

MIL ON With DTCs P0087, P008700 and/or P107A2A at High Altitude and With High Temperatures

Service Category Engine/Hybrid System

Section Fuel System

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2019 - 2022	RAV4	

Introduction

Some 2019 – 2022 model year RAV4 vehicles may exhibit a MIL ON condition with one or more of the following Diagnostic Trouble Codes (DTCs) present:

- P0087/P008700: Fuel Rail/System Pressure – Too Low
- P107A2A: Fuel Rail Pressure Sensor (Low) Signal Stuck in Range

This condition may occur when the vehicle is operated at high altitude and high temperatures; typically, above 3,300 feet (1,000 meters) and at ambient temperatures above 85°F (30°C). The Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) and fuel suction tube assembly have been improved to reduce the possibility of this condition. Follow the Repair Procedure in this bulletin to address this condition.

Production Change Information

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

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	TMMC No. 2	2WD	2T3Y1RFV#NC173062 2T3W1RFV#NC173062 2T3C1RFV#NC173062 2T3H1RFV#NC173062 2T3Z1RFV#NC173062

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Production Change Information (continued)

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	TMMC No. 2	AWD	2T3N1RFV#NC256499
			2T3D1RFV#NC256499
	TMMC No. 3	FWD	2T3P1RFV#NC256499
			2T3R1RFV#NC256499
			2T3F1RFV#NC256499
			2T3B1RFV#NC256499
	Syokki No. 1	AWD	2T3Y1RFV#NC185477
			2T3W1RFV#NC185477
TMMC No. 3	AWD	2T3C1RFV#NC185477	
		2T3H1RFV#NC185477	
Syokki No. 1	FWD	2T3Z1RFV#NC185477	
		2T3N1RFV#NC248367	
TMMC No. 3	AWD	2T3D1RFV#NC248367	
		2T3P1RFV#NC248367	
Syokki No. 1	FWD	2T3R1RFV#NC248367	
		2T3J1RFV#NC248367	
TMMC No. 3	AWD	2T3F1RFV#NC248367	
		2T3B1RFV#NC248367	
Syokki No. 1	FWD	JTMY1RFV#ND523568	
		JTMW1RFV#ND523568	
TMMC No. 3	AWD	JTMK1RFV#ND523568	
		JTMH1RFV#ND523568	
Syokki No. 1	FWD	JTMN1RFV#ND532721	
		JTMP1RFV#ND532721	
TMMC No. 3	AWD	JTMA1RFV#ND532721	
		JTMF1RFV#ND532721	
Syokki No. 1	FWD	JTMG1RFV#ND532721	
		JTMG1RFV#ND532721	

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Production Change Information (continued)

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	Syokki No. 2	FWD	JTMY1RFV#ND085692 JTMC1RFV#ND085692 JTMW1RFV#ND085692 JTMK1RFV#ND085692 JTMH1RFV#ND085692
		AWD	JTMN1RFV#ND085047 JTMA1RFV#ND085047 JTMP1RFV#ND085047 JTMJ1RFV#ND085047 JTMF1RFV#ND085047 JTMG1RFV#ND085047
	Takaoka No.2	FWD	JTMY1RFV#NJ023729 JTMW1RFV#NJ023729 JTMC1RFV#NJ023729
		AWD	JTMN1RFV#NJ040196 JTMA1RFV#NJ040196 JTMP1RFV#NJ040196 JTMJ1RFV#NJ040196

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Warranty Information

OP CODE	DESCRIPTION	TIME	OFFP	T1	T2
EL9069	R & R the Engine ECM (PCM) and Write the VIN	0.5	89661-#####*	8A	74
Combo Code A	R & R Tube Assy, Fuel Suction W/Pump & Gage	0.7			

*Warranty claim MUST be submitted with the correct 10-digit OFFP. Choose the correct OFFP for the vehicle being repaired by searching for the parts in the Electronic Parts Catalog using the VIN filter.

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		
89661-42Y81	89661-42Y82	Computer, Engine Control (ECM/PCM)	1
89661-42Y80			
89661-4A630			
89661-42Y91	89661-42Y92		
89661-42Y90			
89661-42Z70			
89661-42Z21	89661-42Z22		
89661-42Z20			
89661-42Z90			
89661-42Z01	89661-42Z02		
89661-42Z00			
89661-4A680			
89661-42Z11	89661-42Z12		
89661-42Z10			
89661-4A530			
89661-4AA21	89661-4AA22		
89661-4AA20			

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Parts Information (continued)

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
89661-0R581	89661-0R582	Computer, Engine Control (ECM/PCM)	1
89661-0R430			
89661-0R611	89661-0R612		
89661-0R610			
89661-0R700			
89661-0R621	89661-0R622		
89661-0R620			
89661-0R730			
89661-0R601	89661-0R602		
89661-0R600			
89661-0R820			
89661-0R631	89661-0R632		
89661-0R630			
89661-0R410			
89661-0R641	89661-0R642		
89661-0R640			
89661-4AA11	89661-4AA12		
89661-4AA10			
89661-4AA01	89661-4AA02		
89661-4AA00			
89661-42M01	89661-42M02		
89661-42M00			

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Parts Information (continued)

PART NUMBER		PART NAME	QTY		
PREVIOUS	NEW				
89661-42L91	89661-42L92	Computer, Engine Control (ECM/PCM)	1		
89661-42L90					
89661-4AB01	89661-4AB02				
89661-4AB00					
89661-0RA61	89661-0RA62				
89661-0RA60					
89661-0RA51	89661-0RA52				
89661-0RA50					
89661-0RA21	89661-0RA22				
89661-0RA20					
89661-0RA41	89661-0RA42				
89661-0RA40					
89661-0RA31	89661-0RA32				
89661-0RA30					
89661-0RA71	89661-0RA72				
89661-0RA70					
89661-4AA90	89661-4AA91				
89661-4AB50	89661-4AB51				
89661-4AB70	89661-4AB71				
89661-4AB80	89661-4AB81				
89661-4AB60	89661-4AB61				
89661-0RA10	89661-0RA11				
89661-0RA90	89661-0RA91				
89661-0RB10	89661-0RB11				
89661-0RB20	89661-0RB21				
89661-0RB00	89661-0RB01				
77020-0R050	77020-0R051			Tube Assy, Fuel Suction W/Pump & Gage	1
77020-0R060					
77020-42230					
77020-42250					
77169-06060		Gasket, Fuel Suction	1		

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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 17.10.012 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Battery Diagnostic Tool*	DCA-8000P I	1
Fuel Sender Lock Nut Wrench Set	09808-14031-KIT	1

*Essential SST.

NOTE

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

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Repair Procedure

1. Confirm the condition exists.

Using Techstream, check for the following stored DTCs:

- P0087/P008700: Fuel Rail/System Pressure – Too Low
- P107A2A: Fuel Rail Pressure Sensor (Low) Signal Stuck in Range

Are ANY of the DTCs listed above present?

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

2. Confirm the freeze frame data for DTCs P0087/P008700 and/or P107A2A.

A. Is the ambient temperature above 85°F (30°C)?

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

B. Is the atmospheric pressure at or below 12.7 psi gauge (-2 atm)?

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

C. Is the remaining fuel volume above 15%?

- **YES** — Continue to step 3
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

3. Confirm vehicle service history to determine the fuel suction tube assembly (P/N 77020-0R051) has been installed on the vehicle during prior service.

Has the fuel suction tube assembly (P/N 77020-0R051) been installed on the vehicle during prior service?

- **YES** — Go to step 6.
- **NO** — Continue to step 4

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Repair Procedure (continued)

4. Remove the fuel pump.

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

- [2019](#) / [2020](#) / [2021](#) / [2022](#) RAV4:
Engine/Hybrid System – Fuel System – “A25A-FKS (Fuel): Fuel Pump (W/ Canister Pump Module): Removal”

5. Install the NEW fuel pump.

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

- [2019](#) / [2020](#) / [2021](#) / [2022](#) RAV4:
Engine/Hybrid System – Fuel System – “A25A-FKS (Fuel): Fuel Pump (W/ Canister Pump Module): Installation”

6. Remove the ECM (PCM).

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

- [2019](#) / [2020](#) / [2021](#) / [2022](#) RAV4:
Engine/Hybrid System – Engine Control – “A25A-FKS (Engine Control): ECM: Removal”

7. Install the NEW ECM (PCM).

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

- [2019](#) / [2020](#) / [2021](#) / [2022](#) RAV4:
Engine/Hybrid System – Engine Control – “A25a-Fks (Engine Control): ECM: Installation”

8. Clear ALL DTCs and confirm the condition is no longer present.