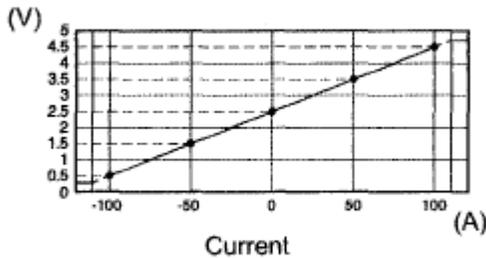


DTC P1550 BATTERY CURRENT SENSOR CIRCUIT; DTC P1551 BATTERY CURRENT SENSOR CIRCUIT LOW; DTC P1552 BATTERY CURRENT SENSOR CIRCUIT HIGH

DESCRIPTION

Sensor Output Voltage



N

A110645E01

Fig. 169: Battery Current Sensor Output Voltage Graph
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

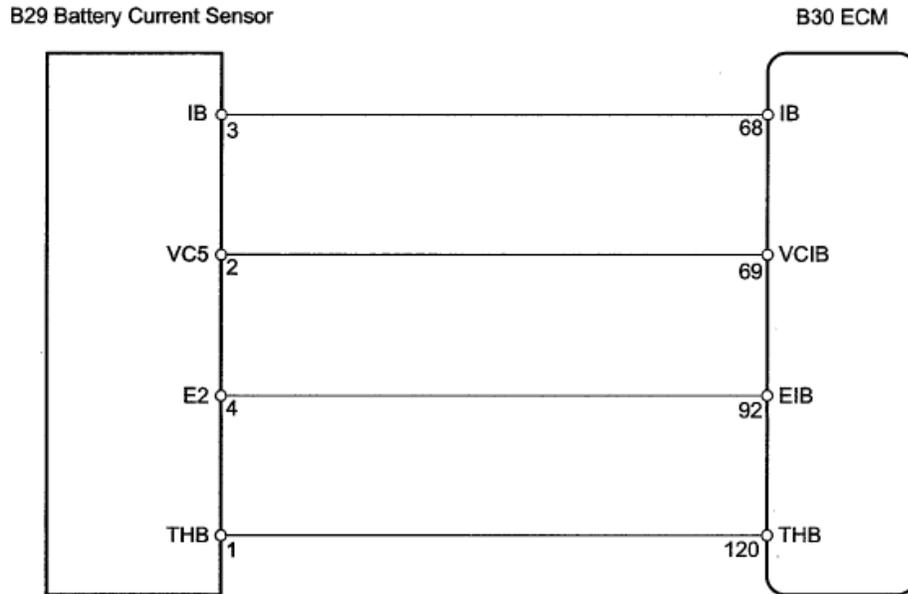
The battery current sensor installed on the positive (+) battery terminal detects the amount of current supplied from the generator.

The battery current sensor changes current to voltage (at the positive (+) battery terminal) and sends it to the ECM. The ECM controls the voltage of the generator based on the signals from the battery current sensor.

DTC DETECTION CONDITION AND TROUBLE AREA

DTC No.	DTC Detection Condition	Trouble Area
P1550	The following condition continues for 10 seconds or more with the ignition switch ON (1 trip detection logic): <ul style="list-style-type: none"> • Difference between the maximum and minimum current values of the battery current sensor is 1 A or less 	<ul style="list-style-type: none"> • Open or short in battery current sensor circuit • Battery current sensor assembly • ECM
P1551	Battery current sensor output value is 0.2 V or less for 0.5 seconds or more with the ignition switch ON (1 trip detection logic):	<ul style="list-style-type: none"> • Short in battery current sensor circuit • Battery current sensor assembly • ECM
P1552	Battery current sensor output value is 4.8 V or more for 0.5 seconds or more with the ignition switch ON (1 trip detection logic):	<ul style="list-style-type: none"> • Open in battery current sensor circuit • Battery current sensor assembly

• ECM

WIRING DIAGRAM

A127286E02

Fig. 170: Battery Current Sensor - Wiring Diagram

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE**HINT:**

- If different DTCs that are related to a different system are output simultaneously while terminal E2 is used as a ground terminal, terminal E2 may be open.
- Read freeze frame data using Techstream. Freeze frame data records the engine conditions when malfunctions are detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, 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 CURRENT SENSOR ASSEMBLY

- a. Disconnect the B29 battery current sensor connector.

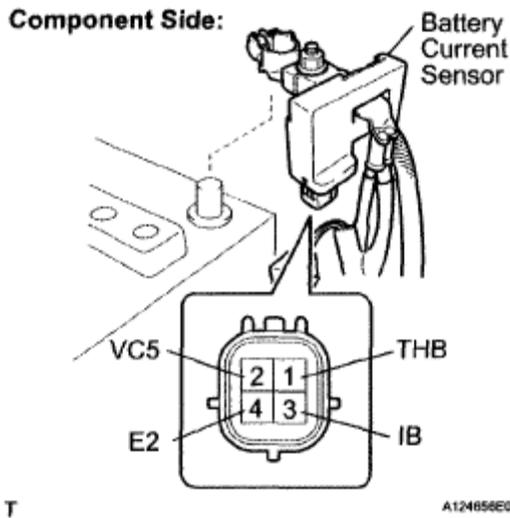


Fig. 171: Identifying Battery Current Sensor Connector Terminals
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance of the battery current sensor.

Standard resistance

RESISTANCE SPECIFICATION

Tester Connection	Specified Condition
2 (VC5) - 4 (E2)	3 to 10 kohms
2 (VC5) - 3 (IB)	Below 0.5 kohms
3 (IB) - 4 (E2)	3 to 10 kohms

HINT:

The resistance differs according to the tester type.

NG: REPLACE BATTERY CURRENT SENSOR ASSEMBLY

OK: Go to Next Step

- 2. **CHECK HARNESS AND CONNECTOR (BATTERY CURRENT SENSOR - ECM)**
 - a. Disconnect the B29 battery current sensor connector.
 - b. Disconnect the B30 ECM connectors.

Wire Harness Side:

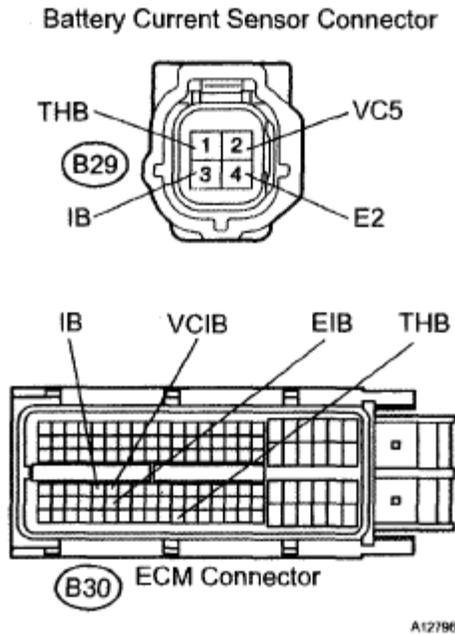


Fig. 172: Identifying Battery Current Sensor And ECM Connector Terminals
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Measure the resistance of the wire harness side connectors.

Standard resistance (Check for open)

RESISTANCE SPECIFICATION

Tester Connection	Specified Condition
B29-3 (IB) - B30-68 (IB)	Below 1 ohms
B29-2 (VC5) - B30-69 (VCIB)	Below 1 ohms
B29-4 (E2) - B30-92 (EIB)	Below 1 ohms
B29-1 (THB) - B30-120 (THB)	Below 1 ohms

Standard resistance (Check for short)

RESISTANCE SPECIFICATION

Tester Connection	Specified Condition
B29-3 (IB) or B30-68 (IB) - Body ground	10 kohms or higher
B29-2 (VC5) or B30-69 (VCIB) - Body ground	10 kohms or higher
B29-1 (THB) or B30-120 (THB) - Body ground	10 kohms or higher

NG: REPAIR OR REPLACE HARNESS AND CONNECTOR

OK: REPLACE ECM