| DTC | P0135 | Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) (Except California Spec.) |
|---|---|---|

| DTC | P0141 | Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) |
|---|---|---|

## CIRCUIT DESCRIPTION

Refer to DTC P0125 on page DI–224 or DI–229.

| DTC No. | DTC Detecting Condition | Trouble Area |
|---|---|---|
| P0135<br>P0141 | When heater operates, heater current exceeds 2.35 A (2 trip detection logic) | • Open or short in heater circuit of heated oxygen sensor<br>• Heated oxygen sensor heater<br>• ECM |
| | Heater current of 0.2 A or less when heater operates (2 trip detection logic) | |

HINT:

- Sensor 1 refers to the sensor closer to the engine body (Except California Spec.).
- Sensor 2 refers to the sensor farther away from the engine body.

## WIRING DIAGRAM

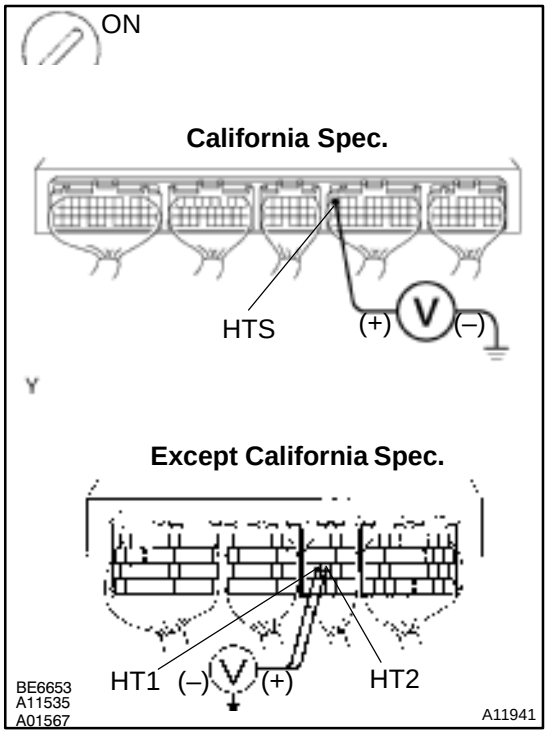
Refer to DTC P0125 on page DI–224 or DI–229.

## INSPECTION PROCEDURE

HINT:

Read freeze frame data using TOYOTA hand–held tester or OBD II scan tool. Because freeze frame records the engine conditions when the malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

| 1 | Check voltage between terminals HT1 (Except California Spec.), HTS (California Spec.), HT2 (Except California Spec.) of ECM connector and body ground. |
|---|---|




**PREPARATION:**

(a) Remove the glove compartment (See page SF–56).

(b) Turn the ignition switch ON.

**CHECK:**

Measure the voltage between terminals HT1, HT2 of the ECM connector and body ground.

HINT:

- Connect terminal HT1 to bank 1 sensor 1.
- Connect terminal HT2 or HTS to bank 1 sensor 2.

**OK:**

**Voltage: 9 – 14 V**

| OK | Check and replace ECM (See page IN–28). |
|---|---|

NG

| 2 | Check resistance of heated oxygen sensor heater (See page SF–55). |
|---|---|

| NG | Replace heated oxygen sensor. |
|---|---|

OK

**Check and repair harness or connector between EFI main relay (Marking: EFI) and heated oxygen sensor, and heated oxygen sensor and ECM (See page IN–28).**