

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
2011 - 2017	CT200H	
2013 - 2020	ES300H	
2007 - 2011, 2013 - 2018	GS450H	
2010 - 2012	HS250H	
2018 - 2020	LC500H	
2008 - 2016, 2018 - 2020	LS500H, LS600H	
2015 - 2020	NX300H	
2006 - 2008, 2010 - 2020	RX400H, RX450H	
2019 - 2020	UX250H	

Introduction

Some 2006 – 2020 model year Lexus hybrid vehicles may exhibit an excessive buildup of dust, lint, or debris in the HV battery cooling fan or intake filter. This condition could reduce the efficiency of the HV battery cooling system. Perform the procedures in this bulletin to address this condition.

NOTE

It is recommended the battery intake filter is inspected for dust, lint, debris, etc., every 5,000 miles. The procedures in this bulletin should be completed every 20,000 miles OR anytime 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
CT 200h	2011 – 2014	N	N*
	2015 – 2017	Y	
ES 300h	2013	N	
	2014 – 2018	Y	
	2019 – 2020	Y	
GS 450h	2007 – 2014	N	
	2015 – 2018	Y	
HS 250h	2010 – 2012	N**	
LS 500h, LS 600h	2008 – 2016	N	
	2018 – 2020	Y	
LC 500h	2018 – 2020	Y	
NX 300h	2015 – 2020	Y	
RX 400h, RX 450h	2006 – 2015	N	
	2016 – 2020	Y	
UX 250h	2019 – 2020	Y	

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

**If applicable, internal filter was added AFTER the last model year of HS was sold in the NA market.

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Parts Information

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

Table 2. HV Battery Intake Filter Replacement Part Numbers

MODEL	MODEL YEAR	PART NUMBER	QTY
CT 200h	2015 – 2017	G92DH-76020	1
ES 300h	2014 – 2018	G92DH-33040	1
	2019 – 2020	G92DH-33050	1
GS 450h	2015 – 2018	G92DH-30130	1
		G92DH-30140	1
LS 500h	2018 – 2020	G92DH-50010	1
		G92DJ-50010	1
LC 500h	2018 – 2020	G92DH-11010	1
		G92DJ-11010	1
NX 300h	2015 – 2020	58466-78040-C0	1
		58467-78040-C0	1
RX 450h	2016 – 2020	74412-48030	2
		74412-48040	1
UX 250h	2019 – 2020	G92DH-12050	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 CT 200h Battery Intake Filter



Figure 2. Example of a UX 250h 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 if the HV battery intake filter requires replacement. Refer to TIS, applicable model and model year Repair Manual:

- [2015](#) / [2016](#) / [2017](#) CT 200h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) ES 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”

NOTE

The 2014 model year ES 300h Repair Manual does NOT specifically call out the Battery Cooling Filter. Use the 2015 model year ES 300h Repair Manual.

- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) RX 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”

HV Battery Cooling System Maintenance

HV Battery Intake Filter Maintenance and Cleaning (continued)

- [2019](#) / [2020](#) UX 250h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Inspection”
- [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) NX 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “2AR-FXE (Hybrid / Battery Control): Battery Cooling Filter: Inspection”
- [2015](#) / [2016](#) / [2017](#) / [2018](#) GS 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct(W/ Filter): Inspection”
- [2018](#) / [2019](#) / [2020](#) LS 500h:
Engine/Hybrid System – Hybrid/Battery Control System – “8GR-FXS (Hybrid / Battery Control): Battery Cooling Filter: Inspection”
- [2018](#) / [2019](#) / [2020](#) LC 500h:
Engine/Hybrid System – Hybrid/Battery Control System – “8GR-FXS (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.

4. Replace the HV battery intake filter.

A. Remove the HV battery intake filter.

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

- [2015](#) / [2016](#) / [2017](#) CT 200h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) ES 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”

NOTE
The 2014 model year ES 300h Repair Manual does NOT specifically call out the Battery Cooling Filter. Use the 2015 model year ES 300h Repair Manual.

HV Battery Cooling System Maintenance

HV Battery Intake Filter Maintenance and Cleaning (continued)

- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) RX 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2019](#) / [2020](#) UX 250h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Removal”
- [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) NX 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “2AR-FXE (Hybrid / Battery Control): Battery Cooling Filter: Removal”
- [2016](#) / [2017](#) / [2018](#) GS 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct(W/ Filter): Removal”
- [2018](#) / [2019](#) / [2020](#) LS 500h:
Engine/Hybrid System – Hybrid/Battery Control System – “8GR-FXS (Hybrid / Battery Control): Battery Cooling Filter: Removal”
- [2018](#) / [2019](#) / [2020](#) LC 500h:
Engine/Hybrid System – Hybrid/Battery Control System – “8GR-FXS (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:

- [2015](#) / [2016](#) / [2017](#) CT 200h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) ES 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”

NOTE

The 2014 model year ES 300h Repair Manual does NOT specifically call out the Battery Cooling Filter. Use the 2015 model year ES 300h Repair Manual.

- [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) RX 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”

HV Battery Cooling System Maintenance

HV Battery Intake Filter Maintenance and Cleaning (continued)

- [2019](#) / [2020](#) UX 250h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Filter: Installation”
- [2015](#) / [2016](#) / [2017](#) / [2018](#) / [2019](#) / [2020](#) NX 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “2AR-FXE (Hybrid / Battery Control): Battery Cooling Filter: Installation”
- [2016](#) / [2017](#) / [2018](#) GS 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Cooling Duct (W/ Filter): Installation”
- [2018](#) / [2019](#) / [2020](#) LS 500h:
Engine/Hybrid System – Hybrid/Battery Control System – “8GR-FXS (Hybrid / Battery Control): Battery Cooling Filter: Installation”
- [2018](#) / [2019](#) / [2020](#) LC 500h:
Engine/Hybrid System – Hybrid/Battery Control System – “8GR-FXS (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:
 - [2011](#) / [2012](#) / [2013](#) / [2014](#) CT 200h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2013](#) ES 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2006](#) / [2007](#) / [2008](#) RX 400h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2010](#) / [2011](#) / [2012](#) / [2013](#) / [2014](#) / [2015](#) RX 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) / [2013](#) / [2014](#) GS 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2010](#) / [2011](#) / [2012](#) HS 250h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
 - [2008](#) / [2009](#) / [2010](#) / [2011](#) / [2012](#) / [2013](#) / [2014](#) / [2015](#) / [2016](#) LS 600h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Removal”
2. Using compressed air and/or a vacuum, remove ALL 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.

HV Battery Cooling System Maintenance

HV Battery Cooling Fan Assembly Maintenance and Cleaning (continued)

3. Reinstall the HV battery cooling fan AFTER cleaning it.
Refer to TIS, applicable model and model year Repair Manual:
 - [2011](#) / [2012](#) / [2013](#) / [2014](#) CT 200h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2013](#) ES 300h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2006](#) / [2007](#) / [2008](#) RX 400h:
Engine/Hybrid System – Hybrid/Battery Control System – “P310 Hybrid Battery Control: Battery Blower: Installation”
 - [2010](#) / [2011](#) / [2012](#) / [2013](#) / [2014](#) / [2015](#) RX 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) / [2013](#) / [2014](#) GS 450h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid Battery Control: Battery Blower: Installation”
 - [2010](#) / [2011](#) / [2012](#) HS 250h:
Engine/Hybrid System – Hybrid/Battery Control System – “Hybrid / Battery Control: Battery Blower: Installation”
 - [2008](#) / [2009](#) / [2010](#) / [2011](#) / [2012](#) / [2013](#) / [2014](#) / [2015](#) / [2016](#) LS 600h:
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.