

Hesitation on Acceleration

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Lexus Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2007 – 2008	LS460	

Introduction

Some vehicles may exhibit a hesitation on acceleration and in some cases set Diagnostic Trouble Code (DTC) P2119 (Throttle Actuator Control Throttle Body Range/Performance). To enhance the smoothness of acceleration the Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) calibration has been revised. In some instances, the replacement of the cylinder heads may also be required. Use the following repair procedure to address the customer's concern.

Production Change Information

This TSIB applies to vehicles produced **BEFORE** the Production Change Effective VINs shown below.

MODEL	COUNTERMEASURE	PRODUCTION CHANGE EFFECTIVE VIN
LS460	ECM Calibration	JTHBL46FX85055264
LS460L		JTHGL46F485021651
LS460	Cylinder Head Manufacturing Process Change	JTHBL46F385058684
LS460L		JTHGL46F385022564

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EG8017	Recalibrate ECM (PCM)	0.6	89661-#####	04	99
110011	R & R RH & LH Cylinder Head	17.7	11101-39655		50
Combo A	Opposite Side	8.2	11102-39185		

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Warranty Information (Continued)

APPLICABLE WARRANTY

- **Op Code EG8017:** This repair is covered under the Lexus Federal Emission Warranty. This warranty is in effect for 96 months or 80,000 miles, whichever occurs first, from the vehicle's in-service date.
- **Op Code 110011:** This repair is covered under the Lexus Powertrain Warranty. This warranty is in effect for 72 months or 70,000 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.**

Calibration Information

MODEL	ECM (PCM) P/N	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID	VDS
LS 460/460L	89661-50A10	35036000	35055100	BL46F GL46F
	89661-50A11	35036100		
	89661-50A12	35036200		
	89661-50C00	35055000		

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
11101-39655	Same	Head Sub-assembly, Cylinder, RH	1
11102-39185	Same	Head Sub-assembly, Cylinder, LH	1
89661-50A10	89661-50C01	Computer, Engine Control (ECM)	-
89661-50A11			
89661-50A12			
89661-50C00			
-	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 System, or by calling the MDC at 1-800-622-2033.**

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Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS techstream* NOTE: Software version 3.00.021 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 (SST'S)	PART NUMBER	QTY
GR8 Battery Diagnostic Station*	00002-MCGR8	1
Valve Spring Compressor	09202-70020	1
Starter Armature Bearing Replacer	09201-41020	1
Crankshaft Pulley Holding Tool* (Bolt)	09213-54015-01 (90119-08216-01)	1
Companion Flange Holding Tool*	09330-00021	1
Universal Puller Set "C"*	09950-50013-01	1

* Essential SST.

NOTE

Additional SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

TOOLS & MATERIAL	QUANTITY
Toyota Genuine Seal Packing Black, Three Bond 1207B, or equivalent	As needed

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Repair Procedure

1. Attach a Techstream unit and test drive the vehicle. Record all data duplicating the concern. Review the Knock Correct Learn Value, and the Ignition (IGN) Advance.
2. If the Knock Correct Learn Value drops from 17.0 CA to below 12.0 CA, and the IGN Advance goes to a negative degree value while duplicating the concern — continue to Step 3.

If the values are comparable to a known good vehicle, the concern may NOT be related to this TSIB — diagnose the concern per the Technical Information System (TIS) depending upon symptoms.

3. Check the condition of the spark plugs.
 - If the spark plugs appear normal — go to Repair Procedure A.
 - If one or more of the spark plugs has a brown residue on the porcelain and electrode — go to Repair Procedure B.

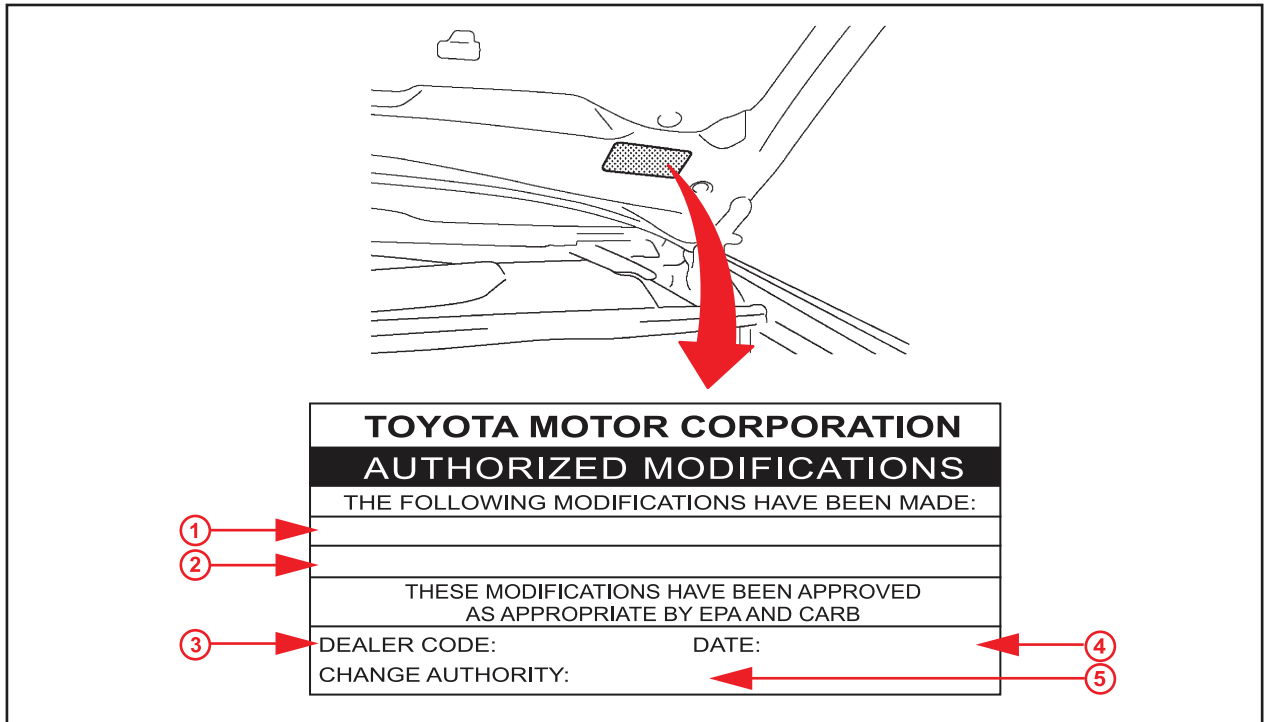
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Repair Procedure A

1. 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 2.

If the calibration ID listed IS the latest ECM (PCM) calibration — verify the spark plugs again for a brown residue. If no residue is found, diagnose per TIS depending upon symptoms.

Figure 1. Location of Authorized Modifications Label on 2007 LS 460



1	Replacement ECM (PCM) Part Number (i.e., 89661-50C01)
2	New Calibration ID(s) (i.e., 35055100)
3	Dealer Code

4	Date Completed
5	This TSIB Number

2. 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 A (Continued)

3. 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.
4. Start the engine and warm it up to normal operating temperature before test driving.
5. Test drive the vehicle to confirm that the hesitation is NO longer present.

Repair Procedure B

1. Perform Repair Procedure A.
2. Replace the cylinder head assemblies for the left and right banks.

Refer to TIS, 2007 or 2008 model year LS 460 Repair Manual:

2007 LS 460:

- *Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\): Removal](#) and [\(for Bank 2\): Removal](#)”*
- *Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head: [Disassembly](#) and [Reassembly](#)”*
- *Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\): Installation](#) and [\(for Bank 2\): Installation](#)”*

2008 LS 460:

- *Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\): Removal](#) and [\(for Bank 2\): Removal](#)”*
- *Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head: [Disassembly](#) and [Reassembly](#)”*
- *Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\): Installation](#) and [\(for Bank 2\): Installation](#)”*

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Repair Procedure B (Continued)

3. Reconnect the negative (–) battery terminal.
4. Re-initialize any affected power systems.

Refer to TSIB No. [PD007-07](#), *“Power System Initialization During PDS”*.

5. Test drive the vehicle to confirm that the hesitation is NO longer present.