

CHECKING MONITOR STATUS

The purpose of the monitor result (mode 06) is to allow access to the results of on-board diagnostic monitoring tests of specific components/systems that are not continuously monitored. Examples are catalysts, evaporative emissions (EVAP) and thermostats.

The monitor result allows the OBD II scan tool to display the monitor status, test value, minimum test limit and maximum test limit. These data are displayed after the vehicle has been driven to run the monitor.

When the test value is not between the minimum and maximum test limits, the ECM (PCM) interprets this as a malfunction. If the test value is on the borderline of the test limits, the component is likely to malfunction in the near future.

Perform the following procedures to view the monitor status. Although these procedures refer to the Lexus/Toyota diagnostic tester, the monitor status can be checked using a generic OBD II scan tool. Refer to your scan tool operator's manual for specific procedural information.

1. **PERFORM MONITOR DRIVE PATTERN**
 - (a) Connect the intelligent tester to the DLC3.
 - (b) Turn the ignition switch and the tester ON.
 - (c) Clear the DTCs (see page [ES-39](#)).
 - (d) Run the vehicle in accordance with the applicable drive pattern described in READINESS MONITOR DRIVE PATTERN (see page [ES-22](#)). Do not turn the ignition switch OFF.

NOTE:

The test results will be lost if the ignition switch is turned OFF.

2. **ACCESS MONITOR RESULT**
 - (a) Select the following items from the intelligent tester menus: DIAGNOSIS, ENHANCED OBD II, MONITOR INFO and MONITOR RESULT. The monitor status appears after the component name.
 - INCMP: The component has not been monitored yet.
 - PASS: The component is functioning normally.
 - FAIL: The component is malfunctioning.
 - (b) Confirm that the component is either PASS or FAIL.
 - (c) Select the component and press ENTER. The accuracy test value appears if the monitor status is either PASS or FAIL.
3. **CHECK COMPONENT STATUS**
 - (a) Compare the test value with the minimum test limit (MIN LIMIT) and maximum test limit (MAX LIMIT).

- (b) If the test value is between the minimum and maximum test limits, the component is functioning normally. If not, the component is malfunctioning. The test value is usually not near the test limits. If the test value is on the borderline of the test limits, the component is likely to malfunction in the near future.

HINT:

The monitor result might on rare occasions be PASS even if the malfunction indicator lamp (MIL) is illuminated. This indicates the system malfunctioned on a previous driving cycle. This might be caused by an intermittent problem.

4. MONITOR RESULT INFORMATION

If you use a generic scan tool, multiply the test value by the scaling value listed below.

A/F Sensor (Bank 1 Sensor 1)

Monitor ID	Test ID	Scaling	Unit	Description
\$01	\$8E	Multiply by 0.001	V	A/F sensor deterioration level
\$01	\$91	Multiply by 0.004	mA	A/F sensor current

A/F Sensor (Bank 2 Sensor 1)

Monitor ID	Test ID	Scaling	Unit	Description
\$05	\$8E	Multiply by 0.001	V	A/F sensor deterioration level
\$05	\$91	Multiply by 0.004	mA	A/F sensor current

HO2 Sensor (Bank 1 Sensor 2)

Monitor ID	Test ID	Scaling	Unit	Description
\$02	\$07	Multiply by 0.001	V	Minimum sensor voltage
\$02	\$08	Multiply by 0.001	V	Maximum sensor voltage
\$02	\$8F	Multiply by 0.0003	g	Maximum oxygen storage capacity

HO2 Sensor (Bank 2 Sensor 2)

Monitor ID	Test ID	Scaling	Unit	Description
\$06	\$07	Multiply by 0.001	V	Minimum sensor voltage
\$06	\$08	Multiply by 0.001	V	Maximum sensor voltage
\$06	\$8F	Multiply by 0.0003	g	Maximum oxygen storage capacity

Catalyst (Bank 1)

Monitor ID	Test ID	Scaling	Unit	Description
\$21	\$A9	Multiply by 0.0003	No dimension	Oxygen storage capacity of catalyst

Catalyst (Bank 2)

Monitor ID	Test ID	Scaling	Unit	Description
\$22	\$A9	Multiply by 0.0003	No dimension	Oxygen storage capacity of catalyst

EVAP

Monitor ID	Test ID	Scaling	Unit	Description
\$3D	\$C9	Multiply by 0.001	kPa	Test value for small leak (P0456)
\$3D	\$CA	Multiply by 0.001	kPa	Test value for gross leak (P0455)
\$3D	\$CB	Multiply by 0.001	kPa	Test value for leak detection pump stuck OFF (P2401)
\$3D	\$CD	Multiply by 0.001	kPa	Test value for leak detection pump stuck ON (P2402)
\$3D	\$CE	Multiply by 0.001	kPa	Test value for vent valve stuck OFF (P2420)
\$3D	\$CF	Multiply by 0.001	kPa	Test value for vent valve stuck ON (P2419)
\$3D	\$D0	Multiply by 0.001	kPa	Test value for reference orifice low flow (P043E)

Monitor ID	Test ID	Scaling	Unit	Description
\$3D	\$D1	Multiply by 0.001	kPa	Test value for reference orifice high flow (P043F)
\$3D	\$D4	Multiply by 0.001	kPa	Test value for purge VSV stuck closed (P0441)
\$3D	\$D5	Multiply by 0.001	kPa	Test value for purge VSV stuck open (P0441)
\$3D	\$D7	Multiply by 0.001	kPa	Test value for purge flow insufficient (P0441)

Rear Oxygen Sensor Heater

Monitor ID	Test ID	Scaling	Unit	Description
\$42	\$91	Multiply by 0.001	Ohm	Oxygen sensor heater resistance bank 1 sensor 2
\$46	\$91	Multiply by 0.001	Ohm	Oxygen sensor heater resistance bank 2 sensor 2

Misfire

Monitor ID	Test ID	Scaling	Unit	Description
\$A1	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for all cylinders: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A1	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - all cylinders
\$A2	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for cylinder 1: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A2	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - cylinder 1
\$A3	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for cylinder 2: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A3	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - cylinder 2
\$A4	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for cylinder 3: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A4	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - cylinder 3
\$A5	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for cylinder 4: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A5	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - cylinder 4
\$A6	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for cylinder 5: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A6	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - cylinder 5

Monitor ID	Test ID	Scaling	Unit	Description
\$A7	\$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for cylinder 6: EWMA = Total misfire counts for last driving cycle * 0.1 + Last EWMA * 0.9 Misfire counts for last 10 driving cycles - Total
\$A7	\$0C	Multiply by 1	Time	Ignition switch ON: Total misfire counts for last driving cycle Engine running: Total misfire counts for current driving cycle Misfire counts for last or current driving cycle - cylinder 6