

DTC	P0133	Oxygen Sensor Circuit Slow Response (Bank 1 Sensor 1)
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DTC	P0153	Oxygen Sensor Circuit Slow Response (Bank 2 Sensor 1)
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CIRCUIT DESCRIPTION

Refer to DTC P0031 on page [DI-34](#).

DTC No.	DTC Detecting Condition	Trouble Area
P0133 P0153	Response time for heated oxygen sensor's voltage output to change from rich to lean, or from lean to rich, is 0.9 second or more during idling after engine is warmed up (2 trip detection logic)	• Open or short in heated oxygen sensor circuit • Heated oxygen sensor • Air induction system • Fuel pressure • Injector • ECM

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.

WIRING DIAGRAM

Refer to DTC P0031 on page [DI-34](#).

INSPECTION PROCEDURE

HINT:

Read freeze frame data using hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, this 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	Are there any other codes (besides DTC P0133 or P0153) being output?
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YES

Go to relevant DTC chart (See page [DI-22](#)).

NO

2

Check output voltage of heated oxygen sensor during idling.

PREPARATION:

Warm up the heated oxygen sensor with the engine speed at 2,500 rpm for approx. 90 seconds.

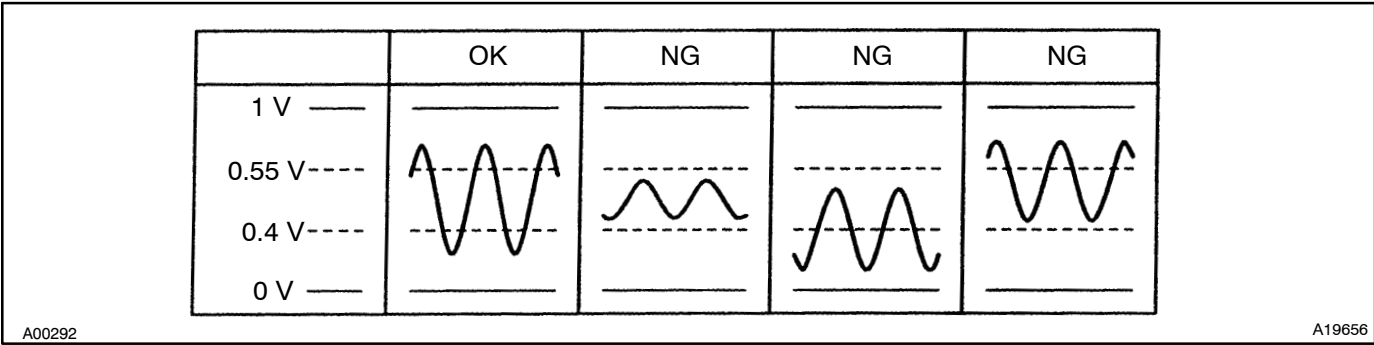
CHECK:

Use the OBD II scan tool or hand-held tester to read the output voltage of the heated oxygen sensor during idling.

OK:

Heated oxygen sensor output voltage:

Alternates repeatedly between less than 0.4 V and more than 0.55 V (See the following table).



OK

Go to step 7.

NG

3

Check for open and short in harness and connector between ECM and heated oxygen sensor (See page [IN-36](#)).

NG

Repair or replace harness or connector.

OK

4

Check air induction system (See page [SF-1](#)).

NG

Repair or replace.

OK

5 Check fuel pressure (See page [SF-7](#)).

NG

Check and repair fuel pump, pressure regulator, fuel pipe line and filter (See page [SF-1](#)).

OK

6 Check injector injection (See page [SF-24](#)).

NG

Replace injector.

OK

Replace heated oxygen sensor.

7 Perform confirmation driving pattern (See page [DI-66](#)).

Go

8 Is there DTC P0133 or P0153 being output again?

NO

Check for intermittent problems (See page [DI-3](#)).

YES

Check and replace ECM (See page [IN-36](#)).