

DTC	P1133	A/F Sensor Circuit Response Malfunction (Bank 1 Sensor 1)
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DTC	P1153	A/F Sensor Circuit Response Malfunction (Bank 2 Sensor 1)
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CIRCUIT DESCRIPTION

Refer to DTC P0125 on page [DI-42](#) .

DTC No.	DTC Detecting Condition	Trouble Area
P1133 P1155	After engine is warmed up and during vehicle driving at engine speed 1,400 rpm or more and vehicle speed 60 km/h (38 mph) or more, if response characteristic of A/F sensor becomes deteriorated (2 trip detection logic)	A/F sensors (bank 1, 2 sensor 1)

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 warmed up or not, the air-fuel ratio lean or rich, etc. at the time of the malfunction.

1	Are there any other codes (besides DTC P1133, P1153) being output ?
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YES

Go to relevant DTC chart.

NO

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| 2 | Connect the OBDII scan tool or TOYOTA hand-held tester and read value for voltage output of A/F sensors (bank1, 2 sensor1). |
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PREPARATION:

- (a) Connect the OBD II scan tool or TOYOTA hand-held tester to the DLC3.
 (b) Warm up the A/F sensors (bank1, 2 sensor1) with the engine at 2,500 rpm for approx. 90 sec.

CHECK:

Read voltage of A/F sensors (bank 1, 2 sensor 1) on the screen of OBD II scan tool or TOYOTA hand-held tester when you perform all the following conditions.

HINT:

The voltage of AFR $\oplus$ and AFL $\oplus$ terminals of ECM is fixed at 3.3 V and the voltage of AFR $\ominus$ and AFL $\ominus$ terminals is fixed at 3.0 V. Therefore, it is impossible to check the A/F sensors (bank1, 2 sensor1) output voltage at the terminals (AFR $\oplus$, AFL $\oplus$ /AFR $\ominus$, AFL $\ominus$) of ECM.

OK:

Condition	A/F Sensor Voltage value
Engine idling	• Not remains at 3.30 V (*0.660 V) • Not remains at 3.8 V (*0.76 V) or more • Not remains at 2.8 V (*0.56 V) or less *: When you use the OBD II scan tool (excluding TOYOTA hand-held tester)
Engine racing	
Driving at engine speed 1,500 rpm or more and vehicle speed 40 km/h (25 mph) or more, and operate throttle valve open and close.	

HINT:

- During fuel enrichment, there is a case that the output voltage of A/F sensors (bank1, 2 sensor1) is below 2.8 V (* 0.56 V), it is normal.
- During fuel cut, there is a case that the output voltage of A/F sensors (bank1, 2 sensor1) is above 3.8 V (* 0.76 V), it is normal.
- If output voltage of A/F sensors (bank1, 2 sensor1) remains at 3.30 V (* 0.660 V) even after performing all the above conditions, A/F sensors (bank1, 2 sensor1) circuit may be open.
- If output voltage of A/F sensors (bank1, 2 sensor1) remains at 3.8 V (* 0.76V) or more, or 2.8 V (*0.56 V) or less even after performing all the above conditions, A/F sensors (bank1, 2 sensor1) circuit may be short.

*: When you use the OBD II scan tool (excluding TOYOTA hand-held tester).

OK

Go to step 9.

NG

3 Check for open and short in harness and connector between ECM and A/F sensors (bank 1, 2 sensor 1) (See page [IN-31](#)).

NG

Repair or replace harness or connector.

OK

4 Check resistance of A/F sensor heater (See page [SF-81](#)).

NG

Replace A/F sensor.

OK

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

NG

Repair or replace.

OK

6 Check fuel pressure (See page [SF-6](#)).

NG

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

OK

7	Check injector injection (See page SF-26).
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NG

Replace injector.

OK

Replace A/F sensors (bank1, 2 sensor1).

8	Perform confirmation driving pattern (See page DI-104).
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Go

9	Are there DTC P1133 and/or P1153 being output again ?
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YES

Check and replace ECM
(See page [DI-3](#)).

NO

10	Did vehicle runs out of fuel in the past ?
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NO

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

YES

DTC P1133 and /or P1153 is caused by running out of fuel.