

TECHNICAL INSTRUCTIONS

FOR

SAFETY RECALL F0I

EV GATEWAY CONTROL ECM SOFTWARE UPDATE

2012-2014 MY RAV4 EV

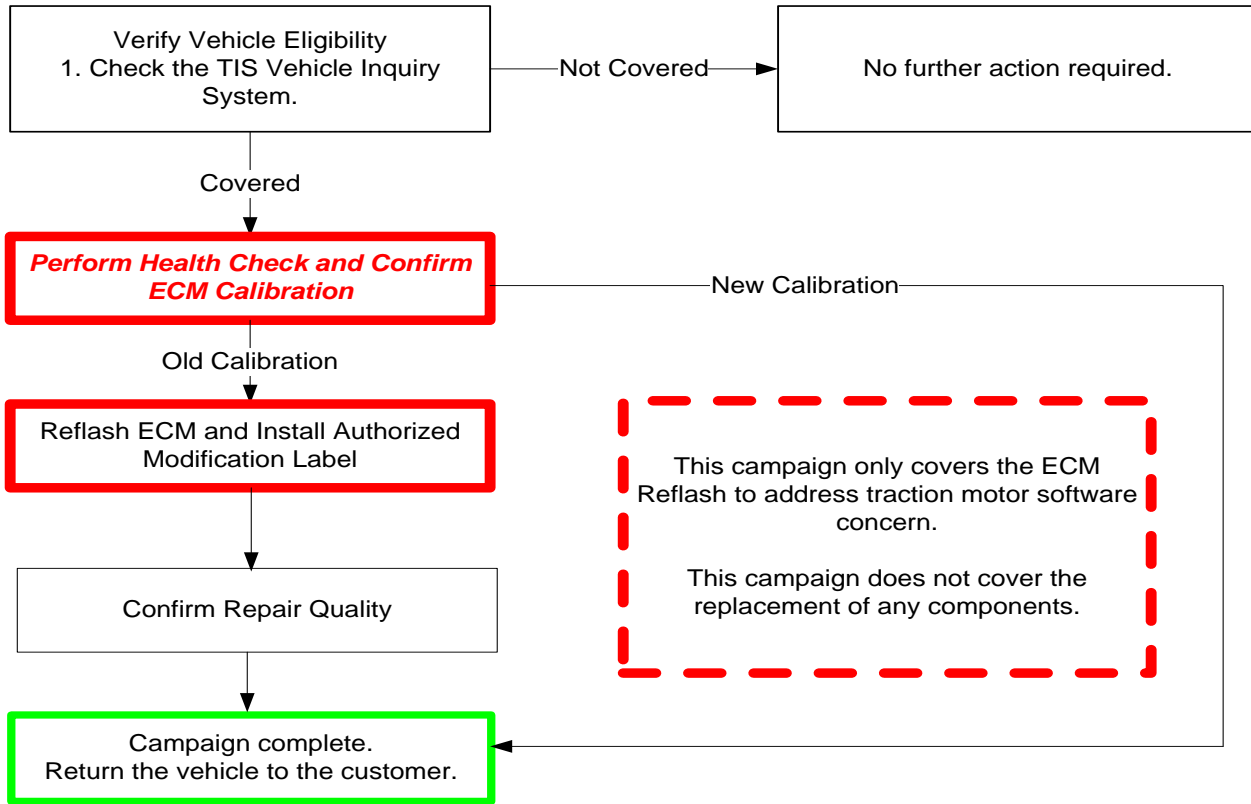
The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this repair are required to successfully complete the most current version of the E-Learning course “Safety Recall and Service Campaign Essentials”. To ensure that all vehicles have the repair performed correctly; technicians performing this repair are required to currently hold the following certification levels and attended the following instructor led class:

- Hybrid Expert Technician
- Master Technician
- Master Diagnostic Technician

- Rav4 EV New Model Technical Introduction (Course 012D- Instructor Led)

It is the dealership’s responsibility to select technicians with the above certification level or greater to perform this repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

I. OPERATION FLOW CHART



IDENTIFICATION OF AFFECTED VEHICLES

NOTE:

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or was completed by another dealer.

II. PREPARATION

1. PARTS

Part Number	Part Description	Quantity
00451-00001-LBL*	Authorized Modification Label	1

*Labels can be ordered in packs of 25 from the MDC through the Dealer Daily Website

2. TOOLS, SUPPLIES & EQUIPMENT

- Techstream 2.0 (Software 10.10.018 or Higher)
- EV HV Powertrain Diagnostic Cable Kit (P/N 82824-36150-01)
- GR8 Battery Diagnostic Station

III. BACKGROUND

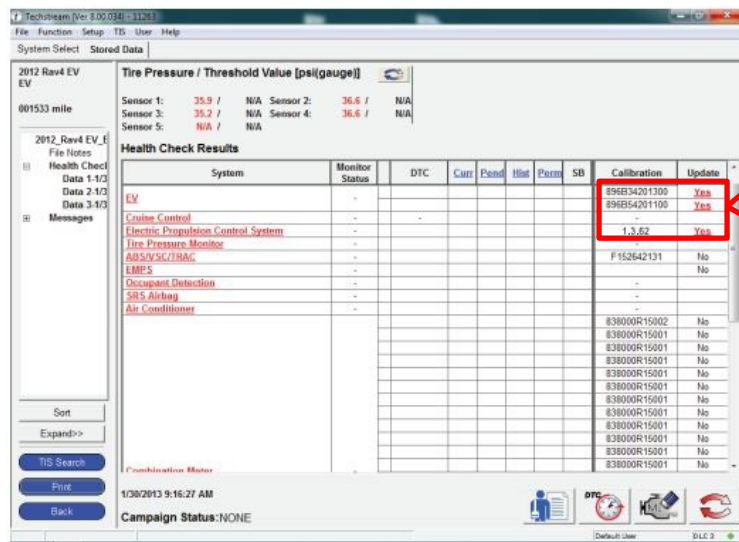
In the involved RAV4 EV's, components in the Electric Vehicle Traction Motor Assembly, which is part of the propulsion system, may cause the vehicle to shift to "neutral" due to a software issue. This condition will also trigger a "Check EV System" warning message on the instrument panel and turn on a malfunction indicator lamp. If the vehicle shifts to "neutral", this will result in a complete loss of drive power, which can increase the risk of a crash.

IV. CHECK POWER MANAGEMENT ECU CALIBRATION

1. CONFIRM ECU CALIBRATION ID

a) Perform a health check

b) Confirm the calibration ID in the ECM.



System	Cal ID	Update
EV	896B34201300	Yes**
	896B54201100	Yes**
Cruise Control*	-	-
Electronic Propulsion Control System	1.3.83	Yes

Step
1
2

* Cruise Control module is not a factor in this campaign.
 ** The EV Power Management ECU may have been reflashed prior to performing this campaign. If it has been updated the update box will display "No".

2. CONFIRM ELECTRONIC PROPULSION GATEWAY CALIBRATION.

a) Check Module Calibration ID

Module	Previous Calibration	New Calibration
Tesla Electronic Propulsion Gateway Control Module	1.3.83	1.3.101

b) If Module Calibration has been reflashed Campaign is Complete. If reflash has not been complete go to step V.



V. REFLASH TESLA ELECTRONIC PROPULSION GATEWAY CONTROL MODULE



- If the Techstream does not have sufficient battery power the reflash will fail.
- Confirm the DLC3 cable is in good condition before attempting reflash.



1. Follow Procedure Outlined in [RAV4 EV ECU Flash Reprogramming Procedure \(T-SB-0043-13\)](#)

NOTICE: The warning message below is referring to the High Voltage Traction Battery charger. The 12v GR8 must be connected during reflash.

English French Spanish

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RAV4 EV ECU Flash Reprogramming Procedure

Operation Procedure (Continued)

G. Click on the *Firmware Download* tab.

H. Click the Play button.

HINT
File will automatically download and be displayed on this screen. Please ensure PC is connected to dealership wireless network.

Figure 12.

Figure 13.

I. Verify the information displayed on the warning message before proceeding.

Firmware Download

Make sure the charger is NOT connected!
Please put vehicle in Ignition-On, **Ready-Off** state. From Off, press the Power button twice with your foot off the brake. The instrument cluster will be fully illuminated, but the Ready indicator **must be off**. When the vehicle is Ignition-On, click the OK button below.

OK



- A GR8 set to power supply mode **MUST** be used during reprogramming.
- ECU damage may occur if the correct battery charger setting is not used.



NOTE: The ECU software update will begin and take approximately 10 – 20 minutes to complete. Do NOT turn ignition OFF or disconnect the battery charger during this process.

2. Complete Reflash Procedure

- Once refalsh is complete Click OK.
- Disconnect the Tesla Powertrain Diagnostic Cable and close the program.
- Connect the Techstream DLC3 cable to the OBDII connector under the dash.
- Perform a Health Check to confirm the firmware was installed correctly and to check for DTCs.
- Clear All DTC's.
- Cycle the Power button to the Ignition on not ready state 5 times within 30 seconds.
- Test drive vehicle.

3. Attach the authorized vehicle modification label

- Fill out the label.
- Affix the label to the under-side of the hood.



1	Replacement Power Management Control ECU Part Number
2	New Calibration ID of Power Management Control ECU
3	Dealer Code
4	Date Completed
5	Safety Recall Designation: F0I

NOTE : Wait 60 – 90 seconds for ink to set before handling.

◀ VERIFY REPAIR QUALITY ▶

- Confirm the ECU Calibration has been updated successfully
- Confirm *that an* Authorized Modification Label has been installed
- If you have any questions regarding this Safety Recall, please contact your regional representative

VI. APPENDIX

1. CAMPAIGN DESIGNATION DECODER

