

Torque Converter Flex Lock-up Shudder

Service Category Drivetrain

Section Automatic Transmission/Transaxle

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2013 - 2015	RAV4	

REVISION NOTICE

March 15, 2021 Rev2:

- The Production Change Information section has been updated.

August 31, 2017 Rev1:

- Applicability has been updated to include 2015 model year RAV4 vehicles.
- Production Change Information has been added.
- The Parts Information section has been updated.

Any previous printed versions of this bulletin should be discarded.

Introduction

Some 2013 – 2015 model year RAV4 vehicles may exhibit a brief shudder intermittently while driving under light loads between approximately 25 and 50 mph. The torque converter and Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) logic have been modified to reduce the possibility of this condition from occurring. Follow the Repair Procedure in this bulletin to address this condition.

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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
RAV4	SHOKKI	2AR-FE	2WD	JTMWFREV#FD046568
				JTMYFREV#FD046596
				JTMZFREV#FD046577
			AWD	JTMBFREV#FD108431
				JTMDFREV#FD116883
				JTMRFREV#FD108434
	TAHARA		2WD	JTMWFREV#E5017875
				JTMYFREV#E5017876
				JTMZFREV#E5019116
			AWD	JTMBFREV#E5030707
				JTMDFREV#E5030696
				JTMRFREV#E5029114
	TAKAOKA		2WD	JTMWFREV#FJ028699
				JTMYFREV#FJ028700
				JTMZFREV#FJ029905
			AWD	JTMBFREV#FJ017767
				JTMDFREV#FJ021504
				JTMRFREV#FJ017776
	TMMC		2WD	2T3WFREV#EW130364
				2T3YFREV#EW130367
				2T3ZFREV#FW130363
AWD		2T3BFREV#EW229028		
		2T3DFREV#FW229026		
		2T3RFREV#FW229031		

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Warranty Information

OP CODE	DESCRIPTION	DRIVETRAIN	TIME	OFP	T1	T2
TC1502	R & R Torque Converter Clutch and Reprogram ECM (PCM) Engine	2WD	6.7	32000-73011 32000-06050	9B	50
TC1503		AWD	7.3			

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

PLANT	DRIVETRAIN	PART NUMBER		PART NAME	QTY
		PREVIOUS	NEW		
TMMC	2WD	89661-0R070 89661-0R380 89661-0R381	89661-0R382	Computer, Engine Control (ECM/PCM)	-
Shokki/ Takaoka/ Tahara	AWD	89661-0R080 89661-0R390 89661-0R391	89661-0R392		
	2WD	89661-42K50 89661-42U30 89661-42U31	89661-42U32		
	AWD	89661-42K60 89661-42U40 89661-42U41	89661-42U42		
-		00451-00001-LBL		Authorized Modifications Labels	1

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Parts Information (continued)

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
32000-73011 32000-06050	04004-48106	Converter Assy Kit, Torque	1
00289-ATFWS		ATF WS	5.4 U.S. qts. (5.1 liters)
90521-78004 (2WD ONLY)		Ring, Hole Snap (for Drive Shaft Bearing Bracket)	1
90521-75002 (AWD ONLY)			1
90119-10461		Bolt (for Drive Shaft Bearing Bracket Setting No. 1)	2
90080-17238		Nut (for Front Axle Shaft)	2
90468-14016		Clip	1
17451-0D150		Gasket, Exhaust Pipe, No. 1	1
90917-A6002 (TMMC Vehicles ONLY)		Gasket, Exhaust Pipe, No. 2	1
90917-06078 (Shokki/Takaoka/Tahara Vehicles ONLY)			1
43425-07040		Ring Hole Snap (for Front Driveshaft, LH)	1

NOTE

- The ECM (PCM) should NOT be replaced as part of the Repair Procedure.
- Authorized Modifications 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 ADVI*	ADE	TSADVUNIT	1
Techstream 2.0		TS2UNIT	
Techstream Lite		TSLITEPDLR01	
Techstream Lite (Green Cable)		TSLP2DLR01	

*Essential SST.

NOTE

- Only ONE of the Techstream units listed above is required.
- Software version 15.30.027 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.

REQUIRED PARTS FOR ENGINE SUPPORT BAR**	PART NUMBER	QTY
No. 1 Engine Hanger	12281-36020	1
No. 2 Engine Hanger	12282-36021	1
Bolt	91552-81025 91552-81040	1

**These items are to be used with the Engine Support Bar (SST P/N 00002-ESUPPT-01) and MUST be ordered through NAPO.

REQUIRED MATERIAL	QUANTITY
Toyota Genuine Adhesive 1324, Three Bond 1324, or Equivalent	As Needed
Toyota Genuine Differential Gear Oil LT API GL-5, SAE 75W-85 (AWD ONLY)	0.43 – 0.52 qts. (0.40 – 0.50 liters, 0.36 – 0.44 Imp. qts.)

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Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Battery Diagnostic Tool*	DCA-8000P T	1
Transmission Fill System*	00002-11100-02	1
Crankshaft Pulley Holding Tool*	09213-54015-01	1
Companion Flange Holding Tool*	09330-00021	1
Engine Support Bar*	00002-ESUPPT-01	1

*Essential SST.

NOTE

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

Calibration Information

MODEL	DRIVETRAIN	ECU	CALIBRATION ID	
			PREVIOUS	NEW
RAV4	2WD	Engine	342B5000 342N5000 342N5100	342N5200 / 54204200
		Transmission	54204000 54204100	
	AWD	Engine	342G3000 342N6000 342N6100	342N6200 / 54205200
		Transmission	54205000 54205100	

Repair Procedure

- With the vehicle at operating temperature, confirm the condition exists.
Is there a brief shudder intermittently present while driving under a light load between 25 – 50 mph?

NOTE

The condition will be most noticeable BEFORE an upshift.

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

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Repair Procedure (continued)

NOTICE

Be sure to follow the procedure below in the order provided to prevent contamination of previously cleaned parts.

2. Drain the ATF from the transaxle by removing the drain plug.
Refer to the TIS, applicable model and model year Repair Manual:
 - 2013 – 2015 RAV4:
Drivetrain – Automatic Transmission/Transaxle – “[U760E](#) / [U760F](#) Automatic Transmission / Transaxle: Automatic Transaxle Fluid: Replacement”

3. Remove and replace the torque converter.
Refer to TIS, applicable model and model year Repair Manual:
 - 2013 – 2015 RAV4:
Drivetrain – Automatic Transmission/Transaxle – “[U760E](#) / [U760F](#) Automatic Transmission / Transaxle: Automatic Transaxle Assembly: Removal”

4. With the transaxle installed in the vehicle, remove the transaxle oil pan.
Refer to TIS, applicable model and model year Repair Manual:
 - 2013 – 2015 RAV4:
Drivetrain – Automatic Transmission/Transaxle – “[U760E](#) / [U760F](#) Automatic Transmission / Transaxle: Valve Body Assembly: Removal”

5. Remove and discard the two oil pan magnets and clean the inside of the oil pan by wiping it off with a clean cloth ONLY.

NOTICE

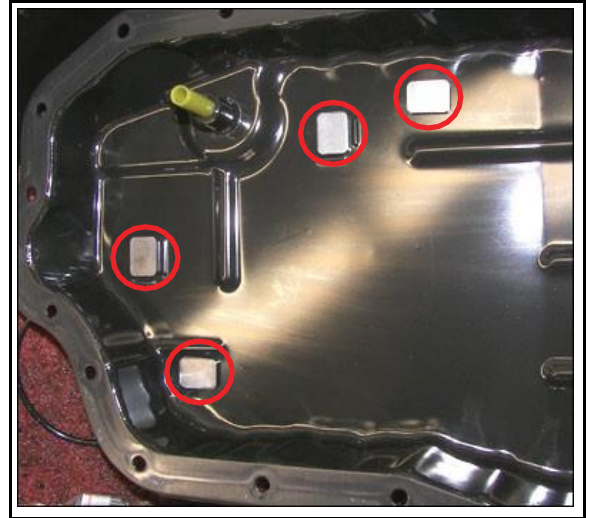
Do NOT use ANY chemical cleaners to clean the inside of the oil pan.

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Repair Procedure (continued)

6. Install four NEW magnets as shown.

Figure 1. Magnet Installation Locations



7. Reinstall the oil pan using a NEW oil pan gasket.
Refer to TIS, applicable model and model year Repair Manual:
 - 2013 – 2015 RAV4:
Drivetrain – Automatic Transmission/Transaxle – “[U760E](#) / [U760F](#) Automatic Transmission / Transaxle: Valve Body Assembly: Installation”

8. Reinstall the drain plug using a NEW drain plug gasket and refill the transaxle with ATF.
Refer to TIS, applicable model and model year Repair Manual:
 - 2013 – 2015 RAV4:
Drivetrain – Automatic Transmission/Transaxle – “[U760E](#) / [U760F](#) Automatic Transmission / Transaxle: Automatic Transaxle Fluid: Replacement”

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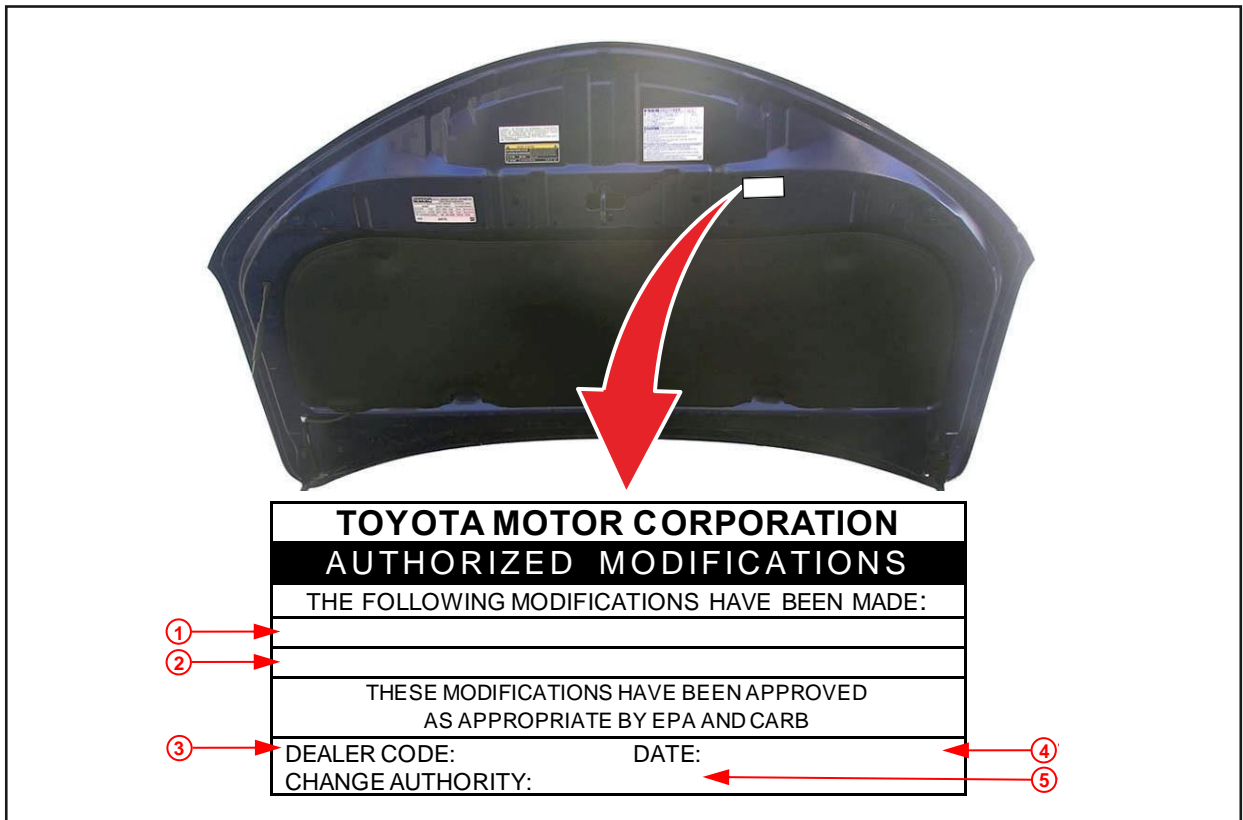
Repair Procedure (continued)

- Use Techstream to confirm if the ECM (PCM) calibration has been updated and check for the Authorized Modifications Label affixed to the vehicle in the location shown below.

Is the calibration ID listed in Techstream and on the label the latest ECM (PCM) calibration?

- YES** — Go to step 12.
- NO** — Continue to step 10.

Figure 2. Location of Authorized Modifications Label on 2013 – 2015 RAV4



1	Replacement ECM (PCM) Part Number (i.e., 89661-0R382)
2	New Calibration ID(s) (i.e., 54204200)
3	Dealer Code

4	Date Completed
5	This SB Number

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Repair Procedure (continued)

- Flash reprogram the ECM (PCM).

NOTE

- The battery diagnostic tool **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 battery diagnostic tool, refer to the [DCA-8000 Instruction Manual](#) located at *TIS – Diagnostics – Tools & Equipment – Battery Diagnostics*.

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

- Prepare and install the Authorized Modifications Label.
 - Using a permanent marker, enter the following information on the label:
 - ECM (PCM) 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***]
 - Install the Authorized Modifications Label onto the vehicle at the location shown in Figure 2. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
- Perform the Techstream ECT Reset Memory Utility and test-drive the vehicle to confirm the repair.