2001 MY EVAP VSV Monitor (P0441)

To return to monitor description, see page Ev–50.

MONITOR STRATEGY

Required sensors/Components	Main	Vapor pressure sensor, EVAP VSV, CCV and VSV for bypass valve
	Sub	ECT sensor, IAT sensor, Vehicle speed sensor and MAF meter
Frequency of operation	Once per driving cycle	
Duration	Within 90 sec.	
MIL operation	2 driving cycle	
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	–
(a) IAT at engine start	10˚C (50˚F)	35˚C (95˚F)
(b) ECT at engine start	10˚C (50˚F)	35˚C (95˚F)
Difference between (a) and (b)	–	7˚C (45˚F)
IAT	10˚C (50˚F)	–
Time after engine start	–	50 min.
Vehicle speed	–	130 km/h (80 mph)
Time that vehicle speed is fixed at 64 km/h (40 mph) or more	15 sec.	–
Time that vehicle speed is fixed at less than 64 km/h (40 mph)	60 sec.	–
Fuel level	–	90 %
Fuel slosh	No slosh	
Change value of fuel tank pressure	Little	
Time after vehicle stop	110 sec.	–
Time after vehicle start	20 sec.	–
Number of vacuum introduction	–	8 times

TYPICAL MALFUNCTION THRESHOLDS

Engine Family	Detection Criteria	Threshold
1AZ–FE and 2AZ–FE	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure during vacuum introduction	–12 mmHg (–1.60 kPa) or more Less than 7 mmHg (0.93 kPa) Less than –19.5 mmHg (–2.6 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)

2JZ–GE	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure during vacuum introduction	–12 mmHg (–1.60 kPa) or more Less than 7 mmHg (0.93 kPa) Less than –19.5 mmHg (–2.6 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
1MZ–FE RX300	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops	–10 mmHg (–1.33 kPa) or more Less than 9 mmHg (1.20 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.9 mmHg (0.52 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
1MZ–FE Others	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops	–11 mmHg (–1.47 kPa) or more Less than 9 mmHg (1.20 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
1NZ–FE	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure change for 15 sec. after vacuum introduction	–15 mmHg (–2.00 kPa) or more Less than 4 mmHg (0.53 kPa) Less than 2.0 mmHg (0.27 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
5S–FE	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure during vacuum introduction	–13 mmHg (–1.73 kPa) or more Less than 6 mmHg (0.80 kPa) Less than –19.5 mmHg (–2.6 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.9 mmHg (0.52 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
2UZ–FE Sequoia	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure during vacuum introduction	–12 mmHg (–1.60 kPa) or more Less than 7 mmHg (0.93 kPa) Less than –19.5 mmHg (–2.6 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
3UZ–FE	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure during vacuum introduction	–12 mmHg (–1.60 kPa) or more Less than 7 mmHg (0.93 kPa) Less than –19.5 mmHg (–2.6 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)

5VZ–FE 4runner	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops	–11 mmHg (–1.47 kPa) or more Less than 8 mmHg (1.07 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)
1ZZ–FE	Fuel tank pressure when vacuum introduction starts Difference between fuel tank pressure when vacuum introduction starts and fuel tank pressure when it stops Fuel tank pressure during vacuum introduction	–12 mmHg (–1.60 kPa) or more Less than 7 mmHg (0.93 kPa) Less than –19.5 mmHg (–2.6 kPa)
	Difference between minimum fuel tank pressure and fuel tank pressure at 14 sec. after leak check	3.5 mmHg (0.47 kPa) or more
	Fuel tank pressure at 14 sec. after leak check	Less than –28 mmHg (–3.73 kPa)

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)