

1996 MY Catalyst Deterioration Monitor (P0420, P0430)

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MONITOR STRATEGY

Required sensors/Components	Main	Front heated oxygen sensor (or A/F sensor) and Rear heated oxygen sensor
	Sub	Crankshaft position sensor, ECT sensor, IAT sensor and MAF sensor (or MAP sensor)
Frequency of operation	Once per driving cycle	
Duration	Included in the Typical Malfunction Thresholds	
MIL operation	2 driving cycles	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not present	See page In-39
Included in the Typical Malfunction Thresholds	—

TYPICAL MALFUNCTION THRESHOLDS

Engine Family	Detection Criteria	Threshold (Duration)	Typical Enabling Condition
4A-FE and 7A-FE	Catalyst deterioration level	0.6 or more (for 120 sec.)	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 4 and 16 liters/sec. • Catalyst is warmed up • ECT is more than 80°C (176°F)
5E-FE Paseo	Catalyst deterioration level	0.5 or more (for 60 sec.)	• Closed Loop • Engine RPM is 3,500 rpm or less • Intake air amount is between 5 and 12 liters/sec. • Catalyst is warmed up • ECT is more than 80°C (176°F)
2JZ-GE	Catalyst deterioration level	0.65 or more (for 30 sec.)	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 10 and 15.5 g/sec. • Catalyst is warmed up • ECT is more than 80°C (176°F)
2JZ-GTE	Catalyst deterioration level	0.32 or more (for 30 sec.)	• Throttle valve open • Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 10 and 16 g/sec. • Catalyst is warmed up • ECT is more than 80°C (176°F)

1MZ-FE	Catalyst deterioration level	0.32 or more (for 60 sec.)	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 15 and 30 g/sec. • Catalyst is warmed up • ECT is more than 70°C (158°F)
2RZ-FE and 3RZ-FE	Catalyst deterioration level	0.7 or more (120 sec.)	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 8 and 30 g/sec. • Catalyst is warmed up • ECT is more than 80°C (176°F)
3S-FE and 5S-FE	Catalyst deterioration level (vehicle running)	0.55 or more (for 80 sec.) [M/T] 0.6 or more (for 80 sec.) [A/T]	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 5 and 19 liters/sec. • Catalyst is warmed up • ECT is more than 80°C (176°F)
	Catalyst deterioration level (idling)	0.5 or more (for 80 sec.)	• Closed Loop • Intake air amount is between 1.5 and 3 liters/sec. • Vehicle speed is less than 3 km/h • Catalyst is warmed up • ECT is more than 80°C (176°F)
2TZ-FZE	Catalyst deterioration level (vehicle running)	0.6 or more (for 40 sec.)	• Closed Loop • Engine RPM is 2,400 rpm or less • Intake air amount is between 6 and 20 g/sec. • Catalyst is warmed up • ECT is more than 55°C (131°F)
	Catalyst deterioration level (idling)	0.4 or more (for 40 sec.)	• Closed Loop • Intake air amount is less than 6 g/sec. • Vehicle speed is less than 3 km/h • Catalyst is warmed up • ECT is more than 80°C (176°F)
1UZ-FE	Catalyst deterioration level	0.6 or more (for 45 sec.)	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 5 and 30 g/sec. • Catalyst is warmed up • ECT is more than 55°C (131°F)
5VZ-FE	Catalyst deterioration level	0.6 or more (84 sec.) [M/T] 0.6 or more (168 sec.) [A/T]	• Closed Loop • Engine RPM is 3,000 rpm or less • Intake air amount is between 10 and 25 g/sec. • Catalyst is warmed up • ECT is more than 70°C (158°F)
5E-FE Tercel and 1FZ-FE	HC conversion efficiency (steady state monitor)	Less than 70 % (for 20 sec. x 3 times)	• Throttle valve open • Closed Loop • Vehicle speed is between 30 km/h (19 mph) and 83 km/h (51 mph) • Catalyst is warmed up • ECT is more than 80°C (176°F)

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](#))