

Depleted 12V Auxiliary Battery

Service Category Power Source/Network

Section Battery/Charging **Market** USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2021	RAV4 Prime	

Introduction

Some 2021 model year RAV4 Prime vehicles may exhibit a depleted 12V auxiliary battery when in IG-OFF due to a condition in which the Hybrid Vehicle Electronic Control Unit (HV ECU) does not sleep. The HV ECU may not sleep if any of the following conditions have occurred with the vehicle:

- The vehicle was towed or jump-started after a 12V battery discharge.
- The vehicle's 12V battery was disconnected and reconnected, as when accessories were installed.
- The 12V battery terminal(s) or power or ground harnesses were removed to repair the vehicle.
- A new 12V battery was put into the vehicle, or there was an open in the main fusible link.
- Any other condition that may have caused power not properly flowing from the 12V battery through the harness.

The HV ECU logic has been updated to reduce the possibility of this condition. Follow the Repair Procedure in this bulletin to address this condition.

NOTICE

The condition in which the HV ECU does not sleep with resulting discharge of 12V battery may be a secondary condition when other primary causes for low 12V battery voltage occur. The primary cause of low 12V battery conditions will need to be addressed BEFORE completing the procedures outlined in this Service Bulletin.

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Production Change Information

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

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
RAV4 Prime	Syokki	AWD	JTM#B3FV#MD046066

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
800259	Hybrid Vehicle Control Computer Reprogramming	1.1	89980-#####*	71	74

*Warranty claim MUST be submitted with the correct 10-digit OFF. Choose the correct OFF 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 Hybrid Warranty. This warranty is in effect for 96 months or 100,000 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.
- 2021 model year RAV4 Prime vehicles that are registered and normally operated in California, Arizona (2012 model year only), Connecticut (starting with 2005 model year), Maine (starting with 2004 model year), Maryland (starting with 2011 model year), Massachusetts (starting with 2004 model year), New Hampshire (2005 – 2009 model year only), New Jersey (starting with 2005 model year), New Mexico (2010 – 2011 model year only), New York (beginning with 2004 model year with Zero Emissions (ZE) models only; all models starting with 2016 model year), Oregon (starting with 2008 model year), Rhode Island (starting with 2005 model year), and Vermont (starting with 2004 model year) – Partial Zero Emission Vehicle (PZEV) Emission Warranty Coverage is in effect for 15 years or 150,000 miles, from the vehicle's in-service date, whichever occurs first. (Please reference Warranty Policy Bulletin POL14-09 for additional information)
- Four additional states (Delaware [beginning with 2014 model year], Colorado [starting 2022 model year], Pennsylvania [beginning with 2008 model year], and Washington [beginning with 2009 model year]) have adopted the California Emission Warranty. However, in these states, performance and long-term defect warranty coverage is 7 years or 70,000 miles, whichever occurs first.

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Parts Information

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
89980-42250 89980-42251	89980-42252	Computer, Hybrid Vehicle Control	–
00451-00001-LBL		Authorized Modifications Labels	1

NOTE

- The HV ECU should NOT be replaced as part of the Repair Procedure.
- The HV ECU does not sleep condition with resulting discharge of 12V battery may be a secondary condition when other primary causes for low 12V battery voltage occur.
- Authorized Modifications Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through *Dealer Daily – Parts – Dealer Support Materials Orders*.

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.
- 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.
- 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	ECU	CALIBRATION ID	
		PREVIOUS	NEW
RAV4 Prime	Main	899834222000	899834222200
		899834222100	
	Sub	899854203000	899854203100

Repair Procedure

1. Has the vehicle exhibited a depleted 12V auxiliary battery?

NOTICE

The HV ECU may not sleep if ANY of the following have occurred with the vehicle:

- The vehicle was towed or jump-started after a 12V battery discharge.
- The vehicle's 12V battery was disconnected and reconnected, as when accessories were installed.
- The 12V battery terminal(s) or power or ground harnesses were removed to repair the vehicle.
- A new 12V battery was put into the vehicle, or there was an open in the main fusible link.
- Any other condition that may have caused power not properly flowing from the 12V battery through the harness.

Ensure these are addressed before continuing to step 2.

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

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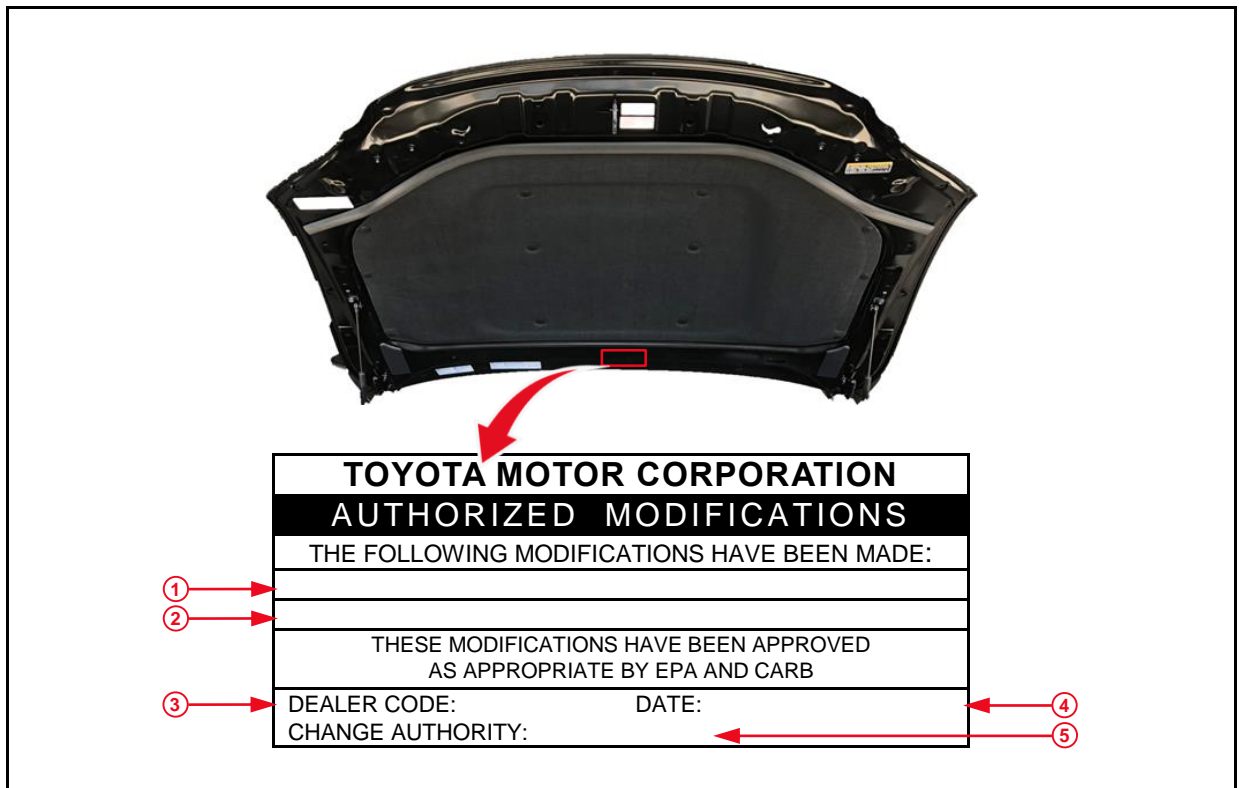
Repair Procedure (continued)

- Use Techstream to confirm if the HV ECU 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 HV ECU calibration?

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

Figure 1. Location of Authorized Modifications Label on 2021 RAV4 Prime



1	Replacement Hybrid Vehicle Control Computer Part Number (e.g., 89980-42252)
2	New Calibration ID (e.g., Main – 89983422200, Sub – 899854203100)
3	Dealer Code

4	Date Completed
5	This SB Number

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Repair Procedure (continued)

- Flash reprogram the HV ECU.

NOTE

- The battery diagnostic tool MUST be used in Power Supply Mode to maintain battery voltage at 13.0 – 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 [T-SB-0107-20](#), *ECU Flash Reprogramming With Security Signature*, and flash the HV ECU with the NEW calibration file update.

- Prepare and install the Authorized Modifications Label.
 - Using a permanent marker, enter the following information on the label:
 - HV ECU 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 1. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
- Test-drive the vehicle to confirm proper operation.