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2017 FORD B-Max OEM Service and Repair Workshop Manual

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- Ignition OFF.
- Disconnect: HVAC (heating, ventilation and air conditioning) Module C228B.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C228B-1		Ground


Is the voltage greater than 11 volts?

Yes	GO to L4
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No	REPAIR the circuit.
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L4 CHECK THE HEATER ELEMENT POWER CIRCUIT FOR A SHORT TO VOLTAGE

- REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Disconnect: Driver Side Airbag In-line C3051.
- Disconnect: Left Front Seat Cushion Heater C364.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C364-1		Ground

Is any voltage present?

Yes	REPAIR the circuit. GO to L15
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- Measure:

Positive Lead	Measurement / Action	Negative Lead
C364-2	Ω	Ground

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C364-2	Ω	C228B-30

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 (heating, ventilation and air conditioning) module?

Yes	GO to L7
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No	REPAIR the circuit. GO to L15
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L7 CHECK THE HEATED SEAT TEMPERATURE SENSOR RETURN CIRCUIT FOR AN OPEN OR SHORT TO GROUND

- Disconnect: HVAC (heating, ventilation and air conditioning) Module C228A.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C364-3	Ω	Ground

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C365-2	Ω	Ground

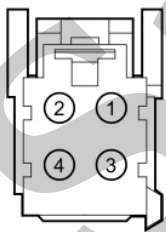
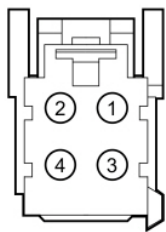
Is the resistance less than 0.5 ohm?

Yes	GO to L10
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No	REPAIR the circuit. GO to L15
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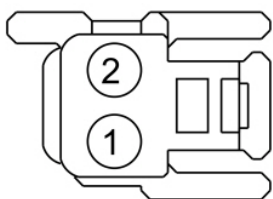
L10 CHECK THE CUSHION HEATED SEAT MAT FOR AN OPEN OR SHORT TO GROUND

- Measure the **component side resistance** between:

Positive Lead	Measurement / Action	Negative Lead
 <p>E158484</p> <p>C364-1, Component Side</p>	Ω	 <p>E158484</p> <p>C364-4, Component Side</p>

C365-1, Component Side

C365-2, Component Side



E158488

 Ω

Ground

C365-2, Component Side

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

YesGO to [L12](#)**No**

INSTALL a new driver seat backrest heater mat.

REFER to: [Seat Heater Mat Removal](#)

(501-10A Front Seats, General Procedures).

GO to [L15](#)

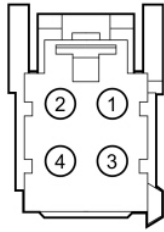
L12 CHECK THE CIRCUIT BETWEEN THE CUSHION HEATER MAT AND BACKREST HEATER MAT FOR AN OPEN AND SHORT TO GROUND

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C364-4	Ω	Ground

- Measure:

Positive Lead	Measurement / Action	Negative Lead
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E158484

C364-2, Component Side

Ω

Ground

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

Yes

GO to [L14](#)

No

INSTALL a new driver seat cushion heater mat.
REFER to: [Seat Heater Mat Removal](#)
(501-10A Front Seats, General Procedures).
GO to [L15](#)

L14 CHECK THE HVAC (HEATING, VENTILATION AND AIR CONDITIONING) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect all of the HVAC (heating, ventilation and air conditioning) module connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins as necessary
 - pushed-out pins - install new pins as necessary
- Reconnect the HVAC (heating, ventilation and air conditioning) module connectors. Make sure they seat and latch correctly.
- Reconnect all previously disconnected connectors.
- Ignition ON.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes

CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HVAC (heating, ventilation and air conditioning) B1036:11	Right Front Seat Heater Element: Circuit Short To Ground	Sets when the HVAC (heating, ventilation and air conditioning) module senses the right front heater element current draw has exceeded a specified threshold. When this DTC (diagnostic trouble code) sets, the HVAC (heating, ventilation and air conditioning) module disables the circuit until the ignition is cycled.
HVAC (heating, ventilation and air conditioning) B1036:12	Right Front Seat Heater Element: Circuit Short To Battery	Sets when the HVAC (heating, ventilation and air conditioning) module senses the right front heater circuit voltage is above a specified threshold when the driver is active. When this DTC (diagnostic trouble code) sets, the HVAC (heating, ventilation and air conditioning) module disables the circuit until the ignition is cycled.
HVAC (heating, ventilation and air conditioning) B1036:13	Right Front Seat Heater Element: Circuit Open	Sets when the HVAC (heating, ventilation and air conditioning) module senses the right front heater element current draw is less than a specified threshold. When this DTC (diagnostic trouble code) sets, the HVAC (heating, ventilation and air conditioning) module disables the circuit until the ignition is cycled.
HVAC (heating, ventilation and air conditioning) B103A:11	Right Front Seat Heater Sensor: Circuit Short To Ground	Sets when the HVAC (heating, ventilation and air conditioning) module senses the right front heater sensor voltage is out-of-range low. When this DTC (diagnostic trouble code) sets, the HVAC (heating, ventilation and air conditioning) module disables the circuit until the ignition is cycled.
HVAC (heating, ventilation and air conditioning) B103A:15	Right Front Seat Heater Sensor: Circuit Short To Battery Or Open	Sets when the HVAC (heating, ventilation and air conditioning) module senses the right front heater sensor voltage is out-of-range high. When this DTC (diagnostic trouble code) sets, the HVAC (heating, ventilation and air conditioning) module disables the circuit until the ignition is cycled.

Possible Sources


- Wiring, terminals or connectors
- Heater mat

No

INSTALL a new HVAC (heating, ventilation and air conditioning) module.
REFER to: [Heating, Ventilation and Air Conditioning \(HVAC\) Control Module](#)
(412-00 Climate Control System - General Information, Removal and Installation).

M3 CHECK THE HEATED SEAT VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: HVAC (heating, ventilation and air conditioning) Module C228B.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C228B-2		Ground

Is the voltage greater than 11 volts?

Yes

GO to [M4](#)

No

REPAIR the circuit.

M4 CHECK THE HEATER ELEMENT POWER CIRCUIT FOR A SHORT TO VOLTAGE

- REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Disconnect: Passenger Side Airbag In-line C3053.
- Disconnect: Right Front Seat Cushion Heater C334.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
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No	REPAIR the circuit. GO to M15
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M6 CHECK THE HEATED SEAT TEMPERATURE SENSOR CIRCUIT FOR AN OPEN OR SHORT TO GROUND

- REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Disconnect: Passenger Side Airbag In-line C3053.
- Disconnect: HVAC (heating, ventilation and air conditioning) Module C228B.
- Disconnect: Right Front Seat Cushion Heater C334.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C334-2	Ω	Ground

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C334-2	Ω	C228B-15

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 (heating, ventilation and air conditioning) module?

Yes	GO to M7
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No	REPAIR the circuit. GO to M15
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M7 CHECK THE HEATED SEAT TEMPERATURE SENSOR RETURN CIRCUIT FOR AN OPEN OR SHORT TO GROUND

Yes	REPAIR the circuit. GO to M15
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No	GO to M13
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M9 CHECK THE HEATER ELEMENT GROUND CIRCUIT FOR AN OPEN

- Disconnect: Right Front Seat Backrest Heater C335.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C335-2	Ω	Ground

Is the resistance less than 0.5 ohm?

Yes	GO to M10
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No	REPAIR the circuit. GO to M15
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M10 CHECK CUSHION HEATED SEAT MAT FOR AN OPEN OR SHORT TO GROUND

- Measure the **component side resistance** between:

Positive Lead	Measurement / Action	Negative Lead
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