

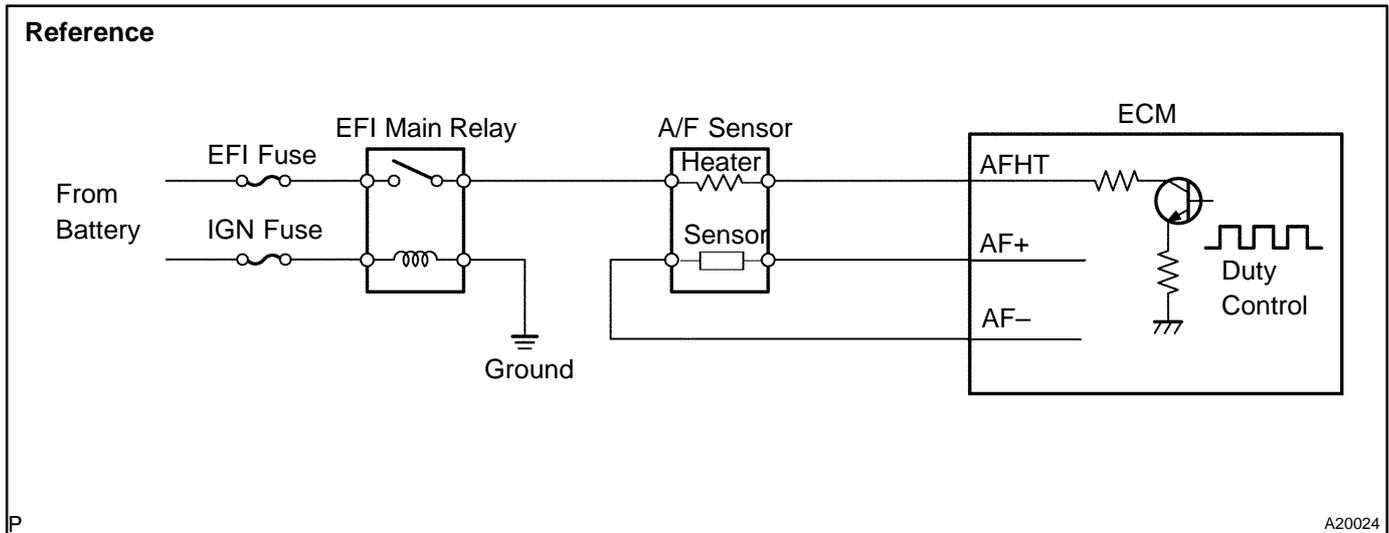
| | | |
|------------|--------------|--|
| DTC | P0135 | Oxyge (A/F) Sensor Heater Circuit (Bank 1 Sensor 1) |
|------------|--------------|--|

CIRCUIT DESCRIPTION

Refer to DTC P2195 on page [DI-185](#).

HINT:

- This DTC is related A/F sensor, although the caption is oxygen sensor.
- The ECM provides a pulse width to control current through the heater. The oxygen sensor heater circuit uses a relay on the B+ side of the circuit.



| DTC No. | DTC Detecting Condition | Trouble Area |
|---------|---|---|
| P0135 | When the heater operates, heater current exceeds 8 A (2 trip detection logic) | <ul style="list-style-type: none"> • Open or in heater circuit of A/F sensor • A/F sensor heater • ECM |
| | Heater current is 0.3 A or less when the heater operates (2 trip detection logic) | |

WIRING DIAGRAM

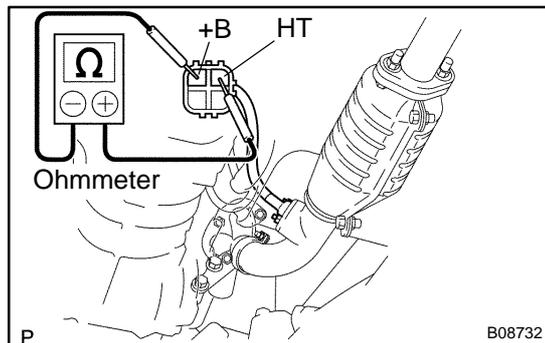
Refer to DTC P0134 on page [DI-50](#).

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a 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 resistance of A/F sensor heater.

**PREPARATION:**

Disconnect the sensor connector.

CHECK:

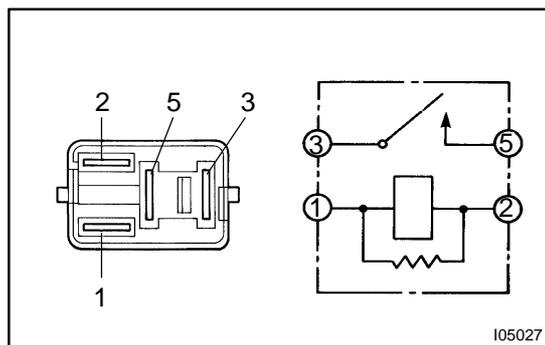
Using an ohmmeter, measure the resistance between terminals +B and HT.

OK:

| | |
|--------------------|-------------|
| at 20°C (68°F) | 0.8 – 1.4 Ω |
| at 800°C (1,472°F) | 1.8 – 3.2 Ω |

NG**Replace A/F sensor.****OK**

2 Check EFI main relay (Marking: EFI).

**PREPARATION:**

Remove the EFI main relay from RB No. 2.

CHECK:

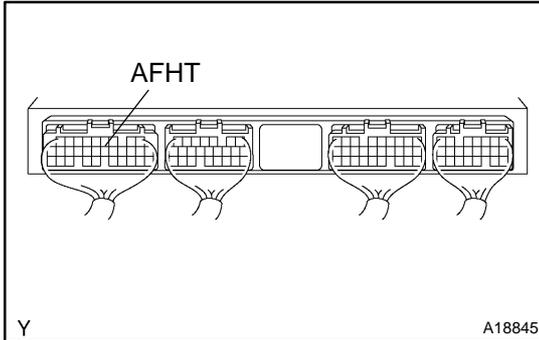
Inspect the EFI main relay.

OK:

| Condition | Tester connection | Specified condition |
|-------------------------------------|-------------------|---------------------|
| Constant | 1 – 2 | Continuity |
| | 3 – 5 | No continuity |
| Apply B+ between terminals 1 and 2. | 3 – 5 | Continuity |

NG**Replace EFI main relay.****OK**

3 Check voltage between terminals AFHT of ECM connector and body ground.



PREPARATION:

- (a) Remove the glove compartment (See page [SF-55](#)).
- (b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals AFHT of the ECM connector and the body ground.

OK:

Voltage: 9 – 14 V

OK

Check and replace ECM (See page [IN-28](#)).

NG

Check and repair harness or connector between EFI main relay (Marking: EFI) and A/F sensor, and A/F sensor and ECM (See page [IN-28](#)).