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| <b>DTC</b> | <b>P0135/21</b> | <b>Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)</b> |
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| <b>DTC</b> | <b>P0141/21</b> | <b>Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)</b> |
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| <b>DTC</b> | <b>P0155/28</b> | <b>Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 1)</b> |
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| <b>DTC</b> | <b>P0161/28</b> | <b>Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 2)</b> |
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## CIRCUIT DESCRIPTION

Refer to DTC P0130/21, P0150/28 (Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 1) (Bank 2 Sensor 1)) on [page DI-51](#).

| DTC No.                                      | DTC Detecting Condition                                           | Trouble Area                                                                                                                                               |
|----------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P0135/21<br>P0141/21<br>P0155/28<br>P0161/28 | Open or short in heater circuit of oxygen sensor 0.5 sec. or more | <ul style="list-style-type: none"> <li>• Open or short in heater circuit of oxygen sensor</li> <li>• Oxygen sensor heater</li> <li>• Engine ECU</li> </ul> |

### HINT:

- Bank 1 refers to bank that includes cylinder No.1.
- Bank 2 refers to bank that does not include cylinder No.1.
- Sensor 1 refers to the sensor closer to the engine body.
- Sensor 2 refers to the sensor farther away from the engine body.

## WIRING DIAGRAM

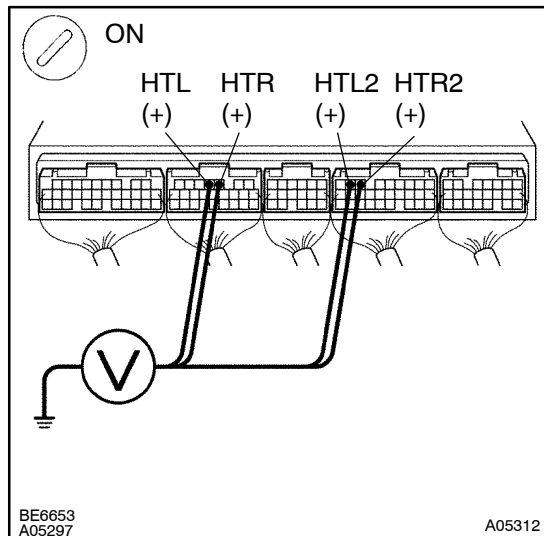
Refer to DTC P0130/21, P0150/28 (Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 1) (Bank 2 Sensor 1)) on [page DI-51](#) for the WIRING DIAGRAM.

## INSPECTION PROCEDURE

### HINT:

Read freeze frame data using hand-held tester. 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 warmed up or not, the air-fuel ratio lean or rich, etc. at the time of the malfunction.

- 1 Check voltage between terminals HTR, HTR2, HTL, HTL2 of engine ECU connector and body ground.**

**PREPARATION:**

- (a) Remove the glove compartment door.
- (b) Turn the ignition switch ON.

**CHECK:**

Measure voltage between terminals HTR, HTR2, HTL, HTL2 of the engine ECU connector and body ground.

**HINT:**

- Connect terminal HTR to bank 2 sensor 1.
- Connect terminal HTR2 to bank 2 sensor 2.
- Connect terminal HTL to bank 1 sensor 1.
- Connect terminal HTL2 to bank 1 sensor 2.

**OK:**

**Voltage: 9 – 14 V**

**OK**

**Check and replace engine ECU**  
(See page IN-19).

**NG**

- 2 Check resistance of oxygen sensor heater (See page FI-71).**

**NG**

**Replace oxygen sensor.**

**OK**

**Check and repair harness or connector between main relay and oxygen sensor and engine ECU (See page IN-19).**