

1996 to 2004 MY Vapor Pressure Sensor Range/Performance Monitor (P0451)

To return to monitor description, see page [Ev-96](#).

MONITOR STRATEGY

Required sensors/Components	Main	Vapor pressure sensor
	Sub	ECT sensor and IAT sensor
Frequency of operation	Once per driving cycle	
Duration	10 sec.	Noisy sensor
	20 min.	Stuck sensor (Vacuum monitor)
	5 min.	Stuck sensor (Vacuum monitor [LEVII])
MIL operation	2 driving cycles	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present	See page In-39	
Altitude	–	2,400 m (7,870 ft.)
Battery voltage	11 V	–
IAT at engine start	4.4°C (40°F)	35°C (95°F)
ECT at engine start	4.4°C (40°F)	35°C (95°F)
Difference between IAT at engine start and ECT at engine start	–7°C (19°F)	11.1°C (52°F)

TYPICAL MALFUNCTION THRESHOLDS

Detection Criteria	Threshold
Case 1: Noisy sensor	
Both of the following conditions occur 7 times from 5 to 15 sec. after idling start:	
Change amount of vapor pressure sensor voltage at idle	1 V or more
Change amount of fuel tank pressure at idle	5 mmHg (0.67 kPa) or more
Case 2-1: Stuck sensor (vacuum monitor)	
Time that vapor pressure sensor voltages is constant	20 min. or more
Case 2-2: Stuck sensor (vacuum monitor [LEVII])	
Fuel tank pressure	Between –0.5 kPa and 0.5 kPa
Fuel tank pressure change amount from fuel tank pressure at engine start	0.018 kPa or less
Time that either of the above conditions is met	5 min. or more

COMPONENT OPERATING RANGE

Parameter	Standard Value
Vapor pressure sensor voltage	Between 0.5 and 4.5 V
Fuel tank pressure	Between –3.5 and 1.5 kPa