



**Technical Service
Information Bulletin**

June 28, 2007

Title: **ENGINE IDLE KNOCK NOISE**

Models: **'07 LS 460/460L**

**ENGINE
EG014-07**

Introduction Some 2007 model year LS 460 vehicles may exhibit a knocking noise originating from the engine compartment that is most noticeable under the following conditions:

- Engine idling at operating temperature
- A/C OFF
- A/T in "D" range

The Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) logic, valve lash adjusters, and the No. 3 timing chain tensioner have been modified to improve this condition. Please use the repair procedure below to address customer concerns.

Applicable Vehicles • **2007** model year **LS 460/460L** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

**Production
Change
Information**

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
LS 460	JTHBL46F#75012539
LS 460L	JTHGL46F#75004406

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OFFP	T1	T2
EG7025	Recalibrate ECM (PCM)	0.6	89661-50A10	06	43
Combo A	R & R No. 1 Cylinder Intake Valve Lash Adjusters (Bank 1 Only) and No. 3 Timing Chain Tensioner	7.6			

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 vehicle's in-service date.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.



**Parts
Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
N/A	00451-00001-LBL	Authorized Modifications Label	1
89661-50A10	89661-50A11*	Computer, Engine Control (ECM/PCM)	–
13750-75020	13750-31010	Adjuster Assembly, Valve Lash	2
13560-38020	13560-0S011	Tensioner Assembly, Chain, No. 3 (Bank 1 Only)	1

* The ECM should NOT be replaced as part of the Repair Procedure.



NOTE:





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.

**Calibration
Identification
Chart**

MODEL	MODEL YEAR	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID
LS 460	2007	35036000	35036100
LS 460L			

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* NOTE: Software version 2.10.016 or later is required. 	ADE	TSUNT	1
GR8 Battery Diagnostic Station* 	SPX/OTC	00002-MCGR8	1

SPECIAL SERVICE TOOLS (SSTs)		PART NUMBER	QTY	DRW**
Crankshaft Pulley Holding Tool* 		09213-54015-02	1	23
COMPONENT(S) OF KIT/SET	One (1) component from this kit/set is required: <ul style="list-style-type: none"> • Bolt (P/N 90119-08216-01)  			
	Companion Flange Holding Tool* 	09330-00021	1	3
Universal Puller Set "C"* NOTE: All components from this kit/set are required. 		09950-50013-02	1	24

* Essential SSTs.

** Drawer number in SST Storage System.

NOTE:

- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- The Lexus Diagnostic Tester and CAN Interface Module may also be used to perform the service procedures listed in this bulletin.
- 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.

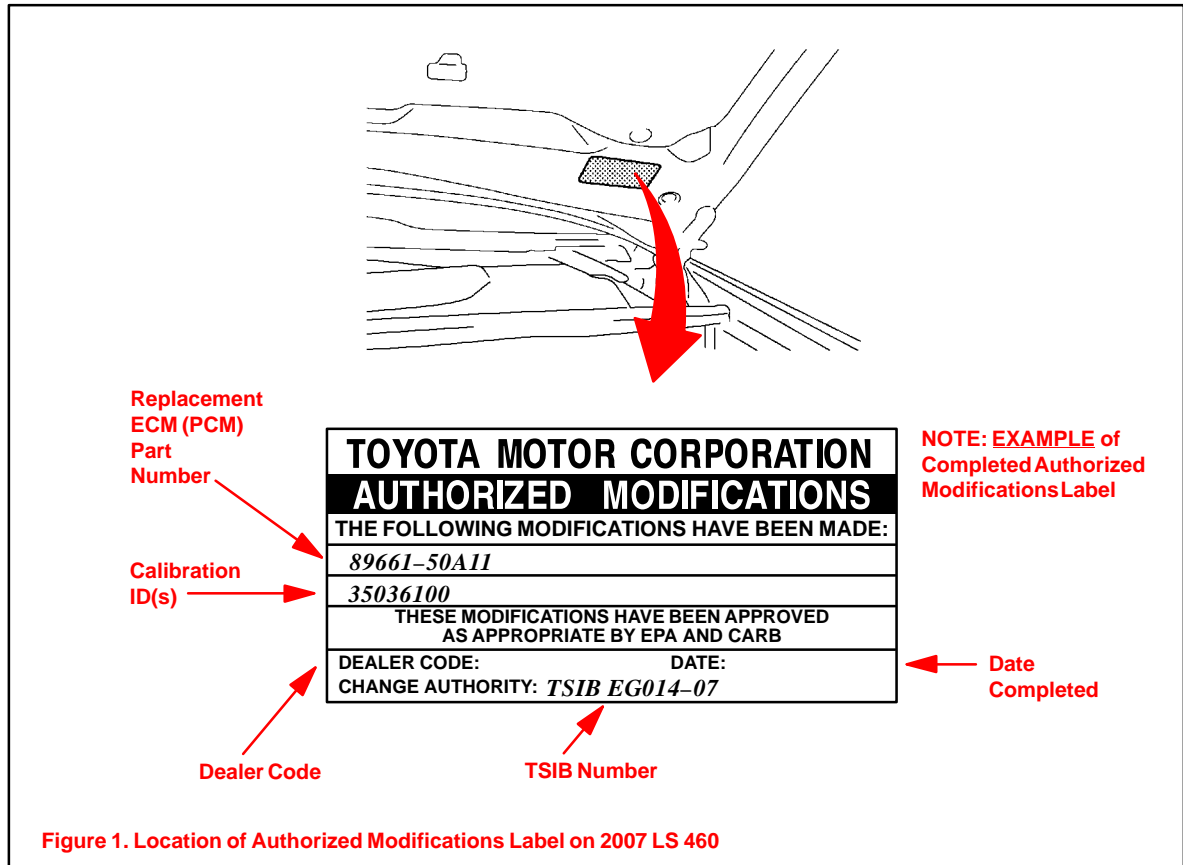
Repair Procedure

Determine the ECM (PCM) calibration ID for the vehicle.

- If calibration ID 35036000 (previous calibration ID) is present — go to Repair Procedure A.
- If calibration ID 35036100 (NEW calibration ID) is present — go to Repair Procedure B.

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 step 2. If the calibration ID listed is the latest ECM (PCM) calibration — go to Repair Procedure B.



2. Flash reprogram the ECM (PCM).

NOTE:

- The GR8 Battery charger **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 charger please refer to the GR8 Instructions 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.

**Repair
Procedure A**
(Continued)

3. Install the Authorized Modifications Label.
 - A. Using a permanent marker, enter the following information on the label:
 - ECM (PCM) 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): *EG014–07*
 - 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. Confirm that the ECM recalibration addressed the customer concern. If the knocking noise is gone, the repair is complete. If the noise is still present, go to Repair Procedure B.

**Repair
Procedure B**

1. Replace the No. 3 timing chain tensioner and both No. 1 cylinder intake valve lash adjusters.

Refer to TIS, 2007 model year LS 460 Repair Manual,

 - *Engine/Hybrid System – Engine Mechanical – “1UR–FSE Engine Mechanical: Camshaft (for Bank 1): Removal”*
 - *Engine/Hybrid System – Engine Mechanical – “1UR–FSE Engine Mechanical: Camshaft (for Bank 1): Installation”*
2. Reconnect the negative (–) battery terminal.
3. Re-initialize any affected power systems.

Refer to TSIB No. PD007-07, “*Power System Initialization During PDS*”.
4. Test drive the vehicle to confirm that the knocking noise is NO longer present.