

1999 MY EVAP VSV Monitor (P0441)

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MONITOR STRATEGY

Required sensors/Components	Main	Vapor pressure sensor
	Sub	EVAP VSV, VSV for vapor pressure sensor, IAT sensor, ECT sensor and MAF sensor (or MAP sensor)
Frequency of operation	Once per driving cycle	
Duration	10 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	
IAT	-10° C (14° F)	—
(a) ECT at engine start	10° C (50° F)	35° C (95° F)
(b) IAT at engine start	10° C (50° F)	35° C (95° F)
Difference between (a) and (b)	—	7° C (45° F)
Running (7km/h [4 mph] or more) and stopped (3 km/h [2 mph] or less)	Once	
Case 1: EVAP VSV stuck open		
Time after engine start	6 sec.	6.5 sec.
EVAP purge	Cut	
Case 2: EVAP VSV stuck closed		
Time after engine start	300 sec.	—
Intake air amount (MAF sensor equipped)	—	0.6 g/rev.
Intake manifold vacuum (MAP sensor equipped)	—	-200 mmHg (-26.7 kPa)
EVAP VSV duty signal	20 %	—

TYPICAL MALFUNCTION THRESHOLDS

Engine Family	Detection Criteria	Threshold
Case 1: EVAP VSV stuck open		
5E-FE	Canister pressure	Less than -16.5 mmHg (-2.2 kPa)
	Decrease in canister pressure after engine start	16.5 mmHg (2.20 kPa) or more
2JZ-GE	Canister pressure	Less than -24 mmHg (-3.20 kPa)
	Decrease in canister pressure after engine start	18 mmHg (2.40 kPa) or more
1MZ-FE	Canister pressure	Less than -20 mmHg (-2.67 kPa)
	Decrease in canister pressure after engine start	15 mmHg (2.00 kPa) or more
2RZ-FE and 3RZ-FE	Canister pressure	Less than -15.5 mmHg (-2.1 kPa)
	Decrease in canister pressure after engine start	15.5 mmHg (2.07 kPa) or more
3S-FE and 5S-FE	Canister pressure	Less than -24 mmHg (-3.20 kPa)
	Decrease in canister pressure after engine start	18 mmHg (2.40 kPa) or more

1UZ-FE and 2UZ-FE	Canister pressure	Less than -24 mmHg (-3.20 kPa)
	Decrease in canister pressure after engine start	18 mmHg (2.40 kPa) or more
5VZ-FE	Canister pressure	Less than -15.5 mmHg (-2.1 kPa)
	Decrease in canister pressure after engine start	15.5 mmHg (2.07 kPa) or more
1ZZ-FE	Canister pressure	Less than -20 mmHg (-2.67 kPa)
	Decrease in canister pressure after engine start	15 mmHg (2.00 kPa) or more
Case 2: EVAP VSV stuck closed		
5E-FE	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 1.1 mmHg (0.15 kPa)
2JZ-GE GS300	Canister pressure	-18 mmHg (-2.40 kPa) or more
	Pulsation in canister pressure	Less than 0.92 mmHg (0.12 kPa)
2JZ-GE SC300	Canister pressure	-18 mmHg (-2.40 kPa) or more
	Pulsation in canister pressure	Less than 1.1 mmHg (0.15 kPa)
1MZ-FE	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 1.08 mmHg (0.14 kPa)
2RZ-FE and 3RZ-FE	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 0.825 mmHg (0.11 kPa)
3S-FE	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 1.1 mmHg (0.15 kPa)
5S-FE Camry	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 1.1 mmHg (0.15 kPa)
5S-FE Celica	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 0.55 mmHg (0.07 kPa)
1UZ-FE	Canister pressure	-18 mmHg (-2.40 kPa) or more
	Pulsation in canister pressure	Less than 1.1 mmHg (0.15 kPa)
2UZ-FE	Canister pressure	-18 mmHg (-2.40 kPa) or more
	Pulsation in canister pressure	Less than 0.82 mmHg (0.11 kPa)
5VZ-FE	Canister pressure	-22 mmHg (-2.93 kPa) or more
	Pulsation in canister pressure	Less than 0.55 mmHg (0.07 kPa)
1ZZ-FE	Canister pressure	-16 mmHg (-2.13 kPa) or more
	Pulsation in canister pressure	Less than 1.1 mmHg (0.15 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](#))