

Hesitation on Acceleration and/or P2119

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Lexus Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2007 - 2012	LS460, LS600H	

SUPERSESSION NOTICE

The information contained in this bulletin supersedes SB No. L-SB-0033-08.

- Part numbers have been updated in the Parts Information table.
- Calibration IDs and ECM part numbers have been updated in the Calibration Information table.

Service Bulletin No. L-SB-0033-08 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this bulletin before proceeding.

Introduction

Some 2007 – 2012 model year LS 460 and LS 600h vehicles may exhibit a hesitation on acceleration feeling due to inappropriate spark knock or detonation detection, 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, replacement of the cylinder heads may also be required. Use the Repair Procedure in this bulletin to address this condition.

Production Change Information for Cylinder Head Replacement

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

MODEL	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
LS 460	2WD	JTHBL5EF#C5112283
	4WD	JTHCL5EF#C5014570
LS 460L	2WD	JTHGL5EF#C5046385
	4WD	JTHDL5EF#C5004680
LS 600h		JTHDU1EF#C5015340

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Warranty Information

OP CODE	DESCRIPTION	MODEL	DRIVETRAIN	TIME	OFF	T1	T2
EG8019	Recalibrate ECM (PCM)	-	-	0.4	89661-50A10 89661-50A11 89661-50A12 89661-50C00 89661-50C01 89661-50C02 89661-50C03	04	99
110011	R & R Cylinder Head (One Side)	LS 460	2WD	17.7	11101-39655 11102-39185		50
		LS 460/ LS 460L	4WD	26.2			
		LS 600h	-	28.1			
Combo A	R & R Cylinder Head (Opposite Side)	LS 460	2WD	8.2			
		LS 460/ LS 460L	4WD	8.4			
		LS 600h	-	8.2			

APPLICABLE WARRANTY

- 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 occurrence of the specified condition described in this bulletin.

Parts Information

MODEL	PART NUMBER		PART NAME	QTY
	PREVIOUS	NEW		
ALL	11101-39655	11101-39656	Head Sub-assy, Cylinder RH	1
	11102-39185	11102-39186	Head Sub-assy, Cylinder LH	1
	11201-38050	11201-38051	Cover Sub-assy, Cylinder Head RH	1
	11202-38020	11202-38021	Cover Sub-assy, Cylinder Head LH	1
	13715-31120 13715-31150 13715-0P010	13715-0P030	Valve, Exhaust	16
	13711-38030	13711-38031	Valve, Intake	16
	13734-62020	13734-0P010	Seat, Valve Spring	32

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Parts Information (Continued)

MODEL	PART NUMBER		PART NAME	QTY
	PREVIOUS	NEW		
LS 460 (2WD)	89661-50A10	89661-50C05	Computer, Engine Control (ECM)	-
	89661-50A11			
	89661-50A12			
	89661-50C00			
	89661-50C01			
	89661-50C02			
	89661-50C03			
	89661-50C04			
	89661-50C90			
	89661-50C91			
	89661-50D00			
	89661-50D01			
	89661-50D02			
	89661-50F20			
	89661-50F21			
89661-50J00				
89661-50J01				
89661-50J02				
	04111-38080	04111-38082	Gasket Kit, Engine Overhaul	1
	04111-38081			
LS 460 (AWD)	04111-38170	04111-38172	Gasket Kit, Engine Overhaul	1
	04111-38171			
LS 600h	04111-38110	04111-38111	Gasket Kit, Engine Overhaul	1
ALL	-	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 – Parts – Dealer Support Materials Orders*.

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Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream 2.0*	ADE	TS2UNIT	1
Techstream Lite		TSLITEPDLR01	
Techstream Lite (Green Cable)		TSLP2DLR01	

NOTE

- **ONLY ONE** of the Techstream units listed above is required.
- **Software version 12.00.125 or later** is required.
- **Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.**

REQUIRED TOOLS & MATERIAL	QUANTITY
Toyota Genuine Seal Packing Black, Three Bond 1207B, or Equivalent	As Needed

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
GR8 Battery Diagnostic Station*	00002-MCGR8	1
Valve Service Tool Set (Valve Spring Compressor)	00002-53464C-02 (09202-70020)	1
Starter Armature Bearing Replacer	09201-41020	1
Crankshaft Pulley Holding Tool* (Bolt)	09213-54015-02 (90119-08216-01)	1
Companion Flange Holding Tool*	09330-00021	1
Universal Puller Set "C"*	09950-50013-01	1

NOTE

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

* Essential SST.

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Calibration Information (2WD ONLY)

NOTE
 Reflash calibration **ONLY** applies to 2WD vehicles.

MODEL	MODEL YEAR	OPTIONS	CALIBRATION ID	
			PREVIOUS	NEW
LS 460/460L	2007 – 2008	-	35036000	35055500
			35036100	
			35036200	
			35055000	
			35055100	
			35055200	
			35055300	
			35055400	
	2009	-	35066000	35066300
			35066100	
2010 – 2011	-	35088000	350B6200	
		35088100		
		350B6000		
		350B6100		
	Sport Package Brembo Brakes	35088001	350B6201	
		35088101		
2012	-	350D2000	350D2100	
		350D2001		
	Sport Package Brembo Brakes	350D2001	350D2101	
		350D2001		

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Diagnostic Procedure

NOTE

- **ONLY** complete the Diagnostic Procedure if the cylinder heads were **NOT** previously replaced per original L-SB-0038-08.
- If cylinder heads were previously replaced, go to the Repair Procedure.

1. Connect 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 bulletin – diagnose per the Technical Information System (TIS) depending upon symptoms.
3. Check the condition of the spark plugs and valve guides.
 - If 1 or more of the spark plugs has a brown residue on the porcelain and electrode, continue to the Repair Procedure.
 - If the spark plugs appear normal, confirm that the valve stem oil clearance is within specification.

Maximum Oil Clearance:

Intake: 0.08 mm (0.0031 in.)

Exhaust: 0.1 mm (0.0039 in.)

If greater than specification, continue to the Repair Procedure.

If neither of these conditions are abnormal, the condition may NOT be related to this bulletin. Continue diagnosis using the applicable Repair Manual.

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Repair Procedure

NOTE

- For 2007 – 2012 MY 2WD LS 460 and 2WD LS 460L vehicles ONLY: Begin at step 1.
- For 2009 – 2012 MY 4WD LS 460, 4WD LS 460L and LS 600h vehicles: Begin at step 4.

LSB APPLICABILITY				
MODEL YEAR	LS 460		LS 460/600h	
	2WD		4WD	
	CYLINDER HEAD REPLACEMENT	REFLASH	CYLINDER HEAD REPLACEMENT	REFLASH
2007	Applicable*	Applicable	Not Applicable	Not Applicable
2008				
2009				
2010			Applicable*	
2011				
2012	Applicable**		Applicable**	

*ONLY applicable if cylinder heads were NOT previously replaced per original L-SB-0033-08.

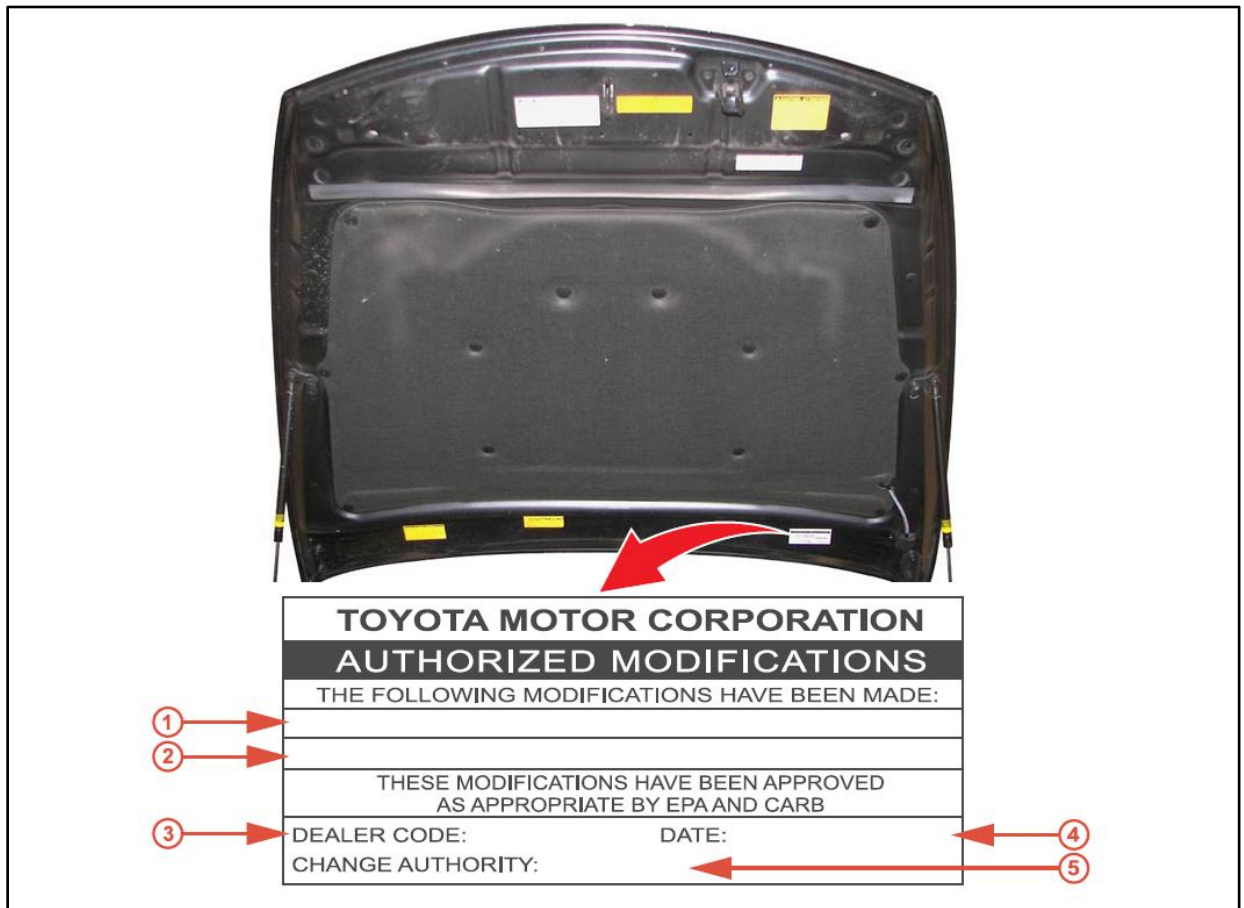
**Verify VIN breaks to confirm applicability.

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Repair Procedure (Continued)

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown. Confirm if the ECM (PCM) calibration has been updated.

Figure 1. Location of Authorized Modifications Label on 2007 – 2012 LS 460



1	Replacement ECM (PCM) Part Number (i.e., 89661-50C04)
2	New Calibration ID (i.e., 35055200)
3	Dealer Code

4	Date Completed
5	This SB Number

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Repair Procedure (Continued)

2. Flash reprogram the ECM (PCM).

NOTE

- The GR8 Battery Diagnostic Station **MUST** be used in Power Supply Mode to maintain battery voltage at 13.5V 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 – Tools & Equipment – Battery Diagnostics*.

3. Prepare and 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 bulletin number**]
 - B. Install 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.

NOTE

If the cylinder heads were previously replaced in L-SB-0033-08, do NOT replace them again.

4. Replace both valve cover assemblies, both cylinder heads and ALL intake and exhaust valves for the left and right cylinder banks.

Refer to TIS, applicable model and model year Repair Manual:

- 2007 LS 460:
 - Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket ([for Bank 1](#)) / ([for Bank 2](#)): Removal”*
 - Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”*
 - Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket ([for Bank 1](#)) / ([for Bank 2](#)): Installation”*
- 2008 LS 460:
 - Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket ([for Bank 1](#)) / ([for Bank 2](#)): Removal”*
 - Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”*

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Repair Procedure (Continued)

- 2008 LS 460:
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”
- 2009 LS 460:
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”
- 2010 LS 460:
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”
- 2011 LS 460:
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”
- 2012 LS 460:
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”
Engine/Hybrid System – Engine Mechanical – “1UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”
- 2008 LS 600h:
Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”
Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”
Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”

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Repair Procedure (Continued)

- 2009 LS 600h:
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”*
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”*
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”*
 - 2010 LS 600h:
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”*
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”*
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”*
 - 2011 LS 600h:
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Removal”*
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [Disassembly](#) / [Reassembly](#)”*
 - Engine/Hybrid System – Engine Mechanical – “2UR-FSE Engine Mechanical: Cylinder Head Gasket [\(for Bank 1\)](#) / [\(for Bank 2\)](#): Installation”*
5. Reconnect the negative (–) battery terminal.
 6. Reinitialize ANY affected power systems.
Refer to TIS, applicable Service Bulletin or Repair Manual:
 - 2007 LS 460: Service Bulletin [PD007-07](#), “Power System Initialization During PDS”
 - 2008 LS 460/600h: Service Bulletin [L-SB-0041-08](#), “Power System Initialization During PDS”
 - [2009](#) / [2010](#) / [2011](#) / [2012](#) LS 460:
General – Introduction – “Introduction: Repair Instruction: Initialization”
 - [2009](#) / [2010](#) / [2011](#) / [2012](#) LS 600h:
General – Introduction – “Introduction: Repair Instruction: Initialization”
 7. Test drive the vehicle to confirm hesitation on acceleration and/or P2119 is no longer present.