

Front Heated Oxygen Sensor Slow Response Monitor Description

To return to heated oxygen sensor introduction, see page [Ho-1](#)

MONITOR SUMMARY

The engine control module (ECM) uses the oxygen sensor information to regulate the air/fuel ratio close to a stoichiometric ratio. This maximizes the catalytic converter's ability to purify the exhaust gases. The sensor detects oxygen levels in the exhaust gas and sends this signal to the ECM.

The inner surface of the sensor element is exposed to outside air. The outer surface of the sensor element is exposed to exhaust gas. The sensor element is made of platinum coated zirconia and includes an integrated heating element. The oxygen sensor has the characteristic whereby its output voltage change suddenly in the vicinity of the stoichiometric air-fuel ratio. The heated oxygen sensor generates waveforms of a voltage between 0 V and 1 V in response to the oxygen concentration in exhaust gas. When the output voltage of the heated oxygen sensor is 0.55 V or more, the ECM judges that the air/fuel ratio is RICH. When it is 0.40 V or less, the ECM judges that the air/fuel ratio is LEAN.

The ECM monitors the response feature of the oxygen sensor. If the response time of the oxygen sensor output status change from RICH to LEAN or vice versa becomes longer, the ECM interprets this as a malfunction in the oxygen sensor and sets a DTC.

RELATED DTC

Related DTCs	P0133 (Bank 1)	Front oxygen sensor slow response
	P0153 (Bank 2)	

MODEL YEAR CHART

Model Year	See Page
1996 to 2002	Ho-10
2003	Ho-11