

MIL ON With DTC P24517F

Service Category Vehicle Interior

Section Meter/Gauge/Display

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2023	RX500H	VDS(s): BCMEA Engine(s): T24

Introduction

Some 2023 model year RX 500h vehicles may exhibit a MIL ON condition with Diagnostic Trouble Code (DTC) P24517F – Evaporative Emission System Switching Valve Actuator Stuck Off present. This DTC may erroneously be displayed when the fault is related to DTC P14502A – Fuel Tank Pressure Sensor Signal Stuck in Range. The Engine Control Model (ECM) (SAE term: Powertrain Control Module/PCM) logic has been modified so DTC P24517F will not be erroneously detected. Follow the Repair Procedure in this bulletin to address these conditions.

Production Change Information

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

MODEL YEAR	MODEL	ENGINE	PRODUCTION CHANGE EFFECTIVE VIN
2023	RX 500h	T24A-FTS	2T2BCMEA#PC009721

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EL2322	Reprogram the ECM (PCM)	0.7	89661-0EK##*	8A	74

*Warranty claim MUST be submitted with the correct 10-digit OFP. Choose the correct OFP 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 Lexus Federal Emissions 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.

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Parts Information

PART NUMBER	PART NAME	QTY
89661-0EK##	Computer, Engine Control	1

NOTE
The ECM (PCM) should NOT be replaced as part of the Repair Procedure.

Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Battery Diagnostic Tool	DCA-8000P T	1

*Essential SST.

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

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.
- GTS+ software version 2023.04.003.02 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.

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Calibration Information

MODEL YEAR	MODEL	ENGINE	CALIBRATION ID	
			PREVIOUS	NEW
2023	RX 500h	T24A-FTS	8A2220E08000	8A2220E08400
			8A2220E08100	
			8A2220E08200	
			8A2220E08300	

Repair Procedure

1. Confirm the condition exists.

Does the vehicle exhibit a MIL ON condition with DTC P24517F (Evaporative Emission System Switching Valve Actuator Stuck Off) present?

 - **YES** — Continue to step 2.
 - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.
2. Use GTS+ to confirm if the ECM (PCM) calibration has been updated.

Is the calibration ID listed in GTS+ the latest ECM (PCM) calibration?

 - **YES** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.
 - **NO** — Continue to step 3.
3. Save the freeze frame data (FFD) and then 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 station, refer to the [DCA-8000 Instruction Manual](#) located at *TIS – Diagnostics – Tools & Equipment – Battery Diagnostics*.

Follow the procedures outlined in [L-SB-0036-22](#) *GTS+ ECU Flash Reprogramming With Security Signature*, and flash the ECM (PCM) with the NEW calibration file update.

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Repair Procedure (continued)

4. Utilize the saved FFD and diagnose DTCs P14502A and P24517F.
Run a Health Check and refer to the Typical Malfunction Thresholds section in the applicable Repair Manual to confirm which DTC(s) may be the root cause.
Refer to TIS, applicable model and model year Repair Manual:
 - [2023](#) RX 500h (DTC P14502A):
Engine/Hybrid System – Engine Control – “T24A-FTS (Engine Control): SFI System (for 1Motor-HEV Model): P145011,P145015,P14502A,P14502F; Fuel Tank Pressure Sensor Circuit Short to Ground”
 - [2023](#) RX 500h (DTC P24517F):
Engine/Hybrid System – Engine Control – “T24A-FTS (Engine Control): SFI System (for 1Motor-HEV Model): P145011,P145015,P14502A,P14502F; Fuel Tank Pressure Sensor Circuit Short to Ground”

5. Using GTS+, clear ANY DTCs and test-drive the vehicle in accordance with the driving pattern described in the confirmation driving pattern to confirm the condition is no longer present.
Refer to TIS, applicable model and model year Repair Manual:
 - [2023](#) RX 500h (DTC P14502A):
Engine/Hybrid System – Engine Control – “T24A-FTS (Engine Control): SFI System (for 1Motor-HEV Model): P145011,P145015,P14502A,P14502F; Fuel Tank Pressure Sensor Circuit Short to Ground”
 - [2023](#) RX 500h (DTC P14502A):
Engine/Hybrid System – Engine Control – “T24A-FTS (Engine Control): SFI System (for 1Motor-HEV Model): P24507E,P24517F; Evaporative Emission System Switching Valve Actuator Stuck On”