

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

Service Category Engine/Hybrid System

Section Hybrid/Battery Control System

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2013 - 2020	Avalon HV	
2007 - 2020	Camry HV	
2020	Corolla HV	
2006 - 2019	Highlander HV	
2016 - 2020	Mirai, RAV4 HV	
2003 - 2020	Prius, Prius C, Prius V	

Introduction

Some 2003 – 2020 model year Prius, Prius C, Prius V; 2006 – 2019 model year Highlander Hybrid Vehicle; 2007 – 2020 Camry Hybrid Vehicle; 2013 – 2020 model year Avalon Hybrid Vehicle; 2016 – 2020 model year Mirai and RAV4 Hybrid Vehicle; and 2020 model year Corolla Hybrid Vehicles may exhibit a MIL ON condition with Diagnostic Trouble Codes (DTCs) P0A80/P1AC000 and/or P0A7F/P1A8000 stored due to dust or debris buildup in the HV battery cooling fan and/or HV cooling filter. Follow the procedure in this bulletin to address this condition.

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

Warranty Information

OP CODE	PROCEDURE	DESCRIPTION	TIME	OFP	T1	T2
EL2028	A	Clean HV Battery Cooling Fan, Clean or Replace or Install a New HV Battery Cooling Fan Intake Filter	0.5	G9510 - #####	8A	99
EL2029	B*	Clean HV Battery Cooling Fan, Clean or Replace or Install a New HV Battery Cooling Fan Intake Filter and Reprogram Power Management ECU	0.7			

*Procedure B is ONLY for applicable model years. Please see the Calibration Information section; then follow the Repair Procedure in this bulletin.

APPLICABLE WARRANTY

- For 2020 model year Toyota vehicles, this repair is covered under the Toyota Hybrid system Warranty. This warranty is in effect for 120 months or 150,000 miles, whichever occurs first, from the vehicle's in-service date.
- For 2004 – 2017 model year Prius and 2007 – 2017 model year Camry HV vehicles, California specification vehicles sold, registered, and operated in California, Arizona (2012 model year ONLY), Connecticut (starting with 2005 model year), Maine, Maryland (starting with 2011 model year), Massachusetts, New Jersey (starting with 2005 model year), New Mexico (2010 model year and 2011 model year ONLY), New York, Oregon (starting with 2008 model year), Rhode Island (starting with 2005 model year), and Vermont, warranty is in effect for 120 months or 150,000 miles, whichever occurs first, from the vehicle's in-service date.
- Other than the 2020 model year Toyota vehicles and as above models, this repair is covered under the Toyota Hybrid system 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.

NOTE

Choose the correct OFP for the vehicle being repaired by searching the parts in EPC using the EPC VIN filter. Warranty claims MUST be submitted with the correct OFP with 10 digits.

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

HV Battery Intake Filter Applicability

When DTC P0A80/P1AC000 and/or P0A7F/P1A8000 are input, replace the HV battery and continue following the procedure. The following table is a general guideline for HV battery cooling fan intake filter applicability. Some model and model year vehicles may NOT follow this table. ALWAYS check the vehicle and refer to the appropriate Repair Manual BEFORE beginning service.

Table 1. HV Battery Cooling Fan Intake Filter Applicability

MODEL	MODEL YEAR	INTERNAL FILTER	EXTERNAL FILTER
Avalon HV	2013 – 2014	N	N*
	2015 – 2018	Y	
	2019 – 2020	Y	
Camry HV	2007 – 2013	N	
	2014 – 2017	Y	
	2018 – 2020	Y	
Corolla HV	2020	Y	
Highlander HV	2006 – 2013	N	
	2014 – 2019	Y	
Mirai	2016 – 2020	Y	
Prius	2004 – 2011	N	
	2012 – 2013	N	
	2014 – 2015	Y	
	2016 – 2020	Y	
Prius C	2012 – 2013	N	
	2014 – 2019	Y	
Prius V	2012 – 2013	N	
	2014 – 2017	Y	
RAV4 HV	2016 – 2018	Y	
	2019 – 2020	Y	

*External filters are NOT factory installed; some external filters will NOT be shown in the Repair Manuals.

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

Parts Information

PART NUMBER	PART NAME	QTY
00451-00001-LBL	Authorized Modifications Labels	1

If the HV battery intake filter is damaged or in need of replacement, use the table below as a general guideline.

Table 2. HV Battery Intake Filter Replacement Part Numbers

MODEL	MODEL YEAR	PART NUMBER	QTY
Avalon HV	2015 – 2018	G92DH-33040	1
	2019 – 2020	G92DH-33050	1
Camry HV	2014 – 2017	G92DH-33040	1
	2018 – 2020	G92DH-33050	1
Corolla HV	2020	G92DH-12050	1
Highlander HV	2014 – 2019	63655-0E010	2
		63655-0E010	1
Mirai	2016 – 2020	G92DH-62020	1
Prius	2014 – 2015	G92DH-47060	1
	2016 – 2020	G92DH-47070	1
Prius C	2014 – 2019	G923G-52020	1
Prius V	2014 – 2017	G92DH-47090	1
RAV4 HV	2019 – 2020	G92DH-42010	1

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 15.00.028 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.

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

Calibration Information

MODEL	MODEL YEAR	ECM (CPU)	CALIBRATION ID		VDS
			PREVIOUS	NEW	
Camry HV LE	2012	Power Management ECU	896B30601000	896B30601200/ 896B53301100	BD1FK
Camry HV XLE			896B30601100		
			896B53301000		
Prius	2010		896B30603000	896B30603100	BD1FK
			896B34701000	896B34701600*	ALL
			896B34701100		
	896B34701200				
	896B34701300				
896B34701400					
		896B34701500			
		896B54701000	896B54701100*		
	2011	896B34714000	896B34714300*		
		896B34714100			
		896B34714200			
	2012	896B34720000	896B34720100*		

*Prius calibration files MUST be selected from Safety Recall J0V.

HV Battery Intake Filter Maintenance and Cleaning

- Determine if the vehicle has an HV battery intake filter by using Tables 1 and 2.
Does the vehicle have an HV battery intake filter?

Figure 1. Example of a Camry Battery Intake Filter



Figure 2. Example of a Prius Battery Intake Filter



- YES** — Continue to step 2.
- NO** — Go to the HV Battery Cooling Fan Assembly Maintenance and Cleaning subsection.

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

HV Battery Intake Filter Maintenance and Cleaning (continued)

2. Is the HV battery cooling intake filter clogged with dust or debris buildup?

Figure 3. Example of a Dirty Prius C HV Battery Cooling Intake Filter



Figure 4. Example of a Clean Prius C HV Battery Cooling Filter



Figure 5. Example of a Dirty RAV4 HV Battery Cooling Intake Filter



Figure 6. Example of a Clean RAV4 HV Battery Cooling Intake Filter



- **YES** — Go to step 3.
 - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.
3. Inspect, clean, and determine if the HV battery intake filter requires replacement. Refer to TIS, applicable model and model year Repair Manual:
 - [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/ Filter): Inspection”
 - [2018](#) / [2019](#) / [2020](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

HV Battery Intake Filter Maintenance and Cleaning (continued)

- [2020](#) Corolla HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Inspection”
- [2014](#) / [2015](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/Filter): Inspection”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius C:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Inspection”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Prius V:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2016](#) / [2017](#) / [2018](#) Avalon HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2019](#) / [2020](#) Avalon HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Inspection”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) RAV4 HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Mirai:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct: Inspection”

4. Does the HV battery intake filter require replacement?

NOTE

If the HV battery intake filter is damaged, it **MUST** be replaced.

- **YES** — Continue to step 5.
- **NO** — Go to step 6.

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HV Battery Intake Filter Maintenance and Cleaning (continued)

5. Replace the HV battery intake filter.

A. Remove the HV battery intake filter.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/Filter): Removal”
- [2018](#) / [2019](#) / [2020](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2020](#) Corolla HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Removal”
- [2014](#) / [2015](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/Filter): Removal”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius C:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Prius V:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2016](#) / [2017](#) / [2018](#) Avalon HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2019](#) / [2020](#) Avalon HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Removal”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Mirai:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct: Removal”

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

HV Battery Intake Filter Maintenance and Cleaning (continued)

B. Install the NEW HV battery intake filter.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/Filter): Installation”
- [2018](#) / [2019](#) / [2020](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2020](#) Corolla HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Installation”
- [2014](#) / [2015](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/Filter): Installation”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius C:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Prius V:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2016](#) / [2017](#) / [2018](#) Avalon HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2019](#) / [2020](#) Avalon HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Installation”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) RAV4 HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) Mirai:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct: Installation”

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

HV Battery Intake Filter Maintenance and Cleaning (continued)

6. Refer to the Calibration Information section to determine if the vehicle is applicable for a power management ECU update.

Is the vehicle applicable for power management ECU update?

- **YES** — Go to the Power Management ECU Calibration Update subsection.
- **NO** — Continue to step 7.

7. Continue with the Repair Procedure for DTC P0A80/P1AC000 and/or P0A7F/P1A8000.

HV Battery Cooling Fan Assembly Maintenance and Cleaning

NOTICE

- Do NOT attempt to clean the HV battery cooling fan while it is installed, doing so may cause dust and debris to enter the battery case.
- Failure to secure the fan blades while cleaning the HV battery cooling fan assembly may result in electronic circuit failure due to overturning.

1. Remove the HV battery cooling fan assembly.
Refer to TIS, applicable model and model year Repair Manual:
 - [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Avalon HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) / [2012](#) / [2013](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2006](#) / [2007](#) / [2008](#) / [2009](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “P112 Hybrid Battery Control: Battery Blower: Removal”
 - [2010](#) / [2011](#) / [2012](#) / [2013](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2012](#) / [2013](#) Prius C:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “P310 Hybrid Battery Control: Battery Blower: Removal”
 - [2011](#) / [2012](#) / [2013](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “P313 Hybrid Battery Control: Battery Blower: Removal”

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

HV Battery Cooling Fan Assembly Maintenance and Cleaning (continued)

2. Using compressed air and/or a vacuum, remove ANY dust, lint, or debris buildup from the HV battery cooling fan blades and air duct.

NOTICE

Failure to secure the fan blades while cleaning the HV battery cooling fan assembly may result in electronic circuit failure due to overturning.

3. Reinstall the HV battery cooling fan AFTER cleaning it.
Refer to TIS, applicable model and model year Repair Manual:
 - [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Avalon HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) / [2012](#) / [2013](#) Camry HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2006](#) / [2007](#) / [2008](#) / [2009](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “P112 Hybrid Battery Control: Battery Blower: Installation”
 - [2010](#) / [2011](#) / [2012](#) / [2013](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2012](#) / [2013](#) Prius C:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “P310 Hybrid Battery Control: Battery Blower: Installation”
 - [2011](#) / [2012](#) / [2013](#) Highlander HV:
Engine/Hybrid System – Hybrid/Battery Control System – “P313 Hybrid Battery Control: Battery Blower: Installation”
4. Refer to the Calibration Information section to determine if the vehicle is applicable for a power management ECU update.
Is the vehicle applicable for power management ECU update?
 - **YES** — Continue to the Power Management ECU Calibration Update subsection.
 - **NO** — Continue to step 5.
5. Continue with the Repair Procedure for DTC P0A80/P1AC000 and/or P0A7F/P1A8000.

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

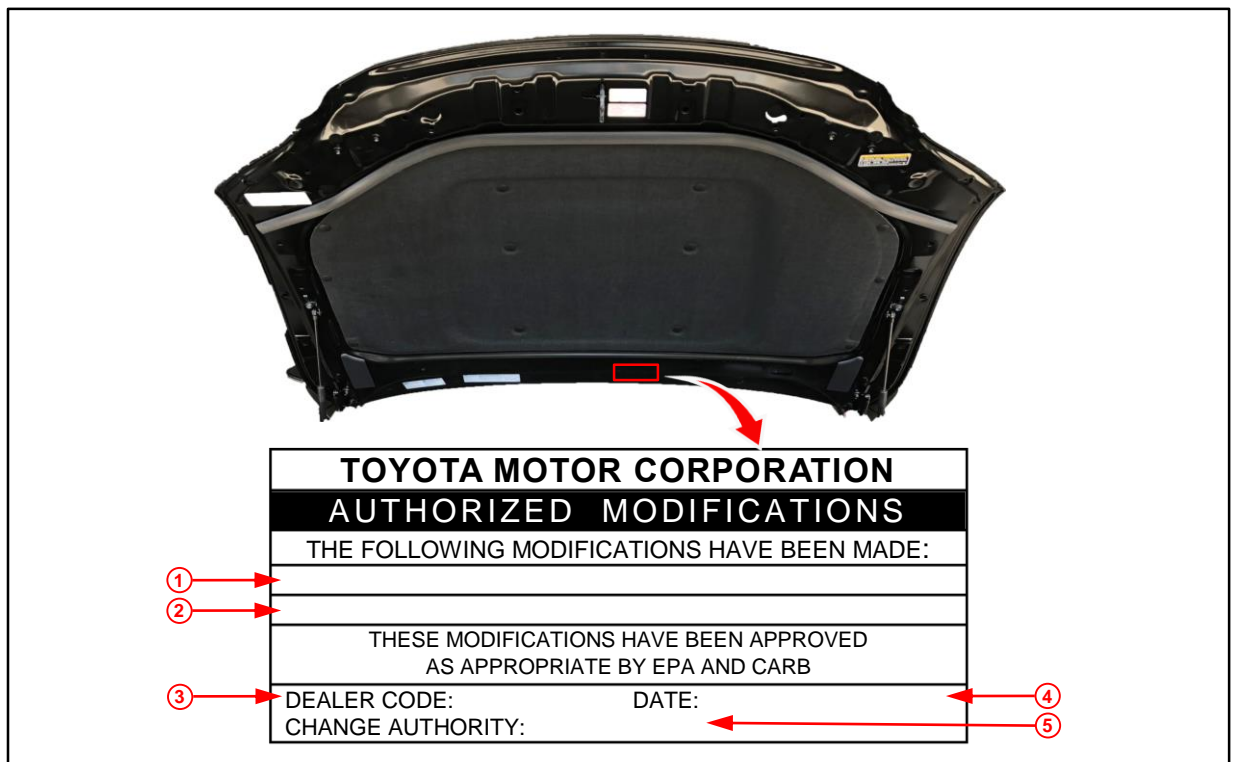
Power Management ECU Calibration Update

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown below. Confirm if the Power Management ECU calibration has been updated.

Is the calibration ID listed the latest Power Management ECU calibration?

- **YES** — Do not continue with this bulletin.
- **NO** — Continue to step 2.

Figure 7. Location of Authorized Modifications Label on 2012 Camry HV LE and Camry HV XLE and 2010 – 2012 Prius



1	Replacement ECM (PCM) Part Number (e.g., G92DH-33040)
2	New Calibration ID (e.g., 896B30601200)
3	Dealer Code

4	Date Completed
5	This SB Number

MIL ON With DTC P0A80/P1AC000 and/or P0A7F/P1A8000 Due to Dust or Debris in the HV Battery Cooling Fan/Filter

Power Management ECU Calibration Update (continued)

3. Flash reprogram the Power Management ECU.

NOTE

- The battery diagnostic tool **MUST** be used in Power Supply Mode to maintain battery voltage at 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 Service Bulletin [T-SB-0134-16](#) *Techstream ECU Flash Reprogramming Procedure*, and flash the Power Management ECU with the NEW calibration file update.

4. Prepare and install the Authorized Modifications Label.

A. Using a permanent marker, enter the following information on the label:

- Power Management 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]

B. Affix the Authorized Modifications Label to the vehicle at the location shown in Figure 7. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.

5. Clear ANY DTCs that have set during the repair procedure and test-drive the vehicle to confirm proper operation.

6. Continue with the Repair Procedure for DTC P0A80/P1AC000 and/or P0A7F/P1A8000.