

MIL "ON" DTC P0172, P0175, P2196, P2198, P0138, P0158, P0037, or P0057

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Lexus Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2006	GS300	Drive Type(s): 2WD, 4WD Engine(s): 3GR Transmission(s): 6AT VDS(s): BH96S, CH96S

TSIB SUPERSESION NOTICE

The information contained in this TSIB supersedes the information in TSIB Nos. EG007-07 and EG008-07. Two key changes to note are:

- Replacement of PCV valve has been eliminated from the Repair Procedure.
- Repair Procedure has been divided into 3 procedures according to DTC(s) and calibration IDs.

TSIB Nos. EG007-07 and EG008-07 are now obsolete.

Introduction

Under certain driving conditions, some 2006 model year GS 300 vehicles may exhibit a MIL "ON" condition with at least one of the following Diagnostic Trouble Codes (DTCs):

- P0172 (System Too Rich [Bank 1])
- P0175 (System Too Rich [Bank 2])
- P2196 (Oxygen [A/F] Sensor Signal Stuck Rich [Bank 1 Sensor 1])
- P2198 (Oxygen [A/F] Sensor Signal Stuck Rich [Bank 2 Sensor 1])
- P0138 (Oxygen Sensor Circuit High Voltage [Bank 1 Sensor 2])
- P0158 (Oxygen Sensor Circuit High Voltage [Bank 2 Sensor 2])
- P0037 (Oxygen Sensor Heater Control Circuit Low [Bank 1 Sensor 2])
- P0057 (Oxygen Sensor Heater Control Circuit Low [Bank 2 Sensor 2])

The oxygen sensor type has been changed from a planar to a cup style. The Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) logic has been modified to address this condition and accommodate the new oxygen sensor. Refer to the following repair procedure to address customer concerns.

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Introduction (Continued)

To properly address this condition, three repair procedures are provided. Carefully review the Repair Procedure Overview below and all steps of this bulletin BEFORE beginning any repair.

NOTE

Before proceeding, verify the ECM (PCM) calibration has NOT been updated by checking for the Authorized Modifications Label (shown in step 2 of Repair Procedure C).

Repair Procedure Overview

1. Confirm stored DTCs and verify vehicle condition matches this bulletin.
2. Verify calibration IDs to determine if this repair has already been performed.
3. Determine if Repair Procedure A, B, or C should be performed.

Repair Procedure A:

- Confirm DTCs P0172, P0175, P2196, and/or P2198, and confirm calibration IDs match applicable ones in Calibration Identification Chart.
- Replace ECM (PCM), update ECM (PCM) calibration (as necessary), and change engine oil and oil filter.

Repair Procedure B:

- Confirm DTCs P0138, P0158, P0037, and/or P0057, and confirm calibration IDs match applicable ones in Calibration Identification Chart.
- Replace rear oxygen sensors, replace ECM (PCM), and update ECM (PCM) calibration (as necessary).

Repair Procedure C:

- Confirm DTCs P0172, P0175, P2196, and/or P2198, and confirm calibration IDs match applicable ones in Calibration Identification Chart.
- Update ECM (PCM) calibration and change engine oil and oil filter.

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Warranty Information

OP CODE	DESCRIPTION	TIME	DRIVE-TRAIN	OFF	T1	T2
EG7010	R & R LH & RH Oxygen Sensors, R & R ECM (PCM), and Recalibrate ECM (PCM) Engine	2.7	2WD	89666-3035#	8A	99
			4WD	89666-3036#		
Combo A	Change Engine Oil & Oil Filter*	0.7	–	–		
EG7003	Recalibrate ECM (PCM) Engine and Change Engine Oil & Oil Filter	0.9	2WD	89666-3035#		
			4WD	89666-3036#		

* Changing the engine oil (Combo A) should ONLY be performed when the following DTCs are stored: P0172, P0175, P2196, and/or P2198.

APPLICABLE WARRANTY

- This repair is covered under the Lexus Federal Emissions Warranty. This warranty is in effect for 96 months or 80,000 miles, whichever occurs first, from the vehicles in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

Calibration Identification Chart

MODEL	DRIVE-TRAIN	ECM (CPU)	PREVIOUS CALIBRATION ID		NEW CALIBRATION ID	VDS
			REFER TO REPAIR PROCEDURE A OR B	REFER TO REPAIR PROCEDURE C		
2006 GS 300	2WD (A/T)	Main	33065000 33065100	33065200 33065300	33065400	BH96S
		Sub	53044000 53044100	53044200	53044300	
	4WD (A/T)	Main	33066000 33066100	33066200 33066300	33066400	CH96S
		Sub	53045000 53045100	53045200	53045300	

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Parts Information

MODEL	ENGINE	DRIVE-TRAIN	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
2006 GS 300	3GR-FSE	2WD	04152-31080 04152-YZZA3	04152-YZZA3	Element Kit, Oil Filter	1
		4WD	04152-38010 04152-YZZA2	04152-YZZA5		1
		2WD	89465-30710	89465-30820	Sensor, Oxygen (RH, LH)	1
		4WD	89465-30710	89465-30820	Sensor, Oxygen (RH)	1
			89465-30720	89465-30830	Sensor, Oxygen (LH)	1
		2WD	89666-30350 89666-30351 89666-30352 89666-30353	89666-30354*	Computer, Engine Control (ECM/PCM)	1**
4WD	89666-30360 89666-30361 89666-30362 89666-30363	89666-30364*	1**			
-	-	-	N/A	00451-00001-LBL	Authorized Modifications Label	1

* Use part numbers 89666-30353 and 89666-30363 until part numbers 89666-30354 and 89666-30364 are available.

** DO NOT replace the ECM (PCM) if only performing Repair Procedure C.

NOTE
Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily – Dealer Support Materials Orders.

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Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST'S)	PART NUMBER	QTY
GR8 Battery Diagnostic Station*	00002-MCGR8	1
Oil Filter Wrench*	09228-06500-02	1
Oxygen Sensor Socket	09224-00010-01	1

* Essential SST.


NOTE
 Additional SSTs may be ordered by calling 1-800-933-8335.

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* NOTE: Software version 4.12.001 or later is required.	ADE	TSUNT	1

* Essential SST.

NOTE

- Additional TIS Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- The Diagnostic Tester is NOT recommended for flash reprogramming with this calibration file. Please use TIS Techstream or an approved J2534 interface to perform this update. Visit techinfo.toyota.com for more information regarding J2534 reprogramming.



REQUIRED MATERIAL	CLASSIFICATION	DRIVETRAIN	QUANTITY
Engine Oil	ILSAC GF-4 Multi-grade SAE 5W-30	2WD	6.7 U.S. quarts (6.3 liters)
		4WD	6.8 U.S. quarts (6.4 liters)

Repair Procedure

- If DTCs P0172, P0175, P2196, and/or P2198 are set — **Refer to Repair Procedure A.**
- If DTCs P0138, P0158, P0037, and/or P0057 are set — **Refer to Repair Procedure B.**
- If DTCs P0172, P0175, P2196, and/or P2198 are set — **Refer to Repair Procedure C.**

DTCs P0138, P0158, P0037, and/or P0057 are NOT applicable to Repair Procedure C. Refer to the Repair Manual for diagnosis.

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Repair Procedure A: DTC P0172, P0175, P2196, and/or P2198

1. Confirm the calibration ID is applicable based on the Calibration Identification Chart in this bulletin.
2. Replace both rear oxygen sensors.

Refer to the Technical Information System (TIS), 2006 model year GS 300 Repair Manual:

- [Engine/Hybrid System – Emission Control – “3GR-FSE Emission Control: Heated Oxygen Sensor \(For Sensor 2\): On-Vehicle Inspection”](#)
- [Engine/Hybrid System – Emission Control – “3GR-FSE Emission Control: Heated Oxygen Sensor \(For Sensor 2\): Removal”](#)
- [Engine/Hybrid System – Emission Control – “3GR-FSE Emission Control: Heated Oxygen Sensor \(For Sensor 2\): Installation”](#)

3. Replace the ECM (PCM).

Refer to TIS, 2006 model year GS 300 Repair Manual:

- [Engine/Hybrid System – Engine Control – “3GR-FSE Engine Control System: ECM: Removal”](#)
- [Engine/Hybrid System – Engine Control – “3GR-FSE Engine Control System: ECM: Installation”](#)

4. Follow the procedures outlined in TSIB No. [EG012-04](#), “Entering VIN During ECM (PCM) Replacement and/or DTC P0630,” and write the VIN to the ECM (PCM).

NOTE

The new ECM (PCM) may be equipped with an OLD calibration ID.

5. Check the ECM calibration ID and flash reprogram the ECM (PCM) if necessary.
 - Refer to Repair Procedure C for the ECM (PCM) reprogramming procedure.
6. Change the engine oil and oil filter.

Refer to TIS, 2006 model year GS 300 Repair Manual:

- [Engine/Hybrid System – Lubrication – “3GR-FSE Lubrication: Oil Filter \(for 2WD\) / \(for 4WD\): Components”](#)
- [Engine/Hybrid System – Lubrication – “3GR-FSE Lubrication: Oil Filter \(for 2WD\) / \(for 4WD\): Replacement”](#)

7. The repair is complete. Test drive the vehicle to confirm normal operation.

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Repair Procedure B: DTC P0138, P0158, P0037, and/or P0057

1. Confirm the calibration ID is applicable based on the Calibration Identification Chart in this bulletin.
2. Replace both rear oxygen sensors.

Refer to TIS, 2006 model year GS 300 Repair Manual:

- [Engine/Hybrid System – Emission Control – “3GR-FSE Emission Control: Heated Oxygen Sensor \(For Sensor 2\): On-Vehicle Inspection”](#)
- [Engine/Hybrid System – Emission Control – “3GR-FSE Emission Control: Heated Oxygen Sensor \(For Sensor 2\): Removal”](#)
- [Engine/Hybrid System – Emission Control – “3GR-FSE Emission Control: Heated Oxygen Sensor \(For Sensor 2\): Installation”](#)

3. Replace the ECM (PCM).

Refer to TIS, 2006 model year GS 300 Repair Manual:

- [Engine/Hybrid System – Engine Control – “3GR-FSE Engine Control System: ECM: Removal”](#)
- [Engine/Hybrid System – Engine Control – “3GR-FSE Engine Control System: ECM: Installation”](#)

4. Follow the procedures outlined in TSIB No. [EG012-04](#), “Entering VIN During ECM (PCM) Replacement and/or DTC P0630,” and write the VIN to the ECM (PCM).

NOTE

The new ECM (PCM) may be equipped with an OLD calibration ID.

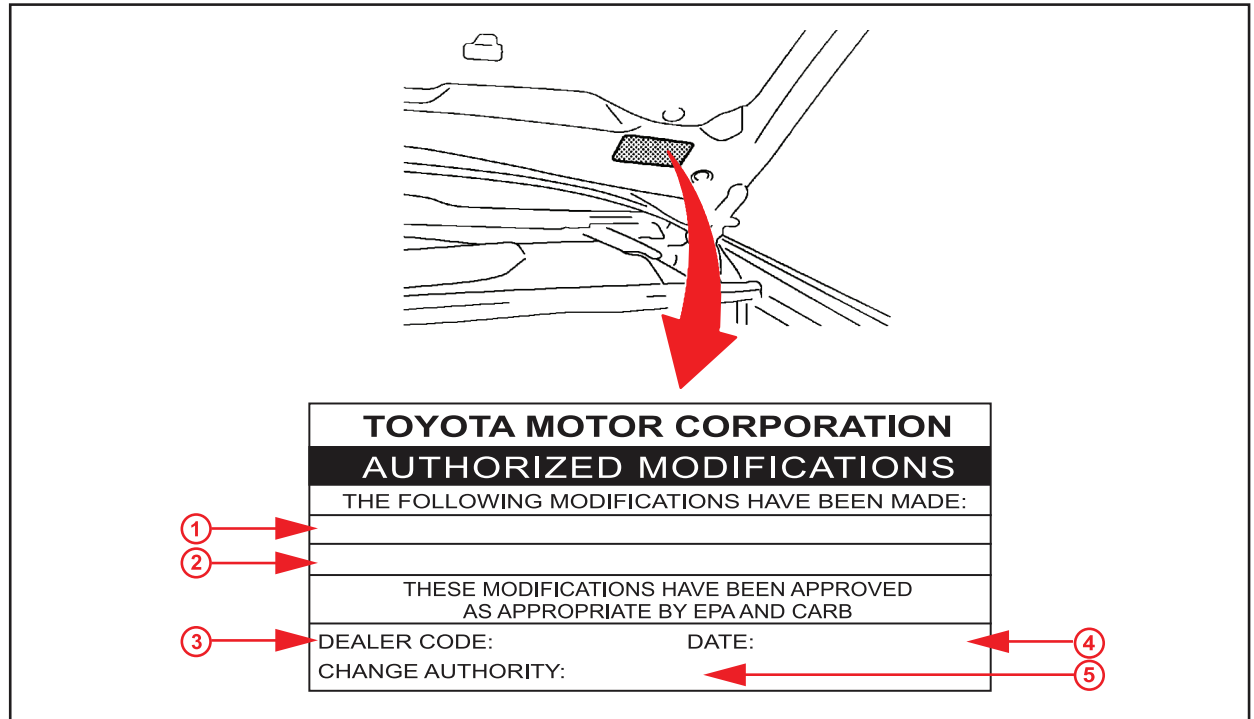
5. Check the ECM calibration ID and flash reprogram the ECM (PCM) if necessary.
 - Refer to Repair Procedure C for the ECM (PCM) reprogramming procedure.
6. The repair is complete. Test drive the vehicle to confirm normal operation.

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Repair Procedure C: DTC P0172, P0175, P2196, and/or P2198

1. Confirm the calibration ID is applicable based on the Calibration Identification Chart in this bulletin.
2. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 1. Confirm if the ECM (PCM) calibration has been updated. If the calibration ID listed is NOT the latest ECM (PCM) calibration — go to step 3.

Figure 1. Location of Authorized Modifications Label on 2006 GS 300



1	Replacement ECM (PCM) Part Number (i.e., 89666-30354)
2	New Calibration ID(s) (i.e., 33065400)
3	Dealer Code

4	Date Completed
5	This TSIB Number

3. Flash Reprogram the ECM (PCM).

NOTE

- The GR8 Battery Diagnostic Station **MUST** be used in Power Supply Mode to maintain battery voltage at 13.5 volts while flash reprogramming the vehicle.
- For details on how to use the GR8 Battery Diagnostic Station, refer to the [GR8 Instruction Manual](#) located on the Technical Information System (TIS), *Diagnostics – Battery*.

Follow the procedures outlined in TSIB No. [SS002-07](#), "Techstream ECU Flash Reprogramming Procedure", and flash the ECM (PCM) with the NEW calibration file update.

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Repair Procedure C: DTC P0172, P0175, P2196, and/or P2198 (Continued)

4. Install the Authorized Modifications Label.
 - A. Using a permanent marker, enter the following information on the label:
 - ECM part number [*Refer to the **Parts Information** section for the **CURRENT PART NUMBER***]
 - Calibration ID(s) [*Refer to the **Calibration Identification Chart** for the **NEW CALIBRATION ID***]
 - Dealer Code
 - Repair Date
 - Change Authority [***This TSIB** number*]
 - B. Affix the Authorized Modifications Label to the vehicle at the location shown in Figure 1. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
5. Change the engine oil and oil filter.

Refer to TIS, 2006 model year GS 300 Repair Manual:

 - *Engine/Hybrid System – Lubrication – “3GR-FSE Lubrication: Oil Filter [\(for 2WD\)](#) / [\(for 4WD\)](#): Components”*
 - *Engine/Hybrid System – Lubrication – “3GR-FSE Lubrication: Oil Filter [\(for 2WD\)](#) / [\(for 4WD\)](#): Replacement”*
6. The repair is complete. Test drive the vehicle to confirm normal operation.