

EV System Software Update

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2012 – 2014	RAV4 EV	

SUPERSESSION NOTICE

The information contained in this bulletin supersedes SB No. T-SB-0050-13.

- Applicability has been updated to include 2014 model year RAV4 EV vehicles.
- Title, Introduction, Warranty Information, and Calibration Information sections have been updated.

Service Bulletin No. T-SB-0050-13 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this bulletin before proceeding.

Introduction

The RAV4 EV Power Management Control ECU and EV Gateway Control ECU software has been updated to improve charging performance. To ensure the best ownership experience, it is important to confirm the software is the most current version available. Use the following procedure to reprogram the RAV4 EV Power Management Control ECU and EV Gateway Control ECU.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EG1400	Reprogram Power Management Control ECU and EV Gateway Control ECU	0.8	89881-0R011	99	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.

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Parts Information

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
89690-42011 89690-42012 89690-42013 89690-42014	89690-42015	Computer, Power Management Control	–
89881-0R011		Computer, EV Gateway Control	–
00451-00001-LBL		Authorized Modification Labels	1

NOTE

- The ECU 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 – Dealer Support Materials Orders*.

Calibration Information

MODEL	MODEL YEAR	ECU		CALIBRATION ID	
				PREVIOUS	NEW
RAV4 EV	2012–2013*	Power Management Control	Main	896B34201300 896B34201400	896B34201500
			Sub	896B54201100 896B54201200	896B54201300
	2012–2014	EV Gateway Control		1.3.57 1.3.62 1.3.79	1.3.83

* Power Management Control ECU on 2014 model year vehicles do NOT need reprogramming.

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Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream 2.0*	ADE	TS2UNIT	1
TIS Techstream		TSPKG1	
Techstream Lite		TSLITEDLR01	

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
GR8 Battery Diagnostic Station*	00002-MCGR8	1
EV HV Powertrain Diagnostic Cable Kit**	82824-36150-01	1

NOTE

- Only ONE of the Techstream units listed above is required.
- Software version 9.00.025 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- Additional SSTs may be ordered by calling 1-800-933-8335.
- The Diagnostic Tester is NOT recommended for flash reprogramming. Please use Techstream or an approved J2534 interface to perform flash reprogramming updates. Visit techinfo.toyota.com for more information regarding J2534 reprogramming.



* Essential SST.

** Special order.

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Repair Procedure

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 1. Confirm if the ECU calibrations have been updated. If the calibration IDs listed are NOT the latest ECU calibrations — go to step 2.

Figure 1. Location of Authorized Modifications Label on 2012 – 2014 RAV4 EV



1	Replacement Power Management Control ECU Part Number (i.e., 89690-42015)
2	Replacement EV Gateway Control ECU Part Number (i.e., 89881-0R011)
3	New Calibration ID of Power Management Control ECU (i.e., 896B34201500)
4	New Calibration ID of EV Gateway Control ECU (i.e., 1.3.83)

5	Dealer Code
6	Date Completed
7	This SB Number

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Repair Procedure (Continued)

2. Flash reprogram the Power Management Control ECU.

NOTICE

The Power Management Control ECU must be updated first, then the EV Gateway Control ECU (see Figure 2).

NOTE

- The GR8 Battery Diagnostic Station **MUST** be used in Power Supply Mode to maintain battery voltage at 13.5 volts while flash reprogramming the vehicle.
- For details on how to use the GR8 Battery Diagnostic Station, refer to the [GR8 Instruction Manual](#) located on the Technical Information System (TIS), *Diagnostics – Tools & Equipment – Battery Diagnostics*.

Follow the procedures outlined in Service Bulletin No. [T-SB-0012-13](#), “Techstream ECU Flash Reprogramming Procedure,” and flash the ECM (PCM) with the NEW calibration file update.

Figure 2.

The screenshot shows the Techstream software interface for a 2012 Rav4 EV. The 'Health Check Results' table is displayed with the following columns: System, Monitor Status, DTC, Curr, Pend, Hist, Perm, SB, Calibration, and Update. The 'Update' column for the EV system and EV Gateway Control ECU is highlighted with red arrows and circled numbers 1 and 2 respectively.

System	Monitor Status	DTC	Curr	Pend	Hist	Perm	SB	Calibration	Update
EV	-							896B34201300	Yes
EV	-							896B54201100	Yes
Cruise Control	-								
Electric Propulsion Control System	-							1.3.62	Yes
Tire Pressure Monitor	-								
ABS/SC/TRAC	-							F152642131	No
EMPS	-								No
Occupant Detection	-								
SRS Airbag	-								
Air Conditioner	-								
Combination Meter	-							838000R15002	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No
								838000R15001	No

1 Reprogram Power Management Control ECU 1st

2 Reprogram EV Gateway Control ECU 2nd

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Repair Procedure (Continued)

- Flash reprogram the EV Gateway Control ECU.

NOTE

- The GR8 Battery Diagnostic Station **MUST** be used in Power Supply Mode to maintain battery voltage at 13.5 volts while flash reprogramming the vehicle.
- For details on how to use the GR8 Battery Diagnostic Station, refer to the [GR8 Instruction Manual](#) located on the Technical Information System (TIS), *Diagnostics – Tools & Equipment – Battery Diagnostics*.

Follow the procedures outlined in Service Bulletin No. [T-SB-0043-13](#), “RAV4 EV ECU Flash Reprogramming Procedure,” and flash reprogram the ECU with the NEW calibration file update.

- Install the Authorized Modifications Label.
 - Using a permanent marker, enter the following information on the label:
 - ECU part number(s) [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 SB number**]
 - Affix the Authorized Modifications Label to 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 vehicle operation.