

HV Battery Cooling System Maintenance

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	
2004 - 2020	Prius, Prius C, Prius PHV, Prius Prime, Prius V	

Introduction

Some 2004 – 2020 model year Hybrid vehicles may exhibit an excessive buildup of dust, lint, or debris in the HV battery intake filter or cooling fan. The condition could reduce the efficiency of the HV battery cooling system. Perform the procedures outlined in this bulletin to address this condition.

NOTE

It is recommended the battery Intake filter is inspected for debris, lint, dust, etc. every 5,000 miles. The procedures in this bulletin should be completed every 20,000 miles OR any time the battery assembly is replaced.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

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HV Battery Intake Filter Applicability

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	
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 PHV	2010 – 2015	N	
Prius Prime	2017 – 2020	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.

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Parts Information

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-33020	1
Camry HV	2014 – 2017	G92DH-33040	1
	2018 – 2020	G92DH-33050	1
Corolla HV	2020	G92DH-12050	1
Highlander HV	2014 – 2019	74412-48030	2
		74412-48040	1
Mirai	2016 – 2020	G92D1-62010	1
Prius	2014 – 2015	G92DH-47060	1
	2016 – 2020	G92DH-47070	1
Prius C	2014 – 2019	G923G-52020	1
Prius Prime	2017 – 2020	G92DH-47080	1
		G92DJ-47010	1
Prius V	2014 – 2017	G92DH-47090	1
RAV4 HV	2019 – 2020	G92DH-42010	1

HV Battery Cooling System Maintenance

HV Battery Intake Filter Maintenance and Cleaning

1. Determine if the vehicle has an HV battery intake filter by using Tables 1 and 2 above. 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 section.
2. The HV battery intake filter may have accumulated dust, lint, and/or debris. Inspect, clean, and determine whether the HV battery intake filter requires replacement. Refer to TIS, applicable model and model year Repair Manual:
 - [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](#) 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”
 - [2020](#) Corolla HV:
General – Maintenance – “Maintenance: Battery Cooling Filter: Inspection”

HV Battery Cooling System Maintenance

HV Battery Intake Filter Maintenance and Cleaning (continued)

- [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](#) Mirai:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct: 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”
- [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius Prime:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: 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](#) / [2019](#) / [2020](#) RAV4 HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”

3. 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 4.
- **NO** — Go to step 5.

HV Battery Cooling System Maintenance

HV Battery Intake Filter Maintenance and Cleaning (continued)

4. Replace the HV battery intake filter.
 - A. Remove the HV battery intake filter.
Refer to TIS, applicable model and model year Repair Manual:
 - [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](#) 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](#) / [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”
 - [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”
 - [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius Prime:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”

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HV Battery Intake Filter Maintenance and Cleaning (continued)

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Prius V:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
 - [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) RAV4 HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- B. Install the NEW HV battery intake filter.
Refer to TIS, applicable model and model year Repair Manual:
- [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](#) 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](#) / [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](#) Mirai:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct: Installation”
 - [2014](#) / [2015](#) Prius:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/Filter): Installation”

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HV Battery Intake Filter Maintenance and Cleaning (continued)

- [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”
 - [2017](#) / [2018](#) / [2019](#) / [2020](#) Prius Prime:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: 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](#) / [2019](#) / [2020](#) RAV4 HV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
5. Verify normal vehicle operation.
Has the HV battery cooling system efficiency improved?
- **YES** — The procedure is complete. Repeat this cleaning procedure as regular maintenance every 20,000 miles. If applicable, perform a filter inspection every 5,000 miles.
 - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

HV Battery Cooling System Maintenance

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:
 - [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](#) / [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”
 - [2004](#) / [2005](#) / [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”
 - [2010](#) / [2012](#) / [2013](#) / [2014](#) / [2015](#) Prius PHV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”

HV Battery Cooling System Maintenance

HV Battery Cooling Fan Assembly Maintenance and Cleaning (continued)

- 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.

- 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](#) / [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”
 - [2004](#) / [2005](#) / [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”

HV Battery Cooling System Maintenance

HV Battery Cooling Fan Assembly Maintenance and Cleaning (continued)

- [2012](#) / [2013](#) Prius C:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2010](#) / [2012](#) / [2013](#) / [2014](#) / [2015](#) Prius PHV:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
4. Has the HV battery cooling system efficiency improved?
- **YES** — The procedure is complete. Repeat this cleaning procedure as regular maintenance every 20,000 miles. If applicable, perform a filter inspection every 5,000 miles.
 - **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.