2003 and 2004 MY EVAP Leak Monitor (P0442, P0456)

To return to monitor description, see page Ev–85.

MONITOR STRATEGY

Required sensors/Components	Main	Vapor pressure sensor, EVAP VSV and CCV
	Sub	ECT sensor, IAT sensor, Vehicle speed sensor, MAF meter
Frequency of operation	Once per driving cycle	
Duration	60 sec.	
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	–
ECT at engine start	10°C (50°F)	35°C (95°F)
IAT at engine start	10°C (50°F)	35°C (95°F)
Difference between IAT at engine start and ECT. at engine start	–7°C (19.4°F)	11°C (51.8°F)
IAT	10°C (50°F)	–
Change value of fuel tank pressure before vacuum introduction	Fuel tank pressure change is lower than specified value	
Vehicle speed condition	(a) or (b)	
(a) Time after vehicle stop	110 sec.	–
(b) Time after vehicle start	20 sec.	–
Refuel	Not refueled with idling	
Fuel slosh	Minimal “sloshing” of fuel, i.e. fairly smooth road	
Time after engine start	–	50 min.
Fuel level	–	90 %
Intake air amount	No great of intake air amount	
Item	Specification	
	Minimum	Maximum
Vehicle speed	–	130 km/h
	Steady speed	
Number of vacuum introduction	–	8 times

TYPICAL MALFUNCTION THRESHOLDS

Delta P (–17) indicates the change amount of the fuel tank pressure for 5 sec. after the fuel tank pressure is –17 mmHg (–2.27 kPa)
Delta P (–20) indicates the change amount of the fuel tank pressure for 5 sec. after the fuel tank pressure is –20 mmHg (–2.67 kPa)

Engine Family	Detection Criteria	Threshold
0.020” EVAP leak:		
3MZ–FE	Delta P (–17) Delta P (–20)	More than 0.095 kPa (0.675 mmHg)
Others	Delta P (–17) Delta P (–20)	More than 0.07 kPa (0.525 mmHg)
0.040” EVAP leak:		
3MZ–FE	Delta P (–17) Delta P (–20)	More than 0.22 kPa (1.5 mmHg)
	Fuel tank pressure at vacuum introduction completed	More than –0.933 kPa (–7 mmHg)
Others	Delta P (–17) Delta P (–20)	More than 0.16 kPa (1.2 mmHg)
	Fuel tank pressure at vacuum introduction completed	More than –0.933 kPa (–7 mmHg)

OBD MONITOR DRIVE PATTERNS

See page In–13

MODE 06 DATA (MONITOR RESULT)

(a) Checking monitor status (See page In–43)
(b) Detecting Mode 06 data (See page In–44)