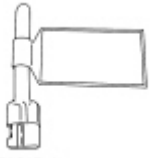





## Seats

### Special Tool(s)

 ST2507-A	Diagnostic Service Tool, Restraint System (2 required) 418-133
 ST2574-A	Flex Probe Kit 105-R025C or equivalent
 ST1137-A	FLUKE 73 III 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

### 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.

### Principles of Operation

#### Power Seats

The 6-way power seat feature moves the seat in 6 possible directions: the base of the seat can be moved forward or rearward and the front and back of the seat cushion can be moved up and down independently. The power seat feature operates independent of the position of the ignition.

The power seat motors are hardwired to the seat control switch. The circuits are normally at ground through the seat control switch. An individual circuit is supplied voltage when a specific switch position is selected.

## Heated Seats

**NOTICE:** Do not install a new heater mat on a front passenger seat cushion. If a new cushion heater mat is needed on the front passenger seat, an Occupant Classification Sensor (OCS) service kit equipped with a heater mat must be installed. Failure to follow this instruction may result in incorrect operation of the [OCS](#) system. Refer to [Section 501-20B](#) for the Occupant Classification Sensor Removal and Installation procedure.

The driver and passenger heated seats share a common battery voltage circuit to the heated seat relay junction box. The ignition switch supplies circuit voltage to the logic board and illumination of the heated seat switches located on the HVAC module. Battery voltage is supplied to the heater mats.

There are 2 voltage supply circuits to the heated seat relay. One circuit energizes the heated seat relay and heated seat switch indicator when the ignition switch is in the RUN position and the heated seat switch is activated. This closes the relay, switching voltage to the cushion and backrest heater mats from the other voltage supply circuit. The heated seat will remain on until the heated seat switch is selected off or a 10-minute time-out period occurs. If ignition switch is cycled OFF, the heated seat system is off.

Each seat's cushion and backrest heater mats are wired in series circuits. Seat temperature is maintained using a bi-metallic thermostat in each cushion heater mat which opens and closes, switching voltage on and off to the heater mats.

## Inspection and Verification

1. Verify the customer concern by operating the system.
2. Visually inspect for obvious signs of mechanical or electrical damage.

### Visual Inspection Chart

Mechanical	Electrical
<ul style="list-style-type: none"> <li>• Front seat track</li> <li>• Seat at limit(s) of travel</li> <li>• Seat tracks obstructed or damaged</li> <li>• Power lumbar assembly damaged</li> </ul>	<ul style="list-style-type: none"> <li>• Heated seat Bussed Electrical Center (BEC) fuse 66 (25A)</li> <li>• Driver power seat and lumbar <a href="#">BEC</a> fuse 14 (30A)</li> <li>• Passenger power seat <a href="#">BEC</a> fuse 15 (30A)</li> <li>• Loose, corroded or damaged connectors</li> <li>• Seat control switch</li> <li>• Heated seat switch (part of HVAC module)</li> <li>• Heated seat relays</li> <li>• Lumbar control switch</li> <li>• Cushion heater mat</li> <li>• Backrest heater mat</li> </ul>

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. If the concern is not visually evident, verify the symptom. GO to [Symptom Chart](#).

## Symptom Chart

### Symptom Chart

Condition	Possible Sources	Action
<ul style="list-style-type: none"> <li>• The power seat is inoperative — driver</li> </ul>	<ul style="list-style-type: none"> <li>• Fuse</li> <li>• Circuitry</li> <li>• Seat control switch</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">GO to Pinpoint Test A</a>.</li> </ul>

<ul style="list-style-type: none"> <li>The power seat is inoperative — passenger</li> </ul>	<ul style="list-style-type: none"> <li>Fuse</li> <li>Circuitry</li> <li>Seat control switch</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test B.</a></li> </ul>
<ul style="list-style-type: none"> <li>The power seat moves but is noisy</li> </ul>	<ul style="list-style-type: none"> <li>Seat track alignment</li> <li>Seat track</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test C.</a></li> </ul>
<ul style="list-style-type: none"> <li>The power seat moves but is loose</li> </ul>	<ul style="list-style-type: none"> <li>Fastening hardware</li> <li>Seat track</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test D.</a></li> </ul>
<ul style="list-style-type: none"> <li>The power seat does not make full travel</li> </ul>	<ul style="list-style-type: none"> <li>Seat track obstructed</li> <li>Seat track</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test E.</a></li> </ul>
<ul style="list-style-type: none"> <li>The power seat does not move horizontally/vertically — driver</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry</li> <li>Seat control switch</li> <li>Seat track</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test F.</a></li> </ul>
<ul style="list-style-type: none"> <li>The power seat does not move horizontally/vertically — passenger</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry</li> <li>Seat control switch</li> <li>Seat track</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test G.</a></li> </ul>
<ul style="list-style-type: none"> <li>The power lumbar is inoperative</li> </ul>	<ul style="list-style-type: none"> <li>Fuse</li> <li>Circuitry</li> <li>Lumbar control switch</li> <li>Lumbar assembly</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test H.</a></li> </ul>
<ul style="list-style-type: none"> <li>The heated seat is inoperative</li> </ul>	<ul style="list-style-type: none"> <li>Fuse</li> <li>Circuitry</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test I.</a></li> </ul>
<ul style="list-style-type: none"> <li>The heated seat is inoperative — driver seat does not heat but the heated seat indicator illuminates when pressed</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry</li> <li>Cushion heater mat</li> <li>Backrest heater mat</li> <li>Heated seat relay</li> <li>HVAC module</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test J.</a></li> </ul>
<ul style="list-style-type: none"> <li>The heated seat is inoperative — passenger seat does not heat but the heated seat indicator illuminates when pressed</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry</li> <li>Cushion heater mat</li> <li>Backrest heater mat</li> <li>Heated seat relay</li> <li>HVAC module</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">GO to Pinpoint Test K.</a></li> </ul>

## Pinpoint Tests

Refer to Inspection and Verification and the Symptom Chart for direction to the appropriate pinpoint test.

### Pinpoint Test A: The Power Seat is Inoperative — Driver

Refer to Wiring Diagrams Cell [120](#), Power Seats for schematic and connector information.

## Normal Operation

The seat control switch is supplied battery voltage through circuit 566 (DG) and is grounded by circuit 1205 (BK). The seat control switch then supplies voltage and ground to the appropriate circuits to operate the seat motors.

**This pinpoint test is intended to diagnose the following:**

- Fuse
- Wiring, terminals or connectors
- Seat control switch

### PINPOINT TEST A: THE POWER SEAT IS INOPERATIVE — DRIVER




**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.

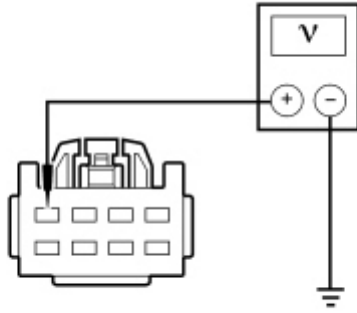
**NOTICE:** Use the correct probe adapter(s) from the Flex Probe Kit when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

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

**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<p><b>A1 CHECK VOLTAGE TO SEAT CONTROL SWITCH CIRCUIT 566 (DG)</b></p> <ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Depower the <a href="#">SRS</a>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li> <li>• Disconnect: Driver Seat Side Air Bag C367.</li> <li>• Connect: Restraint System Diagnostic Service Tool 418-133 to Driver Seat Side Air Bag C367.</li> <li>• Disconnect: Driver Seat Control Switch C360.</li> <li>•  <b>WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.</b></li> <li>• Connect the battery ground cable. Refer to <a href="#">Section 414-01</a>.</li> <li>• Measure voltage between driver seat control switch C360-4, circuit 566 (DG), harness side and ground.</li> </ul>	<p><b>Yes</b> GO to <a href="#">A2</a>.</p> <p><b>No</b> VERIFY Bussed Electrical Center (BEC) fuse 14 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.</p> <p>DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367. CONNECT driver seat side air bag module C367. REPOWER the <a href="#">SRS</a>. REFER to <a href="#">Section 501-20B</a>.</p>

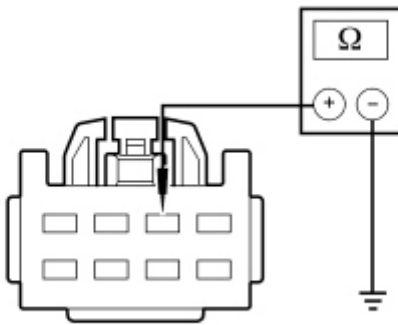


N0013956

- Is voltage greater than 10 volts?

#### A2 CHECK SEAT CONTROL SWITCH CIRCUIT 1205 (BK) FOR AN OPEN

- Measure resistance between driver seat control switch C360-2, circuit 1205 (BK), harness side and ground.



N0013957

- Is resistance less than 5 ohms?

#### Yes

INSTALL a new seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

#### No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

### Pinpoint Test B: The Power Seat is Inoperative — Passenger

Refer to Wiring Diagrams Cell [120](#), Power Seats for schematic and connector information.

#### Normal Operation

The seat control switch is supplied battery voltage through circuit 1462 (RD/WH) and is grounded by circuit 1205 (BK). The seat control switch then supplies voltage and ground to the appropriate circuits to operate the seat motors.

**This pinpoint test is intended to diagnose the following:**

- Fuse
- Wiring, terminals or connectors
- Seat control switch

**PINPOINT TEST B: THE POWER SEAT IS INOPERATIVE — PASSENGER**

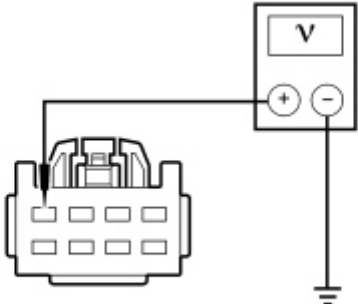
**⚠ WARNING:** Remove restraint system diagnostic tools from the vehicle prior to road testing. If tools are not removed, the supplemental restraint system (SRS) device may not deploy in a crash. Failure to follow this instruction may result in serious personal injury or death in a crash and possibly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

**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.

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

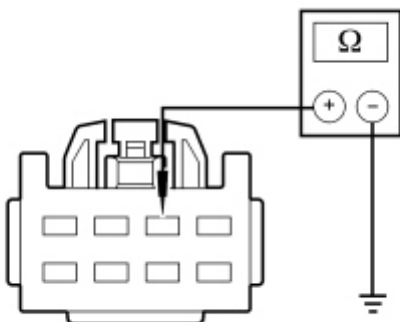
**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<p><b>B1 CHECK VOLTAGE TO SEAT CONTROL SWITCH CIRCUIT 1462 (RD/WH)</b></p> <ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Depower the <b>SRS</b>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li> <li>• Disconnect: Passenger Seat Side Air Bag C337.</li> <li>• Connect: Restraint System Diagnostic Service Tool 418-133 to Passenger Seat Side Air Bag C337.</li> <li>• Disconnect: Passenger Seat Control Switch C3190.</li> <li>• <b>⚠ WARNING:</b> Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.</li> <li>• Connect the battery ground cable. Refer to <a href="#">Section 414-01</a>.</li> <li>• Measure voltage between passenger seat control switch C3190-4, circuit 1462 (RD/WH), harness side and ground.</li> </ul>  <p>N0013956</p> <ul style="list-style-type: none"> <li>• Is voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> GO to <a href="#">B2</a>.</p> <p><b>No</b> VERIFY Bussed Electrical Center (BEC) fuse 15 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.</p> <p>DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the <b>SRS</b>. REFER to <a href="#">Section 501-20B</a>.</p>

## B2 CHECK SEAT CONTROL SWITCH CIRCUIT 1205 (BK) FOR AN OPEN

- Measure resistance between passenger seat control switch C3190-2, circuit 1205 (BK), harness side and ground.



N0013957

- Is resistance less than 5 ohms?

### Yes

INSTALL a new seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

### No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

## Pinpoint Test C: The Power Seat Moves But is Noisy

### Normal Operation

Power seat movement should be quiet during operation. Some noise is acceptable.

**This pinpoint test is intended to diagnose the following:**

- Seat track alignment
- Seat track obstruction
- Seat track

## PINPOINT TEST C: THE POWER SEAT MOVES BUT IS NOISY

Test Step	Result / Action to Take
<b>C1 CHECK THE TRACK ALIGNMENT</b>	
<ul style="list-style-type: none"> <li>• Check the alignment of the track to the floor and the track to the seat.</li> <li>• <b>Is the track out of alignment?</b></li> </ul>	<p><b>Yes</b> ALIGN the track to the seat and the floor. TEST the system for normal operation.</p> <p><b>No</b> IDENTIFY the cause and REPAIR as necessary. TEST the system for normal operation.</p>

## Pinpoint Test D: The Power Seat Moves But is Loose

### Normal Operation

Power seat movement should be smooth and the seat cushion should not rock during or after operation.

**This pinpoint test is intended to diagnose the following:**

- Seat track fastening hardware
- Seat track

### PINPOINT TEST D: THE POWER SEAT MOVES BUT IS LOOSE

Test Step	Result / Action to Take
<b>D1 CHECK THE FASTENING HARDWARE</b>	
<ul style="list-style-type: none"> <li>• Inspect the seat fastening hardware.</li> <li>• <b>Is the fastening hardware loose?</b></li> </ul>	<p><b>Yes</b> TIGHTEN all fastening hardware to specification. TEST the system for normal operation.</p> <p><b>No</b> IDENTIFY the cause and REPAIR as necessary. TEST the system for normal operation.</p>

## Pinpoint Test E: The Power Seat Does Not Make Full Travel

### Normal Operation

The power seat should travel fully horizontal (forward/rearward) and vertical (front up/down and rear up/down).

**This pinpoint test is intended to diagnose the following:**

- Seat track obstruction
- Seat track

### PINPOINT TEST E: THE POWER SEAT DOES NOT MAKE FULL TRAVEL

**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<b>E1 CHECK FOR AN OBSTRUCTION IN THE SEAT TRACK</b>	
<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Depower the <a href="#">SRS</a>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li> <li>• Remove the affected seat. Refer to <a href="#">Seat — Front</a> in this section.</li> <li>• <b>Is the seat track free from obstruction?</b></li> </ul>	<p><b>Yes</b> IDENTIFY the cause and REPAIR as necessary. TEST the system for normal operation.</p> <p>REPOWER the <a href="#">SRS</a>. REFER to <a href="#">Section 501-20B</a>.</p> <p><b>No</b> REMOVE the obstruction(s) from the track(s). TEST the system for normal</p>



operation.

REPOWER the [SRS](#). REFER to [Section 501-20B](#).

### Pinpoint Test F : The Power Seat Does Not Move Horizontally/Vertically — Driver

Refer to Wiring Diagrams Cell [120](#), Seating for schematic and connector information.

#### Normal Operation

The seat control switch supplies battery voltage and ground to 1 of 3 power seat track motors through horizontal motor circuits 980 (YE/WH) and 981 (RD/WH), front height motor circuits 979 (RD/LB) and 990 (YE/LB) or rear height motor circuits 982 (YE/LG) and 983 (RD/LG) to move the seat in the desired direction.

**This pinpoint test is intended to diagnose the following:**

- Wiring, terminals or connectors
- Seat control switch
- Seat track motor

### PINPOINT TEST F: THE POWER SEAT DOES NOT MOVE HORIZONTALLY/VERTICALLY — DRIVER



**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.

**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.

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


**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

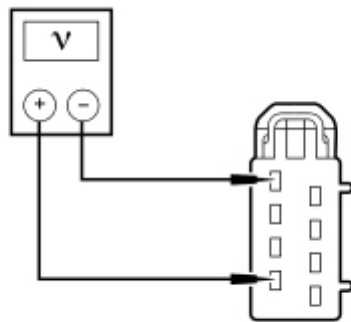
**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<b>F1 CHECK THE HORIZONTAL MOTOR FOR CORRECT OPERATION</b>	
<ul style="list-style-type: none"><li>• Operate the driver seat control switch to the forward and rearward positions.</li><li>• <b>Does the seat move horizontally?</b></li></ul>	<b>Yes</b> GO to <a href="#">F2</a> .  <b>No</b> GO to <a href="#">F9</a> .
<b>F2 DETERMINE SEAT HEIGHT ADJUST FAILURE</b>	
<ul style="list-style-type: none"><li>• Determine the seat height adjust failure.</li><li>• <b>Does the seat front or rear height adjust up and down?</b></li></ul>	<b>Yes</b> If only the front height adjust operates, GO to <a href="#">F3</a> .  If only the rear height adjust operates, GO to <a href="#">F6</a> .  <b>No</b> INSTALL a new seat control

switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

**F3 CHECK VOLTAGE TO THE REAR HEIGHT MOTOR**

- Ignition OFF.
- Depower the [SRS](#). Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag C367.
- Connect: Restraint System Diagnostic Service Tool 418-133 to Driver Seat Side Air Bag C367.
- Disconnect: Driver Power Seat Motor Assembly C353.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.**
- Connect the battery ground cable. Refer to [Section 414-01](#).
- Measure voltage between driver power seat motor assembly C353-8, circuit 983 (RD/LG) and C353-2, circuit 982 (YE/LG), harness side, while operating the seat control switch rear height up and down.



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- Is voltage greater than 10 volts when the seat control switch is toggled in both directions and 0 volt in the rest position?

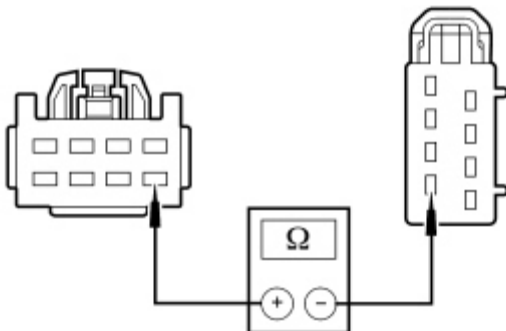
**Yes**  
 INSTALL a new power seat track. REFER to [Seat Track — Power](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367. CONNECT driver seat side air bag module C367. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

**No**  
 GO to [F4](#).

**F4 CHECK CIRCUIT 983 (RD/LG) FOR AN OPEN**

- Disconnect: Driver Seat Control Switch C360.
- Measure resistance between driver seat control switch C360-5, circuit 983 (RD/LG), harness side and driver power seat motor assembly C353-8, circuit 983 (RD/LG), harness side.



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- Is resistance less than 5 ohms?

**Yes**  
 GO to [F5](#).

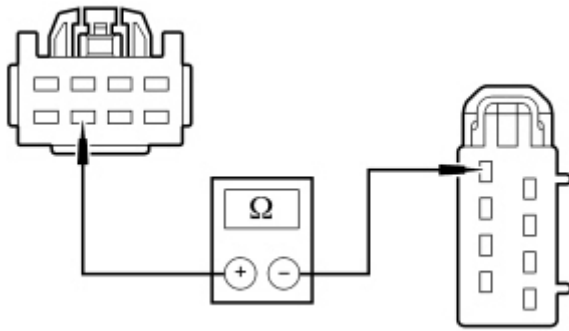
**No**  
 REPAIR the circuit. TEST the system for normal operation.  
 DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367. CONNECT driver seat side air bag module C367. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

**F5 CHECK CIRCUIT 982 (YE/LG) FOR AN OPEN**

- Measure resistance between driver seat control switch C360-7,

**Yes**

circuit 982 (YE/LG), harness side and driver power seat motor assembly C353-2, circuit 982 (YE/LG), harness side.



N0013780

- Is resistance less than 5 ohms?

INSTALL a new driver seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.


DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

**No**

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

#### F6 CHECK VOLTAGE TO THE FRONT HEIGHT MOTOR

- Ignition OFF.
- Depower the [SRS](#). Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag C367.
- Connect: Restraint System Diagnostic Service Tool 418-133 to Driver Seat Side Air Bag C367.
- Disconnect: Driver Power Seat Motor Assembly C353.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.**
- Connect the battery ground cable. Refer to [Section 414-01](#).
- Measure voltage between driver power seat motor assembly C353-1, circuit 979 (RD/LB) and C353-7, circuit 990 (YE/LB), harness side while operating the driver seat control switch front height up and down.

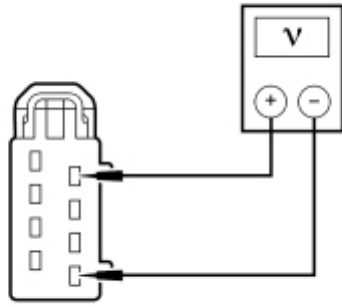
**Yes**

INSTALL a new power seat track. REFER to [Seat Track — Power](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

**No**

GO to [F7](#).

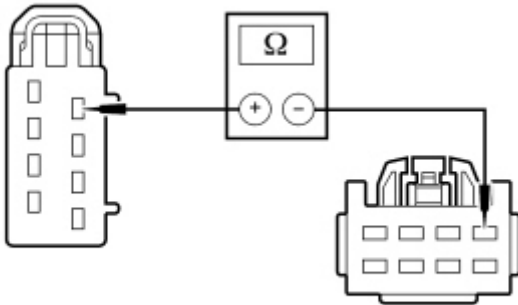


N0013781

- Is voltage greater than 10 volts when the seat control switch is toggled in both directions and 0 volt in the rest position?

#### F7 CHECK CIRCUIT 979 (RD/LB) FOR AN OPEN

- Disconnect: Driver Seat Control Switch C360.
- Measure resistance between driver seat control switch C360-1, circuit 979 (RD/LB), harness side and driver power seat motor assembly C353-1, circuit 979 (RD/LB), harness side.

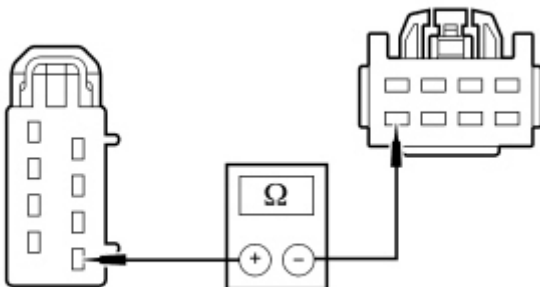


N0013782

- Is resistance less than 5 ohms?

#### F8 CHECK CIRCUIT 990 (YE/LB) FOR AN OPEN

- Measure resistance between driver seat control switch C360-8, circuit 990 (YE/LB), harness side and driver power seat motor assembly C353-7, circuit 990 (YE/LB), harness side.



N0013783

- Is resistance less than 5 ohms?

**Yes**

GO to [F8](#).

**No**

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

**Yes**

INSTALL a new driver seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).


**No**

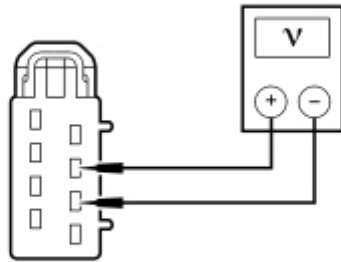
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.

DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

### F9 CHECK VOLTAGE TO THE HORIZONTAL MOTOR

- Ignition OFF.
- Depower the [SRS](#). Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag C367.
- Connect: Restraint System Diagnostic Service Tool 418-133 to Driver Seat Side Air Bag C367.
- Disconnect: Driver Power Seat Motor Assembly C353.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.**
- Connect the battery ground cable. Refer to [Section 414-01](#).
- Measure voltage between driver power seat motor assembly C353-3, circuit 981 (RD/WH) and C353-5, circuit 980 (YE/WH), harness side while operating the seat control switch forward and rearward.



N0013784

- Is voltage greater than 10 volts when the seat control switch is toggled in both directions and 0 volt in the rest position?

#### Yes

INSTALL a new power seat track. REFER to [Seat Track — Power](#) in this section.  
TEST the system for normal operation.

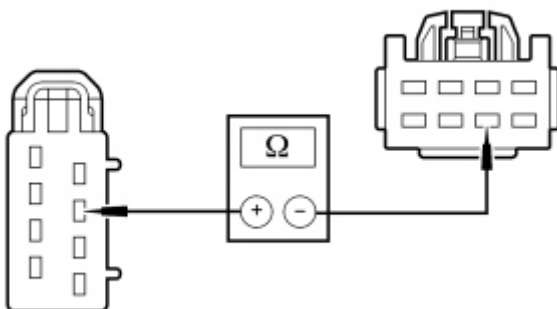
DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

#### No

GO to [F10](#).

### F10 CHECK CIRCUIT 981 (RD/WH) FOR AN OPEN

- Disconnect: Driver Seat Control Switch C360.
- Measure resistance between driver seat control switch C360-6, circuit 981 (RD/WH), harness side and driver power seat motor assembly C353-3, circuit 981 (RD/WH), harness side.



N0013785

#### Yes

GO to [F11](#).

#### No

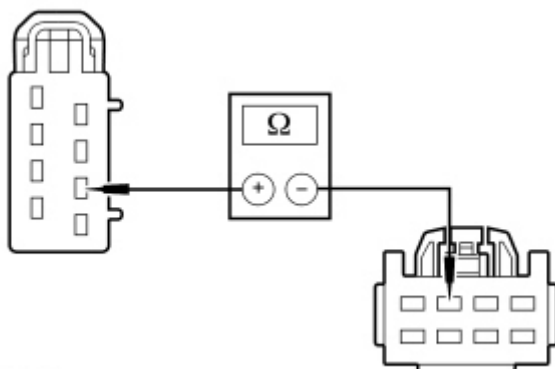
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

- Is resistance less than 5 ohms?

#### F11 CHECK CIRCUIT 980 (YE/WH) FOR AN OPEN

- Measure resistance between driver seat control switch C360-3, circuit 980 (YE/WH), harness side and driver power seat motor assembly C353-5, circuit 980 (YE/WH), harness side.



N0013786

- Is resistance less than 5 ohms?

#### Yes

INSTALL a new driver seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

#### No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

### Pinpoint Test G: The Power Seat Does Not Move Horizontally/Vertically — Passenger

Refer to Wiring Diagrams Cell [120](#), Seating for schematic and connector information.

#### Normal Operation

The seat control switch supplies battery voltage and ground to 1 of 3 power seat track motors through horizontal motor circuits 986 (YE/WH) and 987 (RD/WH), front height motor circuits 984 (YE/LB) and 985 (RD/LB) or rear height motor circuits 988 (YE/LG) and 989 (RD/LG) to move the seat in the desired direction.

#### This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat control switch
- Seat track motor

### PINPOINT TEST G: THE POWER SEAT DOES NOT MOVE HORIZONTALLY/VERTICALLY — PASSENGER




**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.

**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.

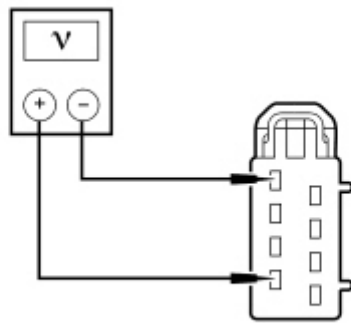
**NOTICE:** Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<b>G1 CHECK THE HORIZONTAL MOTOR FOR CORRECT OPERATION</b>	
<ul style="list-style-type: none"> <li>• Operate the passenger seat control switch to the forward and rearward positions.</li> <li>• <b>Does the seat move horizontally?</b></li> </ul>	<p><b>Yes</b> GO to <a href="#">G2</a>.</p> <p><b>No</b> GO to <a href="#">G9</a>.</p>
<b>G2 DETERMINE SEAT HEIGHT ADJUST FAILURE</b>	
<ul style="list-style-type: none"> <li>• Determine seat height adjust failure.</li> <li>• <b>Does the seat front or rear height adjust up and down?</b></li> </ul>	<p><b>Yes</b> If only the rear height adjust operates, GO to <a href="#">G3</a>.</p> <p>If only the front height adjust operates, GO to <a href="#">G6</a>.</p> <p><b>No</b> INSTALL a new seat control switch. REFER to <a href="#">Seat Control Switch</a> in this section. TEST the system for normal operation.</p> <p>DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the <b>SRS</b>. REFER to <a href="#">Section 501-20B</a>.</p>
<b>G3 CHECK VOLTAGE TO THE FRONT HEIGHT MOTOR</b>	
<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Depower the <b>SRS</b>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li> <li>• Disconnect: Passenger Seat Side Air Bag C337.</li> <li>• Connect: Restraint System Diagnostic Service Tool 418-133 to Passenger Seat Side Air Bag C337.</li> <li>• Disconnect: Passenger Power Seat Motor Assembly C3015.</li> <li>•  <b>WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.</b></li> <li>• Connect the battery ground cable. Refer to <a href="#">Section 414-01</a>.</li> <li>• Measure voltage between passenger power seat motor assembly C3015-8, circuit 984 (YE/LB) and C3015-2, circuit 985 (RD/LB), harness side, while operating the seat control switch rear height up</li> </ul>	<p><b>Yes</b> INSTALL a new power seat track. REFER to <a href="#">Seat Track — Power</a> in this section. TEST the system for normal operation.</p> <p>DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the <b>SRS</b>. REFER to <a href="#">Section 501-20B</a>.</p>

and down.



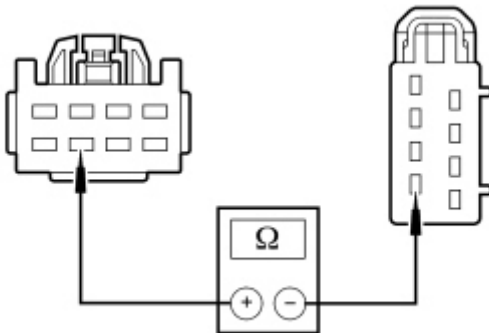
N0013778

- Is voltage greater than 10 volts when the seat control switch is toggled in both directions and 0 volt in the rest position?

**No**  
GO to [G4](#).

#### G4 CHECK CIRCUIT 984 (YE/LB) FOR AN OPEN

- Disconnect: Passenger Seat Control Switch C3190.
- Measure resistance between passenger seat control switch C3190-7, circuit 984 (YE/LB), harness side and passenger power seat motor assembly C3015-8, circuit 984 (YE/LB), harness side.



N0051568

- Is resistance less than 5 ohms?

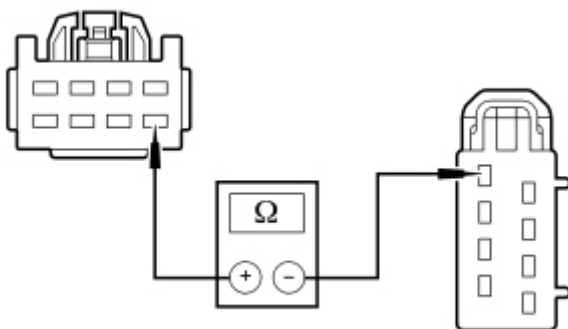
**Yes**  
GO to [G5](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

#### G5 CHECK CIRCUIT 985 (RD/LB) FOR AN OPEN

- Measure resistance between passenger seat control switch C3190-5, circuit 985 (RD/LB), harness side and passenger power seat motor assembly C3015-2, circuit 985 (RD/LB), harness side.



N0051569

- Is resistance less than 5 ohms?

**Yes**  
INSTALL a new passenger seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).


**No**  
REPAIR the circuit. TEST the system for normal operation.

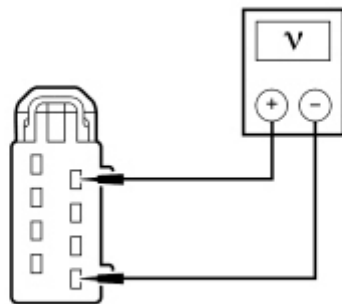
DISCONNECT the battery



ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

**G6 CHECK VOLTAGE TO THE REAR HEIGHT MOTOR**

- Ignition OFF.
- Depower the **SRS**. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of [Section 501-20B](#).
- Disconnect: Passenger Seat Side Air Bag C337.
- Connect: Restraint System Diagnostic Service Tool 418-133 to Passenger Seat Side Air Bag C337.
- Disconnect: Passenger Power Seat Motor Assembly C3015.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.**
- Connect the battery ground cable. Refer to [Section 414-01](#).
- Measure voltage between passenger power seat motor assembly C3015-1, circuit 988 (YE/LG) and C3015-7, circuit 989 (RD/LG), harness side while operating the passenger seat control switch front height up and down.



N0013781

- Is voltage greater than 10 volts when the seat control switch is toggled in both directions and 0 volt in the rest position?

**Yes**

INSTALL a new power seat track. REFER to [Seat Track — Power](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

**No**

GO to [G7](#).

**G7 CHECK CIRCUIT 988 (YE/LG) FOR AN OPEN**

- Disconnect: Passenger Seat Control Switch C3190.
- Measure resistance between passenger seat control switch C3190-8, circuit 988 (YE/LG), harness side and passenger power seat motor assembly C3015-1, circuit 988 (YE/LG), harness side.

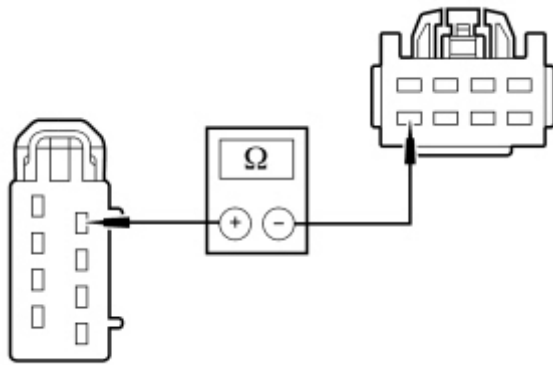
**Yes**

GO to [G8](#).

**No**

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section](#)



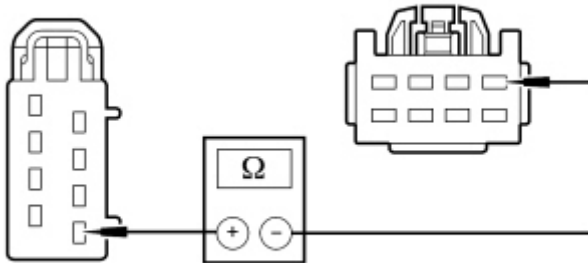
N0051570

- Is resistance less than 5 ohms?

[501-20B](#).

### G8 CHECK CIRCUIT 989 (RD/LG) FOR AN OPEN

- Measure resistance between passenger seat control switch C3190-1, circuit 989 (RD/LG), harness side and passenger power seat motor assembly C3015-7, circuit 989 (RD/LG), harness side.



N0051571

- Is resistance less than 5 ohms?

#### Yes

INSTALL a new passenger seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.


DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT driver seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

#### No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

### G9 CHECK VOLTAGE TO THE HORIZONTAL MOTOR

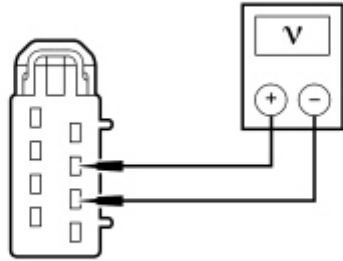
- Ignition OFF.
- Depower the **SRS**. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of [Section 501-20B](#).
- Disconnect: Passenger Seat Side Air Bag C337.
- Connect: Restraint System Diagnostic Service Tool 418-133 to Passenger Seat Side Air Bag C337.
- Disconnect: Passenger Power Seat Motor Assembly C3015.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.**

#### Yes

INSTALL a new power seat track. REFER to [Seat Track — Power](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag

- Connect the battery ground cable. Refer to [Section 414-01](#).
- Measure voltage between passenger power seat motor assembly C3015-3, circuit 987 (RD/WH) and C3015-5, circuit 986 (YE/WH), harness side while operating the seat control switch forward and rearward.



N0013784

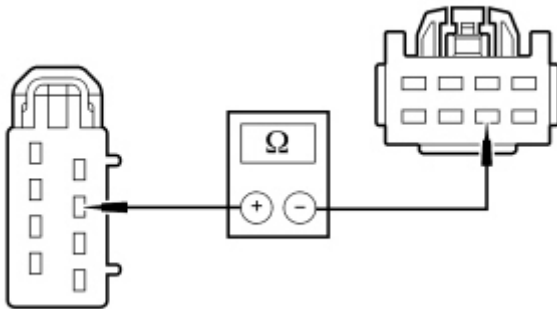
- Is voltage greater than 10 volts when the seat control switch is toggled in both directions and 0 volt in the rest position?

module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

**No**  
GO to [G10](#).

#### G10 CHECK CIRCUIT 987 (RD/WH) FOR AN OPEN

- Disconnect: Passenger Seat Control Switch C3190.
- Measure resistance between passenger seat control switch C3190-6, circuit 987 (RD/WH), harness side and driver power seat motor assembly C3015-3, circuit 987 (RD/WH), harness side.



N0013785

- Is resistance less than 5 ohms?

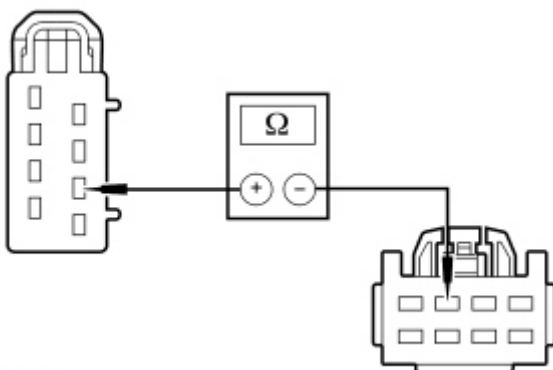
**Yes**  
GO to [G11](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

#### G11 CHECK CIRCUIT 986 (YE/WH) FOR AN OPEN

- Measure resistance between passenger seat control switch C3190-3, circuit 986 (YE/WH), harness side and driver power seat motor assembly C3015-5, circuit 986 (YE/WH), harness side.



N0013786

- Is resistance less than 5 ohms?

**Yes**  
INSTALL a new passenger seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the **SRS**. REFER to [Section 501-20B](#).

**No**  
REPAIR the circuit. TEST

the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

### Pinpoint Test H: The Power Lumbar is Inoperative

Refer to Wiring Diagrams Cell [120](#), Seating for schematic and connector information.

#### Normal Operation

The lumbar control switch is supplied battery voltage on circuit 566 (DG) and ground on circuit 1205 (BK). When the lumbar control switch is operated, voltage and ground are supplied to the power lumbar motor circuits 1094 (PK) and 1097 (BN) to move the lumbar assembly inward or outward. Operating the lumbar control switch in the opposite direction reverses the polarity to the power lumbar motor, which moves the lumbar assembly in the opposite direction.

**This pinpoint test is intended to diagnose the following:**

- Wiring, terminals or connectors
- Lumbar control switch
- Power lumbar assembly

### PINPOINT TEST H: THE POWER LUMBAR IS INOPERATIVE



**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.


**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.

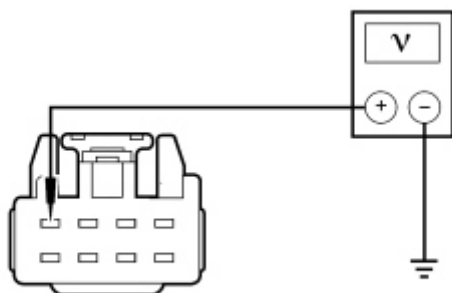
**NOTICE:** Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<b>H1 CHECK CIRCUIT 566 (DG) FOR VOLTAGE</b>	
<ul style="list-style-type: none"><li>• Ignition OFF.</li><li>• Depower the <a href="#">SRS</a>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li><li>• Disconnect: Driver Seat Side Air Bag C367.</li></ul>	<b>Yes</b> GO to <a href="#">H2</a> . <b>No</b> VERIFY Bussed Electrical

- Connect: Restraint System Diagnostic Service Tool 418-133 to Driver Seat Side Air Bag C367.
- Disconnect: Lumbar Control Switch C361.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.**
- Connect the battery ground cable. Refer to [Section 414-01](#).
- Measure voltage between lumbar control switch C361-4, circuit 566 (DG), harness side and ground.



N0013787

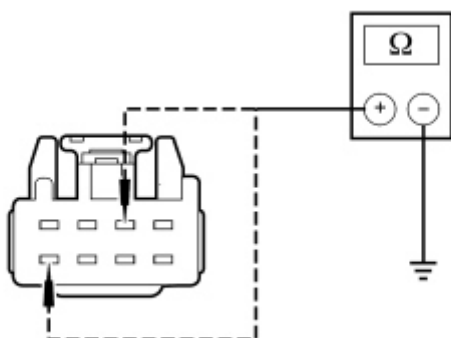
- Is voltage greater than 10 volts?

Center (BEC) fuse 14 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

## H2 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Measure resistance between:
  - lumbar control switch C361-2, circuit 1205 (BK), harness side and ground.
  - lumbar control switch C361-8, circuit 1205 (BK), harness side and ground.



N0013788

- Are resistances less than 5 ohms?

**Yes**  
GO to [H3](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

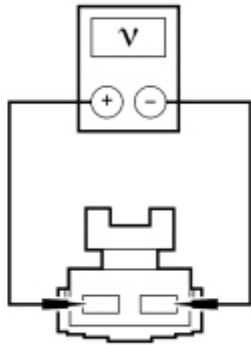
DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

## H3 CHECK THE LUMBAR MOTOR

- Connect: Lumbar Control Switch C361.
- Disconnect: Power Lumbar Motor C366.
- Measure voltage between power lumbar motor C366-1, circuit 1097 (BN), harness side and power lumbar motor C366-2, circuit 1094 (PK), harness side.

**Yes**  
INSTALL a new power lumbar assembly. REFER to [Lumbar Assembly](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air



N0040627

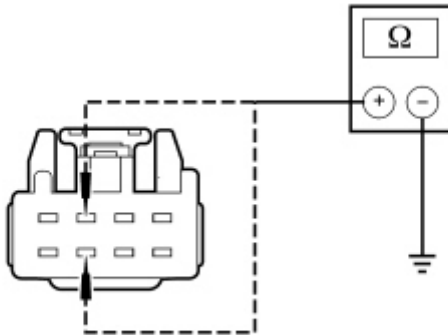
- Operate the power lumbar control switch in both directions.
- **Is voltage greater than 10 volts in both directions?**

bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the **SRS**.  
REFER to [Section 501-20B](#).

**No**  
GO to [H4](#).

#### H4 CHECK CIRCUITS 1094 (PK) AND 1097 (BN) FOR A SHORT TO GROUND

- Disconnect: Lumbar Control Switch C361.
- Measure resistance between:
  - lumbar control switch C361-3, circuit 1097 (BN), harness side and ground.
  - lumbar control switch C361-7, circuit 1094 (PK), harness side and ground.



N0013790

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

**Yes**  
GO to [H5](#).

**No**  
REPAIR the circuit(s). TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the **SRS**.  
REFER to [Section 501-20B](#).

#### H5 CHECK CIRCUITS 1094 (PK) AND 1097 (BN) FOR AN OPEN

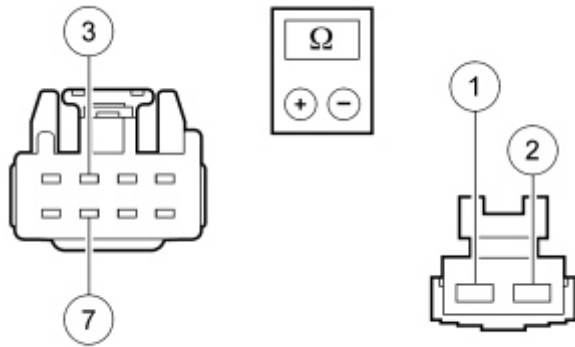
- Measure resistance between power lumbar switch C361, harness side and power lumbar motor C366, harness side, using the following chart:

Power Lumbar Switch	Circuit	Power Lumbar Motor
C361-3	1097 (BN)	C366-1
C361-7	1094 (PK)	C366-2

**Yes**  
INSTALL a new lumbar control switch. REFER to [Lumbar Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the **SRS**.  
REFER to [Section 501-20B](#).

**No**  
REPAIR the circuit(s). TEST



N0091376

- Are resistances less than 5 ohms?

the system for normal operation.

DISCONNECT the battery ground cable.  
 DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
 CONNECT driver seat side air bag module C367.  
 REPOWER the [SRS](#).  
 REFER to [Section 501-20B](#).

### Pinpoint Test I: The Heated Seat is Inoperative

#### Normal Operation

The HVAC module includes the heated seat switch buttons and indicators. The heated seat system will function when the HVAC module is on or off. There is a relay box located behind the headlamp switch area containing 2 micro relays for the driver and passenger heated seats. Battery voltage from circuit 1048 (LB/WH) is supplied to the coil and switch of the driver and passenger heated seat relays. When the ignition switch is ON and the engine running, ground is supplied to the driver or passenger heated seat relay coil from the respective heated seat switch in the HVAC module to energize the relay. This closes the relay switch and voltage is supplied to the respective seat's cushion and backrest heater mats. The cushion and backrest heater mats are connected in series circuit with ground supplied to the backrest heater mat, completing the heater mat circuit to heat the seat. If the heated seat switch is on when the ignition switch is turned OFF, the heated seat switch will be on when the ignition switch is turned back ON.

#### This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Wiring, terminals or connectors
- Heated seat switch (part of HVAC module)
- Heated seat relay
- Cushion heater mat
- Backrest heater mat

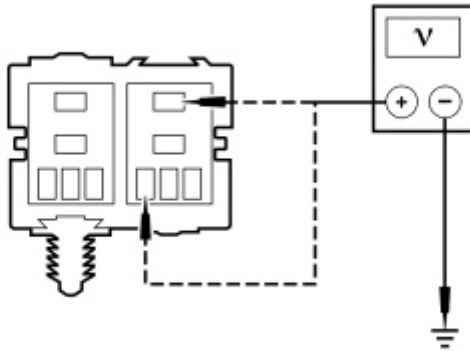
### PINPOINT TEST I: THE HEATED SEAT IS INOPERATIVE

Test Step	Result / Action to Take
<b>I1 CHECK THE HEATED SEAT INDICATORS</b> <ul style="list-style-type: none"> <li>• Ignition ON.</li> <li>• Operate both heated switches on.</li> <li>• <b>Do one or both heated seat switch indicators illuminate?</b></li> </ul>	<p><b>Yes</b>            If both indicators illuminate, GO to <a href="#">I2</a>.</p> <p>For driver seat only, <a href="#">GO to Pinpoint Test J</a>. For passenger seat only, <a href="#">GO to Pinpoint Test K</a>.</p> <p><b>No</b>            Turn the ignition switch OFF and DISASSEMBLE as necessary to disconnect all of the HVAC module electrical connectors. WAIT one minute to allow the system to reset and RECONNECT the electrical connectors. RETEST the system. If the heated seat indicator still does not illuminate,</p>

INSTALL a new HVAC module. REFER to [Section 412-01](#). TEST the system for normal operation.

## I2 CHECK VOLTAGE TO THE HEATED SEAT RELAY

- Ignition OFF.
- Disconnect: Heated Seat Relay Driver or Passenger.
- Ignition ON.
- Measure voltage between:
  - heated seat relay socket pin 1, circuit 1048 (LB/WH) and ground.
  - heated seat relay socket pin 3, circuit 1048 (LB/WH) and ground.



N0074687

- Are both voltages greater than 10 volts?

### Yes

VERIFY the climate control system is operating correctly, REFER to [Section 412-00](#).

### No

VERIFY Bussed Electrical Center (BEC) fuse 66 (25A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.

## Pinpoint Test J: The Heated Seat is Inoperative — Driver Seat Does Not Heat But the Heated Seat Indicator Illuminates When Pressed

### Normal Operation

The HVAC module includes the heated seat switch buttons and indicators. The heated seat system will function when the HVAC module is on or off. There is a relay box located behind the headlamp switch area containing 2 micro relays for the driver and passenger heated seats. Battery voltage from circuit 1048 (LB/WH) is supplied to the coil and switch side of the driver heated seat relay. When the ignition switch is ON and the engine running, ground is supplied to the driver heated seat relay coil from the driver heated seat switch in the HVAC module to energize the relay. This closes the relay switch supplying voltage to driver seat cushion heater mat from circuit 1064 (YE/LB). The cushion and backrest heater mats are connected in series by circuit 1066 (GN/LB) and ground is supplied to backrest heater mat circuit 1205 (BK), completing the heater mat circuit to heat the driver seat. If the heated seat switch is on when the ignition switch is turned OFF, the heated seat switch will be on when the ignition switch is turned back ON.

### This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Heated seat switch (part of HVAC module)
- Heated seat relay
- Cushion heater mat
- Backrest heater mat

## PINPOINT TEST J: THE HEATED SEAT IS INOPERATIVE — DRIVER SEAT DOES NOT HEAT BUT THE HEATED SEAT INDICATOR ILLUMINATES WHEN PRESSED



**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




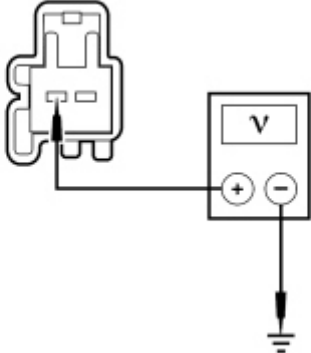
vehicle safety standards.

**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.

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

**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

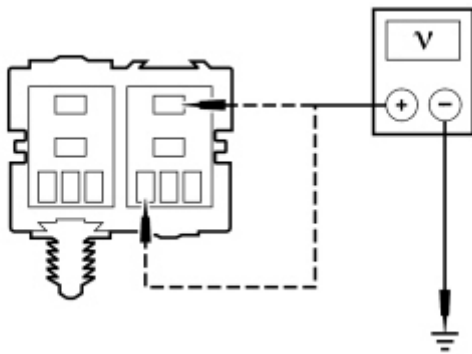
Test Step	Result / Action to Take
<p><b>J1 CHECK CIRCUIT 1064 (YE/LB) FOR VOLTAGE</b></p> <ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Depower the <a href="#">SRS</a>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li> <li>• Disconnect: Driver Seat Side Air Bag C367.</li> <li>• Connect: Restraint System Diagnostic Service Tool 418-133 to Driver Seat Side Air Bag C367.</li> <li>• Disconnect: Driver Heated Seat C3300.</li> <li>•  <b>WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.</b></li> <li>• Connect the battery ground cable. Refer to <a href="#">Section 414-01</a>.</li> <li>• Ignition ON.</li> <li>• Measure voltage between driver heated seat C3300-1, circuit 1064 (YE/LB), harness side and ground.</li> </ul>  <p>N0074694</p> <ul style="list-style-type: none"> <li>• <b>Is voltage greater than 10 volts when the heated seat switch is depressed and 0 volt when the switch is off?</b></li> </ul>	<p><b>Yes</b> GO to <a href="#">J6</a>.</p> <p><b>No</b> GO to <a href="#">J2</a>.</p>
<p><b>J2 CHECK THE HEATED SEAT RELAY</b></p> <ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Swap the passenger heated seat relay with the driver heated seat relay.</li> <li>• Ignition ON.</li> <li>• <b>Does the seat heat when the heated seat switch is depressed?</b></li> </ul>	<p><b>Yes</b> INSTALL a new heated seat relay. TEST the system for normal operation.</p> <p>DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.</p>

CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

**No**  
GO to [J3](#).

### J3 CHECK VOLTAGE TO THE HEATED SEAT RELAY

- Ignition OFF.
- Disconnect: Heated Seat Relay (Driver).
- Measure voltage between:
  - driver heated seat relay socket pin 1, circuit 1048 (LB/WH), harness side and ground.
  - driver heated seat relay socket pin 3, circuit 1048 (LB/WH), harness side and ground.



N0074687

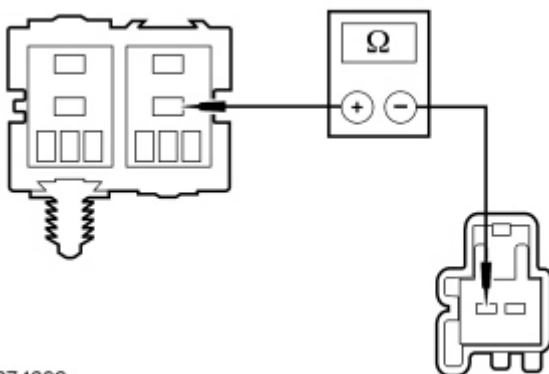
- Are both voltages greater than 10 volts?

**Yes**  
GO to [J4](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

### J4 CHECK CIRCUIT 1064 (YE/LB) FOR AN OPEN

- Measure resistance between driver heated seat relay socket pin 5, circuit 1064 (YE/LB) and driver cushion heater mat C3300-1 circuit 1064 (YE/LB), harness side.



N0074692

- Is resistance less than 5 ohms?

**Yes**  
GO to [J5](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag C367.

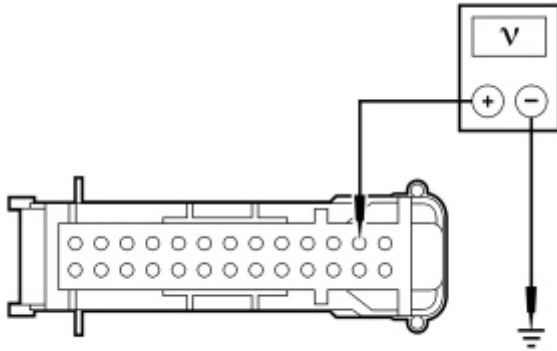
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

### J5 CHECK HEATED SEAT REQUEST CIRCUIT VOLTAGE

- Connect: Driver Heated Seat Relay.
- Disconnect: HVAC Module C294a.
- Measure voltage between HVAC module C294a-12, circuit 581 (RD), harness side and ground.

**Yes**  
INSTALL a new HVAC module. REFER to [Section 412-01](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

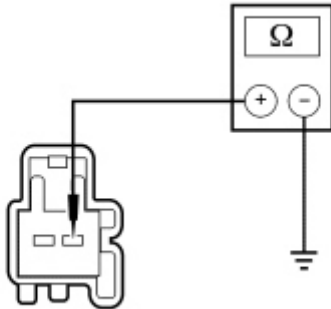


N0074693

- Is voltage greater than 10 volts?

#### J6 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: Driver Heated Seat C3310.
- Measure resistance between driver seat C3310-2 circuit 1205 (BK), harness side and ground.

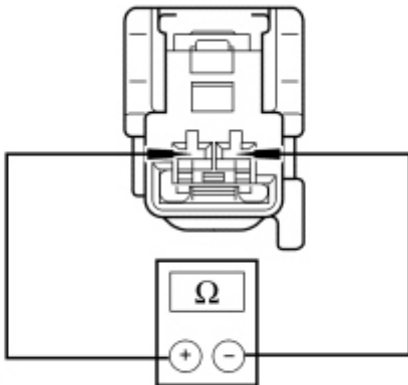


N0040603

- Is resistance less than 5 ohms?

#### J7 CHECK THE CUSHION HEATER MAT FOR AN OPEN

- Measure resistance between driver cushion heater mat C3300 pins 1 and 2, component side.



A0073993

- Is resistance between 0.8 and 1.3 ohms?

#### J8 CHECK THE BACKREST HEATER MAT FOR AN OPEN

- Disconnect: Driver Backrest Heater Mat C3310.
- Measure resistance between backrest heater mat C3310 pins 1 and 2, component side.

**Yes**  
GO to [J7](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

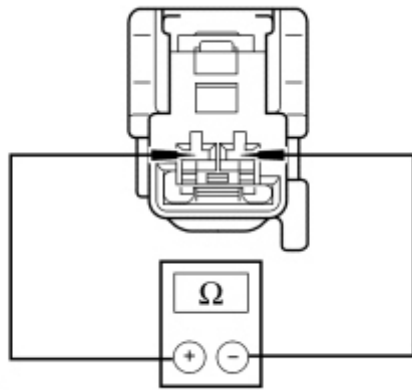
DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

**Yes**  
GO to [J8](#).

**No**  
INSTALL a new cushion heater mat. REFER to [Seat Cushion Cover — Front](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
CONNECT driver seat side air bag module C367.  
REPOWER the [SRS](#).  
REFER to [Section 501-20B](#).

**Yes**  
REPAIR seat harness. TEST the system for normal operation.



A0073993

- Is resistance between 0.8 and 1.3 ohms?

DISCONNECT the battery ground cable.  
 DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
 CONNECT driver seat side air bag module C367.  
 REPOWER the [SRS](#).  
 REFER to [Section 501-20B](#).

**No**  
 INSTALL a new backrest heater mat. REFER to [Seat Cushion Cover — Front](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.  
 DISCONNECT the Restraint System Diagnostic Service Tool from driver seat side air bag module C367.  
 CONNECT driver seat side air bag module C367.  
 REPOWER the [SRS](#).  
 REFER to [Section 501-20B](#).

## Pinpoint Test K: The Heated Seat is Inoperative — Passenger Seat Does Not Heat But the Heated Seat Indicator Illuminates When Pressed

### Normal Operation

The HVAC module includes the heated seat switch buttons and indicators. The heated seat system will function when the HVAC module is on or off. There is a relay box located behind the headlamp switch area containing 2 micro relays for the driver and passenger heated seats. Battery voltage from circuit 1048 (LB/WH) is supplied to the coil and switch side of the passenger heated seat relay. When the ignition switch is ON and the engine running, ground is supplied to the passenger heated seat relay coil from the passenger heated seat switch in the HVAC module to energize the relay. This closes the relay switch supplying voltage to passenger seat cushion heater mat from circuit 2124 (YE/LB). The cushion and backrest heater mats are connected in series by circuit 2126 (GY/LB) and ground is supplied to the backrest heater mat circuit 1205 (BK), completing the heater mat circuit to heat the driver seat. If the heated seat switch is on when the ignition switch is turned OFF, the heated seat switch will be on when the ignition switch is turned back ON.

#### This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Heated seat switch (part of HVAC module)
- Heated seat relay
- Cushion heater mat
- Backrest heater mat

## PINPOINT TEST K: THE HEATED SEAT IS INOPERATIVE — PASSENGER SEAT DOES NOT HEAT BUT THE HEATED SEAT INDICATOR ILLUMINATES WHEN PRESSED



**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.


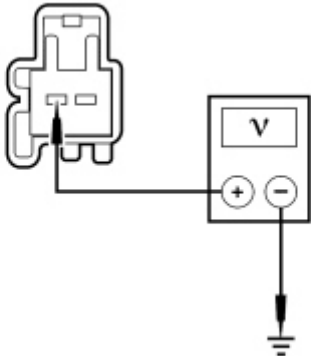
**NOTICE:** Do not install a new heater mat on a front passenger seat cushion. If a new cushion heater mat is needed on the front passenger seat, an Occupant Classification Sensor (OCS) service kit equipped with a heater mat must be installed. Failure to follow this instruction may result in incorrect operation of the **OCS** system. Refer to [Section 501-20B](#) for the Occupant Classification Sensor Removal and Installation procedure.

**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.

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

**NOTE:** The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition switch is ON.

**NOTE:** The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
<p><b>K1 CHECK CIRCUIT 2124 (YE/LB) FOR VOLTAGE</b></p> <ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Depower the <b>SRS</b>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of <a href="#">Section 501-20B</a>.</li> <li>• Disconnect: Passenger Seat Side Air Bag C337.</li> <li>• Connect: Restraint System Diagnostic Service Tool 418-133 to Passenger Seat Side Air Bag C337.</li> <li>• Disconnect: Passenger Heated Seat C334.</li> <li>•  <b>WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.</b></li> <li>• Connect the battery ground cable. Refer to <a href="#">Section 414-01</a>.</li> <li>• Ignition ON.</li> <li>• Measure voltage between passenger heated seat C334-1 circuit 2124 (YE/LB), harness side and ground.</li> </ul>  <p>N0074694</p> <ul style="list-style-type: none"> <li>• Is voltage greater than 10 volts when the heated seat switch is depressed and 0 volt when the switch is off?</li> </ul>	<p><b>Yes</b> GO to <a href="#">K6</a>.</p> <p><b>No</b> GO to <a href="#">K2</a>.</p>
<p><b>K2 CHECK THE HEATED SEAT RELAY</b></p>	
<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Swap the passenger heated seat relay with the driver heated seat relay.</li> <li>• Ignition ON.</li> </ul>	<p><b>Yes</b> INSTALL a new heated seat relay. TEST the system for normal operation.</p>

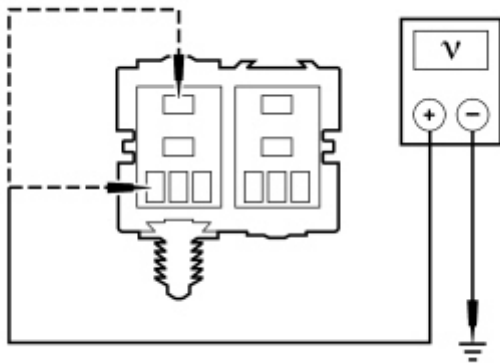
- Does the seat heat when the heated seat switch is depressed?

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

**No**  
GO to [K3](#).

### K3 CHECK VOLTAGE TO THE HEATED SEAT RELAY

- Ignition OFF.
- Disconnect: Heated Seat Relay (Passenger).
- Measure voltage between:
  - passenger heated seat relay socket pin 1, circuit 1048 (LB/WH) and ground.
  - passenger heated seat relay socket pin 3, circuit 1048 (LB/WH) and ground.



N0074695

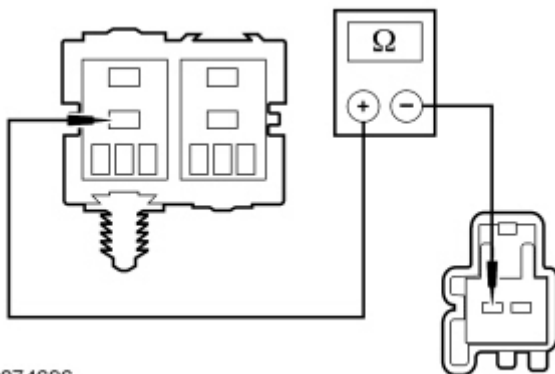
- Are both voltages greater than 10 volts?

**Yes**  
GO to [K4](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

### K4 CHECK CIRCUIT 2124 (YE/LB) FOR AN OPEN

- Measure resistance between passenger heated seat relay socket pin 5, circuit 2124 (YE/LB) and passenger cushion heater mat C334-1, circuit 2124 (YE/LB), harness side.



N0074696

- Is resistance less than 5 ohms?

**Yes**  
GO to [K5](#).

**No**  
REPAIR the circuit TEST the system for normal operation.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag C337.

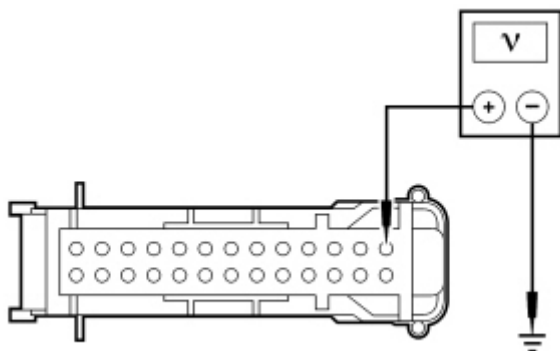
REPOWER the [SRS](#). REFER to [Section 501-20B](#).

### K5 CHECK HEATED SEAT REQUEST CIRCUIT VOLTAGE

- Connect: Passenger Heated Seat Relay.
- Disconnect: HVAC Module C294a.
- Measure voltage between HVAC module C294a-13, circuit 2119

**Yes**  
INSTALL a new HVAC module. REFER to [Section](#)

(DG/VT), harness side and ground.



N0074697

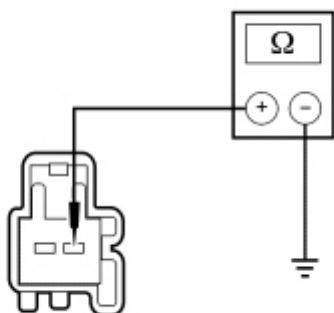
- Is voltage greater than 10 volts?

[412-01](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

#### K6 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: Passenger Heated Seat C335.
- Measure resistance between passenger seat C335-2 circuit 1205 (BK), harness side and ground.



N0040603

- Is resistance less than 5 ohms?

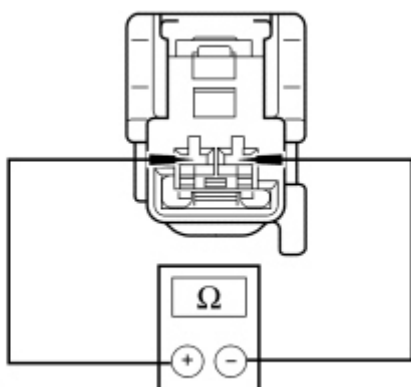
**Yes**  
GO to [K7](#).

**No**  
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

#### K7 CHECK THE CUSHION HEATER MAT FOR AN OPEN

- Measure resistance between passenger cushion heater mat C334 pins 1 and 2, component side.



A0073993

- Is resistance between 0.8 and 1.3 ohms?

**Yes**  
GO to [K8](#).

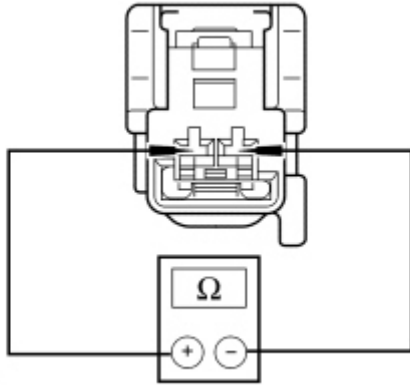
**No**  
INSTALL a new passenger cushion heater mat. REFER to [Seat Cushion Cover — Front](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT Restraint System Diagnostic Service Tool from driver seat side air bag module C337. CONNECT driver seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

#### K8 CHECK THE BACKREST HEATER MAT FOR AN OPEN

- Disconnect: Passenger Backrest Heater Mat C335.
- Measure resistance between passenger backrest heater mat C335 pins 1 and 2, component side.

**Yes**  
REPAIR seat harness. TEST the system for normal



A0073993

- Is resistance between 0.8 and 1.3 ohms?

operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).

**No**

INSTALL a new backrest heater mat. REFER to [Seat Cushion Cover — Front](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. DISCONNECT the Restraint System Diagnostic Service Tool from passenger seat side air bag module C337. CONNECT passenger seat side air bag module C337. REPOWER the [SRS](#). REFER to [Section 501-20B](#).