

DTC P0132: HO2S1 CIRCUIT HIGH VOLTAGE

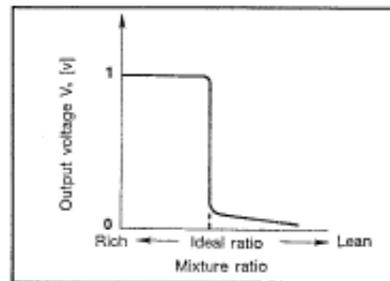
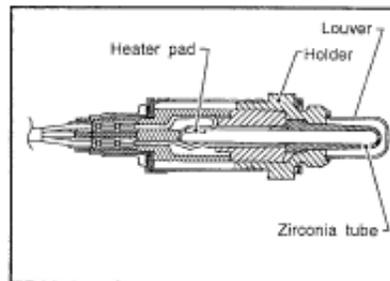
CAUTION: DO NOT reuse any HO2S that has been dropped from a height of 20" (.5 m) or more onto a hard surface such as concrete.

NOTE: Before performing diagnostic procedure, follow testing procedure. See **TESTING PROCEDURE** under **SELF-DIAGNOSTIC SYSTEM**.

Description

The Heated Oxygen Sensor (HO2S1) is located in exhaust manifold. It detects the amount of oxygen in the exhaust gas compared to the outside air. The HO2S1 has a closed-end tube made of ceramic zirconia. The zirconia generates voltage from about one volt in richer conditions to zero volts in leaner conditions. The HO2S1 signal is sent to the ECM. The ECM adjusts the injection pulse duration to achieve the ideal air-fuel ratio. The ideal air-fuel ratio occurs near the radical change from one volt to zero volts. See **Fig. 116**.

The heated oxygen sensor 1 is placed into the exhaust manifold. It detects the amount of oxygen in the exhaust gas compared to the outside air. The heated oxygen sensor 1 has a closed-end tube made of ceramic zirconia. The zirconia generates voltage from approximately 1V in richer conditions to 0V in leaner conditions. The heated oxygen sensor 1 signal is sent to the ECM. The ECM adjusts the injection pulse duration to achieve the ideal air-fuel ratio. The ideal air-fuel ratio occurs near the radical change from 1V to 0V.



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Fig. 116: DTC P0132 Description
Courtesy of NISSAN MOTOR CO., U.S.A.

Possible Causes

Malfunction is detected when an excessively high voltage from HO2S1 is sent to ECM. See **Fig. 117-Fig. 118**. Possible causes are:

- HO2S1 circuit open or shorted.
- Defective HO2S1.

2003 Nissan Sentra GXE

2003 ENGINE PERFORMANCE Self-Diagnostics - Sentra 1.8L

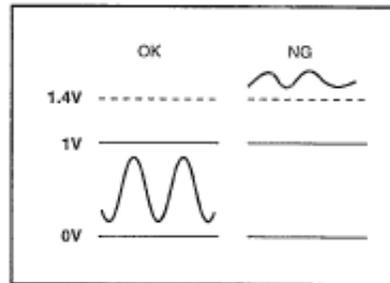
Specification data are reference values.

MONITOR ITEM	CONDITION		SPECIFICATION
HO2S1 (B1)	● Engine: After warming up	Maintaining engine speed at 2,000 rpm	0 - 0.3V ↔ Approx. 0.6 - 1.0V
HO2S1 MNTR (B1)	● Engine: After warming up	Maintaining engine speed at 2,000 rpm	LEAN ↔ RICH Changes more than 5 times during 10 seconds.

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Fig. 117: DTC P0132 CONSULT-II Reference Value In Data Monitor Mode
Courtesy of NISSAN MOTOR CO., U.S.A.

To judge the malfunction, the diagnosis checks that the heated oxygen sensor 1 output is not inordinately high.



DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P0132 0132	Heated oxygen sensor 1 circuit high voltage	An excessively high voltage from the sensor is sent to ECM.	<ul style="list-style-type: none"> ● Harness or connectors (The sensor circuit is open or shorted) ● Heated oxygen sensor 1

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Fig. 118: DTC P0132 On-Board Diagnosis Logic
Courtesy of NISSAN MOTOR CO., U.S.A.

DTC Confirmation Test

NOTE: If DTC confirmation test has been previously performed, always turn ignition off and wait at least 10 seconds before performing the next test.

With CONSULT-II

1. Start engine and warm to normal operating temperature. Turn ignition off and wait at least 10 seconds. Turn ignition on. Select DATA MONITOR mode with CONSULT-II.
2. Start engine and let it idle for 2 minutes. If 1st trip DTC is detected, go to **DIAGNOSTIC PROCEDURE**. If 1st trip DTC is not detected, system is okay at this time.

With Generic Scan Tool

1. Start engine and warm to normal operating temperature. Turn ignition off and wait at least 10 seconds. Start engine and let it idle for 2 minutes. Turn ignition off and wait at least 10 seconds. Start engine and let it idle for 2 minutes.

- Select MODE 3 with scan tool. If DTC is detected, go to **DIAGNOSTIC PROCEDURE**. If DTC is not detected, system is okay at this time.

Diagnostic Procedure

NOTE: For connector identification and locations, see **CONNECTOR IDENTIFICATION**.

1. Retighten HO2S1

Turn ignition off. Disconnect appropriate HO2S1 harness connector. See **Fig. 45**. Loosen and retighten HO2S1 to 30-44 ft. lbs. (40-60 N.m). Go to next step.

2. Check Ground Circuit

Disconnect HO2S1 connector. Disconnect ECM harness connector. See **Fig. 27**. Check continuity between ECM terminal No. 78 and HO2S1 harness connector terminal No. 4 (Black wire). See **Fig. 74**. Continuity should exist. Also, check harness for short to power. If problem is found, repair as necessary. Perform **DTC CONFIRMATION TEST** to verify repair. If problem is not found, go to next step.

3. Check Input Signal Circuit

Disconnect ECM harness connector. See **Fig. 27**. Check continuity between HO2S1 harness connector terminal No. 1 and ECM harness connector terminal No. 35. Continuity should exist. Also, check continuity between HO2S1 harness connector terminal No. 1 and ECM harness connector terminal No. 1 and ground. Continuity should not exist. Also check harness for short to power. See **Fig. 119**. If problem is found, repair as necessary. Perform **DTC CONFIRMATION TEST** to verify repair. If problem is not found, go to next step.

TERMINAL NO.	WIRE COLOR	ITEM	CONDITION	DATA (DC Voltage)
35	G	Heated oxygen sensor 1	[Engine is running] ● Warm-up condition ● Engine speed is 2,000 rpm.	0 - Approximately 1.0V (Periodically change)
78	B	Heated oxygen sensor ground	[Engine is running] ● Idle speed	Approximately 0V

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Fig. 119: Identifying HO2S1 ECM Terminal Voltage
Courtesy of NISSAN MOTOR CO., U.S.A.

4. Check Harness Connector

Inspect HO2S1 connectors for water. If water exists, repair or replace harness or connector. Perform **DTC CONFIRMATION TEST** to verify repair. If water does not exist, go to next step.

5. Check HO2S1

