

# PRODEMAND

YMMS: 2006 Lexus GS 300  
 Engine: 3.0L Eng  
 VIN:

May 2, 2024  
 License:  
 Odometer:

## MIL "ON" DTC P0751

### TECHNICAL SERVICE BULLETIN

Reference Number(s): L-SB-0076-09 Rev1, Date of Issue: May 13, 2010

LEXUS: 2006 GS300

Service Category: Drivetrain

Section: Automatic Transmission/Transaxle

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Superseded Bulletin(s): L-SB-0076-09 Rev1, Date of Issue: July 9, 2009

### APPLICABILITY

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YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2006	GS300	Transmission(s): 6AT VDS(s): BH96S, CH96S

**NOTE:** *TSIB REVISION NOTICE*

*May 13, 2010 Rev1:*

- *Parts Information has been updated with additional parts (oxygen sensor).*

**NOTE:** *Any previous printed versions of this service bulletin*

*should be discarded.*

### INTRODUCTION

Some 2006 model year GS 300 vehicles may exhibit a MIL "ON" condition with DTC P0751 stored (Shift Solenoid "A" Performance). DTCs P2714 or P0894 may also be stored. The Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) detection logic for DTC P0751 has been revised to prevent false detection of P0751 and erroneous MIL "ON".

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

### REPAIR PROCEDURE OVERVIEW

1. Confirm stored DTCs and verify vehicle condition matches this bulletin.
2. Verify calibration ID to determine if this repair has already been performed.

## 3. Determine if Repair Procedure A or B should be performed.

## 1. Repair Procedure A:

Replace ECM (PCM), rear oxygen sensors, and update ECM (PCM) calibration (as necessary).

## 2. Repair Procedure B:

Update ECM (PCM) calibration ONLY.

**WARRANTY INFORMATION****WARRANTY INFORMATION**

OP CODE	DESCRIPTION	TIME	DRIVETRAIN	OFF	T1	T2
EG7010	R & R LH & RH Oxygen Sensors, R & R ECM (PCM), and Recalibrate ECM (PCM) Engine <b>[Repair Procedure A]</b>	2.7	2WD	89661-3035#	8A	99
			4WD	89661-3036#		
EG9020	Recalibrate ECM (PCM) <b>[Repair Procedure B]</b>	0.5	2WD	89661-3035#		
			4WD	89661-3036#		

**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.

**PARTS INFORMATION****PARTS INFORMATION**

MODEL	ENGINE	DRIVETRAIN	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
2006 GS 300	3GR-FSE	2WD	89666-30350	89666-30354	Computer, Engine Control (ECM/PCM)	1 <sup>(1)</sup>
			89666-30351			
		4WD	89666-30352			
			89666-30353			
			89666-30360	89666-30364		
89666-30361						
89666-30362						
2WD	4WD	89465-30710	89465-30820	Sensor, Oxygen (RH, LH)	1	
		89465-30710	89465-30820	Sensor, Oxygen (RH)	1	
		89465-30720	89465-30830	Sensor, Oxygen (LH)	1	
-	-	-	N/A	00451-00001-LBL	Authorized Modifications Label	1

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

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

**CALIBRATION IDENTIFICATION CHART**

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

**REQUIRED TOOLS & EQUIPMENT**

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REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* or Techstream Lite  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE:</b> Software version 5.00.028 or later is required.</p> </div>	ADE	TSPKG1 or TSLITEDLR01	1

**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](http://techinfo.toyota.com) for more information regarding J2534 reprogramming.

Fig : Diagnostic Tester Warning



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## REQUIRED TOOLS

SPECIAL SERVICE TOOLS (SST'S)	PART NUMBER	QTY
GR8 Battery Diagnostic Station <sup>(1)</sup>	<u>00002-MCGR8</u>	1
<sup>(1)</sup> Essential SST.		

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

## VERIFICATION PROCEDURE

- Using TIS Techstream, check for DTC(s) stored in the ECM (PCM).
- Confirm that DTC P0751 (Shift Solenoid "A" Performance - Shift Solenoid S1) is stored as a current DTC.
- Check the Freeze Frame Data for each DTC stored to confirm which DTC(s) set first.

### HINT

- The DTC that is stored first will have 5 frames of Freeze Frame Data stored (see Figure and Figure).

- On vehicles with the original ECM (PCM) installed in the vehicle, 5 frames of Freeze Frame Data (titled -3, -2, -1, 0, and +1) will NOT be present and review of FFD values may not confirm which DTC set first.

Fig : Freeze Frame Data For P0751 With 5 Frames Of Data (Titled -3, -2, -1, 0, And 1)

Parameter	-3	-2	-1	0	1	Unit
Calculate Load	53.3	36.4	54.5	54.5	54.5	%
Engine Speed	1300	1275	1491	1619	1633	rpm
Vehicle Speed	6	6	6	6	7	MPH
Coolant Temp	136	136	136	136	136	F
Throttle Position	18.0	16.4	19.6	19.6	19.6	%
SPD (SP2)	6	6	6	7	7	MPH
SPD (NT)	1200	1050	1250	1350	1350	rpm
Closed Throttle Position SW	OFF	OFF	OFF	OFF	OFF	
Neutral Position SW Signal	OFF	OFF	OFF	OFF	OFF	
Stop Light Switch	OFF	OFF	OFF	OFF	OFF	
Battery Voltage	13.8	13.9	14.0	13.9	14.2	V
TC and TE1	OFF	OFF	OFF	OFF	OFF	
Mile Fuel Out	OFF	OFF	OFF	OFF	OFF	
FC TAU	OFF	OFF	OFF	OFF	OFF	
Shift Status	2nd	2nd	2nd	2nd	2nd	
Shift SW Status (R Range)	OFF	OFF	OFF	OFF	OFF	
Shift SW Status (P Range)	OFF	OFF	OFF	OFF	OFF	
Shift SW Status (N Range)	OFF	OFF	OFF	OFF	OFF	
Shift SW Status (D Range)	OFF	OFF	OFF	OFF	OFF	
Sports Shift Up SW	ON	ON	ON	ON	ON	
Sports Shift Down SW	OFF	OFF	OFF	OFF	OFF	
Sports Mode Selection SW	OFF	OFF	OFF	OFF	OFF	
Pattern Switch (PWR/M)	OFF	OFF	OFF	OFF	OFF	
Snow Switch Status	OFF	OFF	OFF	OFF	OFF	
A/T Oil Temperature 1	113.0	113.0	113.0	113.0	113.0	F
Lock Up	OFF	OFF	OFF	OFF	OFF	
Lock Up Solenoid Status	OFF	OFF	OFF	OFF	OFF	
SLU Solenoid Status	OFF	OFF	OFF	OFF	OFF	
SLT Solenoid Status	ON	ON	ON	ON	ON	
Engine Speed from EFI	1300	1275	1491	1619	1633	rpm
Intake-Air Temp from EFI	61	61	61	61	61	F
Coolant Temp from EFI	136	136	136	136	136	F
Throttle Position from EFI	1.1	4.7	4.3	5.0	5.0	%
Accel Position from EFI	4.7	9.0	9.0	9.4	9.4	%
Engine Run Time	417	417	418	418	418	s
Time after DTC Cleared	611	612	612	612	612	min
Distance from DTC Cleared	167	167	167	167	167	mile
Warmup Cycle Cleared DTC	14	14	14	14	14	

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Fig : Freeze Frame Data For P2714 With One Frame Of Data

Parameter	Value	Unit	Parameter	Value	Unit
Calculate Load	83.9	%			
Engine Speed	1894	rpm			
Vehicle Speed	24	MPH			
Coolant Temp	104	F			
Throttle Position	24.7	%			
SPD (SP2)	26	MPH			
SPD (NT)	1350	rpm			
Closed Throttle Position SW	OFF				
Neutral Position SW Signal	OFF				
Stop Light Switch	OFF				
Battery Voltage	14.1	V			
TC and TE1	OFF				
Mile Fuel Cut	OFF				
FC TAU	OFF				
Shift Status	4th				
Shift SW Status (R Range)	OFF				
Shift SW Status (P Range)	OFF				
Shift SW Status (N Range)	OFF				
Shift SW Status (D Range)	ON				
Sports Shift Up SW	OFF				
Sports Shift Down SW	OFF				
Sports Mode Selection SW	OFF				
Pattern Switch (PWRM)	OFF				
Snow Switch Status	OFF				
A/T Oil Temperature 1	91.6	F			
Lock Up	OFF				
Lock Up Solenoid Status	OFF				
SLU Solenoid Status	OFF				
SLT Solenoid Status	ON				
Engine Speed from EFI	1894	rpm			
Intake-Air Temp from EFI	73	F			
Coolant Temp from EFI	104	F			
Throttle Position from EFI	8.2	%			
Accel Position from EFI	10.9	%			
Engine Run Time	98	s			
Time after DTC Cleared	614	min			
Distance from DTC Cleared	167	mile			
Warmup Cycle Cleared DTC	14				

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Does P0751 have 5 frames of Freeze Frame Data?

1. **YES - Go to step 4.**

2. **NO** - This TSIB does **NOT** apply if a DTC other than P0751 has 5 frames of Freeze Frame Data. Refer to the Repair Manual and follow diagnostics for the first stored or primary DTC (the DTC with 5 frames of Freeze Frame Data).

If **NO** DTC has 5 frames of Freeze Frame Data - **Go to step 4.**

4. Clear all codes and test drive vehicle. Monitor vehicle during test drive and confirm if abnormal shifting or a MIL "ON" occurs.

Did abnormal shifting occur or did a MIL turn "ON" during the test drive?

1. **YES** - This TSIB does **NOT** apply. Use Techstream to confirm DTCs and follow Repair Manual diagnostic method for primary DTC, or refer to the Repair Manual for diagnostic method based on shifting abnormality observed during the test drive.

2. **NO - Go to step 5.**

5. Refer to the Health Check information in Techstream and confirm if the CAL ID matches the "Previous Calibration ID" or "New Calibration ID" listed in the Calibration Information chart in this TSIB.

Does the calibration ID in the ECM (PCM) match the New Calibration ID listed in this TSIB?

1. **YES** - The recalibration in this bulletin has been previously performed. Refer to the Repair Manual for diagnosis.

2. **NO - Refer to the Calibration Information Chart to determine if Repair Procedure A or B applies.**

**HINT**

**If an Authorized Modifications Label is affixed to the vehicle in the location shown in Figure, this can assist in determining which Repair Procedure is applicable.**

Fig : Location Of Authorized Modifications Label

TOYOTA MOTOR CORPORATION	
AUTHORIZED MODIFICATIONS	
THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:	
①	
②	
THESE MODIFICATIONS HAVE BEEN APPROVED AS APPROPRIATE BY EPA AND CARB	
③	DEALER CODE:
	DATE:
	CHANGE AUTHORITY:
	④
	⑤

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

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## REPAIR PROCEDURE A

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:
  1. Engine/Hybrid System - Emission Control - "3GR-FSE Emission Control: Heated Oxygen Sensor (For Sensor 2): On-Vehicle Inspection"
  2. Engine/Hybrid System - Emission Control - "3GR-FSE Emission Control: Heated Oxygen Sensor (For Sensor 2): Removal"
  3. 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:
  1. Engine/Hybrid System - Engine Control - "3GR-FSE Engine Control System: ECM: Removal"
  2. 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).

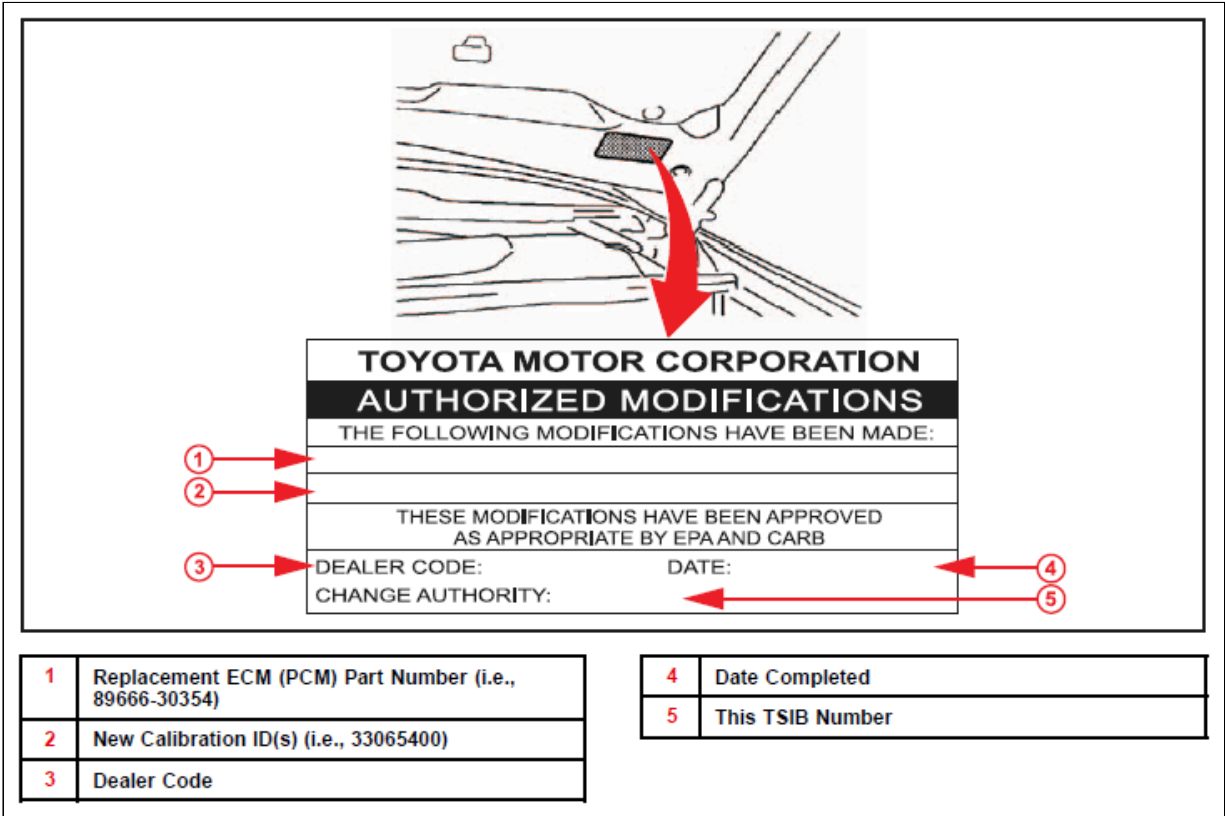
**NOTE:** The new ECM (PCM) may be equipped with an OLD calibration ID.

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

**REPAIR PROCEDURE B**

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. 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.

Fig : Location Of Authorized Modifications Label On 2006 GS 300



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3. Flash Reprogram the ECM (PCM).

**NOTE:**

1. 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.
2. 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. L-SB-0015-10, "Techstream ECU Flash Reprogramming Procedure" , and flash the ECM (PCM) with the NEW calibration file update.



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

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