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 Major System: ELECTRIC VEHICLE Created: 1/13/2022
 Current Language: English Last Modified: 1/18/2022
 Other Languages: NONE Author: Josh Bowman
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Coding Information

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Title: eMV Cabin Heat Module Enters Locked State

Applies To: eMV

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

01/18/2022 - Initial Article Release

DESCRIPTION

This document will guide the user through diagnosing the cabin heat module. It has been found that the cabin heater may enter a 'locked out state' if the heater temperatures exceeds the safe operating limits. The heater locks out operation to prevent further safety hazards or damage.

SYMPTOMS

Cabin heat does not function

Diagnostic Trouble Code(s) & Dashboard Indicator Light(s):

None, module does not send a DM1 Message to notify the operator of a malfunction.

DTC/Light	Description
N/A	N/A

Customer Observations or Concerns:

Cabin heat does not function after certain failure modes;

- Clogs within the coolant loop
- Low coolant level (can occur w/coolant level less than full but above low coolant sensor)
- Low flow through the heater

SPECIAL TOOLS / SOFTWARE

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Tool Description	Tool Number	Comments	Instructions
Class 0 Electrical Insulating Gloves (RED Label)			
Electrical Hazard (EH) Rated Safety Shoes or Boots			
National Fire Protection Association (NFPA) Category 2 Arc Flash Protective Clothing and Face Shield			
Coolant Management Tool	KL5007NAV		
Cooling System Adapter	09-040-03		

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
HEATER , HVDC 8KW COOLANT	4267292C1	1	

DIAGNOSTIC STEPS



WARNING:

To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.



WARNING:

To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.



WARNING:


To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.



WARNING:

To prevent property damage, personal injury, and / or death, keep flames or sparks away


from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

 **WARNING:**


To prevent property damage, personal injury, and / or death, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

 **WARNING:**

To prevent personal injury or death, NEVER service a high-voltage vehicle without completing high-voltage safety training. Before working on vehicle, read and obey all High-Voltage Safety and Lock-Out Tag-Out procedures and information.

 **WARNING:**

To prevent personal injury or death, wear and use approved high-voltage Personal Protective Equipment (PPE) when near a high-voltage electric vehicle. Inspect PPE before use. Do not use gloves or other PPE with expired dates, holes, cracks or damage. NEVER touch energized orange high-voltage cables or high-voltage components without wearing approved high-voltage PPE.

 **WARNING:**

To prevent personal injury or death, read all information in the Safety Information and High-Voltage Safety sections of the service manual.

Step	Action	Decision
1	DIAGNOSTIC: Has the vehicle experienced any of the following failure modes?	Yes. Continue to step 2
		No. No further action needed

- Clogs within the coolant loop
- Low coolant level (can occur w/coolant level less than full but above low coolant sensor)

Step	Action	Decision
2	DIAGNOSTIC: Is the cabin heat working when enabled?	Yes. No action needed
		No. Replace cabin heat module

REPAIR STEPS

1. Bring vehicle into shop and park on a flat surface
2. Shift transmission into park or neutral, set parking brake and install wheel chocks
3. Perform Level 2 isolation, refer to the proper section of the [service manual](#) if needed.
4. Follow the proper section of the [service manual](#), to R&R the High-Voltage Cabin Heater.
5. Verify operation of the cabin heater
6. Release vehicle back to service

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

OTHER RESOURCES

[Master Service Information Site](#)

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