

Hybrid System Overheating Message and/or RoB DTC X0528

Service

Category Engine/Hybrid System
 Hybrid/Battery Control

Section System

Market USA and Mexico

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2023	Camry HV	

REVISION NOTICE

December 19, 2022 Rev1:

- The Production Change Information and Calibration Information sections have been updated. Any previous printed versions of this bulletin should be discarded.

Introduction

Some 2023 model year Camry Hybrid vehicles may display a Multi-information Display (MID) warning message “Hybrid System Overheated Reduced Output Power” and/or a RoB Diagnostic Trouble Code (DTC) X0528 (Generator Inverter Temperature High) present in the vehicle control history. Follow the Repair Procedure in this bulletin to address these conditions.

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Production Change Information

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

MODEL	HV BATTERY TYPE	PRODUCTION CHANGE EFFECTIVE VINS
Camry HV	Li-ion	4T1F31AK#PU047495
		4T1R31AK#PU047495
		4T1H31AK#PU047495
		4T1C31AK#PU047495
		4T1K31AK#PU047495
		4T1T31AK#PU047495
		4T1G31AK#PU047495
		4T1S31AK#PU047495
		4T1F31AK#PU603028
		4T1C31AK#PU603028
		4T1R31AK#PU603028
		4T1H31AK#PU603028
		4T1K31AK#PU603028
		4T1G31AK#PU603028
	4T1S31AK#PU603028	
	4T1T31AK#PU603028	
	Ni-MH	4T1B21HK#PU018735

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Warranty Information

For USA Market

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EL9076	Reprogram the Inverter Assembly With Converter ECU	0.5	G92A0-33033	8A	74

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.

For Mexico Market

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EL9076	Reprogram the Inverter Assembly With Converter ECU	0.5	G92A0-33033	8A	74

APPLICABLE WARRANTY

- This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 60,000 kilometers, 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

For USA Market

PART NUMBER	PART NAME	QTY
G92A0-33033	Inverter Assy, W/Converter	–
00451-00001-LBL	Authorized Modifications Labels	1

NOTE

- The ECM (PCM) should NOT be replaced as part of the Repair Procedure.
- Authorized Modifications Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) (portal.toyotamdc.com) under item No. 00451-00001-LBL.

For Mexico Market

PART NUMBER	PART NAME	QTY
G92A0-33033	Inverter Assy, W/Converter	–
00451-00002-MEX	Authorized Modifications Labels	1

NOTE

- The ECM (PCM) should NOT be replaced as part of the Repair Procedure.
- Authorized Modifications Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) (portal.toyotamdc.com) under item No. 00451-00002-MEX.

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Required Tools & Equipment

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 17.20.013 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787 (USA) or 01-55-50103041 (Mexico).
- Use Techstream or an approved J2534 interface to perform flash reprogramming updates. Visit techinfo.toyota.com for more information regarding J2534 reprogramming.

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 (USA) or 01-800-504-5330 (Mexico).

Calibration Information

HV BATTERY TYPE	TARGET ECU	CPU	CALIBRATION ID	
			PREVIOUS	NEW
Li-ion	MG ECU	1MG	898844201401	898844201501 / 898844202511
		2MG	898844202411	
Ni-MH		1MG	898844201400	898844201500 / 898844202510
		2MG	898844202410	

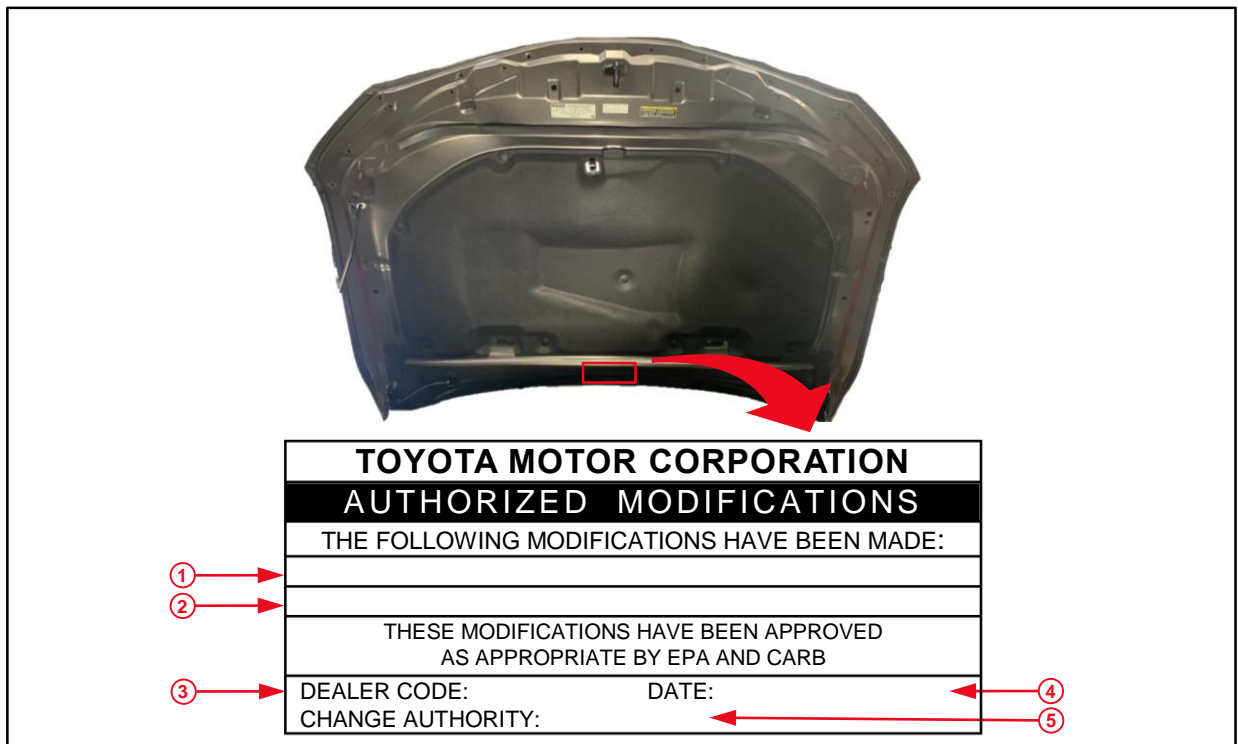
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Repair Procedure

1. Confirm the condition exists.
 Does the vehicle display a MID warning message “Hybrid System Overheated Reduced Output Power” and/or a RoB DTC X0528 (Generator Inverter Temperature High) present in the vehicle control history?
 - **YES** — Continue to step 2.
 - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

2. Use Techstream to confirm if the inverter assembly with converter has been updated and check for the Authorized Modifications Label affixed to the vehicle in the location shown below. Confirm if the inverter assembly with converter calibration has been updated. Is the calibration ID listed in Techstream and on the label the latest inverter assembly with converter 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 2023 model year Camry Hybrid vehicles



1	Replacement inverter assembly with converter (e.g., G92A0-33033)
2	New Calibration ID (e.g., Main – 898844201501)
3	Dealer Code

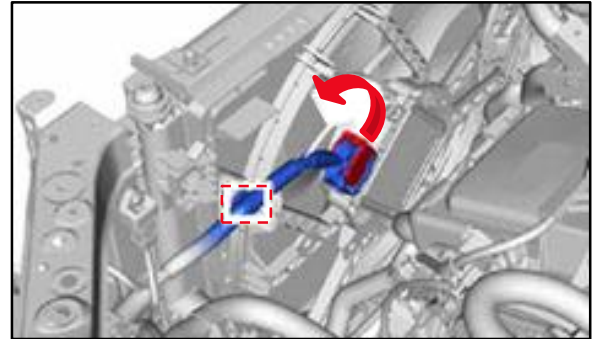
4	Date Completed
5	This SB Number

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Repair Procedure (continued)

3. Disconnect the cooling fans.
 - A. Disconnect the wire harness connector from the cooling fan wire.
 - B. Lift the lever to disengage the lock and disconnect the wire harness from the cooling fan motor.

Figure 2.



4. Flash reprogram the inverter assembly with converter.

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 tool, refer to the [DCA-8000 Instruction Manual](#) located at *TIS – Diagnostics – Tools & Equipment – Battery Diagnostics*.

Follow the procedures outlined in [T-SB-0134-16](#) (USA) or [T-SB-0165-19](#) (Mexico) *Techstream ECU Flash Reprogramming Procedure* and flash the inverter assembly with converter with the NEW calibration file update.

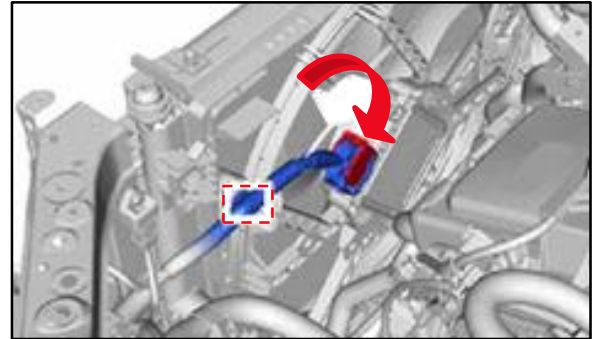
5. Prepare and install the Authorized Modifications Label.
 - A. Using a permanent marker, enter the following information on the label:
 - Inverter assembly with converter part number [*Refer to the **Parts Information** section for the **NEW PART NUMBER***]
 - Calibration ID(s) [*Refer to the **Calibration Information** section for the **NEW CALIBRATION ID***]
 - Dealer Code
 - Repair Date
 - Change Authority [***This bulletin number***]
 - B. 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 (USA) or 00451-00002-MEX (Mexico).

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Repair Procedure (continued)

6. Connect the cooling fans.
 - A. Connect the wire harness connector to the cooling fan motor and lock it with the lever.
 - B. Connect the wire harness connector to the cooling fan wire.

Figure 3.



7. Test-drive the vehicle to confirm normal vehicle operation and there are no DTCs present.