DTC	P0606	ECM / PCM Processor

DESCRIPTION

The ECM continuously monitors its internal processors (CPUs), A/F sensor transistors and heated oxygen sensor (HO2S) transistors. This self-check ensures that the ECM is functioning properly. These are diagnosed by internal "mirroring" of the main and sub CPUs to detect the processors error. If outputs from the processors deviate from the standards, the ECM will illuminate the MIL and set a DTC immediately.

DTC	DTC Setting Condition	Trouble Area
P0606	• ECM CPUs malfunction • A/F sensor transistors malfunction • HO2S transistors malfunction	• Exhaust gas leak • HO2 Sensor • ECM

ES

MONITOR STRATEGY

Related DTC	P0606: ECM range check
Required sensors/Components (main)	ECM
Required sensors/Components (sub)	APP sensor, TP sensor, Brake switch, Cruise control, A/F sensor, HO2 sensor
Frequency of Operation	Continuous
Duration	60 seconds
MIL Operation	Immediate
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not present	None
Engine	Running
Estimated A/F sensor temperature	450 to 800°C (842 to 1472°F)
Estimated HO2S temperature	450 to 800°C (842 to 1472°F)

TYPICAL MALFUNCTION THRESHOLDS

Difference of main APP and sub APP	0.3 V or more
Difference of main TP and sub TP	0.3 V or more
Difference of main brake switch signal and sub brake switch signal	Different
Cruise control	Fail
A/F sensor transistors	Fail
HO2S transistors	Fail

INSPECTION PROCEDURE

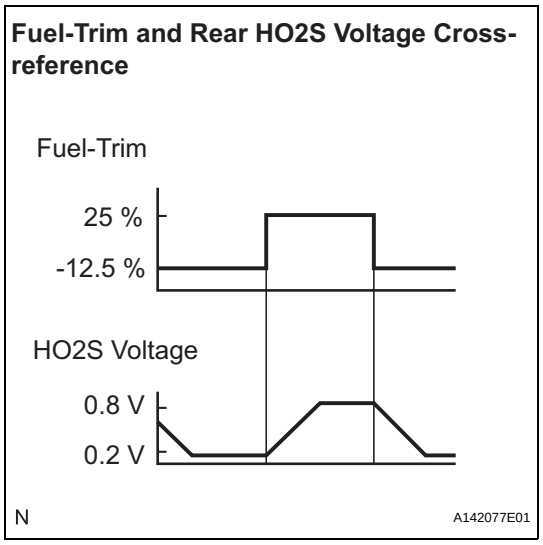
1	INSPECT FOR EXHAUST GAS LEAK

(a) Allow the engine to idle.
(b) Check for exhaust gas leak around the heated oxygen sensor.
OK:
No leak from the heated oxygen sensor.

NG	REPAIR OR REPLACE EXHAUST GAS LEAKAGE POINT

OK

2 CHECK HEATED OXYGEN SENSOR



(a) Connect the intelligent tester to the DLC3.
(b) Start the engine and turn the tester on.
(c) Warm up the engine at an engine speed of 2500rpm for approximately 90 seconds.
(d) Enter the following menus: DIAGNOSIS / ENHANCED II / ACTIVE TEST / A/F CONTROL.
(e) Perform the A/F CONTROL operation with the engine in an idling condition (press the RIGHT or LEFT button to change the fuel injection volume).
(f) Monitor the voltage outputs of the HO2 sensors (O2S B1S2) displayed on the tester.
HINT:
- The A/F CONTROL operation lowers the fuel injection volume by 12.5% or increases the injection volume by 25%.
- Each sensor reacts in accordance with increases in the fuel injection volume.

Standard voltage

Tester Display (Sensor)	Injection Volume	Voltage
O2S B1S2	-12.5%	Less than 0.2 V
	+25%	More than 0.8 V

Result

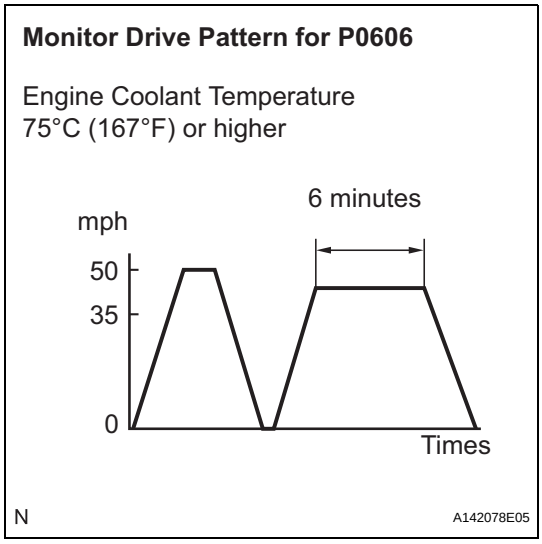
Result	Proceed to
OK	A
NG (for 2WD model)	B
NG (for 4WD model)	C

B → REPLACE HEATED OXYGEN SENSOR (See page EC-32)

C → REPLACE HEATED OXYGEN SENSOR (See page EC-38)

A

3	CHECK WHETHER DTC OUTPUT RECURS (IN ADDITION TO DTC P0606)



(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position.
(c) Turn the tester on.
(d) Clear the DTC.
(e) Turn the ignition switch off.
(f) Disconnect the battery negative terminal and wait for 1 minute.
(g) Connect the battery negative terminal.
(h) Start the engine.
(i) Perform the drive pattern.
  (1) Warm up the engine.
  (2) Accelerate the vehicle to 50 mph (80 km/h) and stop the vehicle.
  (3) Drive the vehicle at 35 to 50 mph (60 to 80 km/h) for 5 minutes or more.
(j) Enter the following menus: DIAGNOSIS / ENHANCED II / DTC INFO / CURRENT CODES.
(k) Read the DTCs.

Result

Display (DTC output)	Proceed to
P0606	A
No output DTC	B

B → CHECK FOR INTERMITTENT PROBLEMS

A → REPLACE ECM (See page ES-498)