As003–01

A/F Sensor Range/Performance Monitor Description

To return to A/F sensor monitor introduction, see page As–1

MONITOR SUMMARY

The air–fuel (A/F) sensor varies its voltage output in proportion to air–fuel ratio. Based on the voltage output variation, the ECM judges the air–fuel ratio RICH or LEAN and adjusts the fuel injection ON time to maintain it to stoichiometric air–fuel ratio. The ECM observes variation in the A/F sensor voltage output and compares the compensation value of fuel injection volume (Short–term fuel trim). This is done to detect deterioration in response rate of the A/F sensor itself. Normally, the voltage output of the sensor sharply fluctuates in accordance with rapid variations of the air–fuel ratio. This voltage output variation is represented as locus length. When the response rate has deteriorated, the locus length becomes shorter as the voltage output fluctuation is comparatively slow and small. The ECM concludes that there is a malfunction in the A/F sensor when the locus length is short and the response rate has deteriorated.

RELATED DTC

Previous code:

Related DTCs	P1133 (Bank 1)	Response rate deterioration level is high
	P1153 (Bank 2)	

Extended code:

Related DTCs	P2A00 (Bank 1)	Response rate deterioration level is high
	P2A03 (Bank 2)	

MODEL YEAR CHART

Model Year	See Page
1997	As–23
1998	As–24
1999	As–25
2000	As–26
2001	As–27
2002	As–28
2003	As–30
2004	As–32