

**FORD:**  
2003-2004 Expedition

**LINCOLN:**  
2003-2004 Navigator

This article supersedes TSB **04-07-04** to update the Service Procedure.

### **ISSUE**

Some vehicles may exhibit a condition of the climate controlled seat(s) shutting off after less than 10 minutes of run time during the first heat cycle. The climate control seat may operate for less than one (1) minute, or for more than one (1) minute but less than the normal 15 minute heat cycle, before shutting down. Symptoms may also include poor seat cooling performance when in cooling mode, during the first and subsequent run cycles.

### **ACTION**

Refer to the following diagnostics to correct a premature seat shutoff condition.

### **SERVICE PROCEDURE**

#### **NOTE**

IF CUSTOMER REPORT PERTAINS TO COOLING PERFORMANCE, VERIFY CONDITION BY USING SEAT IN HEAT MODE AND DETERMINING IF THE SYMPTOMS MATCH THE DESCRIPTION ABOVE. TSB DIAGNOSTICS SHOULD ONLY BE PERFORMED IF SYMPTOMS ARE VERIFIED IN HEAT MODE.

#### **NOTE**

REFER TO ONLINE WORKSHOP MANUAL SECTION 501-10 FOR DIAGNOSTIC INFORMATION IF BOTH CLIMATE CONTROLLED SEATS ARE IDENTICALLY INOPERATIVE.

1. First allow the affected seat to reach ambient temperature by refraining from using it for 30 minutes. Have a watch with a second hand ready to assist in estimating the period of time that the seat is on, before shutting off.
2. Record the diagnostic trouble codes (DTCs) stored in the affected (driver or passenger) climate controlled seat module (CCSM), then clear the DTCs.

**NOTE:** The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

3. Cycle the key in the ignition to reset all fault conditions in the module.
4. Sit in the affected seat.
5. Start the engine and perform Steps 6 and 7 with the engine idling.
6. Turn the thumbwheel switch to the HIGH (5) setting, and the mode switch to the HEAT position.

#### **NOTE**

ALL DIAGNOSTICS MUST BE PERFORMED WITH SEAT IN HEAT MODE, EVEN IF CUSTOMER COMPLAINT PERTAINS TO COOLING PERFORMANCE.

7. Watch the indicator light on the center console as the climate controlled seat is turned on. DOES THE INDICATOR LIGHT ILLUMINATE?
  - a. If the light does not illuminate at all, refer to the symptom chart in online Workshop Manual Section 501-10 for diagnostic information.

#### **NOTE**

IF THE CLIMATE CONTROLLED SEAT IS INOPERATIVE AND A B2477 (MODULE CONFIGURATION FAILURE) DTC IS SET IN THE CCSM, PERFORM PROGRAMMABLE MODULE INSTALLATION (PMI) ON MODULE USING THE WDS AND RETEST. NO MANUAL ENTRY OF DATA IS NEEDED, THE CALIBRATION WILL BE PULLED FROM THE WDS FILE. THE B2477 DTC CAN BE INDUCED BY MOMENTARY VOLTAGE APPLICATION TO THE MODULE, SUCH AS THE MODULE BEING PLUGGED IN WITH THE IGNITION ON. A LOOSE CONNECTION AT THE MODULE, OR A VEHICLE BEING JUMP-STARTED. THE MODULE SHOULD NOT BE REPLACED FOR A B2477 CODE.

- b. If the light does illuminate, after how much time does it shut off?

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- (1) If light is on for less than 10 seconds, see Diagnostics A.
- (2) If light is on for more than 10 seconds but less than 40 seconds, see Diagnostics B.
- (3) If light is on for more than 40 seconds but less than fifteen minutes, see Diagnostics C.
- (4) If light is on for 15 minutes before shutting off, do not attempt a repair. The climate controlled seat is designed to shut off after 15 minutes of use when in HEAT mode.

### DIAGNOSTICS “A” - CLIMATE CONTROLLED SEAT SHUTS OFF AFTER LESS THAN 10 SECONDS

Turn the engine off and the ignition key to the “ON” position.

If the climate controlled seat shuts down prematurely, there must be a DTC(s) stored in the CCSM. Check the appropriate (driver or passenger side) CCSM for DTC(s):

If a B1342 (ECU is Defective) is set, verify power and grounds and replace the CCSM, perform PMI and re-test the system for proper operation. If B1342 and B2486 (Climate Controlled Seat Voltage Out of Range) are present in the CCSM. In this case, perform PMI, then attempt to clear the B1342 from the module.

If the B1342 will clear, follow diagnostics below for correcting the B2486.

- If the B1342 will clear, follow diagnostics below for correcting the B2486.
- If the B1342 will NOT clear, verify power and grounds replace the CCSM, perform PMI and re-test the system for proper operation.

If a B1358 (Ignition Switch or Blower Electronics Circuit Short to Ground) is set, refer to online Workshop Manual Section 501-10 Pinpoint Test Q for electrical checks.

If a B2486 (Climate Controlled Seat Voltage Out of Range) is set, check Circuit 294, the start/run power input to the climate controlled seat module. Input voltage at the module must be between 8.5 and 16.5 Volts with the ignition key in “START” or “RUN”, or the module will set this code. If no trouble found with circuit 294, refer to Workshop Manual Section 414-00 for charging system checks.

If a B2488 (Thumb-Wheel Switch Voltage Out of Range High) is set, refer to online Workshop Manual Section 501-10 Pinpoint Test R for electrical checks.

If a B2521 (Tach Circuit Failure) is set, refer to online Workshop Manual Section 501-10 Pinpoint Test Q for electrical checks.

If a B2792 (Heat Switch Short to Ground) or B2793 (Cool Switch Short to Ground) is set, refer to online Workshop Manual Section 501-10 DTC Index for direction.

### DIAGNOSTICS “B” - CLIMATE CONTROLLED SEAT SHUTS OFF AFTER MORE THAN 10 SECONDS, BUT LESS THAN 40 SECONDS

Turn the engine off and the ignition key to the “ON” position.

Faults that cause the climate controlled seat to shut off between 10 and 40 seconds are usually related to the thermo-electric device (TED) or the thermistor.

If the climate controlled seat shuts down prematurely, there must be a DTC(s) stored in the CCSM. Check the appropriate (driver or passenger side) CCSM for DTC(s).

If a B2731 (Differential Temperature Fault) is set, take note of whether there are additional DTCs in the CCSM. If a B2729 or B2730 is also set in the CCSM, refer to the diagnostics in this section for information on that code. If the B2731 is the only DTC set in the CCSM, the temperature fault could be with either the cushion or the back. Perform the checks outlined in this section for both B2729 and B2730 until the fault is determined.

If a B2729 (Cushion Over-Temperature Detected) is set:

- Check for a short through the appropriate (driver or passenger side) cushion thermistor. There should be between 1200 (1.2 K) and 3600 (3.6 K) Ohms of resistance at room temperature between Pins 2 and 3 of the climate controlled seat cushion element connector. If resistance is outside this range, replace the appropriate (driver or passenger) cushion TED assembly (the thermistor is a subassembly of the TED).

- Check for an open in the appropriate (driver or passenger side) cushion TED. There should be between 0.5 and 7.0 Ohms of resistance at room temperature between Pins 4 and 6 of the climate controlled seat cushion element connector. If resistance is greater than 7.0 Ohms, replace the appropriate (driver or passenger) cushion TED assembly.

If a B2730 (Back Over-Temperature Detected) is set:

- Check for a short through the appropriate (driver or passenger side) backrest thermistor. There should be between 1200 (1.2 K) and 3600 (3.6 K) Ohms of resistance at room temperature between Pins 2 and 3 of the climate controlled seat backrest element connector. If resistance is outside this range, replace the appropriate (driver or passenger) backrest TED assembly (the thermistor is a subassembly of the TED).
- Check for an open in the appropriate (driver or passenger side) backrest TED. There should be between 0.5 and 7.0 Ohms of resistance at room temperature between Pins 4 and 6 of the climate controlled seat cushion element connector. If resistance is greater than 7.0 Ohms, replace the appropriate (driver or passenger) backrest TED assembly.

### **NOTE**

IF CODES B2729, B2730, AND B2731 ARE STILL PRESENT AFTER PERFORMING THE ABOVE DIAGNOSTICS, BE AWARE THAT SOME 2003-2004 EXPEDITION/NAVIGATOR VEHICLES BUILT PRIOR TO 12/8/2003 AND EQUIPPED WITH CLIMATE CONTROLLED SEATS MAY EXHIBIT PREMATURE SHUTDOWN OF THE SEAT WHEN IT IS IN THE HEAT MODE ON THE SECOND OF SUBSEQUENT HEAT CYCLES. THIS PARTICULAR CONDITION WILL NOT OCCUR DURING THE FIRST HEAT CYCLE, IT WILL OCCUR ON THE SECOND OR THIRD HEAT CYCLE AND IS USUALLY ACCOMPANIED BY OVERHEAT (B2729, B2730) AND/OR DIFFERENTIAL TEMPERATURE (B2731) DTC IN THE CCSM. THIS CONDITION MAY ALSO BE AGGRAVATED OR MORE LIKELY TO OCCUR IF THE OCCUPANT IN THE AFFECTED SEAT FALLS IN THE UPPER PERCENTILE OF THE BODY WEIGHT RANGE. THIS MAY BE DUE TO THE TEMPERATURE RAMP-UP STRATEGY AND TEMPERATURE FAULT DETECTION EMPLOYED BY THE ORIGINAL CCSM. TO SERVICE, REPLACE THE AFFECTED CCSM WITH NEW SERVICE PART NUMBER 2L1Z-14C724-AC.

If a B2792 (Heat Switch Short to Ground) or B2793 (Cool Switch Short to Ground) is set, refer to online Workshop Manual Section 501-10 DTC Index for direction.

### **DIAGNOSTICS “C” - CLIMATE CONTROLLED SEAT SHUTS OFF AFTER MORE THAN 40 SECONDS, BUT LESS THAN 15 MINUTES**

Turn the engine off and the ignition key to the “ON” position.

Faults that cause the climate controlled seat to shut off after more than 40 seconds are usually mechanical in nature, such as incorrect foam installation, duct blockages, or a misaligned TED.

If the climate controlled seat shuts down prematurely, there must be a DTC(s) stored in the CCSM. Check the appropriate (driver or passenger side) CCSM for DTC(s).

If a B2731 (Differential Temperature Fault) is set, take note of whether there are additional DTCs in the CCSM. If a B2729 or B2730 is also set in the CCSM, refer to the diagnostics in this section for information on that code. If the B2731 is the only DTC set in the CCSM, the temperature fault could be with either the cushion or the back. Perform the checks for both B2729 and B2730 until the fault is determined.

If a B2729 (Cushion Over-Temperature Detected) is set, disengage the front seat cushion J-retainer at the back of the cushion and pull back the cushion cover.

- Make sure that there are air channels in the seat cushion. The channels are indentations in the foam under the seat scrim (Figure 1). If channels do not exist in the cushion, the cushion is for a non-climate controlled seat and must be replaced with the correct part.
- Make sure that the air channeling holes in the scrim (the thin, white covering that adheres to the seat cushion - see Figure 1) line up with the cushion air channels, and that the scrim is not compressed or crushed to the point of damage.

### **NOTE**

IT IS NORMAL FOR THE SCRIM TO BE COMPRESSED FROM THE WEIGHT OF THE SEAT OCCUPANT. SCRIM SHOULD BE REPLACED ONLY IF EXTENSIVE DAMAGE IS EVIDENT.

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Re-engage the cushion J-retainer. Carefully reach under the seat cushion to make the following checks.

- Check the TED to make sure it is properly aligned. The underside of the seat cushion integrates a round cavity into which the TED must seat (see Figure 2). If the TED is misaligned or is incorrectly seated in the cavity, the seat may overheat and shut down.
- Check to make sure that the seat cushion ducts are properly fastened and aligned (see Figure 2). The cushion duct attaches to the blower with a cable (zip) tie. Make sure that this connection is secure.

If a B2730 (Back Over-Temperature Detected) is set:

Disengage the seat backrest J-retainer at the back of the seat, and ease the backrest cover up several inches to allow checks.

- Make sure that there are air channels in the seat backrest cushion. The channels are indentations in the foam under the seat scrim (see Figure 3). If channels do not exist in the cushion, the cushion is for a non-climate controlled seat and must be replaced with the correct part.
- Make sure that the channeling holes in the scrim (the thin, white covering that adheres to the seat backrest cushion - see Figure 1) line up with the backrest cushion air channels, and that the scrim is not compressed or crushed to the point of damage.

### **NOTE**

IT IS NORMAL FOR THE SCRIM TO BE COMPRESSED FROM THE WEIGHT OF THE SEAT OCCUPANT. SCRIM SHOULD BE REPLACED ONLY IF EXTENSIVE DAMAGE IS EVIDENT.

Leave the backrest cover loose, and carefully ease a hand up between the back of the seat backrest and the cover. Use hand to follow the plastic duct up to about the center of the seat.

- Check the seat backrest TED to make sure it is properly aligned. The seat backrest cushion integrates a round cavity into which the TED must seat (see Figure 4). If the TED is misaligned or is incorrectly seated in the cavity, the seat may overheat and shut down.

### **NOTE**

IF CODES B2729, B2730, AND B2731 ARE STILL PRESENT AFTER PERFORMING THE ABOVE DIAGNOSTICS, BE AWARE THAT SOME 2003-2004 EXPEDITION/NAVIGATOR VEHICLES BUILT PRIOR TO 12/8/2003 AND EQUIPPED WITH CLIMATE CONTROLLED SEATS MAY EXHIBIT PREMATURE SHUTDOWN OF THE SEAT WHEN IT IS IN THE HEAT MODE ON THE SECOND OF SUBSEQUENT HEAT CYCLES. THIS PARTICULAR CONDITION WILL NOT OCCUR DURING THE FIRST HEAT CYCLE, IT WILL OCCUR ON THE SECOND OR THIRD HEAT CYCLE AND IS USUALLY ACCOMPANIED BY OVERHEAT (B2729, B2730) AND/OR DIFFERENTIAL TEMPERATURE (B2731) DTC IN THE CCSM. THIS CONDITION MAY ALSO BE AGGRAVATED OR MORE LIKELY TO OCCUR IF THE OCCUPANT IN THE AFFECTED SEAT FALLS IN THE UPPER PERCENTILE OF THE BODY WEIGHT RANGE. THIS MAY BE DUE TO THE TEMPERATURE RAMP-UP STRATEGY AND TEMPERATURE FAULT DETECTION EMPLOYED BY THE ORIGINAL CCSM. TO SERVICE, REPLACE THE AFFECTED CCSM WITH NEW SERVICE PART NUMBER, 2L1Z-14C724-AC.

Re-attach the seat backrest cover at the rear of the seat.

Carefully reach under the seat to check to make sure that the seat backrest ducts are properly fastened and aligned (see Figure 2). The backrest duct attaches to the blower with a cable (zip) tie. Make sure that this connection is secure.

If a B2792 (Heat Switch Short to Ground) or B2793 (Cool Switch Short to Ground) is set, refer to online Workshop Manual Section 501-10 DTC Index for direction.

PART NUMBER	PART NAME
2L1Z-18D508-BA	Back Thermo-Electric Device (TED) - Expedition/Navigator
2L1Z-18D508-AA	Cushion Thermo-Electric Device (TED) - Expedition/Navigator
2L1Z-78632A22-AA	Seat Cushion - Expedition
2L1Z-7864810-AB	Back Cushion - Expedition
2L7Z-78632A22-AA	Seat Cushion - Navigator
2L7Z-7864810-AB	Back Cushion - Navigator
2L1Z-14C724-AC	Seat Heater Control

**WARRANTY STATUS:** Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

DEALER CODING

BASIC PART NO.  
14C724

CONDITION  
CODE  
42

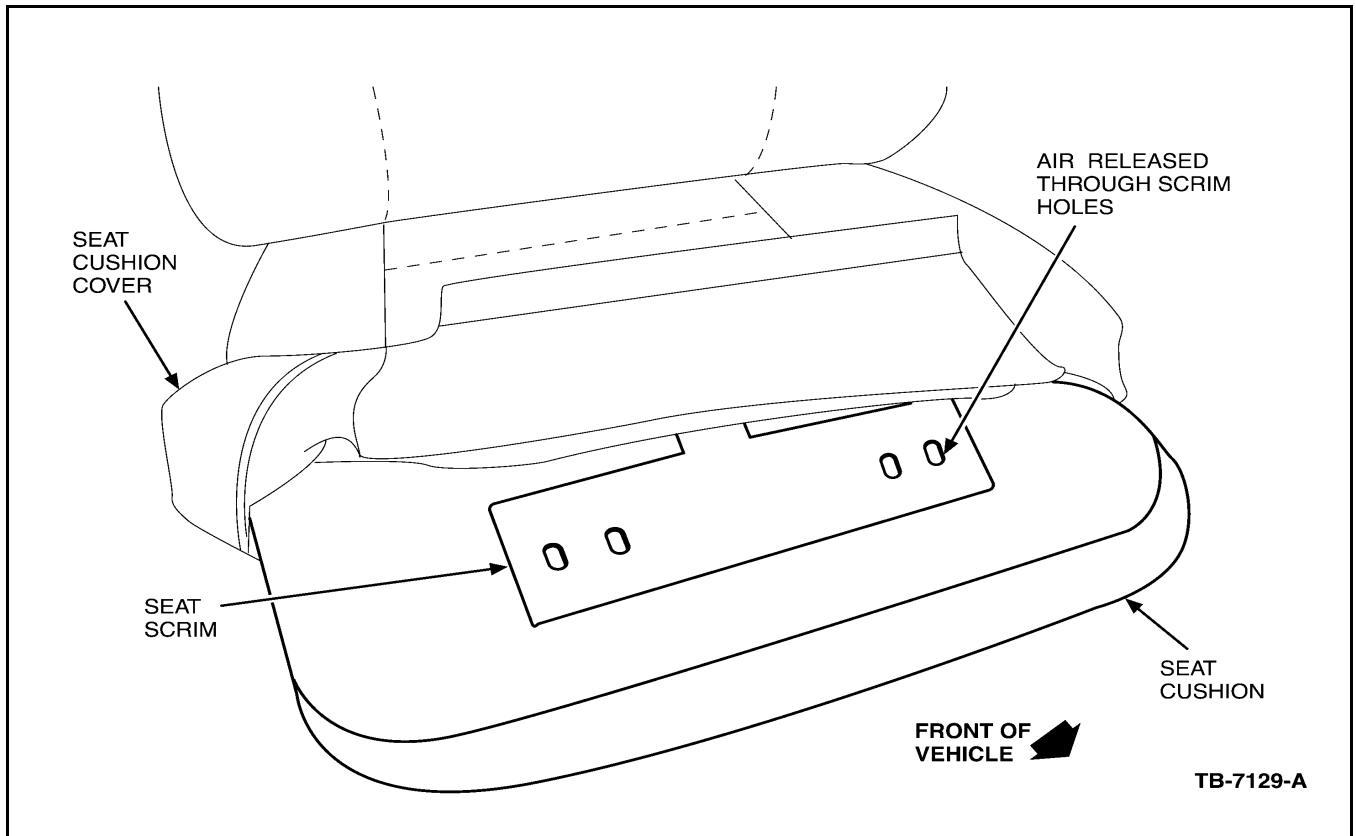


Figure 1 - Article 04-26-19

**TSB 04-26-19 (Continued)**

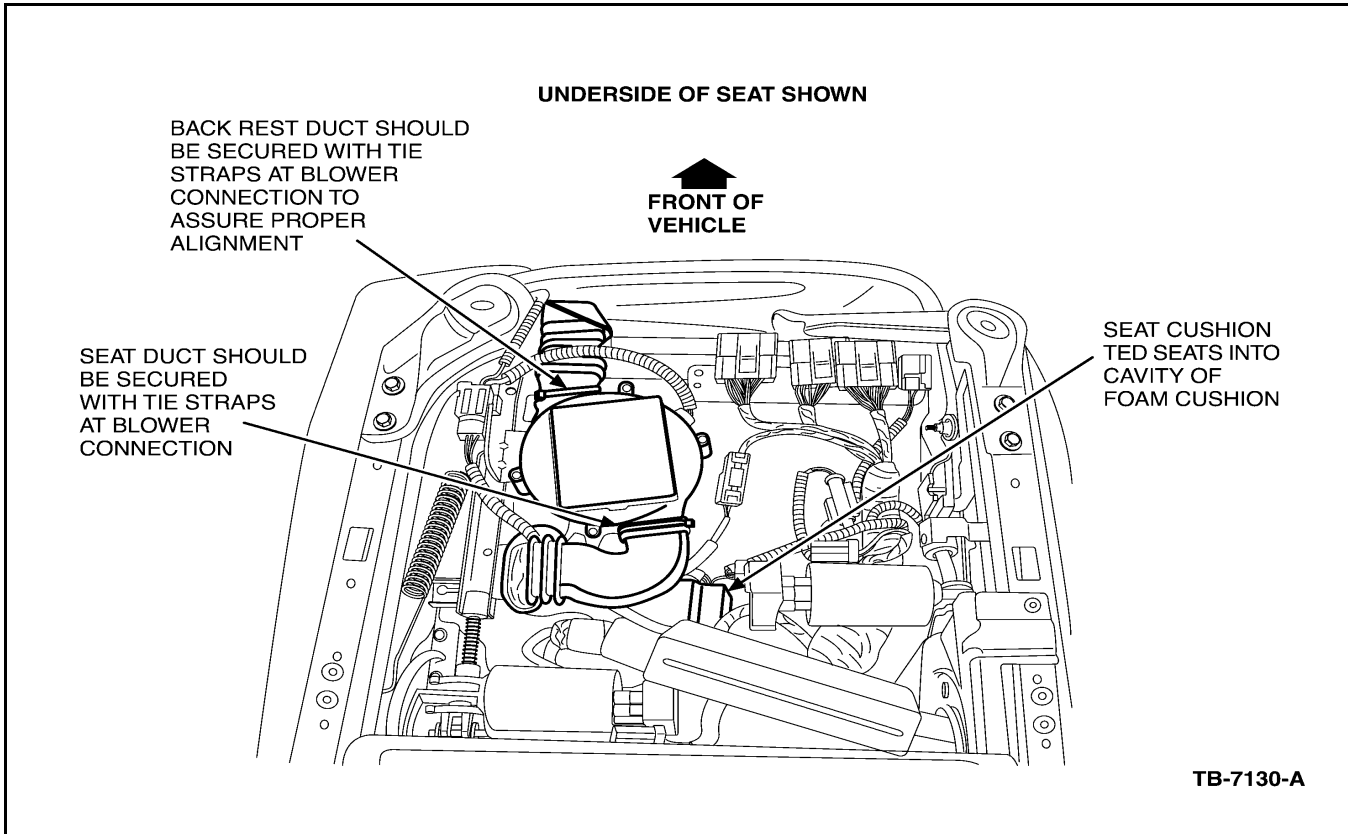


Figure 2 - Article 04-26-19

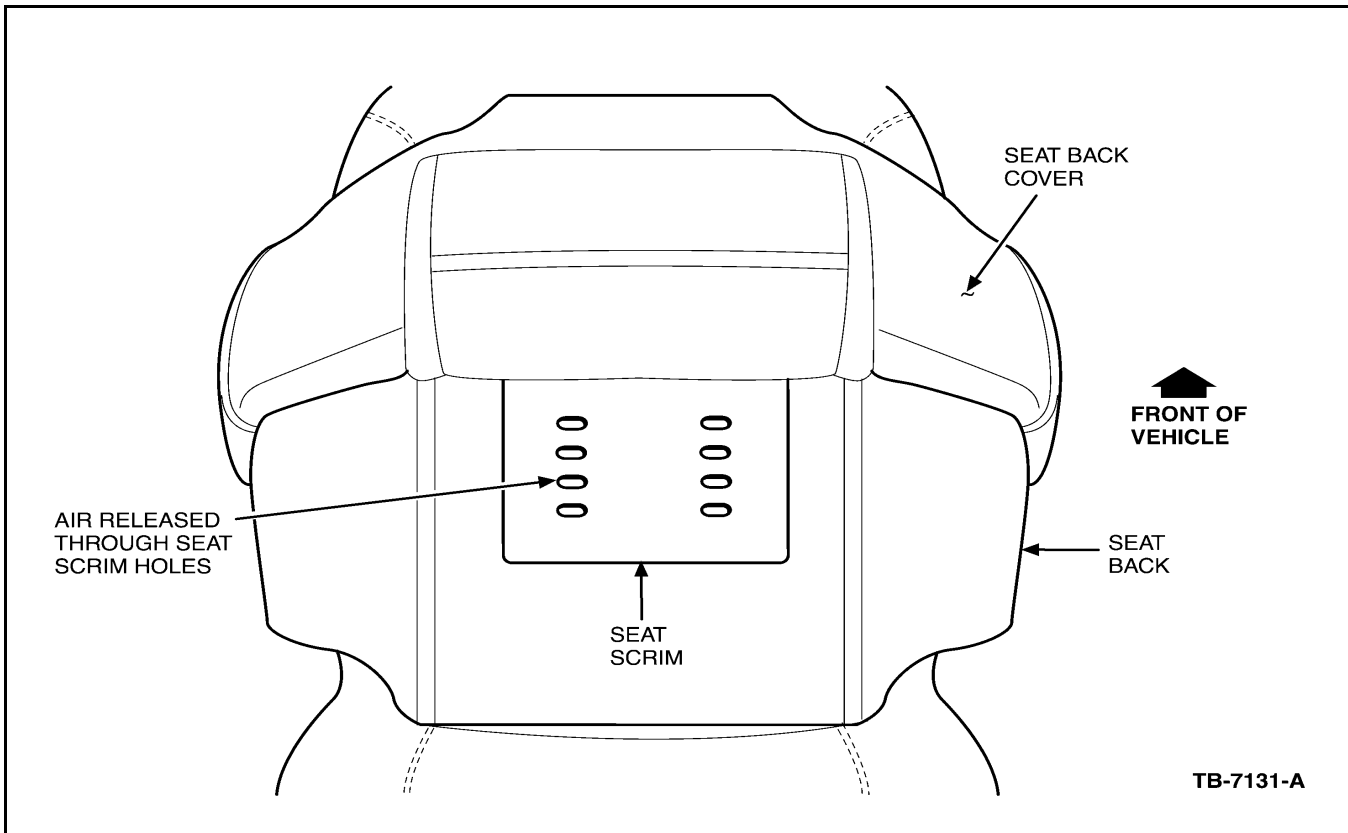


Figure 3 - Article 04-26-19

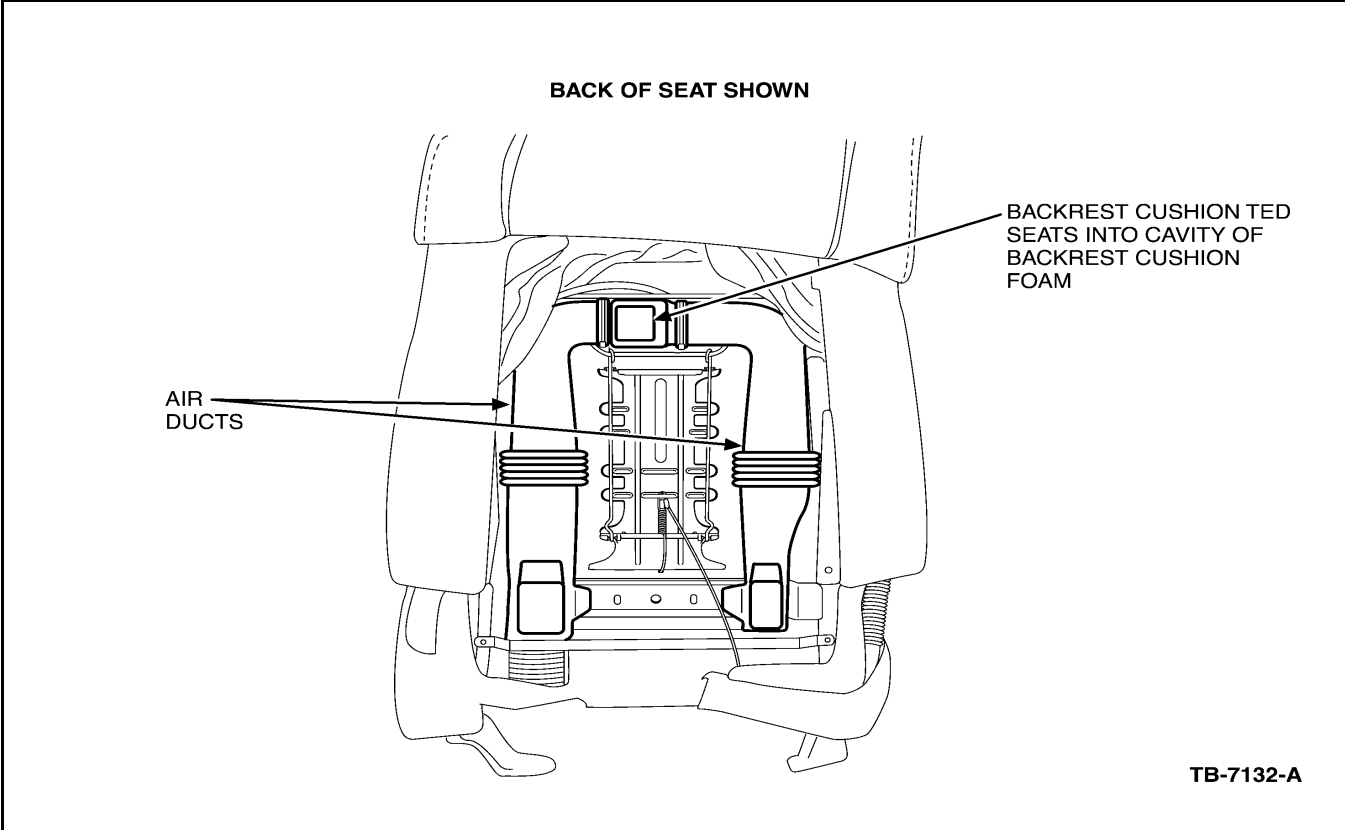


Figure 4 - Article 04-26-19