

# MIL "ON" DTC P2646 and/or P265B

**Service Category** Engine/Hybrid System

**Section** Engine Control

**Market** USA



## Applicability

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

### REVISION NOTICE

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 improve this condition.

## Production Change Information

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

| MODEL   | PLANT | PRODUCTION CHANGE EFFECTIVE VIN |
|---------|-------|---------------------------------|
| Corolla | TMMMS | 5YFBPRHE#EP125796               |
|         | TMMC  | 2T1BPRHE#EC151571               |

## MIL "ON" DTC P2646 and/or P265B

### Warranty Information

| OP CODE | DESCRIPTION                | TIME | OPF         | T1 | T2 |
|---------|----------------------------|------|-------------|----|----|
| EG1401  | Reprogram ECM (PCM) Engine | 0.4  | 89661-0ZD30 | 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 | 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       | <u>302Y6100</u> | BPRHE |

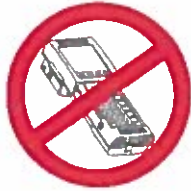
**MIL "ON" DTC P2646 and/or P265B**

**Required Tools & Equipment**

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

**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.
- 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](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.

## MIL "ON" DTC P2646 and/or P265B

---

### Repair Procedure

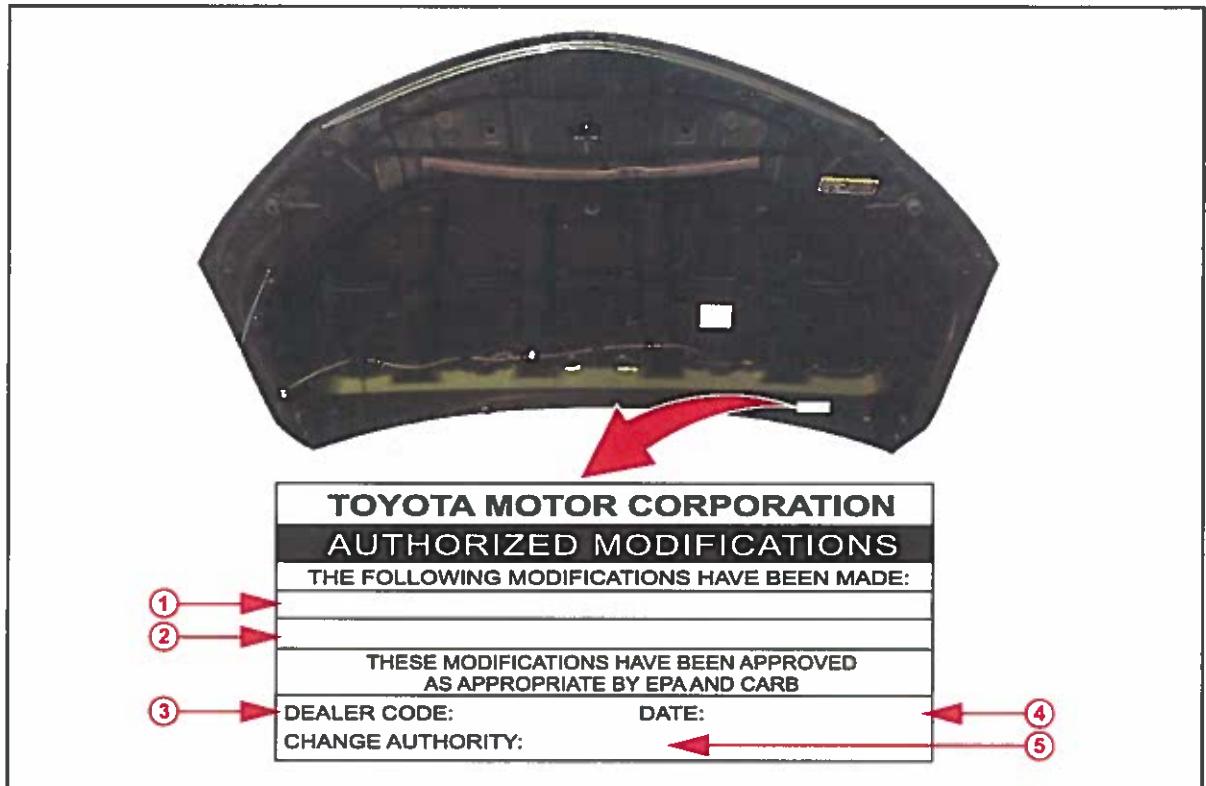
1. Using Techstream, check for stored DTCs.  
 Are DTC(s) P2646 and/or P265B present?
  - **YES** — Continue to step 2.
  - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.
2. Clear all DTCs, start engine in Park or Neutral, increase engine RPM to 3500 for 5 seconds.  
 Did the DTC(s) return?
  - **YES** — Continue to step 3.
  - **NO** — Continue to step 7.
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.

## MIL "ON" DTC P2646 and/or P265B

### Repair Procedure (Continued)

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.

**Figure 1. Location of Authorized Modifications Label on 2014 Corolla**



|          |   |
|----------|---|
| <b>1</b> | Replacement ECM (PCM) Part Number (i.e., 89661-0ZD31) |
| <b>2</b> | New Calibration ID(s) (i.e., 302Y6100)                |
| <b>3</b> | Dealer Code   |

|          |                |
|----------|----------------|
| <b>4</b> | Date Completed |
| <b>5</b> | This SB Number |

## MIL "ON" DTC P2646 and/or P265B

---

### Repair Procedure (Continued)

#### 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.

#### 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.