

Flex Fuel Extended Crank Due to Alcohol Density Calculation

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2012 – 2015	Sequoia	
2012 – 2015	Tundra	

REVISION NOTICE

December 11, 2014 Rev2:

- Applicability has been updated to include 2014 – 2015 model year Sequoia and Tundra vehicles.
- The entire bulletin has been updated.

June 6, 2013 Rev1:

- Warranty Information and Repair Procedure sections have been updated.

Any previous printed versions of this bulletin should be discarded.

Introduction

Some 2012 – 2015 model year Sequoia and Tundra vehicles with the 3UR-FBE engine may exhibit a MIL “ON” condition with Diagnostic Trouble Codes (DTCs) P0171/P0174 (*System too Lean Bank 1/ Bank 2*), P0172/P0175 (*System too Rich Bank 1/Bank 2*), P1604 (*Startability Malfunction*), and/or P1605 (*Rough Idling*) after attempting to start the engine. Alcohol Density Estimate values may be high even though the vehicle was fueled with regular fuel (E0/E10). The Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) logic has been modified to address this condition. Use the following Repair Procedure to reprogram the ECM (PCM).

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Warranty Information

OP CODE	DESCRIPTION	TIME	MODEL	ENGINE	TOWING OPTION	OFF	T1	T2
EG1308*	Reprogram ECM (PCM) Engine, Reset Values, and Add Fuel	0.7	Sequoia	3UR-FBE	Standard	89661-0CN20	8A	99
						89661-0CN21		
						89661-0CN22		
			89661-0CN23					
			89661-0CN24					
			89661-0CN25					
89661-0CP70								
89661-0CP71								
89661-0CP72								
Tundra	3UR-FBE	Towing	89661-0CN30					
			89661-0CN31					
			89661-0CN32					
Standard	89661-0CN33							
	89661-0CN34							
	89661-0CN35							
Towing	89661-0CP70							
	89661-0CP71							
	89661-0CP72							
Tundra	3UR-FBE	Standard	89661-0CM60					
			89661-0CM61					
			89661-0CM62					
		Towing	89661-0CM63					
			89661-0CP30					
			89661-0CP31					
89661-0CP32								
Tundra	3UR-FBE	Standard	89661-0CM70					
			89661-0CM71					
			89661-0CM72					
		Towing	89661-0CM73					
			89661-0CP40					
			89661-0CP41					
89661-0CP42								
89661-0CP90								
89661-0CP91								

* A maximum of \$15.00 (3 gallons of fuel) will be allowed under Sublet type "GA".

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

SEQUOIA						
MODEL YEAR	ENGINE	TRANS	TOWING OPTION	ECU	CALIBRATION ID	
					PREVIOUS	NEW
2012 – 2013	3UR-FBE	4WD	Standard	–	30CK5000 30CK5100 30CK5200 30CK5300 30CK5400 30CK5500	30CK5600
			Towing	–	30CK6000 30CK6100 30CK6200 30CK6300 30CK6400 30CK6500	30CK6600
2014 – 2015	3UR-FBE	4WD	Standard, Towing	Main	30CM0000 30CM0100 30CM0200	30CM0300 / 50CA2100
				Sub	50CA2000	

TUNDRA						
MODEL YEAR	ENGINE	TRANS	OPTION	ECU	CALIBRATION ID	
					PREVIOUS	NEW
2012 – 2013	3UR-FBE	4WD	Standard	–	30CJ9000 30CJ9100 30CJ9200 30CJ9300 30CJ9400 30CJ9500	30CJ9600
			Towing	–	30CK0000 30CK0100 30CK0200 30CK0300 30CK0400 30CK0500	30CK0600
2014 – 2015	3UR-FBE	4WD	Standard	Main	30CL3000 30CL3100 30CL3200	30CL3300 / 50C83100
				Sub	50C83000	
2014 – 2015	3UR-FBE	4WD	Towing	Main	30CL4000 30CL4100 30CL4200	30CL4300 / 50C84100
				Sub	50C84000	

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Calibration Information (Continued)

TUNDRA						
MODEL YEAR	ENGINE	TRANS	OPTION	ECU	CALIBRATION ID	
					PREVIOUS	NEW
2015	3UR-FBE	4WD	Standard	Main	30CM3000 30CM3100	30CM3200 / 50C84100
				Sub	50C84000	

Parts Information

SEQUOIA							
MODEL YEAR	ENGINE	TRANS	TOWING OPTION	PART NUMBER		PART NAME	QTY
				PREVIOUS	NEW		
2012 – 2013	3UR-FBE	4WD	Standard	89661-0CN20 89661-0CN21 89661-0CN22 89661-0CN23 89661-0CN24 89661-0CN25	89661-0CN26	Computer, Engine Control (ECM/PCM)	–
			Towing	89661-0CN30 89661-0CN31 89661-0CN32 89661-0CN33 89661-0CN34 89661-0CN35	89661-0CN36		–
2014 – 2015			Standard	89661-0CP70 89661-0CP71	89661-0CP73		–
			Towing	89661-0CP72			

TUNDRA							
MODEL YEAR	ENGINE	TRANS	TOWING OPTION	PART NUMBER		PART NAME	QTY
				PREVIOUS	NEW		
2012 – 2013	3UR-FBE	4WD	Standard	89661-0CM60 89661-0CM61 89661-0CM62 89661-0CM63 89661-0CM64 89661-0CM65	89661-0CM66	Computer, Engine Control (ECM/PCM)	–
			Towing	89661-0CM70 89661-0CM71 89661-0CM72 89661-0CM73 89661-0CM74 89661-0CM75	89661-0CM76		–

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Parts Information (Continued)

TUNDRA							
MODEL YEAR	ENGINE	TRANS	TOWING OPTION	PART NUMBER		PART NAME	QTY
				PREVIOUS	NEW		
2014 – 2015	3UR-FBE	4WD	Standard	89661-0CP30 89661-0CP31 89661-0CP32	89661-0CP33	Computer, Engine Control (ECM/PCM)	–
			Towing	89661-0CP40 89661-0CP41 89661-0CP42	89661-0CP43		–
2015			Towing, Large Fuel Tank	89661-0CP90 89661-0CP91	89661-0CP92		–

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
Techstream Lite		TSLITEPDLR01	

NOTE

- Only ONE of the Techstream units listed above is required.
- Software version 9.31.000 or later is required.
- Additional 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. Please use Techstream or an approved J2534 interface to perform flash reprogramming updates. Visit techinfo.toyota.com for more information regarding J2534 reprogramming.



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

NOTE

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

* Essential SST.

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Repair Procedure

1. Confirm the difficult-to-start condition.
2. Using Techstream, confirm one or more of the following DTCs is present:
 - P1604: *Startability Malfunction*
 - P1605: *Rough Idling*
 - P0171: *System Too Lean (Bank 1)*
 - P0172: *System Too Rich (Bank 1)*
 - P0174: *System Too Lean (Bank 2)*
 - P0175: *System Too Rich (Bank 2)*
3. If any of the DTCs listed above is present, confirm the Alcohol Density Estimate and fuel trim values.

Is the Alcohol Density Estimate value 15% or greater and are the fuel trim values negative?

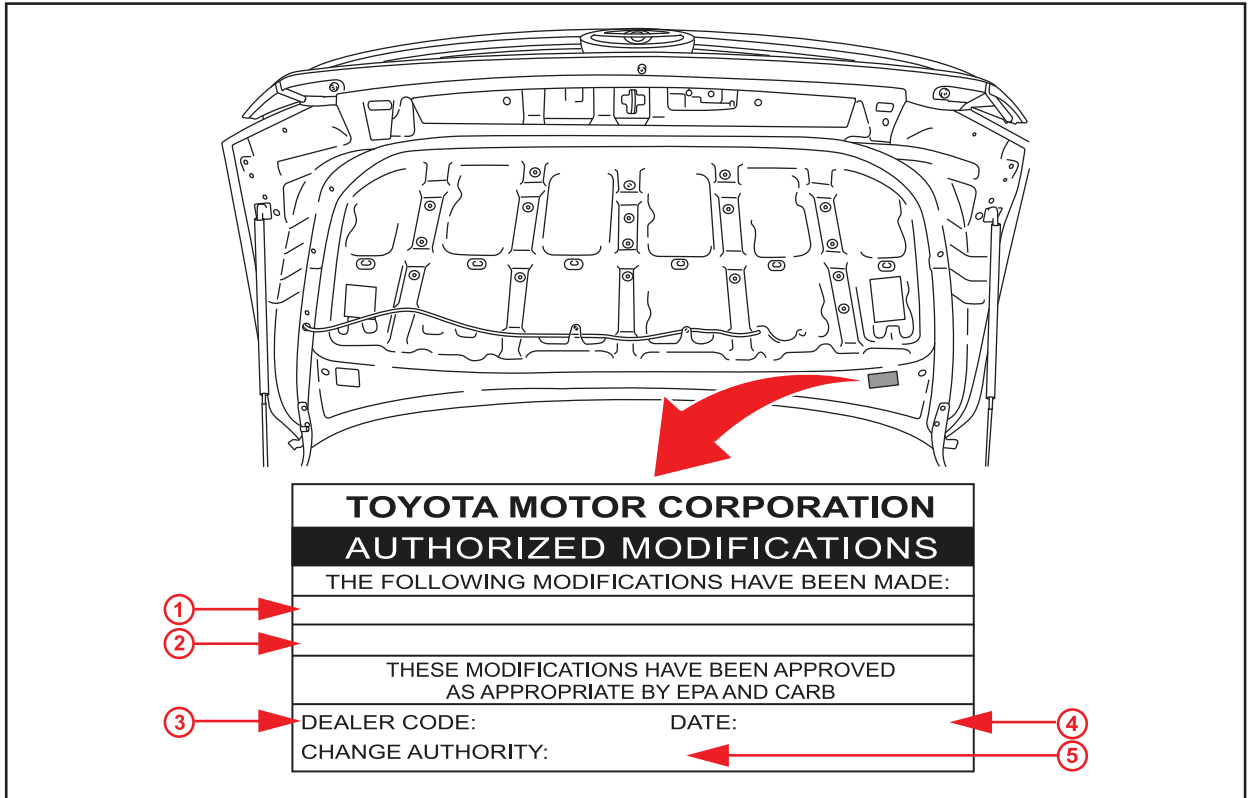
- **YES** — Reprogram the ECM (PCM). Go to step 4.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

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Repair Procedure (Continued)

4. 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 5.

Figure 1. Location of Authorized Modifications Label on 2012 – 2015 Sequoia and Tundra



1	Replacement ECM (PCM) Part Number (i.e., 89661-0CN26)
2	New Calibration ID(s) (i.e., 30CK5600)
3	Dealer Code

4	Date Completed
5	This SB Number

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Repair Procedure (Continued)

5. 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.

6. 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 SB 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.
7. Disconnect the negative (–) terminal of the battery for 10 minutes. Reconnect battery.
8. Using Techstream, confirm the A/F Learn Values are at 0%.
9. Using Techstream Utility, perform Fuel Density Learning Value Reset.
 - A. Turn the ignition switch to ON.
 - B. Enter the following menus:
Powertrain / Engine and ECT / Utility / Fuel Density Learning Value Reset
 - C. Check that the following conditions are met:
 - Ignition switch: ON
 - Engine: stopped
 - Battery voltage: 9 V or higher

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Repair Procedure (Continued)

D. Press *Next*.

HINT

When *Next* is pressed, initialization is performed automatically.

E. Press *Exit*.

10. Turn ignition switch OFF.
11. Add 3 gallons of fuel to the vehicle.
12. Using Techstream, confirm the Alcohol Density Learning is Incomplete.
13. Test drive the vehicle to confirm proper operation.