



Technical Service BULLETIN

February 9, 2005

Title:

M.I.L. "ON" DTC P0031, P0051, P2238, AND/OR P2241

Models:

'04 Highlander (V6)

**ENGINE
EG004-05**

Introduction Under certain driving conditions, some 2004 model year Highlander vehicles may exhibit a M.I.L. "ON" with at least one of the following DTCs:

- P0031 (Oxygen Sensor Heater Control Circuit Low [Bank 1, Sensor 1])
- P0051 (Oxygen Sensor Heater Control Circuit Low [Bank 2, Sensor 1])
- P2238 (Oxygen Sensor Pumping Current Circuit Low (for A/F Sensor) [Bank 1, Sensor 1])
- P2241 (Oxygen Sensor Pumping Current Circuit Low (for A/F Sensor) [Bank 2, Sensor 1])

The A/F sensor manufacturing process and the Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) logic have been modified to improve these conditions.

NOTE:

- **Version 12.01a or later Diagnostic Tester software is required to perform this procedure.**
- **Before proceeding, verify the ECM (PCM) calibration has NOT been updated by checking for the Authorized Modifications Label (shown in step 1 of the Repair Procedure).**

Applicable Vehicles

- **2004 model year Highlander vehicles equipped with 3MZ-FE engine.**

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EG4024	Recalibrate ECM (PCM) Engine, R & R Both A/F Sensors	1.8	89661-48650 89661-48660	8A	99

Applicable Warranty*:

This repair is covered under the Toyota Federal Emissions Warranty. This warranty is in effect for 96 months or 80,000 miles, whichever occurs first, from the vehicle's in-service date.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.





Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
89467-48060	Same	Sensor, Air Fuel Ratio Bank 1	1
89467-48050	Same	Sensor, Air Fuel Ratio Bank 2	1
N/A	00451-00001-LBL	Authorized Modifications Label	1

NOTE:
 Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily Dealer Support Materials System or by calling the MDC at 1-800-622-2033.

Required SSTs

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 12.01a Software (or later)* 	01002593-005	1

* Essential SSTs.

NOTE:
 Additional Diagnostic Tester Kits, Program Cards, or other SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

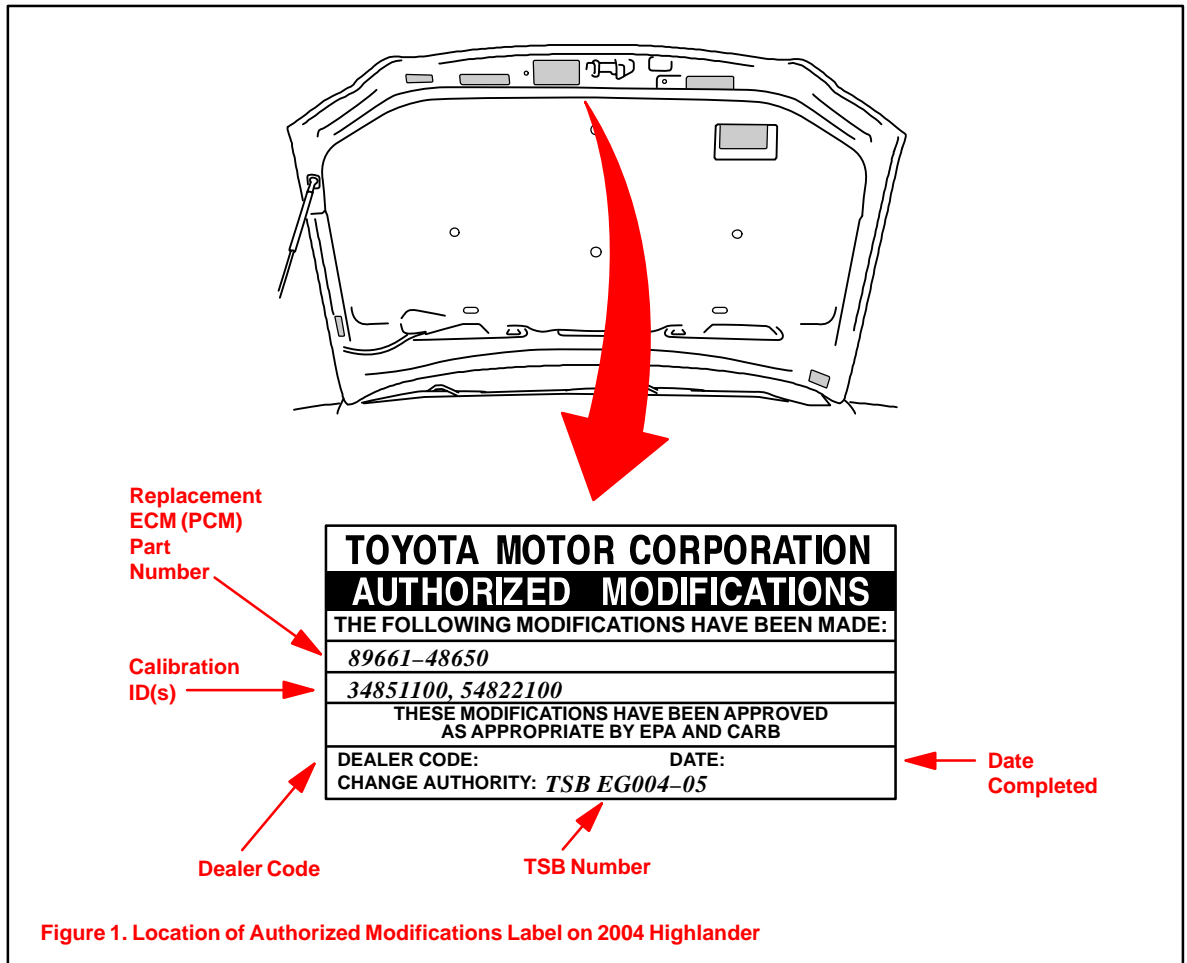
Calibration Identification Chart

DRIVETRAIN	ECM (CPU)	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID
2WD	Main	34837000	34851100
	Sub	54819000	54822100
4WD	Main	34838000	34852000
	Sub	54820000	54823000

NOTE:
 2004 model year Highlander vehicles, which have been flash reprogrammed using the procedures in this TSB, will contain upgraded 2005 model year OBD II logic. Refer to the 2005 model year Highlander Repair Manual information on the Technical Information System (TIS) when checking Powertrain Diagnostic Trouble Codes (DTCs) on 2004 model year vehicles that have been reprogrammed.

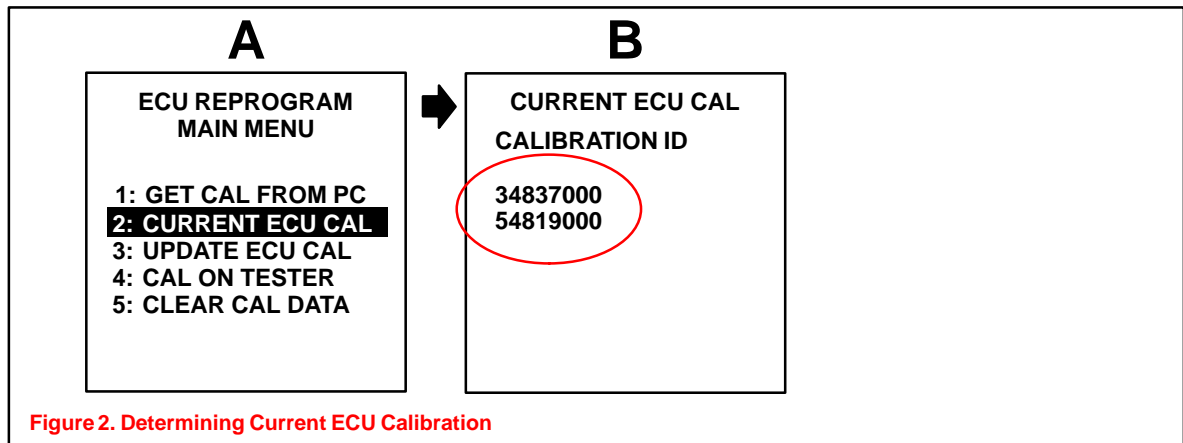
Repair Procedure

1. Replace both Bank 1, Sensor 1 and Bank 2, Sensor 1 air fuel ratio sensors.
2. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 1. Confirm if ECM (PCM) calibration has been updated. If not the latest ECM (PCM) calibration — go to step 3.



Repair Procedure
(Continued)

3. Connect the Diagnostic Tester to the vehicle and select CURRENT ECU CAL from the ECU REPROGRAM MAIN MENU. Determine the vehicle's current ECU calibration (see Figure 2).
 - The sample screen prints seen below are the 12.01a software version and may differ from subsequent software versions.



NOTE:

- If Calibration ID matches "Previous Calibration ID" as shown in Calibration Identification Chart on page 2, proceed with flash reprogramming.
- If Calibration ID matches "New Calibration ID" as shown in Calibration Identification Chart, this vehicle has already been programmed. Refer to TIS for diagnostic procedures applicable to any stored DTCs.

4. If ECU calibration ID is not the same as the "New Calibration ID" listed previously, proceed to Flash Reprogram ECM (PCM).
5. **Flash Reprogram ECM (PCM)**
 - A. Follow the procedures outlined in TSB No. SS002-01, "ECU Flash Reprogramming Process," and flash the ECM (PCM) with the new calibration file update.
 - B. Enter the required information on the Authorized Modifications Label and affix it to the vehicle at the location shown in Figure 1 (page 3). The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
6. Follow the procedures outlined in TSB No. EG045-04, "Entering VIN During ECM (PCM) Replacement and/or DTC P0630," and write the VIN to the ECM (PCM).
7. The repair is complete. Test drive vehicle to confirm normal operation.