

TECHNICAL INSTRUCTIONS

SPECIAL SERVICE CAMPAIGN 22TC04

SOFTWARE UPDATE FOR EV CONTROL COMPUTER

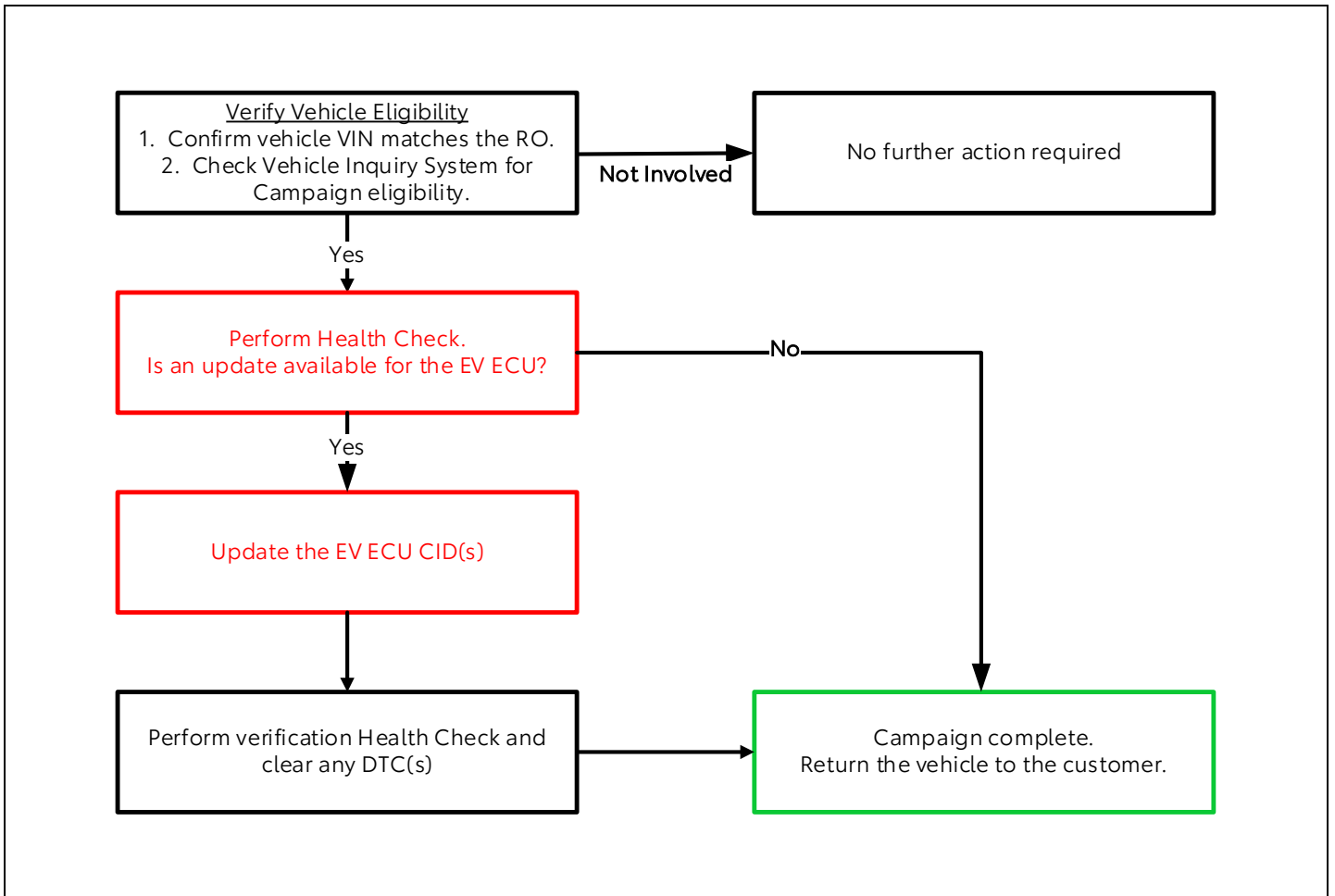
CERTAIN 2021 MODEL YEAR MIRAI VEHICLES

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 recall repair are required to currently have completed all of the following courses:

- T623 - Toyota Electrical Circuit Diagnosis

It is the dealership's responsibility to select technicians with the above certification level or greater to perform this recall 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.

1. OPERATION FLOW CHART



2. IDENTIFICATION OF AFFECTED VEHICLES

- A. Check the TIS Vehicle Inquiry System to confirm that each VIN is eligible for this Special Service Campaign, and that it has not already been completed prior to dealer shipment or by another dealer.

Note: TMNA warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were completed by another dealer.

3. PREPARATION

A. 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

B. TOOLS, SUPPLIES & EQUIPMENT

- Standard Hand Tools
- Techstream ADVi / Techstream 2.0 / Techstream Lite
- DCA-8000P Battery Diagnostic Tool
- T-SB-0107-20 – (NOTE- TSB Does not Contain Mirai)

4. BACKGROUND

Due to improper programming in the EV Control Computer, under certain conditions, the vehicle may not start. A warning message will be displayed in the instrument panel display.

5. PRECAUTIONS

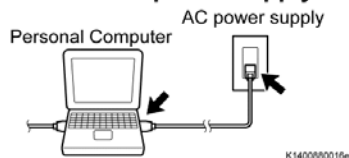


CRITICAL INFORMATION - READ THOROUGHLY



An ECU could be damaged if an error occurs in the communication while reprogramming the ECU. Confirm all work is performed as described in these instructions.

Be sure to connect the personal computer to an external AC power supply.



A. STABILIZE THE POWER TO THE PERSONAL COMPUTER

- i. Be sure to connect the personal computer to an external AC power supply.

NOTE:

The ECU could be damaged if the battery voltage of the personal computer drops while reprogramming.

Turn off the screen saver and power saving mode.



- ii. Turn off the screen saver and power saving mode of the personal computer so that the power to the hard disk is kept supplied.

NOTE:

If the screen saver or power saving mode launches while reprogramming, the communication may be disconnected, resulting in the damage of the ECU.

DO NOT block the ventilation opening.



- iii. **DO NOT** block the ventilation opening for the cooling fan of the personal computer.

NOTE:

If the ventilation opening for the cooling fan is blocked with a sheet cover or the like, the personal computer may be heated excessively, causing the operation of the personal computer to stop.

Due to the stop of the operation, the communication for reprogramming signals could be stopped, resulting in the damage of the ECU.

6. CALIBRATION ID VERIFICATION



A. CHECK FOR DTC'S

- i. Using a Techstream, perform a Health Check to check for any Diagnostic Trouble Codes.

NOTE:

This Campaign covers only the software update to the EV control ECU, as detailed in these instructions. It does not cover the diagnosis or replacement of any other systems on the vehicle.

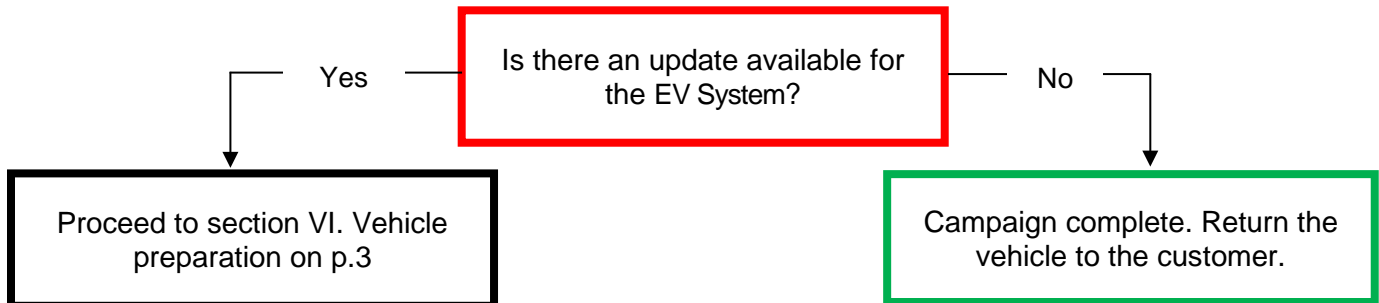
B. CHECK CURRENT CALIBRATION

- i. Locate the Update column for the EV in the Stored Data tab for this vehicle.
- ii. Determine the status of an available update; indicated by a YES or NO.

- To update Health Check, click the Refresh button on the bottom of the Health Check screen.

System	DTC Related Information					RoB	Calibration	Update
	DTC	Curr Conf	Pend	Hist	Test Failed			
EV						●	899836216100 899856202000	Yes Yes
EV Battery						●	899846203000	No
FCDC						●	899846203000 8998F6201000	No No
Lane Control						●	8998F6202000	No
						●	-	No
						●	8646F6201300	...

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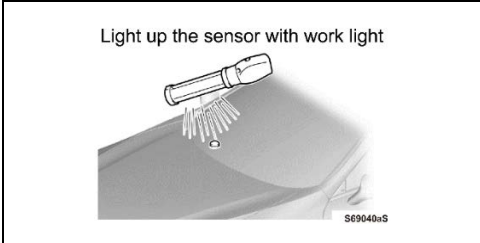
◀ CRITICAL MESSAGE ▶

It is critical that [T-SB-0107-20](#) in addition to the Technical Instructions for this SSC are followed. This TSB outlines all steps necessary to prevent reprogramming failure. Toyota will not provide reimbursement coverage for reprogramming failures if this TSB is not followed. If you have a reprogramming failure that requires EV control ECU replacement and the Technical Instructions and TSB were followed correctly, please create a case with the Technical Assistance Hotline documenting all information related to the failure. If sufficient reporting is received related to re-flash failure, there will be consideration for reimbursement.

7. VEHICLE PREPERATION

A. VEHICLE PREPERATION

- i. Confirm the following conditions:
 - Vehicle in the IG position (engine off).
 - Open the driver's door window.
 - Transaxle in P range.
 - Parking brake engaged.
 - Turn off all electrical accessories (i.e. air conditioning system, audio system, etc.).
 - Headlight switch in the DRL OFF position.(w/ DRL OFF position)
 - Windshield wiper switch in the OFF position.



- ii. When the vehicle has no "off position" in the light control switch:
Turn the IG ON.
 - Set the light control switch to the AUTO position and make sure that the exterior lights are turned on.
 - Light up the automatic light control sensor with work light to keep the exterior lights turned off.

B. CONNECT THE 12V BATTERY TO A POWER SUPPLY

- i. Connect the DCA-8000 or other type of a power supply (not a battery charger) to the 12V battery.
- ii. Tap the Reflash icon from the Main Menu screen of the DCA-8000.



A power supply *MUST* be used during reprogramming. ECU damage will occur if the battery voltage is not properly maintained during this re-flash procedure.

NOTE: A power supply must be connected directly to the 12V battery terminals and NOT the remote jump posts under the hood (if equipped).

C. VERIFY TECHSTREAM SETUP

- i. Verify that the Techstream meets the following conditions:
 - The latest version of software is loaded.
 - The Techstream battery is fully charged. If not, connect the Techstream to a 120V source.
 - The DLCIII cable is in good condition.



The Techstream's battery voltage must also be maintained during the re-flash procedure. If necessary, plug the Techstream into a 120v outlet during this procedure.

8. UPDATE CALIBRATION

A. CONFIRM THE CALIBRATION ID

- i. Confirm the current calibration ID in the EV.

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The calibration IDs to re-flash in this campaign are as shown in the table below.

System		Calibration ID	
		Current Calibration ID	New Calibration ID
EV	Main	899836216100 899836216200 899836216300 899836216400	899836216500
	Sub	899856202000 899856202100	899856202200

B. REFLASH THE EV CONTROL ECU

- i. Click yes on the health check results screen, or follow the links on the table above to begin the reflash process.

NOTE:

Reflash failure should be extremely rare and can be avoided by following all instructions and reprogramming best practices.

9. COMPLETE REPAIR

A. DISCONNECT THE DCA-8000



B. PERFORM VERIFICATION HEALTH CHECK

- i. Using a Techstream, perform a Health Check.
- ii. Clear DTC's that may have set during the re-flash procedure.
- iii. Re-run the Health Check to confirm that no DTC's reappear.



THIS VERIFICATION HEALTH CHECK IS NECESSARY to update the results and CID's to the National database.

C. CONFIRM CID UPDATE

- i. On the Stored Data tab, confirm the following for the EV:

The Update column lists "No"

- To update Health Check, click the Refresh button on the bottom of the Health Check screen.

System	DTC Related Information						RoB	Calibration	Update
	DTC	Curr Fail	Pend	Hist	Test Failed				
EV								899836216500 No	
								899856202200 No	
								899846203000 No	
								898846203000 No	
EV Battery								8989F6201000 No	
FCDC								8989G1101100 No	
Lane Control								898BF6202000 No	
								- No	
								8648F6201300 No	


MUST say "NO"

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Confirm the CID(s) have been updated successfully to the NEW CID's by someone other than the individual who performed the repair. Refer to p.4.

vi. Confirm Customer Health Check Report information is correct.



Diagnostic Report

Vehicle Information

Vehicle: xxxxxxxxxxxxVIN: xxxxxxxxxxxxxxxxxxxxMileage: 13672

Repair Order: 12345

Health Check Summary

Checkpoints	Status	Comments
Powertrain	All systems OK	
Chassis	All systems OK	
Electrical	All systems OK	
Network Systems	All systems OK	
Service Campaigns	No Action Required	XXX Performed

Performed: XX/XX/XX, X:XX XX (PST)

Technician Signature

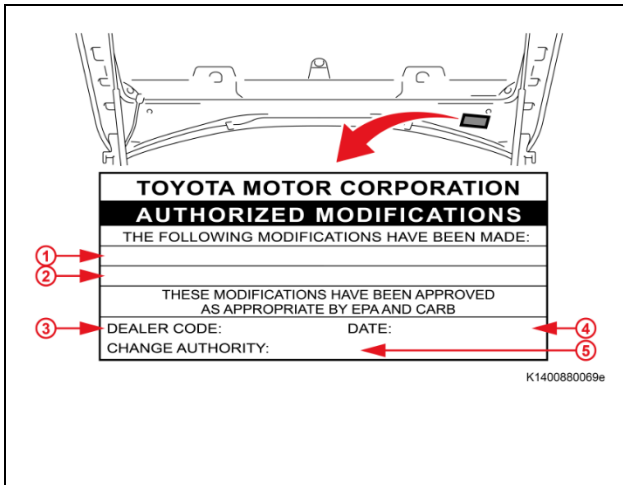
Quality Inspector Signature

vii. Print Customer Health Check Report from TIS.

viii. Sign and provide to the customer.

10. ATTACH THE AUTHORIZED VEHICLE MODIFICATION LABEL

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



The authorized modification label only needs to have the EV Control ECU Information.

1	Repair ECU P/N*
	#####-#####
	#####-#####
	#####-#####
Part # varies by/depends on the vehicle model and specifications.	
2	New EV Control ECU Calibration ID
3	Dealer Code
4	Date Completed
5	Campaign Code (xxx)

◀ VERIFY REPAIR QUALITY ▶

- Confirm the system Calibration has been updated successfully.
- Confirm there are no DTC's after the Calibration update.

11. APPENDIX

A. CAMPAIGN DESIGNATION DECODER

