



Technical Service BULLETIN

February 2, 2005

Title:

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

Models:

'04 Sienna

ENGINE
EG001-05

Introduction Under certain driving conditions, some 2004 model year Sienna 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.

- A 2005 model year Brake Actuator Assembly must be installed on vehicles equipped with laser cruise control due to the use of 2005 model year software in the new ECM/PCM calibration.

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 **Sienna** vehicles.

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG4021	Recalibrate ECM (PCM) Engine R & R Both A/F Sensors	2.2	89661-08090 89661-08091 89661-08092 89661-08093 89661-08100 89661-08101 89661-08102 89661-08103	8A	99
Combo A	R & R Brake Actuator Assembly (Vehicles Equipped With Laser Cruise Control)	1.2	89661-08110 89661-08111 89661-08112 89661-08113 89661-08120 89661-08130		

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
89467-08020	Same	Sensor, Air Fuel Ratio Bank 1	1
89467-08010	Same	Sensor, Air Fuel Ratio Bank 2	1
44050-08070	44050-08071	Sienna 2WD Actuator Assembly, Brake (With VSC ECU)	1
44050-08090	44050-08091	Sienna 4WD Actuator Assembly, Brake (With VSC ECU)	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**

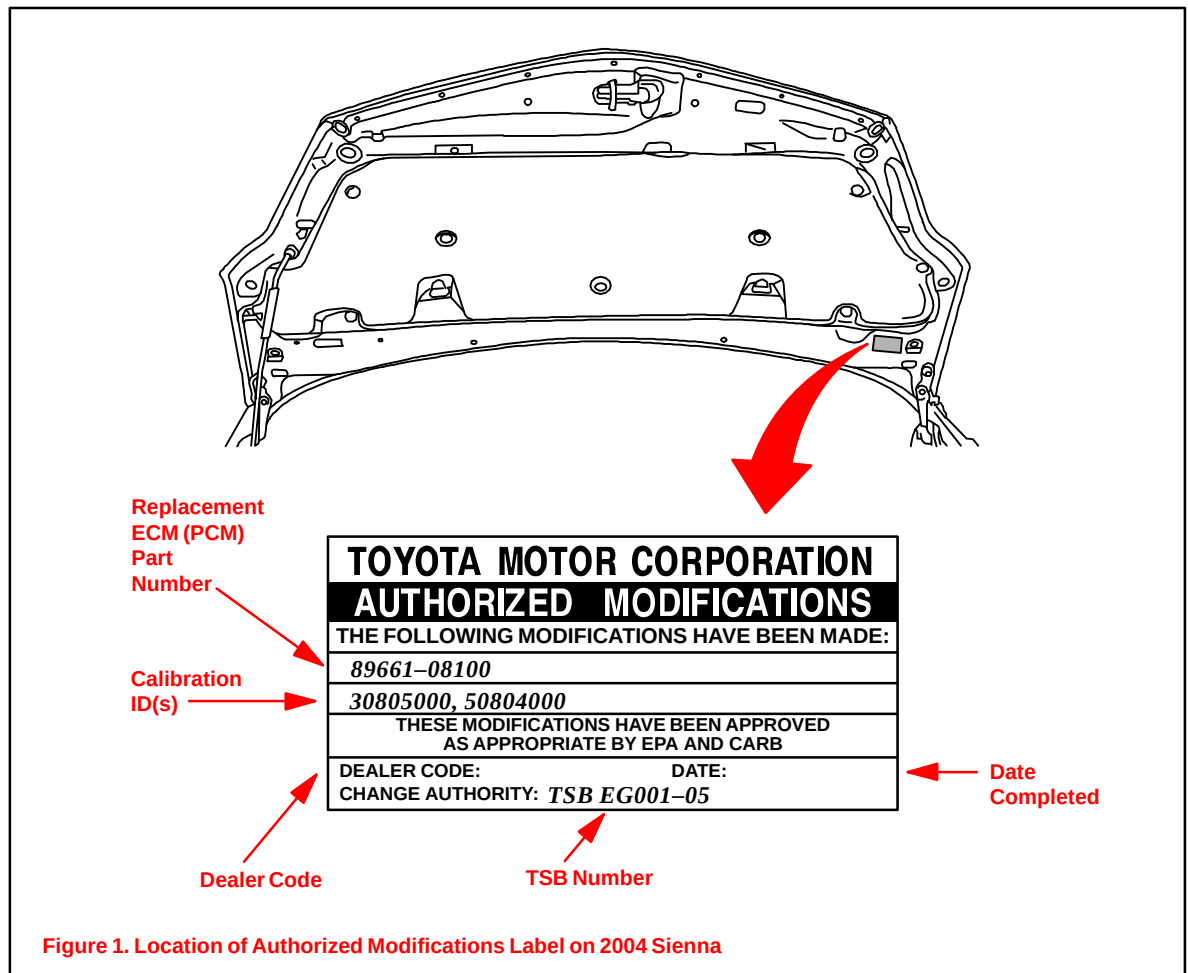
DRIVETRAIN	ECM (CPU)	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID
2WD	Main	30801000 30801100 30801200 30801300	30804000
	Sub	50801000 50801100	50803000
4WD	Main	30802000 30802100 30802200 30802300	30805000
	Sub	50802000 50802100	50804000

NOTE:

2004 model year Sienna 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 Sienna 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.

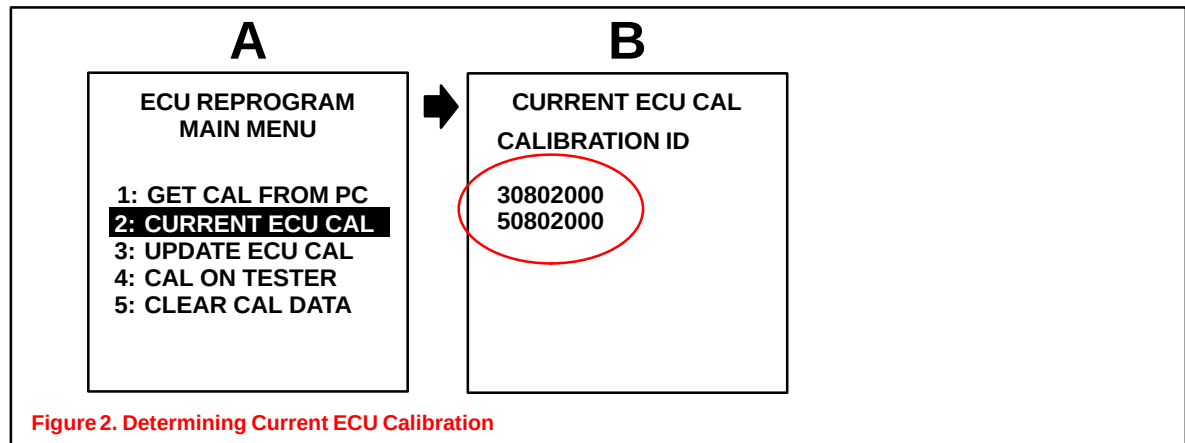
**Repair
Procedure**

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. For vehicles **NOT** equipped with laser cruise control, the repair is complete. Test drive vehicle to confirm normal operation.
8. For vehicles equipped with laser cruise control, a new Brake Actuator Assembly (with VSC ECU) must be installed at the time of recalibration. If vehicle is equipped with laser cruise, use the **Parts Information** table on page 2 to order the correct part (2WD or 4WD) and follow the instructions listed on TIS: 2004 model year Sienna Repair Manual: *Brake: Brake Actuator Assy (w/VSC): Replacement (Sienna)* to replace the Brake Actuator Assembly (with VSC ECU).
9. Follow the procedures outlined in TSB No. BR001-04, "Zero Point Calibration," to calibrate the sensors affected by the Brake Actuator Assembly replacement.
10. Test drive to confirm normal vehicle and laser cruise control operation.