

SECTION 501-10: Seating
DIAGNOSIS AND TESTING

2014 F-150 Workshop Manual
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Seating

Special Tool(s)

 ST2574-A	Flex Probe Kit NUD105-R025D or equivalent
 ST3093-A	Fluke 77-IV Digital Multimeter FLU77-4 or equivalent
 ST2834-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

Principles of Operation

Driver (Without Memory) and Passenger Power Seats

The 6-way power seat feature operates independently of the ignition position and moves the seat in 6 possible directions:

- forward or backward
- front and back of the cushion can be moved up and down independently

The 10-way power seat feature operates independently of the ignition position and moves the seat in 10 possible directions:

- forward or backward
- front and back of the cushion can be moved up and down independently
- backrest of the seat can be moved forward and backward
- lumbar can be moved in and out

All 10 positions are controlled by a single switch.

The power seat motors are hardwired to the seat control switch. The circuits are normally grounded through

the seat control switch. An individual circuit is switched to voltage when a specific adjustment position is selected.

Driver Power Seat With Memory

NOTE: Verify good battery condition before diagnosing the memory seat system. Poor battery condition can interfere with memory seat operation, even if vehicle starting is possible.

NOTE: A memory recall in progress does not prohibit the initiation of another memory recall; the most recently requested memory recall is executed.

The Driver Seat Module (DSM) controls the driver power memory seat. The DSM is located underneath the driver seat. The memory seat feature allows the driver to program a personalized seat position that can be recalled using the memory SET switch or a Remote Keyless Entry (RKE) transmitter. There are 2 memory settings possible.

For information on programming memory positions or recalling a stored memory position, refer to [Memory Position Programming](#) in this section. For information on RKE transmitter programming or to diagnose a concern, refer to [Section 501-14](#).

The NEUTRAL position of the driver seat control switch is at a ground state through the seat control switch normally-closed contacts. The driver seat control switch provides voltage to the DSM only when activated. A voltage input causes the DSM to power the appropriate motor until the input is removed. Ground is the normal state of the motor circuits through the DSM. The DSM internally switches the appropriate circuit from ground to voltage to operate the motors.

As the seat is adjusted, the DSM monitors the motor position sensors to record the current seat position. The DSM removes voltage from the motor upon termination of the seat control switch input or if the DSM does not detect movement from the motor while monitoring the position sensor during a memory recall operation.

The DSM communicates DTCs and other information using the MS-CAN. Refer to [Section 418-00](#) for information concerning MS-CAN.

This section only diagnoses concerns specific to the memory seat. To diagnose an exterior mirror concern, refer to [Section 501-09](#). To diagnose a power adjustable pedal concern, refer to [Section 206-06](#). To diagnose a power steering column concern, refer to [Section 211-04](#).

For information on programming memory positions or recalling a stored memory position, refer to [Memory Position Programming](#) in this section.

Remote Keyless Entry (RKE) Transmitter

NOTE: A memory recall in progress does not prohibit the initiation of another memory recall; the most recently requested memory recall is executed.

A Remote Keyless Entry (RKE) transmitter can be used to recall previously set memory positions but must first be associated to that memory position. The transmitter associated with personality 1 is capable of recalling memory position 1 only. Similarly, the associated personality 2 transmitter can recall only memory position 2.

Memory recall occurs when the unlock button is pressed on the RKE transmitter if it has been associated

with a memory position.

For information on diagnosing an RKE concern or associating an RKE transmitter to a memory position, refer to [Section 501-14](#).

Easy Entry/Easy Exit Feature

The easy entry/exit feature is a function of the DSM that moves the driver seat back approximately 50.8 mm (2 in) (unless seat is already positioned at or near the end of travel) when the ignition key is removed from the ignition switch. The DSM receives the key-in ignition status over the MS-CAN. The DSM cancels this operation if a valid input command is received from the driver seat control switch, memory SET switch, exterior mirror control switch or if the function has been disabled.

The DSM records the current seat positions before operating the seat for an easy exit operation. During easy entry operation, the seat is returned to the seat position previous to the easy exit operation. Easy entry operation is cancelled if a valid input command is received by the DSM.

The easy entry/easy exit feature is a user accessible item on the message center allowing the user to turn the feature on and off. Refer to the Owner's Literature or [Section 413-01](#) for information on the message center.

Driver Seat Module (DSM) Hard Stop/Soft Stop

The DSM has the ability for soft stops both at the upper and lower limits on all axes of the driver seat. When an axis reaches the hard stop and the switch is held for approximately one second, it then backs up 180 ms and establishes the soft stop for that axis in that direction. The DSM uses this back up strategy to check sensor integrity any time movement has stopped prematurely due to a sensor failure or obstruction.

A hard stop occurs when one of the memory seat track axes or backrest recline physically reach the end of travel and can go no further. A soft stop occurs when the seat stops before physically reaching the end of travel. The hard stop is set by seat design and cannot be changed or adjusted. The seat track axes are forward/rearward, front up/down and rear up/down. The backrest axis is recline forward/backward. To prevent unnecessary stress on the seat and motors, the DSM sets soft stop positions, 2 for each moving axis. The DSM uses a preset distance from the hard stop to determine where the soft stop occurs.

Setting the Soft Stop

NOTE: If a new DSM or driver seat track has been installed, reset all driver seat track soft stops.

Use the following procedure once a new seat track or DSM has been installed.

During the setting procedure, if the seat track stops before the end of travel has been reached, the DSM has stopped at a previously set soft stop. To set the new soft stop, release the seat control switch and immediately press again in the same direction until the seat track stops at the hard stop for that given direction.

1. Turn the ignition to the ON position.
2. Press the seat control switch horizontal button forward until the seat track stops.

3. Keep the horizontal button pressed forward for one second after the seat track reaches its forward end of travel. The horizontal forward soft stop has been set, release the switch button.
4. Repeat Steps 2 and 3 for all seat track axes in both directions.

Heated Seats — Front

The driver and passenger heated seat control buttons and indicators are located on the touchscreen interface (Front Display Interface Module (FDIM)). The FDIM is mounted directly to the Accessory Protocol Interface Module (APIM). The heated seat system functions independently of the vehicle's climate control system. Each time the heated seat button is pressed, the APIM sends the request to the Front Controls Interface Module (FCIM) using the Infotainment Controller Area Network (I-CAN). The FCIM sends the message to the Instrument Panel Cluster (IPC) using the I-CAN. The IPC sends the request message to the Body Control Module (BCM) over the High Speed Controller Area Network (HS-CAN). Finally, the BCM sends the request to the HVAC module which decreases one setting (the sequence is high, low, off, high, etc.).

When activated, the HVAC module supplies voltage to the selected seat's heater circuit. Each seat's cushion heater mat and backrest heater mat is connected in a series circuit to the HVAC module and powered by the output circuit for that seat. The HVAC module monitors inputs from a temperature sensor located in each seat's cushion heater mat, and maintains seat temperature by cycling the heater circuits on/off. The heated seat remains ON until the heated seat switch button is pressed to cycle the HVAC module OFF or the ignition is set to OFF.

If a fault is detected by the HVAC module, the module stops supplying voltage to that individual left or right seat that the fault was detected on until the ignition is turned OFF and then ON.

Heated Seats — Rear, Crew Cab

Rear heated seats are controlled by the heated seat module located behind the rear 60 percent seat backrest and a dual momentary switch attached to each rear door panel. When the heated seat switch is pressed, a momentary ground signal is sent to the heated seat module. The heated seat module then supplies voltage to the heater circuit. The seat cushion and backrest heater mats are wired in series and supplied voltage by the same output. The heated seat module monitors inputs from a temperature sensor, located in each cushion heater mat and maintains seat temperature by cycling output voltage to the heater grids as necessary to maintain the set point temperature. The heated seat module supplies voltage to the appropriate indicator circuit in the heated seat switch. The heated seat module does not time out and remains on until switched off or ignition is OFF.

The heated seat module does not report DTCs and does not communicate on any network. If a fault is detected, the affected seat system is disabled. The faults detected are:

- a heater feed circuit short to battery, ground or open.
- sensor circuit short to battery or open.
- heated seat switch stuck closed to ground.
- heated seat switch low and high inputs shorted together.

To reset the module, cycle the ignition OFF and then ON. After the heated seat module has been reset, the module returns to an off state.

A new heated seat module must be configured after installation for correct operation. Heated seat module configuration occurs automatically when the low heat mode button is pressed on either rear heated seat

switch. Until the module is correctly configured, the heated seats operates incorrectly from the high heat mode button on either heated seat switch by following a sequence of high, low and off with each button press. After the low heat mode button is pressed on either heated seat switch, the module correctly configures and the system operates correctly.

Climate Controlled Seat System

NOTICE: Avoid applying voltage directly to a Thermo-Electric Device (TED) for testing its operation. Doing so may cause damage to the TED.

NOTE: When installing a new Dual Climate Controlled Seat Module (DCSM), it is necessary to carry out Programmable Module Installation (PMI). Refer to [Section 418-01](#).

Both the driver and front passenger climate controlled seats are independently controlled electronically by the DCSM mounted to the bottom of the passenger seat cushion. The climate controlled seat system only operates with the engine running. However, if a scan tool is used to command the DCSM, diagnostic testing can be carried out with the ignition ON engine OFF in 15 second durations.

If one of the voltage supply circuits opens, both seats will remain operational because the circuits are connected internally in the DCSM.

If a fault occurs and sets a DTC specific to either climate controlled seat, only the affected seat is disabled by the module. If the system shuts down due to a DTC fault, cycling the ignition to OFF and then ON again resets the DCSM to function until the DTC sets again.

When the climate control seat buttons are activated on the touchscreen interface, the Accessory Protocol Interface Module (APIM) sends the climate controlled seat commands to the Front Controls Interface Module (FCIM) using the Infotainment Controller Area Network (I-CAN). The FCIM sends the request message to the Instrument Panel Cluster (IPC) using the I-CAN. The IPC sends the request message to the Body Control Module (BCM) over the High Speed Controller Area Network (HS-CAN). Finally, the BCM sends the climate controlled seat commands to the DCSM using the MS-CAN.

Each driver and front passenger seat cushion and backrest is equipped with a Thermo-Electric Device (TED) and blower motor assembly. Applying voltage to the TED in one direction causes it to heat. Applying voltage polarity in the opposite direction causes the TED to cool. Cabin air is drawn through the blower and distributed to each of the TED modules located in the seat cushion and backrest. The TEDs then heat or cool the incoming air depending on the control switch settings. The air is then directed into the foam pad and manifold where it is distributed along the surface of the cushion and backrest of the seat. Once activated, the DCSM maintains the heating/cooling modes until deactivated.

The temperature differences between the individual heated and cooled settings is minimal. For example, it is difficult to distinguish between LOW cool and MED cool settings. Measuring seat temperature at different settings is possible by monitoring the DCSM PIDs using the scan tool.

Heating Characteristics

- In heat mode, the TED can add up to 40-60°C (72-108°F) to the ambient inlet air temperature as it passes over the TED.
- The system control settings are indicated next to each climate controlled seat heat switch button on the touchscreen. The first setting is HIGH (3 indicators), the second setting is MED (2 indicators) and the third is LOW (1 indicator) then OFF (no indicators).
- When heating, the DCSM varies the speed of the blowers and the TED duty cycle in order to reach and maintain the temperature determined by the switch setting.

Cooling Characteristics

- In cool mode, the TED can remove up to 8°C (14°F) from the ambient air temperature entering the system.
- The system control settings are based on the 3 indicators next to each climate controlled seat cool switch button on the touchscreen. The first setting is HIGH (3 indicators), the second setting is MED (2 indicators) and the third is LOW (1 indicator) then OFF (no indicators).
- When cooling, the DCSM maintains constant speed of the blowers and constant TED supply voltage (the duty cycle is determined by the switch setting) in COOL mode.

Climate Controlled Seat System Recovery Mode

NOTE: The presence of overtemperature faults (DTCs B2729, B2730, B272A and B272B) can be induced by incorrect operation of the climate controlled seat system after an initial heat setting has been attained. If a heat setting is repeatedly turned OFF and ON in an attempt to increase the seat temperature or repeatedly toggled between heat and cool modes, an overtemperature condition can result and the DTCs are set.

If the temperature at one of the TEDs rises above 110°C (230°F) in the heat mode or 65°C (149°F) in the cool mode for more than 4 seconds, the DCSM records an overtemperature DTC, remove voltage from the TEDs and go into recovery mode (blower only) for 30 seconds to cool down the TEDs. The same occurs if a temperature difference of 60°C (108°F) or greater is seen between the backrest and cushion TEDs on either front seat. The DCSM continues to monitor the TEDs while in recovery mode. If the temperature of the TEDs does not drop to 105°C (221°F) in the heat mode or 60°C (140°F) in the cool mode after 30 seconds, the system continues to cool the TEDs in recovery mode for up to 5 minutes. If the TEDs cool down at anytime after 30 seconds, but before 5 minutes (checked at 4-second intervals), the system operates as normal. An overtemperature DTC still is recorded even if the system recovers and is operating normally. This is more likely to occur during extreme cabin temperatures with significant seat back sunload. If the system does not recover within 30 seconds in heat mode or within 5 minutes in cool mode, the DCSM disables that seat (fault mode) and remain off until the ignition is cycled. Also, if the DCSM detects temperature differential fault twice during the same ignition cycle, it shutdowns. When a fault causes a shutdown, the climate controlled seat indicators turns off and that seat is not operational until the next key cycle.

Remote Start Climate Operation (If Equipped With Heated Or Climate Controlled Seats)

The customer can select different climate control modes/preferences when the vehicle is started using the remote start feature. This can be accessed through the message center. For information on how to set the remote start preferences, refer to the Owner's Literature. When the driver seat and/or passenger seat is set to AUTO mode, the driver/passenger heated/climate controlled seat activates in full heat mode when the outside temperature is less than 0°C (32°F) and full cool mode (climate controlled seats only) when outside temperature is greater than 27° (80°F) any time the vehicle is started using the remote start feature. No heated/climate controlled seat adjustments are recognized during remote start operation. When the ignition is cycled to the ON position after a remote start event, the heated/climate controlled seat switches off.

Inspection and Verification

1. Verify the customer concern by operating the power seat, memory seat or climate controlled seat functions.
2. Visually inspect for obvious signs of mechanical and electrical damage.

Visual Inspection Chart

Mechanical	Electrical
• Switch(es) • Seat tracks obstructed or damaged • Lumbar assembly damaged • Recliner assembly damaged (backrest frame) • Thermo-Electric Device (TED) assembly filter dirty (cushion or backrest)	• Battery Junction Box (BJB) fuse(s): ■ 14 (30A) (passenger seat control switch) ■ 69 (30A) (Dual Climate Controlled Seat Module (DCSM) and front heated seat module) ■ 71 (20A) (rear heated seat module) ■ 74 (30A) (driver seat control switch) • Body Control Module (BCM) fuse(s): ■ 5 (20A) (Driver Seat Module (DSM) and front heated seat module) ■ 7 (7.5A) (<u>DSM</u> logic) • Wiring harness • Loose or corroded connector(s) • Seat control switch • Memory SET switch • Heated seat switch(es) • Power seat motor (seat track) • Power lumbar motor (lumbar assembly) • <u>TED</u> assembly (cushion or backrest) • Power recliner motor (backrest frame) • <u>DSM</u> • <u>DCSM</u> • <u>FDIM</u> • HVAC module • Seat cushion heater mat • Seat backrest heater mat • Heated seat module

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 with the power seat (non-memory seat), power lumbar or heated seat(s) and the cause is not visually evident, verify the symptom and GO to [Symptom Chart](#).
5. If the concern is with the memory seat or climate controlled seat and the cause is not visually evident, connect the scan tool to the Data Link Connector (DLC).
6. **NOTE:** The Vehicle Communication Module (VCM) LED prove out confirms voltage 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.
7. 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.
 8. 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 on-demand and Continuous Memory Diagnostic Trouble Codes (CMDTCs).
9. Clear the CMDTCs and carry out the self-test diagnostics for the DSM, HVAC module, or DCSM.
 10. If the DTCs retrieved are related to the concern, go to Driver Seat Module (DSM) DTC Chart, HVAC Module DTC Chart or Dual Climate Controlled Seat Module (DCSM) DTC Chart. For all other DTCs, refer to [Section 419-10](#).
 11. If no DTCs related to the concern are retrieved, GO to [Symptom Chart](#).

DTC Charts

Driver Seat Module (DSM) DTC Chart

DTC	Description	Retrieved	Action
B106E	Solid State Driver Disabled due to Short Circuit	—	REFER to Section 501-09 .
B106F	Module Disabled Due to External Fault	—	REFER to Section 501-09 .
B1317	Continuous	Battery Voltage High	GO to Pinpoint Test AL .
B1318	Continuous	Battery Voltage Low	GO to Pinpoint Test AL .
B1534	Memory 1 Switch Circuit Short to Ground	On-Demand and Continuous	GO to Pinpoint Test F .
B1538	Memory 2 Switch Circuit Short to Ground	On-Demand and Continuous	GO to Pinpoint Test F .
B1663	Seat Driver Front Up/Down Motor Stalled	On-Demand	If the motor does not operate, GO to Pinpoint Test E . If motor operates, GO to Pinpoint Test F .
B1664	Seat Driver Rear Up/Down Motor Stalled	On-Demand	If the motor does not operate, GO to Pinpoint Test E . If motor operates, GO to Pinpoint Test F .
B1665	Seat Driver Forward/Backward Motor Stalled	On-Demand	If the motor does not operate, GO to Pinpoint Test E . If motor operates, GO to Pinpoint Test F .
B1666	Seat Driver Recline Motor Stalled	On-Demand	If the motor does not operate, GO to Pinpoint Test E . If motor operates, GO to Pinpoint Test F .
B1667	Mirror Driver Up/Down Motor Stalled	—	REFER to Section 501-09 .
B1668	Mirror Driver Right/Left Motor Stalled	—	REFER to Section 501-09 .
B1669	Mirror Passenger Up/Down Motor Stalled	—	REFER to Section 501-09 .
B1670	Mirror Passenger Right/Left Motor Stalled	—	REFER to Section 501-09 .

B1703	Seat Driver Recline Forward Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1707	Seat Driver Recline Rearward Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1711	Seat Driver Front Up Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1715	Seat Driver Front Down Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1719	Seat Driver Forward Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1723	Seat Driver Rearward Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1727	Seat Driver Rear Up Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1731	Seat Driver Rear Down Switch Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test E .
B1733	Mirror Driver Vertical Switch Circuit Failure	—	REFER to Section 501-09 .
B1737	Mirror Driver Horizontal Switch Circuit Failure	—	REFER to Section 501-09 .
B1741	Mirror Passenger Vertical Switch Circuit Failure	—	REFER to Section 501-09 .
B1745	Mirror Passenger Horizontal Switch Circuit Failure	—	REFER to Section 501-09 .
B1952	Seat Rear Up/Down Position Feedback Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test F .
B1953	Seat Rear Up/Down Position Feedback Circuit Short to Ground	On-Demand and Continuous	GO to Pinpoint Test F .
B1956	Seat Front Up/Down Position Feedback Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test F .
B1957	Seat Front Up/Down Position Feedback Circuit Short to Ground	On-Demand and Continuous	GO to Pinpoint Test F .
B1960	Seat Recline Forward/Backward Position Feedback Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test F .
B1961	Seat Recline Forward/Backward Position	On-Demand and	GO to Pinpoint Test F .

	Feedback Circuit Short to Ground	Continuous	
B1964	Seat Horizontal Forward/Rearward Position Feedback Circuit Short to Battery	On-Demand and Continuous	GO to Pinpoint Test F.
B1965	Seat Horizontal Forward/Rearward Position Feedback Circuit Short to Ground	On-Demand and Continuous	GO to Pinpoint Test F.
B2223	Mirror Driver Drive Circuit Failure	—	REFER to Section 501-09.
B2224	Mirror Passenger Drive Circuit Failure	—	REFER to Section 501-09.
B2312	Mirror Passenger Horizontal Feedback Potentiometer Circuit Failure	—	REFER to Section 501-09.
B2314	Mirror Passenger Horizontal Feedback Potentiometer Circuit Short To Battery	—	REFER to Section 501-09.
B2316	Mirror Passenger Vertical Feedback Potentiometer Circuit Failure	—	REFER to Section 501-09.
B2318	Mirror Passenger Vertical Feedback Potentiometer Circuit Short to Battery	—	REFER to Section 501-09.
B2320	Mirror Driver Horizontal Feedback Potentiometer Circuit Failure	—	REFER to Section 501-09.
B2322	Mirror Driver Horizontal Feedback Potentiometer Circuit Short to Battery	—	REFER to Section 501-09.
B2324	Mirror Driver Vertical Feedback Potentiometer Circuit Failure	—	REFER to Section 501-09.
B2326	Mirror Driver Vertical Feedback Potentiometer Circuit Short to Battery	—	REFER to Section 501-09.
B2477	Module Configuration Failure	Continuous	NOTE: This DTC indicates Programmable Module Installation (PMI) has not been done to a newly installed module or configuration data has been lost. Presence of this DTC alone does not prevent basic seat operation from the seat control switch. CARRY OUT <u>PMI</u> on the <u>DSM</u>. REFER to Section 418-01. REPEAT the self-test and VERIFY successful <u>PMI</u>. CLEAR the DTCs.
U0140	Lost Communication With Body Control Module (GEM)	Continuous	CLEAR the DTC. REPEAT the self-test. If the DTC is retrieved again, REFER to Section 418-00 to diagnose the Medium Speed Controller Area Network (MS-CAN) concern.

U2050	No Application Present	Continuous	INSTALL a new <u>DSM</u> . REFER to Driver Seat Module (DSM) in this section.
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Dual Climate Controlled Seat Module (DCSM) DTC Chart

DTC	Description	Retrieved	Action
B103B	Thermoelectric Driver Overcurrent Low	On-Demand and Continuous	GO to Pinpoint Test X.
B103C	Thermoelectric Driver Open Load	On-Demand and Continuous	GO to Pinpoint Test Y.
B103D	Blower Driver Overtemperature	On-Demand and Continuous	GO to Pinpoint Test Z.
B1111	Driver Thermoelectric Device Control Overtemperature Fault	On-Demand and Continuous	GO to Pinpoint Test X.
B1113	Passenger Thermoelectric Device Control Overtemperature Fault	On-Demand and Continuous	GO to Pinpoint Test AA.
B111B	Passenger Thermoelectric Driver Overcurrent Low	On-Demand and Continuous	GO to Pinpoint Test AA.
B111C	Passenger Thermoelectric Driver Open Load	On-Demand and Continuous	GO to Pinpoint Test AB.
B111D	Passenger Blower Driver Overtemperature	On-Demand and Continuous	GO to Pinpoint Test AC.
B1342	<u>ECU</u> is Faulted	On-Demand and Continuous	INSTALL a new Dual Climate Controlled Seat Module (DCSM). REFER to Dual Climate Controlled Seat Module (DCSM) in this section.
B19A1	Passenger Seat Cushion Blower Speed Short to Battery	On-Demand and Continuous	GO to Pinpoint Test AD.
B19A2	Passenger Seat Back Blower Speed Short to Battery	On-Demand and Continuous	GO to Pinpoint Test AE.
B19A3	Driver Seat Cushion Blower Speed Short to Battery	On-Demand and Continuous	GO to Pinpoint Test AF.
B19A4	Driver Seat Back Blower Speed Short to Battery	On-Demand and Continuous	GO to Pinpoint Test AG.
B19A5	Passenger Seat Cushion Blower Speed Short to Ground	On-Demand and	GO to Pinpoint Test AH.

		Continuous	
B19A6	Passenger Seat Back Blower Speed Short to Ground	On-Demand and Continuous	GO to Pinpoint Test AI .
B19A7	Driver Seat Cushion Blower Speed Short to Ground	On-Demand and Continuous	GO to Pinpoint Test AJ .
B19A8	Driver Seat Back Blower Speed Short to Ground	On-Demand and Continuous	GO to Pinpoint Test AK .
B2477	Module Configuration Failure	On-Demand and Continuous	NOTE: This DTC indicates <u>PMI</u> has not been done to a newly installed module or configuration data has been lost. CARRY OUT <u>PMI</u> on the <u>DCSM</u> . REFER to Section 418-01 . REPEAT the self-test. If <u>PMI</u> is successful, the DTC is not present.
B2486	Climate Control Seat Module Voltage Out of Range	On-Demand and Continuous	GO to Pinpoint Test AL .
B2729	Cushion Over-Temp Detected (Driver)	On-Demand and Continuous	GO to Pinpoint Test AM .
B272A	Passenger Cushion Over-Temp Detected	On-Demand and Continuous	GO to Pinpoint Test AN .
B272B	Passenger Back Over-Temp Detected	On-Demand and Continuous	GO to Pinpoint Test AO .
B272C	Driver Differential Temperature Fault	On-Demand and Continuous	GO to Pinpoint Test AP .
B272D	Passenger Differential Temperature Fault	On-Demand and Continuous	GO to Pinpoint Test AQ .
B272E	Driver Ignition Run/Blower Circuit Short to Ground (this DTC sets for an open or short to voltage)	On-Demand and Continuous	GO to Pinpoint Test AR .
B272F	Passenger Ignition Run/Blower Circuit Short to Ground (this DTC sets for an open or short to voltage)	On-Demand and Continuous	GO to Pinpoint Test AS .
B2730	Back Over-Temp Detected (Driver)	On-Demand and Continuous	GO to Pinpoint Test AT .
U2050	No Application Present	Continuous	INSTALL a new <u>DCSM</u> . REFER to Dual Climate Controlled Seat Module (DCSM) in this section.

HVAC Module DTC Chart

NOTE: This module utilizes a 5-character DTC followed by a 2-character failure type code. The failure type code provides information about specific fault conditions such as opens or shorts to ground. Continuous Memory Diagnostic Trouble Codes (CMDTCs) have an additional 2-character DTC status code suffix to assist in determining DTC history.

NOTE: Some PCM DTCs may inhibit A/C operation. If any PCM DTCs are retrieved, diagnose those first. Refer to the PCM DTC Chart.

DTC	Description	Action to Take
B1034:11	Left Front Seat Heater Element: Circuit Short To Ground	GO to Pinpoint Test N.
B1034:13	Left Front Seat Heater Element: Circuit Open	GO to Pinpoint Test N.
B1036:11	Right Front Seat Heater Element: Circuit Short To Ground	GO to Pinpoint Test O.
B1036:13	Right Front Seat Heater Element: Circuit Open	GO to Pinpoint Test O.
B1038:11	Left Front Seat Heater Sensor: Circuit Short To Ground	GO to Pinpoint Test N.
B1038:12	Left Front Seat Heater Sensor: Circuit Short To Battery	GO to Pinpoint Test N.
B103A:11	Right Front Seat Heater Sensor: Circuit Short To Ground	GO to Pinpoint Test O.
B103A:12	Right Front Seat Heater Sensor: Circuit Short To Battery	GO to Pinpoint Test O.
All other DTCs	—	REFER to Section 412-00.

Symptom Chart

Symptom Chart

Condition	Possible Sources	Action
No communication with the Driver Seat Module (DSM)	- Fuse - Wiring, terminals or connectors DSM	REFER to Section 418-00.
No communication with the Dual Climate Controlled Seat Module (DCSM)	- Fuse - Wiring, terminals or connectors DCSM	REFER to Section 418-00.
The power seat is inoperative — driver, with manual recliner	- Fuse - Wiring, terminals or connectors - Seat control switch	GO to Pinpoint Test A.
The power seat is inoperative — passenger	- Fuse - Wiring, terminals or connectors	GO to Pinpoint Test B.

	• Seat control switch	
• The power seat moves but is noisy (squeals) when moving the seat horizontally	• Front seat motor cable	• INSTALL a new front seat motor cable. REFER to Front Seat Motor Cable.
• The power seat does not move horizontally/vertically — driver, with manual recliner	• Wiring, terminals or connectors • Seat control switch • Horizontal seat track motor • Power seat track assembly	• GO to Pinpoint Test C.
• The power seat does not move horizontally/vertically/recline — passenger	• Wiring, terminals or connectors • Seat control switch • Horizontal seat track motor • Power seat track assembly	• GO to Pinpoint Test D.
• The power seat does not move horizontally/vertically/recline — driver, with memory	• Fuse • Wiring, terminals or connectors • Seat control switch • Horizontal seat track motor • Memory seat track assembly • DSM	• GO to Pinpoint Test E.
• The memory seat does not operate correctly — motor(s) operate in one second intervals or memory seat recall not functioning correctly	• Wiring, terminals or connectors • Memory SET switch • Horizontal seat track motor • Memory seat track assembly • DSM	• GO to Pinpoint Test F.
• The memory seat does not operate correctly — does not operate using the Remote Keyless Entry (RKE) transmitter	• RKE Integrated Keyhead Transmitter (IKT) is not correctly associated to a memory position • Wiring, terminals or connectors • IKT	• VERIFY the RKE transmitter is operating correctly and is associated to a memory position. REFER to the Owner's Literature or Section 501-14 for information on associating a RKE transmitter. RUN the DSM self-test. REFER to the Driver Seat Module (DSM) DTC Chart to diagnose

	• <u>DSM</u> • Body Control Module (BCM)	any DTCs retrieved.
• Easy entry/easy exit is inoperative/does not operate correctly	• Easy entry/exit feature is not enabled • Wiring, terminals or connectors • Missing status information — Medium Speed Controller Area Network (MS-CAN) ▪ ignition status ▪ gear selector position • Key-in-ignition switch • <u>DSM</u>	• GO to Pinpoint Test G.
• The power lumbar is inoperative — driver	• Wiring, terminals or connectors • Seat control switch • Power lumbar motor • Power lumbar assembly	• GO to Pinpoint Test H.
• The power lumbar is inoperative — passenger	• Wiring, terminals or connectors • Seat control switch • Power lumbar motor • Power lumbar assembly	• GO to Pinpoint Test I.
• All climate controlled seats are inoperative	• Fuse • Wiring, terminals or connectors • <u>I-CAN</u> communication fault • <u>HS-CAN</u> communication fault • <u>MS-CAN</u> communication fault • <u>DCSM</u> • <u>FCIM</u> • <u>APIM</u>	• VERIFY Battery Junction Box (BJB) fuse 69 (30A) is OK. If OK, CARRY OUT the network test using a scan tool and VERIFY network communication of the Front Controls Interface Module (FCIM) and <u>DCSM</u>. REFER to Section 418-00 to diagnose a module communication or network concern. If OK, CARRY OUT the <u>DCSM</u> self-test and RETRIEVE any DTCs. If any DTC is

	• <u>FDIM</u>	present, REFER to the Dual Climate Controlled Seat Module (DCSM) DTC Chart. VERIFY the touchscreen operation. If the touchscreen does not operate correctly, REFER to Section 415-00D or Section 415-00E to diagnose the inoperative touchscreen. If OK, INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section.
• A single climate controlled seat is inoperative	• Wiring, terminals or connectors • <u>APIM</u> • <u>FDIM</u> • <u>DCSM</u>	• NOTE: If a fault occurs setting a DTC specific to only one climate controlled seat, the <u>DCSM</u> disables only the affected seat outputs and allow the other seat to remain operational. CHECK for DTCs specific to the affected climate controlled seat and if a DTC is present, REFER to the Dual Climate Controlled Seat Module (DCSM) DTC Chart. GO to Pinpoint Test L.
• A single climate controlled seat does not operate correctly — poor or intermittent cooling/heating	• Excessive sun load or extreme cabin temperatures • Incorrectly installed Thermo-Electric Device (TED) or manifold • Air flow blockage • <u>TED</u> • <u>DCSM</u>	• CARRY OUT the <u>DCSM</u> self-test and retrieve any DTCs. If any DTC is present, REFER to the Dual Climate Controlled Seat Module (DCSM) DTC Chart. If no DTC is present, CHECK the affected seat cushion or backrest for correct installation of the climate controlled seat components (<u>TED</u>, manifold air duct and foam pad) and REPAIR as needed. If OK, CHECK for air flow restrictions (<u>TED</u> inlets and outlets, <u>TED</u> -to-manifold connections, filters and ducts) and REPAIR as needed. CHECK the <u>TED</u> cooling performance on the affected seat and VERIFY the system is operating correctly. REFER to

		Component Test — Thermo-Electric Device (TED) Cooling Performance.
A single climate controlled seat does not operate correctly — exhibits poor air flow or performance	- Incorrectly installed Thermo-Electric Device (TED) or manifold - Air flow blockage - Disconnected air duct	CARRY OUT the DCSM self-test and retrieve any DTCs. If any DTC is present, CHECK the affected seat cushion or backrest for correct installation of the climate controlled seat components (TED, manifold air duct and foam pad) and REPAIR as needed. If OK, CHECK for air flow restrictions (TED inlets and outlets, TED - to-manifold connections, filters and ducts) and REPAIR as needed. RETEST the system for normal operation.
The heated seat is inoperative — driver	- Fuse - Wiring, terminals or connectors FDIM APIM FCIM - Heater mat - HVAC module	GO to Pinpoint Test N.
The heated seat is inoperative — front passenger	- Fuse - Wiring, terminals or connectors FDIM APIM FCIM - Heater mat - HVAC module	GO to Pinpoint Test O.
The heated seats are inoperative — rear	- Fuse(s) - Wiring, terminals or connectors - Heated seat module	GO to Pinpoint Test Q.
The heated seat is inoperative — left rear	- Fuse - Wiring, terminals or connectors - Heated seat switch - Heater mat - Heated seat module	GO to Pinpoint Test R.

The heated seat is inoperative — right rear	- Fuse - Wiring, terminals or connectors - Heated seat switch - Heater mat - Heated seat module	GO to Pinpoint Test S.
The heated seat does not operate correctly — left rear seat does heat but the heated seat indicator does not illuminate when pressed	- Wiring, terminals or connectors - Heated seat switch - Heated seat module	GO to Pinpoint Test T.
The heated seat does not operate correctly — right rear seat does heat but the heated seat indicator does not illuminate when pressed	- Wiring, terminals or connectors - Heated seat switch - Heated seat module	GO to Pinpoint Test U.
The heated seat does not operate correctly — left rear heated seat indicator is always on	- Wiring, terminals or connectors - Heated seat module	GO to Pinpoint Test V.
The heated seat does not operate correctly — right rear heated seat indicator is always on	- Wiring, terminals or connectors - Heated seat module	GO to Pinpoint Test W.

Pinpoint Tests

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

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

Refer to Inspection and Verification, the Driver Seat Module (DSM) DTC Chart, Dual Climate Controlled Seat Module (DCSM) DTC Chart, HVAC Module DTC Chart and the Symptom Chart for direction to the appropriate pinpoint test.

Pinpoint Test A: The Power Seat is Inoperative — Driver, With Manual Recliner

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

Normal Operation

The driver seat control switch is supplied voltage and ground. When the driver seat control switch is activated, voltage and ground is supplied to the applicable seat track motor to move the seat to the desired position. There are 3 seat track motors that combine to move the seat cushion horizontally (forward/rearward) and vertically (front up/down and rear up/down). If a new motor on the seat track needs to be installed, it is necessary to install an entire seat track assembly.

This pinpoint test is intended to diagnose the following:

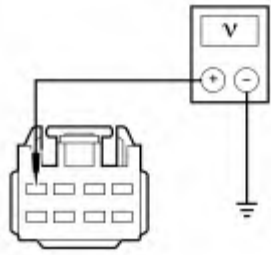
- Fuse
- Wiring, terminals or connectors
- Seat control switch

PINPOINT TEST A: THE POWER SEAT IS INOPERATIVE — DRIVER, WITH MANUAL RECLINER

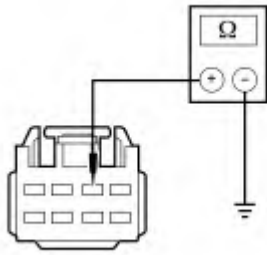
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK THE DRIVER SEAT CONTROL SWITCH FOR VOLTAGE • Ignition OFF. • Depower the SRS. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: Driver Seat Control Switch C360. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the voltage between driver seat control switch C360-4, circuit CBX05 (VT/RD), harness side and ground.  N0010817 • Is the voltage greater than 10 volts?	Yes GO to A2. No VERIFY Battery Junction Box (BJB) fuse 74 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to Section 501-20B.
A2 CHECK THE DRIVER SEAT CONTROL SWITCH GROUND CIRCUIT FOR AN OPEN • Measure the resistance between driver seat control switch	Yes

C360-2, circuit GD904 (BK/BU), harness side and ground.



N0010818

- Is the 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.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

When the passenger seat control switch is activated, voltage and ground is supplied to the applicable seat track motor or seat recliner motor to move the seat to the desired position. There are 3 seat track motors that combine to move the seat cushion horizontally (forward/rearward) and vertically (front up/down and rear up/down). There is an additional motor in the seat recliner mechanism to move the seat backrest forward and rearward. If a new seat track motor needs to be installed, it is necessary to install an entire seat track assembly.

This pinpoint test is intended to diagnose the following:

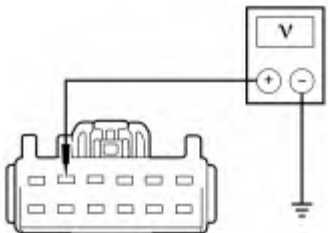
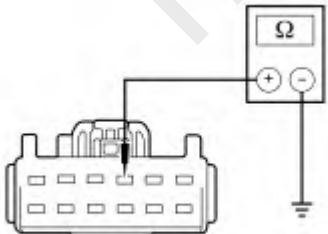
- Fuse
- Wiring, terminals or connectors
- Seat control switch

PINPOINT TEST B: THE POWER SEAT IS INOPERATIVE — PASSENGER

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK THE PASSENGER SEAT CONTROL SWITCH FOR VOLTAGE • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: Passenger Seat Control Switch C330. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the voltage between passenger seat control switch C330-5, circuit CBX05 (VT/RD), harness side and ground.  N0010819 • Is the voltage greater than 10 volts?	Yes GO to B2. No VERIFY Battery Junction Box (BJB) fuse 14 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
B2 CHECK THE PASSENGER SEAT CONTROL SWITCH GROUND CIRCUIT FOR AN OPEN • Measure the resistance between passenger seat control switch C330-3, circuit GD903 (BK/WH), harness side and ground.  N0010825 • Is the 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. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side

air bag module C339.

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

Pinpoint Test C: The Power Seat Does Not Move Horizontally/Vertically — Driver, With Manual Recliner

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

Normal Operation

When the driver seat control switch is activated, voltage and ground is supplied to the applicable seat track motor to move the seat to the desired position. There are 3 seat track motors that combine to move the seat cushion horizontally (forward/rearward) and vertically (front up/down and rear up/down). If a new seat track motor needs to be installed, it is necessary to install an entire seat track assembly.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat control switch
- Horizontal seat track motor
- Power seat track assembly

PINPOINT TEST C: THE POWER SEAT DOES NOT MOVE HORIZONTALLY/VERTICALLY — DRIVER, WITH MANUAL RECLINER

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

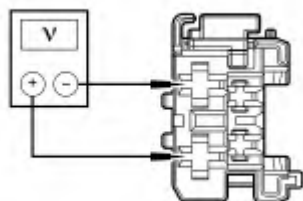
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK THE HORIZONTAL MOTOR FOR CORRECT OPERATION	
• Operate the driver power seat forward and rearward. • Will the seat move horizontally?	Yes GO to C5. No GO to C2.
C2 CHECK VOLTAGE TO THE HORIZONTAL MOTOR	
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051 . • Disconnect: Driver Seat Horizontal Motor C362 . •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag when the battery is connected. Failure to follow these instructions may	Yes INSTALL a new front seat track motor. REFER to Seat Track Motor — Front in this section. TEST the system for normal operation.

result in serious personal injury in the event of an accidental deployment.

- Connect the battery ground cable. Refer to [Section 414-01](#).
- **NOTE:** During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated.
- Measure the voltage between driver seat horizontal motor C362-1, circuit CPS23 (GN/VT), harness side and C362-2, circuit CPS28 (GN), harness side, while pressing the driver seat control switch forward and rearward.



N0057525

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

DISCONNECT the battery ground cable.

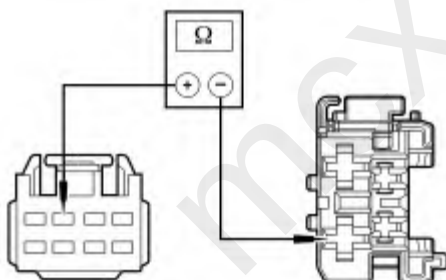
CONNECT driver seat side air bag module C3051.

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

No
GO to [C3](#).

C3 CHECK THE HORIZONTAL MOTOR CIRCUIT FOR AN OPEN

- Disconnect: Driver Seat Control Switch C360.
- Measure the resistance between driver seat control switch C360-3, circuit CPS23 (GN/VT), harness side and driver seat horizontal motor C362-1, circuit CPS23 (GN/VT), harness side.



N0098985

- **Is the resistance less than 5 ohms?**

Yes
GO to [C4](#).

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

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

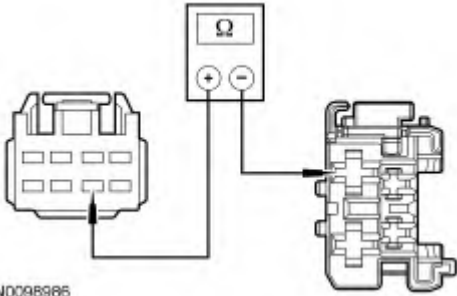
C4 CHECK THE HORIZONTAL MOTOR CIRCUIT FOR AN OPEN

- Measure the resistance between driver seat control switch C360-6, circuit CPS28 (GN), harness side and driver seat horizontal motor C362-2, circuit CPS28 (GN), harness side.

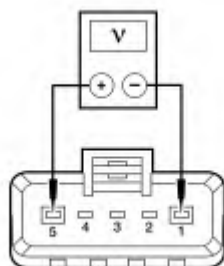
Yes
INSTALL a new driver seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

 N0098985 Is the resistance less than 5 ohms?	REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
C5 DETERMINE THE SEAT HEIGHT ADJUST FAILURE - Operate the front and rear seat height adjustments. Are both front and rear seat height adjustments inoperative?	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. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No If only front height adjust operates, GO to C6. If only rear height adjust operates, GO to C9.
C6 CHECK VOLTAGE TO THE REAR HEIGHT MOTOR - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Driver Seat Side Air Bag Module C3051. - Disconnect: Driver Seat Rear Height Motor C363.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. NOTE: During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated.	Yes INSTALL a new driver seat track assembly. REFER to Seat Track in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>.

- Measure the voltage between driver seat rear height motor C363-5, circuit CPS26 (YE/BU), harness side and C363-1, circuit CPS27 (BU/BN), harness side, while operating the seat control switch rear height adjust up and down.



N0091109

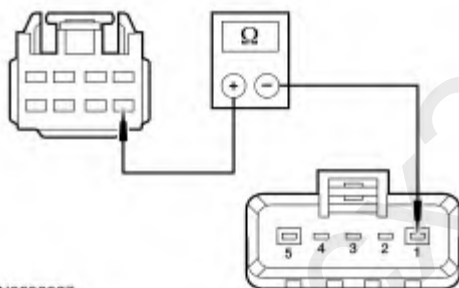
- Is the voltage greater than 10 volts when the seat control switch is operated in both directions and 0 volt in the rest position?

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

No
GO to [C7](#).

C7 CHECK THE REAR HEIGHT MOTOR CIRCUIT FOR AN OPEN

- Disconnect: Driver Seat Control Switch C360.
- Measure the resistance between driver seat control switch C360-5, circuit CPS27 (BU/BN), harness side and driver seat rear height motor C363-1, circuit CPS27 (BU/BN), harness side.



N0098987

- Is the resistance less than 5 ohms?

Yes
GO to [C8](#).

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

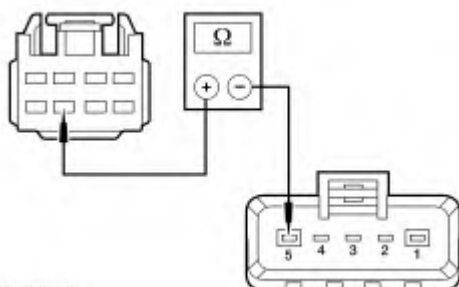
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

C8 CHECK THE REAR HEIGHT MOTOR CIRCUIT FOR AN OPEN

- Measure the resistance between driver seat control switch C360-7, circuit CPS26 (YE/BU), harness side and driver seat rear height motor C363-5, circuit CPS26 (YE/BU), harness side.



N0098988

- Is the resistance less than 5 ohms?

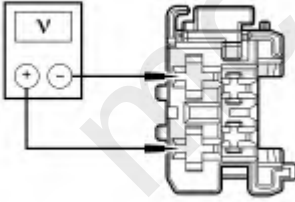
Yes
INSTALL a new driver seat control switch. REFER to [Seat Control Switch](#) in this section. TEST the system for normal operation.

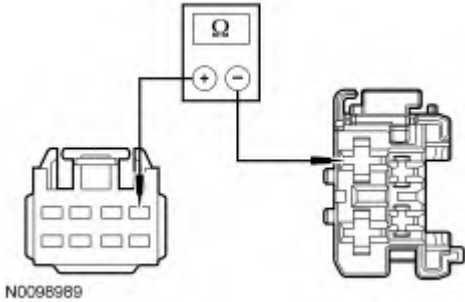
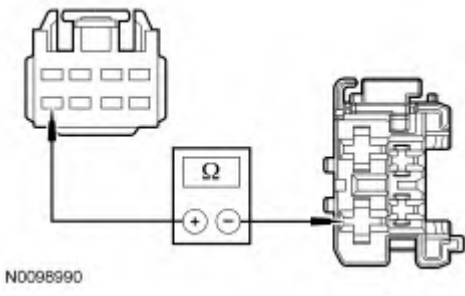
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No
REPAIR the circuit. TEST

	the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS . REFER to Section 501-20B.
C9 CHECK VOLTAGE TO THE FRONT HEIGHT MOTOR - Ignition OFF. - Depower the SRS . Refer to Section 501-20B. - Disconnect: Driver Seat Side Air Bag Module C3051 . - Disconnect: Driver Seat Front Height Motor C382 .  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. NOTE: During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated. - Measure the voltage between driver seat front height motor C382-1, circuit CPS24 (GY), harness side and C382-2, circuit CPS25 (WH/VT), while operating the seat control switch front height adjust up and down.  N0057525 - Is the voltage greater than 10 volts when the seat control switch is operated in both directions and 0 volt in the rest position?	Yes INSTALL a new driver seat track assembly. REFER to Seat Track in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS . REFER to Section 501-20B. No GO to C10.
C10 CHECK THE FRONT HEIGHT MOTOR CIRCUIT FOR AN OPEN - Disconnect: Driver Seat Control Switch C360 . - Measure the resistance between driver seat control switch C360-1, circuit CPS25 (WH/VT), harness side and driver seat front height motor C382-2, circuit CPS25 (WH/VT), harness side.	Yes GO to C11. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable.

 N0098989 Is the resistance less than 5 ohms?	CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
C11 CHECK THE FRONT HEIGHT MOTOR CIRCUIT FOR AN OPEN - Measure the resistance between driver seat control switch C360-8, circuit CPS24 (GY) harness side, and driver seat front height motor C382-1, circuit CPS24 (GY), harness side.  N0098990 - Is the 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. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test D: The Power Seat Does Not Move Horizontally/Vertically/Recline — Passenger

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

Normal Operation

When the passenger seat control switch is activated, voltage and ground is supplied to the applicable seat track motor or seat recliner motor to move the seat to the desired position. There are 3 seat track motors that combine to move the seat cushion horizontally (forward/rearward) and vertically (front up/down and rear up/down). There is an additional motor in the seat recliner mechanism to move the seat backrest forward and rearward. If a new seat track motor needs to be installed, it is necessary to install an entire seat track

assembly.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat control switch
- Horizontal seat track motor
- Power seat track assembly

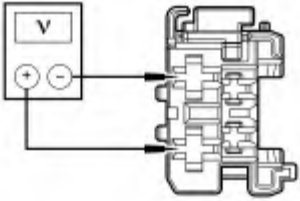
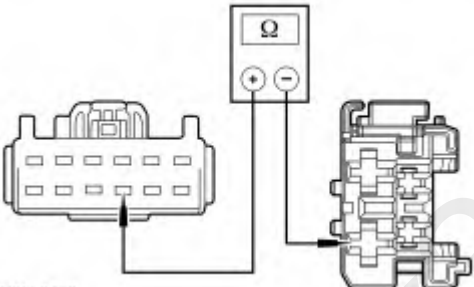
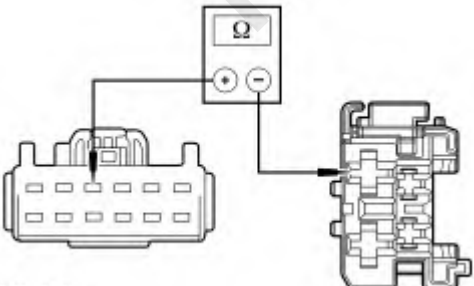
PINPOINT TEST D: THE POWER SEAT DOES NOT MOVE HORIZONTALLY/VERTICALLY/RECLINE — PASSENGER

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

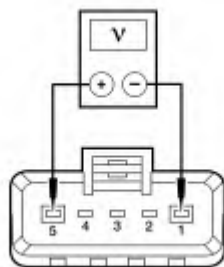
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK THE HORIZONTAL MOTOR FOR CORRECT OPERATION	
• Operate the passenger power seat forward and rearward. • Will the seat move horizontally?	Yes GO to D2. No GO to D3.
D2 CHECK THE RECLINER MOTOR FOR CORRECT OPERATION	
• Recline the passenger backrest forward and rearward. • Will the seat backrest recline forward and rearward?	Yes GO to D6. No GO to D13.
D3 CHECK VOLTAGE TO THE HORIZONTAL MOTOR	
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: Passenger Seat Horizontal Motor C332. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. • NOTE: During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated. • Measure the voltage between passenger seat horizontal motor C332-1, circuit CPS38 (GN/BU), harness side and C332-2, circuit CPS33 (WH), harness side, while pressing the passenger seat control switch forward and rearward.	Yes INSTALL a new front seat track motor. REFER to Seat Track Motor — Front in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.

 N0057525 Is the voltage greater than 10 volts when the seat control switch is operated in both directions and 0 volt in the rest position?	No GO to D4.
D4 CHECK THE HORIZONTAL MOTOR CIRCUIT FOR AN OPEN - Disconnect: Passenger Seat Control Switch C330 . - Measure the resistance between passenger seat control switch C330-9, circuit CPS38 (GN/BU), harness side and passenger seat horizontal motor C332-1, circuit CPS38 (GN/BU), harness side.  N0076403 - Is the resistance less than 5 ohms?	Yes GO to D5. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
D5 CHECK THE HORIZONTAL MOTOR CIRCUIT FOR AN OPEN - Measure the resistance between passenger seat control switch C330-4, circuit CPS33 (WH), harness side and passenger seat horizontal motor C332-2, circuit CPS33 (WH), harness side.  N0076404 - Is the 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. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No REPAIR the circuit. TEST the system for normal operation.

	DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
D6 DETERMINE THE SEAT HEIGHT ADJUST FAILURE	
- Operate the front and rear seat height adjustments. Does the seat front and rear height adjust up and down?	Yes If only front height adjust operates, GO to D7. If only rear height adjust operates, GO to D10. No 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. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
D7 CHECK VOLTAGE TO THE REAR HEIGHT MOTOR	
- Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: Rear Height Motor C3075.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. NOTE: During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated. - Measure the voltage between passenger seat rear height motor C3075-5, circuit CPS36 (YE/GY), harness side and C3075-1, circuit CPS37 (WH/BU), harness side, while depressing the seat control switch rear height adjust up and down.	Yes INSTALL a new passenger seat track assembly. REFER to Seat Track in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to D8.

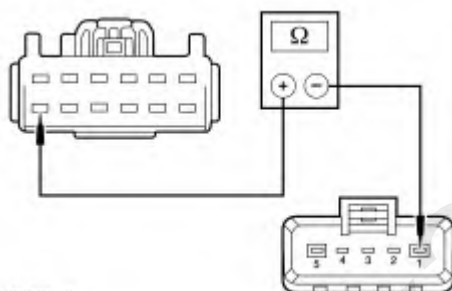


N0091003

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

D8 CHECK THE REAR SEAT HEIGHT MOTOR FOR AN OPEN

- Disconnect: Passenger Seat Control Switch C330 .
- Measure the resistance between passenger seat control switch C330-12, circuit CPS37 (WH/BU), harness side and passenger seat rear height motor C3075-1, circuit CPS37 (WH/BU), harness side.

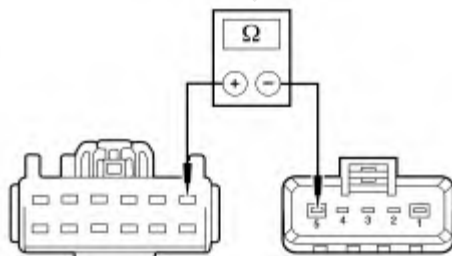


N0098978

- Is the resistance less than 5 ohms?

D9 CHECK THE REAR SEAT HEIGHT MOTOR CIRCUIT FOR AN OPEN

- Measure the resistance between passenger seat control switch C330-1, circuit CPS36 (YE/GY), harness side and passenger seat rear height motor C3075-5, circuit CPS36 (YE/GY), harness side.



N0098977

- Is the resistance less than 5 ohms?

Yes
GO to [D9](#) .

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

DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

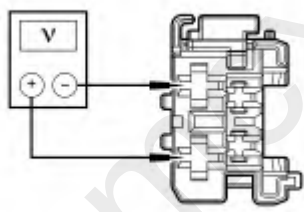
Yes
INSTALL a new passenger seat control switch.
REFER to [Seat Control Switch](#) in this section.
TEST the system for normal operation.

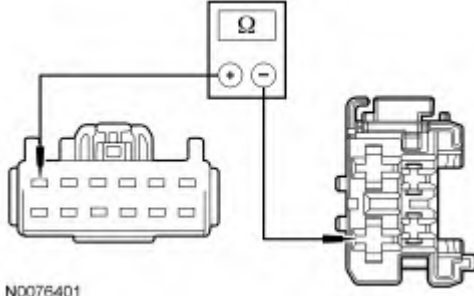
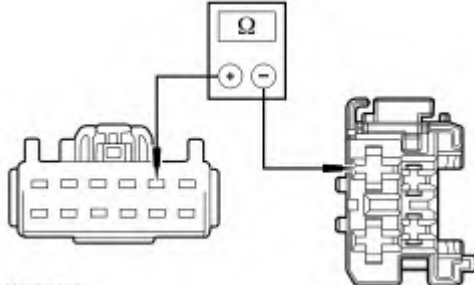
DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

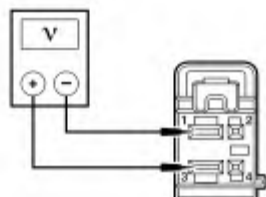
REPOWER the SRS .
REFER to [Section 501-20B](#) .

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

	DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS . REFER to Section 501-20B .
D10 CHECK VOLTAGE TO THE FRONT HEIGHT MOTOR	
- Ignition OFF. - Depower the SRS . Refer to Section 501-20B . - Disconnect: Passenger Seat Side Air Bag Module C339 . - Disconnect: Passenger Seat Front Height Motor C3074 .  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 . NOTE: During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated. - Measure the voltage between passenger seat front height motor C3074-1, circuit CPS35 (VT/GN), harness side and C3074-2, circuit CPS34 (GY/BU), while pressing the seat control switch front height adjust up and down.  N0057525 - Is the voltage greater than 10 volts when the seat control switch is operated in both directions and 0 volt in the rest position?	Yes INSTALL a new seat track assembly. REFER to Seat Track in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS . REFER to Section 501-20B . No GO to D11 .
D11 CHECK THE FRONT HEIGHT MOTOR CIRCUIT FOR AN OPEN	
- Disconnect: Passenger Seat Control Switch C330 . - Measure the resistance between passenger seat control switch C330-6, circuit CPS35 (VT/GN), harness side and front height motor C3074-1, circuit CPS35 (VT/GN), harness side.	Yes GO to D12 . No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat

 N0076401 Is the resistance less than 5 ohms?	side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
D12 CHECK THE FRONT HEIGHT MOTOR CIRCUIT FOR AN OPEN - Measure the resistance between passenger seat control switch C330-2, circuit CPS34 (GY/BU) harness side, and front height motor C3074-2, circuit CPS34 (GY/BU), harness side.  N0076402 - Is the 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. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
D13 CHECK VOLTAGE TO THE SEAT RECLINER MOTOR - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: Passenger Seat Recliner Motor C3189.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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.	Yes INSTALL a new seat recliner motor. REFER to Seat Recliner Motor in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat

- **NOTE:** During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated.
- Measure the voltage between passenger seat recliner motor C3189-3, circuit CPS08 (VT/OG), harness side and C3189-1, circuit CPS07 (GY/BN), while pressing the recline switch forward and rearward.



N0091005

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

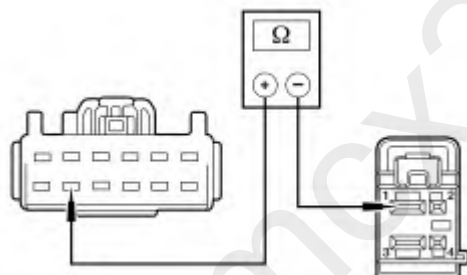
side air bag module C339.

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

No
GO to [D14](#).

D14 CHECK THE RECLINER MOTOR CIRCUIT FOR AN OPEN

- Disconnect: Passenger Seat Control Switch C330.
- Measure the resistance between passenger seat control switch C330-11, circuit CPS39 (GY/YE), harness side and seat recliner motor C3189-1, circuit CPS07 (GY/BN), harness side.



N0098995

- Is the resistance less than 5 ohms?

Yes
GO to [D15](#).

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

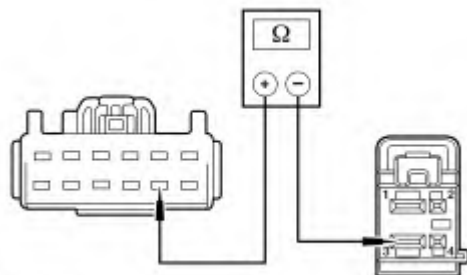
DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

D15 CHECK THE RECLINER MOTOR CIRCUIT FOR AN OPEN

- Measure the resistance between passenger seat control switch C330-8, circuit CPS40 (VT/GY) harness side, and seat recliner motor C3189-3, circuit CPS08 (VT/OG), harness side.



N0098995

- Is the 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.

CONNECT passenger seat side air bag module C339.

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

	20B. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
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Pinpoint Test E: The Power Seat Does Not Move Horizontally/Vertically/Recline — Driver, With Memory

Refer to Wiring Diagrams Cell [123](#), Memory Seats for schematic and connector information.

Refer to Wiring Diagrams Cell [149](#), Component Testing for component testing.

Normal Operation

The seat control switch supplies voltage and ground to the applicable Driver Seat Module (DSM) inputs. The DSM then supplies voltage and ground to the appropriate seat track motor or seat recliner motor to move the seat in the desired direction. There are 3 seat track motors that combine to move the seat horizontally (forward/backward) and vertically (front up/down and rear up/down). The seat recliner mechanism uses a single motor to pivot the seat backrest forward and backward.

The following pinpoint test diagnoses a power seat with memory that does not operate or does not operate correctly. If the seat does not operate using the memory SET switch or operates in one second intervals, [GO to Pinpoint Test F](#).

DTC Description	Fault Trigger Conditions
- B1663 — Seat Driver Front Up/Down Motor Stalled - B1664 — Seat Driver Rear Up/Down Motor Stalled - B1665 — Seat Driver Forward/Backward Motor Stalled	During self-test, the <u>DSM</u> attempts to operate the appropriate seat track motor and uses the motor's position sensor to monitor movement. If no motor movement is sensed, the DTC is set. The <u>DSM</u> will retry motor operation on the next activation of the seat control switch. If no movement continues to be monitored after 250 milliseconds, the <u>DSM</u> disables the output.
B1666 — Seat Driver Recline Motor Stalled	During self-test, the <u>DSM</u> attempts to operate the recliner motor and uses the recliner motor position sensor to monitor movement. If no motor movement is sensed, the DTC is set. The <u>DSM</u> will retry motor operation on the next activation of the seat control switch. If no motor movement is still monitored after 250 milliseconds, the <u>DSM</u> disables the output.
B1703 — Seat Driver Recline Forward Switch	If voltage is sensed on the switch input circuit during the <u>DSM</u> self-test, the DTC is set. If voltage is sensed on the input circuit for greater than

Circuit Short to Battery • B1707 — Seat Driver Recline Rearward Switch Circuit Short to Battery	2 minutes the DTC is set as continuous. With the DTC set, any input signal on the circuit is ignored.
• B1711 — Seat Driver Front Up Switch Circuit Short to Battery • B1715 — Seat Driver Front Down Switch Circuit Short to Battery	If voltage is sensed on the switch input circuit during the <u>DSM</u> self-test, the DTC is set. If voltage is sensed on the input circuit for greater than 2 minutes the DTC is set as continuous. With the DTC set, any input signal on the circuit is ignored.
• B1719 — Seat Driver Forward Switch Circuit Short to Battery • B1723 — Seat Driver Rearward Switch Circuit Short to Battery	If voltage is sensed on the switch input circuit during the <u>DSM</u> self-test, the DTC is set. If voltage is sensed on the input circuit for greater than 2 minutes the DTC is set as continuous. With the DTC set, any input signal on the circuit is ignored.
• B1727 — Seat Driver Rear Up Switch Circuit Short to Battery • B1731 — Seat Driver Rear Down Switch Circuit Short to Battery	If voltage is sensed on the switch input circuit during the <u>DSM</u> self-test, the DTC is set. If voltage is sensed on the input circuit for greater than 2 minutes the DTC is set as continuous. With the DTC set, any input signal on the circuit is ignored.

This pinpoint test is intended to diagnose the following:

- Fuse
- Wiring, terminals or connectors
- Seat control switch
- Horizontal seat track motor
- Memory seat track assembly
- DSM

PINPOINT TEST E: THE POWER SEAT DOES NOT MOVE HORIZONTALLY/VERTICALLY/RECLINE — DRIVER, WITH MEMORY

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

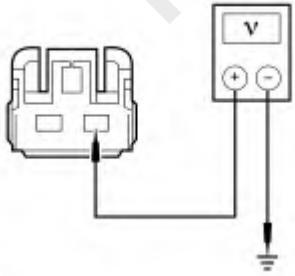
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

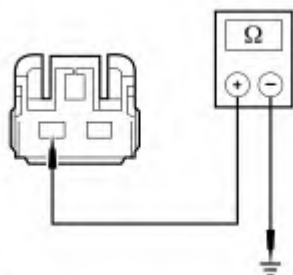
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

NOTE: If a new DSM has been installed, all seat soft stops must be reset. If a new seat track or recline motor has been installed, only reset the soft stops for that component being installed new. To reset the soft stops, refer to Principles of Operation in this section.

NOTE: Verify good battery condition before diagnosing the memory seat system. Poor battery condition may interfere with memory seat operation, even if vehicle starting is possible.

Test Step	Result / Action to Take
E1 RETRIEVE THE <u>DSM</u> DTCs	

• Enter the following diagnostic mode on the scan tool: Self Test — <u>DSM</u>. • Are any <u>DSM</u> DTCs retrieved?	Yes If DTCs B1663, B1664, B1665 and B1666 are all retrieved, GO to E2. If DTC B1663, GO to E11. If DTC B1664, GO to E14. If DTC B1665, GO to E17. If DTC B1666, GO to E20. If DTC B1703, B1707, B1711, B1715, B1719, B1723, B1727 or B1731, GO to E8. For any other DSM DTCs, REFER to the Driver Seat Module (DSM) DTC Chart. No GO to E4.
E2 CHECK FOR VOLTAGE TO THE <u>DSM</u> • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: <u>DSM</u> C341A. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the voltage between DSM C341A-1, circuit CBX05 (VT/RD), harness side and ground.  N0067979 • Is the voltage greater than 10 volts?	Yes GO to E3. No VERIFY Battery Junction Box (BJB) fuse 74 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
E3 CHECK THE <u>DSM</u> GROUND CIRCUIT FOR AN OPEN • Measure the resistance between <u>DSM</u> C341A-2, circuit GD906 (BK/GY), harness side and ground.	Yes INSTALL a new <u>DSM</u>. REFER to Driver Seat Module (DSM) in this section. CLEAR the DTCs. REPEAT the self-test.



N0106334

- Is the resistance less than 5 ohms?

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

E4 MONITOR THE DSM PIDs AND CHECK FOR CORRECT SEAT CONTROL SWITCH INPUTS

- Enter the following diagnostic mode on the scan tool: DataLogger — DSM.
 - Driver Power Seat Front Up/Down Switch (SFNT_SW)
 - Driver Power Seat Forward/Backward Switch (SFWD_SW)
 - Driver Power Seat Recline Switch Status (SRCL_SW)
 - Driver Power Seat Rear Up/Down Switch (SREARSW)
- Operate the seat control switch in all positions while monitoring the DSM driver seat control switch input status PIDs.
- Do the PID values agree with the switch positions?

Yes

GO to [E10](#).

No

If no response from any PID, GO to [E5](#). Otherwise, GO to [E7](#).

E5 CHECK VOLTAGE TO THE SEAT CONTROL SWITCH

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: Seat Control Switch C369.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the voltage between seat control switch C369-5, circuit CBX04 (WH/RD), harness side and ground.

Yes

GO to [E6](#).

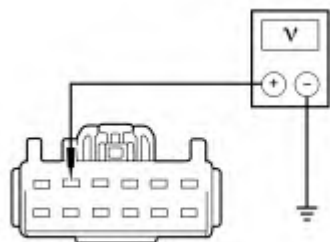
No

VERIFY Body Control Module (BCM) fuse 5 (20A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

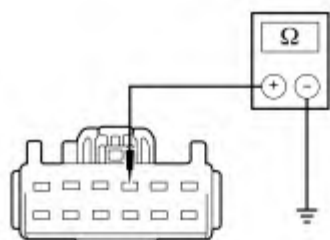


N0010816

- Is the voltage greater than 10 volts?

E6 CHECK THE SEAT CONTROL SWITCH GROUND FOR AN OPEN

- Measure the resistance between seat control switch C369-3, circuit GD904 (BK/BU), harness side and ground.



N0010815

- Is the resistance less than 5 ohms?

Yes

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

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

E7 CHECK THE AFFECTED CIRCUITS BETWEEN THE SEAT CONTROL SWITCH AND DSM FOR AN OPEN

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: DSM C341B.
- Disconnect: Seat Control Switch C369.
- Measure the resistance between seat control switch C369, harness side and DSM C341B, harness side using the following chart:

Seat Control Switch Connector	Circuit	<u>DSM</u> Connector
C369-1	CPS27 (BU/BN)	C341B-17

Yes

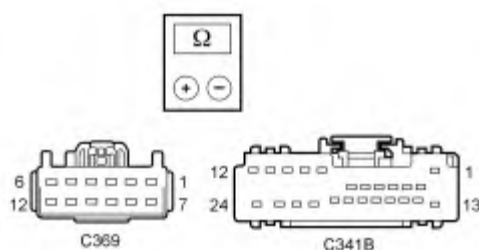
INSTALL a new seat control switch. REFER to [Seat Control Switch](#) in this section. CLEAR the DTCs. TEST the system for normal operation.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

C369-2	CPS25 (WH/VT)	C341B-18
C369-4	CPS23 (GN/VT)	C341B-16
C369-6	CPS24 (GY)	C341B-6
C369-8	CPS30 (VT/BN)	C341B-7
C369-9	CPS28 (GN)	C341B-15
C369-11	CPS29 (WH/BN)	C341B-19
C369-12	CPS26 (YE/BU)	C341B-5



ND102641

- Are the resistances less than 5 ohms?

No

REPAIR the affected circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

E8 CHECK THE SEAT CONTROL SWITCH

- Remove the seat control switch. Refer to [Seat Control Switch](#) in this section.
- Check the seat control switch.

Refer to Wiring Diagrams Cell [149](#), Component Testing for component testing.

- Is the seat control switch OK?

Yes

GO to [E9](#).

No

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

E9 CHECK THE AFFECTED CIRCUITS BETWEEN THE SEAT CONTROL SWITCH AND DSM FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: DSM C341B.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.

Yes

REPAIR the affected circuit(s). CLEAR the DTCs. REPEAT the self-test.

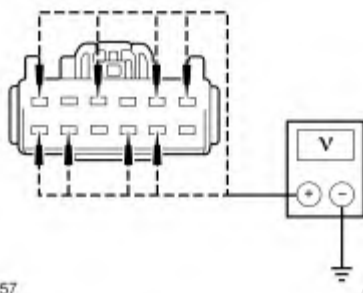
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

- Measure the voltage between seat control switch C369, harness side and ground using the following chart:

Seat Control Switch Connector	Circuit
C369-1	CPS27 (BU/BN)
C369-2	CPS25 (WH/VT)
C369-4	CPS23 (GN/VT)
C369-6	CPS24 (GY)
C369-8	CPS30 (VT/BN)
C369-9	CPS28 (GN)
C369-11	CPS29 (WH/BN)
C369-12	CPS26 (YE/BU)



- Is any voltage present on any circuit?

E10 CHECK THE DSM FOR CORRECT OUTPUTS

- Enter the following diagnostic mode on the scan tool: DataLogger — DSM.
 - Front Motor Up (FRONT_UP)
 - Front Motor Down (FRONT_DWN)
 - Rear Motor Up (REAR_UP)
 - Rear Motor Down (REAR_DWN)
 - Horizontal Motor Forward (HORZ_FWD)
 - Horizontal Motor Backward (HORZ_BWD)
 - Recline Motor Forward (RECL_FWD)
 - Recline Motor Backward (RECL_BWD)
- Toggle the DSM active commands ON and OFF while monitoring the seat movement.
- Does the driver seat operate correctly using the active commands?

No

INSTALL a new DSM. REFER to [Driver Seat Module \(DSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

Yes

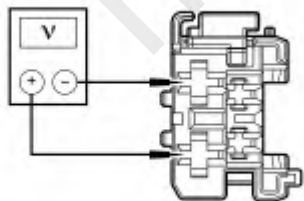
The fault is intermittent. CHECK the electrical connectors for corrosion, poor pin contact or pushed out pins, particularly the pins and terminals of electrical connectors that were disconnected. **Do not install any new components at this time. Components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

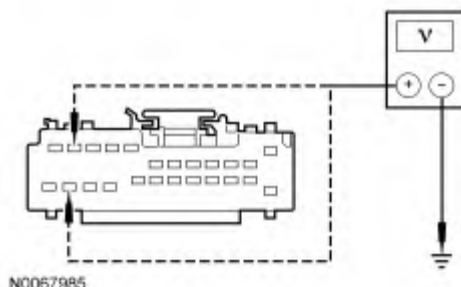
CONNECT driver seat side air bag module C3051.

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

No

	If no front height seat movement, GO to E11. If no rear height seat movement, GO to E14. If no horizontal seat movement, GO to E17. If no seat recliner movement, GO to E20.
E11 CHECK THE FRONT HEIGHT MOTOR FOR CORRECT OPERATION USING ACTIVE COMMANDS • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: Front Height Motor C382. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. • Ignition ON. • Enter the following diagnostic mode on the scan tool: DataLogger — <u>DSM</u>. ■ Front Motor Up (FRONT_UP) ■ Front Motor Down (FRONT_DWN) • Measure the voltage between front height motor C382-1, circuit CPS02 (GY/YE) and C382-2, circuit CPS03 (VT/GY), harness side while using the scan tool to operate <u>DSM</u> active commands front motor up and front motor down, ON and OFF.  N0057525 • Is the voltage greater than 10 volts when commanded ON in both directions and no voltage present when commanded OFF?	Yes INSTALL a new seat track assembly. REFER to Seat Track in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to E12.
E12 CHECK THE FRONT HEIGHT MOTOR CIRCUITS FOR A SHORT TO VOLTAGE • Ignition OFF. • Disconnect: <u>DSM</u> C341B. • Ignition ON. • Measure the voltage between:	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

- DSM C341B-23, circuit CPS03 (VT/GY), harness side and ground.
- DSM C341B-11, circuit CPS02 (GY/YE), harness side and ground.



- Is any voltage present on either circuit?

DISCONNECT the battery ground cable.

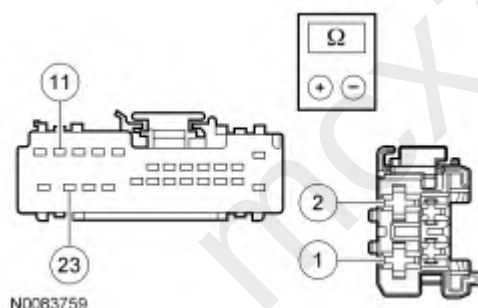
CONNECT driver seat side air bag module C3051.

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

No
GO to [E13](#).

E13 CHECK FRONT HEIGHT MOTOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:
 - DSM C341B-23, circuit CPS03 (VT/GY), harness side and front height motor C382-2, circuit CPS03 (VT/GY), harness side.
 - DSM C341B-11, circuit CPS02 (GY/YE), harness side and front height motor C382-1, circuit CPS02 (GY/YE), harness side.



- Are the resistances less than 5 ohms?

Yes
INSTALL a new DSM. REFER to [Driver Seat Module \(DSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

E14 CHECK THE REAR HEIGHT MOTOR FOR CORRECT OPERATION USING ACTIVE COMMANDS

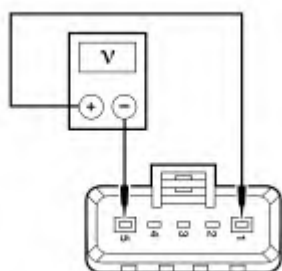
- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: Rear Height Motor C363.
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag when the battery is connected. Failure

Yes
INSTALL a new seat track assembly. REFER to [Seat Track](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

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](#).
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: DataLogger — DSM.
 - Rear Motor Up (REAR_UP)
 - Rear Motor Down (REAR_DWN)
- Measure the voltage between rear height motor C363-1, circuit CPS05 (BU/WH), harness side and C363-5, circuit CPS04 (YE/OG), harness side while using the scan tool to operate DSM active commands rear motor up and rear motor down, ON and OFF.



N0063823

- Is the voltage greater than 10 volts when command ON in both directions and no voltage present when commanded OFF?

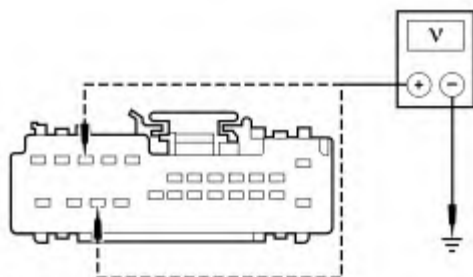
CONNECT driver seat side air bag module C3051.

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

No
GO to [E15](#).

E15 CHECK THE REAR HEIGHT MOTOR CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: DSM C341B.
- Ignition ON.
- Measure the voltage between:
 - DSM C341B-22, circuit CPS05 (BU/WH), harness side and ground.
 - DSM C341B-10, circuit CPS04 (YE/OG), harness side and ground.



N0063760

- Is any voltage present on either circuit?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

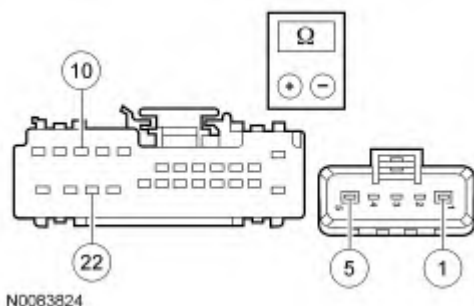
No
GO to [E16](#).

E16 CHECK REAR HEIGHT MOTOR CIRCUITS FOR AN OPEN

- Ignition OFF.

Yes

- Measure the resistance between:
 - DSM C341B-22, circuit CPS05 (BU/WH), harness side and rear height motor C363-1, circuit CPS05 (BU/WH), harness side.
 - DSM C341B-10, circuit CPS04 (YE/OG), harness side and rear height motor C363-5, circuit CPS04 (YE/OG), harness side.



- Are the resistances less than 5 ohms?

INSTALL a new DSM. REFER to [Driver Seat Module \(DSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

E17 CHECK THE HORIZONTAL MOTOR FOR CORRECT OPERATION USING ACTIVE COMMANDS

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: Driver Seat Horizontal Motor C362.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: DataLogger — DSM.
 - Horizontal Motor Forward (HORZ_FWD)
 - Horizontal Motor Backward (HORZ_BWD)
- Measure the voltage between horizontal motor C362-1, circuit CPS01 (GN/BU) and C362-2, circuit CPS06 (GN/WH), harness side while using the scan tool to operate DSM active commands horizontal motor forward and horizontal motor backward, ON and OFF.

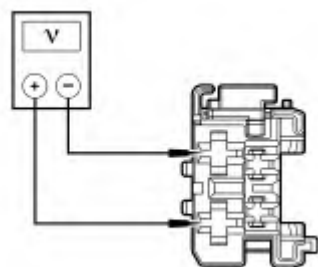
Yes
INSTALL a new front seat track motor. REFER to [Seat Track Motor — Front](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No
GO to [E18](#).

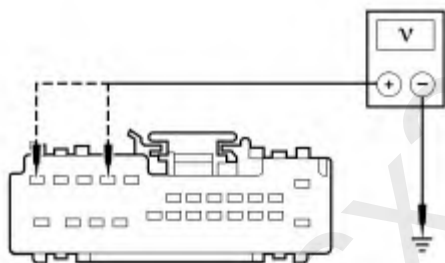


N0083761

- Is the voltage greater than 10 volts when command ON in both directions and no voltage present when commanded OFF?

E18 CHECK THE HORIZONTAL MOTOR CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: DSM C341B .
- Ignition ON.
- Measure the voltage between:
 - DSM C341B-9, circuit CPS06 (GN/WH), harness side and ground.
 - DSM C341B-12, circuit CPS01 (GN/BU), harness side and ground.



N0083762

- Is any voltage present on either circuit?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

GO to [E19](#).

E19 CHECK THE HORIZONTAL MOTOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:
 - DSM C341B-12, circuit CPS01 (GN/BU), harness side and horizontal motor C362-1, circuit CPS01 (GN/BU), harness side.
 - DSM C341B-9, circuit CPS06 (GN/WH), harness side and horizontal motor C362-2, circuit CPS06 (GN/WH), harness side.

Yes

INSTALL a new DSM. REFER to [Driver Seat Module \(DSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

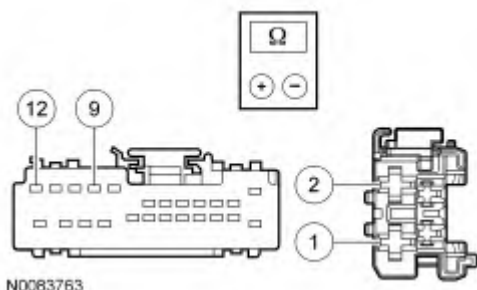
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.



- Are the resistances less than 5 ohms?

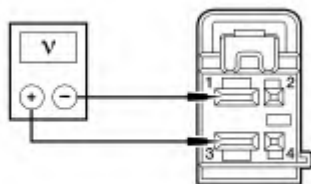
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

E20 CHECK THE RECLINER MOTOR FOR CORRECT OPERATION USING ACTIVE COMMANDS

- Ignition OFF.
- Depower the SRS . Refer to [Section 501-20B](#) .
- Disconnect: Driver Seat Side Air Bag Module C3051 .
- Disconnect: Seat Recliner Motor C3187 .
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#) .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: DataLogger — DSM .
 - Recline Motor Forward (RECL_FWD)
 - Recline Motor Backward (RECL_BWD)
- Measure the voltage between seat recliner motor C3187-1, circuit CPS07 (GY/BN) and C3187-3, circuit CPS08 (VT/OG), harness side while using the scan tool to operate the DSM active commands recline motor forward and recline motor backward, ON and OFF.



- Is the voltage greater than 10 volts when command ON in both directions and no voltage present when commanded OFF?

Yes

INSTALL a new seat recliner motor. REFER to [Seat Recliner Motor](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

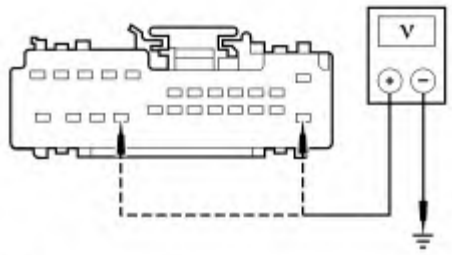
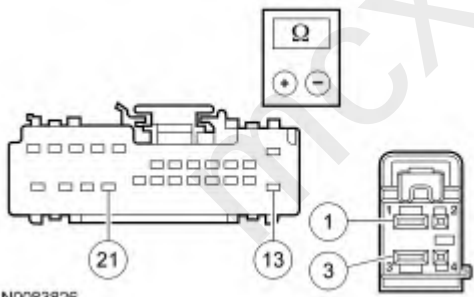
GO to [E21](#) .

E21 CHECK THE RECLINER MOTOR CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: DSM C341B .

Yes

REPAIR the circuit(s). CLEAR the

• Ignition ON. • Measure the voltage between: ■ <u>DSM</u> C341B-13, circuit CPS07 (GY/BN), harness side and ground. ■ <u>DSM</u> C341B-21, circuit CPS08 (VT/OG), harness side and ground.  N0083764 • Is any voltage present on either circuit?	DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to E22.
E22 CHECK THE RECLINER MOTOR CIRCUITS FOR AN OPEN • Ignition OFF. • Measure the resistance between: ■ <u>DSM</u> C341B-13, circuit CPS07 (GY/BN), harness side and recliner motor C3187-1, circuit CPS07 (GY/BN), harness side. ■ <u>DSM</u> C341B-21, circuit CPS08 (VT/OG), harness side and recliner motor C3187-3, circuit CPS08 (VT/OG), harness side.  N0083826 • Are the resistances less than 5 ohms?	Yes INSTALL a new <u>DSM</u>. REFER to Driver Seat Module (DSM) in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test F: The Memory Seat Does Not Operate Correctly — Motor(s) Operate In One Second Intervals or Memory Seat Recall Not Functioning Correctly

Refer to Wiring Diagrams Cell [123](#), Memory Seats for schematic and connector information.

Normal Operation

When the memory SET switch is activated, it supplies a ground signal to the Driver Seat Module (DSM) to initiate a memory SET or recall command. Memory button 1 and memory button 2 each have separate circuits to the DSM.

The DSM supplies a shared signal feed circuit to each position sensor. Each position sensor sends a signal pulse back to the DSM to monitor the position of the seat track and seat recliner. The DSM stores the sensor position data when a SET command is received and uses this information to return the seat to the stored position when a recall command is received.

When a recall command is initiated, the DSM supplies voltage and ground to the seat track motors and seat recliner motor to move the seat to the stored position. For information on programming memory positions or recalling a stored memory position, refer to [Memory Position Programming](#) in this section.

The following pinpoint test diagnoses a memory seat that does not operate correctly using the memory SET switch. If the memory seat does not move in all directions using the seat control switch, [GO to Pinpoint Test E](#).

DTC Description	Fault Trigger Conditions
• B1534 — Memory 1 Switch Circuit Short to Ground • B1538 — Memory 2 Switch Circuit Short to Ground	If a short to ground is sensed on the switch input circuit during the <u>DSM</u> self-test, the DTC is set. If activity is sensed on the input circuit for greater than 2 minutes, the DTC is set as continuous. With the DTC set, any input signal on the circuit is ignored.
• B1663 — Seat Driver Front Up/Down Motor Stalled • B1664 — Seat Driver Rear Up/Down Motor Stalled • B1665 — Seat Driver Forward/Backward Motor Stalled	During self-test the <u>DSM</u> attempts to operate the seat track motors and uses the motor's position sensor to monitor movement. If no motor movement is sensed, a DTC is set. The <u>DSM</u> will retry motor operation on the next activation of the seat control switch. If no movement continues to be monitored after 250 milliseconds, the <u>DSM</u> disables the output.
• B1666 — Seat Driver Recline Motor Stalled	During self-test the <u>DSM</u> attempts to operate the recliner motor and uses the recliner motor position sensor to monitor movement. If no motor movement is sensed, the DTC is set. The <u>DSM</u> will retry motor operation on the next activation of the seat control switch. If no motor movement is still monitored after 250 milliseconds, the <u>DSM</u> disables the output.
• B1952 — Seat Rear Up/Down Position Feedback Circuit Short to Battery • B1956 — Seat Front Up/Down Position Feedback Circuit Short to Battery • B1960 — Seat Recline Forward/Backward Position Feedback Circuit Short to Battery • B1964 — Seat Horizontal Forward/Rearward Position Feedback Circuit Short to Battery	If a short to voltage condition is present on the affected motor's position sensor (Hall effect) feedback circuit, the DTC is set. After a DTC is set, a memory recall is not possible but the seat control switch can operate the associated motor in one-second increments.
• B1953 — Seat Rear Up/Down Position Feedback Circuit Short to Ground • B1957 — Seat Front	If a short to ground or open condition is present on the affected motor's position sensor (Hall effect) feedback circuit, the DTC is set. After a DTC is set, a memory recall is not possible but the seat control switch can operate the associated motor in one-second

Up/Down Position Feedback Circuit Short to Ground • B1961 — Seat Recline Forward/Backward Position Feedback Circuit Short to Ground • B1965 — Seat Horizontal Forward/Rearward Position Feedback Circuit Short to Ground	increments.
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This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Memory SET switch
- Missing status information — Medium Speed Controller Area Network (MS-CAN) communication bus messages:
 - ignition status
 - gear selector position
- Remote Keyless Entry (RKE) transmitter
- Horizontal seat track motor
- Memory seat track assembly
- DSM

PINPOINT TEST F: THE MEMORY SEAT DOES NOT OPERATE CORRECTLY — MOTOR(S) OPERATE IN ONE SECOND INTERVALS OR MEMORY SEAT RECALL NOT FUNCTIONING CORRECTLY

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

NOTE: Verify good battery condition before diagnosing the memory seat system. Poor battery condition may interfere with memory seat operation, even if vehicle starting is possible.

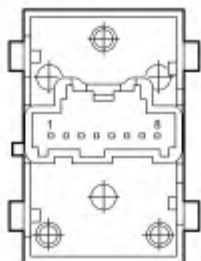
NOTE: Verify the PID(s) states agree with the ignition and transmission gear selector in all positions before proceeding with memory seat diagnosis.

Test Step	Result / Action to Take
F1 CHECK THE TRANSMISSION GEAR SELECTOR TRANSMISSION RANGE (TR) PID STATES	
• Enter the following diagnostic mode on the scan tool: DataLogger — PCM PID: TR . • Operate the selector lever in all positions while monitoring the PCM PID TR states. • Do the PID states agree with the selected positions?	Yes GO to F2. No To diagnose a transmission gear selector (PRNDL) status concern, REFER to Section 307-05.

F2 CHECK THE IGNITION SWITCH PID - Enter the following diagnostic mode on the scan tool: DataLogger — <u>DSM</u>. - Cycle the ignition switch in all positions while monitoring the <u>DSM</u> IGN_SW PID states. Do the PID states agree with the selected positions?	Yes GO to F3 . No To diagnose an ignition switch status concern, REFER to Section 211-05 .
F3 RETRIEVE THE <u>DSM</u> DTCs - Using the switches, operate the memory seat and memory mirrors in all directions through the full range of travel. - Place the memory seat and memory mirrors in central travel positions. - Enter the following diagnostic mode on the scan tool: Self Test — <u>DSM</u>. Are any <u>DSM</u> DTCs retrieved?	Yes If DTCs B1952, B1956, B1960 and B1964 are all retrieved, GO to F10 . If DTCs B1953, B1957, B1961 and B1965 are all retrieved, GO to F10 . If DTC B1534 or B1538, GO to F5 . If DTC B1663, B1956 or B1957, GO to F11 . If DTC B1664, B1952 or B1953, GO to F14 . If DTC B1665, B1964 or B1965, GO to F17 . If DTC B1666, B1960 or B1961, GO to F20 . For any other <u>DSM</u> DTCs, REFER to the Driver Seat Module (DSM) DTC Chart. No GO to F4 .
F4 MONITOR THE <u>DSM</u> PIDs AND CHECK THE <u>DSM</u> FOR CORRECT MEMORY SET SWITCH INPUTS - Enter the following diagnostic mode on the scan tool: DataLogger — <u>DSM</u>. - Memory 1 recall switch status (MEM_1) - Memory 2 recall switch status (MEM_2) - Monitor the <u>DSM</u> PIDs while pressing each memory SET switch button. Do the PID values agree with the switch button positions?	Yes GO to F10 . No GO to F5 .
F5 CHECK THE MEMORY SET SWITCH - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Memory SET Switch C3246. - Using the following table to check the memory SET switch, measure the resistance between the memory SET switch pins, component side, while pressing and releasing the indicated	Yes GO to F6 . No INSTALL a new memory SET switch. REFER to

switch buttons and compare the results to the table.

Switch Button	Pins	Ohms
Button 1	2 and 7	Less than 20 when pressed Greater than 10,000 when released
Button 2	6 and 7	Less than 20 when pressed Greater than 10,000 when released



A0074536

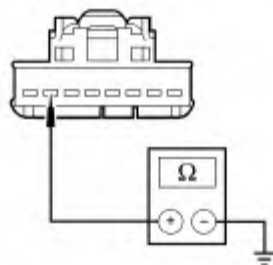
- Is the memory SET switch OK?

[Memory Set Switch](#) in this section. CLEAR the DTCs. REPEAT the self-test.

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

F6 CHECK THE MEMORY SET SWITCH GROUND FOR AN OPEN

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between memory SET switch C3246-7, circuit GD904 (BK/BU), harness side and ground.



A0042473

- Is the resistance less than 5 ohms?

Yes
GO to [F7](#).

No
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

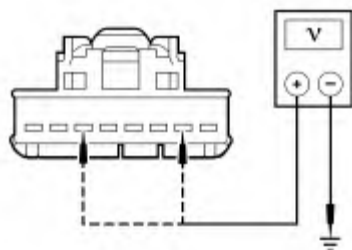
REPOWER the SRS. REFER to [Section 501-20B](#).

F7 CHECK THE MEMORY SET SWITCH CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: DSM C341C.
- Ignition ON.
- Measure the voltage between:

Yes
REPAIR the circuit(s). CLEAR the DTCs. REPEAT

- memory SET switch C3246-2, circuit CPS15 (VT/WH), harness side and ground.
- memory SET switch C3246-6, circuit CPS16 (YE), harness side and ground.



N0083765

- Is any voltage present on either circuit?

the self-test.

DISCONNECT the battery ground cable.

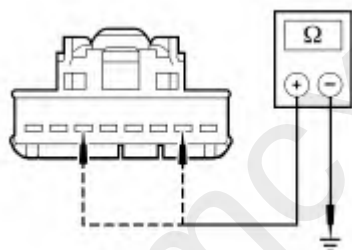
CONNECT driver seat side air bag module C3051.

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

No
GO to [F8](#).

F8 CHECK THE MEMORY SET SWITCH CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between:
 - memory SET switch C3246-2, circuit CPS15 (VT/WH), harness side and ground.
 - memory SET switch C3246-6, circuit CPS16 (YE), harness side and ground.



N0083765

- Are the resistances greater than 10,000 ohms?

Yes
GO to [F9](#).

No
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

F9 CHECK THE MEMORY SET SWITCH CIRCUITS FOR AN OPEN

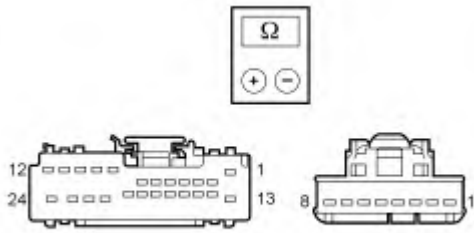
- Measure the resistance between:
 - DSM C341C-16, circuit CPS15 (VT/WH), harness side and memory SET switch C3246-2, circuit CPS15 (VT/WH), harness side.
 - DSM C341C-17, circuit CPS16 (YE), harness side and memory SET switch C3246-6, circuit CPS16 (YE), harness side.

Yes
INSTALL a new DSM.
REFER to [Driver Seat Module \(DSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

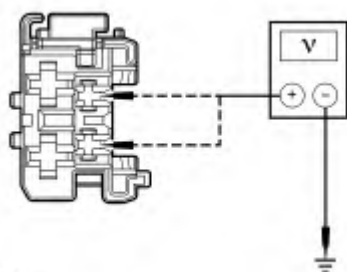
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

 N0098797 • Are the resistances less than 5 ohms?	No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
F10 MONITOR THE <u>DSM</u> PIDs • Enter the following diagnostic mode on the scan tool: DataLogger — <u>DSM</u>. ■ Driver Power Seat Front Up/Down Sense (SFNT_MT) ■ Driver Power Seat Forward/Backward Sense (SFWD_MT) ■ Driver Power Seat Recline Sense (SRCL_MT) ■ Driver Power Seat Rear Up/Down Sense (SREARMT) • Operate the memory seat in all directions through the full range of travel while monitoring the PIDs. • Does each PID indicate the sensor is operational throughout each associated motor's full range of travel?	Yes INSTALL a new <u>DSM</u>. REFER to Driver Seat Module (DSM) in this section. CLEAR the DTCs. REPEAT the self-test. No If front up/down position sensor PID value indicates not present, GO to F11. If rear up/down position sensor PID value indicates not present, GO to F14. If forward/rearward position sensor PID value indicates not present, GO to F17. If recline position sensor PID value indicates not present, GO to F20.
F11 CHECK THE FRONT HEIGHT POSITION SENSOR CIRCUITS FOR A SHORT TO VOLTAGE • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: DSM C341B. • Disconnect: Front Height Motor C382. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. • Ignition ON. • Measure the voltage between: ■ front height motor C382-3, circuit RPS13 (GN/OG), harness side and ground.	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No

- front height motor C382-4, circuit VPS10 (BU/GN), harness side and ground.



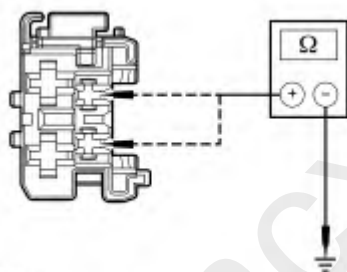
N0057534

- Is any voltage present on either circuit?

GO to [F12](#).

F12 CHECK FRONT HEIGHT POSITION SENSOR CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between:
 - front height motor C382-3, circuit RPS13 (GN/OG), harness side and ground.
 - front height motor C382-4, circuit VPS10 (BU/GN), harness side and ground.



N0057535

- Are the resistances greater than 10,000 ohms?

Yes
GO to [F13](#).

No
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

F13 CHECK FRONT HEIGHT POSITION SENSOR CIRCUITS FOR AN OPEN

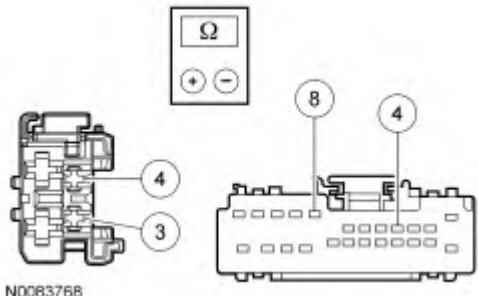
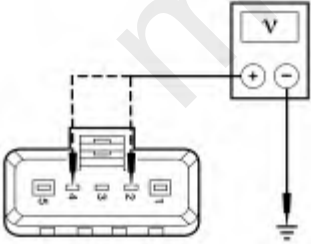
- Measure the resistance between:
 - front height motor C382-3, circuit RPS13 (GN/OG), harness side and DSM C341B-8, circuit RPS13 (GN/OG), harness side.
 - front height motor C382-4, circuit VPS10 (BU/GN), harness side and DSM C341B-4, circuit VPS10 (BU/GN), harness side.

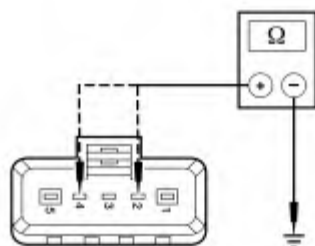
Yes
INSTALL a new seat track assembly. REFER to [Seat Track](#) in this section.
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

 N0083768 Are the resistances less than 5 ohms?	No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
F14 CHECK THE REAR HEIGHT POSITION SENSOR CIRCUITS FOR A SHORT TO VOLTAGE - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Driver Seat Side Air Bag Module C3051. - Disconnect: <u>DSM</u> C341B. - Disconnect: Rear Height Motor C363.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. - Ignition ON. - Measure the voltage between: - rear height motor C363-2, circuit RPS13 (GN/OG), harness side and ground. - rear height motor C363-4, circuit VPS11 (GN/BN), harness side and ground.  N0083827 - Is any voltage present on either circuit?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to F15.
F15 CHECK THE REAR HEIGHT POSITION SENSOR CIRCUITS FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between: - rear height motor C363-2, circuit RPS13 (GN/OG), harness side and ground. - rear height motor C363-4, circuit VPS11 (GN/BN), harness side and ground.	Yes GO to F16. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.



N0063828

- Are the resistances greater than 10,000 ohms?

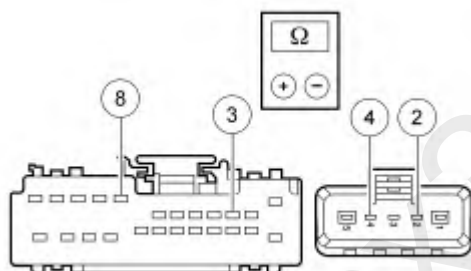
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

F16 CHECK THE REAR HEIGHT POSITION SENSOR CIRCUITS FOR AN OPEN

- Measure the resistance between:
 - rear height motor C363-2, circuit RPS13 (GN/OG), harness side and DSM C341B-8, circuit RPS13 (GN/OG), harness side.
 - rear height motor C363-4, circuit VPS11 (GN/BN), harness side and DSM C341B-3, circuit VPS11 (GN/BN), harness side.



N0063829

- Are the resistances less than 5 ohms?

Yes

INSTALL a new seat track assembly. REFER to [Seat Track](#) in this section.
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

F17 CHECK THE HORIZONTAL POSITION SENSOR CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Section 501-20B](#) .
- Disconnect: Driver Seat Side Air Bag Module C3051 .
- Disconnect: DSM C341B .
- Disconnect: Driver Seat Horizontal Motor C362 .
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag when the battery is connected. Failure to follow these instructions

Yes

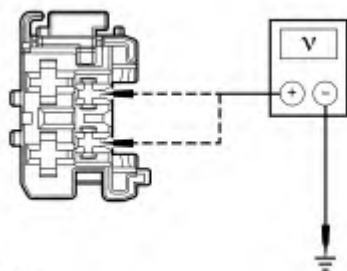
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side

may result in serious personal injury in the event of an accidental deployment.

- Connect the battery ground cable. Refer to [Section 414-01](#).
- Ignition ON.
- Measure the voltage between:
 - horizontal motor C362-3, circuit RPS13 (GN/OG), harness side and ground.
 - horizontal motor C362-4, circuit VPS09 (BN/BU), harness side and ground.



N0057534

- Is any voltage present on either circuit?

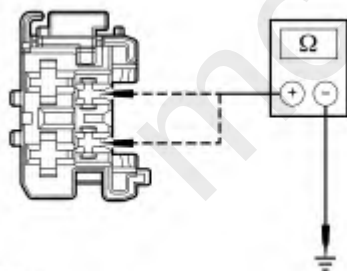
air bag module C3051.

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

No
GO to [F18](#).

F18 CHECK THE HORIZONTAL POSITION SENSOR CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between:
 - horizontal motor C362-3, circuit RPS13 (GN/OG), harness side and ground.
 - horizontal motor C362-4, circuit VPS09 (BN/BU), harness side and ground.



N0057535

- Are the resistances greater than 10,000 ohms?

Yes
GO to [F19](#).

No
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

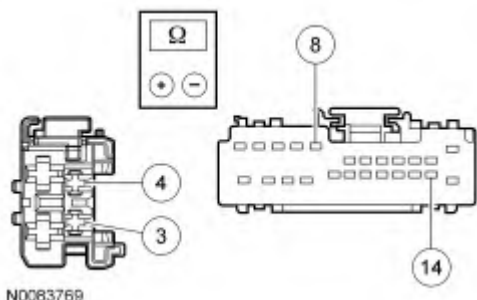
REPOWER the SRS.
REFER to [Section 501-20B](#).

F19 CHECK THE HORIZONTAL POSITION SENSOR CIRCUITS FOR AN OPEN

- Measure the resistance between:
 - horizontal motor C362-3, circuit RPS13 (GN/OG), harness side and DSM C341B-8, circuit RPS13 (GN/OG), harness side.
 - horizontal motor C362-4, circuit VPS09 (BN/BU), harness side and DSM C341B-14, circuit VPS09 (BN/BU), harness side.

Yes
INSTALL a new front seat track motor. REFER to [Seat Track Motor — Front](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.



- Are the resistances less than 5 ohms?

CONNECT driver seat side air bag module C3051.

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

No
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

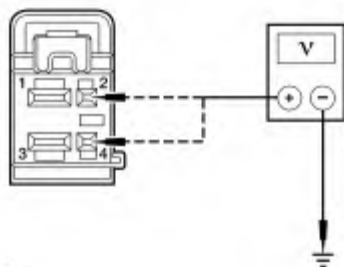
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

F20 CHECK THE RECLINER POSITION SENSOR CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: DSM C341B.
- Disconnect: Seat Recliner Motor C3187.
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between:
 - seat recliner motor C3187-2, circuit VPS12 (GY/OG), harness side and ground.
 - seat recliner motor C3187-4, circuit RPS13 (GN/OG), harness side and ground.



- Is any voltage present on either circuit?

Yes
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

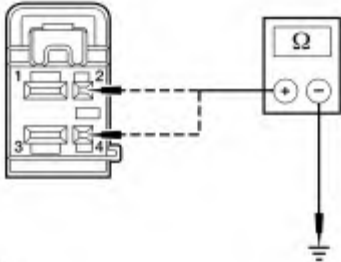
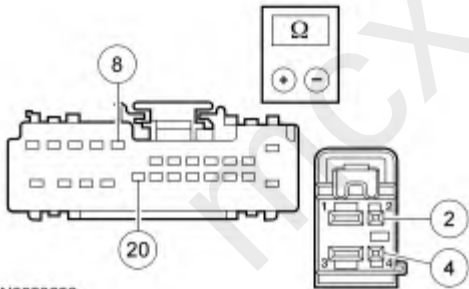
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No
GO to [F21](#).

F21 CHECK THE RECLINER POSITION SENSOR CIRCUITS FOR A SHORT TO GROUND

• Ignition OFF. • Measure the resistance between: ■ seat recliner motor C3187-2, circuit VPS12 (GY/OG), harness side and ground. ■ seat recliner motor C3187-4, circuit RPS13 (GN/OG), harness side and ground.  N0083831 • Are the resistances greater than 10,000 ohms?	Yes GO to F22. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
F22 CHECK THE RECLINER POSITION SENSOR CIRCUITS FOR AN OPEN • Measure the resistance between: ■ seat recliner motor C3187-2, circuit VPS12 (GY/OG), harness side and <u>DSM</u> C341B-20, circuit VPS12 (GY/OG), harness side. ■ seat recliner motor C3187-4, circuit RPS13 (GN/OG), harness side and <u>DSM</u> C341B-8, circuit RPS13 (GN/OG), harness side.  N0083832 • Are the resistances less than 5 ohms?	Yes INSTALL a new seat recliner motor. REFER to Seat Recliner Motor in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test G: Easy Exit/Easy Entry is Inoperative/Does Not Operate Correctly

Normal Operation

The Driver Seat Module (DSM) receives a key out command from the Body Control Module (BCM) over the Medium Speed Controller Area Network (MS-CAN) and moves the driver seat rearward about 51 mm (2 in).

This pinpoint test is intended to diagnose the following:

- Easy entry/exit feature is not enabled
- Missing Medium Speed Controller Area Network (MS-CAN) status information:
 - ignition status
 - gear selector position
- Wiring, terminals or connectors
- Key-in-ignition warning switch
- DSM

PINPOINT TEST G: EASY EXIT/EASY ENTRY IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

NOTE: Verify good battery condition before diagnosing the memory seat system. Poor battery condition may interfere with memory seat operation, even if vehicle starting is possible.

NOTE: The transmission gear selector must be in PARK for the easy entry/exit feature to function.

NOTE: Make sure all memory seat DTC and symptom based faults are corrected before proceeding with easy entry/exit diagnosis. Verify the PID(s) states agree with the ignition and transmission gear selector in all positions before proceeding with easy entry/exit diagnosis.

Test Step	Result / Action to Take
G1 CHECK FOR SEAT OPERATION AND RETRIEVE DTCs	
• Ignition ON. • Check the message center to verify the easy entry/exit feature is enabled. Refer to the Owner's Literature or Section 413-01 for information on the message center. • Using the seat control switch, verify the driver power seat operates fully forward and rearward. • Place the memory seat and memory mirrors in central travel positions. • Enter the following diagnostic mode on the scan tool: Self Test — <u>DSM</u>. • Are any <u>DSM</u> DTCs retrieved?	Yes REFER to the Driver Seat Module (DSM) DTC Chart. No If OFF, turn the easy entry/exit feature ON with the message center. REFER to the Owner's Literature or Section 413-01. TEST the system for normal operation. If OK, INSTRUCT the customer on correct system operation. If the seat does not move horizontally from the seat control switch, GO to Pinpoint Test E. Otherwise, GO to G2.
G2 CHECK THE TRANSMISSION GEAR SELECTOR TRANSMISSION RANGE (TR) PID STATES	
• Enter the following diagnostic mode on the scan tool: DataLogger — PCM PID: TR. • Operate the selector lever in all positions while monitoring the PCM PID TR states.	Yes GO to G3. No To diagnose a transmission gear selector (PRNDL) status concern, REFER to Section 307-05.

Do the PID states agree with the selected positions?	
G3 CHECK THE KEY IN IGNITION SWITCH (KEY_IN_SW) PID	
- Enter the following diagnostic mode on the scan tool: DataLogger — BCM. - Insert and remove the ignition key from the ignition lock cylinder while monitoring the KEY_IN_SW PID states. Does the PID agree with key positions in and out of the ignition switch?	Yes INSTALL a new DSM. REFER to Driver Seat Module (DSM) in this section. CLEAR the DTCs. REPEAT the self-test. No To diagnose the key-in-ignition warning switch fault, REFER to Section 413-01.

Pinpoint Test H: The Power Lumbar is Inoperative — Driver

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

Refer to Wiring Diagrams Cell [123](#), Memory Seats for schematic and connector information.

Normal Operation

The seat control switch contains the lumbar button and when pressed, supplies battery voltage and ground to the power lumbar motor to move the lumbar assembly in the desired direction.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat control switch
- Power lumbar motor assembly

PINPOINT TEST H: THE POWER LUMBAR IS INOPERATIVE — DRIVER

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

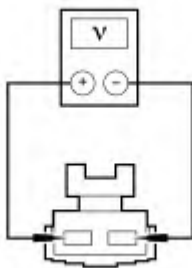
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK OTHER SEAT CONTROL SWITCH FEATURES FOR CORRECT OPERATION	
- Operate the seat horizontally and vertically. Does the seat operate horizontally and vertically?	Yes GO to H2. No GO to Pinpoint Test E to diagnose the inoperative seat.

H2 CHECK FOR VOLTAGE TO THE LUMBAR MOTOR

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: Power Lumbar Motor C3215.
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- **NOTE:** During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated.
- Measure the voltage between power lumbar motor C3215-B, circuit CPS18 (BN/GN), harness side and power lumbar motor C3215-A, circuit CPS19 (GY/VT), harness side, while operating the lumbar switch in both directions.



N0040627

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

Yes

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

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

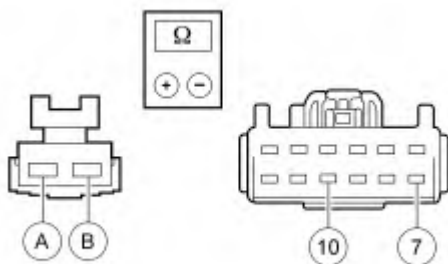
REPOWER the SRS. REFER to [Section 501-20B](#).

No

GO to [H3](#).

H3 CHECK THE LUMBAR MOTOR CIRCUITS FOR AN OPEN

- Disconnect: Driver Seat Control Switch C369.
- Measure the resistance between:
 - seat control switch C369-7, circuit CPS19 (GY/VT), harness side and power lumbar motor C3215-A, circuit CPS19 (GY/VT), harness side.
 - seat control switch C369-10, circuit CPS18 (BN/GN), harness side and power lumbar motor C3215-B, circuit CPS18 (BN/GN), harness side.



N0082043

- Are the resistances 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.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

Pinpoint Test I: The Power Lumbar is Inoperative — Passenger

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

Normal Operation

The seat control switch contains the lumbar button and when pressed, supplies battery voltage and ground to the power lumbar motor to move the lumbar assembly in the desired direction.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Seat control switch
- Power lumbar motor assembly

PINPOINT TEST I: THE POWER LUMBAR IS INOPERATIVE — PASSENGER

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

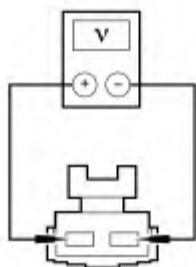
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
I1 CHECK OTHER SEAT CONTROL SWITCH FEATURES FOR CORRECT OPERATION	
• Operate the seat horizontally and vertically. • Does the seat operate horizontally and vertically?	Yes GO to I2. No GO to Pinpoint Test B to diagnose the inoperative seat.
I2 CHECK FOR VOLTAGE TO THE LUMBAR MOTOR	
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: Power Lumbar Motor C3216. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag when the	Yes INSTALL a new power lumbar assembly. REFER to Lumbar Assembly — Power in this section. TEST the system for normal operation.

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](#).
- **NOTE:** During the following step, the voltage being measured changes polarity dependent upon which direction the seat control switch is activated.
- Measure the voltage between power lumbar motor C3216-B, circuit CPS18 (BN/GN), harness side and power lumbar motor C3216-A, circuit CPS19 (GY/VT), harness side, while operating the lumbar switch in both directions.



N0040627

- **Is the voltage greater than 10 volts when the lumbar switch is operated in both directions and 0 volt in the rest position?**

DISCONNECT the battery ground cable.

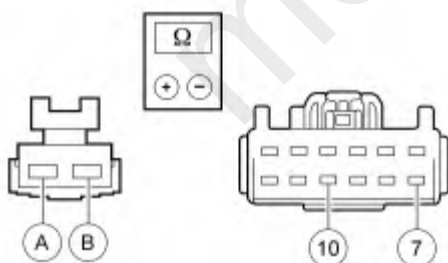
CONNECT passenger seat side air bag module C339.

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

No
GO to [13](#).

I3 CHECK THE LUMBAR MOTOR CIRCUITS FOR AN OPEN

- Disconnect: Passenger Seat Control Switch C330.
- Measure the resistance between:
 - seat control switch C330-10, circuit CPS20 (VT), harness side and power lumbar motor C3216-B, circuit CPS18 (BN/GN), harness side.
 - seat control switch C330-7, circuit CPS21 (WH/OG), harness side and power lumbar motor C3216-A, circuit CPS19 (GY/VT), harness side.



N0082043

- **Are the resistances 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.

CONNECT passenger seat side air bag module C339.

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

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

DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

Pinpoint Test L: A Single Climate Controlled Seat is Inoperative

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) is supplied voltage at all times, but the climate controlled seat system only operates with the engine running. The system can be operated with the ignition ON engine OFF by using a scan tool to bypass the climate controlled seat buttons on the touchscreen interface. When commanding a heat or cool mode operation in this manner, it only operates in 15 second intervals. Both DCSM voltage supply circuits are spliced together inside the DCSM, so if one circuit becomes open, both seats can still be operated. However, if a fault occurs setting a DTC specific to either climate controlled seat, only the affected seat is disabled by the DCSM.

When the climate control seat buttons are activated on the touchscreen interface, this initiates the CAN communication to request climate controlled seat operation.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- APIM
- FDIM
- DCSM

PINPOINT TEST L: A SINGLE CLIMATE CONTROLLED SEAT IS INOPERATIVE

Test Step	Result / Action to Take
L1 CHECK THE OPERATION OF BOTH CLIMATE CONTROLLED SEATS AND VERIFY THE SYMPTOM	
• Check the operation of both climate controlled seats and verify the symptom. • Is only a single climate controlled seat inoperative?	Yes GO to L2. No If both seats are inoperative, GO to Symptom Chart.
L2 CHECK FOR <u>DCSM</u> DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. • Were any DTCs retrieved during the self-tests?	Yes GO to the Dual Climate Controlled Seat Module (DCSM) DTC Chart. No GO to L3.
L3 CHECK OPERATION OF THE <u>DCSM</u> USING PIDs	
NOTE: The purpose of this step is to verify the <u>DCSM</u> is able to receive and process inbound command messages from the communication bus and demonstrate if the <u>DCSM</u> is operational. This indicates the <u>FCIM</u> may not be sending the commands correctly. • Enter the following diagnostic mode on the scan tool: DataLogger — <u>DCSM</u>.	Yes GO to L4. No INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. TEST the system for normal operation.

■ Driver Seat ■ Seat cushion Thermo-Electric Device (TED) temperature (CSHTMP) ■ Seat back <u>TED</u> temperature (BK_TEMP) ■ Climate-controlled seat heat command (TED_HEAT_D) ■ Front Passenger Seat ■ Passenger Cushion <u>TED</u> Temperature (PCSHTMP) ■ Passenger Back <u>TED</u> Temperature (PBKTMP) ■ Passenger <u>TED</u> Heat Mode (TED_HEAT_P) ● NOTE: The <u>DCSM</u> active commands TED_HEAT_D (driver seat) and TED_HEAT_P (passenger seat) are limited to 15 seconds in the ON state, then turn OFF. ● Operate the affected climate controlled seat using the active command while monitoring the appropriate PIDs for that seat. ■ When the command is in process the <u>TED</u> temperature PIDs on the affected seat should momentarily increase. If no temperature increase is noted, remove the cushion blower filter and repeat the active command while physically monitoring the cushion blower for movement. ● Do the PID states or cushion blower movement indicate climate controlled seat operation when using the active command?	
L4 USE THE CLIMATE CONTROLLED SEAT SWITCH AND MONITOR THE <u>DCSM</u> PID FOR A RESPONSE ● Enter the following diagnostic mode on the scan tool: DataLogger — <u>DCSM</u>. ■ Driver State Seat Mode (DCCSMOD) (driver seat) ■ Passenger State Seat Mode (PCCSMOD) (passenger seat) ● Start the engine. ● NOTE: Operation of the climate controlled seats repeatedly ON and OFF or repeatedly switching between heat and cool modes may cause <u>DCSM</u> DTCs to set, disabling one or both seat systems and may require DTCs to be cleared before seat operation may continue. It is recommended to allow time between modes for seat temperatures to return toward ambient temperatures before continuing. ● Attempt to operate the affected climate controlled seat in all modes using the appropriate switch while monitoring the <u>DCSM</u> PID DCCSMOD (driver seat) or PCCSMOD (passenger seat). ● Do all the PID states match the climate controlled seat settings selected?	Yes If the fault is intermittent, CHECK for causes of the intermittent fault. INSPECT the connectors, terminals and wiring. ATTEMPT to recreate the fault by flexing the wire harness and operating the system. CHECK the electrical connectors for corrosion, poor pin contact or pushed-out pins. REPAIR any intermittent concerns found and TIGHTEN any loose <u>DCSM</u> connector pins. CLEAR the DTCs. REPEAT the self-test. No REFER to Section 415-00D or Section 415-00E to diagnose the inoperative touchscreen button(s). CLEAR the DTCs. TEST the system for normal operation.

Pinpoint Test N: The Heated Seat is Inoperative — Driver

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The engine must be running for the heated seat system to operate. The driver and passenger heated seat buttons are selected from the touchscreen interface, which initiates the CAN communication to request heated seat operation. Upon receiving the request, the HVAC module supplies voltage to the appropriate driver and/or passenger seat cushion and backrest heater mats, which are connected in series. Temperature is maintained by the HVAC module using a sensor contained within the cushion heater mat. The HVAC module supplies a reference voltage to the temperature sensor and monitors the return signal from the temperature sensor for controlling current flow to the heater mats. The HVAC module remains on, heating the seat and maintaining temperature until commanded off from the touchscreen (or until the ignition is turned OFF).

DTC Description	Fault Trigger Conditions
B1034:11 — Left Front Seat Heater Element: Circuit Short To Ground	Sets when the HVAC module senses the left front heater element current draw has exceeded a specified threshold. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.
B1034:13 — Left Front Seat Heater Element: Circuit Open	Sets when the HVAC module senses the left front heater element current draw is less than a specified threshold. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.
B1038:11 — Left Front Seat Heater Sensor: Circuit Short To Ground	Sets when the HVAC module senses the left front heater sensor voltage is out-of-range low. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.
B1038:12 — Left Front Seat Heater Sensor: Circuit Short To Battery	Sets when the HVAC module senses the left front heater sensor voltage is out-of-range high. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.

This pinpoint test is intended to diagnose the following:

- Fuse
- Wiring, terminals or connectors
- FDIM
- APIM
- FCIM
- Heater mat
- HVAC module

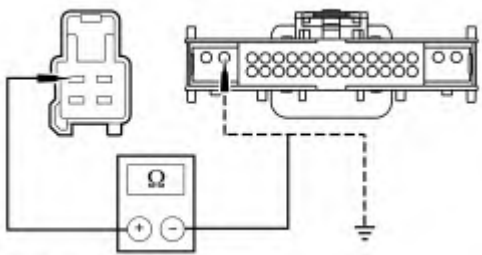
PINPOINT TEST N: THE HEATED SEAT IS INOPERATIVE — DRIVER

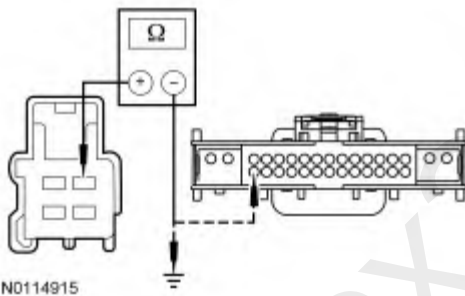
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

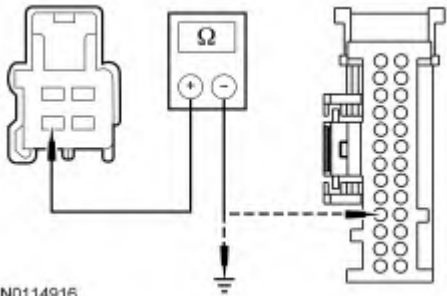
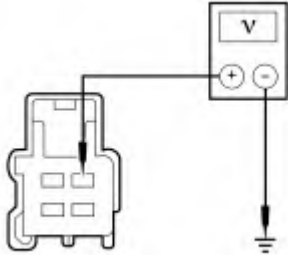
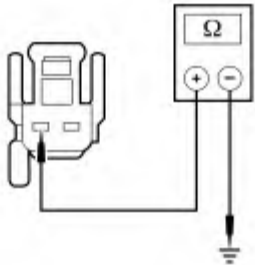
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

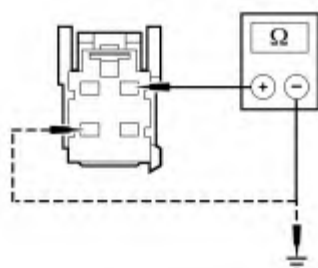
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
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N1 CHECK FOR HVAC DTCs • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — HVAC Module . • Were any DTCs retrieved during the self-tests?	Yes For DTCs B1034:11 or B1034:13, GO to N3. For DTCs B1038:11 or B1038:12, GO to N4. For all other DTCs, REFER to the HVAC Module DTC Chart in this section. No GO to N2.
N2 CHECK THE TOUCHSCREEN CONTROLS OPERATION • Start the engine. • Select each audio and climate control function using the touchscreen controls. • Do all touchscreen controls operate?	Yes GO to N3. No REFER to Section 415-00D or Section 415-00E to diagnose the inoperative touchscreen.
N3 CHECK THE HEATER ELEMENT POWER CIRCUIT FOR AN OPEN OR SHORT TO GROUND • Ignition OFF. • Depower the SRS. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051 . • Disconnect: HVAC Module C228B . • Disconnect: Driver Cushion Heater Mat C364 . •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between: ■ driver seat cushion heater mat C364-1, circuit CHS02 (YE/BU), harness side and ground. ■ driver seat cushion heater mat C364-1, circuit CHS02 (YE/BU), harness side and HVAC module C228B-16, circuit CHS02 (YE/BU), harness side.  ND114831 • Is the resistance greater than 10,000 ohms between the driver seat cushion heater mat and ground; and less than 3 ohms between the driver seat cushion heater mat and the	Yes GO to N7. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to Section 501-20B .

HVAC module?	
N4 CHECK RESISTANCE OF THE DRIVER SEAT HEATER MATS AND HEATER CIRCUITS • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: HVAC Module C228B. • Disconnect: Driver Cushion Heater Mat C364. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between: ■ driver seat cushion heater mat C364-2, circuit VHS26 (VT), harness side and ground. ■ driver seat cushion heater mat C364-2, circuit VHS26 (VT), harness side and HVAC module C228B-30, circuit VHS26 (VT), harness side.  N0114915 • Is the resistance greater than 10,000 ohms between the driver seat cushion heater mat and ground; and less than 3 ohms between the driver seat cushion heater mat and the HVAC module?	Yes GO to N5. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
N5 CHECK THE HEATED SEAT TEMPERATURE SENSOR RETURN CIRCUIT FOR AN OPEN OR SHORT TO GROUND • Disconnect: HVAC Module C228A. • Measure the resistance between: ■ driver seat cushion heater mat C364-3, circuit RHS05 (YE/VT), harness side and ground. ■ driver seat cushion heater mat C364-3, circuit RHS05 (YE/VT), harness side and HVAC module C228A-23, circuit RH111 (GY/BU), harness side.	Yes GO to N6. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

 N0114916 Is the resistance greater than 10,000 ohms between the driver seat cushion heater mat and ground; and less than 3 ohms between the driver seat cushion heater mat and the HVAC module?	
N6 CHECK THE HEATED SEAT TEMPERATURE SENSOR CIRCUIT FOR A SHORT TO VOLTAGE - Ignition ON. - Measure the voltage between driver seat cushion heater mat C364-2, circuit VHS26 (VT), harness side and ground.  N0139354 - Is any voltage present?	Yes REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to N11.
N7 CHECK THE HEATER ELEMENT GROUND CIRCUIT FOR AN OPEN - Disconnect: Driver Seat Backrest Heater Mat C365 . - Measure the resistance between driver seat backrest heater mat C365-2, circuit GD904 (BK/BU), harness side and ground.  N0099280 - Is the resistance less than 0.5 ohms?	Yes GO to N8. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
N8 CHECK CUSHION HEATED SEAT MAT FOR AN OPEN OR SHORT TO GROUND Measure the resistance between driver seat cushion heater mat C364 pins 1 and 4, component side; and between driver seat cushion heater mat C364 pin 1, component side and ground.	Yes GO to N9.



N0137105

- Is the resistance between 0.6 ohms and 2 ohms between pins 1 and 4; and greater than 10,000 ohms between pin 1 and ground?

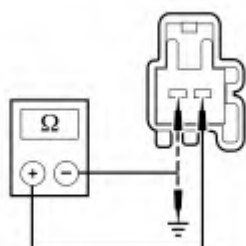
No

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

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to [Section 501-20B](#).

N9 CHECK THE BACKREST HEATED SEAT MAT FOR AN OPEN OR SHORT TO GROUND

- Measure the resistance between driver seat backrest heater mat C365 pins 1 and 2, component side; and between driver seat backrest heater mat C365 pin 2, component side and ground.



N0137108

- Is the resistance between 0.9 and 1.1 ohms between pins 1 and 2; and greater than 10,000 ohms between pin 2 and ground?

Yes

GO to [N10](#).

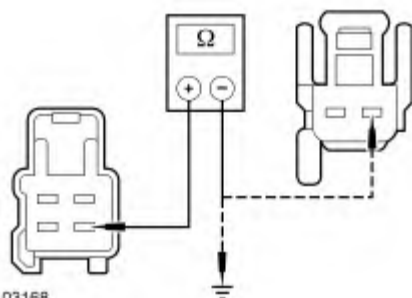
No

INSTALL a new passenger seat backrest heater mat. REFER to [Seat Backrest Heater Mat — Front](#) in this section. TEST the system for normal operation.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to [Section 501-20B](#).

N10 CHECK THE CIRCUIT BETWEEN THE CUSHION HEATER MAT AND BACKREST HEATER MAT FOR AN OPEN AND SHORT TO GROUND

- Measure the resistance between:
 - seat cushion heater mat C364-4, circuit CHS01 (GY/VT), harness side and seat backrest heater mat C365-1, circuit CHS01 (GY/VT) harness side.
 - seat cushion heater mat C364-4, circuit CHS01 (GY/VT), harness side and ground.



N0103168

Yes

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

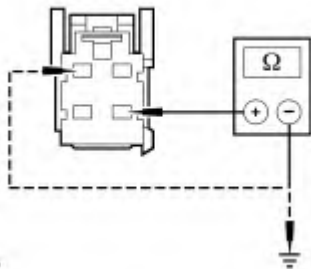
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051.

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

No

REPAIR the circuit. TEST the system for normal operation.

Is the resistance less than 3 ohms between C364-4 and C365-1; and greater than 10,000 ohms between C364-4 and ground?	DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to Section 501-20B .
N11 CHECK THE HEATED SEAT TEMPERATURE SENSOR FOR AN OPEN OR SHORT TO GROUND	
- Ignition OFF. - Measure the resistance between heated seat cushion C364 pins 2 and 3, component side; and between heated seat cushion C364 pin 2, component side and ground.  N0137216 - Is the resistance between 300 ohms and 300K ohms between pins 2 and 3; and greater than 10,000 ohms between pin 2 and ground?	Yes INSTALL a new HVAC module. REFER to Section 412-01. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to Section 501-20B. No INSTALL a new cushion heater mat. REFER to Seat Cushion Heater Mat — Front in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to Section 501-20B.

Pinpoint Test O: The Heated Seat is Inoperative — Front Passenger

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The engine must be running for the heated seat system to operate. The driver and passenger heated seat buttons are selected from the touchscreen interface, which initiates the CAN communication to request heated seat operation. Upon receiving the request, the HVAC module supplies voltage to the appropriate driver and/or passenger seat cushion and backrest heater mats, which are connected in series. Temperature is maintained by the HVAC module using a sensor contained within the cushion heater mat. The HVAC module supplies a reference voltage to the temperature sensor and monitors the return signal from the temperature sensor for controlling current flow to the heater mats. The HVAC module remains on, heating the seat and maintaining temperature until commanded off from the touchscreen (or until the ignition is turned OFF).

DTC Description	Fault Trigger Conditions
B1036:11 — Right Front Seat Heater Element: Circuit Short To Ground	Sets when the HVAC module senses the right front heater element current draw has exceeded a specified threshold. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.
B1036:13 — Right Front Seat Heater Element: Circuit Open	Sets when the HVAC module senses the right front heater element current draw is less than a specified threshold. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.
B103A:11 — Right Front Seat Heater Sensor: Circuit Short To Ground	Sets when the HVAC module senses the right front heater sensor voltage is out-of-range low. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.
B103A:12 — Right Front Seat Heater Sensor: Circuit Short To Battery	Sets when the HVAC module senses the right front heater sensor voltage is out-of-range high. When this DTC sets, the HVAC module disables the circuit until the ignition is cycled.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- FDIM
- APIM
- FCIM
- Heater mat
- HVAC module

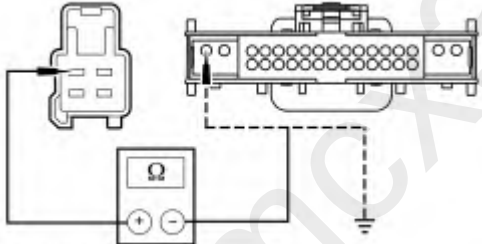
PINPOINT TEST O: THE HEATED SEAT IS INOPERATIVE — FRONT PASSENGER

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

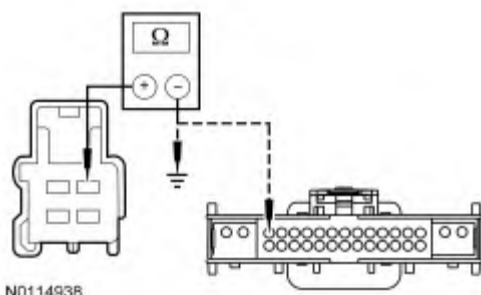
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK FOR HVAC DTCs	
- Ignition ON. - Enter the following diagnostic mode on the scan tool: Self Test — HVAC Module . Were any DTCs retrieved during the self-tests?	Yes For DTCs B1036:11 or B1036:13, GO to O3. For DTCs B103A:11 or B103A:12, GO to O4. For all other DTCs, REFER to the HVAC Module DTC Chart in this section. No GO to O2.
O2 CHECK THE TOUCHSCREEN CONTROLS OPERATION	
- Start the engine. - Select each audio and climate control function using the	Yes GO to O3.

touchscreen controls. • Do all touchscreen controls operate?	No REFER to Section 415-00D or Section 415-00E to diagnose the inoperative touchscreen.
O3 CHECK THE HEATER ELEMENT POWER CIRCUIT FOR AN OPEN OR SHORT TO GROUND • Ignition OFF. • Depower the SRS. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: HVAC Module C228B. • Disconnect: Passenger Cushion Heater Mat C334. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between: ▪ passenger seat cushion heater mat C334-1, circuit CHS07 (GY/BU), harness side and ground. ▪ passenger seat cushion heater mat C334-1, circuit CHS07 (GY/BU), harness side and HVAC module C228B-17, circuit CHS07 (GY/BU), harness side.  ND114937 • Is the resistance greater than 10,000 ohms between the passenger seat cushion heater mat and ground; and less than 3 ohms between the passenger seat cushion heater mat and the HVAC module?	Yes GO to O7. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
O4 CHECK THE HEATED SEAT TEMPERATURE SENSOR CIRCUIT FOR AN OPEN OR SHORT TO GROUND • Ignition OFF. • Depower the SRS. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: HVAC Module C228B. • Disconnect: Passenger Cushion Heater Mat C334. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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.	Yes GO to O5. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat

- Measure the resistance between:
 - passenger seat cushion heater mat C334-2, circuit VHS27 (WH/OG), harness side and ground.
 - passenger seat cushion heater mat C334-2, circuit VHS27 (WH/OG), harness side and HVAC module C228B-15, circuit VHS27 (WH/OG), harness side.



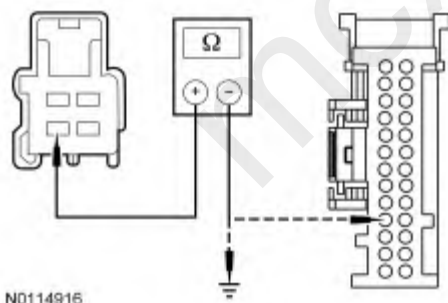
- Is the resistance greater than 10,000 ohms between the passenger seat cushion heater mat and ground; and less than 3 ohms between the passenger seat cushion heater mat and the HVAC module?

side air bag module C339.

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

O5 CHECK THE HEATED SEAT TEMPERATURE SENSOR RETURN CIRCUIT FOR AN OPEN OR SHORT TO GROUND

- Disconnect: HVAC Module C228A .
- Measure the resistance between:
 - passenger seat cushion heater mat C334-3, circuit RHS05 (YE/VT), harness side and ground.
 - passenger seat cushion heater mat C334-3, circuit RHS05 (YE/VT), harness side and HVAC module C228A-23, circuit RH111 (GY/BU), harness side.



- Is the resistance greater than 10,000 ohms between the passenger seat cushion heater mat and ground; and less than 3 ohms between the passenger seat cushion heater mat and the HVAC module?

Yes
GO to [O6](#).

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

DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

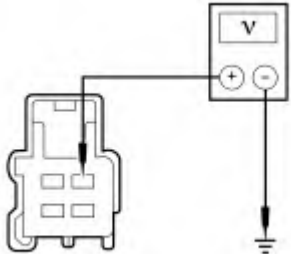
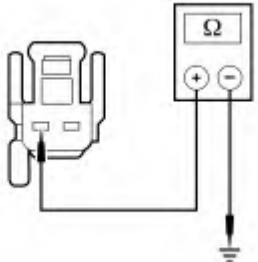
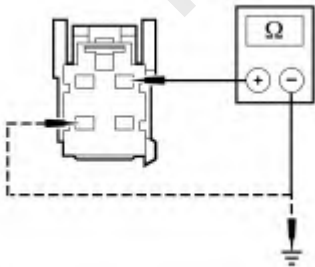
REPOWER the SRS.
REFER to [Section 501-20B](#).

O6 CHECK THE HEATED SEAT TEMPERATURE SENSOR CIRCUIT FOR A SHORT TO VOLTAGE

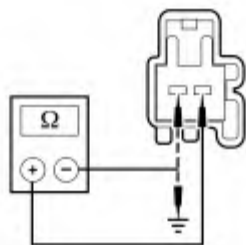
- Ignition ON.
- Measure the voltage between the following passenger seat cushion heater mat C334-2, circuit VHS27 (WH/OG), harness side and ground.

Yes
REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery

 N0139354 Is any voltage present?	ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to O11.
O7 CHECK THE HEATER ELEMENT GROUND CIRCUIT FOR AN OPEN - Disconnect: Passenger Seat Backrest Heater Mat C335 . - Measure the resistance between passenger seat backrest heater mat C335-2, circuit GD904 (BK/BU), harness side and ground.  N0099280 - Is the resistance less than 0.5 ohms?	Yes GO to O8. No REPAIR the circuit. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
O8 CHECK CUSHION HEATED SEAT MAT FOR AN OPEN OR SHORT TO GROUND - Measure the resistance between passenger seat cushion heater mat C334 pins 1 and 4, component side; and between passenger seat cushion heater mat C334 pin 1, component side and ground.  N0137105 - Is the resistance between 0.6 and 2 ohms between pins 1 and 4; and greater than 10,000 ohms between pin 1 and ground?	Yes GO to O9. No INSTALL a new passenger seat cushion heater mat. REFER to Seat Cushion Heater Mat — Front in this section. TEST the system for normal operation. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
O9 CHECK THE BACKREST HEATED SEAT MAT FOR AN OPEN OR SHORT TO GROUND Measure the resistance between passenger seat backrest heater mat C335 pins 1 and 2, component side; and between	Yes GO to O10.

passenger seat backrest heater mat C335 pin 2, component side and ground.



N0137108

- Is the resistance between 0.9 and 1.1 ohms between pins 1 and 2: and greater than 10,000 ohms between pin 2 and ground?

No

INSTALL a new passenger front seat backrest heater mat. REFER to [Seat Backrest Heater Mat — Front](#) in this section. TEST the system for normal operation.

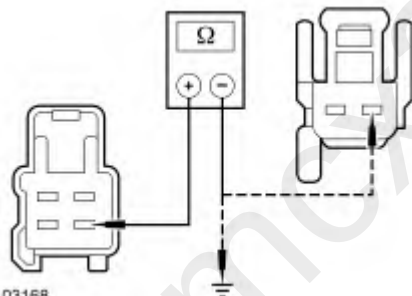
DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

O10 CHECK THE CIRCUIT BETWEEN THE CUSHION HEATER MAT AND BACKREST HEATER MAT FOR AN OPEN AND SHORT TO GROUND

- Measure the resistance between:
 - passenger seat cushion heater mat C334-4, circuit CHS01 (GY/VT), harness side and seat backrest heater mat C365-1, circuit CHS01 (GY/VT) harness side.
 - passenger seat cushion heater mat C334-4, circuit CHS01 (GY/VT), harness side and ground.



N0103168

- Is the resistance less than 3 ohms between C334-4 and C335-1, and greater than 10,000 ohms between C334-4 and ground?

Yes

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

DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

No

REPAIR the circuit. TEST the system for normal operation.

DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

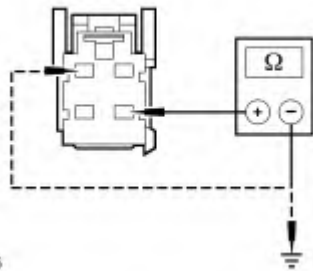
O11 CHECK THE HEATED SEAT TEMPERATURE SENSOR FOR AN OPEN OR SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between passenger heated seat cushion C334 pins 2 and 3, component side; and between heated seat cushion C334 pin 2, component side and ground.

Yes

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

DISCONNECT the battery



N0137216

- Is the resistance between 300 ohms and 300,000 ohms between pins 2 and 3; and greater than 10,000 ohms between pin 2 and ground?

ground cable.

CONNECT passenger seat side air bag module C339.

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

No

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

DISCONNECT the battery ground cable.

CONNECT passenger seat side air bag module C339.

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

Pinpoint Test Q: The Heated Seats are Inoperative — Rear

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

When the LH or RH rear heated seat control switch is activated with the ignition ON, a ground signal is supplied to the heated seat module to command the system in high heat mode or low heat mode. When commanded ON, voltage is supplied to the heated seat switch from the heated seat module to illuminate the switch indicator. The heated seat module also supplies voltage to the LH or RH rear seat cushion and backrest heater mats, which are connected in series. Temperature is maintained by the heated seat module using a sensor contained within the cushion heater mat. The heated seat module supplies a reference voltage to the temperature sensor and monitors the return signal from the temperature sensor for controlling current flow to the heater mats. The heated seat module remains ON, heating the seat and maintaining temperature until switched OFF or the ignition voltage is switched OFF.

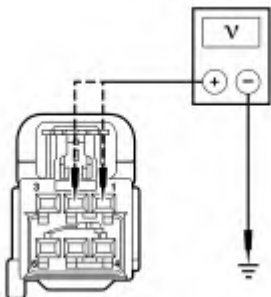
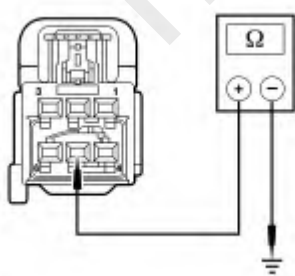
A new heated seat module must be configured after installation for correct operation. To configure, press the low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

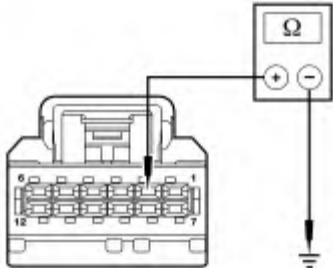
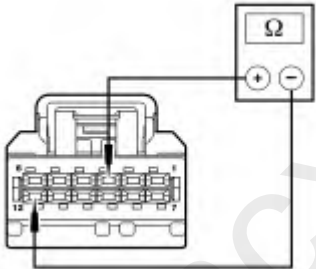
This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Wiring, terminals or connectors
- Heated seat module

PINPOINT TEST Q: THE HEATED SEATS ARE INOPERATIVE — REAR

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

Test Step	Result / Action to Take
Q1 CHECK FOR VOLTAGE TO THE HEATED SEAT MODULE - For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in Heated Seat Module — Rear in this section. - Disconnect: Heated Seat Module C3162B . - Ignition ON. - Measure the voltage between: - rear heated seat module C3162B-2, circuit CBP33 (WH/BN), harness side and ground. - rear heated seat module C3162B-1, circuit SBB71 (WH/RD), harness side and ground.  N0087475 - Are the voltages greater than 10 volts?	Yes GO to Q2. No VERIFY Battery Junction Box (BJB) fuse 71 (20A) and Body Control Module (BCM) fuse 33 (10A) are OK. If OK, REPAIR the circuit(s). If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short. TEST the system for normal operation.
Q2 CHECK THE REAR HEATED SEAT MODULE GROUND CIRCUIT FOR AN OPEN - Ignition OFF. - Measure the resistance between rear heated seat module C3162B-5, circuit GD134 (BK/VT), harness side and ground.  N0087475 - Is the resistance less than 5 ohms?	Yes GO to Q3. No REPAIR the circuit. TEST the system for normal operation.
Q3 CHECK THE REAR HEATED SEAT SWITCH GROUND CIRCUIT FOR AN OPEN - Disconnect: Heated Seat Module C3162A . NOTE: This step will verify if the shared ground supplied to both heated seat switches is open by measuring the switch input resistance at the heated	Yes GO to Q4. No

seat module. • Measure the resistance between rear heated seat module C3162A-2, circuit CHS46 (YE/GN), harness side and ground while pressing the LH heated seat switch to high.  N0087479 • Is the resistance less than 30 ohms when the switch is pressed and greater than 10,000 ohms when not pressed?	REPAIR circuit GD139 (BK/YE). TEST the system for normal operation.
Q4 CHECK THE TEMPERATURE SENSOR RETURN CIRCUIT FOR AN OPEN • Measure the resistance between heated seat module C3162A-12, circuit RHS41 (GN/BN), harness side and C3162A-3, circuit VHS42 (GN), harness side.  N0087425 • Is the resistance between 300 and 300K ohms?	Yes INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No REPAIR circuit RHS41 (GN/BN). TEST the system for normal operation.

Pinpoint Test R: The Heated Seat is Inoperative — Left Rear

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

When the LH or RH rear heated seat control switch is activated with the ignition ON, a ground signal is supplied to the heated seat module to command the system in high heat mode or low heat mode. When commanded ON, voltage is supplied to the heated seat switch from the heated seat module to illuminate the switch indicator. The heated seat module also supplies voltage to the LH or RH rear seat cushion and backrest heater mats, which are connected in series. Temperature is maintained by the heated seat module using a sensor contained within the cushion heater mat. The heated seat module supplies a reference voltage to the temperature sensor and monitors the return signal from the temperature sensor for controlling current flow to the heater mats. The heated seat module remains ON, heating the seat and maintaining temperature until switched OFF or the ignition voltage is switched OFF.

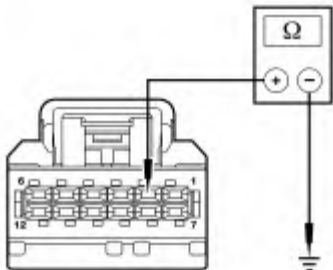
A new heated seat module must be configured after installation for correct operation. To configure, press the

low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

This pinpoint test is intended to diagnose the following:

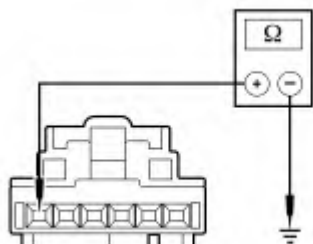
- Fuse
- Wiring, terminals or connectors
- Heater mat
- Heated seat switch
- Heated seat module

PINPOINT TEST R: THE HEATED SEAT IS INOPERATIVE — LEFT REAR

Test Step	Result / Action to Take
R1 CHECK THE HEATED SEAT OPERATION • Ignition ON. • Operate the left rear heated seat switch. • Does the seat operate in either setting?	Yes If only the low setting operates, GO to R15. If only the high setting operates, GO to R16. No GO to R2.
R2 CHECK THE HEATED SEAT SWITCH INPUT • Ignition OFF. • For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in Heated Seat Module — Rear in this section. • Disconnect: Rear Heated Seat Module C3162A . • Measure the resistance between rear heated seat module C3162A-2, circuit CHS46 (YE/GN), harness side and ground while pressing the heated seat switch to high.  N0087479 • Is the resistance less than 30 ohms when the switch is pressed and greater than 10,000 ohms when not pressed?	Yes GO to R4. No GO to R3.

R3 CHECK THE HEATED SEAT SWITCH GROUND CIRCUIT FOR AN OPEN

- Disconnect: Left Rear Heated Seat Switch C731 .
- Measure the resistance between left rear heated seat switch C731-6, circuit GD134 (BK/VT), harness side and ground.



N0101900

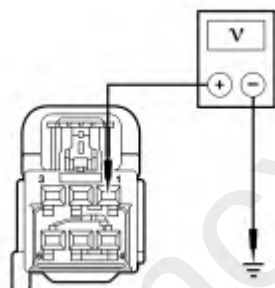
- Is the resistance less than 5 ohms?

YesGO to [R17](#).**No**

REPAIR the circuit. TEST the system for normal operation.

R4 CHECK FOR VOLTAGE TO THE HEATED SEAT MODULE

- Disconnect: Rear Heated Seat Module C3162B .
- Measure the voltage between rear heated seat module C3162B-1, circuit SBB71 (WH/RD), harness side and ground.



N0067480

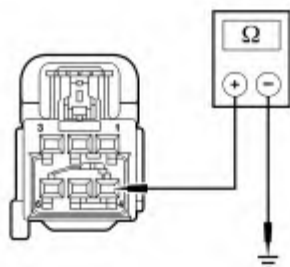
- Is the voltage greater than 10 volts?

YesGO to [R5](#).**No**

VERIFY BCM fuse 71 (20A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. TEST the system for normal operation.

R5 CHECK THE HEATER CIRCUITS AND HEATER MATS FOR AN OPEN

- Measure the resistance between rear heated seat module C3162B-4, circuit CHS39 (GN/BU), harness side and ground.



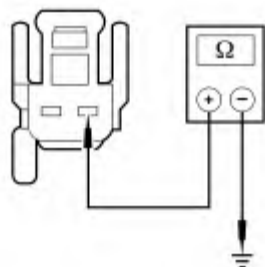
N0091125

- Is the resistance between 2.5 and 4.5 ohms?

YesGO to [R11](#).**No**GO to [R6](#).

R6 CHECK THE HEATER MAT GROUND CIRCUIT FOR AN OPEN

- Disconnect: Left Rear Backrest Heater Mat C3168 .
- Measure the resistance between left rear backrest heater mat C3168-1, circuit GD134 (BK/VT), harness side and ground.



N0101901

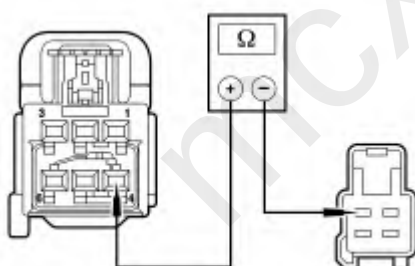
- Is the resistance less than 5 ohms?

YesGO to [R7](#).**No**

REPAIR the circuit. TEST the system for normal operation.

R7 CHECK THE HEATER CIRCUIT FOR AN OPEN OR SHORT TO GROUND

- Disconnect: Left Rear Cushion Heater Mat C3167 .
- Measure the resistance between:
 - rear heated seat module C3162B-4, circuit CHS39 (GN/BU), harness side and left rear cushion heater mat C3167-1, circuit CHS39 (GN/BU), harness side.
 - rear heated seat module C3162B-4, circuit CHS39 (GN/BU), harness side and ground.



N0090833

- Is the resistance less than 5 ohms between C3162B-4 and C3167-1, and greater than 10,000 ohms between C3162B-4 and ground?

YesGO to [R8](#).**No**

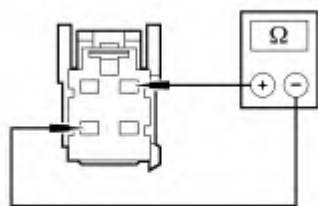
REPAIR the circuit. TEST the system for normal operation.

R8 CHECK THE CUSHION HEATER MAT FOR AN OPEN

- Measure the resistance between left rear heated seat cushion C3167 pins 1 and 4, component side.

YesGO to [R9](#).**No**

INSTALL a new cushion heater mat. REFER to [Seat Cushion Heater Mat — Rear](#) in this section. TEST the system for normal operation.

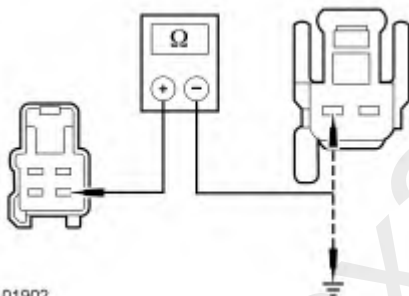


N0088932

- Is the resistance between 1.5 and 2.5 ohms?

R9 CHECK FOR AN OPEN OR A SHORT TO GROUND BETWEEN THE HEATER MATS

- Measure the resistance between:
 - left rear cushion heater mat C3167-4, circuit CHS40 (GY/VT), harness side and left rear backrest heater mat C3168-2, circuit CHS40 (GY/VT), harness side.
 - left rear cushion heater mat C3167-4, circuit CHS40 (GY/VT), harness side and ground.



N0101902

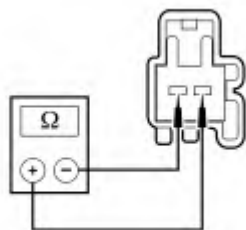
- Is the resistance less than 5 ohms between C3167-4 and C3168-2, and greater than 10,000 ohms between C3167-4 and ground?

Yes
GO to [R10](#).

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

R10 CHECK THE BACKREST HEATER MAT FOR AN OPEN

- Measure the resistance between left rear backrest heater mat C3168 pins 1 and 2, component side.

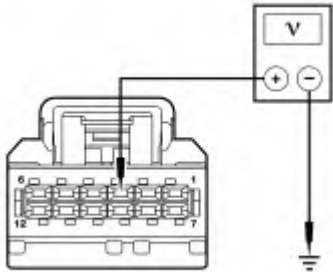
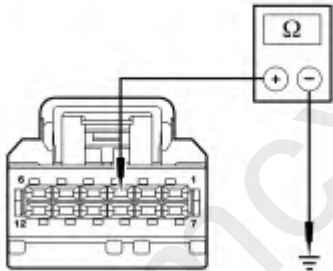


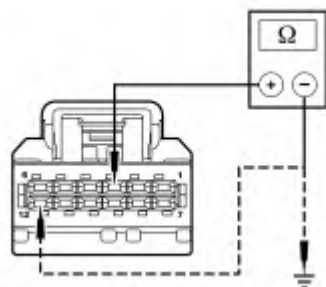
N0091136

- Is the resistance between 1 and 2 ohms?

Yes
The fault is intermittent. CHECK the electrical connectors for corrosion, poor pin contact or pushed out pins, particularly the pins and terminals of electrical connectors that were disconnected. **Do not install any new components at this time. Components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. TEST the system for normal operation.

No
INSTALL a new backrest heater mat. REFER to [Seat Backrest Heater Mat — Rear](#) in this section. TEST the system for

	normal operation.
R11 CHECK THE TEMPERATURE SENSOR CIRCUIT FOR A SHORT TO VOLTAGE - Ignition ON. - Measure the voltage between rear heated seat module C3162A-3, circuit VHS42 (GN), harness side and ground.  N0088446 - Is any voltage present?	Yes REPAIR the circuit. GO to R14 to check the temperature sensor for damage. If temperature sensor is OK, TEST the system for normal operation. No GO to R12.
R12 CHECK THE TEMPERATURE SENSOR CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between rear heated seat module C3162A-3, circuit VHS42 (GN), harness side and ground.  N0092109 - Is the resistance greater than 10,000 ohms?	Yes GO to R13. No REPAIR the circuit. TEST the system for normal operation.
R13 CHECK THE TEMPERATURE SENSOR AND CIRCUITS FOR AN OPEN OR SHORT TO GROUND - Connect: Left Rear Cushion Heater Mat C3167 (if previously disconnected) . - Measure the resistance between: - rear heated seat module C3162A-3, circuit VHS42 (GN), harness side and C3162A-12, circuit RHS41 (GN/BN), harness side. - rear heated seat module C3162A-3, circuit VHS42 (GN), harness side and ground.	Yes INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No GO to R14.

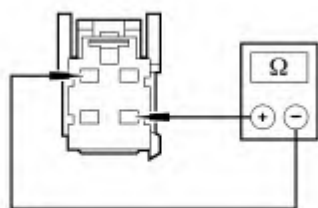


N0088447

- Is the resistance between 300 and 300K ohms between C3162A-3 and C3162A-12 and greater than 10,000 ohms between C3162A-3 and ground?

R14 CHECK THE TEMPERATURE SENSOR FOR AN OPEN

- Disconnect: Left Rear Cushion Heater Mat C3167 .
- Measure the resistance between left rear cushion heater mat C3167 pins 2 and 3, component side.



N0088935

- Is the resistance between 8,000 and 15,000 ohms?

Yes

REPAIR circuit RHS41 (GN/BN) or VHS42 (GN). TEST the system for normal operation.

No

INSTALL a new cushion heater mat. REFER to [Seat Cushion Heater Mat — Rear](#) in this section. TEST the system for normal operation.

R15 CHECK THE HIGH HEAT REQUEST CIRCUIT FOR AN OPEN OR SHORT TO GROUND

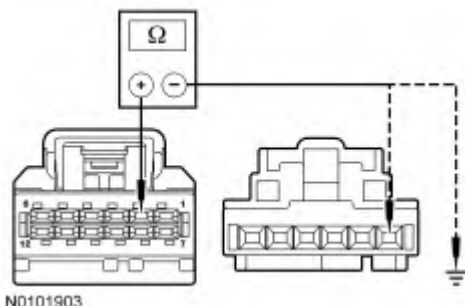
- For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in [Heated Seat Module — Rear](#) in this section.
- Disconnect: Left Rear Heated Seat Switch C731 .
- Measure the resistance between:
 - rear heated seat module C3162A-2, circuit CHS46 (YE/GN), harness side and left rear heated seat switch C731-1, circuit CHS46 (YE/GN), harness side.
 - rear heated seat module C3162A-2, circuit CHS46 (YE/GN), harness side and ground.

Yes

GO to [R17](#) .

No

REPAIR the circuit. TEST the system for normal operation.

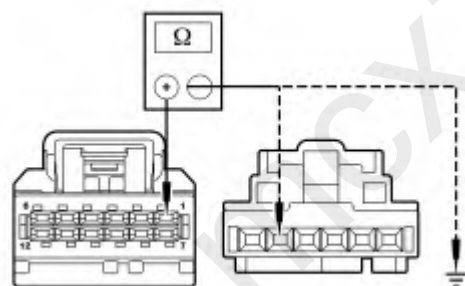


N0101903

- Is the resistance less than 5 ohms between C3162A-2 and C731-1 and greater than 10,000 ohms between C3162A-2 and ground?

R16 CHECK THE LOW HEAT REQUEST CIRCUIT FOR AN OPEN OR SHORT TO GROUND

- Disconnect: Left Rear Heated Seat Switch C731 .
- For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in [Heated Seat Module — Rear](#) in this section.
- Measure the resistance between:
 - rear heated seat module C3162A-1, circuit CHS47 (VT/GN), harness side and left rear heated seat switch C731-5, circuit CHS47 (VT/GN), harness side.
 - rear heated seat module C3162A-1, circuit CHS47 (VT/GN), harness side and ground.



N0101905

- Is the resistance less than 5 ohms between C3162A-1 and C731-5 and greater than 10,000 ohms between C3162A-1 and ground?

Yes
GO to [R17](#) .

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

R17 CHECK THE HEATED SEAT SWITCH

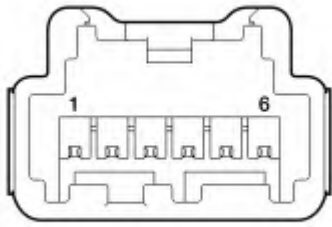
- Disconnect: Left Rear Heated Seat Switch C731 .
- Use the following chart and measure the resistance between rear heated seat switch pins, component side, while pressing the indicated switch buttons and compare the results.

Heated Seat Switch Mode	Pins	Ohms
High	1 and 6	Less than 30

Yes
INSTALL a new heated seat module. REFER to [Heated Seat Module — Rear](#) in this section. TEST the system for normal operation.

No
INSTALL a new heated seat switch. REFER to [Heated Seat Switch — Rear](#) in this section.

At rest	1 and 6	Greater than 10,000
Low	5 and 6	Less than 30
At rest	5 and 6	Greater than 10,000



N0085485

- Is the heated seat switch OK?

Pinpoint Test S: The Heated Seat is Inoperative — Right Rear

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

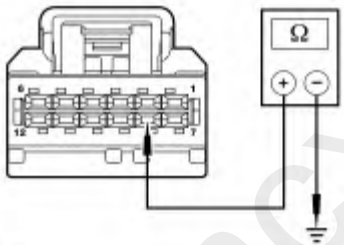
When the LH or RH rear heated seat control switch is activated with the ignition ON, a ground signal is supplied to the heated seat module to command the system in high heat mode or low heat mode. When commanded ON, voltage is supplied to the heated seat switch from the heated seat module to illuminate the switch indicator. The heated seat module also supplies voltage to the LH or RH rear seat cushion and backrest heater mats, which are connected in series. Temperature is maintained by the heated seat module using a sensor contained within the cushion heater mat. The heated seat module supplies a reference voltage to the temperature sensor and monitors the return signal from the temperature sensor for controlling current flow to the heater mats. The heated seat module remains ON, heating the seat and maintaining temperature until switched OFF or the ignition voltage is switched OFF.

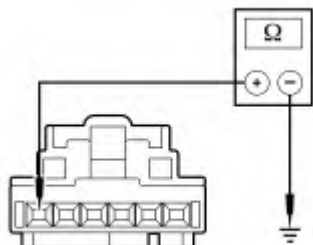
A new heated seat module must be configured after installation for correct operation. To configure, press the low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

This pinpoint test is intended to diagnose the following:

- Fuse
- Wiring, terminals or connectors
- Heater mat
- Heated seat switch
- Heated seat module

PINPOINT TEST S: THE HEATED SEAT IS INOPERATIVE — RIGHT REAR

Test Step	Result / Action to Take
S1 CHECK THE HEATED SEAT OPERATION - Ignition ON. - Operate the right rear heated seat switch. Does the seat operate in either setting?	Yes If only the low setting operates, GO to S15 . If only the high setting operates, GO to S16 . No GO to S2 .
S2 CHECK THE HEATED SEAT SWITCH INPUT - Ignition OFF. - For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in Heated Seat Module — Rear in this section. - Disconnect: Rear Heated Seat Module C3162A . - Measure the resistance between rear heated seat module C3162A-8, circuit CHS50 (BU/GY), harness side and ground while pressing the heated seat switch to high.  N0088472 Is the resistance less than 30 ohms when the switch is pressed and greater than 10,000 ohms when not pressed?	Yes GO to S4 . No GO to S3 .
S3 CHECK THE HEATED SEAT SWITCH GROUND CIRCUIT FOR AN OPEN - Disconnect: Right Rear Heated Seat Switch C831 . - Measure the resistance between right rear heated seat switch C831-6, circuit GD139 (BK/YE), harness side and ground.	Yes GO to S17 . No REPAIR the circuit. TEST the system for normal operation.

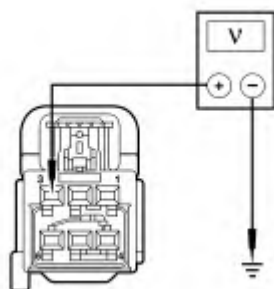


N0101900

- Is the resistance less than 5 ohms?

S4 CHECK VOLTAGE TO THE RIGHT REAR HEATED SEAT MODULE FEED CIRCUIT

- Disconnect: Rear Heated Seat Module C3162B .
- Measure the voltage between rear heated seat module C3162B-3, circuit SBB71 (WH/RD), harness side and ground.



N0088707

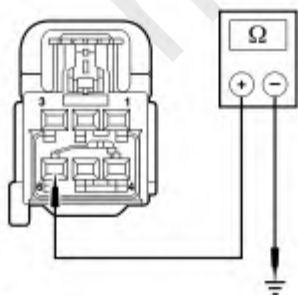
- Is the voltage greater than 10 volts?

Yes
GO to [S5](#).

No
VERIFY BCM fuse 71 (20A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. TEST the system for normal operation.

S5 CHECK THE HEATER CIRCUITS AND HEATER MATS FOR AN OPEN

- Measure the resistance between rear heated seat module C3162B-6, circuit CHS43 (GY/BU), harness side and ground.



N0091155

- Is the resistance between 2.5 and 4.5 ohms?

Yes
GO to [S11](#).

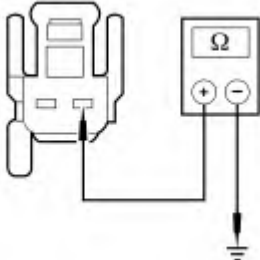
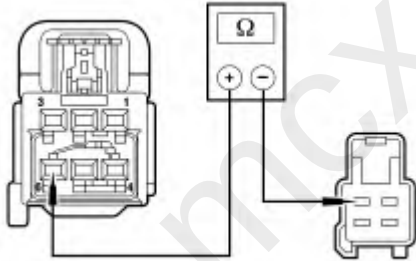
No
GO to [S6](#).

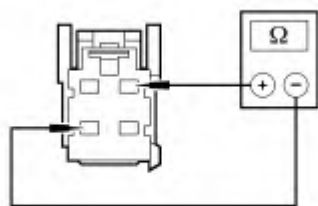
S6 CHECK THE HEATER MAT GROUND CIRCUIT FOR AN OPEN

- For electrical connector access, release and lower the rear 40 percent seat backrest. Refer to the appropriate steps in [Seat Backrest Latch — Rear, Crew Cab](#) in this section.
- Disconnect: Right Rear Backrest Heater Mat

Yes
GO to [S7](#).

No
REPAIR the circuit. TEST the system for

C3170 . • Measure the resistance between right rear backrest heater mat C3170-1, circuit GD139 (BK/YE), harness side and ground.  N0101901 • Is the resistance less than 5 ohms?	normal operation.
S7 CHECK THE HEATER CIRCUIT FOR AN OPEN OR SHORT TO GROUND • Disconnect: Right Rear Cushion Heater Mat C3169 . • Measure the resistance between: ■ rear heated seat module C3162B-6, circuit CHS43 (GY/BU), harness side and right rear cushion heater mat C3169-1, circuit CHS43 (GY/BU), harness side. ■ rear heated seat module C3162B-6, circuit CHS43 (GY/BU), harness side and ground.  N0090843 • Is the resistance less than 5 ohms between C3162B-6 and C3169-1, and greater than 10,000 ohms between C3162B-6 and ground?	Yes GO to S8. No REPAIR the circuit. TEST the system for normal operation.
S8 CHECK THE CUSHION HEATER MAT FOR AN OPEN • Measure the resistance between right rear cushion heater mat C3169 pins 1 and 4, component side.	Yes GO to S9. No INSTALL a new cushion heater mat. REFER to Seat Cushion Heater Mat — Rear in this section. TEST the system for normal operation.

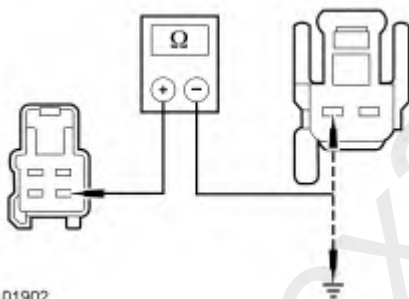


N00B8932

- Is the resistance between 1.5 and 2.5 ohms?

S9 CHECK FOR AN OPEN OR A SHORT TO GROUND BETWEEN THE HEATER MATS

- Measure the resistance between:
 - right rear cushion heater mat C3169-4, circuit CHS44 (GN/VT), harness side and right rear backrest heater mat C3170-2, circuit CHS44 (GN/VT), harness side.
 - right rear seat cushion heater mat C3169-4, circuit CHS44 (GN/VT), harness side and ground.



N0101902

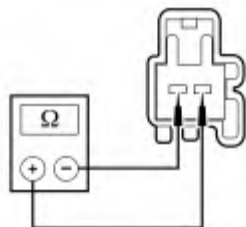
- Is the resistance less than 5 ohms between C3169-4 and C3170-2, and greater than 10,000 ohms between C3169-4 and ground?

Yes
GO to [S10](#).

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

S10 CHECK THE BACKREST HEATER MAT FOR AN OPEN

- Measure the resistance between right rear backrest heater mat C3170 pins 1 and 2, component side.

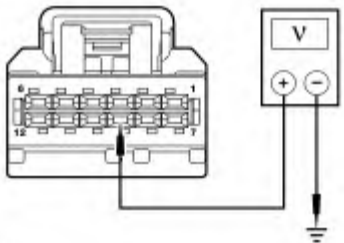
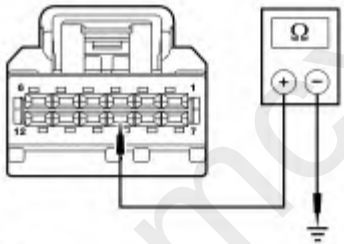


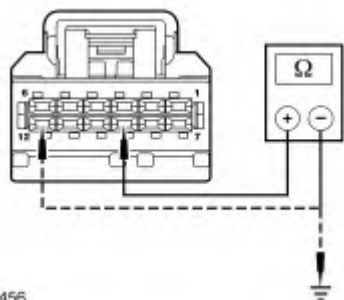
N0091136

- Is the resistance between 1 and 2 ohms?

Yes
The fault is intermittent. CHECK the electrical connectors for corrosion, poor pin contact or pushed out pins, particularly the pins and terminals of electrical connectors that were disconnected. **Do not install any new components at this time. Components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found. TEST the system for normal operation.

No
INSTALL a new rear seat backrest heater mat. REFER to [Seat Backrest Heater Mat](#)

	— Rear in this section. TEST the system for normal operation.
S11 CHECK THE TEMPERATURE SENSOR CIRCUIT FOR A SHORT TO VOLTAGE - Ignition ON. - Measure the voltage between heated seat module C3162A-9, circuit VHS45 (GY/BN), harness side and ground.  N0085705 - Is any voltage present?	Yes REPAIR the circuit. GO to S14 to check the temperature sensor for damage. If the temperature sensor is OK, TEST the system for normal operation. No GO to S12.
S12 CHECK THE TEMPERATURE SENSOR CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between heated seat module C3162A-9, circuit VHS45 (GY/BN), harness side and ground.  N0092115 - Is the resistance greater than 10,000 ohms?	Yes GO to S13. No REPAIR the circuit. TEST the system for normal operation.
S13 CHECK RIGHT REAR HEATED SEAT TEMPERATURE SENSOR CIRCUITS FOR AN OPEN OR SHORT TO GROUND - Connect: Right Rear Cushion Heater Mat C3169 (if previously disconnected) . - Measure the resistance between: - rear heated seat module C3162A-9, circuit VHS45 (GY/BN), harness side and C3162A-12, circuit RHS41 (GN/BN), harness side. - rear heated seat module C3162A-9, circuit VHS45 (GY/BN), harness side and ground.	Yes INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No GO to S14.

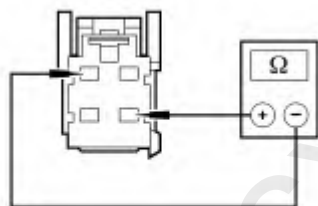


N0088455

- Is the resistance between 300 and 300K ohms between C3162A-9 and C3162A-12 and greater than 10,000 ohms between C3162A-9 and ground?

S14 CHECK THE TEMPERATURE SENSOR FOR AN OPEN

- For electrical connector access, release and lower the rear 40 percent seat backrest. Refer to the appropriate steps in [Seat Backrest Latch — Rear, Crew Cab](#) in this section.
- Disconnect: Right Rear Cushion Heater Mat C3169.
- Measure the resistance between rear cushion heater mat C3169 pins 2 and 3, component side.



N0088935

- Is the resistance between 8,000 and 15,000 ohms?

Yes

REPAIR circuit RHS41 (GN/BN) or VHS45 (GY/BN). TEST the system for normal operation.

No

INSTALL a new cushion heater mat. REFER to [Seat Cushion Heater Mat — Rear](#) in this section. TEST the system for normal operation.

S15 CHECK THE HIGH HEAT REQUEST CIRCUIT FOR AN OPEN OR SHORT TO GROUND

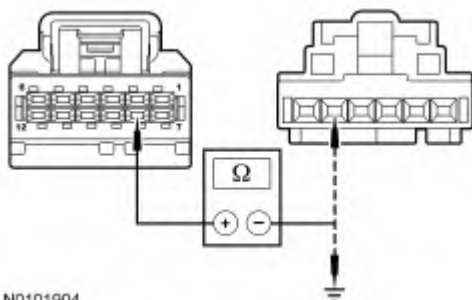
- For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in [Heated Seat Module — Rear](#) in this section.
- Disconnect: Right Rear Heated Seat Switch C831.
- Measure the resistance between:
 - rear heated seat module C3162A-8, circuit CHS50 (BU/GY), harness side and right rear heated seat switch C831-5, circuit CHS50 (BU/GY), harness side.
 - rear heated seat module C3162A-8, circuit CHS50 (BU/GY), harness side and ground.

Yes

GO to [S17](#).

No

REPAIR the circuit. TEST the system for normal operation.

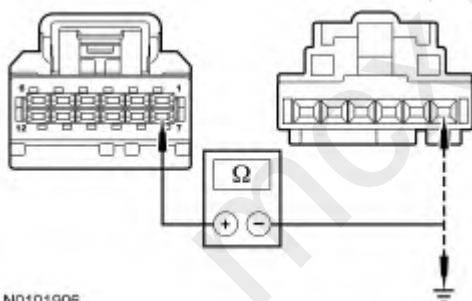


N0101904

- Is the resistance less than 5 ohms between C3162A-8 and C831-5 and greater than 10,000 ohms between C3162A-8 and ground?

S16 CHECK THE LOW HEAT REQUEST CIRCUIT FOR AN OPEN OR SHORT TO GROUND

- For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in [Heated Seat Module — Rear](#) in this section.
- Disconnect: Right Rear Heated Seat Switch C831 .
- Measure the resistance between:
 - rear heated seat module C3162A-7, circuit CHS51 (YE/GY), harness side and right rear heated seat switch C831-1, circuit CHS51 (YE/GY), harness side.
 - rear heated seat module C3162A-7, circuit CHS51 (YE/GY), harness side and ground.



N0101905

- Is the resistance less than 5 ohms between C3162A-7 and C831-1 and greater than 10,000 ohms between C3162A-7 and ground?

Yes
GO to [S17](#) .

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

S17 CHECK THE HEATED SEAT SWITCH

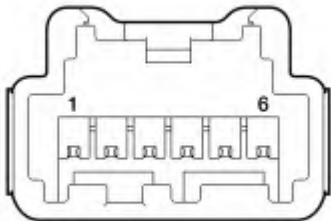
- Disconnect: Right Rear Heated Seat Switch C831 .
- Use the following chart and measure the resistance between rear heated seat switch pins, component side, while pressing the indicated switch buttons and compare the results.

Heated Seat Switch Mode	Pins	Ohms
High	5 and 6	Less than 30

Yes
INSTALL a new heated seat module. REFER to [Heated Seat Module — Rear](#) in this section. TEST the system for normal operation.

No
INSTALL a new heated seat switch. REFER to [Heated Seat Switch — Rear](#) in this section.

At rest	5 and 6	Greater than 10,000
Low	1 and 6	Less than 30
At rest	1 and 6	Greater than 10,000



N0085485

- Is the heated seat switch OK?

Pinpoint Test T: The Heated Seat Does Not Operate Correctly — Left Rear Seat Does Heat But the Heated Seat Indicator Does Not Illuminate When Pressed

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

With the ignition and heated seat on, the heated seat module supplies voltage to the indicator circuit(s) to illuminate the appropriate switch indicator. The heated seat and indicator deactivates with a second button press.

A new heated seat module must be configured after installation for correct operation. To configure, press the low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

This pinpoint test is intended to diagnose the following:

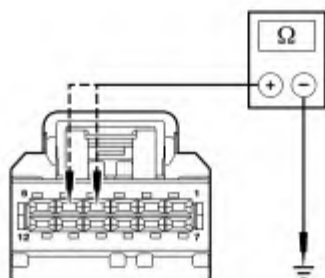
- Wiring, terminals or connectors
- Heated seat switch
- Heated seat module

PINPOINT TEST T: THE HEATED SEAT DOES NOT OPERATE CORRECTLY — LEFT REAR SEAT DOES HEAT BUT THE HEATED SEAT INDICATOR DOES NOT ILLUMINATE WHEN PRESSED

Test Step	Result / Action to Take
T1 CHECK THE HEATED SEAT INDICATOR CIRCUITS FOR A	

SHORT TO GROUND

- Ignition OFF.
- For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in [Heated Seat Module — Rear](#) in this section.
- Disconnect: Rear Heated Seat Module C3162A .
- Disconnect: Left Rear Heated Seat Switch C731 .
- Measure the resistance between:
 - heated seat module C3162A-4, circuit CHS49 (VT), harness side and ground.
 - heated seat module C3162A-5, circuit CHS48 (YE), harness side and ground.



N0088479

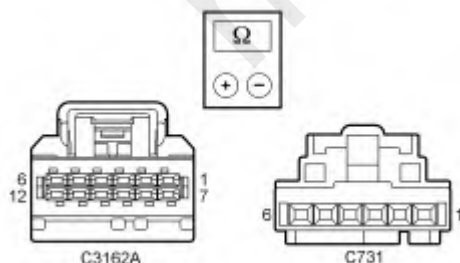
- Are the resistances greater than 10,000 ohms?

YesGO to [T2](#).**No**

REPAIR the circuit(s). TEST the system for normal operation.

T2 CHECK THE HEATED SEAT INDICATOR CIRCUITS FOR AN OPEN

- Measure the resistance between:
 - heated seat module C3162A-4, circuit CHS49 (VT), harness side and left rear heated seat switch C731-4, circuit CHS49 (VT), harness side.
 - heated seat module C3162A-5, circuit CHS48 (YE), harness side and left rear heated seat switch C731-3, circuit CHS48 (YE), harness side.



N0105305

- Are the resistances less than 5 ohms?

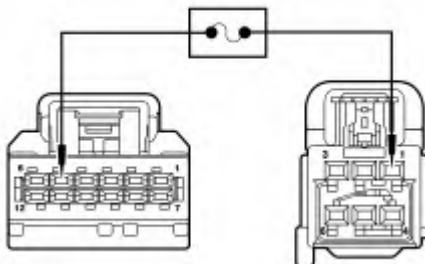
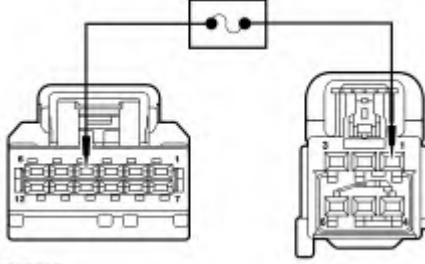
YesGO to [T3](#).**No**

REPAIR the circuit(s). TEST the system for normal operation.

T3 CHECK THE HIGH HEAT INDICATOR

- Connect: Left Rear Heated Seat Switch C731 .
- Disconnect: Rear Heated Seat Module C3162B .
- Connect a fused jumper lead between rear heated seat module C3162A-5, circuit CHS48 (YE), harness side and C3162B-1, circuit SBB71 (WH/RD), harness side.

YesGO to [T4](#).**No**INSTALL a new heated seat switch. REFER to [Heated Seat](#)

 N0088504 • Does the indicator illuminate?	Switch — Rear in this section. TEST the system for normal operation.
T4 CHECK THE LOW HEAT INDICATOR • Connect a fused jumper lead between rear heated seat module C3162A-4, circuit CHS49 (VT), harness side and C3162B-1, circuit SBB71 (WH/RD), harness side.  N0088505 • Does the indicator illuminate?	Yes INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No INSTALL a new heated seat switch. REFER to Heated Seat Switch — Rear in this section. TEST the system for normal operation.

Pinpoint Test U: The Heated Seat Does Not Operate Correctly — Right Rear Seat Does Heat But the Heated Seat Indicator Does Not Illuminate When Pressed

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

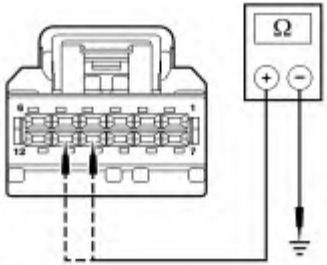
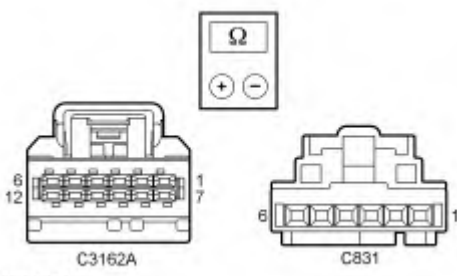
With the ignition and heated seat on, the heated seat module supplies voltage to the indicator circuit(s) to illuminate the appropriate switch indicator. The heated seat and indicator deactivates with a second button press.

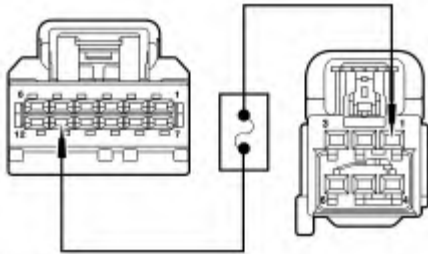
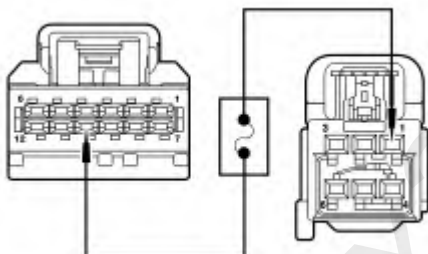
A new heated seat module must be configured after installation for correct operation. To configure, press the low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Heated seat switch
- Heated seat module

PINPOINT TEST U: THE HEATED SEAT DOES NOT OPERATE CORRECTLY — RIGHT REAR SEAT DOES HEAT BUT THE HEATED SEAT INDICATOR DOES NOT ILLUMINATE WHEN PRESSED

Test Step	Result / Action to Take
U1 CHECK THE HEATED SEAT INDICATOR CIRCUITS FOR A SHORT TO GROUND • Ignition OFF. • For electrical connector access, release and lower the rear 60 percent seat backrest. Refer to the appropriate steps in Heated Seat Module — Rear in this section. • Disconnect: Rear Heated Seat Module C3162A . • Disconnect: Right Rear Heated Seat Switch C831 . • Measure the resistance between: ■ heated seat module C3162A-10, circuit CHS53 (WH/BN), harness side and ground. ■ heated seat module C3162A-11, circuit CHS52 (BU), harness side and ground.  N0088505 • Are the resistances greater than 10,000 ohms?	Yes GO to U2. No REPAIR the circuit(s). TEST the system for normal operation.
U2 CHECK THE HEATED SEAT INDICATOR CIRCUITS FOR AN OPEN • Measure the resistance between: ■ heated seat module C3162A-10, circuit CHS53 (WH/BN), harness side and right rear heated seat switch C831-3, circuit CHS53 (WH/BN), harness side. ■ heated seat module C3162A-11, circuit CHS52 (BU), harness side and right rear heated seat switch C831-4, circuit CHS52 (BU), harness side.  N0106307 • Are the resistances less than 5 ohms?	Yes GO to U3. No REPAIR the circuit(s). TEST the system for normal operation.
U3 CHECK THE HIGH HEAT INDICATOR	

• Connect: Right Rear Heated Seat Switch C831 . • Disconnect: Rear Heated Seat Module C3162B . • Connect a fused jumper lead between rear heated seat module C3162A-11, circuit CHS52 (BU), harness side and C3162B-1, circuit SBB71 (WH/RD), harness side.  N0088508 • Does the indicator illuminate?	Yes GO to U4 . No INSTALL a new heated seat switch. REFER to Heated Seat Switch — Rear in this section. TEST the system for normal operation.
U4 CHECK THE LOW HEAT INDICATOR • Connect a fused jumper lead between rear heated seat module C3162A-10, circuit CHS53 (WH/BN), harness side and C3162B-1, circuit SBB71 (WH/RD), harness side.  N0088509 • Does the indicator illuminate?	Yes INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No INSTALL a new heated seat switch. REFER to Heated Seat Switch — Rear in this section. TEST the system for normal operation.

Pinpoint Test V: The Heated Seat Does Not Operate Correctly — Left Rear Heated Seat Indicator is Always On

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

With the ignition and heated seat on, the heated seat module supplies voltage to the indicator circuit(s) to illuminate the appropriate switch indicator. The heated seat and indicator deactivates with a second button press.

A new heated seat module must be configured after installation for correct operation. To configure, press the low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Heated seat module

PINPOINT TEST V: THE HEATED SEAT DOES NOT OPERATE CORRECTLY — LEFT REAR HEATED SEAT INDICATOR IS ALWAYS ON

Test Step	Result / Action to Take
V1 CHECK THE INDICATOR CIRCUITS FOR A SHORT TO VOLTAGE	
• Disconnect: Rear Heated Seat Module C3162A . • Does the indicator turn off when the heated seat module is disconnected?	Yes INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No REPAIR circuit CHS49 (VT) or CHS48 (YE) for a short to voltage. TEST the system for normal operation.

Pinpoint Test W: The Heated Seat Does Not Operate Correctly — Right Rear Heated Seat Indicator is Always On

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

With the ignition and heated seat on, the heated seat module supplies voltage to the indicator circuit(s) to illuminate the appropriate switch indicator. The heated seat and indicator deactivates with a second button press.

A new heated seat module must be configured after installation for correct operation. To configure, press the low heat mode button on either rear heated seat switch. Module configuration will occur automatically after the low heat mode button is pressed. Until the module is correctly configured, the heated seats will operate incorrectly when selecting the high heat mode by following a sequence of high, low and off with each button press. The system will operate correctly after the heated seat module receives a low heat request on either of the low heat request circuits and rear heated seat module configuration is activated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Heated seat module

PINPOINT TEST W: THE HEATED SEAT DOES NOT OPERATE CORRECTLY — RIGHT REAR HEATED SEAT INDICATOR IS ALWAYS ON

Test Step	Result / Action to Take
W1 CHECK THE INDICATOR CIRCUITS FOR A SHORT TO VOLTAGE	
• Disconnect: Rear Heated Seat Module	Yes

C3162A . • Does the indicator turn off when the heated seat module is disconnected?	INSTALL a new heated seat module. REFER to Heated Seat Module — Rear in this section. TEST the system for normal operation. No REPAIR circuit CHS53 (WH/BN) or CHS52 (BU) for a short to voltage. TEST the system for normal operation.
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Pinpoint Test X: DTCs B103B and B1111

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The seat cushion and backrest are equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). When the Dual Climate Controlled Seat Module (DCSM) detects an overcurrent and/or overtemperature in the output circuits to the TEDs, it will disable the affected seat and set the following DTCs:

- DTC B103B (Thermoelectric Driver Overcurrent Low) — If DCSM outputs to the driver seat backrest or cushion TED (circuit pin G, H, J or K at the DCSM connector) or any components within these circuit loops are shorted to ground or a TED resistance of less than 0.9 ohm is sensed, the DCSM shuts down the driver seat system and sets this DTC.
- DTC B1111 (Driver Thermal Electric Device Control Overtemperature Fault) — If the DCSM TED driver integrated circuit temperature exceeds 175°C (347°F), the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED assembly
- DCSM

PINPOINT TEST X: DTCs B103B AND B1111

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

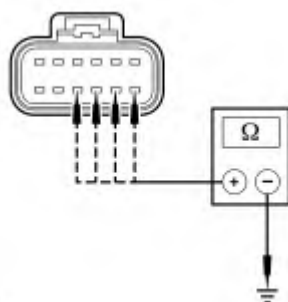
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK THE <u>TED</u> CIRCUITS FOR A SHORT TO GROUND	

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: Passenger Seat Side Air Bag Module C339.
- Disconnect: DCSM C3265A.
- Measure the resistance between DCSM C3265A, harness side and ground using the following chart:

<u>DCSM</u> Connector	Circuit
C3265A-G	CHS02 (YE/BU)
C3265A-H	RHS02 (BU/OG)
C3265A-J	CHS01 (GY/VT)
C3265A-K	RHS01 (WH/VT)



- Are the resistances greater than 10,000 ohms?

YesGO to [X2](#).**No**

If the resistance of C3265A-G, circuit(s) CHS02 (YE/BU) and/or C3265A-H, circuit RHS02 (BU/OG) to ground is **not** greater than 10,000 ohms to ground, GO to [X6](#).

If the resistance of C3265A-J, circuit(s) CHS01 (GY/VT) and/or C3265A-K, circuit RHS01 (WH/VT) to ground is **not** greater than 10,000 ohms to ground, GO to [X7](#).

X2 CHECK THE TED CIRCUITS FOR A SHORT TO VOLTAGE

-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265A, harness side and ground using the following chart:

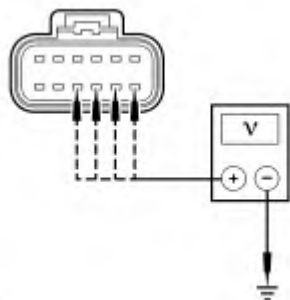
<u>DCSM</u> Connector	Circuit
C3265A-G	CHS02 (YE/BU)
C3265A-H	RHS02 (BU/OG)
C3265A-J	CHS01 (GY/VT)
C3265A-K	RHS01 (WH/VT)

Yes

If voltage is present at C3265A-G and/or C3265A-H, GO to [X8](#).

If voltage is present at C3265A-J and/or C3265A-K, GO to [X9](#).

NoGO to [X3](#).

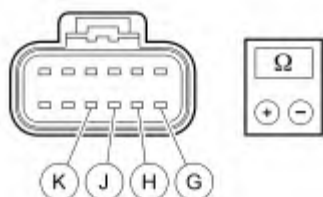


N0097825

- Is any voltage present on any circuits?

X3 CHECK THE TED AND WIRING RESISTANCE

- Ignition OFF.
- Measure the resistance between:
 - DCSM C3265A-G, circuit CHS02 (YE/BU), harness side and DCSM C3265A-H, circuit RHS02 (BU/OG), harness side.
 - DCSM C3265A-J, circuit CHS01 (GY/VT), harness side and C3265A-K, circuit RHS01 (WH/VT), harness side.



N0092076

- Are the resistances between 0.9 and 10 ohms?

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

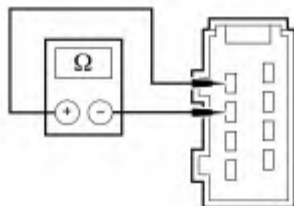
No

If the resistance is between DCSM C3265A-G and C3265A-H is **not** between 0.9 and 10 ohms, GO to [X5](#).

If the resistance is between DCSM C3265A-J and C3265A-K is **not** between 0.9 and 10 ohms, GO to [X4](#).

X4 CHECK THE BACKREST TED RESISTANCE

- Disconnect: Backrest TED C3034 .
- Measure the resistance between backrest TED C3034 pins 1 and 3, component side.



N0053765

- Is the resistance between 0.9 and 10 ohms?

Yes

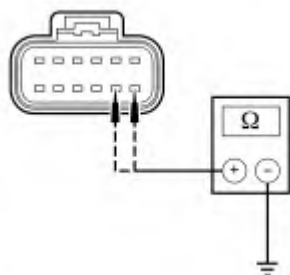
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric](#)

	Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
X5 CHECK THE CUSHION <u>TED</u> RESISTANCE • Disconnect: Cushion <u>TED</u> C3035 . • Measure the resistance between cushion <u>TED</u> C3035 pins 1 and 3, component side. N0053766 • Is the resistance between 0.9 and 10 ohms?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No INSTALL a new cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
X6 CHECK THE CUSHION <u>TED</u> CIRCUITS FOR A SHORT TO GROUND • Disconnect: Cushion <u>TED</u> C3035 . • Measure the resistance between: ■ <u>DCSM</u> C3265A-G, circuit CHS02 (YE/BU), harness side and ground. ■ <u>DCSM</u> C3265A-H, circuit RHS02 (BU/OG), harness side and ground.	Yes INSTALL a new cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No



N0042875

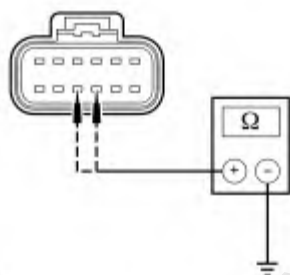
- Are the resistances greater than 10,000 ohms?

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

X7 CHECK THE BACKREST TED CIRCUITS FOR A SHORT TO GROUND

- Disconnect: Backrest TED C3034 .
- Measure the resistance between:
 - DCSM C3265A-J, circuit CHS01 (GY/VT), harness side and ground.
 - DCSM C3265A-K, circuit RHS01 (WH/VT), harness side and ground.



N0042876

- Are the resistances greater than 10,000 ohms?

Yes

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

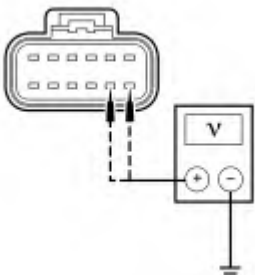
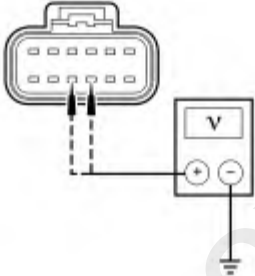
X8 CHECK THE CUSHION TED CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: Cushion TED C3035 .
- Ignition ON.
- Measure the voltage between:
 - DCSM C3265A-G, circuit CHS02 (YE/BU), harness side and ground.
 - DCSM C3265A-H, circuit RHS02 (BU/OG), harness side and ground.

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

 N0042877 • Is any voltage present on either circuit?	No INSTALL a new cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
X9 CHECK THE BACKREST <u>TED</u> CIRCUITS FOR A SHORT TO VOLTAGE • Disconnect: Backrest <u>TED</u> C3034 . • Ignition ON. • Measure the voltage between: ■ <u>DCSM</u> C3265A-J, circuit CHS01 (GY/VT), harness side and ground. ■ <u>DCSM</u> C3265A-K, circuit RHS01 (WH/VT), harness side and ground.  N0042878 • Is any voltage present on either circuit?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No INSTALL a new backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test Y: DTC B103C

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The seat cushion and backrest are equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). If the Dual Climate Controlled Seat Module (DCSM) detects an open circuit or high TED resistance, the following DTC will be set:

- DTC B103C (Thermoelectric Driver Open Load) — If DCSM outputs to the driver seat backrest or

cushion TED (circuit pin G, H, J or K at the DCSM connector) or any components within these circuit loops are open, disconnected or a TED resistance greater than 90,000 ohms is sensed, the DCSM continues normal operation and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED assembly
- DCSM

PINPOINT TEST Y: DTC B103C

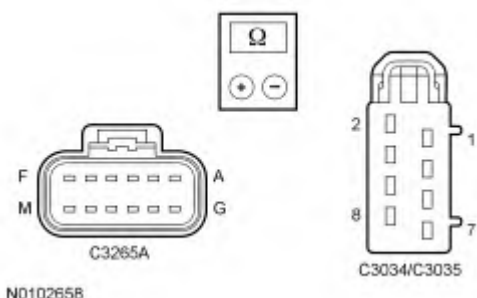
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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 CHECK THE <u>TED</u> CIRCUITS FOR AN OPEN																
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265A. • Disconnect: Cushion <u>TED</u> C3035. • Disconnect: Backrest <u>TED</u> C3034. • Measure the resistance between <u>DCSM</u> C3265A, harness side and cushion <u>TED</u> C3035, harness side; and between <u>DCSM</u> C3265A, harness side and backrest <u>TED</u> C3034, harness side using the following chart:	Yes GO to Y2. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.															
<table><tr><th><u>DCSM</u> Connector</th><th>Circuit</th><th><u>TED</u> Connector</th></tr><tr><td>C3265A-G</td><td>CHS02 (YE/BU)</td><td>C3035-1</td></tr><tr><td>C3265A-H</td><td>RHS02 (BU/OG)</td><td>C3035-3</td></tr><tr><td>C3265A-J</td><td>CHS01 (GY/VT)</td><td>C3034-1</td></tr><tr><td>C3265A-K</td><td>RHS01 (WH/VT)</td><td>C3034-3</td></tr></table>	<u>DCSM</u> Connector	Circuit	<u>TED</u> Connector	C3265A-G	CHS02 (YE/BU)	C3035-1	C3265A-H	RHS02 (BU/OG)	C3035-3	C3265A-J	CHS01 (GY/VT)	C3034-1	C3265A-K	RHS01 (WH/VT)	C3034-3	
<u>DCSM</u> Connector	Circuit	<u>TED</u> Connector														
C3265A-G	CHS02 (YE/BU)	C3035-1														
C3265A-H	RHS02 (BU/OG)	C3035-3														
C3265A-J	CHS01 (GY/VT)	C3034-1														
C3265A-K	RHS01 (WH/VT)	C3034-3														

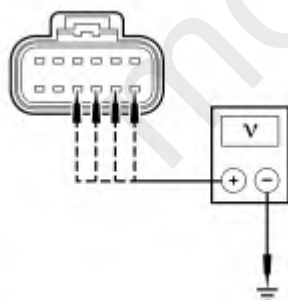


- Are the resistances less than 5 ohms?

Y2 CHECK THE TED CIRCUITS FOR A SHORT TO VOLTAGE

- **⚠ WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265A, harness side and ground using the following chart:

DCSM Connector	Circuit
C3265A-G	CHS02 (YE/BU)
C3265A-H	RHS02 (BU/OG)
C3265A-J	CHS01 (GY/VT)
C3265A-K	RHS01 (WH/VT)



- Is any voltage present on either circuit?

Y3 CHECK THE BACKREST TED AND CUSHION TED RESISTANCES

- Ignition OFF.
- Measure the resistance between:
 - backrest TED C3034 pins 1 and 3, component side.
 - cushion TED C3035 pins 1 and 3, component side.

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

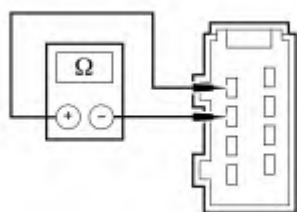
DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

GO to [Y3](#).

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.



N0053765

- Are the resistances between 0.9 and 10 ohms?

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

If the backrest TED resistance is **not** between 0.9 and 10 ohms, INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the cushion TED resistance is **not** between 0.9 and 10 ohms, INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test Z: DTC B103D

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

Climate controlled seats are independently controlled by the Dual Climate Controlled Seat Module (DCSM) mounted to the bottom of the passenger seat cushion. The climate controlled seat system only operates with the engine running, however, if using a scan tool to command the DCSM, diagnostic testing can be carried out with the ignition ON. Both voltage supply circuits to the DCSM are spliced together internally, so if one circuit becomes open, both seats can still be operated. However, if a fault occurs setting a DTC specific to either climate controlled seat, only the affected seat will be disabled by the module and the other will remain operational.

The seat cushion is equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). Similarly, the seat backrest is also equipped with its own TED assembly with blower. Cabin air is drawn through the blower and distributed to each of the TED modules located in the seat cushion and backrest. The TEDs then heat or cool the air. The air is then directed into the foam pad and manifold where it is distributed along the surface of the cushion and backrest of the seat. Once the system is activated, the DCSM uses a set of flexible algorithms to control the heating/cooling modes and the blower speed dependant on the seat switch settings.

- DTC B103D (Blower Driver Overtemperature) — If the DCSM outputs to the driver seat blower or any components within these circuit loops are shorted to ground or cause an excessive current draw, the DCSM overheats, shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED assembly
- DCSM

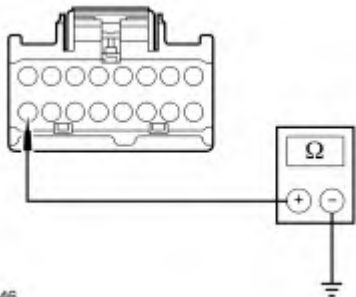
PINPOINT TEST Z: DTC B103D

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

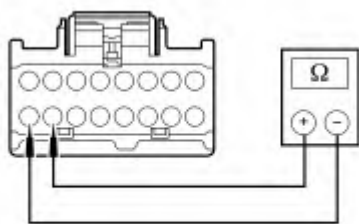
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
Z1 CHECK THE <u>TED</u> BLOWER CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265C. • Disconnect: Cushion <u>TED</u> C3035. • Disconnect: Backrest <u>TED</u> C3034. • Measure the resistance between <u>DCSM</u> C3265C-16, circuit CHS03 (GN/BN), harness side and ground.  N0044846 • Is the resistance greater than 10,000 ohms?	Yes GO to Z2. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
Z2 CHECK FOR A SHORT BETWEEN THE <u>TED</u> BLOWER CIRCUITS	

- Measure the resistance between DCSM C3265C-15, circuit RHS03 (GY/OG), harness side and C3265C-16, circuit CHS03 (GN/BN), harness side.



N0044847

- Is the resistance greater than 10,000 ohms?

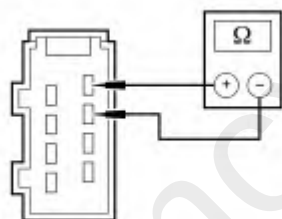
YesGO to [Z3](#).**No**

REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Z3 CHECK THE BACKREST BLOWER AND CUSHION BLOWER RESISTANCES

- **NOTE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between:
 - backrest TED C3034 pins 2 and 4, component side.
 - cushion TED C3035 pins 2 and 4, component side.



N0053768

- Are the resistances between 4,000 and 10,000 ohms?

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

If the cushion TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the backrest TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test AA: DTCs B1113 and B111B

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The seat cushion and backrest are equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). When the Dual Climate Controlled Seat Module (DCSM) detects an overcurrent and/or overtemperature in the output circuits to the TEDs, it will disable the affected seat and set the following DTCs:

- DTC B1113 (Passenger Thermal Electric Device Control Overtemperature Fault) — If the DCSM TED driver integrated circuit temperature exceeds 175°C (347°F), the DCSM shuts down the passenger seat system and sets this DTC.
- DTC B111B (Passenger Thermoelectric Driver Overcurrent Low) — If DCSM outputs to the passenger seat backrest or cushion TED (circuit pin A, B, C or D at the DCSM connector) or any components within these circuit loops are shorted to ground or a TED resistance of less than 0.9 ohms is sensed, the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED assembly
- DCSM

PINPOINT TEST AA: DTCs B1113 AND B111B

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

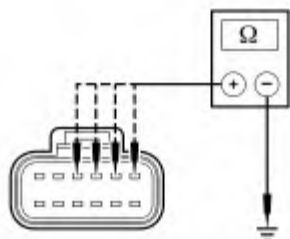
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take				
AA1 CHECK THE <u>TED</u> CIRCUITS FOR A SHORT TO GROUND					
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265A. • Measure the resistance between <u>DCSM</u> C3265A, harness side and ground using the following chart: <table border="1"> <tr> <th><u>DCSM</u> Connector</th><th>Circuit</th></tr> <tr> <td>C3265A-A</td><td>CHS07 (GY/BU)</td></tr> </table>	<u>DCSM</u> Connector	Circuit	C3265A-A	CHS07 (GY/BU)	Yes GO to AA2. No If the resistance between C3265A-A and/or C3265A-B to ground is not greater than 10,000 ohms, GO to AA6.
<u>DCSM</u> Connector	Circuit				
C3265A-A	CHS07 (GY/BU)				

C3265A-B	RHS07 (BU)
C3265A-C	CHS06 (BU/BN)
C3265A-D	RHS06 (WH)



N0097827

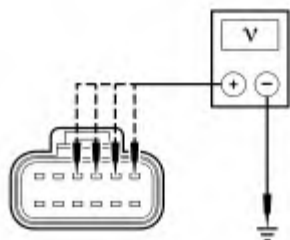
- Are the resistances greater than 10,000 ohms?

If the resistance between C3265A-C and/or C3265A-D to ground is **not** greater than 10,000 ohms, GO to [AA7](#).

AA2 CHECK THE TED CIRCUITS FOR A SHORT TO VOLTAGE

- **⚠ WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265A, harness side and ground using the following chart:

DCSM Connector	Circuit
C3265A-A	CHS07 (GY/BU)
C3265A-B	RHS07 (BU)
C3265A-C	CHS06 (BU/BN)
C3265A-D	RHS06 (WH)



N0097828

- Is any voltage present on either circuit?

Yes

If voltage is present at C3265A-A and/or C3265A-B, GO to [AA8](#).

If voltage is present at C3265A-C and/or C3265A-D, GO to [AA9](#).

No

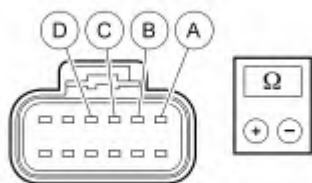
GO to [AA3](#).

AA3 CHECK THE TED AND WIRING RESISTANCE

- Ignition OFF.

Yes

- Measure the resistance between:
 - DCSM C3265A-A, circuit CHS07 (GY/BU), harness side and DCSM C3265A-B, circuit RHS07 (BU), harness side.
 - DCSM C3265A-C, circuit CHS06 (BU/BN), harness side and C3265A-D, circuit RHS06 (WH), harness side.



N0092077

- Are the resistances between 0.9 and 10 ohms?

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

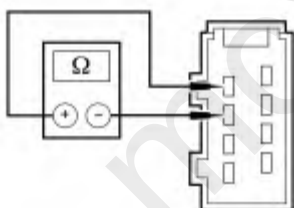
No

If the resistance is between DCSM C3265A-A and C3265A-B is **not** between 0.9 and 10 ohms, GO to [AA5](#).

If the resistance is between DCSM C3265A-C and C3265A-D is **not** between 0.9 and 10 ohms, GO to [AA4](#).

AA4 CHECK THE BACKREST TED RESISTANCE

- Disconnect: Backrest TED C3039 .
- Measure the resistance between backrest TED C3039 pins 1 and 3, component side.



N0053766

- Is the resistance between 0.9 and 10 ohms?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

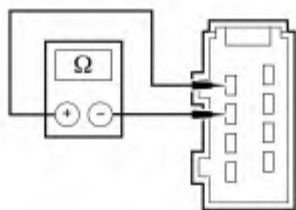
DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AA5 CHECK THE CUSHION TED RESISTANCE

- Disconnect: Cushion TED C3040 .
- Measure the resistance between cushion TED C3040 pins 1 and 3, component side.

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT



N0053765

- Is the resistance between 0.9 and 10 ohms?

the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

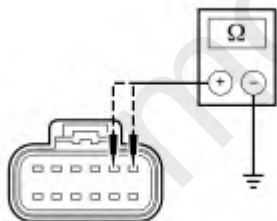
No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AA6 CHECK THE CUSHION TED CIRCUITS FOR A SHORT TO GROUND

- Disconnect: Cushion TED C3040 .
- Measure the resistance between:
 - DCSM C3265A-A, circuit CHS07 (GY/BU), harness side and ground.
 - DCSM C3265A-B, circuit RHS07 (BU), harness side and ground.



N0042883

- Are the resistances greater than 10,000 ohms?

Yes

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

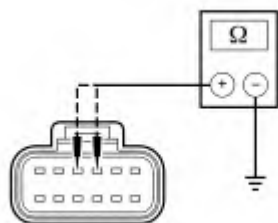
AA7 CHECK THE BACKREST TED CIRCUITS FOR A SHORT TO GROUND

- Disconnect: Backrest TED C3039 .
- Measure the resistance between:
 - DCSM C3265A-C, circuit CHS06 (BU/BN), harness side and ground.

Yes

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric](#)

- DCSM C3265A-D, circuit RHS06 (WH), harness side and ground.



N0042884

- Are the resistances greater than 10,000 ohms?

[Device](#) in this section.
CLEAR the DTCs. REPEAT the self-test.

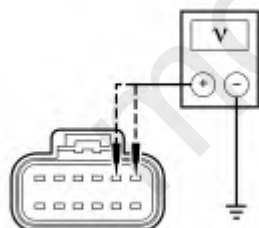
DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AA8 CHECK THE CUSHION TED CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: Cushion TED C3040 .
- Ignition ON.
- Measure the voltage between:
 - DCSM C3265A-A, circuit CHS07 (GY/BU), harness side and ground.
 - DCSM C3265A-B, circuit RHS07 (BU), harness side and ground.



N0042885

- Is any voltage present on either circuit?

Yes
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No
INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section.
CLEAR the DTCs. REPEAT the self-test.

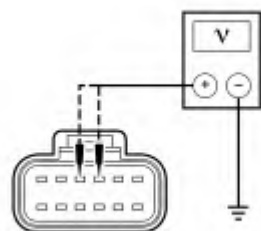
DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AA9 CHECK THE BACKREST TED CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: Backrest TED C3039 .
- Ignition ON.
- Measure the voltage between:
 - DCSM C3265A-C, circuit CHS06 (BU/BN), harness side and ground.

Yes
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

- DCSM C3265A-D, circuit RHS06 (WH), harness side and ground.



N0042885

- Is any voltage present on either circuit?

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test AB: DTC B111C

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The seat cushion and backrest are equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). If the Dual Climate Controlled Seat Module (DCSM) detects an open circuit or high TED resistance, the following DTC will be set:

- DTC B111C (Passenger Thermoelectric Driver Open Load) — If DCSM outputs to the passenger seat backrest or cushion TED (circuit pin A, B, C or D at the DCSM connector) or any components within these circuit loops are open, disconnected or a TED resistance greater than 90,000 ohms is sensed, the DCSM continues normal operation and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED assembly
- DCSM

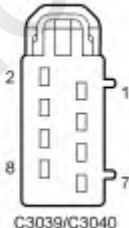
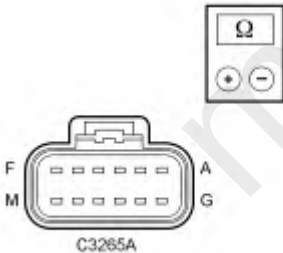
PINPOINT TEST AB: DTC B111C

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

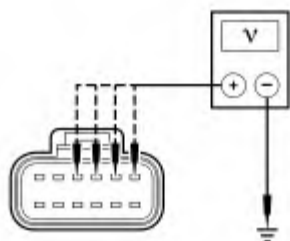
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take															
AB1 CHECK THE <u>TED</u> CIRCUITS FOR AN OPEN																
- Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Passenger Seat Side Air Bag Module C339 . - Disconnect: <u>DCSM</u> C3265A . - Disconnect: Cushion <u>TED</u> C3040 . - Disconnect: Backrest <u>TED</u> C3039 . - Measure the resistance between <u>DCSM</u> C3265A, harness side and cushion <u>TED</u> C3040, harness side; and between <u>DCSM</u> C3265A, harness side and backrest <u>TED</u> C3039, harness side using the following chart: <table><thead><tr><th><u>DCSM</u> Connector</th><th>Circuit</th><th><u>TED</u> Connector</th></tr></thead><tbody><tr><td>C3265A-A</td><td>CHS07 (GY/BU)</td><td>C3040-1</td></tr><tr><td>C3265A-B</td><td>RHS07 (BU)</td><td>C3040-3</td></tr><tr><td>C3265A-C</td><td>CHS06 (BU/BN)/ CHS01 (GY/VT)</td><td>C3039-1</td></tr><tr><td>C3265A-D</td><td>RHS06 (WH)/ RHS01 (WH/VT)</td><td>C3039-3</td></tr></tbody></table>  N0102659 - Are the resistances less than 5 ohms?	<u>DCSM</u> Connector	Circuit	<u>TED</u> Connector	C3265A-A	CHS07 (GY/BU)	C3040-1	C3265A-B	RHS07 (BU)	C3040-3	C3265A-C	CHS06 (BU/BN)/ CHS01 (GY/VT)	C3039-1	C3265A-D	RHS06 (WH)/ RHS01 (WH/VT)	C3039-3	Yes GO to AB2. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
<u>DCSM</u> Connector	Circuit	<u>TED</u> Connector														
C3265A-A	CHS07 (GY/BU)	C3040-1														
C3265A-B	RHS07 (BU)	C3040-3														
C3265A-C	CHS06 (BU/BN)/ CHS01 (GY/VT)	C3039-1														
C3265A-D	RHS06 (WH)/ RHS01 (WH/VT)	C3039-3														
AB2 CHECK THE <u>TED</u> CIRCUITS FOR A SHORT TO VOLTAGE																
 WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. - Ignition ON. - Measure the voltage between <u>DCSM</u> C3265A, harness side and ground using the following chart:	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.															

DCSM Connector	Circuit
C3265A-A	CHS07 (GY/BU)
C3265A-B	RHS07 (BU)
C3265A-C	CHS06 (BU/BN)
C3265A-D	RHS06 (WH)



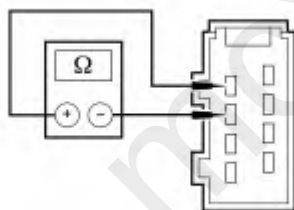
N0097828

- Is any voltage present on any circuits?

NoGO to [AB3](#).

AB3 CHECK THE BACKREST TED AND CUSHION TED RESISTANCES

- Ignition OFF.
- Measure the resistance between:
 - backrest TED C3039 pins 1 and 3, component side.
 - cushion TED C3040 pins 1 and 3, component side.



N0053765

- Are the resistances between 0.9 and 10 ohms?

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

If the backrest TED resistance is **not** between 0.9 and 10 ohms, INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the cushion TED resistance is **not** between 0.9 and 10 ohms, INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B .

Pinpoint Test AC: DTC B111D

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

Climate controlled seats are independently controlled by the Dual Climate Controlled Seat Module (DCSM) mounted to the bottom of the passenger seat cushion. The climate controlled seat system only operates with the engine running, however, if using a scan tool to command the DCSM, diagnostic testing can be carried out with the ignition ON. Both voltage supply circuits to the DCSM are spliced together internally, so if one circuit becomes open, both seats can still be operated. However, if a fault occurs setting a DTC specific to either climate controlled seat, only the affected seat will be disabled by the module and the other will remain operational.

The seat cushion is equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). Similarly, the seat backrest is also equipped with its own TED assembly with blower. Cabin air is drawn through the blower and distributed to each of the TED modules located in the seat cushion and backrest. The TEDs then heat or cool the air. The air is then directed into the foam pad and manifold where it is distributed along the surface of the cushion and backrest of the seat. Once the system is activated, the DCSM uses a set of flexible algorithms to control the heating/cooling modes and the blower speed dependant on the seat switch settings.

- DTC B111D (Passenger Blower Driver Overtemperature) — If the DCSM outputs to the passenger seat blower or any components within these circuit loops are shorted to ground or cause an excessive current draw, the DCSM overheats, shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED assembly
- DCSM

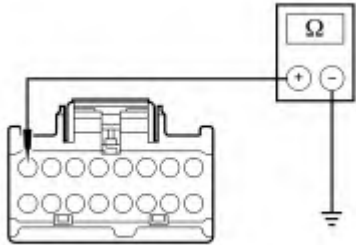
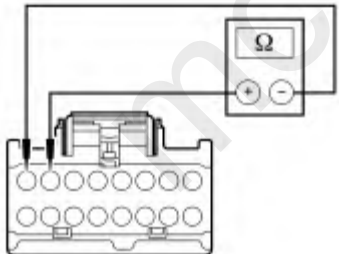
PINPOINT TEST AC: DTC B111D

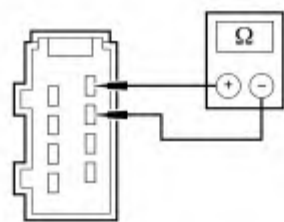
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AC1 CHECK THE <u>TED</u> BLOWER CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265C. • Disconnect: Cushion <u>TED</u> C3040. • Disconnect: Backrest <u>TED</u> C3039. • Measure the resistance between <u>DCSM</u> C3265C-8, circuit CHS08 (BN/YE), harness side and ground.  N0044848 • Is the resistance greater than 10,000 ohms?	Yes GO to AC2. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AC2 CHECK FOR A SHORT BETWEEN THE <u>TED</u> BLOWER CIRCUITS • Measure the resistance between <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH), harness side and C3265C-8, circuit CHS08 (BN/YE), harness side.  N0044849 • Is the resistance greater than 10,000 ohms?	Yes GO to AC3. No REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AC3 CHECK THE BACKREST BLOWER AND CUSHION BLOWER RESISTANCES • NOTE: The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty. • Measure the resistance between: ■ cushion <u>TED</u> C3040 pins 2 and 4, component side. ■ backrest <u>TED</u> C3039 pins 2 and 4, component side.	Yes INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT



N0053768

- Are the resistances between 4,000 and 10,000 ohms?

passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

If the cushion TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the backrest TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test AD: DTC B19A1

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the passenger seat cushion Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A1 (Passenger Seat Cushion Blower Speed Short to Battery) — If the passenger seat cushion blower speed circuit is shorted to voltage, the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

PINPOINT TEST AD: DTC B19A1

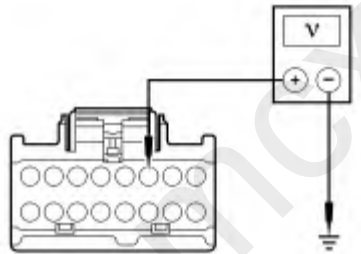
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting

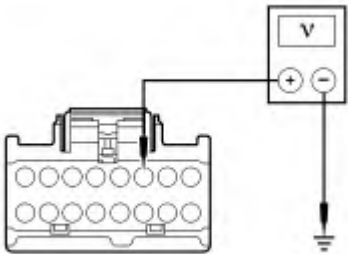
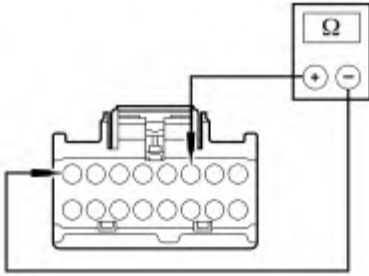
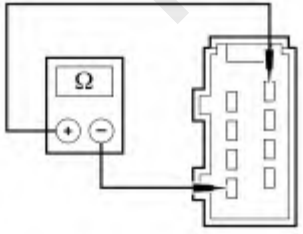
in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AD1 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: <u>DCSM</u> C3265C.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. - Ignition ON. - Measure the voltage between C3265C-3, circuit VHS23 (BN/BU), harness side and ground.  N0063372 - Is any voltage present?	Yes GO to AD2. No GO to AD3.
AD2 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE - Disconnect: Cushion <u>TED</u> C3040. - Measure the voltage between <u>DCSM</u> C3265C-3, circuit VHS23 (BN/BU), harness side and ground.	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-

 N0083372 • Is any voltage present?	20B. No GO to AD3.
AD3 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL AND BLOWER OUTPUT CIRCUITS FOR A SHORT TOGETHER • Ignition OFF. • Disconnect: Cushion <u>TED</u> C3040 . • Measure the resistance between DCSM C3265C-3, circuit VHS23 (BN/BU), harness side and C3265C-8, circuit CHS08 (BN/YE), harness side.  N0083808 • Is the resistance greater than 10,000 ohms?	Yes GO to AD4. No REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AD4 CHECK THE CUSHION <u>TED</u> RESISTANCE FOR AN INTERNAL SHORT • Measure the resistance between cushion <u>TED</u> C3040 pins 2 and 7, component side.  N0092066 • Is the resistance greater than 10,000 ohms?	Yes INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No INSTALL a new cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section.

	CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
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Pinpoint Test AE: DTC B19A2

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the passenger seat backrest Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A2 (Passenger Seat Back Blower Speed Short to Battery) — If the passenger seat backrest blower speed circuit is shorted to voltage, the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

PINPOINT TEST AE: DTC B19A2

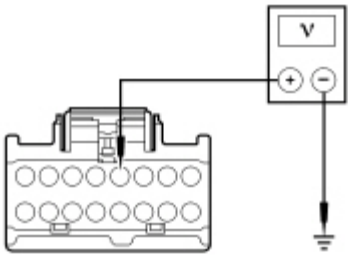
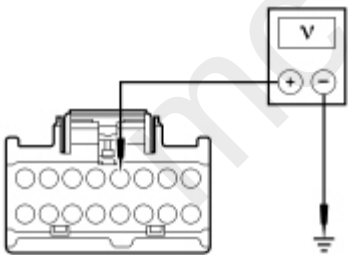
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

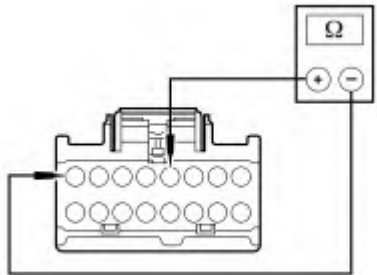
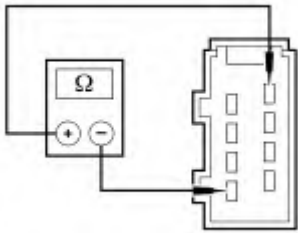
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AE1 CHECK THE BACKREST TED BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE	

• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339 . • Disconnect: <u>DCSM</u> C3265C . •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. • Ignition ON. • Measure the voltage between C3265C-4, circuit VHS21 (BU/WH), harness side and ground.  N0083799 • Is any voltage present?	Yes GO to AE2. No GO to AE3.
AE2 CHECK THE BACKREST TED BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE • Disconnect: Backrest <u>TED</u> C3039 . • Measure the voltage between <u>DCSM</u> C3265C-4, circuit VHS21 (BU/WH), harness side and ground.  N0083799 • Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AE3.
AE3 CHECK THE BACKREST TED BLOWER SPEED CONTROL AND BLOWER OUTPUT CIRCUITS FOR A SHORT TOGETHER • Ignition OFF. • Disconnect: Backrest <u>TED</u> C3039 . • Measure the resistance between <u>DCSM</u> C3265C-4, circuit VHS21 (BU/WH), harness side and C3265C-8, circuit CHS08 (BN/YE), harness side.	Yes GO to AE4. No REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery

 N0083809 Is the resistance greater than 10,000 ohms?	ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AE4 CHECK THE BACKREST <u>TED</u> RESISTANCE FOR AN INTERNAL SHORT - Measure the resistance between backrest <u>TED</u> C3039 pins 2 and 7, component side.  N0092066 - Is the resistance greater than 10,000 ohms?	Yes INSTALL a new DCSM. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No INSTALL a new backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test AF: DTC B19A3

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the driver seat cushion

Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A3 (Driver Seat Cushion Blower Speed Short to Battery) — If the driver seat cushion blower speed circuit is shorted to voltage, the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

PINPOINT TEST AF: DTC B19A3

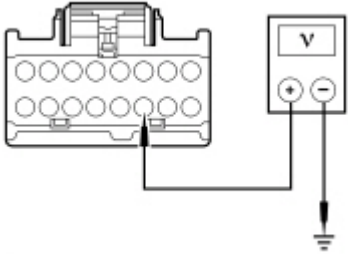
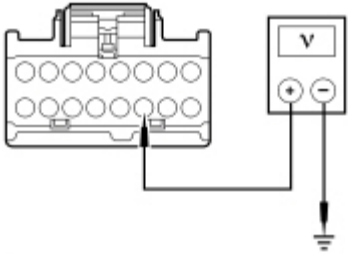
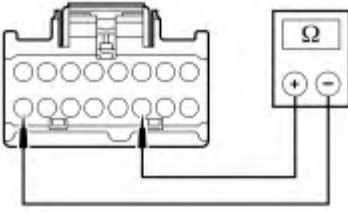
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

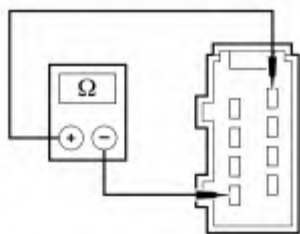
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AF1 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265C. •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. • Ignition ON. • Measure the voltage between C3265C-11, circuit VHS18 (BN/GN), harness side and ground.	Yes GO to AF2. No GO to AF3.

 N0083800 • Is any voltage present?	
AF2 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE • Disconnect: Cushion <u>TED</u> C3035 . • Measure the voltage between C3265C-11, circuit VHS18 (BN/GN), harness side and ground.  N0083800 • Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AF3.
AF3 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL AND BLOWER OUTPUT CIRCUITS FOR A SHORT TOGETHER • Ignition OFF. • Disconnect: Cushion <u>TED</u> C3035 . • Measure the resistance between <u>DCSM</u> C3265C-11, circuit VHS18 (BN/GN), harness side and C3265C-16, circuit CHS03 (GN/BN), harness side.  N0083810 • Is the resistance greater than 10,000 ohms?	Yes GO to AF4. No REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AF4 CHECK THE CUSHION <u>TED</u> RESISTANCE FOR AN INTERNAL SHORT	

- Measure the resistance between cushion TED C3035 pins 2 and 7, component side.



N0092066

- Is the resistance greater than 10,000 ohms?

Yes

INSTALL a new DCSM.
REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section.
CLEAR the DTCs.
REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section.
CLEAR the DTCs.
REPEAT the self-test.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

Pinpoint Test AG: DTC B19A4

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the driver seat backrest Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A4 (Driver Seat Back Blower Speed Short to Battery) — If the driver seat backrest blower speed circuit is shorted to voltage, the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

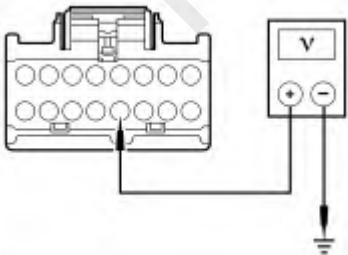
PINPOINT TEST AG: DTC B19A4

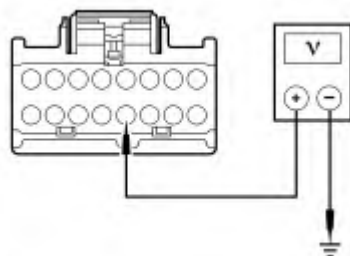
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AG1 CHECK THE BACKREST TED BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Driver Seat Side Air Bag Module C3051. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: <u>DCSM</u> C3265C.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. - Ignition ON. - Measure the voltage between C3265C-12, circuit CHS09 (GY), harness side and ground.  N0063801 - Is any voltage present?	Yes GO to AG2. No GO to AG3.
AG2 CHECK THE BACKREST TED BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO VOLTAGE - Disconnect: Backrest TED C3034. - Measure the voltage between C3265C-12, circuit CHS09 (GY), harness side and ground.	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.



N0083801

- Is any voltage present?

DISCONNECT the battery ground cable.

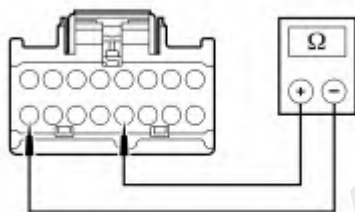
CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No
GO to [AG3](#).

AG3 CHECK THE BACKREST TED BLOWER SPEED CONTROL AND BLOWER OUTPUT CIRCUITS FOR A SHORT TOGETHER

- Ignition OFF.
- Disconnect: Backrest TED C3034.
- Measure the resistance between DCSM C3265C-12, circuit CHS09 (GY), harness side and C3265C-16, circuit CHS03 (GN/BN), harness side.



N0083811

- Is the resistance greater than 10,000 ohms?

Yes
GO to [AG4](#).

No
REPAIR the circuits.
CLEAR the DTCs.
REPEAT the self-test.

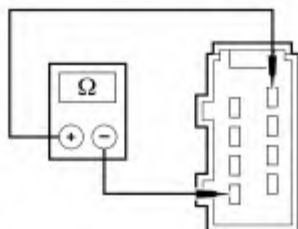
DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AG4 CHECK THE BACKREST TED RESISTANCE FOR AN INTERNAL SHORT

- Measure the resistance between backrest TED C3034 pins 2 and 7, component side.



N0092066

- Is the resistance greater than 10,000 ohms?

Yes
INSTALL a new DCSM.
REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section.
CLEAR the DTCs.
REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

	No INSTALL a new backrest TED. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
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Pinpoint Test AH: DTC B19A5

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the passenger seat cushion Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A5 (Passenger Seat Cushion Blower Speed Short to Ground) — If the passenger seat cushion blower speed circuit is shorted to ground, the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

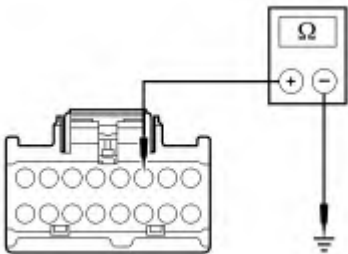
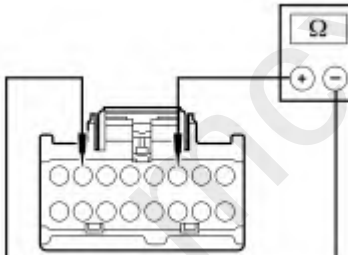
PINPOINT TEST AH: DTC B19A5

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AH1 CHECK THE CUSHION TED BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265C. • Disconnect: Cushion <u>TED</u> C3040. • Measure the resistance between <u>DCSM</u> C3265C-3, circuit VHS23 (BN/BU), harness side and ground.  N0083842 • Is the resistance greater than 10,000 ohms?	Yes GO to AH2. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AH2 CHECK THE CUSHION TED BLOWER SPEED CONTROL CIRCUIT AND BLOWER GROUND CIRCUIT FOR A SHORT TOGETHER • Measure the resistance between <u>DCSM</u> C3265C-3, circuit VHS23 (BN/BU), harness side and C3265C-7, circuit RHS08 (VT/WH), harness side.  N0083843 • Is the resistance greater than 10,000 ohms?	Yes INSTALL a new cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. If the DTC is retrieved again, INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test AI: DTC B19A6

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the passenger seat backrest Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A6 (Passenger Seat Back Blower Speed Short to Ground) — If the passenger seat backrest blower speed circuit is shorted to ground, the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

PINPOINT TEST AI: DTC B19A6

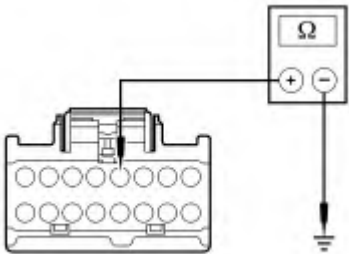
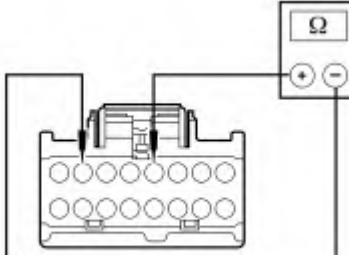
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AI1 CHECK THE BACKREST <u>TED</u> BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO GROUND	
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265C. • Disconnect: Backrest <u>TED</u> C3039. • Measure the resistance between <u>DCSM</u> C3265C-4, circuit VHS21 (BU/WH), harness side and ground.	Yes GO to AI2. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

 N0083844 Is the resistance greater than 10,000 ohms?	
A12 CHECK THE BACKREST <u>TED</u> BLOWER SPEED CONTROL CIRCUIT AND BLOWER GROUND CIRCUIT FOR A SHORT TOGETHER - Measure the resistance between <u>DCSM</u> C3265C-4, circuit VHS21 (BU/WH), harness side and C3265C-7, circuit RHS08 (VT/WH), harness side.  N0083845 - Is the resistance greater than 10,000 ohms?	Yes INSTALL a new backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. If the DTC is retrieved again, INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

Pinpoint Test AJ: DTC B19A7

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the driver seat cushion Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control

blower speed.

- DTC B19A7 (Driver Seat Cushion Blower Speed Short to Ground) — If the driver seat cushion blower speed circuit is shorted to ground, the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

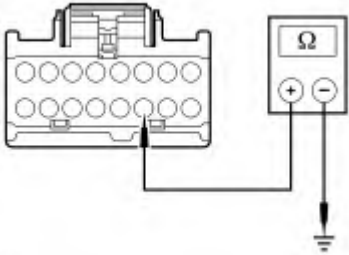
PINPOINT TEST AJ: DTC B19A7

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

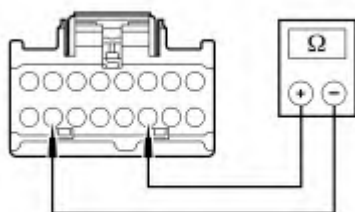
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AJ1 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265C. • Disconnect: Cushion <u>TED</u> C3035. • Measure the resistance between <u>DCSM</u> C3265C-11, circuit VHS18 (BN/GN), harness side and ground.  N0083846 • Is the resistance greater than 10,000 ohms?	Yes GO to AJ2. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AJ2 CHECK THE CUSHION <u>TED</u> BLOWER SPEED CONTROL CIRCUIT AND BLOWER GROUND CIRCUIT FOR	

A SHORT TOGETHER

- Measure the resistance between DCSM C3265C-11, circuit VHS18 (BN/GN), harness side and C3265C-15, circuit RHS03 (GY/OG), harness side.



N0083847

- Is the resistance greater than 10,000 ohms?

Yes

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the DTC is retrieved again, INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

Pinpoint Test AK: DTC B19A8

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to the driver seat backrest Thermo-Electric Device (TED). The DCSM also sends a speed control voltage signal to the TED to control blower speed.

- DTC B19A8 (Driver Seat Back Blower Speed Short to Ground) — If the driver seat backrest blower speed circuit is shorted to ground, the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- TED and blower assembly
- DCSM

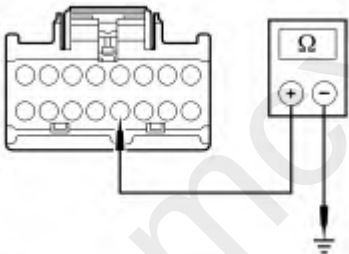
PINPOINT TEST AK: DTC B19A8

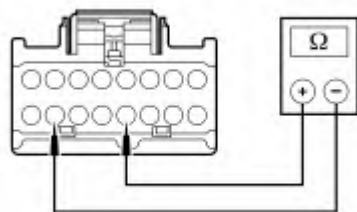
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AK1 CHECK THE BACKREST TED BLOWER SPEED CONTROL CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Driver Seat Side Air Bag Module C3051. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: <u>DCSM</u> C3265C. - Disconnect: Backrest <u>TED</u> C3034. - Measure the resistance between <u>DCSM</u> C3265C-12, circuit CHS09 (GY), harness side and ground.  N0063848 - Is the resistance greater than 10,000 ohms?	Yes GO to AK2. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AK2 CHECK THE BACKREST TED BLOWER SPEED CONTROL CIRCUIT AND BLOWER GROUND CIRCUIT FOR A SHORT TOGETHER Measure the resistance between <u>DCSM</u> C3265C-12, circuit VHS16 (BU/GN), harness side and C3265C-15, circuit RHS03 (GY/OG), harness side.	Yes INSTALL a new backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. If the DTC is retrieved again, INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR the DTCs. REPEAT the self-test.



N0083849

- Is the resistance greater than 10,000 ohms?

DISCONNECT the battery ground cable.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

REPAIR the circuits. CLEAR the DTCs. REPEAT the self-test.

CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

Pinpoint Test AL: DTCs B1317, B1318 and B2486

Refer to Wiring Diagrams Cell [123](#), Memory Seats for schematic and connector information.

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation — Driver Seat Module (DSM)

The Driver Seat Module (DSM) continuously monitors the input voltage for correct operation. If the DSM detects input voltage below 10 volts, it stores DTC B1318 in memory. If the DSM detects input voltage above 15 volts, it stores DTC B1317 in memory. If DTC B1317 or B1318 is set, the DSM disables the memory system outputs for the driver seat and memory mirror operation.

Normal Operation — Dual Climate Controlled Seat Module (DCSM)

The Dual Climate Controlled Seat Module (DCSM) monitors the input voltage for correct operation. If the DCSM detects input voltage below 10 volts or above 15 volts, it stores DTC B2486 in memory. If DTC B2486 sets, the DCSM enters a standby mode and suspends the system outputs for the operation of both seats until system voltage between 10 and 15 volts is restored and a climate controlled seat switch button is selected on.

- DTC B1317 (Battery Voltage High) — If the DSM detects voltage above 15 volts, the DTC is set.
- DTC B1318 (Battery Voltage Low) — If the DSM detects voltage below 10 volts, the DTC is set.
- DTC B2486 (Climate Control Seat Module Voltage Out of Range) — If the DCSM detects voltage below 10 volts or greater than 15 volts, the DTC is set.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- DSM
- DCSM

PINPOINT TEST AL: DTCs B1317, B1318 AND B2486

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: DTC 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.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

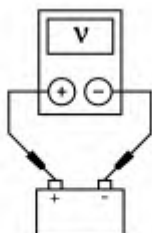
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AL1 RETRIEVE ALL <u>CMDTCs</u> IN ALL MODULES	
- Ignition ON. - Enter the following diagnostic mode on the scan tool: Self Test — ALL <u>CMDTCs</u>. - Is DTC B1317, B1318, B2486, B1676, U3003:16 or U3003:17 present in one or more modules and are any charging system DTCs present in the PCM?	Yes REFER to Section 414-00 to diagnose the charging system. No GO to AL2.
AL2 CHECK THE BATTERY CONDITION	
NOTE: DTC B1317, B1318, B2486, B1676, U3003:16 or U3003:17 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 414-01. - Did the battery pass the condition test?	Yes If the battery passed the condition test but required a recharge, REFER to Section 414-00 to diagnose the charging system. CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCs). TEST the system for normal operation. If the battery passed the condition test and did not require a recharge, GO to AL3. No INSTALL a new battery. CLEAR all <u>CMDTCs</u>. TEST the system for normal operation.
AL3 CHECK THE 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	Yes For <u>DSM</u> DTC B1317 or

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.

- Start the engine.
- Measure the voltage of the battery with and without a load on the charging system as follows:
 - Turn off all accessories and run the engine at 1,500 rpm for a minimum of 2 minutes while measuring the battery voltage.
 - Turn on the headlights and HVAC blower on high and run engine at 1,500 rpm for a minimum of 2 minutes while measuring the battery voltage.



AJ0210-A

- Are the voltages between 13 and 15.2 volts?

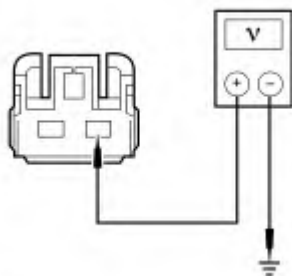
B1318, GO to [AL4](#).

For DCSM DTC B2486, GO to [AL7](#).

No
REFER to [Section 414-00](#) to diagnose the charging system. CLEAR all CMDTCs. TEST the system for normal operation.

AL4 CHECK FOR VOLTAGE TO THE DSM

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: DSM C341A and C341B.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DSM C341A-1, circuit CBX05 (VT/RD), harness side and ground.



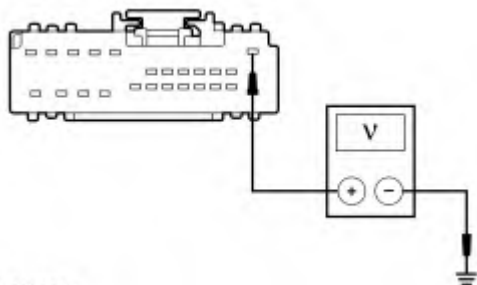
N0067979

- Measure the voltage between DSM C341B-1, circuit CBX03 (BU/RD), harness side and ground.

Yes
GO to [AL5](#).

No
VERIFY the Battery Junction Box (BJB) fuse 74 (30A) and Body Control Module (BCM) 7 (7.5A) are OK. If OK, REPAIR the circuit in question. If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short. CLEAR all CMDTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to [Section 501-20B](#).

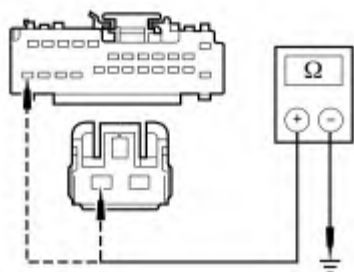


N0026544

- Are the voltages greater than 10 volts?

AL5 CHECK THE DSM GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:
 - DSM C341A-2, circuit GD906 (BK/GY), harness side and ground.
 - DSM C341B-24, circuit GD905 (BK/GN), harness side and ground.



N0067980

- Repeat this measurement while wiggling the harness.
- Are the resistances less than 5 ohms?

Yes

GO to [AL6](#).

No

REPAIR the circuit(s). CLEAR all CMDTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to [Section 501-20B](#).

AL6 CHECK FOR CORRECT DSM OPERATION

- Check the harness and component side connectors for the following:
 - corrosion.
 - damaged pins.
 - pushed-out pins.
- Connect: DSM C341A and C341B.
- Make sure the DSM connectors are seated correctly.
- Operate the memory seat, mirrors and pedals to verify correct memory system operation.
- Enter the following diagnostic mode on the scan tool: Self Test — DSM.
- Is DTC B1317 or B1318 still present?

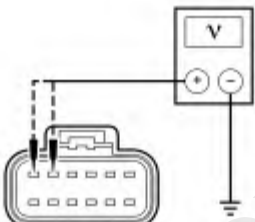
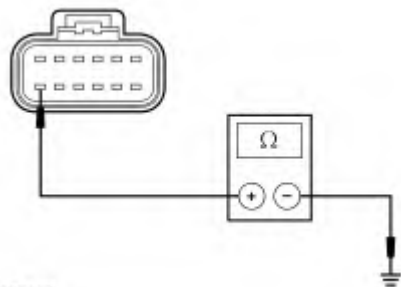
Yes

INSTALL a new DSM. REFER to [Driver Seat Module \(DSM\)](#) in this section. CLEAR all CMDTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the SRS. REFER to [Section 501-20B](#).

No

The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR all CMDTCs. REPEAT the self-test.

	DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051. REPOWER the <u>SRS</u> . REFER to Section 501-20B .
AL7 CHECK FOR VOLTAGE TO THE <u>DCSM</u> - Ignition OFF. - Depower the <u>SRS</u>. Refer to Section 501-20B. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: <u>DCSM</u> C3265A.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. - Ignition ON. - Measure the voltage between: <u>DCSM</u> C3265A-E, circuit CBX01 (GN/RD), harness side and ground. <u>DCSM</u> C3265A-F, circuit CBX01 (GN/RD), harness side and ground.  N0042997 - Are the voltages greater than 10 volts?	Yes GO to AL8. No VERIFY the <u>BJB</u> fuse 69 (30A) is OK. If OK, REPAIR the circuit in question. If not OK, REFER to the Wiring Diagrams manual to identify possible causes of the circuit short. CLEAR all <u>CMDTCs</u>. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AL8 CHECK THE <u>DCSM</u> GROUND CIRCUIT FOR AN OPEN - Ignition OFF. - Measure the resistance between <u>DCSM</u> C3265A-M, circuit GD903 (BK/WH), harness side and ground.  N0057120 - Repeat this measurement while wiggling the harness. - Is the resistance less than 5 ohms?	Yes GO to AL9. No REPAIR the circuit. CLEAR all <u>CMDTCs</u>. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AL9 CHECK FOR CORRECT <u>DCSM</u> OPERATION	

• Check the harness and component side connectors for the following: ■ corrosion. ■ damaged pins. ■ pushed-out pins. • Connect: <u>DCSM</u> C3265A . • Make sure the <u>DCSM</u> connector is seated correctly. • Start the engine. • Operate the climate controlled seats and verify system operation. • Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. • Is DTC B2486 still present?	Yes INSTALL a new <u>DCSM</u>. REFER to Dual Climate Controlled Seat Module (DCSM) in this section. CLEAR all <u>CMDTCs</u>. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR all <u>CMDTCs</u>. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
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Pinpoint Test AM: DTC B2729

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) monitors seat cushion temperature while it supplies voltage and ground to both blower motors. The DCSM also supplies a variable voltage signal to control the blower speed. Cabin air enters the blower through a filter attached to the Thermo-Electric Device (TED) housing. Heated or cooled air exits the TED and flows through a manifold attached to the foam pad.

- DTC B2729 (Cushion Over-Temp Detected) — If the driver seat cushion TED temperature exceeds 85°C (185°F) in heat mode or 70°C (158°F) in cool mode for more than 34 seconds the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

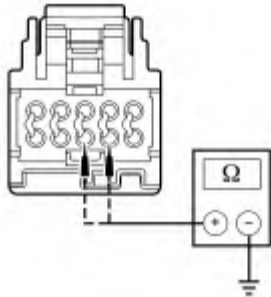
- Wiring, terminals or connectors
- Restricted cushion TED filter
- Crushed or restricted climate controlled seat manifold
- Cushion TED assembly

PINPOINT TEST AM: DTC B2729

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

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

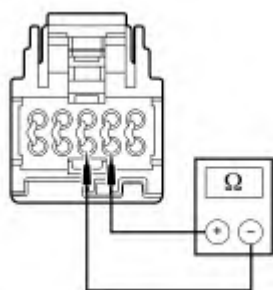
NOTE: The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

Test Step	Result / Action to Take
AM1 CHECK THE <u>DCSM</u> FOR ON-DEMAND DTCs	
- Start the vehicle and set the driver seat to HIGH heat. - Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. - Was DTC B2729 retrieved on-demand during the self-test?	Yes GO to AM2. No GO to AM5.
AM2 CHECK THE DRIVER SEAT CUSHION <u>TED</u> THERMISTOR CIRCUITS FOR A SHORT TO GROUND	
- Ignition OFF. - Depower the <u>SRS</u>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of Section 501-20B. - Disconnect: Driver Seat Side Air Bag C3051 and Passenger Seat Side Air Bag C339. - Disconnect: <u>DCSM</u> C3265B. - Disconnect: Driver Seat Cushion <u>TED</u> C3035.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between: <u>DCSM</u> C3265B-7, circuit VHS26 (VT), harness side and ground. <u>DCSM</u> C3265B-8, circuit RHS05 (YE/VT), harness side and ground.	Yes GO to AM3. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
 N0042889 Are the resistances greater than 10,000 ohms?	
AM3 CHECK THE DRIVER SEAT CUSHION <u>TED</u> THERMISTOR	

AND WIRING

- Connect: Driver Seat Cushion TED C3035 .
- Measure the resistance between DCSM C3265B-7, circuit VHS26 (VT), harness side and DCSM C3265B-8, circuit RHS05 (YE/VT), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



- Is the resistance within the limits indicated?

YesGO to [AM18](#).**No**GO to [AM4](#).**AM4 CHECK THE DRIVER SEAT CUSHION TED THERMISTOR**

- Disconnect: Driver Seat Cushion TED C3035 .
- Measure the resistance between driver seat cushion TED C3035 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms

Yes

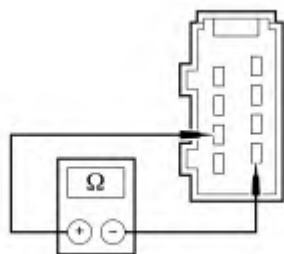
REPAIR circuit VHS26 (VT) or RHS05 (YE/VT) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

INSTALL a new driver seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.



N0053767

- Is the resistance within the limits indicated?

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AM5 CONFIRM THE FAULT WHILE MONITORING THE DCSM SEAT BACK THERMAL ELECTRIC DEVICE TEMPERATURE (BK_TEMP) AND SEAT CUSHION THERMAL ELECTRIC DEVICE TEMPERATURE (CSHTEMP) PIDs

- Set the driver seat to OFF.
- Enter the following diagnostic mode on the scan tool: Clear DTCs - DCSM.
- Enter the following diagnostic mode on the scan tool: DataLogger - DCSM.
- Monitor the DCSM PIDs BK_TEMP and CSHTEMP.
- **NOTE:** A crushed seat cushion foam pad or a crushed climate controlled seat manifold may be the cause of the fault making it necessary to occupy the seat to recreate and identify the fault.
- Attempt to recreate the fault. Start the vehicle and set the driver seat to HIGH heat for at least 15 minutes while occupying the seat.
- **Do the PIDs increase incrementally (gradually) and stay within 15°C (27°F) of each other?**

Yes

The fault is not present at this time. The fault may have been set due to a past failure, incorrect use of the climate controlled seat system by repeated switching between heat and cool modes or due to excessive passenger compartment temperature. CLEAR the DTCs. REPEAT the self-test.

No

If the CSHTEMP PID increases incrementally and is greater than 15°C (27°F) of the BK_TEMP PID, GO to [AM6](#).

If the CSHTEMP PID increases quickly (temperature "jumps" and does not increase incrementally) and is greater than 15°C (27°F) of the BK_TEMP PID, GO to [AM16](#).

AM6 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS

- With the engine running, set both front seats to HIGH cool.
- Note the airflow exhausting from the driver seat cushion TED and compare it to the airflow exhausting from the passenger seat cushion TED.
- Carry out a wiggle test of the wire harnesses between the DCSM and the driver seat cushion TED while monitoring blower operation of the TED. The blower should operate consistently and not change speeds.
- **Is the airflow exhausting from the driver seat cushion TED comparable to the airflow exhausting from the passenger seat cushion TED with no change in operation when carrying out the wiggle test?**

Yes

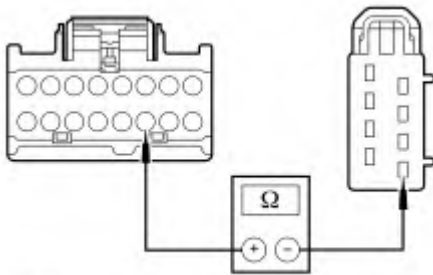
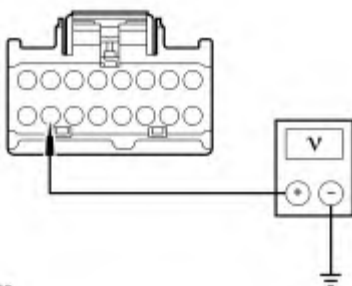
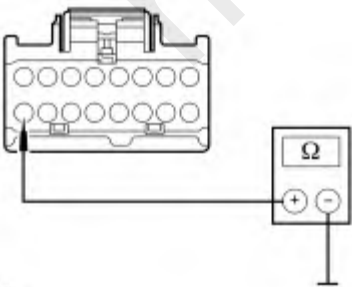
GO to [AM7](#).

No

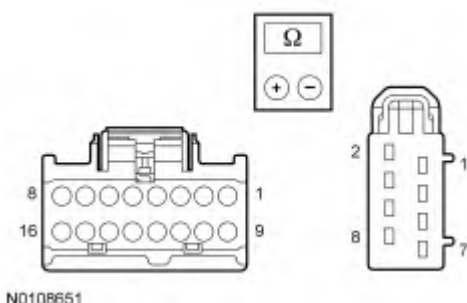
If the airflow exhausting from the driver seat cushion TED is not comparable to the airflow exhausting from the passenger seat cushion TED, GO to [AM8](#).

If the driver seat cushion TED

	blower operation changed while carrying out the wiggle test, IDENTIFY and REPAIR the wiring fault. CLEAR the DTCs. REPEAT the self-test.
AM7 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS WHILE OCCUPIED	
- Note the airflow exhausting from the driver seat cushion <u>TED</u> with the driver seat occupied and compare it to the airflow exhausting from the passenger seat cushion <u>TED</u> with the passenger seat occupied. Is the airflow exhausting from the driver seat cushion <u>TED</u> comparable to the airflow exhausting from the passenger seat cushion <u>TED</u> ?	Yes GO to AM16 . No INSTALL a new driver seat cushion foam pad and/or climate controlled seat manifold. CLEAR the DTCs. REPEAT the self-test.
AM8 CHECK THE DRIVER SEAT CUSHION BLOWER FOR AN OBSTRUCTION OR RESTRICTED FILTER	
- Ignition OFF. - Inspect the blower of the driver seat cushion <u>TED</u> assembly for an obstruction or for a restricted filter. Is the blower obstructed or the filter restricted?	Yes REMOVE the obstruction or INSTALL a new filter. CLEAR the DTCs. REPEAT the self-test. No GO to AM9 .
AM9 CHECK THE DRIVER SEAT CUSHION BLOWER SPEED CONTROL CIRCUIT FOR AN OPEN	
- Depower the <u>SRS</u> . Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of Section 501-20B . - Disconnect: Driver Seat Side Air Bag C3051 and Passenger Seat Side Air Bag C339 . - Disconnect: <u>DCSM</u> C3265C . - Disconnect: Driver Seat Cushion <u>TED</u> C3035 .  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between <u>DCSM</u> C3265C-11, circuit VHS18 (BN/GN), harness side and driver seat cushion <u>TED</u> C3035-7, circuit VHS18 (BN/GN), harness side.	Yes GO to AM10 . No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u> . REFER to Section 501-20B .

 N0058092 • Is the resistance less than 5 ohms?	
AM10 CHECK THE DRIVER SEAT CUSHION BLOWER CIRCUIT FOR A SHORT TO VOLTAGE • Ignition ON. • Measure the voltage between <u>DCSM</u> C3265C-15, circuit RHS03 (GY/OG), harness side and ground.  N0044853 • Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AM11.
AM11 CHECK THE DRIVER SEAT CUSHION BLOWER CIRCUIT FOR A SHORT TO GROUND • Ignition OFF. • Measure the resistance between <u>DCSM</u> C3265C-16, circuit CHS03 (GN/BN), harness side and ground.  N0044845 • Is the resistance greater than 10,000 ohms?	Yes GO to AM12. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AM12 CHECK THE DRIVER SEAT CUSHION BLOWER CIRCUITS FOR AN OPEN • Measure the resistance between: ▪ <u>DCSM</u> C3265C-16, circuit CHS03 (GN/BN), harness side and driver seat cushion <u>TED</u> C3035-2, circuit CHS03 (GN/BN), harness side.	Yes GO to AM13. No

- DCSM C3265C-15, circuit RHS03 (GY/OG), harness side and driver seat cushion TED C3035-4, circuit RHS03 (GY/OG), harness side.



N0108651

- Are the resistances less than 5 ohms?

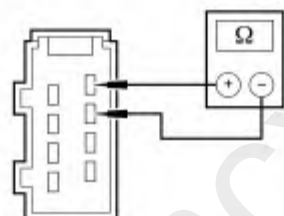
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AM13 CHECK THE DRIVER SEAT CUSHION BLOWER RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between driver seat cushion TED C3035 pin 2 and pin 4, component side.



N0053768

- Is the resistance between 4,000 ohms and 10,000 ohms?

Yes
GO to [AM14](#).

No
INSTALL a new driver seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

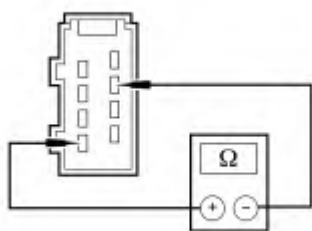
AM14 CHECK THE DRIVER SEAT CUSHION BLOWER SPEED CONTROL RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between driver seat cushion TED C3035 pin 7 and pin 4, component side.

Yes
GO to [AM15](#).

No
INSTALL a new driver seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag



N0054028

- Is the resistance between 240K ohms and 400K ohms?

module C339.

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

AM15 CHECK THE DRIVER SEAT CUSHION TED INSTALLATION AND FOR CRUSHED SEAT CUSHION

- Ignition OFF.
- Remove the driver seat. Refer to [Seat — Front](#) in this section.
- Remove the driver seat cushion cover. Refer to [Seat Cushion Cover — Front](#) in this section.
- Inspect the driver seat cushion for the following:
 - Is the driver seat cushion TED correctly installed?
 - Is the driver seat cushion seat cushion foam pad crushed or restricted?
 - Is the driver seat cushion climate controlled seat manifold crushed or restricted?
- Is the driver seat cushion TED correctly installed and are there no signs of damage to the foam pad and manifold?

Yes

INSTALL the driver seat cushion cover and seat and GO to [AM18](#).

No

CORRECTLY install the driver seat cushion TED or INSTALL a new driver seat cushion foam pad and/or climate controlled seat manifold. CONNECT the battery ground cable. REFER to [Section 414-01](#). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AM16 CHECK THE DRIVER SEAT CUSHION TED THERMISTOR AND WIRING

- 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 C3051 and Passenger Seat Side Air Bag C339.
- Disconnect: DCSM C3265B.
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between DCSM C3265B-7, circuit

Yes

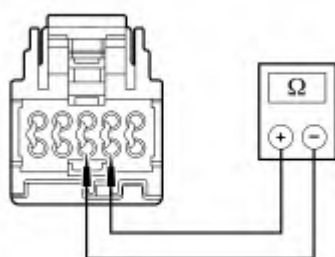
GO to [AM18](#).

No

GO to [AM17](#).

VHS26 (VT), harness side and C3265B-8 circuit RHS05 (YE/VT), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



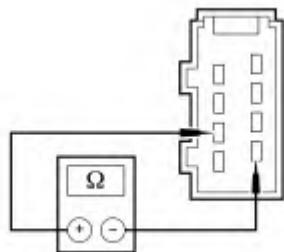
N0100803

- Is the resistance within the limits indicated?

AM17 CHECK THE DRIVER SEAT CUSHION TED THERMISTOR

- Measure the resistance between driver seat cushion TED C3035 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0053767

- Is the resistance within the limits indicated?

Yes

REPAIR circuit VHS26 (VT) or RHS05 (YE/VT) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

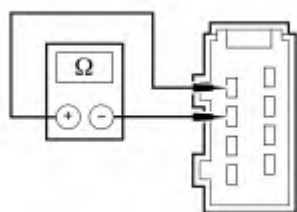
REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag

	module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AM18 CHECK THE DRIVER SEAT CUSHION <u>TED</u> HEATING/COOLING CIRCUITRY CURRENT DRAW - Connect: All <u>DCSM</u>, <u>TED</u> and body harness-to-seat harness connectors . NOTICE: It may be necessary to open the seat wire harness conduit to allow placing the inductive current probe around the circuit as described in the following step. Care must be taken when opening up the wire harness so as not to damage any wiring or connectors. Do not damage any wiring or induce stress on any wiring or connectors. Close up the wire harness once repairs to the seat are complete. NOTE: Use a commercially available inductive current probe (such as Electronic Specialties Current Probe/Multimeter 685 or a Fluke I410 [used with a digital multimeter]) or the low current probe from the Vehicle Measurement Module available for use with Integrated Diagnostic System (IDS). If these are unavailable, the inductive current probe feature from a battery tester may be substituted. - Place an inductive current probe around circuit CHS02 (YE/BU) near <u>DCSM</u> C3265A-G and monitor the current draw. - Start the vehicle and set the driver seat to HIGH heat. - Is the current draw less than 11 amps?	Yes GO to AM19. No INSTALL a new driver seat cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AM19 CHECK RESISTANCE OF THE DRIVER SEAT CUSHION <u>TED</u> AND WIRING - Ignition OFF. - Disconnect: <u>DCSM</u> C3265A . - Measure the resistance between <u>DCSM</u> C3265A-G circuit CHS02 (YE/BU), harness side and C3265A-H, circuit RHS02 (BU/OG), harness side. N0042194 - Is the resistance between 0.9 and 10 ohms?	Yes GO to AM21. No GO to AM20.
AM20 CHECK THE RESISTANCE OF THE DRIVER SEAT CUSHION <u>TED</u> - Disconnect: Driver Seat Cushion <u>TED</u> C3035 . - Measure the resistance between driver seat cushion <u>TED</u> C3035 pin 1 and pin 3, component side.	Yes REPAIR circuit CHS02 (YE/BU) or RHS02 (BU/OG) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery



N0053765

- Is the resistance between 0.9 and 10 ohms?

ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

INSTALL a new driver seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AM21 CHECK FOR CORRECT DCSM OPERATION

- Inspect the DCSM and driver seat cushion TED harness and component side connectors and the body harness-to-seat harness connectors for:
 - corrosion
 - damaged pins
 - pushed-out pins
- Connect: All DCSM, TED and Body Harness-to-Seat Harness Connectors.
- Make sure the connectors are seated correctly.
- Start the engine.
- Set the driver seat to OFF.
- Enter the following diagnostic mode on the scan tool: Clear DTCs - DCSM.
- Attempt to recreate the fault. With the engine still running set the driver seat to HIGH heat for at least 15 minutes.
- Is the concern still present?

Yes

INSTALL a new DCSM.
REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. REPEAT the self-test. TEST the system for normal operation.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag

module C339.

REPOWER the <u>SRS</u> . REFER to Section 501-20B .
--

Pinpoint Test AN: DTC B272A

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) monitors seat cushion temperature while it supplies voltage and ground to both blower motors. The DCSM also supplies a variable voltage signal to control the blower speed. Cabin air enters the blower through a filter attached to the Thermo-Electric Device (TED) housing. Heated or cooled air exits the TED and flows through a manifold attached to the foam pad.

- DTC B272A (Passenger Cushion Over-Temp Detected) — If the passenger seat cushion TED temperature exceeds 85°C (185°F) in heat mode or 70°C (158°F) in cool mode for more than 34 seconds the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Restricted cushion TED filter
- Crushed or restricted climate controlled seat manifold
- Cushion TED assembly

PINPOINT TEST AN: DTC B272A

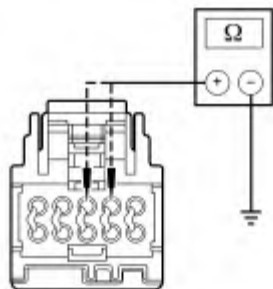
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition 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
AN1 CHECK THE <u>DCSM</u> FOR ON-DEMAND DTCs	
• Start the vehicle and set the passenger seat to HIGH heat. • Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. • Was DTC B272A retrieved on-demand during the self-test?	Yes GO to AN2. No GO to AN5.
AN2 CHECK THE PASSENGER SEAT CUSHION <u>TED</u> THERMISTOR CIRCUITS FOR A SHORT TO GROUND	

- 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 C339.
- Disconnect: DCSM C3265B.
- Disconnect: Passenger Seat Cushion TED C3040.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between:
 - DCSM C3265B-2, circuit VHS27 (WH/OG), harness side and ground.
 - DCSM C3265B-3, circuit RHS10 (BU/OG), harness side and ground.



N0042894

- Are the resistances greater than 10,000 ohms?

YesGO to [AN3](#).**No**

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

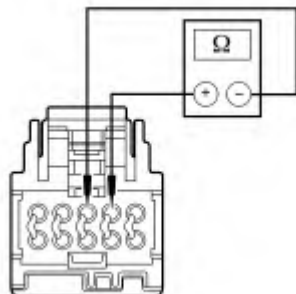
REPOWER the SRS. REFER to [Section 501-20B](#).**AN3 CHECK THE PASSENGER SEAT CUSHION TED THERMISTOR AND WIRING**

- Connect: Passenger Seat Cushion TED C3040.
- Measure the resistance between DCSM C3265B-2, circuit VHS27 (WH/OG), harness side and DCSM C3265B-3, circuit RHS10 (BU/OG), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms

YesGO to [AN18](#).**No**GO to [AN4](#).

N0042985



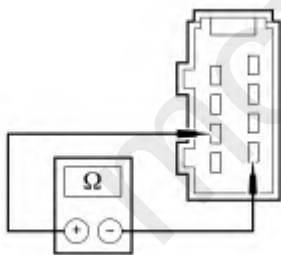
- Is the resistance within the limits indicated?

AN4 CHECK THE PASSENGER SEAT CUSHION TED THERMISTOR

- Disconnect: Passenger Seat Cushion TED C3040 .
- Measure the resistance between passenger seat cushion TED C3040 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms

N0053767



- Is the resistance within the limits indicated?

Yes

REPAIR circuit VHS27 (WH/OG) or RHS10 (BU/OG) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

No

INSTALL a new passenger seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

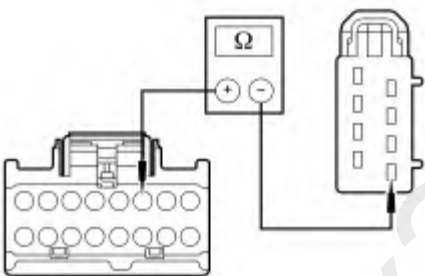
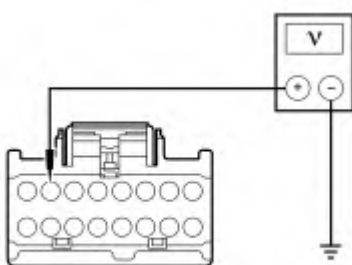
AN5 CONFIRM THE FAULT WHILE MONITORING THE DCSM SEAT BACK THERMAL ELECTRIC DEVICE TEMPERATURE (PBKTEMP) AND SEAT CUSHION THERMAL ELECTRIC DEVICE TEMPERATURE (PCSHTEMP) PIDs

- Set the passenger seat to OFF.
- Enter the following diagnostic mode on the scan tool: Clear DTCs - DCSM.
- Enter the following diagnostic mode on the scan tool: DataLogger - DCSM.
- Monitor the DCSM PIDs PBKTEMP and PCSHTEMP.
- **NOTE:** A crushed seat cushion foam pad or a crushed climate controlled seat manifold may be the cause of the fault making it necessary to occupy the seat to recreate and identify the fault.

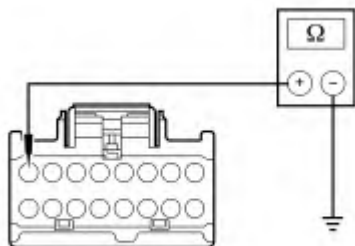
Yes

The fault is not present at this time. The fault may have been set due to a past failure, incorrect use of the climate controlled seat system by repeated switching between heat and cool modes or due to excessive passenger

• Attempt to recreate the fault. Start the vehicle and set the passenger seat to HIGH heat for at least 15 minutes while occupying the seat. • Do the PIDs increase incrementally (gradually) and stay within 15°C (27°F) of each other?	compartment temperature. CLEAR the DTCs. REPEAT the self-test. No If the PCSHTEMP PID increases incrementally and is greater than 15°C (27°F) of the PBKTEMP PID, GO to AN6. If the PCSHTEMP PID increases quickly (temperature "jumps" and does not increase incrementally) and is greater than 15°C (27°F) of the PBKTEMP PID, GO to AN16.
AN6 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS	Yes GO to AN7. No If the airflow exhausting from the passenger seat cushion <u>TED</u> is not comparable to the airflow exhausting from the driver seat cushion <u>TED</u>, GO to AN8. If the passenger seat cushion <u>TED</u> blower operation changed while carrying out the wiggle test, IDENTIFY and REPAIR the wiring fault. CLEAR the DTCs. REPEAT the self-test.
AN7 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS WHILE OCCUPIED	Yes GO to AN16. No INSTALL a new passenger seat cushion foam pad and/or climate controlled seat manifold. CLEAR the DTCs. REPEAT the self-test.
AN8 CHECK THE PASSENGER SEAT CUSHION BLOWER FOR AN OBSTRUCTION OR RESTRICTED FILTER	Yes REMOVE the obstruction or INSTALL a new filter. CLEAR the DTCs. REPEAT the self-test.
• Ignition OFF. • Inspect the blower of the passenger seat cushion <u>TED</u> assembly for an obstruction or for a restricted filter. • Is the blower obstructed or the filter restricted?	

	No GO to AN9.
AN9 CHECK THE PASSENGER SEAT CUSHION BLOWER SPEED CONTROL CIRCUIT FOR AN OPEN - Depower the <u>SRS</u>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of Section 501-20B. - Disconnect: Passenger Seat Side Air Bag C339. - Disconnect: DCSM C3265C. - Disconnect: Passenger Seat Cushion <u>TED</u> C3040.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between <u>DCSM</u> C3265C-3, circuit VHS23 (BN/BU), harness side and passenger seat cushion <u>TED</u> C3040-7, circuit VHS23 (BN/BU), harness side.  N0058093 - Is the resistance less than 5 ohms?	Yes GO to AN10. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AN10 CHECK THE PASSENGER SEAT CUSHION BLOWER CIRCUIT FOR A SHORT TO VOLTAGE - Ignition ON. - Measure the voltage between <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH), harness side and ground.  N0044855 - Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AN11.
AN11 CHECK THE PASSENGER SEAT CUSHION BLOWER CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between <u>DCSM</u> C3265C-8, circuit	Yes GO to AN12.

CHS08 (BN/YE), harness side and ground.



N0044848

- Is the resistance greater than 10,000 ohms?

No

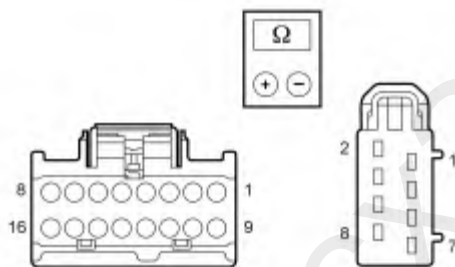
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AN12 CHECK THE PASSENGER SEAT CUSHION BLOWER CIRCUITS FOR AN OPEN

- Measure the resistance between:
 - DCSM C3265C-8, circuit CHS08 (BN/YE), harness side and passenger seat cushion TED C3040-2, circuit CHS08 (BN/YE), harness side.
 - DCSM C3265C-7, circuit RHS08 (VT/WH), harness side and passenger seat cushion TED C3040-4, circuit RHS08 (VT/WH), harness side.



N0108651

- Are the resistances less than 5 ohms?

Yes

GO to [AN13](#).

No

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AN13 CHECK THE PASSENGER SEAT CUSHION BLOWER RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between passenger seat cushion TED C3040 pin 2 and pin 4, component side.

Yes

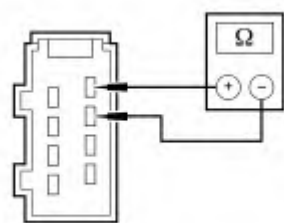
GO to [AN14](#).

No

INSTALL a new passenger seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

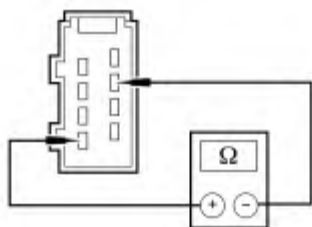


N0053768

- Is the resistance between 4,000 ohms and 10,000 ohms?

AN14 CHECK THE PASSENGER SEAT CUSHION BLOWER SPEED CONTROL RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between passenger seat cushion TED C3040 pin 7 and pin 4, component side.



N0054028

- Is the resistance between 240K ohms and 400K ohms?

AN15 CHECK THE PASSENGER SEAT CUSHION TED INSTALLATION AND FOR CRUSHED SEAT CUSHION

- Ignition OFF.
- Remove the passenger seat. Refer to [Seat — Front](#) in this section.
- Remove the passenger seat cushion cover. Refer to [Seat Cushion Cover — Front](#) in this section.
- Inspect the passenger seat cushion for the following:
 - Is the passenger seat cushion TED correctly installed?
 - Is the passenger seat cushion seat cushion foam pad crushed or restricted?
 - Is the passenger seat cushion climate controlled seat manifold crushed or restricted?
- Is the passenger seat cushion TED correctly installed and are there no signs of damage to the foam pad and manifold?

Yes

GO to [AN15](#).

No

INSTALL a new passenger seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

Yes

INSTALL the passenger seat cushion cover and seat and GO to [AN18](#).

No

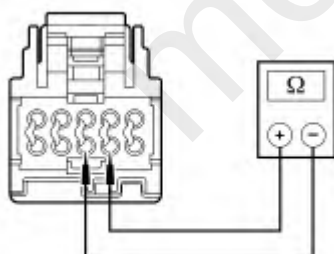
CORRECTLY install the passenger seat cushion TED or INSTALL a new passenger seat cushion foam pad and/or climate controlled seat manifold. CONNECT the battery ground cable. REFER to [Section 414-01](#). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

AN16 CHECK THE PASSENGER SEAT CUSHION TED THERMISTOR AND WIRING

- 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 C339.
- Disconnect: DCSM C3265B.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between DCSM C3265B-2, circuit VHS27 (WH/OG), harness side and C3265B-3 circuit RHS10 (BU/OG), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0100803

- Is the resistance within the limits indicated?

AN17 CHECK THE PASSENGER SEAT CUSHION TED THERMISTOR

- Measure the resistance between passenger seat cushion TED C3040 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms

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

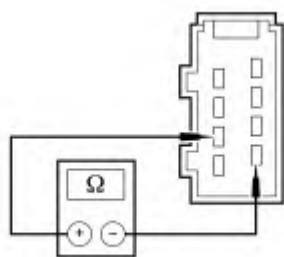
Yes
GO to [AN18](#).

No
GO to [AN17](#).

Yes
REPAIR circuit VHS27 (WH/OG) or RHS10 (BU/OG) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery

10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0053767

- Is the resistance within the limits indicated?

ground cable. CONNECT passenger seat side air bag module C339.

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

No
INSTALL a new TED.
REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AN18 CHECK THE PASSENGER SEAT CUSHION TED HEATING/COOLING CIRCUITRY CURRENT DRAW

- Connect: All DCSM, TED and Body Harness-to-Seat Harness Connectors.
- **NOTICE:** It may be necessary to open the seat wire harness conduit to allow placing the inductive current probe around the circuit as described in the following step. Care must be taken when opening up the wire harness so as not to damage any wiring or connectors. Do not damage any wiring or induce stress on any wiring or connectors. Close up the wire harness once repairs to the seat are complete.
- **NOTE:** Use a commercially available inductive current probe (such as Electronic Specialties Current Probe/Multimeter 685 or a Fluke I410 [used with a digital multimeter]) or the low current probe from the Vehicle Measurement Module available for use with Integrated Diagnostic System (IDS). If these are unavailable, the inductive current probe feature from a battery tester may be substituted.
- Place an inductive current probe around circuit CHS07 (GY/BU) near DCSM C3265A-A and monitor the current draw.
- Start the vehicle and set the passenger seat to HIGH heat.
- Is the current draw less than 11 amps?

Yes
GO to [AN19](#).

No
INSTALL a new passenger seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

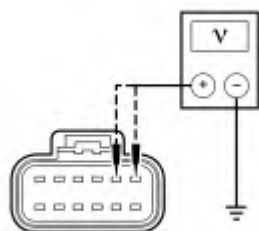
REPOWER the SRS.
REFER to [Section 501-20B](#).

AN19 CHECK RESISTANCE OF THE PASSENGER SEAT CUSHION TED AND WIRING

- Ignition OFF.
- Disconnect: DCSM C3265A.
- Measure the resistance between DCSM C3265A-A circuit CHS07 (GY/BU), harness side and C3265A-B, circuit RHS07 (BU), harness side.

Yes
GO to [AN21](#).

No
GO to [AN20](#).

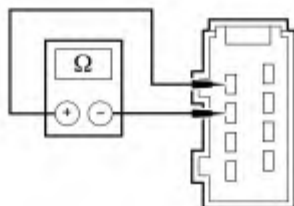


N0042885

- Is the resistance between 0.9 and 10 ohms?

AN20 CHECK THE RESISTANCE OF THE PASSENGER SEAT CUSHION TED

- Disconnect: Passenger Seat Cushion TED C3040 .
- Measure the resistance between passenger seat cushion TED C3040 pin 1 and pin 3, component side.



N0053766

- Is the resistance between 0.9 and 10 ohms?

Yes

REPAIR circuit CHS07 (GY/BU) or RHS07 (BU) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

No

INSTALL a new passenger seat cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AN21 CHECK FOR CORRECT DCSM OPERATION

- Inspect the DCSM and passenger seat cushion TED harness and component side connectors and the body harness-to-seat harness connectors for:
 - corrosion
 - damaged pins
 - pushed-out pins
- Connect: All DCSM, TED and Body Harness-to-Seat Harness Connectors .
- Make sure the connectors are seated correctly.
- Start the engine.
- Set the passenger seat to OFF.
- Enter the following diagnostic mode on the scan tool: Clear

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. REPEAT the self-test. TEST the system for normal operation.

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

DTCs - <u>DCSM</u>. • Attempt to recreate the fault. With the engine still running set the passenger seat to HIGH heat for at least 15 minutes. • Is the concern still present?	module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
--	--

Pinpoint Test AO: DTC B272B

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) monitors seat backrest temperature while it supplies voltage and ground to both blower motors. The DCSM also supplies a variable voltage signal to control the blower speed. Cabin air enters the blower through a filter attached to the Thermo-Electric Device (TED) housing. Heated or cooled air exits the TED and flows through a manifold attached to the foam pad.

- DTC B272B (Passenger Back Over-Temp Detected) — If the passenger seat backrest TED temperature exceeds 85°C (185°F) in heat mode or 70°C (158°F) in cool mode for more than 34 seconds the DCSM shuts down the passenger seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

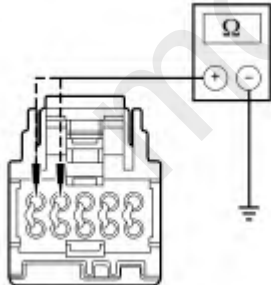
- Wiring, terminals or connectors
- Restricted backrest TED filter
- Crushed or restricted climate controlled seat manifold
- Backrest TED assembly

PINPOINT TEST AO: DTC B272B

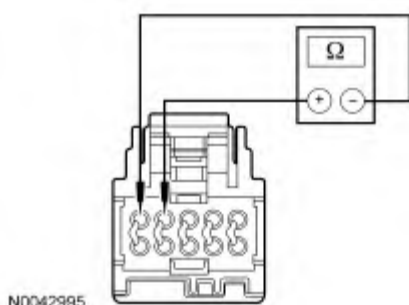
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition 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				
AO1 CHECK THE DCSM FOR ON-DEMAND DTCs - Start the vehicle and set the passenger seat to HIGH heat. - Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. - Was DTC B272B retrieved on-demand during the self-test?	Yes GO to AO2. No GO to AO5.				
AO2 CHECK THE PASSENGER SEAT BACKREST TED THERMISTOR CIRCUITS FOR A SHORT TO GROUND - Ignition OFF. - Depower the <u>SRS</u>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of Section 501-20B. - Disconnect: Passenger Seat Side Air Bag C339. - Disconnect: <u>DCSM</u> C3265B. - Disconnect: Passenger Seat Backrest <u>TED</u> C3039.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between: <u>DCSM</u> C3265B-4, circuit VHS36 (YE/BU), harness side and ground. <u>DCSM</u> C3265B-5, circuit RHS20 (GN/BU), harness side and ground.  N0042899 - Are the resistances greater than 10,000 ohms?	Yes GO to AO3. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.				
AO3 CHECK THE PASSENGER SEAT BACKREST TED THERMISTOR AND WIRING - Connect: Passenger Seat Backrest <u>TED</u> C3039. - Measure the resistance between <u>DCSM</u> C3265B-4, circuit VHS36 (YE/BU), harness side and <u>DCSM</u> C3265B-5, circuit RHS20 (GN/BU), harness side. Note the ambient temperature and refer to the following table. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Temperature</th><th>Resistance</th></tr> </thead> <tbody> <tr> <td> </td><td> </td></tr> </tbody> </table>	Temperature	Resistance			Yes GO to AO18. No GO to AO4.
Temperature	Resistance				

0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms

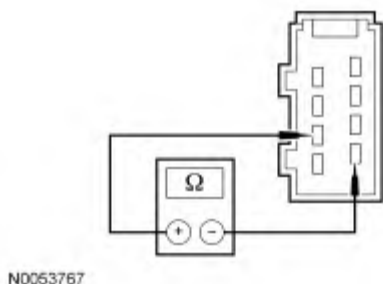


- Is the resistance within the limits indicated?

AO4 CHECK THE PASSENGER SEAT BACKREST TED THERMISTOR

- Disconnect: Passenger Seat Backrest TED C3039 .
- Measure the resistance between passenger seat backrest TED C3039 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



- Is the resistance within the limits indicated?

AO5 CONFIRM THE FAULT WHILE MONITORING THE DCSM SEAT BACK THERMAL ELECTRIC DEVICE TEMPERATURE (PBKTEMP) AND SEAT CUSHION THERMAL ELECTRIC DEVICE

Yes

REPAIR circuit VHS35 (VT/OG) or RHS15 (GY/BN) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

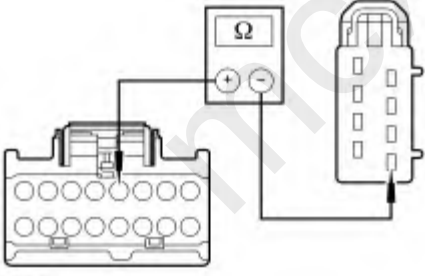
No

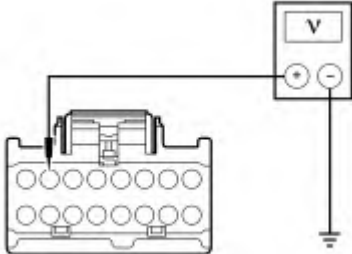
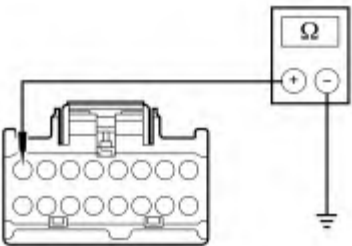
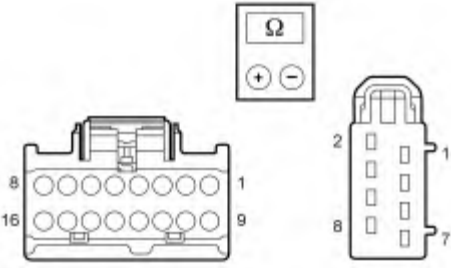
INSTALL a new passenger seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

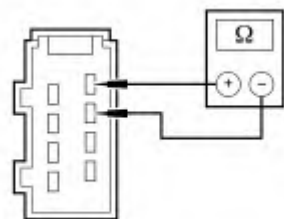
TEMPERATURE (PCSHTEMP) PIDs • Set the passenger seat to OFF. • Enter the following diagnostic mode on the scan tool: Clear DTCs - <u>DCSM</u>. • Enter the following diagnostic mode on the scan tool: DataLogger - <u>DCSM</u>. • Monitor the <u>DCSM</u> PIDs PBKTEMP and PCSHTEMP. • NOTE: A crushed seat backrest foam pad or a crushed climate controlled seat manifold may be the cause of the fault making it necessary to occupy the seat to recreate and identify the fault. • Attempt to recreate the fault. Start the vehicle and set the passenger seat to HIGH heat for at least 15 minutes while occupying the seat. • Do the PIDs increase incrementally (gradually) and stay within 15°C (27°F) of each other?	Yes The fault is not present at this time. The fault may have been set due to a past failure, incorrect use of the climate controlled seat system by repeated switching between heat and cool modes or due to excessive passenger compartment temperature. CLEAR the DTCs. REPEAT the self-test. No If the PBKTEMP PID increases incrementally and is greater than 15°C (27°F) of the PCSHTEMP PID, GO to AO6. If the PBKTEMP PID increases quickly (temperature "jumps" and does not increase incrementally) and is greater than 15°C (27°F) of the PCSHTEMP PID, GO to AO16.
AO6 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS • With the engine running, set both front seats to HIGH cool. • Note the airflow exhausting from the passenger seat backrest <u>TED</u> and compare it to the airflow exhausting from the driver seat backrest <u>TED</u>. • Carry out a wiggle test of the wire harnesses between the <u>DCSM</u> and the passenger seat backrest <u>TED</u> while monitoring blower operation of the <u>TED</u>. The blower should operate consistently and not change speeds. • Is the airflow exhausting from the passenger seat backrest <u>TED</u> comparable to the airflow exhausting from the driver seat backrest <u>TED</u> with no change in operation when carrying out the wiggle test?	Yes GO to AO7. No If the airflow exhausting from the passenger seat backrest <u>TED</u> is not comparable to the airflow exhausting from the driver seat backrest <u>TED</u>, GO to AO8. If the passenger seat backrest <u>TED</u> blower operation changed while carrying out the wiggle test, IDENTIFY and REPAIR the wiring fault. CLEAR the DTCs. REPEAT the self-test.
AO7 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS WHILE OCCUPIED • Note the airflow exhausting from the passenger seat backrest <u>TED</u> with the passenger seat occupied and compare it to the airflow exhausting from the driver seat backrest <u>TED</u> with the driver seat occupied. • Is the airflow exhausting from the passenger seat backrest	Yes GO to AO16. No INSTALL a new passenger seat backrest foam pad

<u>TED</u> comparable to the airflow exhausting from the driver seat backrest <u>TED</u> ?	and/or climate controlled seat manifold. CLEAR the DTCs. REPEAT the self-test.
AO8 CHECK THE PASSENGER SEAT BACKREST BLOWER FOR AN OBSTRUCTION OR RESTRICTED FILTER - Ignition OFF. - Inspect the blower of the passenger seat backrest <u>TED</u> assembly for an obstruction or for a restricted filter. Is the blower obstructed or the filter restricted?	Yes REMOVE the obstruction or INSTALL a new filter. CLEAR the DTCs. REPEAT the self-test. No GO to AO9.
AO9 CHECK THE PASSENGER SEAT BACKREST BLOWER SPEED CONTROL CIRCUIT FOR AN OPEN - 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 C339 . - Disconnect: <u>DCSM</u> C3265C . - Disconnect: Passenger Seat Backrest <u>TED</u> C3039 .  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between <u>DCSM</u> C3265C-4, circuit VHS21 (BU/WH), harness side and passenger seat backrest <u>TED</u> C3039-7, circuit VHS16 (BU/GN), harness side.  N0053808 Is the resistance less than 5 ohms?	Yes GO to AO10 . No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B .
AO10 CHECK THE PASSENGER SEAT BACKREST BLOWER CIRCUIT FOR A SHORT TO VOLTAGE - Ignition ON. - Measure the voltage between <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH), harness side and ground.	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

 N0044855 Is any voltage present?	REPOWER the SRS. REFER to Section 501-20B. No GO to AO11.
AO11 CHECK THE PASSENGER SEAT BACKREST BLOWER CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between <u>DCSM</u> C3265C-8, circuit CHS08 (BN/YE), harness side and ground.  N0044848 - Is the resistance greater than 10,000 ohms?	Yes GO to AO12. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
AO12 CHECK THE PASSENGER SEAT BACKREST BLOWER CIRCUITS FOR AN OPEN - Measure the resistance between: <u>DCSM</u> C3265C-8, circuit CHS08 (BN/YE), harness side and passenger seat backrest <u>TED</u> C3039-2, circuit CHS03 (GN/BN), harness side. <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH), harness side and passenger seat backrest <u>TED</u> C3039-4, circuit RHS03 (GY/OG), harness side.  N0108651 - Are the resistances less than 5 ohms?	Yes GO to AO13. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
AO13 CHECK THE PASSENGER SEAT BACKREST BLOWER RESISTANCE NOTICE: The ohmmeter must be connected with the	Yes

positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.

- Measure the resistance between passenger seat backrest TED C3039 pin 2 and pin 4, component side.

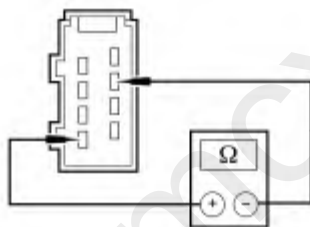


N0053768

- Is the resistance between 4,000 ohms and 10,000 ohms?

AO14 CHECK THE PASSENGER SEAT BACKREST BLOWER SPEED CONTROL RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between passenger seat backrest TED C3039 pin 7 and pin 4, component side.



N0054028

- Is the resistance between 240K ohms and 400K ohms?

AO15 CHECK THE PASSENGER SEAT BACKREST TED INSTALLATION AND FOR CRUSHED SEAT BACKREST

- Ignition OFF.
- Remove the passenger seat. Refer to [Seat — Front](#) in this section.
- Remove the passenger seat backrest cover. Refer to [Seat Backrest Cover — Front](#) in this section.
- Inspect the passenger seat backrest for the following:
 - Is the passenger seat backrest TED correctly installed?
 - Is the passenger seat backrest foam pad crushed or restricted?
 - Is the passenger seat backrest climate controlled seat manifold crushed or restricted?
- Is the passenger seat backrest TED correctly installed and are there no signs of damage to the foam pad and manifold?

GO to [AO14](#).

No

INSTALL a new passenger seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

Yes

GO to [AO15](#).

No

INSTALL a new passenger seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

Yes

INSTALL the passenger seat backrest cover and seat and GO to [AO18](#).

No

CORRECTLY install the passenger seat backrest TED or INSTALL a new passenger seat backrest foam pad and/or climate controlled seat manifold. CONNECT the battery ground cable. REFER to [Section 414-01](#). CLEAR

the DTCs. REPEAT the self-test.

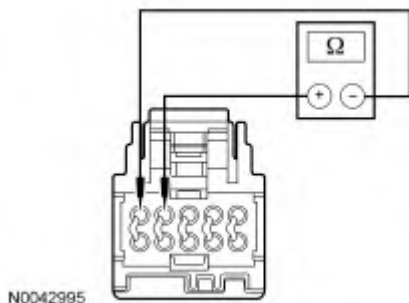
DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AO16 CHECK THE PASSENGER SEAT BACKREST TED THERMISTOR AND WIRING

- 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 C339.
- Disconnect: DCSM C3265B.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between DCSM C3265B-4, circuit VHS36 (YE/BU), harness side and C3265B-5 circuit RHS20 (GN/BU), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



- Is the resistance within the limits indicated?

AO17 CHECK THE PASSENGER SEAT BACKREST TED THERMISTOR

- Measure the resistance between passenger seat backrest TED

Yes

GO to [AO18](#).

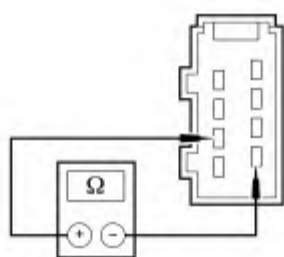
No

GO to [AO17](#).

Yes

C3039 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0063767

- Is the resistance within the limits indicated?

REPAIR circuit VHS35 (VT/OG) or RHS15 (GY/BN) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

No
INSTALL a new TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AO18 CHECK THE PASSENGER SEAT BACKREST TED HEATING/COOLING CIRCUITRY CURRENT DRAW

- Connect: All DCSM, TED and Body Harness-to-Seat Harness Connectors.
- **NOTICE:** It may be necessary to open the seat wire harness conduit to allow placing the inductive current probe around the circuit as described in the following step. Care must be taken when opening up the wire harness so as not to damage any wiring or connectors. Do not damage any wiring or induce stress on any wiring or connectors. Close up the wire harness once repairs to the seat are complete.
- **NOTE:** Use a commercially available inductive current probe (such as Electronic Specialties Current Probe/Multimeter 685 or a Fluke I410 [used with a digital multimeter]) or the low current probe from the Vehicle Measurement Module available for use with Integrated Diagnostic System (IDS). If these are unavailable, the inductive current probe feature from a battery tester may be substituted.
- Place an inductive current probe around circuit CHS06 (BU/BN) near DCSM C3265A-C and monitor the current draw.
- Start the vehicle and set the passenger seat to HIGH heat.
- Is the current draw less than 11 amps?

Yes
GO to [AO19](#).

No
INSTALL a new passenger seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

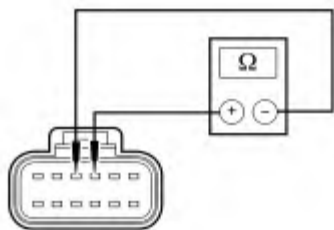
REPOWER the SRS. REFER to [Section 501-20B](#).

AO19 CHECK RESISTANCE OF THE PASSENGER SEAT BACKREST TED AND WIRING

- Ignition OFF.
- Disconnect: DCSM C3265A.
- Measure the resistance between DCSM C3265A-C circuit CHS06 (BU/BN), harness side and C3265A-D, circuit RHS06 (WH), harness side.

Yes
GO to [AO21](#).

No
GO to [AO20](#).

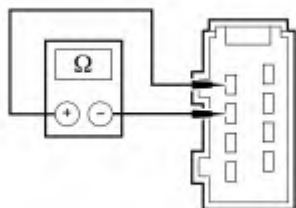


N0042989

- Is the resistance between 0.9 and 10 ohms?

AO20 CHECK THE RESISTANCE OF THE PASSENGER SEAT BACKREST TED

- Disconnect: Passenger Seat Backrest TED C3039 .
- Measure the resistance between passenger seat backrest TED C3039 pin 1 and pin 3, component side.



N0053765

- Is the resistance between 0.9 and 10 ohms?

Yes

REPAIR circuit CHS01 (GY/VT) or RHS01 (WH/VT) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

No

INSTALL a new passenger seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.

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

AO21 CHECK FOR CORRECT DCSM OPERATION

- Inspect the DCSM and passenger seat backrest TED harness and component side connectors and the body harness-to-seat harness connectors for:
 - corrosion
 - damaged pins
 - pushed-out pins
- Connect: All DCSM, TED and Body Harness-to-Seat Harness Connectors .
- Make sure the connectors are seated correctly.
- Start the engine.
- Set the passenger seat to OFF.

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. REPEAT the self-test. TEST the system for normal operation.

DISCONNECT the battery ground cable. CONNECT

• Enter the following diagnostic mode on the scan tool: Clear DTCs - <u>DCSM</u>. • Attempt to recreate the fault. With the engine still running set the passenger seat to HIGH heat for at least 15 minutes. • Is the concern still present?	passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
--	--

Pinpoint Test AP: DTC B272C

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

Climate controlled seats are independently controlled by the Dual Climate Controlled Seat Module (DCSM) mounted to the bottom of the passenger seat cushion. The climate controlled seat system only operates with the engine running, however, if using a scan tool to command the DCSM, diagnostic testing can be carried out with the ignition ON. Both voltage supply circuits to the DCSM are spliced together internally, so if one circuit becomes open, both seats can still be operated. However, if a fault occurs setting a DTC specific to either climate controlled seat, only the affected seat will be disabled by the module and the other will remain operational.

The seat cushion is equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). Similarly, the seat backrest is also equipped with its own TED assembly with blower. Cabin air is drawn through the blower and distributed to each of the TED modules located in the seat cushion and backrest. The TEDs then heat or cool the air. The air is then directed into the foam pad and manifold where it is distributed along the surface of the cushion and backrest of the seat. Once the system is activated, the DCSM uses a set of flexible algorithms to control the heating/cooling modes and the blower speed dependant on the seat switch settings.

A differential fault occurs when the cushion and backrest TEDs on an affected seat are reporting very different temperatures to the DCSM. This may result from an airflow restriction or a circuit fault of either TED area. If a TED and manifold is clear of obstruction and is operational, the other TED and circuitry on the seat should be checked. It is important to note that a TED with a higher temperature may be operating correctly and not the area of concern. The other TED may be indicating a much lower temperature, causing the DTC to set.

- DTC B272C (Driver Differential Temperature Fault) — If there is a temperature differential between the driver backrest and cushion TED of 60°C (108°F) or more for more than 4 seconds, if the TED is disconnected or if the duct is blocked, this DTC sets. When this happens the first time in a key cycle, the DCSM puts the driver seat system into recovery mode (see Principles of Operation). If the system is able to recover, it functions normally. If the system is able to recover and it occurs a second time in the same key cycle, the DCSM shuts down the driver seat system.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Restricted cushion or backrest TED filter
- Crushed or restricted cushion or backrest foam pad
- Crushed or restricted cushion or backrest climate controlled seat manifold
- Cushion or backrest TED assembly
- DCSM

PINPOINT TEST AP: DTC B272C

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

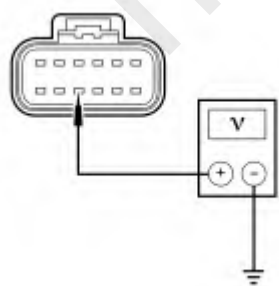
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

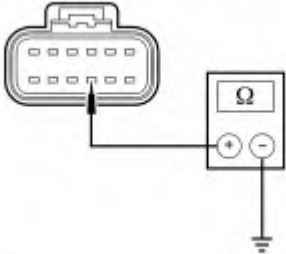
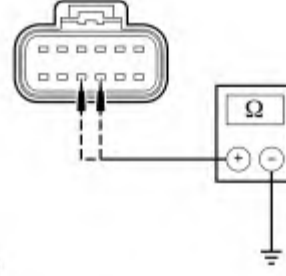
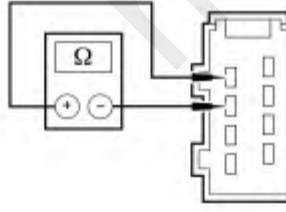
NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AP1 CHECK FOR <u>DCSM</u> DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. • Was DTC B2729 or B2730 retrieved?	Yes For DTC B2729, GO to Pinpoint Test AM. For DTC B2730, GO to Pinpoint Test AT. No GO to AP2.
AP2 MONITOR THE <u>DCSM TED</u> TEMPERATURE PIDs	
• Enter the following diagnostic mode on the scan tool: DataLogger — <u>DCSM</u>. ■ Passenger Cushion <u>TED</u> Temperature (PCSHTMP) ■ Passenger Back <u>TED</u> Temperature (PBKTMP) ■ Seat cushion <u>TED</u> temperature (CSHTEMP) ■ Seat back <u>TED</u> temperature (BK_TEMP) • NOTE: Make sure the temperature of the climate controlled seats has stabilized before monitoring the PIDs. Not allowing stabilization can cause incorrect readings and lead to incorrect identification of components that are not faulty. • Monitor <u>TED</u> temperature PIDs with the climate controlled seats OFF. Compare the PID values of the driver seat to those of the front passenger seat, this can help identify if there is a concern with the driver seat cushion or backrest PID value readings. • Are both driver seat <u>TED</u> temperature PIDs within 10°	Yes GO to AP3. No If the driver seat cushion PID varies 10°C (18°F) or more from ambient temperature, GO to AP16. If the driver seat backrest PID varies 10°C (18°F) or more from ambient temperature, GO to AP31.

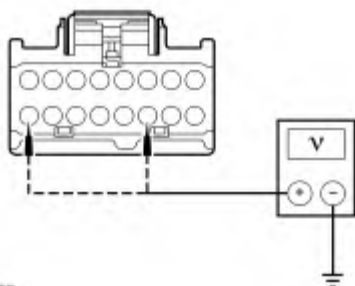
C (18°F) of the ambient temperature?	
AP3 CONFIRM THE FAULT IS IN THE SEAT CUSHION OR THE BACKREST	
• Ignition OFF. • Ignition ON. • NOTE: A crushed seat cushion foam pad or a crushed climate controlled seat manifold may be the cause of the fault. It may be necessary to sit on the seat or place something of reasonable size and weight on the seat to recreate the fault. • After cycling the ignition and with the engine running, set the driver seat to high heat. Allow the seat to heat for at least 15 minutes while monitoring the <u>TED</u> temperature PIDs of the driver seat. • Do the driver seat cushion <u>TED</u> and backrest <u>TED</u> PIDs vary more than 60°C (108°F) from each other?	Yes If the driver seat cushion PID is 60° C (108°F) hotter than the backrest PID, GO to AP5. If the driver seat backrest PID is 60° C (108°F) hotter than the cushion PID, GO to AP20. No GO to AP4.
AP4 CHECK THE <u>TEDs</u> COOLING PERFORMANCE	
• Check the <u>TEDs</u> cooling performance on the affected seat. Refer to Component Test — Thermo-Electric Device (TED) Cooling Performance in this section. • Did the <u>TEDs</u> pass the component test?	Yes The DTC may have been set by extreme cabin temperatures or excessive sunload on the seat causing the system to enter recovery mode. Occupant size and weight characteristics can also be a factor. CLEAR the DTCs. REPEAT the self-test. TEST the system for normal operation. If a concern cannot be found or duplicated, RETURN the vehicle to the customer. No CHECK the affected seat cushion or backrest for correct installation of the climate controlled seat components (<u>TED</u> , manifold, plenum, air ducts and foam pad). CHECK for airflow restrictions (<u>TED</u> inlets and outlets, <u>TED</u>-to-manifold or plenum connections, filters and ducts) and REPAIR as needed. CHECK for an intermittent wiring fault. REPAIR as needed. CLEAR the DTCs. REPEAT the self-test. TEST the system for normal operation.
AP5 CHECK FOR CORRECT <u>TED</u> INSTALLATION AND FOR CRUSHED FOAM	
• Ignition OFF. • Remove the seat. Refer to Seat — Front in this section. • Remove the seat cushion trim cover. Refer to Seat Cushion Cover — Front in this section. • Inspect the seat cushion for the following: ■ Is the cushion blower obstructed? ■ Is the blower filter restricted or plugged? ■ Is the <u>TED</u> correctly installed?	Yes GO to AP6. No CORRECTLY install the cushion <u>TED</u> or INSTALL a new seat cushion foam pad and/or climate controlled seat manifold. INSTALL

■ Is the seat cushion foam pad crushed or restricted? ■ Is the climate controlled seat manifold crushed or restricted? ● Is the TED correctly installed and the foam pad and manifold OK?	the seat. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. REPOWER the SRS. REFER to Section 501-20B.
AP6 CHECK THE BACKREST TED - CIRCUIT FOR A SHORT TO VOLTAGE NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to Section 501-20B. NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault. NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer. ● Ignition OFF. ● Position the driver seat in the vehicle and connect the seat-to-floor connectors. ● Disconnect: Driver Seat Side Air Bag Module C3051. ● Disconnect: Passenger Seat Side Air Bag Module C339. ● Disconnect: DCSM C3265A. ●  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. ● Ignition ON. ● Measure the voltage between DCSM C3265A-K, circuit RHS01 (WH/VT), harness side and ground.  N0044951 ● Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No GO to AP7.
AP7 CHECK THE BACKREST TED + CIRCUIT FOR A SHORT TO GROUND ● Ignition OFF. ● Measure the resistance between DCSM C3265A-J, circuit CHS01 (GY/VT), harness side and ground.	Yes GO to AP8. No REPAIR the circuit. CLEAR the

 N0042910 Is the resistance greater than 10,000 ohms?	DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
AP8 CHECK THE BACKREST TED AND WIRING RESISTANCE - Measure the resistance between <u>DCSM</u> C3265A-J, circuit CHS01 (GY/VT), harness side and <u>DCSM</u> C3265A-K, circuit RHS01 (WH/VT), harness side.  N0042876 - Is the resistance between 0.9 and 10 ohms?	Yes GO to AP10. No GO to AP9.
AP9 CHECK THE BACKREST TED RESISTANCE - Disconnect: Backrest TED C3034. - Measure the resistance between backrest TED C3034 pins 1 and 3, component side.  N0053766 - Is the resistance between 0.9 and 10 ohms?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No INSTALL a new backrest TED. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
AP10 CHECK THE BLOWER AND SPEED CONTROL	

CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: DCSM C3265C .
- Ignition ON.
- Measure the voltage between:
 - DCSM C3265C-16, circuit CHS03 (GN/BN), harness side and ground.
 - DCSM C3265C-11, circuit VHS18 (BN/GN), harness side and ground.



N0044857

- Is any voltage present on either circuit?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

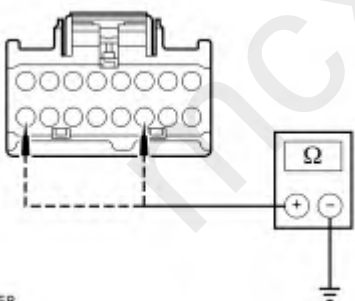
DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS . REFER to [Section 501-20B](#) .

No

GO to [AP11](#) .

AP11 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between:
 - DCSM C3265C-16, circuit CHS03 (GN/BN), harness side and ground.
 - DCSM C3265C-11, circuit VHS18 (BN/GN), harness side and ground.



N0044858

- Are the resistances greater than 10,000 ohms?

Yes

GO to [AP12](#) .

No

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS . REFER to [Section 501-20B](#) .

AP12 CHECK THE BLOWER AND WIRING RESISTANCE

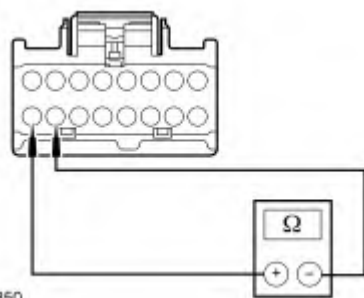
- **NOTE:** The ohmmeter must be connected with the positive lead to DCSM C3265C-16, circuit CHS03 (GN/BN) and the negative lead to DCSM C3265C-15, circuit RHS03 (GY/OG) when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between DCSM C3265C-16, circuit CHS03 (GN/BN), harness side and DCSM C3265C-15, circuit RHS03 (GY/OG), harness side.

Yes

GO to [AP14](#) .

No

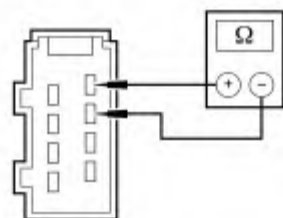
GO to [AP13](#) .



- Is the resistance between 4,000 and 10,000 ohms?

AP13 CHECK THE BLOWER RESISTANCE

- Disconnect: Cushion TED C3035 .
- **NOTE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between cushion TED C3035 pins 2 and 4, component side.



- Is the resistance between 4,000 and 10,000 ohms?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AP14 CHECK THE BLOWER SPEED CONTROL AND CIRCUIT RESISTANCE

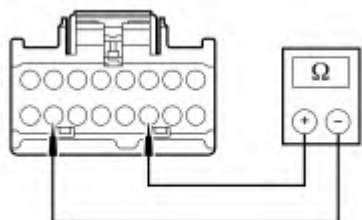
- **NOTE:** The ohmmeter must be connected with the positive lead to C3265C-11, circuit VHS18 (BN/GN), harness side and the negative lead to C3265C-15, circuit RHS03 (GY/OG), harness side when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between DCSM C3265C-11, circuit VHS18 (BN/GN) harness side and DCSM C3265C-15, circuit RHS03 (GY/OG), harness side.

Yes

GO to [AP16](#).

No

GO to [AP15](#).

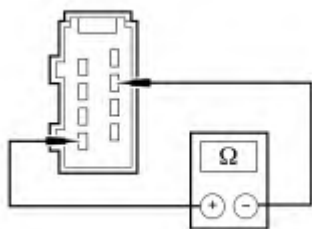


N0044859

- Is the resistance between 240K ohms and 4M ohms?

AP15 CHECK THE BLOWER SPEED CONTROL RESISTANCE

- Disconnect: Cushion TED C3035 .
- **NOTE:** The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between cushion TED C3035 pins 7 and 4, component side.



N0054028

- Is the resistance between 240K ohms and 4M ohms?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AP16 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051 .
- Disconnect: Passenger Seat Side Air Bag Module C339 .
- Disconnect: DCSM C3265B .
-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265B-7, circuit VHS26 (VT), harness side and ground.

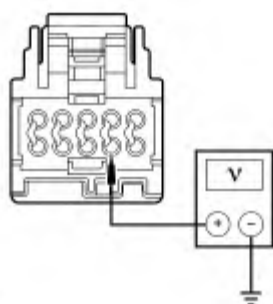
Yes

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

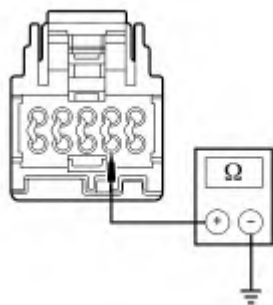
GO to [AP17](#).



- Is any voltage present?

AP17 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between DCSM C3265B-7, circuit VHS26 (VT), harness side and ground.



- Is the resistance greater than 10,000 ohms?

Yes

GO to [AP18](#).

No

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AP18 CHECK THE TED THERMISTOR AND WIRING RESISTANCE AT THE DCSM

- Measure the resistance between DCSM C3265B-7, circuit VHS26 (VT), harness side and DCSM C3265B-8, circuit RHS05 (YE/VT), harness side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms

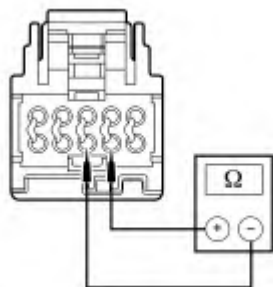
Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

GO to [AP19](#).



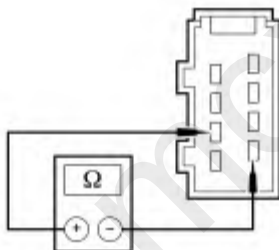
N0042908

- Is the resistance within the limits indicated?

AP19 CHECK THE TED THERMISTOR RESISTANCE

- Disconnect: Cushion TED C3035 .
- Measure the resistance between cushion TED pins 5 and 8, component side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0053767

- Is the resistance within the limits indicated?

AP20 CHECK FOR CORRECT TED INSTALLATION AND FOR CRUSHED FOAM

- Ignition OFF.
- Remove the seat. Refer to [Seat — Front](#) in this section.
- Remove the seat backrest trim cover. Refer to [Seat Backrest Cover — Front](#) in this section.
- Inspect the seat backrest for the following:
 - Is the backrest blower obstructed?
 - Is the blower filter restricted or plugged?
 - Is the TED correctly installed?
 - Is the seat backrest foam pad crushed or restricted?
 - Is the climate controlled seat manifold crushed or restricted?

Yes

REPAIR the circuit(s) for high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

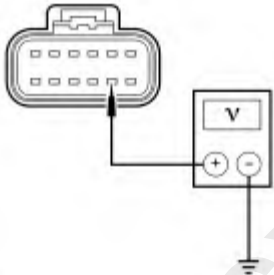
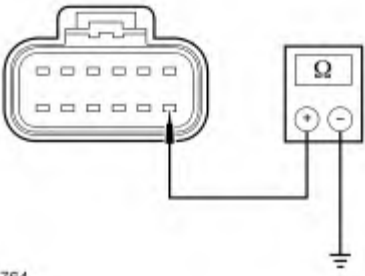
Yes

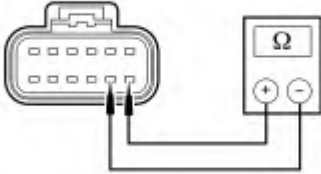
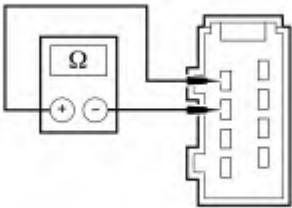
GO to [AP21](#).

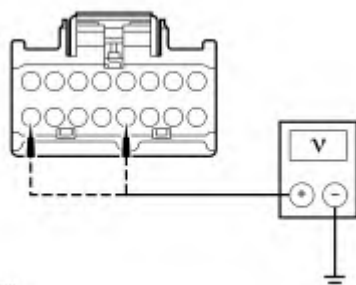
No

CORRECTLY install the backrest TED or INSTALL a new seat backrest foam pad and/or climate controlled seat manifold. INSTALL the seat. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground

Is the TED correctly installed and the foam pad and manifold OK?	cable. REPOWER the SRS . REFER to Section 501-20B .
AP21 CHECK THE CUSHION TED CIRCUIT FOR A SHORT TO VOLTAGE - Ignition OFF. - Position the driver seat in the vehicle and connect the seat-to-floor connectors. - Depower the SRS. Refer to Section 501-20B. - Disconnect: Driver Seat Side Air Bag Module C3051. - Disconnect: Passenger Seat Side Air Bag Module C339. - Disconnect: DCSM C3265A.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. - Ignition ON. - Measure the voltage between DCSM C3265A-H, circuit RHS02 (BU/OG), harness side and ground.  N0044952 - Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No GO to AP22.
AP22 CHECK THE CUSHION TED + CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between DCSM C3265A-G, circuit CHS02 (YE/BU), harness side and ground.  N0044764 - Is the resistance greater than 10,000 ohms?	Yes GO to AP23. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
AP23 CHECK THE CUSHION TED AND WIRING RESISTANCE	

- Measure the resistance between <u>DCSM</u> C3265A-G circuit CHS02 (YE/BU), harness side and <u>DCSM</u> C3265A-H, circuit RHS02 (BU/OG), harness side.  N0042194 - Is the resistance between 0.9 and 10 ohms?	Yes GO to AP25. No GO to AP24.
AP24 CHECK THE CUSHION <u>TED</u> RESISTANCE - Disconnect: Cushion <u>TED</u> C3035 . - Measure the resistance between cushion <u>TED</u> C3035 pins 1 and 3, component side.  N0053766 - Is the resistance between 0.9 and 10 ohms?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No INSTALL a new cushion <u>TED</u>. REFER to Seat Cushion Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AP25 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO VOLTAGE - Disconnect: <u>DCSM</u> C3265C . - Ignition ON. - Measure the voltage between: <u>DCSM</u> C3265C-16, circuit CHS03 (GN/BN), harness side and ground. <u>DCSM</u> C3265C-12, circuit CHS09 (GY), harness side and ground.	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AP26.

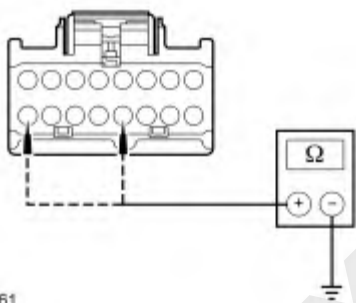


N0044860

- Is any voltage present on either circuit?

AP26 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between:
 - DCSM C3265C-16, circuit CHS03 (GN/BN), harness side and ground.
 - DCSM C3265C-12, circuit CHS09 (GY), harness side and ground.



N0044861

- Are the resistances greater than 10,000 ohms?

Yes

GO to [AP27](#).

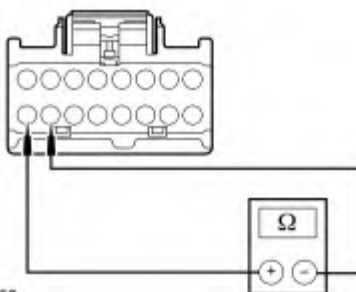
No

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AP27 CHECK THE BLOWER AND WIRING RESISTANCE

- **NOTE:** The ohmmeter must be connected with the positive lead to DCSM C3265C-16, circuit CHS03 (GN/BN) and the negative lead to DCSM C3265C-15, circuit RHS03 (GY/OG) when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between DCSM C3265C-16, circuit CHS03 (GN/BN), harness side and DCSM C3265C-15, circuit RHS03 (GY/OG), harness side.



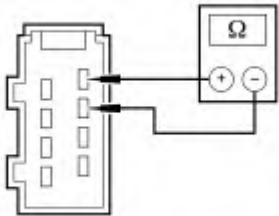
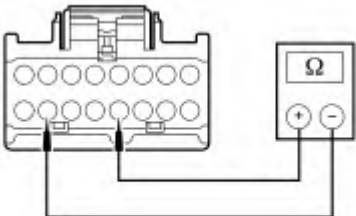
N0044850

Yes

GO to [AP29](#).

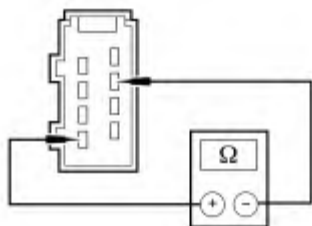
No

GO to [AP28](#).

• Is the resistance between 4,000 and 10,000 ohms?	
AP28 CHECK THE BLOWER RESISTANCE • Disconnect: Backrest <u>TED C3034</u> . • NOTE: The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty. • Measure the resistance between backrest <u>TED C3034</u> pins 2 and 4, component side.  N0053768 • Is the resistance between 4,000 and 10,000 ohms?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No INSTALL a new backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AP29 CHECK THE BLOWER SPEED CONTROL AND CIRCUIT RESISTANCE • NOTE: The ohmmeter must be connected with the positive lead to C3265C-12, circuit CHS09 (GY), harness side and the negative lead to C3265C-15, circuit RHS03 (GY/OG), harness side when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty. • Measure the resistance between <u>DCSM C3265C-12</u>, circuit CHS09 (GY) harness side and <u>DCSM C3265C-15</u>, circuit RHS03 (GY/OG), harness side.  N0044862 • Is the resistance between 240K ohms and 4M ohms?	Yes GO to AP31. No GO to AP30.
AP30 CHECK THE BLOWER SPEED CONTROL RESISTANCE • Disconnect: Backrest <u>TED C3034</u> . • NOTE: The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.

- Measure the resistance between backrest TED C3034 pins 7 and 4, component side.



N0054028

- Is the resistance between 240K ohms and 4M ohms?

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

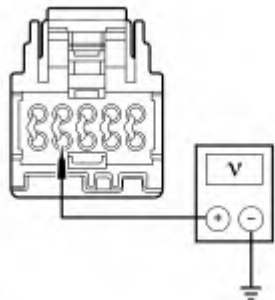
No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AP31 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag Module C3051.
- Disconnect: Passenger Seat Side Air Bag Module C339.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Disconnect: DCSM C3265B.
- Ignition ON.
- Measure the voltage between DCSM C3265B-9, circuit CHS14 (GN), harness side and ground.



N0042974

- Is any voltage present?

Yes

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

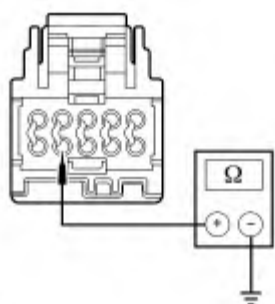
GO to [AP32](#).

AP32 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between DCSM C3265B-9, circuit CHS14 (GN), harness side and ground.

Yes

GO to [AP33](#).



N0042975

- Is the resistance greater than 10,000 ohms?

No

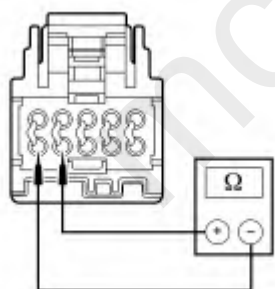
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AP33 CHECK THE TED THERMISTOR AND WIRING RESISTANCE

- Measure the resistance between DCSM C3265B-9, circuit CHS14 (GN), harness side and DCSM C3265B-10, circuit CHS29 (WH/BU), harness side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0042975

- Is the resistance within the limits indicated?

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

GO to [AP34](#).

AP34 CHECK THE TED THERMISTOR RESISTANCE

- Disconnect: Backrest TED C3034 .
- Measure the resistance between backrest TED pins 5 and 8, component side. Note the ambient temperature and compare result to the following table:

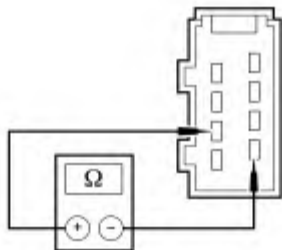
Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms

Yes

REPAIR the circuit(s) for high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS.

20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0053767

- Is the resistance within the limits indicated?

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

No
 INSTALL a new backrest TED.
 REFER to [Seat Backrest Thermo-Electric Device](#) in this section.
 CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS.
 REFER to [Section 501-20B](#).

Pinpoint Test AQ: DTC B272D

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

Climate controlled seats are independently controlled by the Dual Climate Controlled Seat Module (DCSM) mounted to the bottom of the passenger seat cushion. The climate controlled seat system only operates with the engine running, however, if using a scan tool to command the DCSM, diagnostic testing can be carried out with the ignition ON. Both voltage supply circuits to the DCSM are spliced together internally, so if one circuit becomes open, both seats can still be operated. However, if a fault occurs setting a DTC specific to either climate controlled seat, only the affected seat will be disabled by the module and the other will remain operational.

The seat cushion is equipped with a Thermo-Electric Device (TED) assembly that includes a seat blower (fan motor, serviced as an assembly with the TED). Similarly, the seat backrest is also equipped with its own TED assembly with blower. Cabin air is drawn through the blower and distributed to each of the TED modules located in the seat cushion and backrest. The TEDs then heat or cool the air. The air is then directed into the foam pad and manifold where it is distributed along the surface of the cushion and backrest of the seat. Once the system is activated, the DCSM uses a set of flexible algorithms to control the heating/cooling modes and the blower speed dependant on the seat switch settings.

A differential fault occurs when the cushion and backrest TEDs on an affected seat are reporting very different temperatures to the DCSM. This may result from an airflow restriction or a circuit fault of either TED area. If a TED and manifold is clear of obstruction and is operational, the other TED and circuitry on the seat should be checked. It is important to note that a TED with a higher temperature may be operating correctly and is not the area of concern. The other TED may be indicating a much lower temperature, causing the DTC to set.

- DTC B272D (Passenger Differential Temperature Fault) — If there is a temperature differential between the passenger backrest and cushion TED of 60°C (108°F) or more for more than 4 seconds, the TED is disconnected or the duct is blocked, this DTC sets. When this happens the first time in a key cycle, the DCSM puts the passenger seat system into recovery mode (see Principles of Operation). If the system is able to recover, it functions normally. If the system is able to recover and it occurs a second time in the same key cycle, the DCSM shuts down the passenger seat system.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Restricted cushion or backrest TED filter
- Crushed or restricted cushion or backrest foam pad
- Crushed or restricted cushion or backrest climate controlled seat manifold
- Cushion or backrest TED assembly
- DCSM

PINPOINT TEST AQ: DTC B272D

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

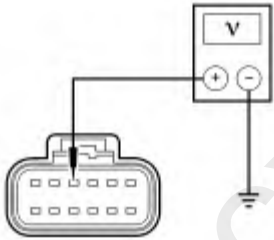
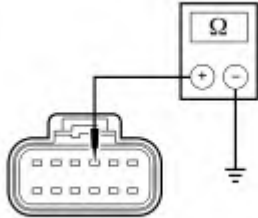
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

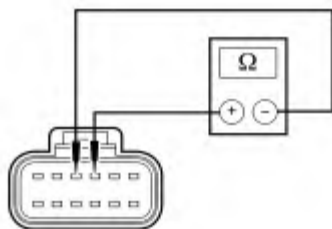
Test Step	Result / Action to Take
AQ1 CHECK THE <u>DCSM</u> FOR DTCs	
• Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. • Was DTC B272A or B272B retrieved?	Yes For DTC B272A, GO to Pinpoint Test AN. For DTC B272B, GO to Pinpoint Test AQ. No GO to AQ2.
AQ2 MONITOR THE <u>DCSM TED</u> TEMPERATURE PIDs	
• Enter the following diagnostic mode on the scan tool: DataLogger — <u>DCSM</u>. ■ Passenger cushion <u>TED</u> temperature (PCSHTMP) ■ Passenger back <u>TED</u> temperature (PBKTMP) ■ Seat cushion <u>TED</u> temperature (CSHTMP) ■ Seat back <u>TED</u> temperature (BK_TEMP) • NOTE: Make sure the temperature of the climate controlled seats has stabilized before monitoring the PIDs. Not allowing stabilization can cause incorrect readings and lead to incorrect identification of components that are not faulty. • Monitor the <u>TED</u> temperature PIDs with the climate controlled seats OFF. Compare the PIDs of the front passenger seat to those of the driver seat, this can help identify if there is a concern with the front passenger seat cushion or backrest PID readings. • Are both front passenger seat <u>TED</u> temperature PIDs within 10°C (18°F) of the ambient temperature?	Yes GO to AQ3. No If the front passenger seat cushion PID varies 10°C (18°F) or more from ambient temperature, GO to AQ16. If the front passenger seat backrest PID varies 10°C (18°F) or more from ambient temperature, GO to AQ31.

AQ3 CONFIRM THE FAULT IS IN THE SEAT CUSHION OR BACKREST	Yes If the front passenger seat cushion PID is 60°C (108°F) hotter than the backrest PID, GO to AQ5. If the front passenger seat backrest PID is 60°C (108°F) hotter than the cushion PID, GO to AQ20. No GO to AQ4.
AQ4 CHECK THE <u>TEDs</u> COOLING PERFORMANCE	Yes The DTC may have been set by extreme cabin temperatures or excessive sunload on the seat causing the system to enter recovery mode. Occupant size and weight characteristics can also be a factor. CLEAR the DTCs. TEST the system for normal operation. If a concern cannot be found or duplicated, RETURN the vehicle to the customer. No CHECK the affected seat cushion or backrest for correct installation of the climate controlled seat components (<u>TED</u> , manifold, plenum, air ducts and foam pad). CHECK for airflow restrictions (<u>TED</u> inlets and outlets, <u>TED</u> -to-manifold or plenum connections, filters and ducts) and REPAIR as needed. CHECK for an intermittent wiring fault. REPAIR as needed. CLEAR the DTCs. REPEAT the self-test. TEST the system for normal operation.
AQ5 CHECK FOR CORRECT <u>TED</u> INSTALLATION AND FOR CRUSHED FOAM	Yes GO to AQ6. No CORRECTLY install the cushion <u>TED</u> or INSTALL a new seat cushion foam pad and/or climate controlled seat manifold. INSTALL the seat. CLEAR the DTCs.

restricted? ■ Is the climate controlled seat manifold crushed or restricted? ● Is the TED correctly installed and the foam pad and manifold OK?	REPEAT the self-test. DISCONNECT the battery ground cable. REPOWER the SRS. REFER to Section 501-20B.
AQ6 CHECK THE BACKREST TED - CIRCUIT FOR A SHORT TO VOLTAGE ● Ignition OFF. ● Position the front passenger seat in the vehicle and connect the seat-to-floor connectors. ● Depower the SRS. Refer to Section 501-20B. ● Disconnect: Passenger Seat Side Air Bag Module C339. ● Disconnect: DCSM C3265A. ●  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. ● Ignition ON. ● Measure the voltage between DCSM C3265A-D, circuit RHS06 (WH), harness side and ground.  N0044950 ● Is any voltage present?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B. No GO to AQ7.
AQ7 CHECK THE BACKREST TED CIRCUIT FOR A SHORT TO GROUND ● Ignition OFF. ● Measure the resistance between DCSM C3265A-C, circuit CHS06 (BU/BN), harness side and ground.  N0042988 ● Is the resistance greater than 10,000 ohms?	Yes GO to AQ8. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.

AQ8 CHECK THE BACKREST TED AND WIRING RESISTANCE

- Measure the resistance between DCSM C3265A-C, circuit CHS06 (BU/BN), harness side and DCSM C3265A-D, circuit RHS06 (WH), harness side.

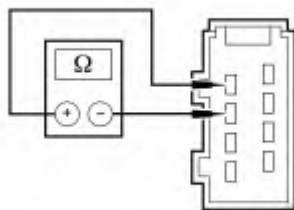


N0042989

- Is the resistance between 0.9 and 10 ohms?

YesGO to [AQ10](#).**No**GO to [AQ9](#).**AQ9 CHECK THE BACKREST TED RESISTANCE**

- Disconnect: Backrest TED C3039 .
- Measure the resistance between backrest TED C3039 pins 1 and 3, component side.



N0053765

- Is the resistance between 0.9 and 10 ohms?

Yes

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AQ10 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO VOLTAGE

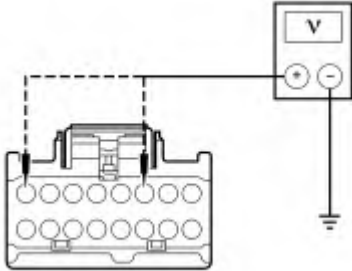
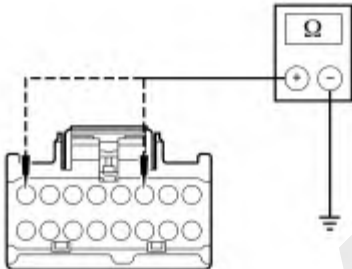
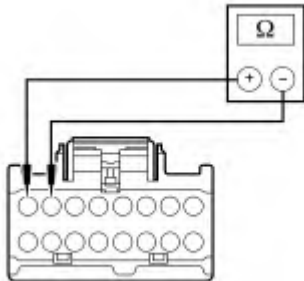
- Disconnect: DCSM C3265C .
- Ignition ON.
- Measure the voltage between:
 - DCSM C3265C-8, circuit CHS08 (BN/YE), harness side and ground.
 - DCSM C3265C-3, circuit VHS23 (BN/BU), harness side and ground.

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

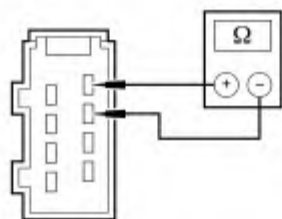
DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

NoGO to [AQ11](#).

 N0044863 • Is any voltage present on either circuit?	
AQ11 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO GROUND • Ignition OFF. • Measure the resistance between: ■ <u>DCSM</u> C3265C-8, circuit CHS08 (BN/YE), harness side and ground. ■ <u>DCSM</u> C3265C-3, circuit VHS23 (BN/BU), harness side and ground.  N0044864 • Are the resistances greater than 10,000 ohms?	Yes GO to AQ12. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to Section 501-20B.
AQ12 CHECK THE BLOWER AND WIRING RESISTANCE • NOTE: The ohmmeter must be connected with the positive lead to <u>DCSM</u> C3265C-8, circuit CHS08 (BN/YE) and the negative lead to <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH) when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty. • Measure the resistance between <u>DCSM</u> C3265C-8, circuit CHS08 (BN/YE), harness side and <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH), harness side.  N0044851 • Is the resistance between 4,000 and 10,000 ohms?	Yes GO to AQ14. No GO to AQ13.

AQ13 CHECK THE BLOWER RESISTANCE

- Disconnect: Cushion TED C3040 .
- **NOTE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between cushion TED C3040 pins 2 and 4, component side.



N0053768

- Is the resistance between 4,000 and 10,000 ohms?

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

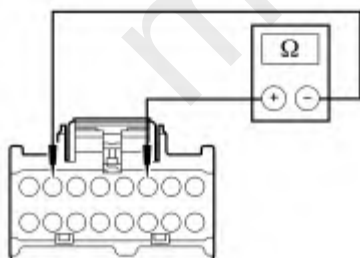
No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AQ14 CHECK THE BLOWER SPEED CONTROL AND CIRCUIT RESISTANCE

- **NOTE:** The ohmmeter must be connected with the positive lead to C3265C-3, circuit VHS23 (BN/BU), harness side and the negative lead to C3265C-7, circuit RHS08 (VT/WH), harness side when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between DCSM C3265C-3, circuit VHS23 (BN/BU), harness side and DCSM C3265C-7, circuit RHS08 (VT/WH), harness side.



N0047113

- Is the resistance between 240K ohms and 4M ohms?

Yes

GO to [AQ16](#).

No

GO to [AQ15](#).

AQ15 CHECK THE BLOWER SPEED CONTROL RESISTANCE

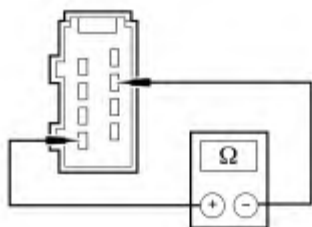
- Disconnect: Cushion TED C3040 .
- **NOTE:** The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.

Yes

REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat

- Measure the resistance between cushion TED C3040 pins 7 and 4, component side.



N0054028

- Is the resistance between 240K ohms and 4M ohms?

side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

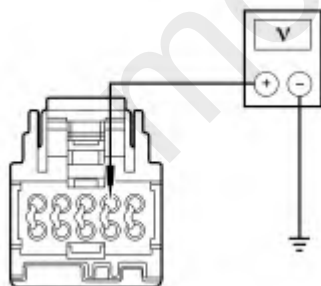
DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AQ16 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Passenger Seat Side Air Bag Module C339.
- Disconnect: DCSM C3265B.

-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265B-2, circuit VHS27 (WH/OG), harness side and ground.



N0042984

- Is any voltage present?

Yes

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

GO to [AQ17](#).

AQ17 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between DCSM C3265B-2, circuit VHS27 (WH/OG), harness side and ground.

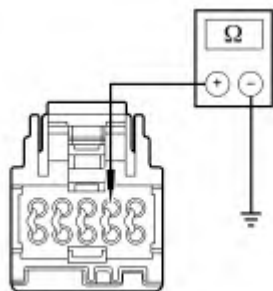
Yes

GO to [AQ18](#).

No

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground



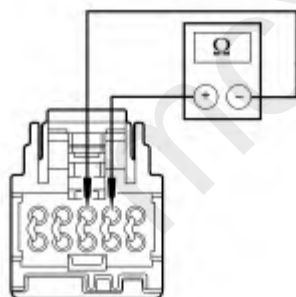
N0042985

- Is the resistance greater than 10,000 ohms?

AQ18 CHECK THE TED THERMISTOR AND WIRING RESISTANCE

- Measure the resistance between DCSM C3265B-2, circuit VHS27 (WH/OG), harness side and DCSM C3265B-3, circuit RHS10 (BU/OG), harness side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0042985

- Is the resistance within the limits indicated?

AQ19 CHECK THE TED THERMISTOR RESISTANCE

- Disconnect: Cushion TED C3040 .
- Measure the resistance between cushion TED pins 5 and 8, component side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms

cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

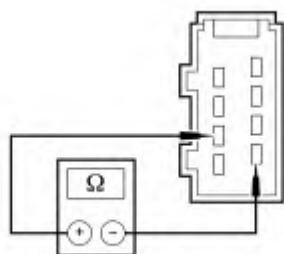
GO to [AQ19](#).

Yes

REPAIR the circuit(s) for high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0053767

- Is the resistance within the limits indicated?

No

INSTALL a new cushion TED.
REFER to [Seat Cushion Thermo-Electric Device](#) in this section.
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.
REPOWER the SRS. REFER to [Section 501-20B](#).

AQ20 CHECK FOR CORRECT TED INSTALLATION AND FOR CRUSHED FOAM

- Ignition OFF.
- Remove the seat. Refer to [Seat — Front](#) in this section.
- Remove the seat backrest trim cover. Refer to [Seat Backrest Cover — Front](#) in this section.
- Inspect the seat backrest for the following:
 - Is the backrest blower obstructed?
 - Is the blower filter restricted or plugged?
 - Is the TED correctly installed?
 - Is the seat backrest foam pad crushed or restricted?
 - Is the climate controlled seat manifold crushed or restricted?
- Is the TED correctly installed and the foam pad and manifold OK?

Yes

GO to [AQ21](#).

No

Correctly INSTALL the backrest TED or INSTALL a new seat backrest foam pad and/or climate controlled seat manifold. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. INSTALL the seat. CLEAR the DTCs. REPEAT the self-test.

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

AQ21 CHECK THE CUSHION TED CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Position the front passenger seat in the vehicle and connect the seat-to-floor connectors.
- Depower the SRS. Refer to [Section 501-20B](#).
- Disconnect: Passenger Seat Side Air Bag Module C339.
- Disconnect: DCSM C3265A.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265A-B, circuit RHS07 (BU), harness side and ground.

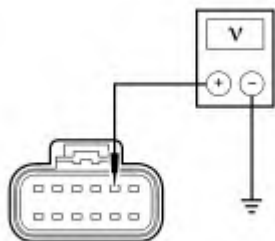
Yes

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.
REPOWER the SRS. REFER to [Section 501-20B](#).

No

GO to [AQ22](#).

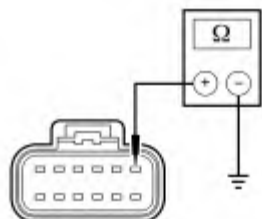


N0044870

- Is any voltage present?

AQ22 CHECK THE CUSHION TED CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between DCSM C3265A-A, circuit CHS07 (GY/BU), harness side and ground.



N0042976

- Is the resistance greater than 10,000 ohms?

Yes

GO to [AQ23](#).

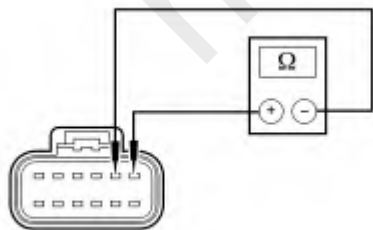
No

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AQ23 CHECK THE CUSHION TED AND WIRING RESISTANCE

- Measure the resistance between DCSM C3265A-A circuit CHS07 (GY/BU), harness side and DCSM C3265A-B, circuit RHS07 (BU), harness side.



N0042979

- Is the resistance between 0.9 and 10 ohms?

Yes

GO to [AQ25](#).

No

GO to [AQ24](#).

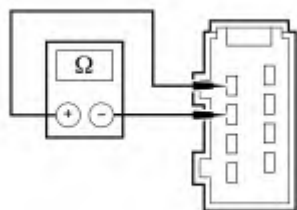
AQ24 CHECK THE CUSHION TED RESISTANCE

- Disconnect: Cushion TED C3040.
- Measure the resistance between cushion TED C3040 pins 1 and 3, component side.

Yes

REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.



N0053765

- Is the resistance between 0.9 and 10 ohms?

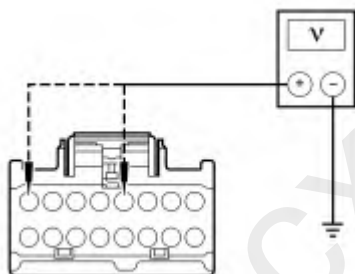
REPOWER the SRS. REFER to [Section 501-20B](#).

No
INSTALL a new cushion TED.
REFER to [Seat Cushion Thermo-Electric Device](#) in this section.
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.
REPOWER the SRS. REFER to [Section 501-20B](#).

AQ25 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect: DCSM C3265C .
- Ignition ON.
- Measure the voltage between:
 - DCSM C3265C-8, circuit CHS08 (BN/YE), harness side and ground.
 - DCSM C3265C-4, circuit VHS21 (BU/WH), harness side and ground.



N0044865

- Is any voltage present on either circuit?

Yes
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.
REPOWER the SRS. REFER to [Section 501-20B](#).

No
GO to [AQ26](#).

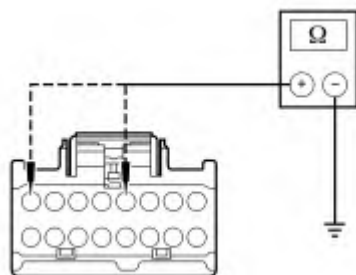
AQ26 CHECK THE BLOWER AND SPEED CONTROL CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between:
 - DCSM C3265C-8, circuit CHS08 (BN/YE), harness side and ground.
 - DCSM C3265C-4, circuit VHS21 (BU/WH), harness side and ground.

Yes
GO to [AQ27](#).

No
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339.
REPOWER the SRS. REFER to [Section 501-20B](#).

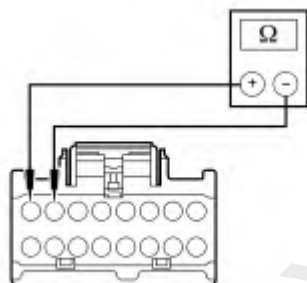


N0044867

- Are the resistances greater than 10,000 ohms?

AQ27 CHECK THE BLOWER AND WIRING RESISTANCE

- **NOTE:** The ohmmeter must be connected with the positive lead to DCSM C3265C-8, circuit CHS08 (BN/YE) and the negative lead to DCSM C3265C-7, circuit RHS08 (VT/WH) when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between DCSM C3265C-8, circuit CHS08 (BN/YE), harness side and DCSM C3265C-7, circuit RHS08 (VT/WH), harness side.

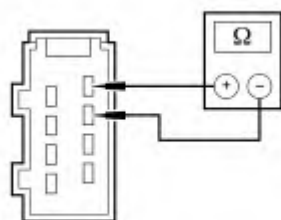


N0044851

- Is the resistance between 4,000 and 10,000 ohms?

AQ28 CHECK THE BLOWER RESISTANCE

- Disconnect: Backrest TED C3039 .
- **NOTE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between backrest TED C3039 pins 2 and 4, component side.



N0053768

- Is the resistance between 4,000 and 10,000 ohms?

Yes

GO to [AQ29](#).

No

GO to [AQ28](#).

Yes

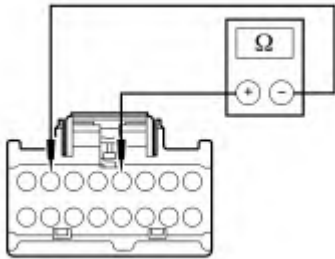
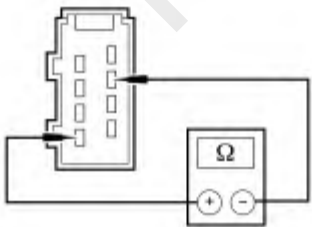
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

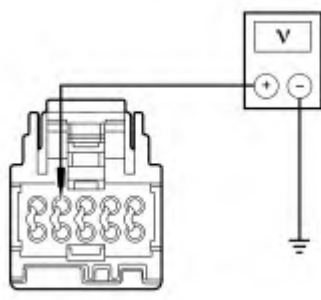
No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to

	Section 501-20B .
AQ29 CHECK THE BLOWER SPEED CONTROL AND CIRCUIT RESISTANCE • NOTE: The ohmmeter must be connected with the positive lead to C3265C-4, circuit VHS21 (BU/WH), harness side and the negative lead to C3265C-7, circuit RHS08 (VT/WH), harness side when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty. • Measure the resistance between <u>DCSM</u> C3265C-4, circuit VHS21 (BU/WH), harness side and <u>DCSM</u> C3265C-7, circuit RHS08 (VT/WH), harness side.  N0044868 • Is the resistance between 240K ohms and 4M ohms?	Yes GO to AQ31. No GO to AQ30.
AQ30 CHECK THE BLOWER SPEED CONTROL RESISTANCE • Disconnect: Backrest <u>TED</u> C3039. • NOTE: The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty. • Measure the resistance between backrest <u>TED</u> C3039 pins 7 and 4, component side.  N0054028 • Is the resistance between 240K ohms and 4M ohms?	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No INSTALL a new backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AQ31 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO VOLTAGE • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339. • Disconnect: <u>DCSM</u> C3265B.	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

-  **WARNING:** Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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](#).
- Ignition ON.
- Measure the voltage between DCSM C3265B-4, circuit VHS36 (YE/BU), harness side and ground.



N0042993

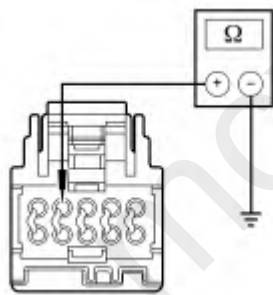
- Is any voltage present?

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No
GO to [AQ32](#).

AQ32 CHECK THE THERMISTOR CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between DCSM C3265B-4, circuit VHS36 (YE/BU), harness side and ground.



N0042994

- Is the resistance greater than 10,000 ohms?

Yes
GO to [AQ33](#).

No
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

AQ33 CHECK THE TED THERMISTOR AND WIRING RESISTANCE AT THE DCSM

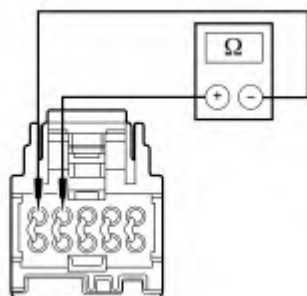
- Measure the resistance between DCSM C3265B-4, circuit VHS36 (YE/BU), harness side and DCSM C3265B-5, circuit RHS20 (GN/BU), harness side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms

Yes
INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



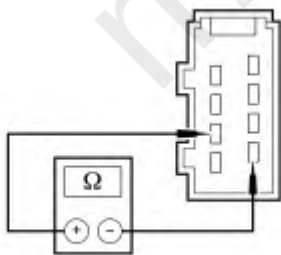
N0042995

- Is the resistance within the limits indicated?

NoGO to [AQ34](#).**AQ34 CHECK THE TED THERMISTOR RESISTANCE**

- Disconnect: Backrest TED C3039 .
- Measure the resistance between backrest TED pins 5 and 8, component side. Note the ambient temperature and compare result to the following table:

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



N0053767

- Is the resistance within the limits indicated?

Yes

REPAIR the circuit(s) for high resistance. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test AR: DTC B272E

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The driver climate controlled seat blowers are located within the backrest and cushion Thermo-Electric Devices (TEDs). The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to both blowers. The blowers are independently controlled by separate speed control circuits from the DCSM.

- DTC B272E (Driver Ignition Run/Blower Circuit Short to Ground) — If either the blower voltage supply or return circuits are open (to both cushion or backrest blowers) or shorted to voltage, the DTC is set and after 4-6 seconds the DCSM disables outputs to the driver seat. The DTC also sets if the blower voltage supply or return circuit is open to only one blower when DCSM supply voltage is less than 12 volts.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Backrest or cushion TED
- DCSM

PINPOINT TEST AR: DTC B272E

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

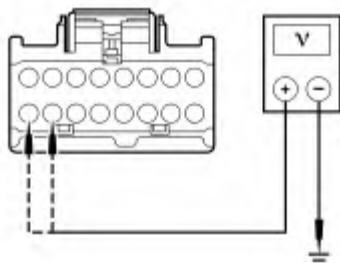
NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take
AR1 CHECK THE <u>TED</u> BLOWER MOTOR CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Driver Seat Side Air Bag Module C3051 . • Disconnect: Passenger Seat Side Air Bag Module C339 . • Disconnect: <u>DCSM</u> C3265C . • Disconnect: Cushion <u>TED</u> C3035 . • Disconnect: Backrest <u>TED</u> C3034 . •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 . • Ignition ON. • Measure the voltage between <u>DCSM</u> C3265C, harness side and ground using the following chart.	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AR2.

DCSM Connector	Circuit
C3265C-15	RHS03 (GY/OG)
C3265C-16	CHS03 (GN/BN)



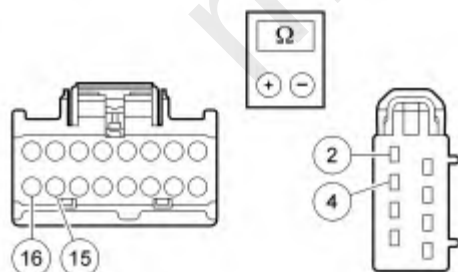
N0100444

- Is any voltage present on either circuit?

AR2 CHECK THE TED BLOWER MOTOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure the resistance between DCSM C3265C pins, harness side and cushion TED C3035 pins, harness side using the following chart.

DCSM Connector	Circuit	Cushion <u>TED</u> Connector
C3265C-15	RHS03 (GY/OG)	C3035-4
C3265C-16	CHS03 (GN/BN)	C3035-2



N0093634

- Are the resistances less than 5 ohms?

AR3 CHECK THE RESISTANCE OF THE CUSHION AND BACKREST TED BLOWER MOTORS

- **NOTE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.

Yes

GO to [AR3](#).

No

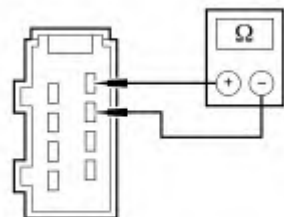
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR

- Measure the resistance between:
 - cushion TED C3035 pins 2 and 4, component side.
 - backrest TED C3034 pins 2 and 4, component side.



N0053768

- Are the resistances between 4,000 and 10,000 ohms?

the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

No

If the cushion TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the backrest TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test AS: DTC B272F

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The passenger climate controlled seat blowers are located within the backrest and cushion Thermo-Electric Devices (TEDs). The Dual Climate Controlled Seat Module (DCSM) supplies voltage and ground to both blowers. The blowers are independently controlled by separate speed control circuits from the DCSM.

- DTC B272F (Passenger Ignition Run/Blower Circuit Short to Ground) — If either the blower voltage supply or return circuits are open (to both cushion and backrest blowers) or shorted to voltage, the DTC is set and after 4-6 seconds the DCSM disables outputs to the passenger seat. The DTC also sets if the blower voltage supply or return circuit is open to only one blower when DCSM supply voltage is less than 12 volts.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors

- Backrest or cushion TED
- DCSM

PINPOINT TEST AS: DTC B272F

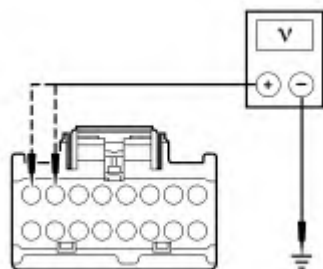
NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

NOTE: If a seat equipped with a seat mounted side air bag is being repaired, the Supplemental Restraint System (SRS) must be depowered. Refer to [Section 501-20B](#).

NOTE: The air bag warning lamp illuminates when the Restraints Control Module (RCM) fuse is removed and the ignition switch is ON. This is normal operation and does not indicate an SRS fault.

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

Test Step	Result / Action to Take						
AS1 CHECK THE <u>TED</u> BLOWER MOTOR CIRCUITS FOR A SHORT TO VOLTAGE • Ignition OFF. • Depower the <u>SRS</u>. Refer to Section 501-20B. • Disconnect: Passenger Seat Side Air Bag Module C339 . • Disconnect: <u>DCSM</u> C3265C . • Disconnect: Cushion <u>TED</u> C3040 . • Disconnect: Backrest <u>TED</u> C3039 . •  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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. • Ignition ON. • Measure the voltage between <u>DCSM</u> C3265C, harness side and ground using the following chart. <table border="1"> <thead> <tr> <th><u>DCSM</u> Connector</th><th>Circuit</th></tr> </thead> <tbody> <tr> <td>C3265C-7</td><td>RHS08 (VT/WH)</td></tr> <tr> <td>C3265C-8</td><td>CHS08 (BN/YE)</td></tr> </tbody> </table>	<u>DCSM</u> Connector	Circuit	C3265C-7	RHS08 (VT/WH)	C3265C-8	CHS08 (BN/YE)	Yes REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AS2.
<u>DCSM</u> Connector	Circuit						
C3265C-7	RHS08 (VT/WH)						
C3265C-8	CHS08 (BN/YE)						



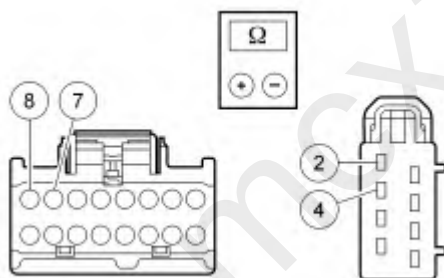
N0100445

- Is any voltage present on either circuit?

AS2 CHECK THE TED BLOWER MOTOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure the resistance between DCSM C3265C pins, harness side and cushion TED C3040 pins, harness side using the following chart.

<u>DCSM</u> Connector	Circuit	Cushion <u>TED</u> Connector
C3265C-7	RHS08 (VT/WH)	C3040-4
C3265C-8	CHS08 (BN/YE)	C3040-2



N0093633

- Are the resistances less than 5 ohms?

AS3 CHECK THE RESISTANCE OF THE CUSHION AND BACKREST TED BLOWER MOTORS

- **NOTE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected will result in false readings and lead to incorrect identification of components that are not faulty.
- Measure the resistance between:
 - cushion TED C3040 pins 2 and 4, component side.
 - backrest TED C3039 pins 2 and 4, component side.

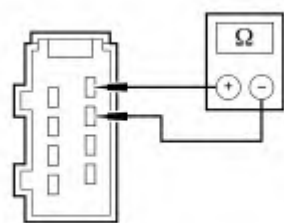
Yes
GO to [AS3](#).

No
REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Yes
INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-](#)



N0053768

- Are the resistances between 4,000 and 10,000 ohms?

[20B](#).

No

If the cushion TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new cushion TED. REFER to [Seat Cushion Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

If the backrest TED resistance is **not** between 4,000 and 10,000 ohms, INSTALL a new backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT passenger seat side air bag module C339. REPOWER the SRS. REFER to [Section 501-20B](#).

Pinpoint Test AT: DTC B2730

Refer to Wiring Diagrams Cell [119](#), Climate Controlled Seats for schematic and connector information.

Normal Operation

The Dual Climate Controlled Seat Module (DCSM) monitors seat backrest temperature while it supplies voltage and ground to both blower motors. The DCSM also supplies a variable voltage signal to control the blower speed. Cabin air enters the blower through a filter attached to the Thermo-Electric Device (TED) housing. Heated or cooled air exits the TED and flows through a manifold attached to the foam pad.

- DTC B2730 (Back Over-Temp Detected) — If the driver seat backrest TED temperature exceeds 85° C (185°F) in heat mode or 70°C (158°F) in cool mode for more than 34 seconds the DCSM shuts down the driver seat system and sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Restricted backrest TED filter
- Crushed or restricted climate controlled seat manifold
- Backrest TED assembly

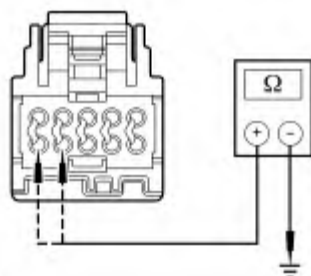
PINPOINT TEST AT: DTC B2730

NOTICE: When taking measurements at Dual Climate Controlled Seat Module (DCSM) harness connectors, do not insert the electrical probes into the female connector pins. Inserting the probes

into connector pins can cause intermittent or open electrical connections after reassembly resulting in Diagnostic Trouble Codes (DTCs) and system failure. Touching the tip of these connector pins is recommended instead.

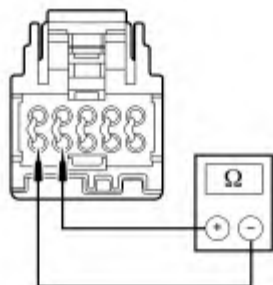
NOTE: The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition is ON.

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
AT1 CHECK THE <u>DCSM</u> FOR ON-DEMAND DTCs	
- Start the vehicle and set the driver seat to HIGH heat. - Enter the following diagnostic mode on the scan tool: Self Test — <u>DCSM</u>. - Was DTC B2730 retrieved on-demand during the self-test?	Yes GO to AT2. No GO to AT5.
AT2 CHECK THE DRIVER SEAT BACKREST <u>TED</u> THERMISTOR CIRCUITS FOR A SHORT TO GROUND	
- Ignition OFF. - Depower the <u>SRS</u>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of Section 501-20B. - Disconnect: Driver Seat Side Air Bag C3051 and Passenger Seat Side Air Bag C339. - Disconnect: <u>DCSM</u> C3265B. - Disconnect: Driver Seat Backrest <u>TED</u> C3034.  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between: <u>DCSM</u> C3265B-9, circuit CHS14 (GN), harness side and ground. <u>DCSM</u> C3265B-10, circuit CHS29 (WH/BU), harness side and ground.	Yes GO to AT3. No REPAIR the circuit(s). CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
 N0065349 Are the resistances greater than 10,000 ohms?	
AT3 CHECK THE DRIVER SEAT BACKREST <u>TED</u> THERMISTOR AND WIRING	

- Connect: Driver Seat Backrest TED C3034 .
- Measure the resistance between DCSM C3265B-9, circuit CHS14 (GN), harness side and DCSM C3265B-10, circuit CHS29 (WH/BU), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



- Is the resistance within the limits indicated?

AT4 CHECK THE DRIVER SEAT BACKREST TED THERMISTOR

- Disconnect: Driver Seat Backrest TED C3034 .
- Measure the resistance between driver seat backrest TED C3034 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms

Yes

GO to [AT18](#).

No

GO to [AT4](#).

Yes

REPAIR circuit VHS35 (VT/OG) or RHS15 (GY/BN) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

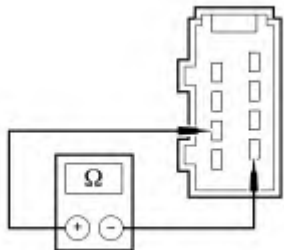
DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

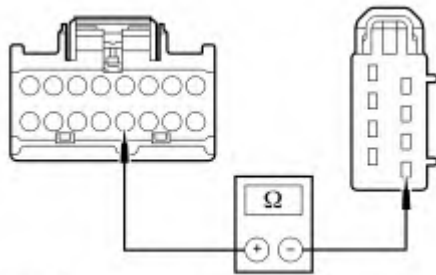
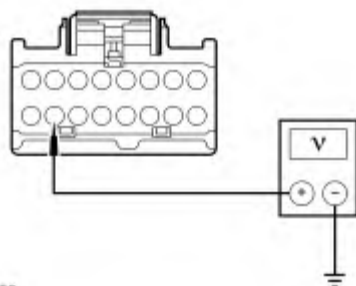
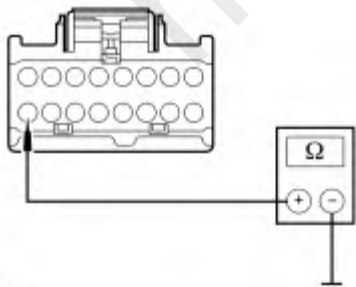
No

INSTALL a new driver seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

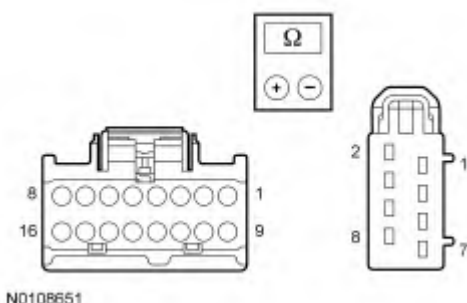
DISCONNECT the battery ground cable. CONNECT

 N0053767 Is the resistance within the limits indicated?	driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AT5 CONFIRM THE FAULT WHILE MONITORING THE <u>DCSM</u> SEAT BACK THERMAL ELECTRIC DEVICE TEMPERATURE (<u>BK_TEMP</u>) AND SEAT CUSHION THERMAL ELECTRIC DEVICE TEMPERATURE (<u>CSHTEMP</u>) PIDs - Set the driver seat to OFF. - Enter the following diagnostic mode on the scan tool: Clear DTCs - <u>DCSM</u>. - Enter the following diagnostic mode on the scan tool: DataLogger - <u>DCSM</u>. - Monitor the <u>DCSM</u> PIDs <u>BK_TEMP</u> and <u>CSHTEMP</u>. NOTE: A crushed seat backrest foam pad or a crushed climate controlled seat manifold may be the cause of the fault making it necessary to occupy the seat to recreate and identify the fault. - Attempt to recreate the fault. Start the vehicle and set the driver seat to HIGH heat for at least 15 minutes while occupying the seat. Do the PIDs increase incrementally (gradually) and stay within 15°C (27°F) of each other?	Yes The fault is not present at this time. The fault may have been set due to a past failure, incorrect use of the climate controlled seat system by repeated switching between heat and cool modes or due to excessive driver compartment temperature. CLEAR the DTCs. REPEAT the self-test. No If the <u>BK_TEMP</u> PID increases incrementally and is greater than 15°C (27°F) of the <u>CSHTEMP</u> PID, GO to AT6. If the <u>BK_TEMP</u> PID increases quickly (temperature "jumps" and does not increase incrementally) and is greater than 15°C (27°F) of the <u>CSHTEMP</u> PID, GO to AT16.
AT6 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS - With the engine running, set both front seats to HIGH cool. - Note the airflow exhausting from the driver seat backrest <u>TED</u> and compare it to the airflow exhausting from the passenger seat backrest <u>TED</u>. - Carry out a wiggle test of the wire harnesses between the <u>DCSM</u> and the driver seat backrest <u>TED</u> while monitoring blower operation of the <u>TED</u>. The blower should operate consistently and not change speeds. Is the airflow exhausting from the driver seat backrest <u>TED</u> comparable to the airflow exhausting from the passenger seat backrest <u>TED</u> with no change in operation when	Yes GO to AT7. No If the airflow exhausting from the driver seat backrest <u>TED</u> is not comparable to the airflow exhausting from the passenger seat backrest <u>TED</u>, GO to AT8.

carrying out the wiggle test?	If the driver seat backrest <u>TED</u> blower operation changed while carrying out the wiggle test, IDENTIFY and REPAIR the wiring fault. CLEAR the DTCs. REPEAT the self-test.
AT7 COMPARE OPERATION OF THE DRIVER AND PASSENGER SEATS WHILE OCCUPIED	
- Note the airflow exhausting from the driver seat backrest <u>TED</u> with the driver seat occupied and compare it to the airflow exhausting from the passenger seat backrest <u>TED</u> with the passenger seat occupied. Is the airflow exhausting from the driver seat backrest <u>TED</u> comparable to the airflow exhausting from the passenger seat backrest <u>TED</u> ?	Yes GO to AT16. No INSTALL a new driver seat backrest foam pad and/or climate controlled seat manifold. CLEAR the DTCs. REPEAT the self-test.
AT8 CHECK THE DRIVER SEAT BACKREST BLOWER FOR AN OBSTRUCTION OR RESTRICTED FILTER	
- Ignition OFF. - Inspect the blower of the driver seat backrest <u>TED</u> assembly for an obstruction or for a restricted filter. Is the blower obstructed or the filter restricted?	Yes REMOVE the obstruction or INSTALL a new filter. CLEAR the DTCs. REPEAT the self-test. No GO to AT9.
AT9 CHECK THE DRIVER SEAT BACKREST BLOWER SPEED CONTROL CIRCUIT FOR AN OPEN	
- Depower the <u>SRS</u>. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of Section 501-20B. - Disconnect: Driver Seat Side Air Bag C3051 and Passenger Seat Side Air Bag C339 . - Disconnect: <u>DCSM</u> C3265C . - Disconnect: Driver Seat Backrest <u>TED</u> C3034 .  WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between <u>DCSM</u> C3265C-12, circuit CHS09 (GY), harness side and driver seat backrest <u>TED</u> C3034-7, circuit VHS16 (BU/GN), harness side.	Yes GO to AT10. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.

 N0053810 Is the resistance less than 5 ohms?	
AT10 CHECK THE DRIVER SEAT BACKREST BLOWER CIRCUIT FOR A SHORT TO VOLTAGE - Ignition ON. - Measure the voltage between <u>DCSM</u> C3265C-15, circuit RHS03 (GY/OG), harness side and ground.  N0044853 - Is any voltage present?	Yes REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B. No GO to AT11.
AT11 CHECK THE DRIVER SEAT BACKREST BLOWER CIRCUIT FOR A SHORT TO GROUND - Ignition OFF. - Measure the resistance between <u>DCSM</u> C3265C-16, circuit CHS03 (GN/BN), harness side and ground.  N0044845 - Is the resistance greater than 10,000 ohms?	Yes GO to AT12. No REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AT12 CHECK THE DRIVER SEAT BACKREST BLOWER CIRCUITS FOR AN OPEN - Measure the resistance between: <u>DCSM</u> C3265C-16, circuit CHS03 (GN/BN), harness side and driver seat backrest <u>TED</u> C3034-2, circuit CHS03 (GN/BN), harness side.	Yes GO to AT13. No

- DCSM C3265C-15, circuit RHS03 (GY/OG), harness side and driver seat backrest TED C3034-4, circuit RHS03 (GY/OG), harness side.



N0108651

- Are the resistances less than 5 ohms?

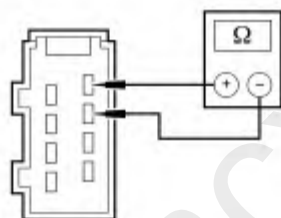
REPAIR the circuit(s).
CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AT13 CHECK THE DRIVER SEAT BACKREST BLOWER RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 2 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between driver seat backrest TED C3034 pin 2 and pin 4, component side.



N0053768

- Is the resistance between 4,000 ohms and 10,000 ohms?

Yes
GO to [AT14](#).

No
INSTALL a new driver seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

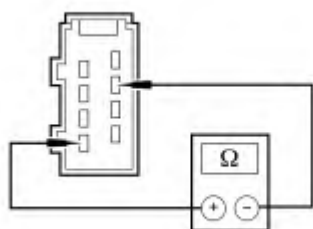
AT14 CHECK THE DRIVER SEAT BACKREST BLOWER SPEED CONTROL RESISTANCE

- **NOTICE:** The ohmmeter must be connected with the positive lead to pin 7 and the negative lead to pin 4 when measuring. Ohmmeter leads incorrectly connected results in false readings and leads to incorrect identification of components that are not damaged.
- Measure the resistance between driver seat backrest TED C3034 pin 7 and pin 4, component side.

Yes
GO to [AT15](#).

No
INSTALL a new driver seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag



N0054028

- Is the resistance between 240K ohms and 400K ohms?

module C339.

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

AT15 CHECK THE DRIVER SEAT BACKREST TED INSTALLATION AND FOR CRUSHED SEAT BACKREST

- Ignition OFF.
- Remove the driver seat. Refer to [Seat — Front](#) in this section.
- Remove the driver seat backrest cover. Refer to [Seat Backrest Cover — Front](#) in this section.
- Inspect the driver seat backrest for the following:
 - Is the driver seat backrest TED correctly installed?
 - Is the driver seat backrest foam pad crushed or restricted?
 - Is the driver seat backrest climate controlled seat manifold crushed or restricted?
- Is the driver seat backrest TED correctly installed and are there no signs of damage to the foam pad and manifold?

Yes
INSTALL the driver seat backrest cover and seat and GO to [AT18](#).

No
CORRECTLY install the driver seat backrest TED or INSTALL a new driver seat backrest foam pad and/or climate controlled seat manifold. CONNECT the battery ground cable. REFER to [Section 414-01](#). CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AT16 CHECK THE DRIVER SEAT BACKREST TED THERMISTOR AND WIRING

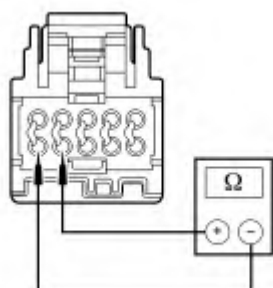
- Ignition OFF.
- Depower the SRS. Refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of [Section 501-20B](#).
- Disconnect: Driver Seat Side Air Bag C3051 and Passenger Seat Side Air Bag C339.
- Disconnect: DCSM C3265B.
-  **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any airbag 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 the resistance between DCSM C3265B-9, circuit

Yes
GO to [AT18](#).

No
GO to [AT17](#).

CHS14 (GN), harness side and C3265B-10 circuit CHS29 (GY), harness side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



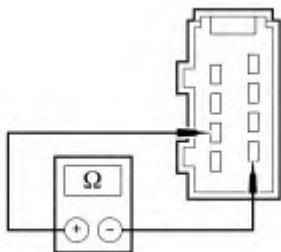
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- Is the resistance within the limits indicated?

AT17 CHECK THE DRIVER SEAT BACKREST TED THERMISTOR

- Measure the resistance between driver seat backrest TED C3034 pin 5 and pin 8, component side. Note the ambient temperature and refer to the following table.

Temperature	Resistance
0-10°C (32-50°F)	2,782-1,663 ohms
10-20°C (50-68°F)	1,837-1,140 ohms
20-30°C (68-86°F)	1,260-806 ohms
30-40°C (86-104°F)	893-570 ohms
40-50°C (104-122°F)	630-428 ohms



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- Is the resistance within the limits indicated?

Yes

REPAIR circuit VHS35 (VT/OG) or RHS15 (GY/BN) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test.

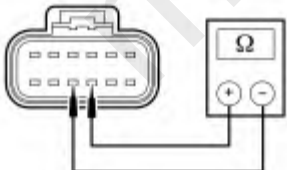
DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

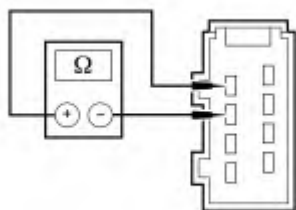
REPOWER the SRS. REFER to [Section 501-20B](#).

No

INSTALL a new TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag

	module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AT18 CHECK THE DRIVER SEAT BACKREST <u>TED</u> HEATING/COOLING CIRCUITRY CURRENT DRAW - Connect: All <u>DCSM</u>, <u>TED</u> and Body Harness-to-Seat Harness Connectors . NOTICE: It may be necessary to open the seat wire harness conduit to allow placing the inductive current probe around the circuit as described in the following step. Care must be taken when opening up the wire harness so as not to damage any wiring or connectors. Do not damage any wiring or induce stress on any wiring or connectors. Close up the wire harness once repairs to the seat are complete. NOTE: Use a commercially available inductive current probe (such as Electronic Specialties Current Probe/Multimeter 685 or a Fluke I410 [used with a digital multimeter]) or the low current probe from the Vehicle Measurement Module available for use with Integrated Diagnostic System (IDS). If these are unavailable, the inductive current probe feature from a battery tester may be substituted. - Place an inductive current probe around circuit CHS01 (GY/VT) near <u>DCSM</u> C3265A-J and monitor the current draw. - Start the vehicle and set the driver seat to HIGH heat. - Is the current draw less than 11 amps?	Yes GO to AT19. No INSTALL a new driver seat backrest <u>TED</u>. REFER to Seat Backrest Thermo-Electric Device in this section. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339. REPOWER the <u>SRS</u>. REFER to Section 501-20B.
AT19 CHECK RESISTANCE OF THE DRIVER SEAT BACKREST <u>TED</u> AND WIRING - Ignition OFF. - Disconnect: <u>DCSM</u> C3265A . - Measure the resistance between <u>DCSM</u> C3265A-J circuit CHS01 (GY/VT), harness side and C3265A-K, circuit RHS01 (WH/VT), harness side.  N0132223 - Is the resistance between 0.9 and 10 ohms?	Yes GO to AT21. No GO to AT20.
AT20 CHECK THE RESISTANCE OF THE DRIVER SEAT BACKREST <u>TED</u> - Disconnect: Driver Seat Backrest <u>TED</u> C3034 . - Measure the resistance between driver seat backrest <u>TED</u> C3034 pin 1 and pin 3, component side.	Yes REPAIR circuit CHS01 (GY/VT) or RHS01 (WH/VT) for an open or high resistance. CLEAR the DTCs. REPEAT the self-test. DISCONNECT the battery



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- Is the resistance between 0.9 and 10 ohms?

ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

INSTALL a new driver seat backrest TED. REFER to [Seat Backrest Thermo-Electric Device](#) in this section. CLEAR the DTCs. REPEAT the self-test.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

AT21 CHECK FOR CORRECT DCSM OPERATION

- Inspect the DCSM and driver seat backrest TED harness and component side connectors and the body harness-to-seat harness connectors for:
 - corrosion
 - damaged pins
 - pushed-out pins
- Connect: All DCSM, TED and Body Harness-to-Seat Harness Connectors.
- Make sure the connectors are seated correctly.
- Start the engine.
- Set the driver seat to OFF.
- Enter the following diagnostic mode on the scan tool: Clear DTCs - DCSM.
- Attempt to recreate the fault. With the engine still running set the driver seat to HIGH heat for at least 15 minutes.
- Is the concern still present?

Yes

INSTALL a new DCSM. REFER to [Dual Climate Controlled Seat Module \(DCSM\)](#) in this section. REPEAT the self-test. TEST the system for normal operation.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag module C339.

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

No

The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

DISCONNECT the battery ground cable. CONNECT driver seat side air bag module C3051 and passenger seat side air bag

module C339.

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

Component Test

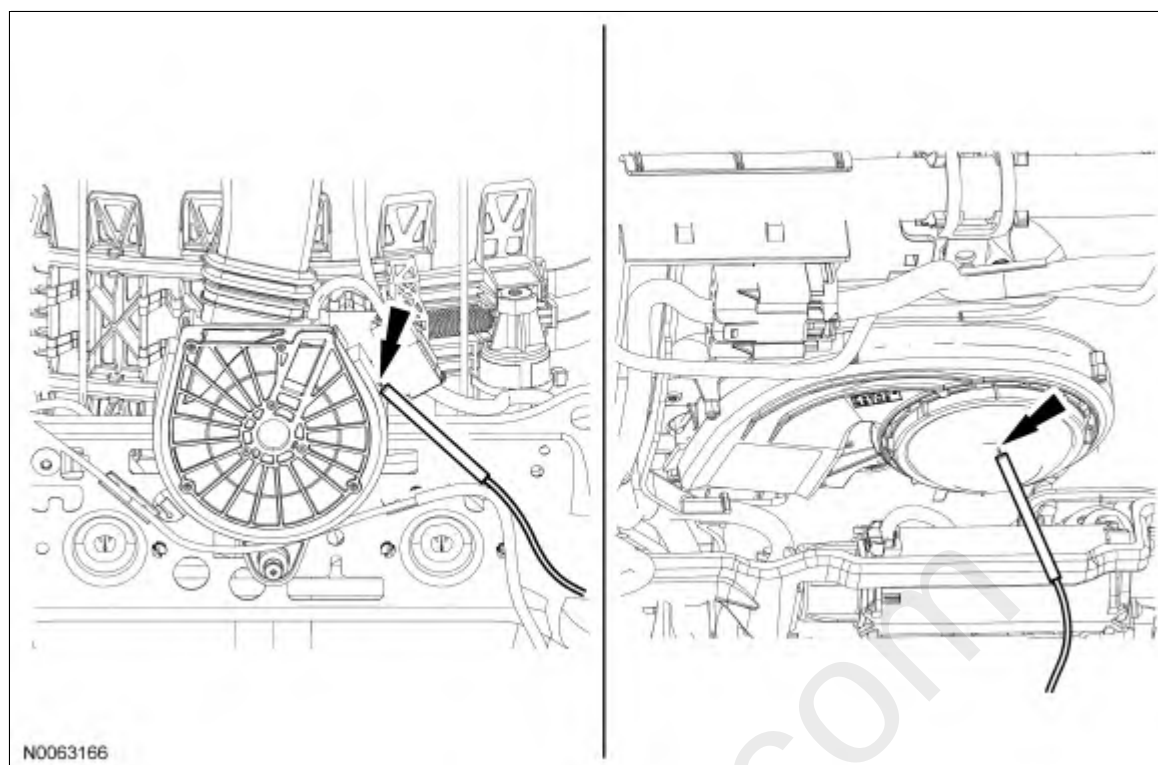
Component Test — Thermo-Electric Device (TED) Cooling Performance

NOTE: This test is intended to check the cooling mode performance of an operational climate controlled seat backrest or cushion Thermo-Electric Device (TED) and verify it is cooling inlet air at the TED (ambient cabin air) between 6-8°C (10-14°F).

NOTE: Make sure the vehicle is out of direct sunlight and is in an area with a stable air temperature when testing the climate controlled seat system.

NOTE: For correct temperature measurements, the seat being tested should be occupied.

1. Enter DataLogger and monitor the following Dual Climate Controlled Seat Module (DCSM) PIDs:
 - Seat cushion TED temperature (CSHTMP)
 - Seat back TED temperature (BK_TEMP)
 - Passenger cushion TED temperature (PCSHTMP)
 - Passenger back TED temperature (PBKTMP)
 - Driver state seat mode (DCCSMOD)
 - Passenger state seat mode (PCCSMOD)
2. Any initial PID value of greater than 205°C (401°F) or less than 2°C (36°F) indicates a system hardware failure. Do not proceed with this test. GO to [Symptom Chart](#) or Dual Climate Controlled Seat Module (DCSM) DTC Chart for diagnosis.
3. Gain access to the seat cushion and backrest TEDs and use a suitable thermo-couple temperature measuring device to monitor the air inlet temperature.
 - Release the J-clip at the backrest bottom and unzip the 2 zippers at the backrest side edges.
 - Place the temperature probe near each TEDs air filter.



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4. **NOTE:** The engine must be running to operate the climate controlled seat system and carry out this test.

Operate system in high cool mode and measure the temperature at the cushion TED filter using the thermo-couple device.

- Obtain and record the air inlet temperature at the TED.
 - Secure the temperature probe at the cushion TED air filter before measuring.
5. Use a scan tool to measure the cushion TED PID temperature and record the value.
 - Monitor the MODE PID and verify the system is operating. If during testing, the PID value changes to Blower Only state, the system has entered into recovery mode and voltage to the TEDs is disabled. If this occurs, the seat has failed the test. Do not continue. Return to the diagnostic routine.
 6. Subtract the cushion TED PID temperature from the cushion air inlet temperature and record the temperature difference value.
 7. Continue to operate the system in high cool mode and use the thermo-couple device to measure the temperature at the backrest TED filter.
 - Obtain and record the air inlet temperature at the TED.
 - Secure the temperature probe at the backrest TED air filter and close the backrest cover before measuring.
 8. Use a scan tool to measure the backrest TED PID temperature and record the value.
 - Monitor the MODE PID and verify the system is operating. If during testing, the PID value changes to Blower Only state, the system has entered into recovery mode and voltage to the TEDs is disabled. If this occurs, the seat has failed the test. Do not continue. Return to the diagnostic routine.
 9. Subtract the backrest TED PID temperature from the backrest air inlet temperature and record the

value.

10. Compare the cushion and backrest calculated temperature values. The temperature difference should be between 6 and 8 degrees.
 11. If the calculated temperature values are not within these specifications, check the climate controlled seat components for air duct or filter restrictions, blockages, duct or electrical disconnections and for incorrect assembly. Repair as needed. If OK, carry out the DCSM self-test and if any DTC is retrieved, go to Dual Climate Controlled Seat Module (DCSM) DTC Chart for diagnostic direction. Return to the diagnostic routine.
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