and ground. ▪ C3209-1, circuit 1262 (BN/LG), harness side and ground.  A0058374	**Yes** REPAIR circuit 1261 (WH/LG) or 1262 (BN/LG). GO to M34 . **No** GO to M8 .

• **Is voltage present on either circuit?**	
M8 CHECK DRIVER SIDE IMPACT SENSOR CIRCUIT 1261 (WH/LG) FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between RCM C2041b-27, circuit 1261 (WH/LG), harness side and driver side impact sensor C3209-1, circuit 1261 (WH/LG), harness side.  A0079060 • **Is resistance less than 0.5 ohm?**	**Yes** GO to M9 . **No** REPAIR circuit 1261 (WH/LG). GO to M34 .
M9 CHECK DRIVER SIDE IMPACT SENSOR CIRCUIT 1262 (BN/LG) FOR AN OPEN	
• Measure the resistance between RCM C2041b-28, circuit 1262 (BN/LG), harness side and driver side impact sensor C3209-1, circuit 1262 (BN/LG), harness side.  A0079059 • **Is resistance less than 0.5 ohm?**	**Yes** GO to M10 . **No** REPAIR circuit 1262 (BN/LG). GO to M34 .
M10 CHECK FOR A SHORT BETWEEN DRIVER SIDE IMPACT SENSOR CIRCUITS	
• Measure the resistance between driver side impact sensor C3209-2, circuit 1261 (WH/LG) and C3209-1, circuit 1262 (BN/LG), harness side.	**Yes** GO to M11 . **No** REPAIR circuits 1261 (WH/LG) and 1262 (BN/LG). GO to M34 .



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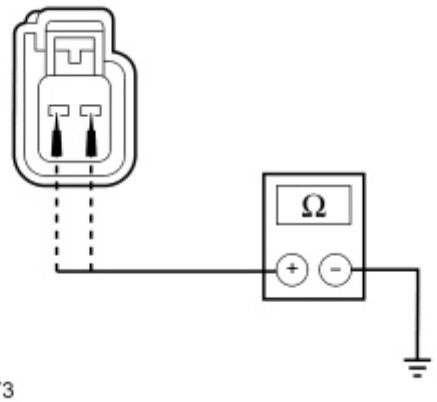
- **Is resistance greater than 10,000 ohms?**

M11 CHECK THE DRIVER SIDE IMPACT SENSOR • Install a known good driver side impact sensor. Refer to Side Impact Sensor in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the driver side impact sensor indicating a fault?**	**Yes** GO to M32 . **No** Fault corrected. GO to M34 .
M12 INSPECT THE PASSENGER SIDE IMPACT SENSOR MOUNTING AND MOUNTING SURFACE • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Inspect the passenger side impact sensor mounting and make sure that the retaining bolt is fully seated and tightened correctly. • Remove the passenger side impact sensor. Refer to Side Impact Sensor in this section. • Visually inspect the passenger side impact sensor and mounting surface for damage, corrosion or dirt. • **Was a significant amount of corrosion or dirt found, the passenger side impact sensor attached to the mounting surface incorrectly or was the passenger side impact sensor bolt not fully seated and tightened correctly?**	**Yes** CLEAN, TIGHTEN bolt or REPAIR the mounting surface as necessary. REINSTALL the passenger side impact sensor. GO to M34 . **No** GO to M13 .
M13 INSTALL THE PASSENGER SIDE IMPACT SENSOR AND CARRY OUT THE ON-DEMAND SELF TEST • Clean and repair the mounting surface as necessary. Clean the passenger side impact sensor mounting bolt. • Install the passenger side impact sensor. Refer to Side Impact Sensor in this section. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296	**Yes** GO to M14 . **No** Fault corrected. GO to M34 .

fault PIDs. • **Were any RCM on-demand B2296 fault PIDs for the passenger side impact sensor indicating a fault?**	
M14 CHECK THE PASSENGER SIDE IMPACT SENSOR GROUND CIRCUIT FOR HIGH RESISTANCE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Side Impact Sensor C3211. • **NOTE:** The RCM monitors the resistance through the impact sensor to be 100 ohms or less. • Measure the resistance between passenger side impact sensor C3211-1, circuit 1264 (BN), harness side and the passenger side impact sensor case ground. • **Is resistance less than 100 ohms?**	**Yes** GO to M16. **No** GO to M15.
M15 CLEAN THE PASSENGER SIDE IMPACT SENSOR MOUNTING SURFACE AND CARRY OUT THE ON-DEMAND SELF TEST	
• Remove the passenger side impact sensor. Refer to Side Impact Sensor in this section. • Clean and repair the mounting surface as necessary. Clean the passenger side impact sensor mounting bolt. • Install the passenger side impact sensor. Refer to Side Impact Sensor in this section. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any RCM on-demand B2296 fault PIDs for the first row passenger side impact sensor indicating a fault?**	**Yes** GO to M16. **No** Fault corrected. GO to M34.
M16 CHECK PASSENGER SIDE IMPACT SENSOR CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Passenger Side Impact Sensor C3211.
• Disconnect: RCM C2041a and C2041b.
• Measure the resistance between passenger side impact sensor:
  ▪ C3211-2, circuit 1263 (WH), harness side and ground.
  ▪ C3211-1, circuit 1264 (BN), harness side and ground.
	Yes
	GO to M17.
	
	No
	REPAIR circuit 1263 (WH) or 1264 (BN). GO to M34.



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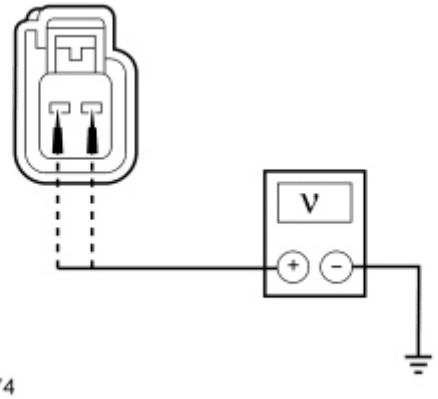
- **Are the resistances greater than 10,000 ohms?**

M17 CHECK PASSENGER SIDE IMPACT SENSOR CIRCUITS FOR A SHORT TO VOLTAGE	

• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between passenger side impact sensor:
  ▪ C3211-2, circuit 1263 (WH), harness side and ground.
  ▪ C3211-1, circuit 1264 (BN), harness side and ground.
 
 	
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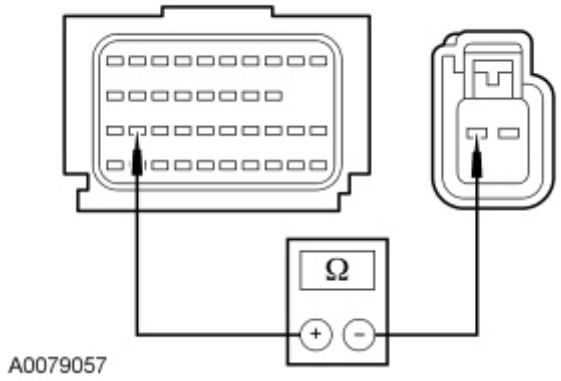
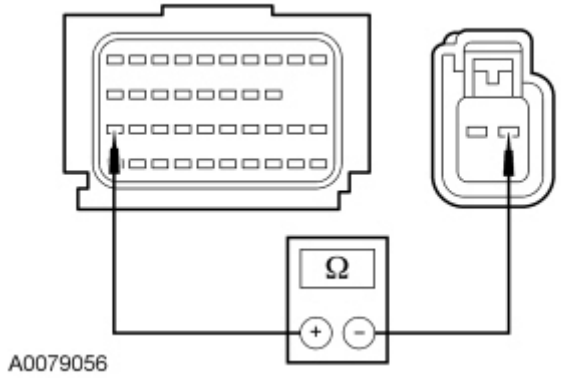
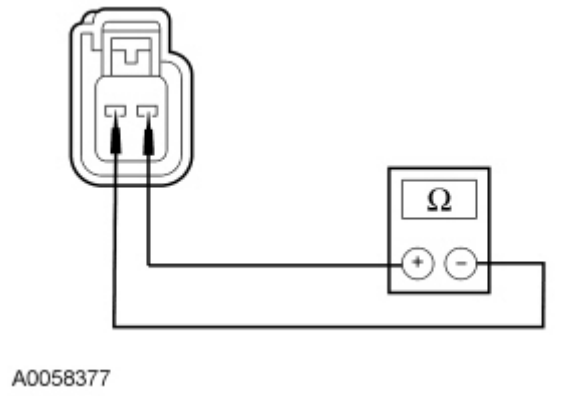
• **Is voltage present on either circuit?**
	Yes
	REPAIR circuit 1263 (WH) or 1264 (BN). GO to M34 .
	
	No
	GO to M18 .

M18 CHECK PASSENGER SIDE IMPACT SENSOR CIRCUIT 1263 (WH) FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between RCM C2041b-29, circuit 1263 (WH), harness side and passenger side impact sensor C3211-2, circuit 1263 (WH), harness side.	**Yes** GO to M19 . **No** REPAIR circuit 1263 (WH). GO to M34 .

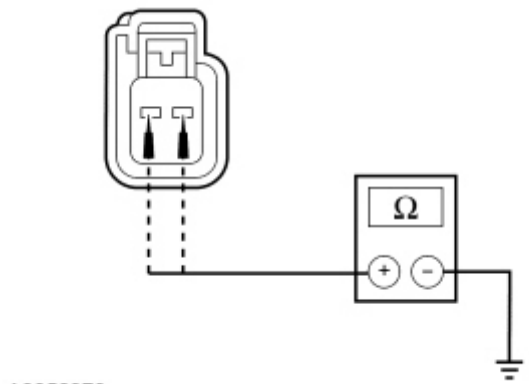


- **Is resistance less than 0.5 ohm?**

M19 CHECK PASSENGER SIDE IMPACT SENSOR CIRCUIT 1264 (BN) FOR AN OPEN	
• Measure the resistance between RCM C2041b-30, circuit 1264 (BN), harness side and passenger side impact sensor C3211-1, circuit 1264 (BN), harness side.  • **Is resistance less than 0.5 ohm?**	**Yes** GO to M20 . **No** REPAIR circuit 1264 (BN). GO to M34 .
M20 CHECK FOR A SHORT BETWEEN PASSENGER SIDE IMPACT SENSOR CIRCUITS	
• Measure the resistance between passenger side impact sensor C3211-2, circuit 1263 (WH) and C3211-1, circuit 1264 (BN), harness side.  • **Is resistance greater than 10,000 ohms?**	**Yes** GO to M21 . **No** REPAIR circuits 1263 (WH) and 1264 (BN). GO to M34 .
M21 CHECK THE PASSENGER SIDE IMPACT SENSOR	
• Install a known good passenger side impact sensor. Refer to Side Impact Sensor in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time.	**Yes** GO to M32 . **No**

Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the passenger side impact sensor indicating a fault?**	Fault corrected. GO to M34 .
M22 INSPECT THE DRIVER/CENTER FRONT IMPACT SENSOR MOUNTING AND MOUNTING SURFACE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Inspect the driver/center front impact sensor mounting and make sure that the retaining nut is fully seated and tightened correctly. • Remove the driver/center front impact sensor. Refer to Front Impact Severity Sensor in this section. • Visually inspect the driver/center front impact sensor and mounting surface for damage, corrosion or dirt. • **Was a significant amount of corrosion or dirt found, the driver/center front impact sensor attached to the mounting surface incorrectly or was the driver/center front impact sensor nut not fully seated and tightened correctly?**	**Yes** CLEAN, TIGHTEN nut or REPAIR the mounting surface as necessary. REINSTALL the driver/center front impact sensor. GO to M34 . **No** GO to M23 .
M23 INSTALL THE DRIVER/CENTER FRONT IMPACT SENSOR AND CARRY OUT THE ON-DEMAND SELF TEST	
• Clean and repair the mounting surface as necessary. Clean the driver/center front impact sensor retaining nut. • Install the driver/center front impact sensor. Refer to Front Impact Severity Sensor in this section. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the driver/center front impact severity sensor indicating a fault?**	**Yes** GO to M24 . **No** Fault corrected. GO to M34 .
M24 CHECK THE DRIVER/CENTER FRONT IMPACT SENSOR GROUND CIRCUIT FOR HIGH RESISTANCE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver/Center Front Impact Sensor C177. • **NOTE:** The RCM monitors the resistance through the impact sensor to be 100 ohms or less. • Measure the resistance between driver/center front impact sensor C177-1, circuit 618 (VT/LG), harness side and the driver/center front impact sensor case ground. • **Is resistance less than 100 ohms?**	**Yes** GO to M26 . **No** GO to M25 .
M25 CLEAN THE DRIVER/CENTER FRONT IMPACT SENSOR MOUNTING SURFACE AND CARRY OUT THE ON-DEMAND SELF TEST	

• Remove the driver/center front impact sensor. Refer to Front Impact Severity Sensor in this section. • Clean and repair the mounting surface as necessary. Clean the driver/center front impact sensor retaining nut. • Install the driver/center front impact sensor. Refer to Front Impact Severity Sensor in this section. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the driver/center front impact sensor indicating a fault?**	**Yes** GO to M26. **No** Fault corrected. GO to M34.
M26 CHECK DRIVER/CENTER FRONT IMPACT SENSOR CIRCUITS FOR A SHORT TO GROUND	

• Ignition OFF.
• Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Driver/Center Front Impact Sensor C177.
• Disconnect: RCM C2041a and C2041b.
• Measure the resistance between driver/center front impact sensor:
  ▪ C177-2, circuit 617 (PK/OG), harness side and ground.
  ▪ C177-1, circuit 618 (VT/LG), harness side and ground.
 	
 
 	
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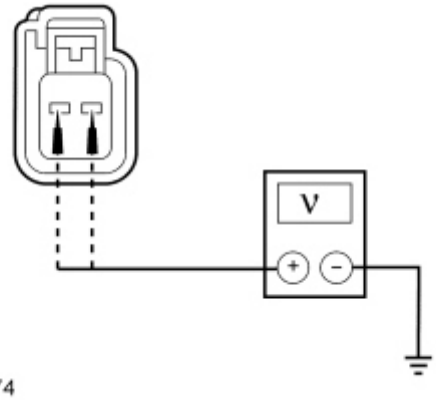
• **Are the resistances greater than 10,000 ohms?**
	Yes
	GO to M27.
	
	No
	REPAIR circuit 617 (PK/OG) or 618 (VT/LG). GO to M34.

M27 CHECK DRIVER/CENTER FRONT IMPACT SENSOR CIRCUITS FOR A SHORT TO VOLTAGE	

• Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between driver/center front impact sensor:
  ▪ C177-2, circuit 617 (PK/OG), harness side and ground.
  ▪ C177-1, circuit 618 (VT/LG), harness side and ground.
	Yes
	REPAIR circuit 617 (PK/OG) or 618 (VT/LG). GO to M34.
	
	No
	GO to M28.



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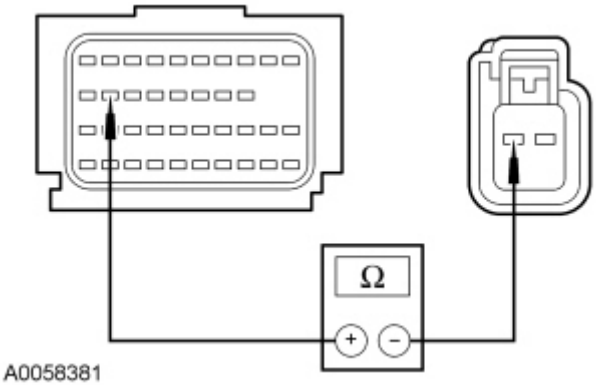
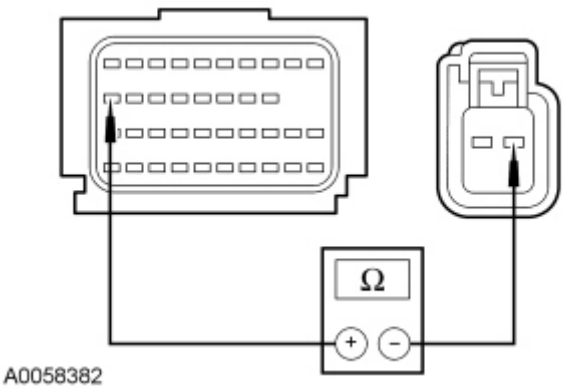
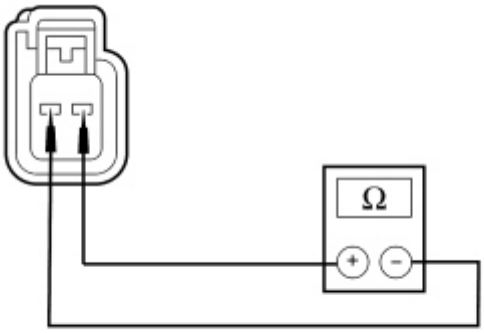
- **Is voltage present on either circuit?**

M28 CHECK DRIVER/CENTER FRONT IMPACT SENSOR CIRCUIT 617 (PK/OG) FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between RCM C2041b-19, circuit 617 (PK/OG), harness side and driver/center front impact sensor C177-2, circuit 617 (PK/OG), harness side.  A0058381 • **Is resistance less than 0.5 ohm?**	**Yes** GO to M29 . **No** REPAIR circuit 617 (PK/OG). GO to M34 .
M29 CHECK DRIVER/CENTER FRONT IMPACT SENSOR CIRCUIT 618 (VT/LG) FOR AN OPEN	
• Measure the resistance between RCM C2041b-20, circuit 618 (VT/LG), harness side and driver/center front impact sensor C177-1, circuit 618 (VT/LG), harness side.  A0058382 • **Is resistance less than 0.5 ohm?**	**Yes** GO to M30 . **No** REPAIR circuit 618 (VT/LG). GO to M34 .
M30 CHECK FOR A SHORT BETWEEN DRIVER/CENTER FRONT IMPACT SENSOR CIRCUITS	

• Measure the resistance between driver/center front impact sensor C177-2, circuit 617 (PK/OG), harness side and driver/center front impact sensor C177-1, circuit 618 (VT/LG), harness side.  A0058377 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to M31 . **No** REPAIR circuits 617 (PK/OG) and 618 (VT/LG). GO to M34 .
M31 CHECK THE DRIVER/CENTER FRONT IMPACT SENSOR • Install a known good driver/center front impact sensor. Refer to Front Impact Severity Sensor in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Were any on-demand B2296 fault PIDs for the driver/center front impact sensor indicating a fault?**	**Yes** GO to M32 . **No** Fault corrected. GO to M34 .
M32 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Install the original impact sensor. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Do any on-demand DTC B2296 fault PIDs indicate a fault?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to M34 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to M34 .
M33 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2296 Fault	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the

PIDs. ▪ Refer to PID list in Normal Operation to view B2296 fault PIDs. • **Do any RCM DTC B2296 fault PIDs indicate a fault?**	DTC is no longer retrieved during the on-demand self test. CHECK for causes of the intermittent fault at or near the affected impact sensor connector. REPAIR any intermittent concerns found. If an intermittent concern **was** found and repaired, GO to M34 . If an intermittent concern **was not** found and repaired, USE the fault PIDs recorded and GO to the appropriate pinpoint test step. For 2296_31_OD (Side Crash Sensor Mount or Communication Fault, Front Driver Side), GO to M2 . For 2296_30_OD (Side Crash Sensor Internal Fault, Front Driver Side), INSTALL a new driver side impact sensor. REFER to Side Impact Sensor in this section. GO to M34 . For 2296_29_OD (Side Crash Sensor Mount or Communication Fault, Front Passenger Side), GO to M12 . For 2296_28_OD (Side Crash Sensor Internal Fault, Front Passenger Side), INSTALL a new passenger side impact sensor. REFER to Side Impact Sensor in this section. GO to M34 . For 2296_19_OD (Driver/Center Front Crash Sensor Mount/Communication Fault), GO to M22 . For 2296_18_OD (Driver/Center Front Crash Sensor Internal Fault), INSTALL a new front impact severity sensor. REFER to Front Impact Severity Sensor in this section. GO to M34 . **No** VISUALLY INSPECT the affected impact sensor, mounting brackets and mounting surface for damage, corrosion or dirt. INSPECT the wiring, terminals and connectors for damage, corrosion or dirt. CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to M34 .

M34 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test N: LFC 51/DTC B2434

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver and passenger safety belt buckles are equipped with safety belt buckle switches. The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the Restraints Control Module (RCM) whether the safety belt buckles are buckled or unbuckled. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM checks the driver safety belt buckle switch circuits for faults. If the RCM detects a short to ground fault, it will store DTC B2434 in memory and flash Lamp Fault Code (LFC) 51 on the air bag warning indicator.

- DTC B2434 Drivers Seat Belt Buckle Switch Circuit Short to Ground — If the RCM detects a short to ground on the driver safety belt buckle circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver safety belt buckle switch
- RCM

PINPOINT TEST N: LFC 51/DTC B2434

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

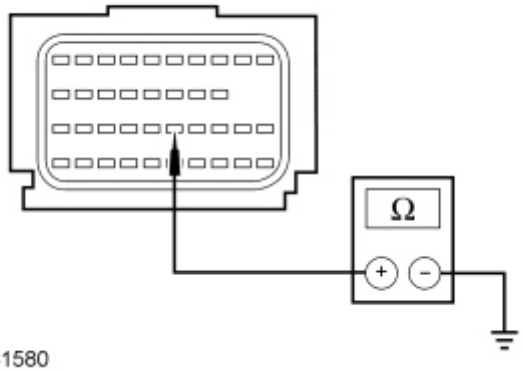
WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
N1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B2434 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to N2. **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to N5.
N2 CHECK DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Safety Belt Buckle Switch C323. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b-25, circuit 85 (BN/LB), harness side and ground.  A0041580 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to N3. **No** REPAIR circuit 85 (BN/LB). GO to N6.
N3 CHECK THE SAFETY BELT BUCKLE SWITCH **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good driver safety belt buckle. Refer to Section 501-20A. • Connect: RCM C2041a and C2041b.	**Yes** GO to N4. **No** Fault corrected. GO to N6.

• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2434 retrieved on-demand during the self test?**	
N4 CONFIRM THE RCM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Reinstall the original safety belt buckle. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2434 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to N6 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to N6 .
N5 CHECK FOR AN INTERMITTENT FAULT	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2434 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to N2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to N6 .
N6 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

• Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	

Pinpoint Test O: LFC 51/DTC B2435

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver and passenger safety belt buckles are equipped with safety belt buckle switches. The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the Restraints Control Module (RCM) whether the safety belt buckles are buckled or unbuckled. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM checks the driver safety belt buckle switch circuits for faults. If the RCM detects a current out of range fault, it will store DTC B2435 in memory and flash Lamp Fault Code (LFC) 51 on the air bag warning indicator.

- DTC B2435 Drivers Seat Belt Buckle Switch Resistance Out of Range — If the RCM detects a current out of range between buckled and unbuckled on the driver safety belt buckle switch, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver safety belt buckle switch
- RCM

PINPOINT TEST O: LFC 51/DTC B2435

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a

pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
O1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2435 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to O2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to O4 .
O2 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Install a known good driver safety belt buckle switch. Refer to Section 501-20A . • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2435 retrieved on-demand during the self test?**	**Yes** GO to O3 . **No** Fault corrected. GO to O5 .
O3 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Reinstall the original safety belt buckle. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2435 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to O5 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to O5 .
O4 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2435 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to O2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness

	and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to O5 .
O5 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test P: LFC 52/DTC B2438

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver and passenger safety belt buckles are equipped with safety belt buckle switches. The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the Restraints Control Module (RCM) whether the safety belt buckles are buckled or unbuckled. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM checks the passenger safety belt buckle switch circuits for faults. If the RCM detects a short to ground fault, it will store DTC B2438 in memory and flash Lamp Fault Code (LFC) 52 on the air bag warning indicator.

- DTC B2438 Passengers Seat Belt Buckle Switch Circuit Short to Ground — If the RCM detects a short to ground on the passenger safety belt buckle circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger safety belt buckle switch
- RCM

PINPOINT TEST P: LFC 52/DTC B2438

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

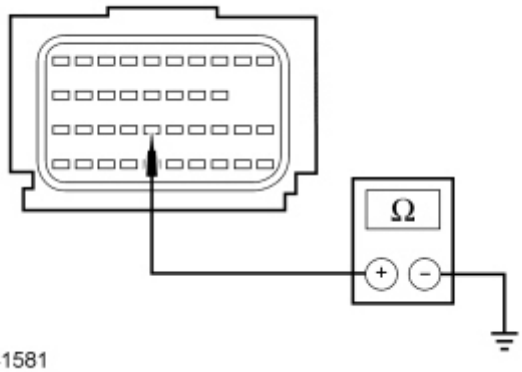
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
P1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2438 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to P2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to P5 .
P2 CHECK PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT 1514 (RD/BK) FOR A SHORT TO GROUND • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Safety Belt Buckle Switch C3066. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b-26, circuit 1514 (RD/BK), harness side and ground.	**Yes** GO to P3 . **No** REPAIR circuit 1514 (RD/BK). GO to P6 .



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- **Is resistance greater than 10,000 ohms?**

P3 CHECK THE SAFETY BELT BUCKLE SWITCH **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good passenger safety belt buckle. Refer to Section 501-20A . • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2438 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to P4 . **No** Fault corrected. GO to P6 .
P4 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Reinstall the original safety belt buckle. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2438 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to P6 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to P6 .
P5 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2438 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to P2 . **No**

	CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to P6.
P6 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test Q: LFC 52/DTC B2439

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver and passenger safety belt buckles are equipped with safety belt buckle switches. The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the Restraints Control Module (RCM) whether the safety belt buckles are buckled or unbuckled. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM checks the passenger safety belt buckle switch circuits for faults. If the RCM detects a current out of range fault, it will store DTC B2439 in memory and flash Lamp Fault Code (LFC) 52 on the air bag warning indicator.

- DTC B2439 Passengers Seat Belt Buckle Switch Resistance Out of Range — If the RCM detects a current out of range between buckled and unbuckled on the passenger safety belt buckle switch, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger safety belt buckle switch
- RCM

PINPOINT TEST Q: LFC 52/DTC B2439

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
Q1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B2439 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to Q2. **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to Q4.
Q2 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Install a known good passenger safety belt buckle. Refer to Section 501-20A. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B2439 retrieved on-demand during the self test?**	**Yes** GO to Q3. **No** Fault corrected. GO to Q5.
Q3 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to Q5.

connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Reinstall the original safety belt buckle. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2439 retrieved on-demand during the self test?**	**No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to Q5 .
Q4 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2439 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to Q2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to Q5 .
Q5 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test R: LFC 51/DTC B2691

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver and passenger safety belt buckles are equipped with safety belt buckle switches. The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the Restraints Control Module (RCM) whether the safety belt buckles are buckled or unbuckled. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM checks the driver safety belt buckle switch circuits for faults. If the RCM detects an open circuit or short to voltage fault, it will store DTC B2691 in memory and flash Lamp Fault Code (LFC) 51 on the air bag warning indicator.

- DTC B2691 Seat Belt Buckle Switch Circuit Fault, Front Driver's Side — If the RCM detects an open or short to battery on the driver safety belt buckle switch circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver safety belt buckle switch
- RCM

PINPOINT TEST R: LFC 51/DTC B2691

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

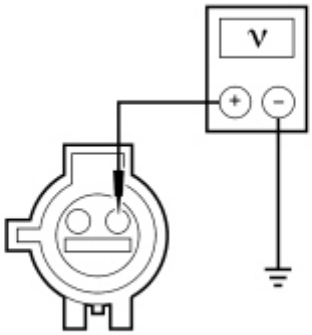
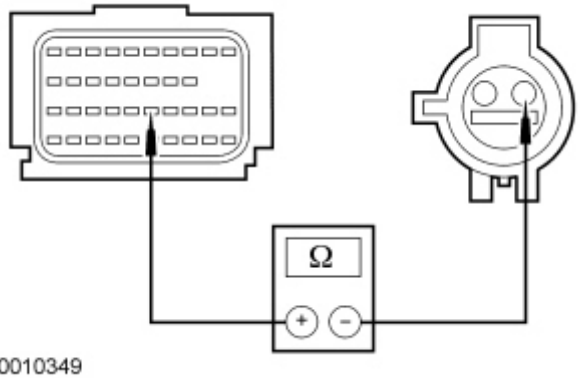
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

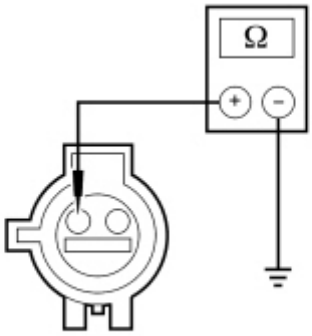
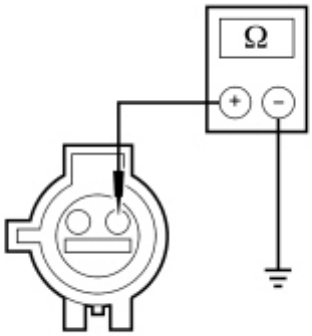
NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
R1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2691 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to R2 .

	No This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to R8.
R2 CHECK DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO VOLTAGE • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Seat Side Air Bag C367. • Connect: Restraint System Diagnostic Tool 418-133 to Driver Seat Side Air Bag C367. • Disconnect: RCM C2041a and C2041b. • Disconnect: Driver Safety Belt Buckle Switch C323. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between driver safety belt buckle switch C323-2, circuit 85 (BN/LB), harness side and ground.  N0010351 • **Is any voltage present?**	**Yes** REPAIR circuit 85 (BN/LB). GO to R9. **No** GO to R3.
R3 CHECK DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR AN OPEN • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between RCM C2041b-25, circuit 85 (BN/LB), harness side and driver safety belt buckle switch C323-2, circuit 85 (BN/LB), harness side.  N0010349 • **Is resistance less than 0.5 ohm?**	**Yes** GO to R4. **No** REPAIR circuit 85 (BN/LB). GO to R9.
R4 CHECK DRIVER SAFETY BELT BUCKLE SWITCH FOR AN OPEN GROUND CIRCUIT	

• Measure the resistance between driver safety belt buckle switch C323-1, circuit 1203 (BK/LB), harness side and ground.  N0010409 • **Is resistance less than 0.5 ohm?**	**Yes** GO to R5 . **No** REPAIR circuit 1203 (BK/LB). GO to R9 .
R5 CHECK DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO GROUND	
• Measure the resistance between driver safety belt buckle switch C323-2, circuit 85 (BN/LB), harness side and ground.  N0010350 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to R6 . **No** REPAIR circuit 85 (BN/LB). GO to R9 .
R6 CHECK THE SAFETY BELT BUCKLE SWITCH	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good driver safety belt buckle. Refer to Section 501-20A . • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2691 retrieved on-demand during the self test?**	**Yes** GO to R7 . **No** Fault corrected. GO to R9 .
R7 CONFIRM THE RCM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to R9 . **No** CHECK for causes of the intermittent fault. ATTEMPT to

• Reinstall the original safety belt buckle. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2691 retrieved on-demand during the self test?**	recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to R9 .
R8 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2691 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to R2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to R9 .
R9 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test S: LFC 52/DTC B2692

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver and passenger safety belt buckles are equipped

with safety belt buckle switches. The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the Restraints Control Module (RCM) whether the safety belt buckles are buckled or unbuckled. Refer to Air Bag and Safety Belt Pretensioner Supplemental Restraint System (SRS) in this section.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM checks the passenger safety belt buckle switch circuits for faults. If the RCM detects an open circuit or short to voltage fault, it will store DTC B2692 in memory and flash Lamp Fault Code (LFC) 52 on the air bag warning indicator.

- DTC B2692 Front Passenger's Seat Belt Buckle Switch Circuit Fault — If the RCM detects an open or short to battery on the passenger safety belt buckle switch circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger safety belt buckle switch
- RCM

PINPOINT TEST S: LFC 52/DTC B2692

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

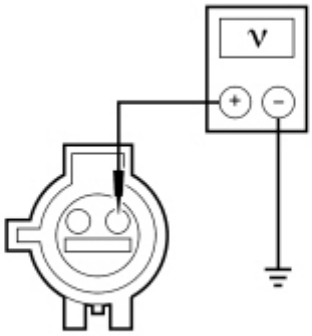
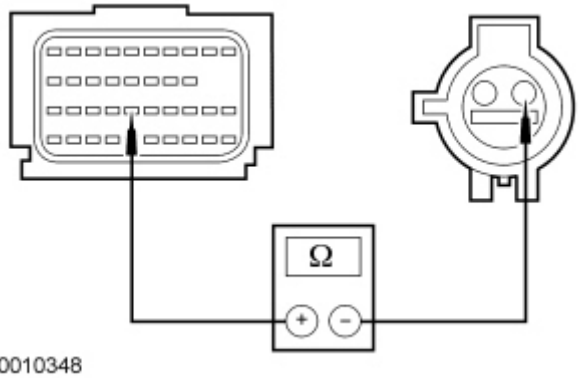
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

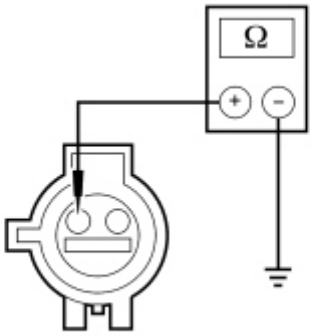
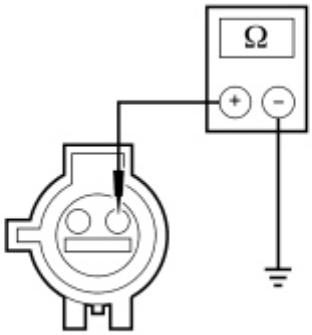
NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
S1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2692 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to S2 . **No**

	This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to S8.
S2 CHECK PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Passenger Seat Side Air Bag C337. • Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337. • Disconnect: RCM C2041a and C2041b. • Disconnect: Passenger Safety Belt Buckle Switch C337. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between passenger safety belt buckle switch C337-2, circuit 1514 (RD/BK), harness side and ground.  N0010351 • **Is any voltage present?**	**Yes** REPAIR circuit 1514 (RD/BK). GO to S9. **No** GO to S3.
S3 CHECK PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR AN OPEN	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between RCM C2041b-26, circuit 1514 (RD/BK), harness side and passenger safety belt buckle switch C3066-2, circuit 1514 (RD/BK), harness side.  N0010348 • **Is resistance less than 0.5 ohm?**	**Yes** GO to S4. **No** REPAIR circuit 1514 (RD/BK). GO to S9.
S4 CHECK PASSENGER SAFETY BELT BUCKLE SWITCH FOR AN OPEN GROUND CIRCUIT	
• Measure the resistance between passenger safety belt buckle	**Yes**

switch C3066-1, circuit 1203 (BK/LB), harness side and ground.  N0010409 • **Is resistance less than 0.5 ohm?**	GO to S5 . **No** REPAIR circuit 1203 (BK/LB). GO to S9 .
S5 CHECK PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO GROUND	
• Measure the resistance between passenger safety belt buckle switch C3066-2, circuit 1514 (RD/BK), harness side and ground.  N0010350 • **Is resistance greater than 10,000 ohms?**	**Yes** GO to S6 . **No** REPAIR circuit 1203 (BK/LB). GO to S9 .
S6 CHECK THE SAFETY BELT BUCKLE SWITCH	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good passenger safety belt buckle. Refer to Section 501-20A . • Connect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC B2692 retrieved on-demand during the self test?**	**Yes** GO to S7 . **No** Fault corrected. GO to S9 .
S7 CONFIRM THE RCM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to S9 . **No** CHECK for causes of the

(SRS) Depowering and Repowering in this section. • Reinstall the original safety belt buckle. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B2692 retrieved on-demand during the self test?**	intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to S9.
S8 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC B2692 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to S2. **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to S9.
S9 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test T: LFC 16/DTC B2909

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

NOTE: Lamp Fault Code (LFC) 16 is shared between DTC B2290 and DTC B2909.

Normal Operation

The Belt Tension Sensor (BTS) is part of the Occupant Classification Sensor (OCS) system. The OCS system interprets a variable voltage signal provided by the BTS to identify the possible presence of a child safety seat in the front passenger seat. The voltage output of the BTS is proportional to the amount of tension applied to the sensor by the belt. No tension-low voltage is approximately 0.95 volt and high tension-high voltage is approximately 3.8 volts.

The OCS system continuously monitors the BTS circuits. If the Occupant Classification System Module (OCSM) detects one of the following faults on any of the BTS circuits, it will report the failure to the Restraints Control Module (RCM). The RCM will store DTC B2909 in memory and flash either LFC 16 on the air bag warning indicator.

The OCS system components (seat cushion foam pad, bladder with pressure sensor and OCSM) are calibrated to each other and are serviced as an assembly. The OCS system components are not to be installed separately with the exception of the BTS . If a new OCS system component or seat cushion foam pad are needed, a new OCS system service kit must be installed as an assembly.

Fault PIDs [a]	Description	Fault Trigger Condition
2909_29_OD and 2909_29_CM	Front Passenger Side Belt Tension Sensor Short to Ground	When the OCSM senses a short to ground on the BTS circuits, a fault will be indicated.
2909_31_OD and 2909_31_CM	Front Passenger Side Belt Tension Sensor Circuit Fault	When the OCSM senses a failure on the BTS circuits, a fault will be indicated.

[a] Fault PIDs that end in OD indicate an on-demand status and are associated with on-demand DTC B2909. Fault PIDs that end in CM indicate continuous memory status and are associated with continuous DTC B2909.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- BTS
- OCSM

PINPOINT TEST T: LFC 16/DTC B2909

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

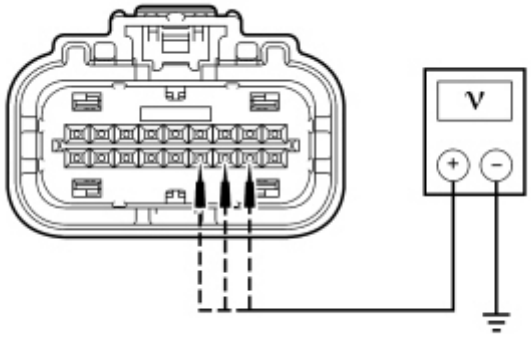
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
T1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2909 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2909 fault PIDs. • **Do any on-demand DTC B2909 fault PIDs indicate a fault?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. Using the fault PIDs recorded, GO to the appropriate pinpoint test step. For 2909_31_OD (Front Passenger Side Belt Tension Sensor Circuit Fault), GO to T2 . For 2909_29_OD (Front Passenger Side Belt Tension Sensor Short to Ground), GO to T4 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to T9 .
T2 CHECK BTS CIRCUITS FOR A SHORT TO VOLTAGE	

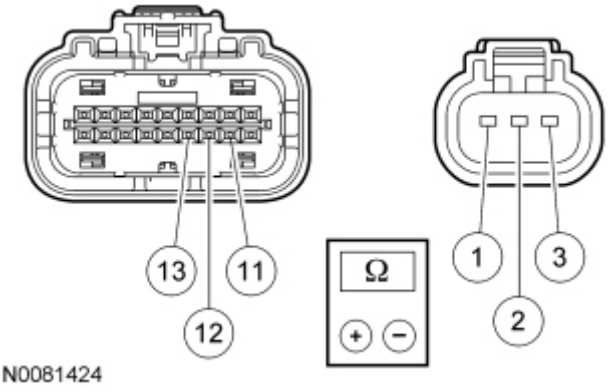
• Ignition OFF.
• Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: Passenger Seat Side Air Bag C337.
• Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337.
• Disconnect: BTS C3238.
• Disconnect: OCSM C3043.
• Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Ignition ON.
• Measure the voltage between OCSM :
  ▪ C3043-11, circuit 2088 (TN/RD), harness side and ground
  ▪ C3043-13, circuit 2090 (DB/OG), harness side and ground
  ▪ C3043-12, circuit 2089 (OG/BK), harness side and ground.
 	
 
 	
N0003715
	Yes
	REPAIR circuit 2088 (TN/RD), 2089 (OG/BK) or 2090 (DB/OG). GO to T10 .
	
	No
	GO to T3 .

- **Is voltage present on any circuit?**

T3 CHECK BTS CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Measure the resistance between OCSM C3043, harness side and BTS C3238, harness side using the following chart.

OCSM	Circuit	BTS
C3043-11	2088 (TN/RD)	C3238-1
C3043-13	2090 (DB/OG)	C3238-2
C3043-12	2089 (OG/BK)	C3238-3



N0081424

- **Are the resistances less than 0.5 ohm?**

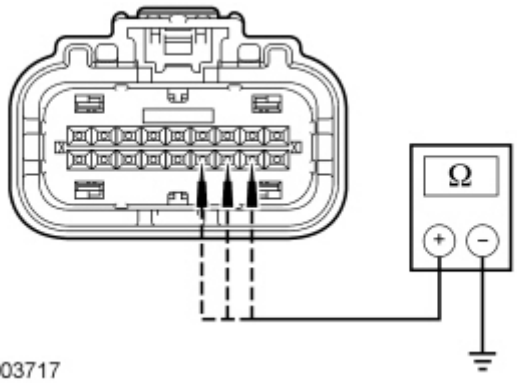
Yes
GO to T5.

No
REPAIR circuit 2088 (TN/RD), 2089 (OG/BK) or 2090 (DB/OG).

GO to T10.

T4 CHECK BTS CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Disconnect: Passenger Seat Side Air Bag C337.
- Connect: Restraint System Diagnostic Tool 418-133 to Passenger Seat Side Air Bag C337.
- Disconnect: OCSM C3043.
- Measure the resistance between OCSM:
  - C3043-11, circuit 2088 (TN/RD), harness side and ground.
  - C3043-12, circuit 2089 (OG/BK), harness side and ground.
  - C3043-13, circuit 2090 (DB/OG), harness side and ground.



N0003717

- **Are the resistances greater than 10,000 ohms?**

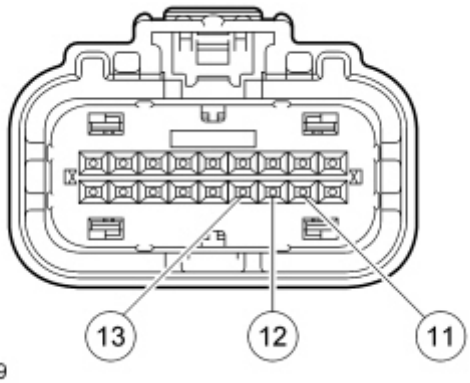
Yes
GO to T5.

No
REPAIR circuit 2088 (TN/RD), 2089 (OG/BK) or 2090 (DB/OG).
GO to T10.

T5 CHECK FOR A SHORT BETWEEN BTS CIRCUITS

- Measure the resistance between the OCSM C3043, harness side using the following chart:

OCSM	OCSM
C3043-11, circuit 2088 (TN/RD)	C3043-12, circuit 2089 (OG/BK)
C3043-11, circuit 2088 (TN/RD)	C3043-13, circuit 2090 (DB/OG)
C3043-12, circuit 2089 (OG/BK)	C3043-13, circuit 2090 (DB/OG)



N0081189

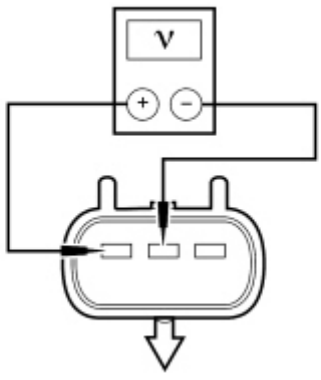
- **Are the resistances greater than 10,000 ohms?**

Yes
GO to T6.

No
REPAIR circuit 2088 (TN/RD), 2089 (OG/BK) or 2090 (DB/OG). GO to T10.

T6 CHECK THE OCSM OUTPUT

- Connect: OCSM C3043.
- Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Ignition ON.
- Measure the voltage between BTS C3238-1, circuit 2088 (TN/RD), harness side and C3238-2, circuit 2090 (DB/OG), harness side.



A0083314

- **Is voltage approximately 5 volts?**

Yes
GO to T7.

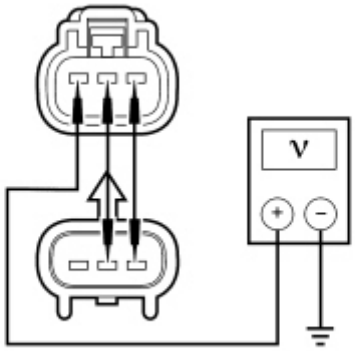
No
INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to T10.

T7 CHECK BTS VOLTAGE OUTPUT

- Ignition OFF.
- Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
- Connect a fused jumper lead between BTS C3238-1, circuit 2088 (TN/RD), harness side and pin 1, circuit 2088 (TN/RD), component side.

Yes
GO to T8.

No
INSTALL a new BTS (part of safety belt and retractor

• Connect a fused jumper lead between BTS C3238-2, circuit 2090 (DB/OG), harness side and pin 2, circuit 2090 (DB/OG), component side. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between BTS C3238-3, circuit 2089 (OG/BK), component side and ground as you vary the tension of the BTS by pulling on the safety belt webbing near the anchor of the safety belt.  A0080136 • **Does the voltage vary from approximately 0.95 volt with no tension applied to the sensor, to approximately 3.8 volts with full tension applied to the sensor?**	assembly). REFER to Front Safety Belt Retractor in Section 501-20A . GO to T10 .
T8 CONFIRM THE OCS SYSTEM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Connect: BTS C3238. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2909 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2909 fault PIDs. • **Do any on-demand DTC B2909 fault PIDs indicate a fault?**	**Yes** INSTALL a new OCS system service kit. REFER to Occupant Classification Sensor in this section. GO to T10 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to T10 .
T9 CHECK FOR AN INTERMITTENT FAULT	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • Enter the following diagnostic mode on the scan tool: DataLogger — RCM — View and Record All 2909 Fault PIDs . ▪ Refer to PID list in Normal Operation to view B2909 fault PIDs. • **Do any on-demand DTC B2909 fault PIDs indicate a fault?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. Using the fault PIDs recorded, GO to the appropriate pinpoint test step.

	For 2909_31_OD (Front Passenger Side Belt Tension Sensor Circuit Fault), GO to T2 . For 2909_29_OD (Front Passenger Side Belt Tension Sensor Short to Ground), GO to T4 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to T10 .
T10 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test U: LFC 15/DTC C1414

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors the communication condition and circuits of the Occupant Classification System Module (OCSM) for an embedded vehicle ID. If the RCM detects an unexpected condition or code from the OCSM , it will store DTC C1414 in memory and flash Lamp Fault Code (LFC) 15 on the air bag warning indicator.

- DTC C1414 Incorrect Module Design Level — If the RCM detects software and hardwired vehicle ID combination that does not match at start-up, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Incorrect RCM for vehicle
- Incorrect OCS system for vehicle

PINPOINT TEST U: LFC 15/DTC C1414

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
U1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1414 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to U2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to U5 .
U2 CHECK THE OCS SYSTEM PART NUMBER • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Check the part number of the OCSM against the part number listed in the master parts catalog. • **Did the part number on the OCSM match the part number listed in the master parts catalog?**	**Yes** GO to U3 . **No** INSTALL a new OCS system service kit with the correct part number. REFER to Occupant Classification Sensor in this section. GO to U6 .
U3 CHECK THE RCM PART NUMBER • Check the part number on the RCM against the part number listed in the master parts catalog. • **Did the part number on the RCM match the part number listed in the master parts catalog?**	**Yes** GO to U4 . **No** INSTALL a new RCM with the correct part number. REFER to Restraints Control Module (RCM) in this section. GO to U6 .
U4 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to U6 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed**

the scan tool: Self Test — RCM . • **Was RCM DTC C1414 retrieved on-demand during the self test?**	**to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to U6 .
U5 CHECK FOR INTERMITTENT FAULTS	
• Ignition OFF. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1414 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to U2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to U6 .
U6 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test V: LFC 49/DTC C1947

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver seat is equipped with a seat track position sensor. The seat track position sensor is comprised of integrated circuits called a Hall-effect switch. The seat track position sensor indicates the position of the driver seat, forward or rearward, to the Restraints Control Module (RCM).

The RCM supplies current to the seat track position sensor. Current flows through the switch, both in the forward or rearward seat position to ground. The RCM will sense the difference in this current draw, 6 mA (forward) or 15 mA (rearward), and use this information in determining the deployment rate of the dual-stage driver air bag module. If the RCM detects current out of range, it will set a DTC.

The RCM continuously monitors the driver seat track position sensor circuits. If the RCM detects a short to

ground, it will store DTC C1947 in memory and flash I Lamp Fault Code (LFC) 49 on the air bag warning indicator.

- DTC C1947 Front Driver's Seat Track Position Switch Circuit Short to Ground — If the RCM detects a short to ground on the driver seat track position sensor circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver seat track position sensor
- RCM

PINPOINT TEST V: LFC 49/DTC C1947

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

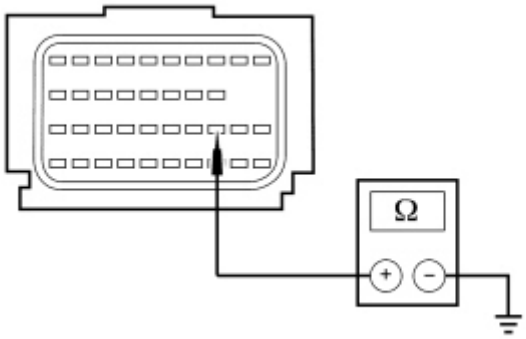
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
V1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1947 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to V2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to V5 .
V2 CHECK DRIVER SEAT TRACK POSITION SENSOR CIRCUIT FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Seat Side Air Bag C367.	**Yes** GO to V3 . **No**

• Connect: Restraint System Diagnostic Tool 418-133 to Driver Seat Side Air Bag C367. • Disconnect: Driver Seat Track Position Sensor C356. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041b-23, circuit 1520 (LG), harness side and ground.  A0074754 • **Is resistance greater than 10,000 ohms?**	REPAIR circuit 1520 (LG). GO to V6.
V3 CHECK THE SEAT TRACK POSITION SENSOR **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Install a known good seat track position sensor. Refer to Seat Position Sensor in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC C1947 retrieved on-demand during the self test?**	**Yes** GO to V4. **No** Fault corrected. GO to V6.
V4 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Reinstall the original seat track position sensor. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC C1947 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to V6. **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to V6.
V5 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC C1947 retrieved on-demand during the self**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is

test?	corrected and the DTC is no longer retrieved during the on-demand self test. GO to V2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to V6 .
V6 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test W: LFC 49/DTC C1948

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

NOTE: Due to the seat track position sensor being a Hall-effect type sensor, this pinpoint test will be diagnosing a current out of range fault instead of the current DTC definition for a resistance out of range fault.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver seat is equipped with a seat track position sensor. The seat track position sensor is comprised of integrated circuits called a Hall-effect switch. The seat track position sensor indicates the position of the driver seat, forward or rearward, to the Restraints Control Module (RCM).

The RCM supplies current to the seat track position sensor. Current flows through the switch, both in the forward or rearward seat position to ground. The RCM will sense the difference in this current draw, 6 mA (forward) or 15 mA (rearward), and use this information in determining the deployment rate of the dual-stage driver air bag module. If the RCM detects current out of range, it will set a DTC.

The RCM monitors the driver seat track position sensor circuits. If the RCM detects a current out of range condition, it will store DTC C1948 in memory and flash Lamp Fault Code (LFC) 49 on the air bag warning indicator.

- DTC C1948 Front Driver's Seat Track Position Switch Circuit Resistance Out of Range — If the RCM

detects a current out of range between forward and rearward on the driver seat track position switch, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Seat track position sensor
- RCM

PINPOINT TEST W: LFC 49/DTC C1948

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
W1 RETRIEVE RCM DTCs • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC C1948 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to W2. **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to W4.
W2 CHECK THE SEAT TRACK POSITION SENSOR • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Install a known good seat track position sensor. Refer to Seat Position Sensor in this section. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and	**Yes** GO to W3. **No** Fault corrected. GO to W5.

Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1948 retrieved on-demand during the self test?**	
W3 CONFIRM THE RCM FAULT	
NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Install the original seat track position sensor. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1948 retrieved on-demand during the self test?**	**Yes** INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to W5 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to W5 .
W4 CHECK FOR AN INTERMITTENT FAULT	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1948 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to W2 . **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to W5 .
W5 CHECK FOR ADDITIONAL SRS DTCs	
• Ignition OFF. •  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs . PROVE OUT the SRS . Repair is complete. RETURN the vehicle to the customer.

• Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Are any RCM DTCs retrieved on-demand during the self test?**	

Pinpoint Test X: LFC 49/DTC C1981

Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information.

Normal Operation

As part of the Supplemental Restraint System (SRS), the driver seat is equipped with a seat track position sensor. The seat track position sensor is comprised of integrated circuits called a Hall-effect switch. The seat track position sensor indicates the position of the driver seat, forward or rearward, to the Restraints Control Module (RCM).

The RCM supplies current to the seat track position sensor. Current flows through the switch, both in the forward or rearward seat position to ground. The RCM will sense the difference in this current draw, 6 mA (forward) or 15 mA (rearward), and use this information in determining the deployment rate of the dual-stage driver air bag module. If the RCM detects current out of range, it will set a DTC.

The RCM monitors the driver seat track position sensor circuits. If the RCM detects an open circuit or short to voltage, it will store DTC C1981 in memory and flash Lamp Fault Code (LFC) 49 on the air bag warning indicator.

- DTC C1981 Front Driver's Seat Track Position Switch Circuit Fault — If the RCM detects an open or short to battery on the driver seat track position sensor circuit, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat track position switch
- RCM

PINPOINT TEST X: LFC 49/DTC C1981

WARNING: Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly violate vehicle safety standards.

WARNING: Never probe the electrical connectors on air bag, Safety Canopy® or side air curtain modules. Failure to follow this instruction may result in the accidental deployment of these modules, which increases the risk of serious personal injury or death.

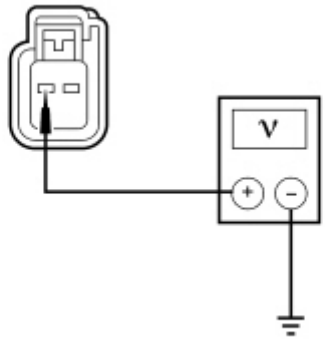
WARNING: Never disassemble or tamper with safety belt buckle/retractor pretensioners or adaptive load limiting retractors or probe the electrical connectors. Failure to follow this instruction may result in the accidental deployment of the safety belt pretensioners or adaptive load limiting retractors which increases the risk of serious personal injury or death.

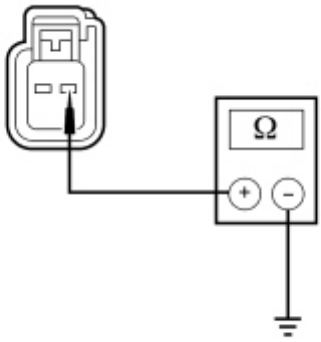
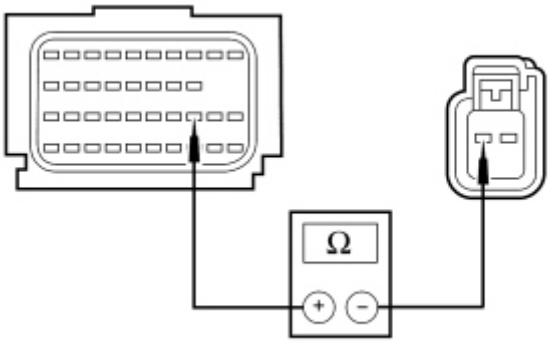
NOTICE: **Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector. Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.**

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a

pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
X1 RETRIEVE RCM DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — RCM . • **Was RCM DTC C1981 retrieved on-demand during the self test?**	**Yes** This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to X2 . **No** This is an intermittent fault when present as a CMDTC only. The fault condition is not present at this time. GO to X7 .
X2 CHECK DRIVER SEAT TRACK POSITION SENSOR CIRCUIT FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: Driver Seat Side Air Bag C367. • Connect: Restraint System Diagnostic Tool 418-133 to Driver Seat Side Air Bag C367. • Disconnect: Driver Seat Track Position Sensor C356. • Disconnect: RCM C2041a and C2041b. • Repower the SRS . **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Measure the voltage between driver seat track position sensor C356-2, circuit 1520 (LG), harness side and ground.  A0088603 • **Is any voltage present?**	**Yes** REPAIR circuit 1520 (LG). GO to X8 . **No** GO to X3 .
X3 CHECK DRIVER SEAT TRACK POSITION SENSOR GROUND CIRCUIT FOR AN OPEN	
• Ignition OFF. • Depower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Measure the resistance between driver seat track position sensor C356-1, circuit 1203 (BK/LB), harness side and ground.	**Yes** GO to X4 . **No** REPAIR circuit 1203 (BK/LB). GO to X8 .

 A0088601 • **Is resistance less than 5 ohms?**	
X4 CHECK DRIVER SEAT TRACK POSITION SENSOR CIRCUIT FOR AN OPEN • Ignition OFF. • Measure the resistance between RCM C2041b-23, circuit 1520 (LG), harness side and driver seat track position sensor C356-2, circuit 1520 (LG), harness side.  A0048716 • **Is resistance less than 0.5 ohm?**	**Yes** GO to X5. **No** REPAIR circuit 1520 (LG). GO to X8.
X5 CHECK THE SEAT TRACK POSITION SENSOR • Install a known good seat track position sensor. Refer to Seat Position Sensor in this section. • Connect: RCM C2041a and C2041b. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC C1981 retrieved on-demand during the self test?**	**Yes** GO to X6. **No** Fault corrected. GO to X8.
X6 CONFIRM THE RCM FAULT **NOTE:** Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded. • Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Install the original seat track position sensor. • Repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Enter the following diagnostic mode on the scan tool: Self Test — RCM.	**Yes** INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section. GO to X8. **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time.**

• **Was RCM DTC C1981 retrieved on-demand during the self test?**	**SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to X8.
X7 CHECK FOR AN INTERMITTENT FAULT • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Was RCM DTC C1981 retrieved on-demand during the self test?**	**Yes** This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to X2. **No** CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. GO to X8.
X8 CHECK FOR ADDITIONAL SRS DTCs • Ignition OFF. • **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.** • Reconnect all SRS components (if previously disconnected). ▪ If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — RCM. • **Are any RCM DTCs retrieved on-demand during the self test?**	**Yes** Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Chart in this section for pinpoint test direction. **No** CLEAR all RCM CMDTCs. PROVE OUT the SRS. Repair is complete. RETURN the vehicle to the customer.

Pinpoint Test Y: DTC B1317 or B1318

Refer to Wiring Diagrams Cell 46, Supplemental Restraint System for schematic and connector information.

NOTE: DTCs B1317, B1318 or B1676 can be set if the vehicle has been recently jump started, the battery has been recently charged or the battery has been discharged. The battery may become discharged due to excessive load(s) on the charging system from aftermarket accessories or if the battery has been left unattended with the accessories on.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the input voltage for correct operation. If the RCM detects input voltage below 9.5 volts, it will store DTC B1318 in memory. If the RCM detects input voltage above

16.2 volts, it will store DTC B1317 in memory. If the RCM sets DTC B1317 or B1318, it will illuminate the air bag warning indicator.

- DTC B1317 Battery Voltage High— If the RCM detects voltage above 16.2 volts, it will set this DTC.
- DTC B1318 Battery Voltage Low— If the RCM detects voltage below 9.5 volts, it will set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- RCM

PINPOINT TEST Y: DTC B1317 OR B1318

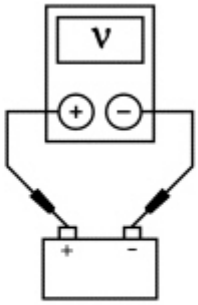
WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
Y1 RETRIEVE ALL CMDTCs IN ALL MODULES • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — ALL CMDTC (Continuous Memory). • **Is DTC B1317, B1318 or B1676 present in one or more modules AND P0563, P0620, P0625, P0626 or P065B retrieved from the PCM?**	**Yes** REFER to Section 414-00 to diagnose the charging system. **No** GO to Y2 .
Y2 TEST BATTERY CONDITION **NOTE:** DTCs B1317, B1318 or B1676 can be set if the vehicle has been recently jump started, the battery has been recently charged or the battery has been discharged. The battery may become discharged due to excessive load(s) on the charging system from aftermarket accessories or if the battery has been left unattended with the accessories on. • Ignition OFF. • Carry out the battery condition test. Refer to Section 414-00 . • **Did the battery pass the condition test?**	**Yes** If the battery passed the condition test but required a recharge, Section 414-00 to diagnose the charging system. CLEAR all CMDTCs . TEST the system for normal operation. If the battery passed the condition test and did not require a recharge, GO to Y3 . **No** INSTALL a new battery. CLEAR all CMDTCs . PROVE OUT the SRS .
Y3 CHECK CHARGING SYSTEM VOLTAGE	

NOTE: Do not allow the engine speed to increase above 2,000 rpm while performing this step or the generator may self excite and result in default charging system output voltage. If engine speed goes above 2,000 rpm, shut the vehicle off and restart the engine before performing this step.
• Measure the voltage of the battery:
  ▪ for DTC B1317, turn all accessories off and run the engine at 1,500 rpm for a minimum of 2 minutes while measuring battery voltage.
  ▪ for DTC B1318, turn on headlights and HVAC fan on high and run engine at 1,500 rpm for a minimum of 2 minutes while measuring battery voltage.
 
 	
AJ0210-A
• **Is the voltage between 13 and 15.2 volts?**
	Yes
	For DTC B1318, GO to Y4.
	
	For DTC B1317, GO to Y6.
	
	No
	REFER to Section 414-00 to diagnose the charging system. CLEAR all CMDTCs. PROVE OUT the SRS.

Y4 CHECK THE RCM IGNITION CIRCUIT FOR HIGH RESISTANCE	
• Ignition OFF. • Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Disconnect: RCM C2041a and C2041b. • Measure the resistance between RCM C2041a-12, circuit 937 (RD/WH), harness side, and SJB fuse 17. • **Is resistance less than 1 ohm?**	**Yes** GO to Y5. **No** REPAIR the circuit as necessary. CLEAR all CMDTCs. PROVE OUT the SRS.
Y5 CHECK FOR OPEN GROUND TO THE MODULE	
• Measure the resistance between the RCM C2041a-16, circuit 1203 (BK/LB), harness side, and a good ground. • **Is resistance less than 5 ohms?**	**Yes** GO to Y6. **No** REPAIR the circuit as necessary. MAKE SURE the RCM fasteners are clean and tightened to specification with no corrosion. REPAIR as necessary. CLEAR all CMDTCs. PROVE OUT the SRS.
Y6 CHECK FOR MODULE OPERATION	

• Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section.
• Disconnect: RCM C2041a and C2041b.
• Check for the following:
  ▪ corrosion.
  ▪ damaged pins.
  ▪ pushed-out pins.
• Connect the RCM C2041a and C2041b and make sure the connector seats correctly.
	Yes
	INSTALL a new RCM. REFER to Restraints Control Module (RCM) in this section.
	
	No
	The system is operating correctly at

• Repower the SRS . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in this section. • Operate the system and verify the concern is still present. • **Is the concern still present?**	this time. The concern may have been caused by a loose or corroded connector. CLEAR all CMDTCs . PROVE OUT the SRS .