HYUNDAI **Technical Service Bulletin**	GROUP **CAMPAIGN**	NUMBER **23-01-015H**
	DATE **FEBRUARY, 2023**	MODEL(S) **NEXO (FE)**

SUBJECT: STACK COOLANT PUMP REPLACEMENT (SERVICE CAMPAIGN T8W)

★ IMPORTANT

Dealers must perform this service campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.

Access the "Vehicle Information" screen via WEBDCS to identify open campaigns.

Description: In certain 2019MY ~ 2020MY Nexo vehicles, the stack coolant pump may become nonoperational. This may be accompanied by an instrument panel warning, MIL ON (various DTCs related to coolant stack pump) and potentially entering EV mode with reduced speed. This bulletin provides a procedure to replace the stack coolant pump with a revised part.

STUI

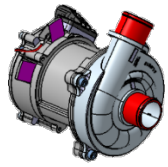
This TSB includes STUI pictures as a requirement. Where indicated, please include the last 6 digits of the VIN and date of repair on a piece of paper along the installed stack coolant pump. Ensure the VIN and date of repair are clearly visible. Finally, please ensure all captured pictures are completed according to the steps in this TSB and uploaded to STUI. **All claims submitted that have illegible, incomplete, missing, or incorrect picture(s) are subject to debit.**

Applicable Vehicles: Certain 2019-20MY Nexo (FE) vehicles produced from 6/14/2019 – 4/23/2020

NOTICE

- The TSB repair procedure MUST be performed at an authorized Hyundai NEXO fuel cell vehicle dealer and by a Hyundai Expert (or above level) technician who has successfully completed the Fuel Cell Electric Vehicle Training Instructor Led Training course (SVCHFCEVTRAIN222_1097).
- Refer to OSHA standard 1910.137 - Electrical Protective Equipment for PPE inspection and testing requirements and the NEXO shop manual for PPE usage.

Parts Information:

Part Name	Part Number	Figure	Qty.
Stack Coolant Pump	25816-M5000QQH		1
Stack Coolant*	00232-19099 (2L)	N/A	10L (5EA)
*The stack coolant part number for this campaign is a green color and compatible with the existing blue color stack coolant.			

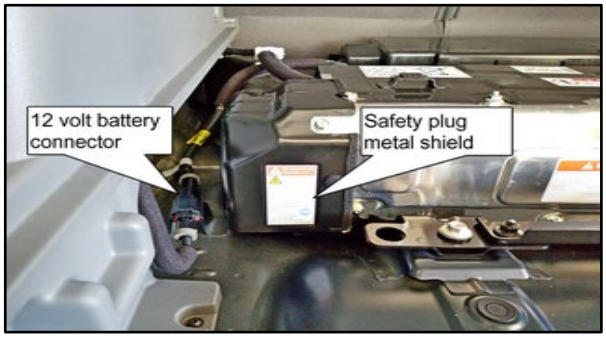
Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Nexo (FE)	20D025R0	STACK COOLANT PUMP REPLACEMENT	1.8 M/H	25816-M5000QQH	I11	ZZ1

NOTE 1: Submit Claim on Campaign Claim Entry Screen
NOTE 2: If a part that is not covered by this campaign is found in need of replacement while performing this service campaign and the affected part is still under warranty, submit a separate claim using the same repair order. If the affected part is out of warranty submit a Prior Approval Request for goodwill consideration prior to performing the work.
NOTE 3: The incident parts are subject to callback through the normal Warranty Technical Center (WTC) parts return process. **Claim is subject to debit if the parts requested are not returned.**
NOTE 4: Op time includes taking STUI pictures and uploading. The STUI pictures of the newly installed coolant stack pump along with a piece of paper displaying the last 6 digits of the VIN and the date of the repair must be included. **If not included, claim will be subject to debit.**

12-volt and High-Voltage Circuit Disconnection

1. In the rear cargo area, remove the floorboard and cargo tray to access the 12-volt battery connector and high-voltage battery safety plug.



2. Disconnect the 12-volt battery negative (-) connector.

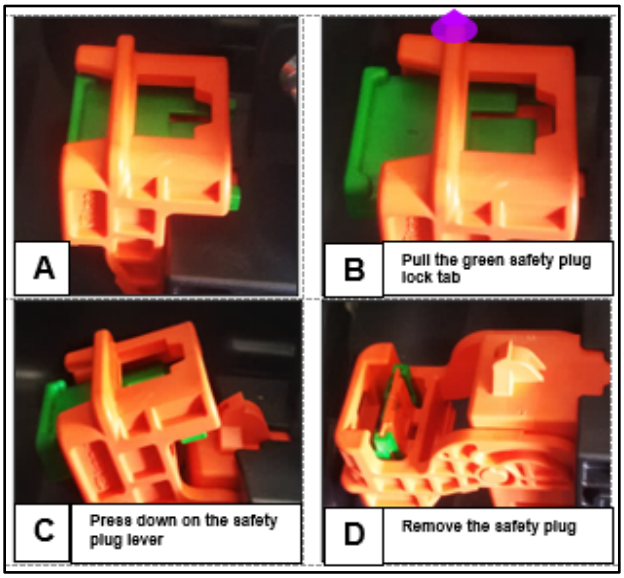
WARNING

- Electrocution hazard - Refer to the shop manual - Battery Control System > High Voltage Battery Handling Guide and follow the High Voltage Shut-off Procedure.
- Before performing the service procedure, ensure proper Personal Protection Equipment (PPE) is worn to prevent injury. Verify PPE is not expired and in proper working condition.

3. Remove the metal shield to access the high voltage safety plug.

4. Follow A-D below to remove the orange high voltage safety plug.

   Store the removed safety plug in a secure location outside and away from the vehicle.



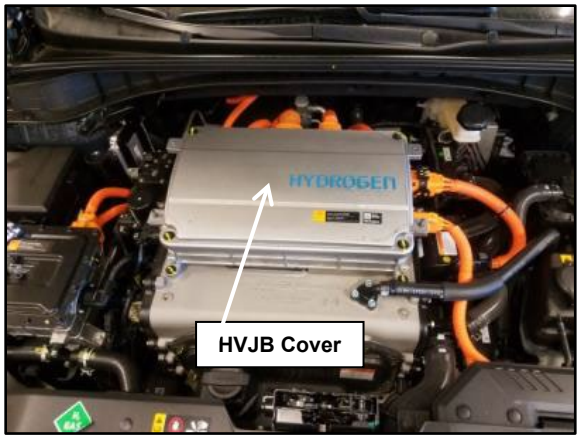
5. Wait 5+ minutes to allow the high voltage system capacitor to discharge.

6. Open the hood. Remove the junction box trim and cover.

High Voltage Junction Box (HVJB) cover:

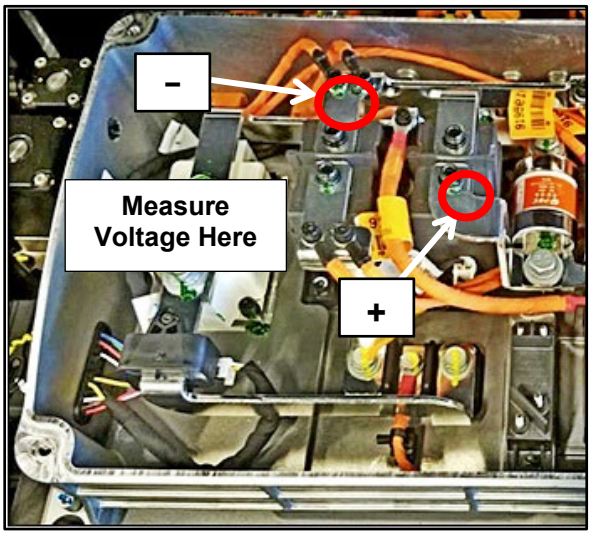
Assembly bolt torque:

lb-ft	•7.2 - 8.7
kgf.m	•1.0 - 1.2
N.m	•9.8 - 11.8



7. Using a Digital Volt Ohm Meter (DVOM), measure the voltage across the inverter positive and negative bus bar terminals to inspect for capacitor discharge.

   If the measured voltage is below 30V, the High Voltage Circuit is properly shut down.



DANGER

- Electrocution hazard - The High Voltage Junction Box (HVJB) may be electrically energized up to 450 volts.

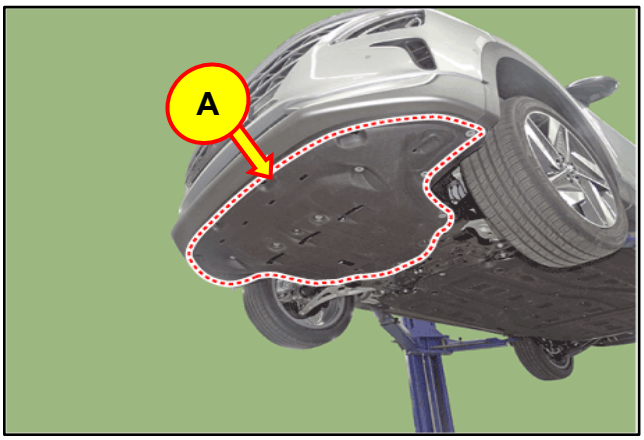
8. Reinstall the HVJB cover.

Stack Coolant Pump Replacement

1. Remove the fuel cell stack room undercover (A).

   Refer to the service manual section for proper service procedure.

   Fuel Cell System > Fuel Cell Stack > Fuel Cell Stack Room Under Cover



2. Drain the stack coolant.

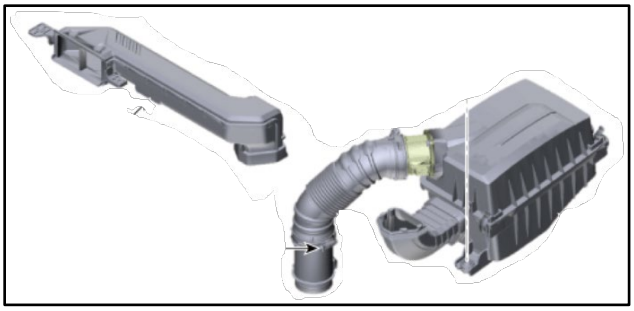
   Refer to the service manual section for proper service procedure.

   Fuel Cell System > Thermal Management System > Stack Coolant

3. Remove the air cleaner assembly.

   Refer to the service manual section for proper service procedure.

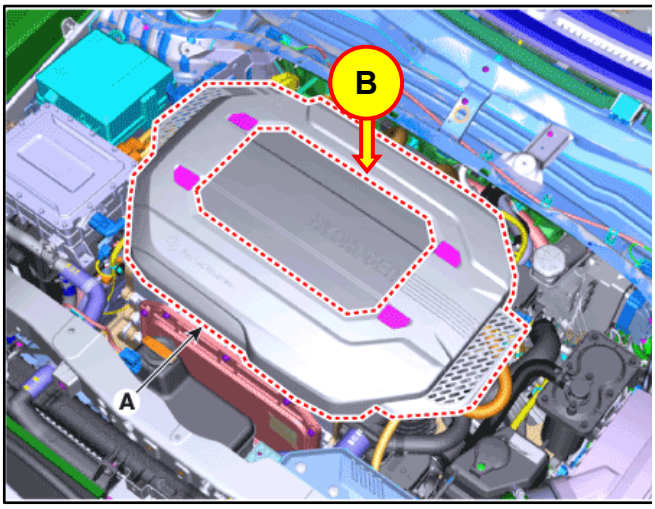
   Fuel Cell System > Air Processing System > Air Cleaner.



4. Remove the Stack Trim Cover (B).

   Refer to the service manual section for proper service procedure.

   Fuel Cell System > Air Processing System > Fuel Cell Stack Cover.

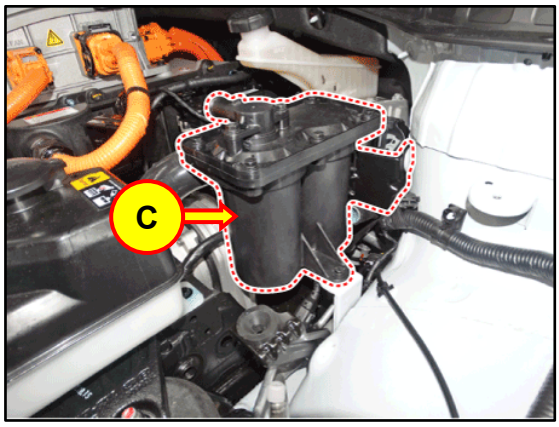


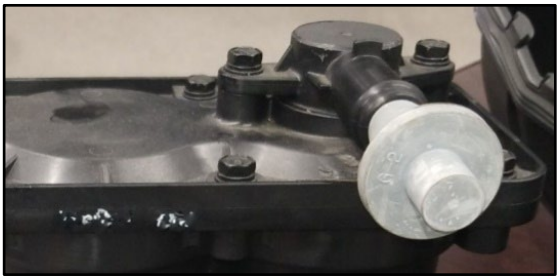
5. Remove the stack coolant ion filter as an assembly (C). DO NOT remove filters from canister.

   To prevent loss of coolant from filter canister, insert a tapered plug into the upper hose fitting on the filter canister, then remove the lower hose from filter canister and insert a tapered plug into lower hose fitting on the filter canister.

   Refer to the service manual section for proper service procedure.

   Fuel Cell System > Thermal Management System > Stack Coolant Ion Filter.

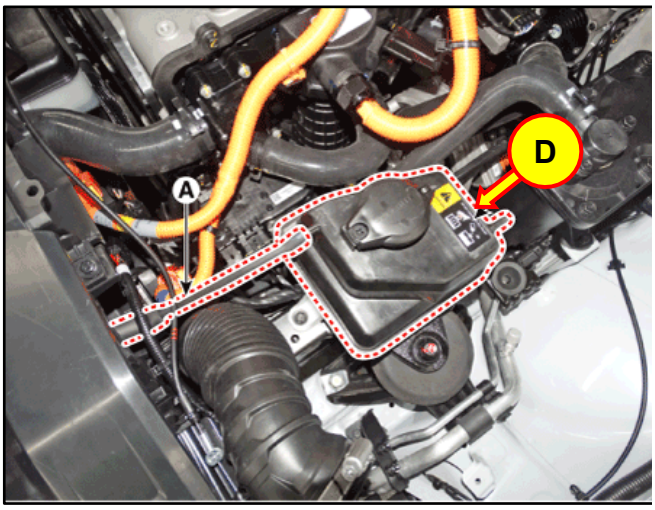




6. Remove the stack coolant reservoir (D) and do not allow coolant to drain out of reservoir.

   Refer to the service manual section for detailed service procedure.

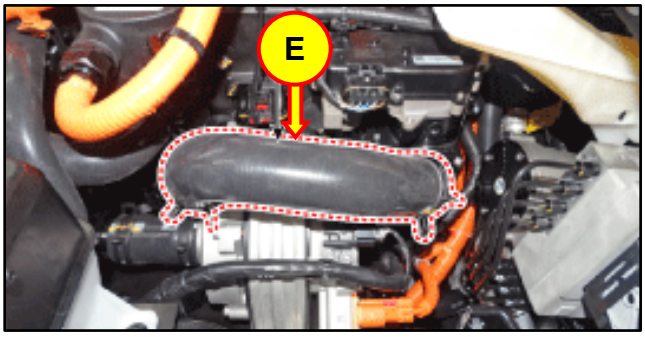
   Fuel Cell System > Thermal Management System > Stack Coolant Reservoir Tank



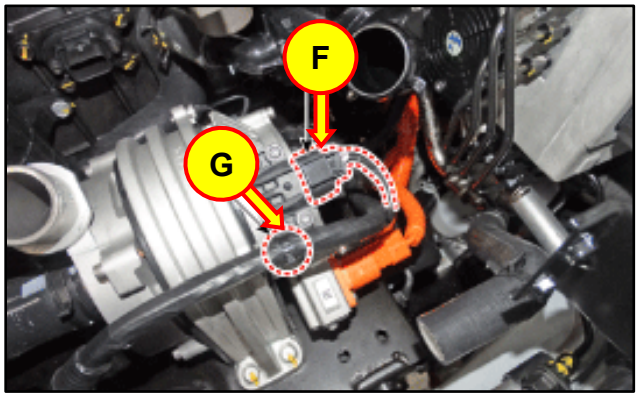
7. Remove the stack coolant pump outlet hose (E).

   Refer to the service manual section for detailed service procedure.

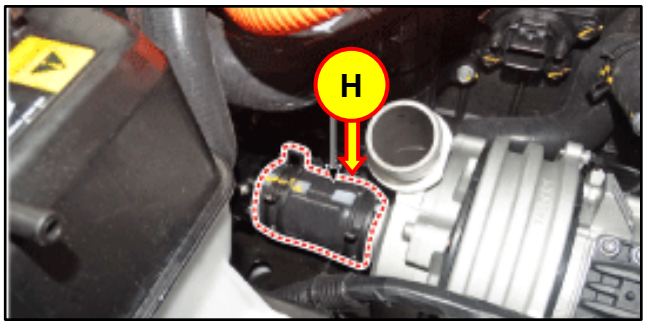
   Fuel Cell System > Thermal Management System > Stack Coolant Pump



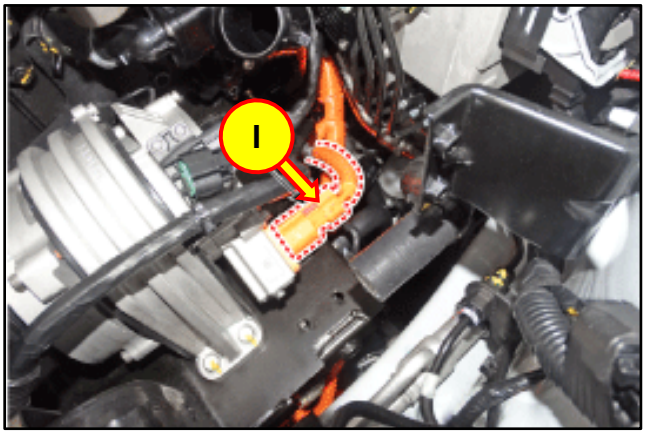
8. Disconnect the stack coolant pump wiring connector (F) and wiring clip (G).



9. Disconnect the stack coolant pump inlet hose clamp (H).



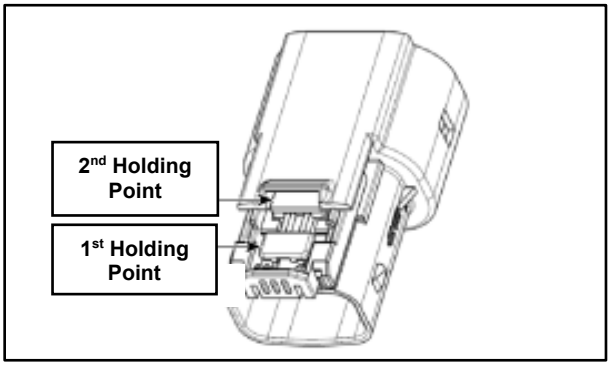
10. Disconnect the stack coolant pump high voltage cable connector (I).



(1) Remove the connector locking pin.

(2) Press on the 1st holding point.

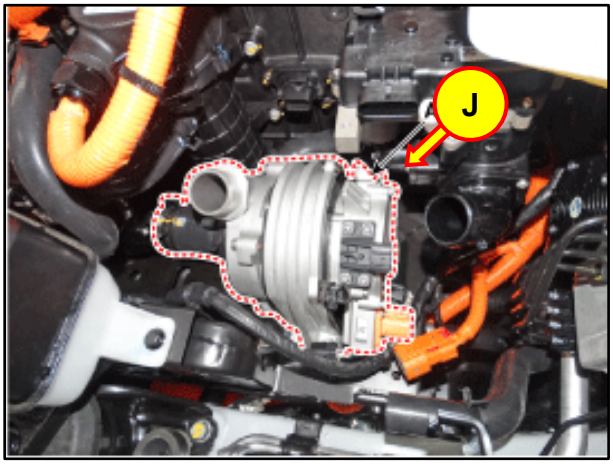
(3) Insert a screwdriver into the 2nd holding point and remove the high voltage connector by pulling on the connector.



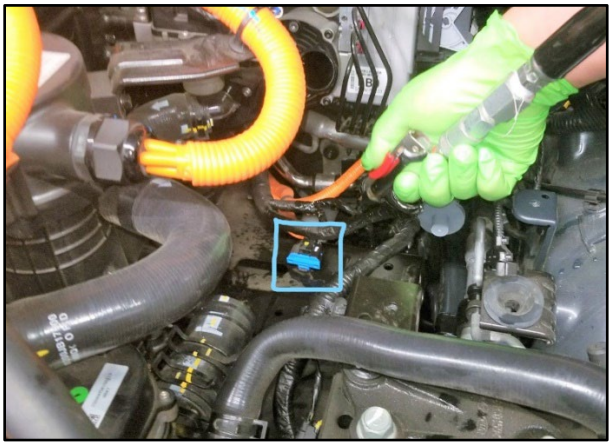
11. Remove the stack coolant pump (J).

Tightening torque:

lb-ft	•15.2 - 16.6
kgf.m	•2.1 - 2.3
N.m	•20.6 - 22.6



12. Use shop compressed air to blow off any coolant that may have dripped on the junction connector when removing the stack coolant pump.

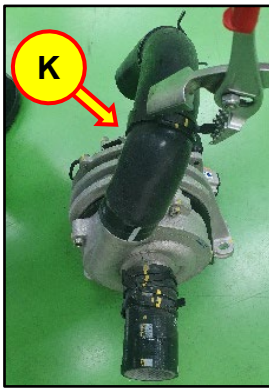


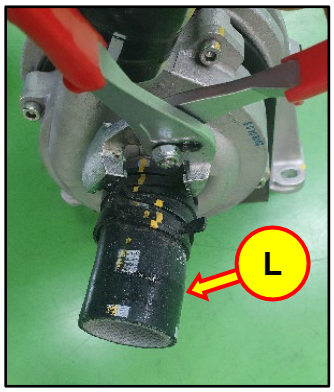
Stack Coolant Pump Disassembly and Replacement

13. Remove the stack coolant pump hose (K).

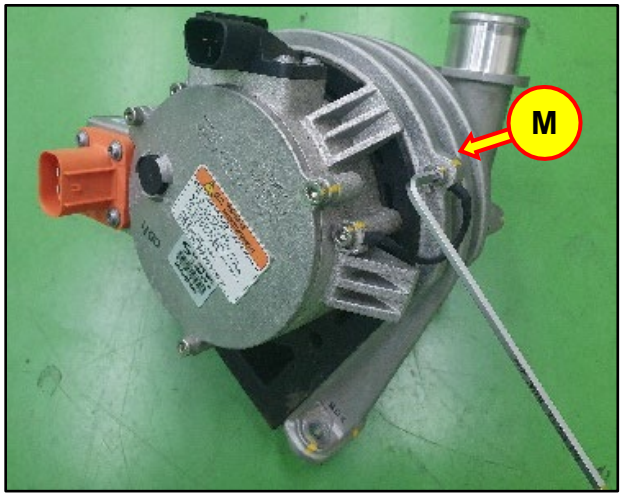
    Remove the inlet and outlet hose (L).

> **Information**
>
> - Do not discard the stack coolant pump hose. The pump hose will be installed onto the replacement stack coolant pump.





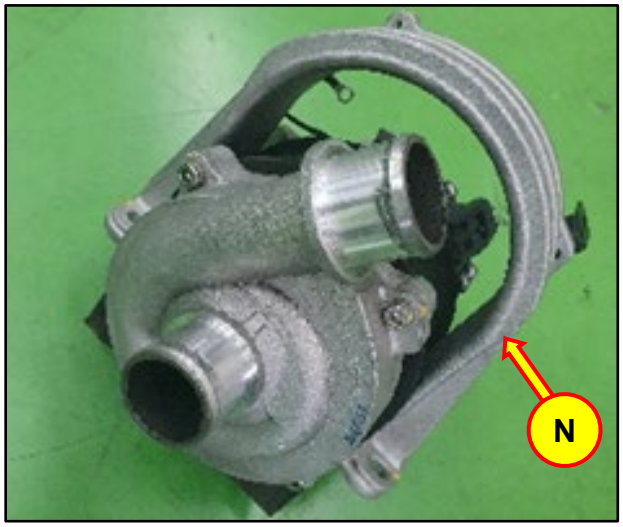
14. Remove the ground wire (M) from the bracket.

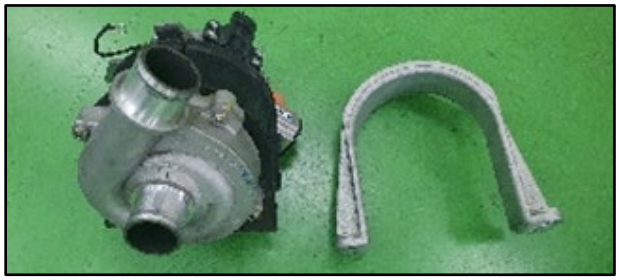


15. Remove the pump bracket (N).

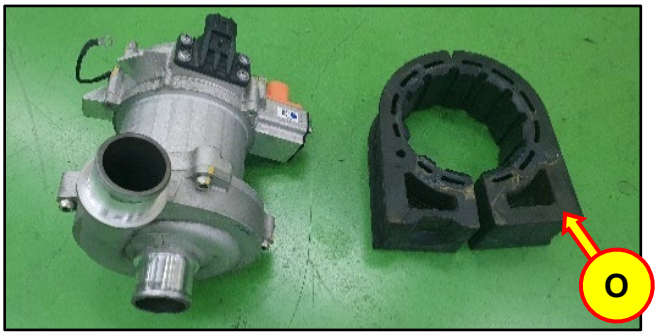
Information

- Do not discard the pump bracket. The pump bracket will be installed onto the replacement stack coolant pump.





16. Remove the rubber bushing (O).



17. Attach the rubber bushing to the new stack coolant pump.

    The rubber bushing and stack coolant pump housing are indexed with a land and groove.

    Align the groove in the rubber bushing with the land on the stack coolant pump housing.

18. Attach the pump bracket and hose from the original stack coolant pump to the new stack coolant pump.

19. Before installing the replacement stack coolant pump to the vehicle, use STUI to photograph the labels on the replacement stack coolant pump and submit photo through STUI.

STUI

Using STUI, photograph the stack coolant pump labels. Include in the photo a piece of paper containing the last 6 digits of the VIN and date of repair. Ensure the photo is in focus and captures the stack coolant pump labels and note.
Upload the photo to STUI.

20. Install the replacement stack coolant pump to the vehicle.

STUI

Using STUI, photograph the stack coolant pump. Include in the photo a piece of paper containing the last 6 digits of the VIN and date of repair. Ensure the photo is in focus and captures the stack coolant pump and note.
Upload the photo to STUI.

21. Reinstall all removed parts in reverse order of removal.

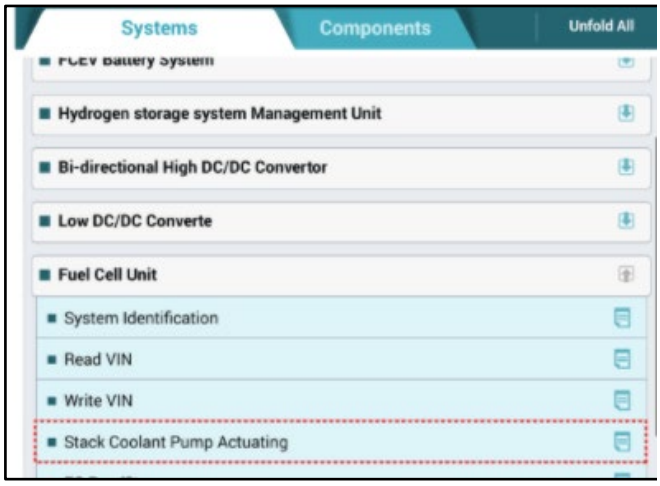
Information

- Stack coolant 00232-19099 is green and it is compatible with the existing blue coolant that was previously in the stack cooling system.
- Coolant in the stack cooling system will no longer appear blue after green

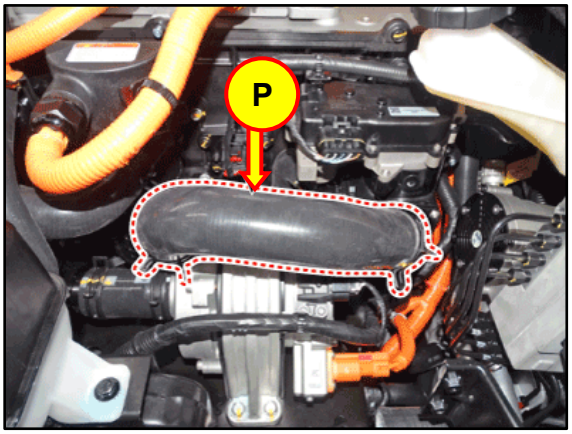
22. Perform air bleeding of stack cooling system.

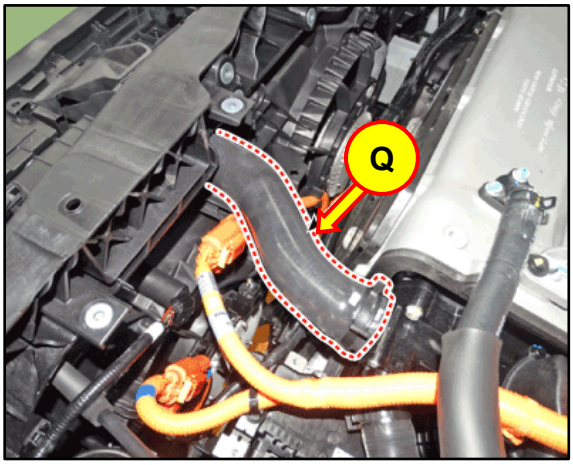
Refer to the service manual section:

Fuel Cell System > Thermal Management System > Stack Coolant for proper service procedure.



23. To assist with bleeding air from the cooling system; during the air bleed process repeatedly squeeze the stack coolant hoses by hand at the coolant pump (P) and at the upper radiator hose (Q).





24. Check and clear any DTC that may have set during the pump replacement procedure.
25. The service procedure is complete.