

DTC	P0516	BATTERY TEMPERATURE SENSOR CIRCUIT LOW
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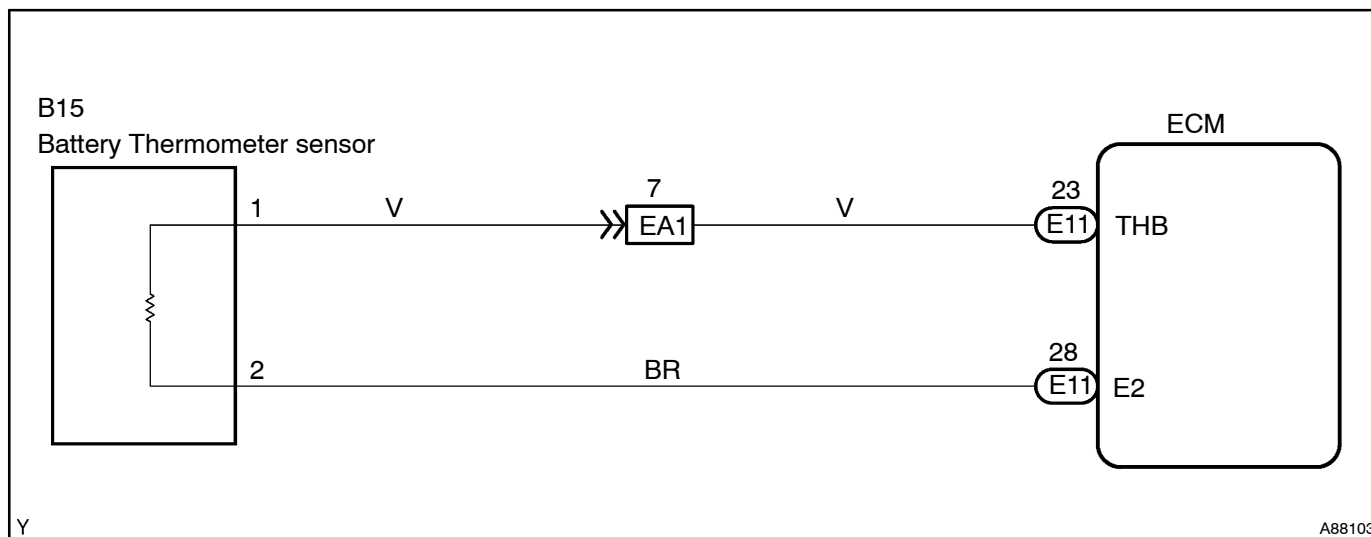
DTC	P0517	BATTERY TEMPERATURE SENSOR CIRCUIT HIGH
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CIRCUIT DESCRIPTION

The battery thermometer sensor detects a battery temperature. The built-in thermistor of the sensor varies its resistance by changes in the battery temperature. The lower the temperature is, the higher the resistance becomes. Conversely, the higher the temperature is, the lower the resistance becomes. This sensor is connected to the ECM, and receives the 5 V power source voltage from terminal THB of the ECM via resistor R. The resistor R and the sensor are connected in series, thus the thermistor resistance varies with the battery temperature, and the electrical potential of the THB terminal also changes. When the battery temperature is high, the ECM reduces a battery charging current according to a signal from the sensor in order to protect the battery.

DTC No.	DTC Detection Condition	Trouble Area
P0516	Output voltage of the sensor is below 0.2 V for more than 0.5 second when the ignition switch is in the ON position (1 trip detection logic)	<ul style="list-style-type: none"> • Battery thermometer sensor circuit • Battery thermometer sensor • ECM
P0517	Output voltage of the sensor is above 4.8 V for more than 0.5 second when the ignition switch is in the ON position (1 trip detection logic)	<ul style="list-style-type: none"> • Battery thermometer sensor circuit • Battery thermometer sensor • ECM

WIRING DIAGRAM



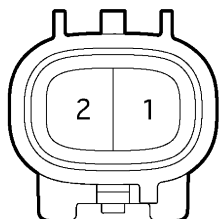
INSPECTION PROCEDURE

HINT:

- If different DTCs related to different systems that have terminal E2 as the ground terminal are output simultaneously, terminal E2 may have an open circuit.
- Read freeze frame data using the intelligent tester II. Freeze frame data record the engine condition when malfunctions are detected. When troubleshooting, freeze frame data can help determine if the vehicle was moving or stationary, if the engine was warmed up or not, if the air-fuel ratio was lean or rich, and other data from the time the malfunction occurred.

1 INSPECT BATTERY THERMOMETER SENSOR

Component Side:



Battery Thermometer Sensor
Front View

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A80940

- Disconnect the B15 battery thermometer sensor connector.
- Measure the resistance between the terminals of the battery thermometer sensor connector.

Tester Connection	Specified Condition
1 - 2	1.91 to 2.05 k Ω at 24 to 26°C (75.2 to 78.8°F)

- Reconnect the battery thermometer sensor connector.

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REPLACE BATTERY THERMOMETER SENSOR

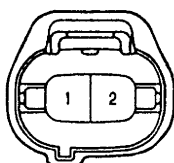
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2 CHECK HARNESS AND CONNECTOR (BATTERY THERMOMETER SENSOR - ECM)

Wire Harness Side:

Battery Thermometer Sensor Connector

B15



Front View

A88108

- Disconnect the B15 battery thermometer sensor connector.
- Disconnect the E11 ECM connectors.
- Check the resistance.

Standard (Check for open):

Tester Connection	Specified Condition
Battery Thermometer Sensor (B15-1) - THB (E11-23)	Below 1 Ω
Battery Thermometer Sensor (B15-2) - E2 (E11-28)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
Battery Thermometer Sensor (B15-1) or THB (E11-23) - Body Ground	10 k Ω or higher

- Reconnect the battery thermometer sensor connector.
- Reconnect the ECM connector.

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REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE ECM (See page 10-30)