CHECKING MONITOR STATUS

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

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 test limit and maximum test limit, the ECM (PCM) interprets this as a malfunction. When the component is not malfunctioning, if the difference of the test value and test limit is very small, the component will malfunction in the near future.

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

1. PERFORM MONITOR DRIVE PATTERN

(a) Connect an intelligent tester to the DLC3.

(b) Turn the ignition switch ON and the tester ON.

(c) Clear DTCs (See page ES-38).

(d) Run the vehicle in accordance with the applicable drive pattern described in READINESS MONITOR DRIVE PATTERN (See page ES-23). Do not turn the ignition switch OFF.

NOTICE:

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

2. ACCESS MONITOR RESULT

(a) Select from the intelligent tester menus: DIAGNOSIS, ENHANCED OBDII, 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 test limit and maximum test limit, the component is functioning normally. If not, the component is malfunctioning. The test value is usually significantly higher or lower than the test limit. If the test value is on the borderline of the test limit, the component will 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 value by the scaling value listed below.

A/F Sensor Bank 1

Monitor ID	Test ID	Scaling	Unit	Description
$01	$8E	Multiply by 0.0003	No dimension	Response rate deterioration level for bank 1 sensor 1
$01	$91	Multiply by 0.004	mA	A/F sensor current

A/F Sensor Bank 2

Monitor ID	Test ID	Scaling	Unit	Description
$05	$8E	Multiply by 0.0003	No dimension	Response rate deterioration level for bank 2
$05	$91	Multiply by 0.004	mA	A/F sensor current for bank 2

HO2S 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	Grams	Maximum oxygen storage capacity

HO2S 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	Grams	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 - Bank 1

Catalyst - Bank 2

Monitor ID	Test ID	Scaling	Unit	Description
$22	$A9	Multiply by 0.0003	No dimension	Oxygen storage capacity of catalyst - Bank 2

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 OFF stuck (P2401)
$3D	$CD	Multiply by 0.001	kPa	Test value for leak detection pump ON stuck (P2402)
$3D	$CE	Multiply by 0.001	kPa	Test value for vent valve OFF stuck (P2420)
$3D	$CF	Multiply by 0.001	kPa	Test value for vent valve ON stuck (P2419)
$3D	$D0	Multiply by 0.001	kPa	Test value for reference orifice low flow (P043E)
$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 close stuck (P0441)
$3D	$D5	Multiply by 0.001	kPa	Test value for purge VSV open stuck (P0441)
$3D	$D7	Multiply by 0.001	kPa	Test value for purge flow insufficient (P0441)

Misfire

Monitor ID	Test ID	Scaling	Unit	Description
$A1	$0B	Multiply by 1	Time	Exponential Weighted Moving Average (EWMA) misfire for all cylinders: Misfire counts for last 10 driving cycles - Total
$A1	$0C	Multiply by 1	Time	Misfire rate for all cylinders: Misfire counts for last/ current driving cycles - Total
$A2	$0B	Multiply by 1	Time	EWMA misfire for cylinder 1: Misfire counts for last 10 driving cycles - Total
$A2	$0C	Multiply by 1	Time	Misfire rate for cylinder 1: Misfire counts for last/ current driving cycles - Total
$A3	$0B	Multiply by 1	Time	EWMA misfire for cylinder 2: Misfire counts for last 10 driving cycles - Total

Monitor ID	Test ID	Scaling	Unit	Description
$A3	$0C	Multiply by 1	Time	Misfire rate for cylinder 2: Misfire counts for last/ current driving cycles - Total
$A4	$0B	Multiply by 1	Time	EWMA misfire for cylinder 3: Misfire counts for last 10 driving cycles - Total
$A4	$0C	Multiply by 1	Time	Misfire rate for cylinder 3: Misfire counts for last/ current driving cycles - Total
$A5	$0B	Multiply by 1	Time	EWMA misfire for cylinder 4: Misfire counts for last 10 driving cycles - Total
$A5	$0C	Multiply by 1	Time	Misfire rate for cylinder 4: Misfire counts for last/ current driving cycles - Total
$A6	$0B	Multiply by 1	Time	EWMA misfire for cylinder 5: Misfire counts for last 10 driving cycles - Total
$A6	$0C	Multiply by 1	Time	Misfire rate for cylinder 5: Misfire counts for last/ current driving cycles - Total
$A7	$0B	Multiply by 1	Time	EWMA misfire for cylinder 6: Misfire counts for last 10 driving cycles - Total
$A7	$0C	Multiply by 1	Time	Misfire rate for cylinder 6: Misfire counts for last/ current driving cycles - Total