

# ECM Calibration: Enhancement to Shifting Performance

Service  
Category Drivetrain

Section Automatic Transmission/Transaxle

Market USA

Toyota Supports  
ASE Certification 

## Applicability

| YEAR(S) | MODEL(S)            | ADDITIONAL INFORMATION                                                                                  |
|---------|---------------------|---------------------------------------------------------------------------------------------------------|
| 2010    | 4Runner, FJ Cruiser | Drive Type(s): 4WD, 2WD<br>Engine(s): 1GR<br>Transmission(s): 5AT<br>VDS(s): BU4BF, BU5JR, ZU4BF, ZU5JR |

## Introduction

Some vehicles may exhibit a harsh shift on acceleration below 20 mph during the 2-1 downshift on vehicles equipped with an A750 transmission. The Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) calibration has been revised. Use the following repair procedure to address this condition.

## Production Change Information

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

| MODEL      | PLANT  | DRIVETRAIN | PRODUCTION CHANGE EFFECTIVE VIN |
|------------|--------|------------|---------------------------------|
| 4Runner    | Tahara | 2WD        | JTEZU5JR#A5001122               |
|            |        | 4WD        | JTEBU5JR#A5002648               |
| FJ Cruiser | Hino   | 2WD        | JTEZU4BF#AK008863               |
|            |        | 4WD        | JTEBU4BF#AK073838               |

## Warranty Information

| OP CODE | DESCRIPTION                  | TIME | OFP         | T1 | T2 |
|---------|------------------------------|------|-------------|----|----|
| EG1010  | Recalibrate ECM (PCM) Engine | 0.6  | 89661-##### | 04 | 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.

## ECM Calibration: Enhancement to Shifting Performance

### Parts Information

| MODEL      | DRIVETRAIN | PREVIOUS PART NUMBER | CURRENT PART NUMBER | PART NAME                          | QTY |
|------------|------------|----------------------|---------------------|------------------------------------|-----|
| 4Runner    | 2WD        | 89661-35F20          | 89661-35F21         | Computer, Engine Control (ECM/PCM) | –   |
|            | 4WD        | 89661-35F30          | 89661-35F31         |                                    | –   |
| FJ Cruiser | 2WD/4WD    | 89661-35F70          | 89661-35F71         |                                    | –   |
| –          | –          | 00451-00001-LBL      | Same                | 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.

### Calibration Information

| MODEL      | DRIVETRAIN | PREVIOUS CALIBRATION ID | NEW CALIBRATION ID       | VDS            |
|------------|------------|-------------------------|--------------------------|----------------|
| 4Runner    | 2WD        | 33579000                | <a href="#">33579100</a> | ZU5JR          |
|            | 4WD        | 33580000                | <a href="#">33580100</a> | BU5JR          |
| FJ Cruiser | 2WD/4WD    | 33584000                | <a href="#">33584100</a> | BU4BF<br>ZU4BF |

## ECM Calibration: Enhancement to Shifting Performance

### Required Tools & Equipment

| REQUIRED EQUIPMENT                                                                                    | SUPPLIER | PART NUMBER                 | QTY |
|-------------------------------------------------------------------------------------------------------|----------|-----------------------------|-----|
| TIS Techstream*<br>or<br>Techstream Lite<br><br>NOTE: Software version 5.01.001 or later is required. | ADE      | TSPKG1<br>or<br>TSLITEDLR01 | 1   |

#### 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](http://techinfo.toyota.com) for more information regarding J2534 reprogramming.



| SPECIAL SERVICE TOOLS (SST)     | PART NUMBER                 | QTY |
|---------------------------------|-----------------------------|-----|
| GR8 Battery Diagnostic Station* | <a href="#">00002-MCGR8</a> | 1   |

#### NOTE

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

\* Essential SST.

## ECM Calibration: Enhancement to Shifting Performance

### Repair Procedure

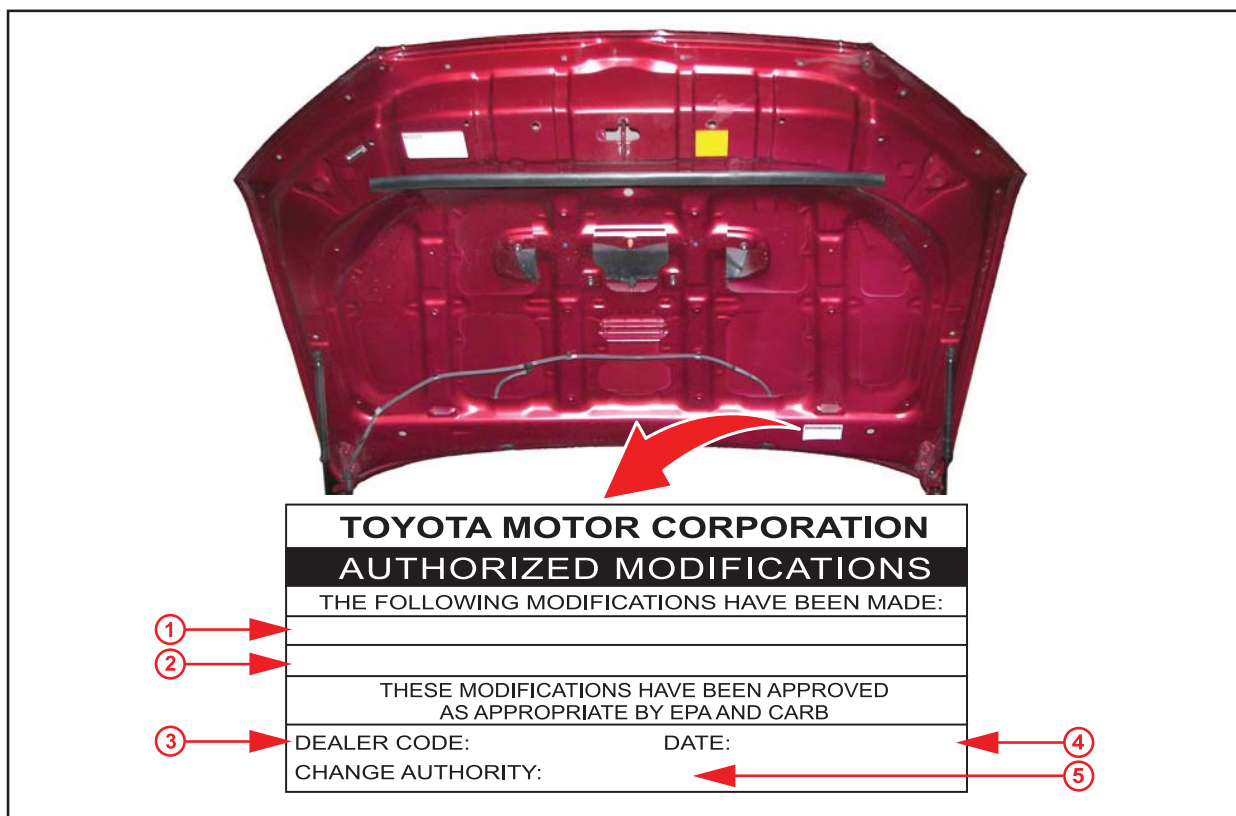
1. Test drive the vehicle and confirm there is a harsh shift on acceleration below 20 mph.

#### NOTE

If there is NO harsh shift felt below 20 mph, this TSB does NOT apply. Continue diagnosis per the Repair Manual to isolate the cause of the condition.

2. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 1 or 2. 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.

Figure 1. Location of Authorized Modifications Label on 2010 4Runner



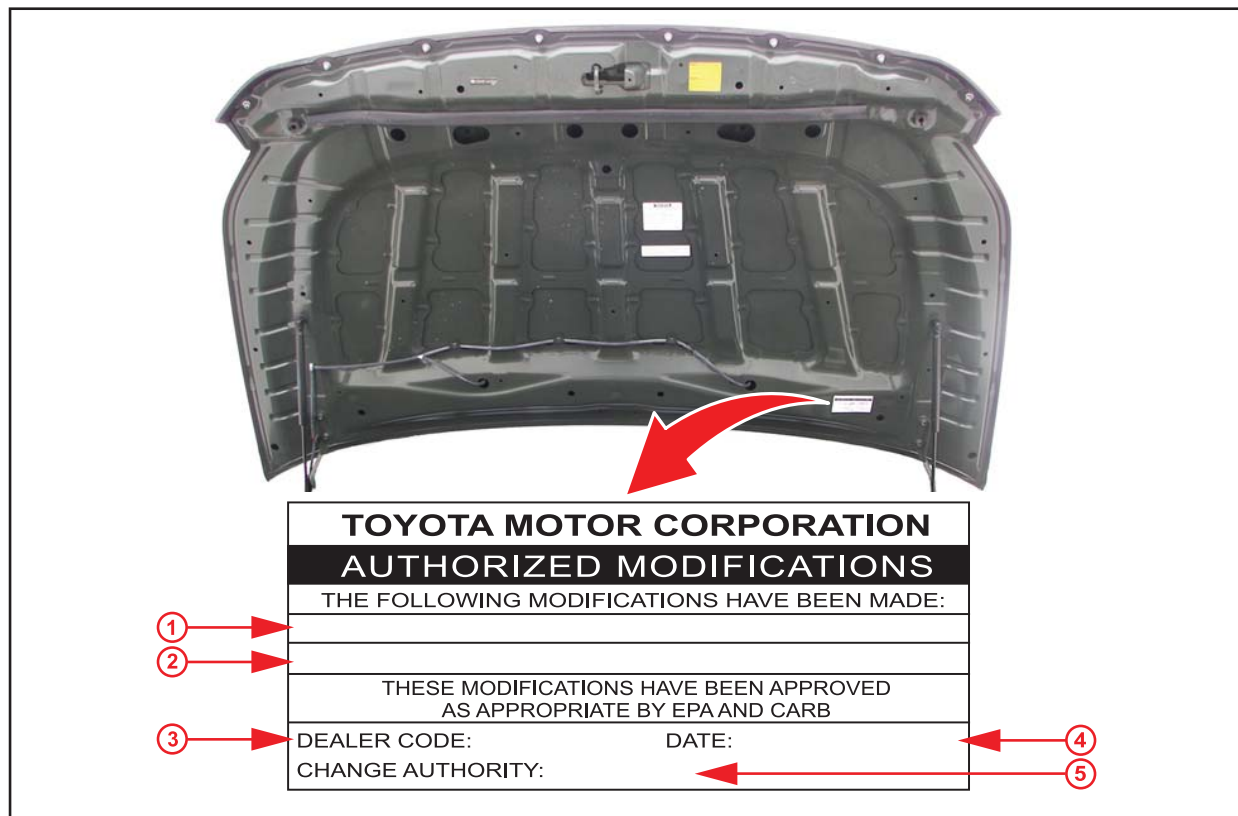
|   |                                                       |
|---|-------------------------------------------------------|
| 1 | Replacement ECM (PCM) Part Number (i.e., 89661-35F21) |
| 2 | New Calibration ID(s) (i.e., 33579100)                |
| 3 | Dealer Code                                           |

|   |                 |
|---|-----------------|
| 4 | Date Completed  |
| 5 | This TSB Number |

## ECM Calibration: Enhancement to Shifting Performance

### Repair Procedure (Continued)

Figure 2. Location of Authorized Modifications Label on 2010 FJ Cruiser



|   |                                                       |
|---|-------------------------------------------------------|
| 1 | Replacement ECM (PCM) Part Number (i.e., 89661-35F71) |
| 2 | New Calibration ID(s) (i.e., 33584100)                |
| 3 | Dealer Code                                           |

|   |                 |
|---|-----------------|
| 4 | Date Completed  |
| 5 | This TSB Number |

### 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 – Battery*.

Follow the procedures outlined in TSB No. [T-SB-0064-10](#), “Techstream ECU Flash Reprogramming Procedure”, and flash the ECM (PCM) with the NEW calibration file update.

### 4. Start the engine and warm it up to normal operating temperature before test driving.

## ECM Calibration: Enhancement to Shifting Performance

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### Repair Procedure (Continued)

5. Test drive the vehicle to confirm proper vehicle operation and ECM (PCM) initial learning.

Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:

- 2010 4Runner:  
*Drivetrain – Automatic Transmission/Transaxle – “[A750E](#) / [A750F](#) Automatic Transmission/Transaxle: Automatic Transmission System: Initialization”*
- 2010 FJ Cruiser:  
*Drivetrain – Automatic Transmission/Transaxle – “[A750E](#) / [A750F](#) Automatic Transmission: Automatic Transmission System: Initialization”*

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 **CURRENT PART NUMBER**]
- Calibration ID(s) [Refer to the **Calibration Identification Chart** for the **NEW CALIBRATION ID**]
- Dealer Code
- Repair Date
- Change Authority [**This TSB** number]

B. Affix the Authorized Modifications Label to the vehicle at the location shown in Figure 1 or 2. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.

7. Test drive the vehicle to confirm proper vehicle operation.