

M.I.L. "ON" DTC P0751

Service Category Drivetrain

Section Automatic Transmission/Transaxle

Market USA

Lexus Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2008	IS250	Engine(s): 4GR Transmission(s): 6AT VDS(s): BK262, CK262 WMI(s): JTH

Introduction

Some customers of 2008 model year IS 250 vehicles may experience a M.I.L. "ON" condition with DTC P0751 (Shift Solenoid "A" Performance – Shift Solenoid S1) stored (possibly with DTCs P2714 or P0894). The Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) logic for DTC P0751 has been revised to prevent a false M.I.L. "ON". Follow the repair procedure below to determine if recalibration of the ECM (PCM) is required.

Calibration Identification Chart

MODEL	MODEL YEAR	DRIVETRAIN	ECM (CPU)	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID	VDS
IS 250	2008	2WD	Main	35366000	35366100	BK262
			Sub	55351000	55351100	
		4WD	Main	35367000	35367100	CK262
			Sub	55352000	55352100	

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG9009	Recalibrate ECM (PCM) Engine	0.5	89661-53B#0	8A	99

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 correction of a problem based upon a customer's specific complaint.

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Parts Information

DRIVETRAIN	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
2WD	89661-53B10	89661-53B11	Computer, Engine Control (ECM/PCM)	-
4WD	89661-53B20	89661-53B21		-
-	N/A	00451-00001-LBL	Authorized Modifications Label	1

NOTE

- The ECM (PCM) should NOT be replaced as part of the repair procedure.
- Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily – Dealer Support Materials Orders.

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* NOTE: Software version 4.00.017 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.



SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY
GR8 Battery Diagnostic Station*	00002-MCGR8	1

* Essential SST.

NOTE

- Additional SSTs may be ordered by calling 1-800-933-8335.
- The GR8 Battery Diagnostic Station (P/N 00002-MCGR8) supersedes the Automatic Trickle Charger (P/N 00002-YA122-01) and Fast Battery Chargers (Associated P/N ASE6003 and Christie P/N CAPPDQ). P/N 00002-YA122-01, ASE6003, and CAPPDQ are now obsolete.

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Repair Procedure

1. Using TIS Techstream, check for DTC(s) stored in the ECM (PCM).
2. Confirm that DTC P0751 (Shift Solenoid "A" Performance – Shift Solenoid S1) is stored as a current DTC.
3. 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 Figures 1 and 2).

Figure 1. Example of 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	135	135	135	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	
Idle Fuel Cut	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)	ON	ON	ON	ON	ON	
Sports Shift Up SW	OFF	OFF	OFF	OFF	OFF	
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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Repair Procedure (Continued)

Figure 2. Example of 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)	25	MPH			
SPD (NT)	1360	rpm			
Closed Throttle Position SW	OFF				
Neutral Position SW Signal	OFF				
Stop Light Switch	OFF				
Battery Voltage	14.1	V			
TC and TE1	OFF				
Idle 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 (PWR/M)	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				

Does P0751 have 5 frames of Freeze Frame Data?

- **YES — Go to step 4.**
 - **NO — This TSIB does NOT apply.** Refer to the Repair Manual and follow diagnosis for the first stored or primary DTC (the DTC with 5 frames of Freeze Frame Data).
4. Clear all codes and test drive vehicle. Monitor vehicle during test drive and confirm if abnormal shifting or a M.I.L. “ON” occurs.

Did abnormal shifting occur or did a M.I.L. light turn “ON” during the test drive?

- **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.
- **NO — Go to step 5.**

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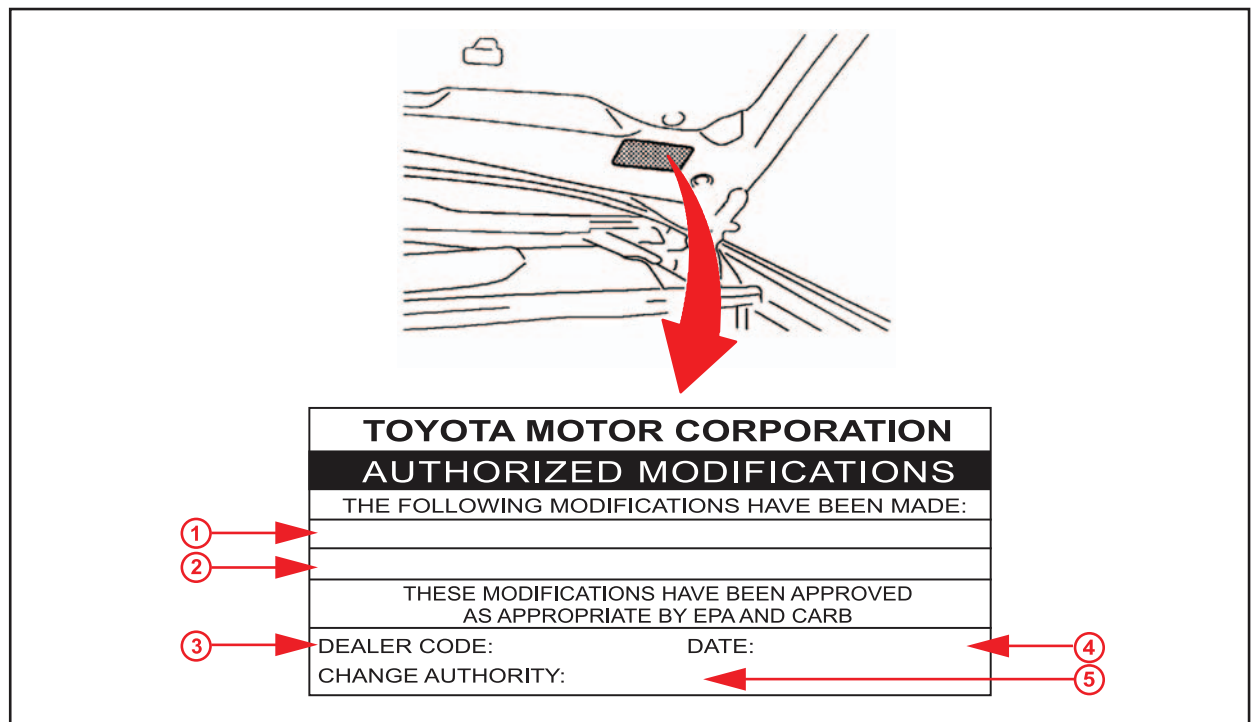
Repair Procedure (Continued)

- 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?

- YES** — The recalibration in this bulletin has been previously performed. Refer to the Repair Manual for diagnosis.
 - NO** — **This TSIB applies.** Go to step 6 for the ECM (PCM) reprogramming process.
- Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 3. Confirm if the ECM (PCM) calibration has been updated. If the calibration ID listed is NOT the latest ECM (PCM) calibration — go to step 7.

Figure 3. Location of Authorized Modifications Label on 2008 IS 250



1	Replacement ECM (PCM) Part Number (i.e., 89661-53B11)
2	New Calibration ID(s) (i.e., 35366100)
3	Dealer Code

4	Date Completed
5	This TSIB Number

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Repair Procedure (Continued)

7. 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.

8. 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 3. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.

9. Start the engine and warm it up to normal operating temperature before test driving.
10. Test drive the vehicle to confirm proper vehicle operation.