

DTC	P0135/21	Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)
------------	-----------------	---

DTC	P0141/21	Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)
------------	-----------------	---

DTC	P0155/28	Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 1)
------------	-----------------	---

DTC	P0161/28	Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 2)
------------	-----------------	---

CIRCUIT DESCRIPTION

Refer to Oxygen Sensor Circuit Malfunction on [page DI-105](#).

DTC No.	DTC Detecting Condition	Trouble Area
P0135/21 P0141/21	When the heater operates, heater current exceeds 2 A (2 trip detection logic)	<ul style="list-style-type: none"> • Open or short in heater circuit of heated oxygen sensor • Heated oxygen sensor heater • Engine ECU
P0155/28 P0161/28	Heater current of 0.2 A or less when the heater operates (2 trip detection logic)	

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.

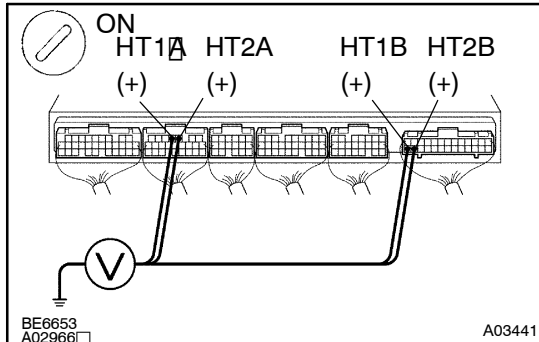
WIRING DIAGRAM

Refer to Oxygen Sensor Circuit Malfunction on [page DI-51](#) for the WIRING DIAGRAM.

INSPECTION PROCEDURE

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 HT1A, HT2A, HT1B, HT2B of engine ECU connector and body ground.



PREPARATION:

- Remove the engine room engine ECU hood and cover.
- Turn the ignition switch ON.

CHECK:

Measure voltage between terminals HT1A, HT2A, HT1B, HT2B of the engine ECU connector and body ground.

- Connect terminal HT1B to bank 2 sensor 1.
- Connect terminal HT2B to bank 2 sensor 2.
- Connect terminal HT1A to bank 1 sensor 1.
- Connect terminal HT2A to bank 1 sensor 2.

HINT:

OK:

Voltage: 9 ~ 14 V

OK

Check and replace engine ECU (See page IN-29).

NG

- 2** Check resistance of oxygen sensor heater (See page FI-63).

NG

Replace oxygen sensor.

OK

Check and repair harness or connector between main relay and oxygen sensor and engine ECU (See page IN-29).