TOYOTA
Technical Service Bulletin

MIL "ON" DTC P2646 and/or P265B

Service Category Engine/Hybrid System

Section Engine Control **Market** USA

Toyota Supports ASE Certification

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2014	Corolla	VDS(s): BPRHE

REVISION NOTICE

May 12, 2015 Rev2:

- **The Production Change Information section has been removed.**
- **The Parts Information and Calibration Information sections have been updated.**

June 19, 2014 Rev1:

- **The Production Change Information section has been added.**
- **The Repair Procedure has been updated.**

Any previous printed versions of this bulletin should be discarded.

Introduction

Some 2014 model year Corolla vehicles equipped with the 2ZR-FAE engine may exhibit a MIL “ON” condition with either one or both of the following Diagnostic Trouble Codes (DTCs):

- P2646 – A Rocker Arm Actuator System Performance or Stuck Off (Bank 1)
- P265B – B Rocker Arm Actuator Position Sensor Circuit Range Performance (Bank 1)

The Engine Control Module (ECM, SAE term: Powertrain Control Module/PCM) calibration has been revised. Use the following Repair Procedure to address this condition.

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Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG1401	Reprogram ECM (PCM) Engine	0.4	89661-0ZD30 89661-0ZD31	8A	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.**

Parts Information

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
89661-0ZD30 89661-0ZD31	89661-0ZD32	Computer, Engine Control (ECM/PCM)	–
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.***

Calibration Information

MODEL	ENGINE	CALIBRATION ID		VDS
		PREVIOUS	NEW	
Corolla ECO	2ZR-FAE	302Y6000 302Y6100	302Y6200	BPRHE

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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 10.00.029 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.

Repair Procedure

1. Using Techstream, check for stored DTCs.

   Are DTC(s) P2646 and/or P265B present?

   - **YES —** Continue to step 2.
   - **NO —** This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

2. Clear all DTCs, start engine in Park or Neutral, increase engine RPM to 3500 for 5 seconds.

   Did the DTC(s) return?

   - **YES —** Continue to step 3.
   - **NO —** Continue to step 7.

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Repair Procedure (Continued)

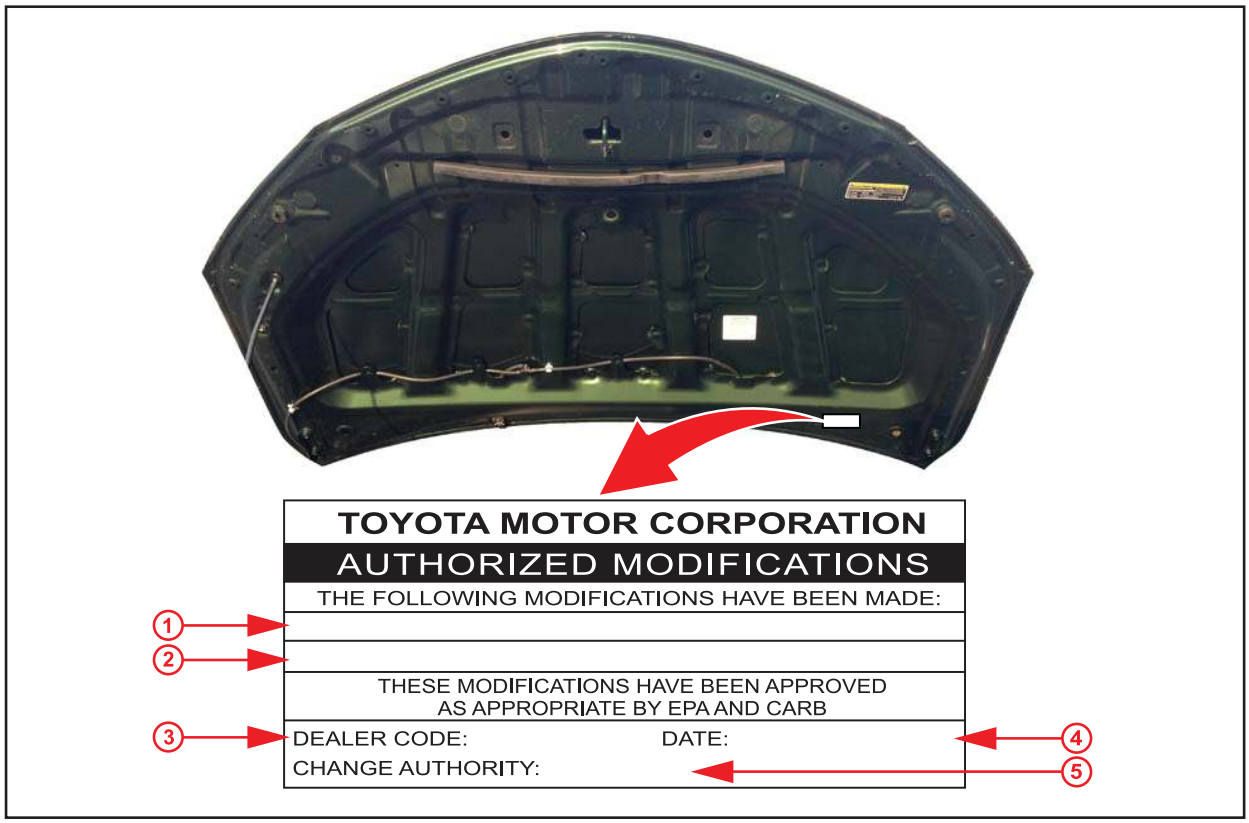
3. With the vehicle in IG ON/Engine OFF, clear the DTC(s) that reset, then perform the Learn Value Reset Utility.
   Engine and ECT > Utility > Learn Value Reset
4. Reset connection cycle to ensure active test function.
   A. Turn the ignition to IG OFF. If equipped with a standard key, remove the key from the ignition.
   B. Disconnect Techstream from DLC and exit Techstream software.
   C. Open Techstream software then connect Techstream to DLC.
   D. Turn the ignition to IG ON. Do **NOT** start the vehicle at this time.
   E. On Techstream, select *Connect to Vehicle*. Then select *Engine and ECT*, then choose *Data List*.
5. Perform the Engine Off VALVEMATIC Active Test.
   A. Set up custom data list to show VALVEMATIC Target Angle and VALVEMATIC Current Angle.
   B. Select *Active Test Activate the VALVEMATIC (ENG OFF)* and ensure parameters are met.
   C. Perform active test LOW first (right arrow). Check for change to VALVEMATIC Current Angle (it should go to approximately 105 – 106 degrees).
   D. Perform active test HIGH (it should climb above 108 degrees).
   E. It may take more than one LOW and HIGH cycle attempt to get the numbers to increase or decrease.
6. After verifying VALVEMATIC Current Angle value changes, close Techstream software, start engine, and increase RPM to 3500 for 5 seconds.
   Did the DTC(s) return?
   - **YES —** Repeat steps 3 to 5.
   - **NO —** Continue to step 7.
7. 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 8.

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Repair Procedure (Continued)

Figure 1. Location of Authorized Modifications Label on 2014 Corolla



1	Replacement ECM (PCM) Part Number (i.e., 89661-0ZD32)
2	New Calibration ID(s) (i.e., 302Y6200)
3	Dealer Code

4	Date Completed
5	This SB Number

8. 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.

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Repair Procedure (Continued)

9. 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.
10. Start the engine and warm it up to normal operating temperature and test drive to confirm proper vehicle operation.

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