

MIL "ON" DTC P2820

Service Category Drivetrain

Section CVT

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2014 - 2017	Corolla	Transmission(s): CVT
2017	iM	Transmission(s): CVT

Introduction

Some 2014 – 2017 model year Corolla and 2017 model year iM vehicles may exhibit a MIL “ON” condition with Diagnostic Trouble Code (DTC) P2820 present, indicating a Pressure Control Solenoid (shift solenoid valve SLP) Performance condition. The Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) logic has been updated to prevent this condition. Follow the Repair Procedure below to address this condition.

Production Change Information

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

MODEL	PLANT	ENGINE	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
Corolla	TMMC	2ZR-FE	CVT-Gated	2T1BURHE#HC925199
		2ZR-FAE	CVT-Sequential	2T1BURHE#HC925210
				2T1BURHE#HC932181
	TMMMS	2ZR-FE	CVT-Gated	5YFBURHE#HP711254
			CVT-Sequential	5YFBURHE#HP712278
		2ZR-FAE	CVT-Gated	5YFBPRHE#HP725320
iM	Takaoka	2ZR-FAE	—	JTNKARJE#HJ549964

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Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
TC1701	R & R Continuously Variable Transaxle (CVT) Assembly	6.0	30400-12160	8A	19
EG1701	Reprogram ECM (PCM) Engine	0.4	89661-####		99

APPLICABLE WARRANTY

- This repair is covered under the Toyota Powertrain Warranty. This warranty is in effect for 60 months or 60,000 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

MODEL	MODEL YEAR	ENGINE	DRIVETRAIN	PART NUMBER		PART NAME	QTY
				PREVIOUS	NEW		
Corolla	2014	2ZR-FE	CVT-Gate	89661-0ZB40 89661-0ZB41 89661-0ZB42 89661-0ZB43	89661-0ZB44	Computer, Engine Control (ECM)	-
				89661-0ZD40 89661-0ZD41 89661-0ZD42 89661-0ZD43	89661-0ZD44		
				89661-0ZD30 89661-0ZD31 89661-0ZD32 89661-0ZD33	89661-0ZD34		
				89661-0Z630 89661-0Z631	89661-0Z632		
				89661-0Z640 89661-0Z641	89661-0Z642		
				89661-0Z620 89661-0Z621	89661-0Z622		
	2015 – 2016	2ZR-FE	CVT-Gate	89661-0ZQ90	89661-0ZQ91		
			CVT-Sequential	89661-0ZR00	89661-0ZR01		
		2ZR-FAE	CVT-Gate	89661-0ZQ80	89661-0ZQ81		
			CVT-Gate	89661-0ZQ80	89661-0ZQ81		

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Parts Information (Continued)

MODEL	MODEL YEAR	ENGINE	DRIVETRAIN	PART NUMBER		PART NAME	QTY
				PREVIOUS	NEW		
Corolla	2014 – 2017		–	30410-12160-84		Remanufactured CVT	1
				17451-0D140		Gasket, Exhaust Pipe	1
				17451-0D132			1
				90080-17238		Nut (For Front Axle Shaft LH/RH)	2
				43425-01030		Ring, Hole Snap (For Front Drive Shaft RH/LH)	2
iM	2017	2ZR-FE	CVT	89661-0W190	89661-0W191	Computer, Engine Control (ECM)	–
		–	30400-12300		CVT	1	
			32000-12500		Converter Assy, Torque	1	
			90177-22001		Nut (For Front Axle Shaft RH/LH)	2	
			43425-02050		Ring, Hole Snap (For Front Drive Shaft LH/RH)	2	
			17451-28040		Gasket, Exhaust Pipe	1	
			17451-28032			1	
			35012-12110		Hose Sub-assy, Transmission Breather	1	
–				35150-48010		Plug Assy, Transmission Case	1
				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 – Parts – 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	
Techstream Lite (Green Cable)		TSLP2DLR01	

NOTE

- Only ONE of the Techstream units listed above is required.
- Software version 12.20.024 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- 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
Crankshaft Pulley Holding Tool (86 mm)**	09213-58014 or 09213-58013-01	1
Crankshaft Pulley Holding Tool (64 mm)*	09213-54015-01	1
Companion Flange Holding Tool (86/64 mm)*	09330-00021	1
Engine Support Bar*	00002-ESUPPT-01	1

NOTE

- Some early 2014 model year Corolla vehicles were manufactured with an alternative crankshaft pulley diameter (86 mm alternative versus standard 64 mm). Select the appropriate SST set based on the crankshaft pulley diameter for the current vehicle.
- Additional SSTs may be ordered by calling 1-800-933-8335.

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Required Tools & Equipment (Continued)

REQUIRED PARTS FOR ENGINE SUPPORT BAR	PART NUMBER	QTY
No. 1 Engine Hanger (2ZR-FE)**	12281-37021	1
No. 2 Engine Hanger (2ZR-FE)**	12282-37011	1
No. 1 Engine Hanger (2ZR-FAE)**	12281-37021	1
No. 2 Engine Hanger (2ZR-FAE)**	12282-37011	1
Bolt	91552-81050	2
Multi-purpose Grease	—	As Needed
Three Bond 1324		
Clutch Spline Grease		

* Essential SST.

**These items are to be used with the engine support bar (SST: P/N 00002-ESUPPT-01) and MUST be ordered through NAPO.

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Calibration Information

MODEL	MODEL YEAR	ENGINE	DRIVETRAIN	CALIBRATION ID	
				PREVIOUS	NEW
Corolla	2014	2ZR-FE	CVT-Gate	302W8000 302W8100 302W8200 302W8300	302W8400
			CVT-Sequential	302Y7000 302Y7100 302Y7200 302Y7300	302Y7400
		2ZR-FAE	CVT-Gate	302Y6000 302Y6100 302Y6200 302Y6300	302Y6400
			CVT-Sequential	30Z58000 30Z58100	30Z58200
	2015 – 2016	2ZR-FE	CVT-Gate	30Z59000 30Z59100	30Z59200
			CVT-Sequential	30Z59000 30Z59100	30Z59200
		2ZR-FAE	CVT-Gate	302U1000 302U1100	302U1200
	2017	2ZR-FE	CVT-Gate	30ZC2000	30ZC2100
			CVT-Sequential	30ZC3000	30ZC3100
		2ZR-FAE	CVT	30ZC1000	30ZC1100
iM				30W03000	30W03100

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Repair Procedure

1. Using Techstream, check for stored DTCs.
Is the following DTC present?
P2820 – Pressure Control Solenoid (shift solenoid valve SLP) Performance.
 - **YES** — Continue to step 2.
 - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.
2. Remove the Continuously Variable Transaxle (CVT) assembly.
Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:
 - 2014 – 2017 Corolla:
Drivetrain – CVT – “K313 CVT: Continuously Variable Transaxle Assembly(When Using the Engine Support Bridge): [Removal](#)”

NOTE

For 2014 model year Corollas, follow the 2015 – 2017 model year Repair Manual procedure for removal and installation of the CVT.

Do NOT complete the following steps:

- Step 29, Substep B: Remove Breather Plug Hose
 - Step 65: Remove With Head Straight Screw Plug
 - Step 66: Remove Torque Converter Assembly
 - Step 67: Remove CVT Oil Pump Type T Oil Seal
- 2017 iM:
Drivetrain – CVT – “K313 CVT: Continuously Variable Transaxle Assembly: [Removal](#)”
Do NOT complete the following steps:
 - Step 16: Remove Torque Converter Assembly
 - Step 17: Remove CVT Oil Pump Type T Oil Seal
 - Step 23: Remove With Head Straight Screw Plug
 - Step 24: Remove No. 1 Breather Plug (CVT)

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Repair Procedure (Continued)

3. Install the replacement CVT.

Refer to TIS, applicable model and model year Repair Manual:

- 2014 – 2017 Corolla:

Drivetrain – CVT – “K313 CVT: Continuously Variable Transaxle Assembly(When Using the Engine Support Bridge): [Installation](#)”

NOTE

Do NOT perform Installation Procedure steps 2 – 3 in the Repair Manual; the replacement CVT will come with the oil seal and torque converter already installed.

- 2017 iM:

Drivetrain – CVT – “K313 CVT: Continuously Variable Transaxle Assembly: [Installation](#)”

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Repair Procedure (Continued)

4. Check for the Authorized Modifications Label affixed to the vehicle in the location shown below. Confirm if the ECM (PCM) calibration has been updated.

Is the calibration ID listed the latest ECM (PCM) calibration?

- **YES** — The vehicle has the correct calibration. Go to step 7.
- **NO** — Continue to step 5.

Figure 1. Location of Authorized Modification Label for 2014 – 2016 Corolla and 2017 iM



1	Replacement ECM (PCM) Part Number (i.e., 89661-0ZB44 or 89661-0ZD44)
2	New Calibration ID(s) (i.e., 302W8400 or 302Y7400)
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 13.5V while flash reprogramming the vehicle.
- For details on how to use the GR8 Battery Diagnostic Station, refer to the "[*GR8 Instruction Manual*](#)" located on TIS, *Diagnostics – Tools & Equipment – Battery Diagnostics*.

Follow the procedures outlined in Service Bulletin [T-SB-0134-16](#), "Techstream ECU Flash Reprogramming Procedure," and flash the ECM (PCM) with the NEW calibration file update.

6. Prepare and 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. Install the Authorized Modifications Label on the vehicle at the location shown in Figure 1. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
7. Perform the Techstream ECT Reset Memory Utility.
8. Test drive the vehicle to confirm the repair.