Spark Knock Noise

Service Category	Engine/Hybrid System		
Section	Engine Control	Market	USA

Toyota Supports
ASE Certification

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2012 – 2014	Tacoma	

Introduction

Some 2012 – 2014 model year Tacoma vehicles equipped with 1GR-FE engines may exhibit spark knock (detonation) during light acceleration and/or uphill in hot weather (80° F or higher). The Engine Control module/ECM (SAE term: Powertrain Control Module/PCM) logic has been modified to reduce the possibility of this condition occurring. Follow the Repair Procedure in this bulletin to improve this condition.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG1404	Reprogram ECM (PCM)	0.4	89660-04E40 89660-04J00 89660-04J10 89661-04G60 89661-04G70 89661-04G80	06	99

APPLICABLE WARRANTY

- **This repair is covered under the Toyota 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.**

- **Warranty application is limited to occurrence of the specified condition described in this bulletin.**

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Calibration Information

MODEL	MY	ENGINE	DRIVETRAIN	TRANSMISSION	CALIBRATION ID	
					PREVIOUS	NEW
Tacoma	2012	1GR-FE	4WD / 2WD PreRunner	5AT	30455000	30455100
			2WD	6MT	30467000	30467100
			4WD		30468000	30468100
	2013 – 2014		4WD / 2WD PreRunner	5AT	30480000	30480100
			2WD	6MT	30481000	30481100
			4WD		30482000	30482100

Parts Information

MY	DRIVETRAIN	ENGINE	TRANSMIS-SION	PART NUMBER		PART NAME	QTY
				PREVIOUS	NEW		
2012	4WD	1GR-FE	5AT	89661-04E00	89661-04E01	Computer, Engine Control (ECM/PCM)	–
	2WD PreRunner						
	2WD		6MT	89661-04F40	89661-04F41		–
	4WD			89661-04F50	89661-04F51		–
2013 – 2014	4WD		5AT	89661-04G60	89660-04E41		–
	2WD PreRunner			89661-04G60			
	2WD		6MT	89661-04G70	89660-04J01		–
	4WD			89661-04G80	89660-04J11		–

PART NUMBER	PART NAME	QTY
00451-00001-LBL	Authorized Modification Labels	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.*

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Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream 2.0*	ADE	TS2UNIT	1
TIS Techstream		TSPKG1	
Techstream Lite		TSLITEDLR01	

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

> **NOTE**
>
> - Only ONE of the Techstream units listed above is required.
>
> - Software version 9.10.037 or later is required.
>
> - Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
>
> - Additional SSTs may be ordered by calling 1-800-933-8335.
>
> - The Diagnostic Tester is NOT recommended for flash reprogramming. Please use Techstream or an approved J2534 interface to perform flash reprogramming updates. Visit techinfo.toyota.com for more information regarding J2534 reprogramming.

* Essential SST.
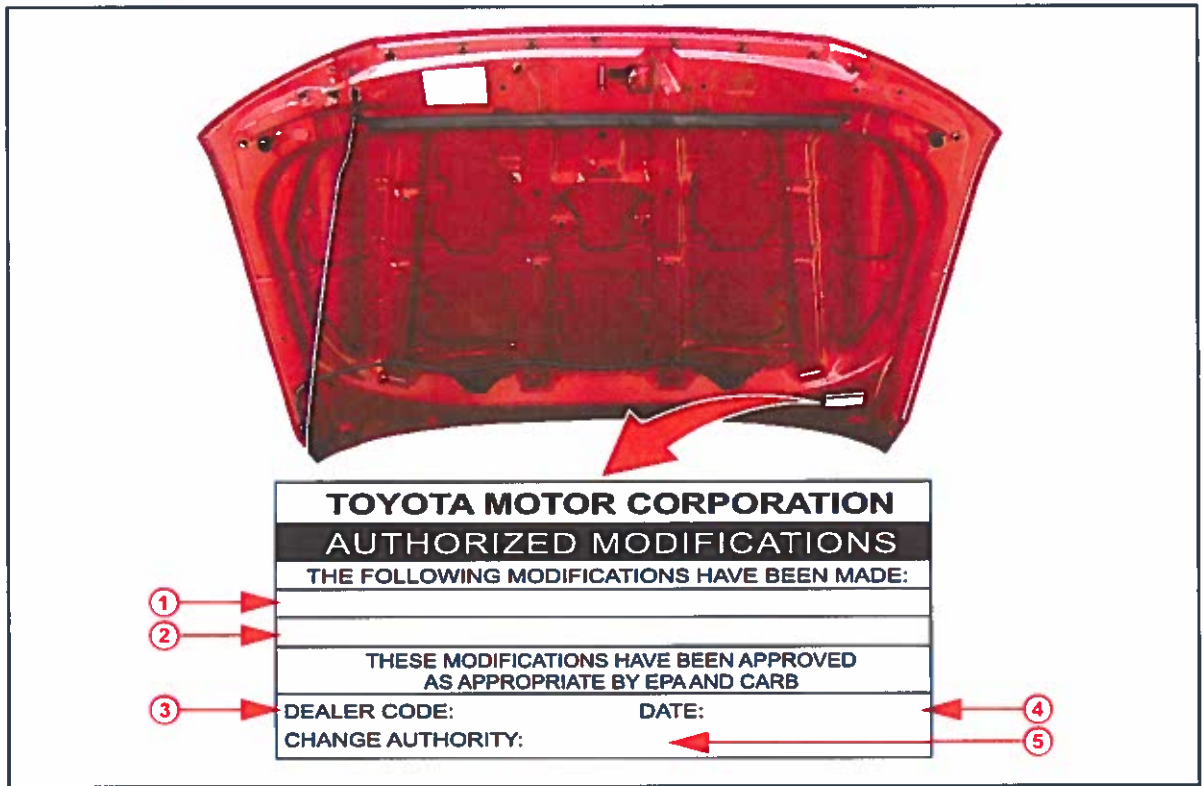
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Repair Procedure

1. Confirm the condition.

   Does the condition duplicate after driving under light acceleration or uphill with the engine warmed up to operating temperature?

   - **YES** — Continue to step 2.

   - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

2. 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 3. If the calibration ID is the latest, go to step 5.

Figure 1. Location of Authorized Modifications Label on 2012 – 2014 Tacoma

1	Replacement ECM (PCM) Part Number (i.e., 89660-04E41)
2	New Calibration ID(s) (i.e., 30480100)
3	Dealer Code

4	Date Completed
5	This SB Number

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Repair Procedure (Continued)

3. 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 – Tools & Equipment – Battery Diagnostics.*

Follow the procedures outlined in Service Bulletin No. T-SB-0012-13, *"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:

- ECM part number *[Refer to the **Parts Information** section for the **NEW PART NUMBER**]*

- Calibration ID(s) *[Refer to the **Calibration Information** section for the **NEW CALIBRATION ID**]*

- Dealer Code

- Repair Date

- Change Authority *[**This bulletin 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.

5. Test drive to confirm the repair.