

Decoding Mode 06 Data

The Monitor Status (Mode 06 data) allows the OBD scan tool to display the monitor result, test value and test limit (malfunction criterion). A problem in the emission-related components such as the catalyst, EVAP and thermostat can be found by comparing the test value and test limit. This procedure is described in "Checking Monitor Status" (see page In-43).

- TID (Test Identification Data) is assigned to each emission-related component.
- TLT (Test Limit Type):
If TLT is 0, the component is malfunctioning when the test value is higher than the test limit.
If TLT is 1, the component is malfunctioning when the test value is lower than the test limit.
- CID (Component Identification Data) is assigned to each test value.
- Unit Conversion is used to calculate the test value indicated on generic OBD scan tools.

TID \$01: Catalyst

(a) 1996 - 1999 models

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
0	\$01	Multiply by 0.0039 [No dimension]	Catalyst deterioration level (Bank 1): Determined by waveforms of front HO2S (A/F sensor) and rear HO2S	Malfunction criterion
0	\$02	Multiply by 0.0039 [No dimension]	Catalyst deterioration level (Bank 2): Determined by waveforms of front HO2S (A/F sensor) and rear HO2S	Malfunction criterion

(b) 2000 - 2004 models

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
0	\$01	Multiply by 0.0078 [No dimension]	Catalyst deterioration level (Bank 1): Determined by waveforms of front HO2S (A/F sensor) and rear HO2S	Malfunction criterion
0	\$02	Multiply by 0.0078 [No dimension]	Catalyst deterioration level (Bank 2): Determined by waveforms of front HO2S (A/F sensor) and rear HO2S	Malfunction criterion

TID \$02: EVAP

(a) Fuel tank pressure monitor

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.0916 [mmHg]	Test value of 0.04 inch leak from fuel tank: Determined by fuel tank pressure change	Malfunction criterion for 0.04 inch leak from fuel tank
1	\$02	Multiply by 0.0916 [mmHg]	Test value of 0.04 inch leak from canister and purge line: Determined by canister pressure change	Malfunction criterion for 0.04 inch leak from canister and purge line
1	\$03	Multiply by 0.0916 [mmHg]	Test value of EVAP VSV: Determined by pulsation of canister pressure change generated by EVAP VSV operation	Malfunction criterion for EVAP VSV
1	\$04	Multiply by 0.0916 [mmHg]	Test value of pressure control valve (VSV for vapor pressure sensor): Determined by pressure difference at switching over pressure switching valve	Malfunction criterion for pressure control valve

(b) Vacuum monitor (4 CIDs)

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.0916 [mmHg]	Test value of EVAP VSV: Determined by fuel tank pressure change during vacuum introduction	Malfunction criterion for EVAP VSV
1	\$02	Multiply by 0.0458 and subtract 2.93 [mmHg]	Test value of canister closed valve (CCV) and bypass VSV: Determined by fuel tank pressure change at switching over CCV and bypass VSV	Malfunction criterion for CCV and bypass VSV
0	\$03	Multiply by 0.0458 [mmHg]	Test value of 0.04 inch leak: Determined by fuel tank pressure change	Malfunction criterion for 0.04 inch leak
0	\$04	Multiply by 0.0458 [mmHg]	Test value of 0.02 inch leak: Determined by fuel tank pressure change	Malfunction criterion for 0.02 inch leak

(c) Vacuum monitor (5 CIDs)

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.0916 [mmHg]	Test value of EVAP VSV: Determined by fuel tank pressure change during vacuum introduction	Malfunction criterion for EVAP VSV
1	\$02	Multiply by 0.0458 and subtract 2.93 [mmHg]	Test value of bypass VSV: Determined by fuel tank pressure change at switching over bypass VSV	Malfunction criterion for bypass VSV
0	\$03	Multiply by 0.0458 [mmHg]	Test value of 0.04 inch leak: Determined by fuel tank pressure change	Malfunction criterion for 0.04 inch leak
0	\$04	Multiply by 0.0458 [mmHg]	Test value of 0.02 inch leak: Determined by fuel tank pressure change	Malfunction criterion for 0.02 inch leak
1	\$05	Multiply by 0.0458 and subtract 2.93 [mmHg]	Test value of canister closed valve (CCV): Determined by fuel tank pressure change at switching over CCV	Malfunction criterion for CCV

(d) LEVII vacuum monitor (2003 GX470, 4Runner, Tundra, 2004 Sienna)

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.183 [mmHg]	Test value of EVAP VSV stuck closed: Determined by fuel tank pressure change during vacuum introduction	Malfunction criterion for EVAP VSV stuck closed
0	\$02	Multiply by 0.0655 [Seconds]	Test value of EVAP VSV stuck open: Determined by abnormal state continuation time	Malfunction criterion for EVAP VSV stuck open
0	\$03	Multiply by 0.0655 [Seconds]	Test value of canister closed valve (CCV): Determined by abnormal state continuation time	Malfunction criterion for CCV
0	\$04	Multiply by 0.0458 [mmHg]	Test value of 0.04 inch leak: Determined by fuel tank pressure change	Malfunction criterion for 0.04 inch leak
0	\$05	Multiply by 0.0458 [mmHg]	Test value of 0.02 inch leak: Determined by fuel tank pressure change	Malfunction criterion for 0.02 inch leak

TID \$03: Heated oxygen sensor (HO2S)

Not supported by Mode 06, but by Mode 05.

TID \$04: HO2S heater

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.000076 [A]	Maximum HO2S heater current (Bank 1 Sensor 1)	Malfunction criterion
1	\$02	Multiply by 0.000076 [A]	Maximum HO2S heater current (Bank 1 Sensor 2)	Malfunction criterion
1	\$04	Multiply by 0.000076 [A]	Maximum HO2S heater current (Bank 1 Sensor 3)	Malfunction criterion
1	\$10	Multiply by 0.000076 [A]	Maximum HO2S heater current (Bank 2 Sensor 1)	Malfunction criterion
1	\$20	Multiply by 0.000076 [A]	Maximum HO2S heater current (Bank 2 Sensor 2)	Malfunction criterion
1	\$40	Multiply by 0.000076 [A]	Maximum HO2S heater current (Bank 2 Sensor 3)	Malfunction criterion

TID \$05: EGR**(a) EGR temperature/idle misfire monitor and stepper motor type**

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.625 and subtract 40 [°C]	Test value for EGR insufficient flow: Determined by EGR temperature	0°C
1	\$02	Multiply by 0.625 and subtract 40 [°C]	Test value for EGR excessive flow: Determined by EGR temperature	0°C

(b) EGR temperature/EGR valve lift monitor

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.625 and subtract 40 [°C]	Test value for EGR insufficient flow: Determined by EGR temperature	0°C
1	\$02	Multiply by 0.625 and subtract 4 [mm]	Test value for EGR excessive flow: Determined by EGR valve lift	0 mm

(c) MAP/idle misfire monitor

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 2.44 and subtract 156.16 [mmHg]	Test value for EGR valve stuck closed: Determined by intake manifold pressure	0 mmHg

TID \$06: A/F sensor

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
0	\$01	Multiply by 0.000244 [No dimension]	Parameter that identifies A/F sensor response rate (Bank 1)	Malfunction criterion
0	\$11	Multiply by 0.000244 [No dimension]	Parameter that identifies A/F sensor response rate (Bank 2)	Malfunction criterion

TID \$07: A/F sensor heater

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.000076 or 0.00017 [A]	Maximum heater current (Bank 1)	0.25 A
1	\$10	Multiply by 0.000076 or 0.00017 [A]	Maximum heater current (Bank 2)	0.25 A

TID \$08: Thermostat

TLT	CID	Unit Conversion	Description of Test Value	Description of Test Limit
1	\$01	Multiply by 0.625 and subtract 40 [°C]	ECT sensor output when estimated ECT reaches malfunction criterion	Malfunction criterion