



Technical Service Bulletin

GROUP

CAMPAIGN

NUMBER

25-01-064H

DATE

SEPTEMBER 2025

MODEL(S)

SEE BELOW

SUBJECT:

COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE
& COOLANT CHANGE (SERVICE CAMPAIGN T9F)

This TSB supersedes 23-01-051H-1 to add all components of the Coolant Flushing Equipment Set to the SST Information table on pages 2-3, so these parts may be ordered separately if needed, and to revise the causal part in the Warranty Information table on page 4.

★ 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: Certain Santa Fe Plug-in Hybrid (TM PHEV) and Tucson Plug-in Hybrid (NX4 PHEV) vehicles may exhibit a restricted coolant flow condition, which may be accompanied by a warning message (e.g., Coolant Supplement, Refill Inverter Coolant) in the cluster. No related DTCs are stored, and coolant level is normal in the reservoir tank. The coolant flow may be restricted by debris, causing abnormally high Electric Water Pump (EWP) speed. This TSB contains instructions for confirming high RPMs in the EWP, then using the Coolant Flushing Equipment Set to flush and clean debris from the various cooling system circuits. The coolant will be replaced with the updated Electric Vehicle Battery System Coolant (BSC-2) low-conductivity blue coolant.



Information

This bulletin applies **ONLY** to vehicles with the low-conductivity blue coolant. If coolant is pink or green, then this bulletin does **NOT** apply.

To ensure proper understanding of the service procedure and equipment connections, it is recommended to view or print this bulletin in **color**.

Applicable Vehicles (Certain):

Model Year	Model	Engine	Production Dates
2022	Santa Fe Plug-in Hybrid (TM PHEV)	1.6L T-GDI	05/13/2021 – 09/30/2021
	Tucson Plug-in Hybrid (NX4 PHEV)		06/30/2021 – 11/01/2021

SUBJECT:COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)**Parts Information:**

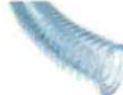
Model	Part Name	Part Number	Figure	Remarks
Santa Fe Plug-in Hybrid (TM PHEV) Tucson Plug-in Hybrid (NX4 PHEV)	Electric Vehicle Battery System Coolant (BSC-2)	00232-19113		QTY: 2 gallons per vehicle • Coolant is blue in color • Shelf life is 2 years • Immediately use entire contents after opening

NOTE: For proper use and application refer to vehicle owner's manual.

SST Information:

Tool Name	Tool Number	Figure	Remarks
Coolant Flushing Equipment Set	KQ253-CV158QQH		Each dealer was previously shipped one Coolant Flushing Equipment Set at the start of this service campaign. Additional units may be purchased through the normal parts ordering process via WebDCS.
Coolant Flushing Equipment Set Components:			
110V Motor Pump Kit	KQ253-CV159QQH		If necessary, individual components may be purchased through the normal parts ordering process via WebDCS.
Filter Housing Kit	KQ253-CV160QQH		
Stainless Filter	KQ253-CV161QQH		
Filter Gasket	KQ253-CV162QQH		
18L Water Bottle Kit	KQ253-CV163QQH		

SUBJECT:**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)****SST Information (continued):**

Tool Name	Tool Number	Figure	Remarks
Joint Adapter Kit	KQ253-CV164QQH		If necessary, individual components may be purchased through the normal parts ordering process via WebDCS.
Air Pressure Regulator Kit	KQ253-CV165QQH		
Air Toggle Switch Kit	KQ253-CV166QQH		
Check Valve Kit	KQ253-CV167QQH		
2 Way Ball Valve	KQ253-CV168QQH		
Spring Hose (3 M long)	KQ253-CV169QQH		
Hose Band Clamp	KQ253-CV170QQH		
Caster Wheel	KQ253-CV171QQH		
Adapter A	KQ253-CV172QQH		
Adapter B	KQ253-CV173QQH		

SUBJECT:**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)****Warranty Information:**

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Tucson Plug-in Hybrid (NX4 PHEV)	20D141R1	Cooling System Circuit Debris Discharge and Coolant Replacement	1.1 M/H	36910-3D921	E83	ZZ5
Santa Fe Plug-in Hybrid (TM PHEV)	20D141R2					

NOTE 1: Submit claim on Claim Entry Screen as “Campaign” type.

NOTE 2: If a part is found in need of replacement while performing this 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: This TSB includes repair validation photos. Op times include VIN, mileage, and repair validation photo(s) as outlined in the Digital Documentation Policy.

SUBJECT:**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)****Service Procedure:****DIGITAL DOCUMENTATION**

This TSB includes repair validation photos. Refer to the latest Warranty Digital Documentation Policy for requirements.

⚠ WARNING

When servicing the high voltage system, follow all safety precautions in the shop manual to prevent electric shock or leakage accidents:

- **General Information > General Safety Information and Cautions**
- **General Information > High Voltage Shut-off Procedures**

Serious injury may occur from electric shock if these procedures are **NOT** followed.

When connecting or disconnecting hoses or operating coolant cleaning equipment, always wear appropriate eye protection to avoid accidental discharge into your eyes. Serious injury may occur from coolant leaks under pressure or accidental discharge.

To securely connect the equipment hoses, use the existing coolant hose clamps at the identified locations on the vehicle as the equipment flushes coolant under pressure.

NOTICE

Applying the recommended torque to all fasteners is essential to reduce potential issues from occurring after the service procedure.

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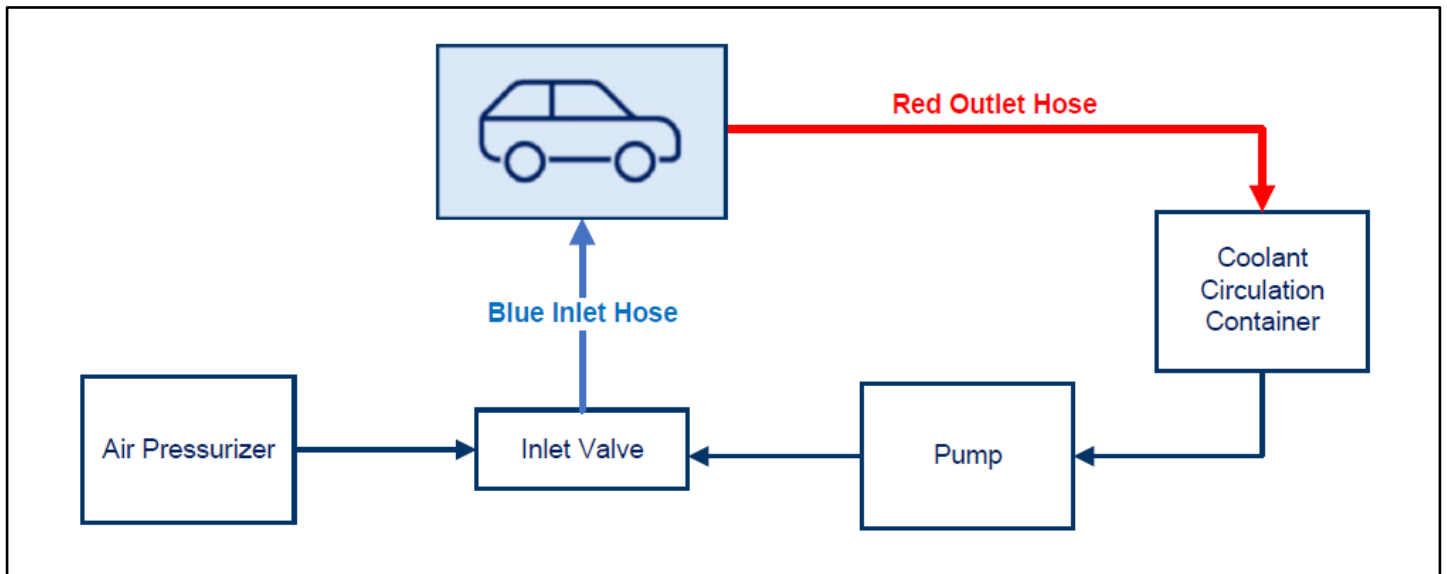
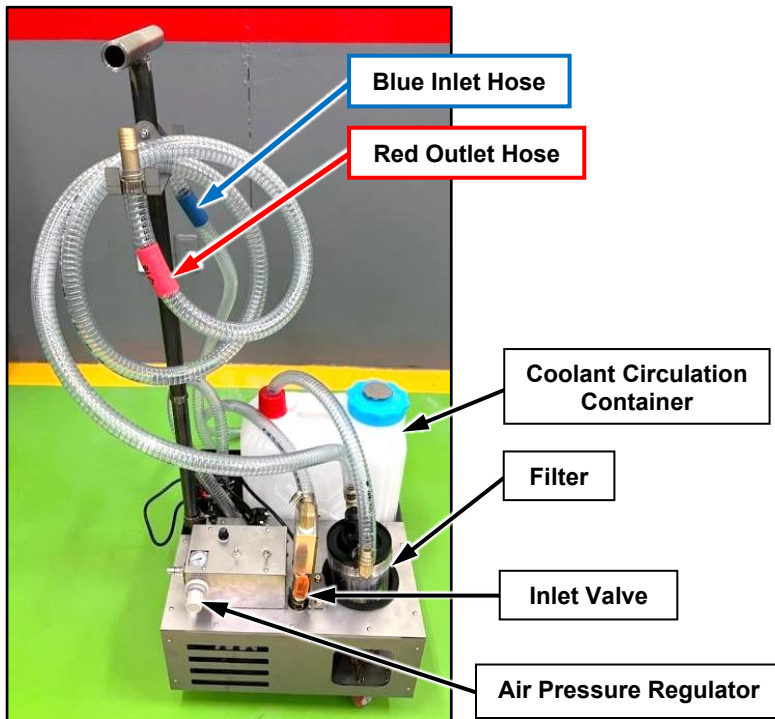
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- Debris Discharge and Cooling System Cleaning – Santa Fe Plug-in Hybrid (TM PHEV)
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SUBJECT:

**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)**

General Operating Instructions for Coolant Flushing Equipment

Coolant Flushing Equipment Setup

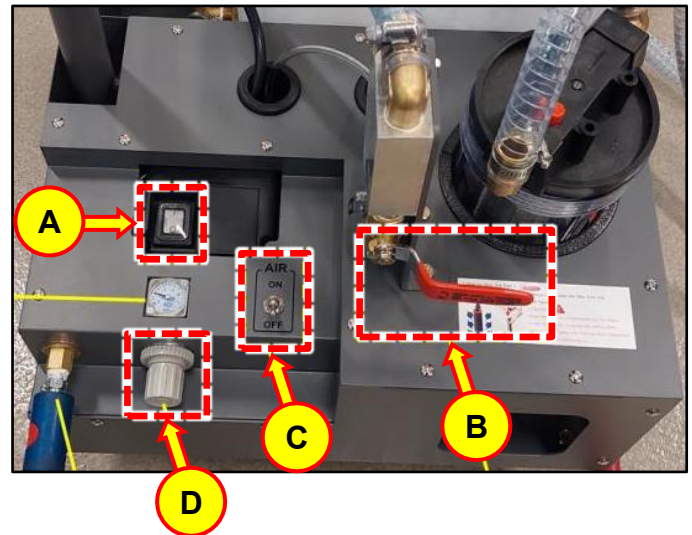


Coolant Discharge (Air Draining)

1. Perform coolant discharge (also known as air draining) by setting the equipment as follows:
 - Coolant pump (A): **OFF**
 - Inlet valve (B): **CLOSED**
 - Air (C): **ON**

i Information

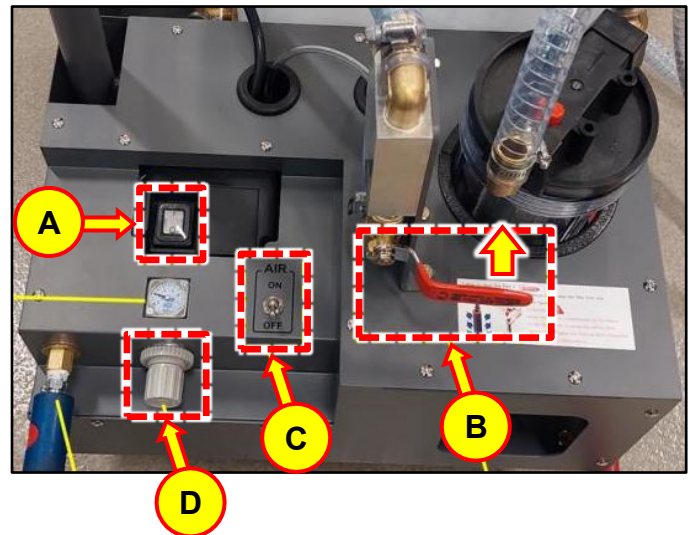
These settings will prevent air from flowing back and interfering with coolant recovery.



2. Set air pressure (D) to **2 bar (29 psi)** for initial discharge. If drainage is insufficient, adjust air pressure up to **3 bar (43.5 psi)**.

Coolant Circuit Cleaning

1. When flushing and filtering the vehicle's coolant circuit, set the equipment as follows:
 - Pump (A): **ON**
 - Inlet valve (B): **ON**
 - Air (C): **ON**
 - Air pressure (D): Set to **2 bar (29 psi)**
2. Ensure the coolant circulation container always contains at **least 8L (2 gal / half full)** of fluid. This can include a mixture of tap water, distilled water, and coolant (BSC-2) that was discharged from a previous vehicle. Add tap water or distilled water as needed to reach at least half full.



NOTICE

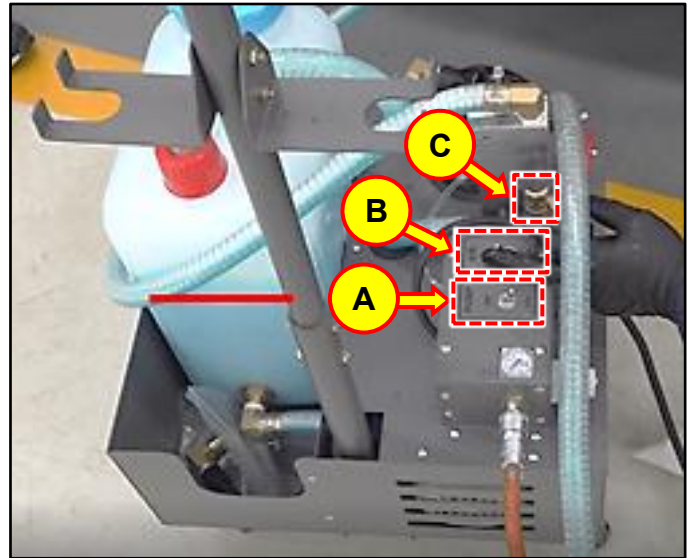
The coolant circulation container must be at least half full to allow for proper priming of the pump system.

Do **NOT** use salt water in the coolant circulation container.

Coolant Flushing Equipment Maintenance

To ensure proper maintenance of the equipment, follow the steps below after completing a cleaning operation on each vehicle.

1. Turn **ON** the water pump (A) first, and then turn **ON** the air (B).
2. Check the equipment's **Blue Inlet Hose** end to see if air is coming out. This can be done by placing your hand over the end and feeling for airflow.
3. If air is **NOT** coming out, use the air pressure regulator (C) to increase the pressure slightly until air comes out.
4. Set the pressure to **2 bar (29 psi)**.
5. Clean the filter (D) and filter case (E) with an air gun to remove foreign substances.

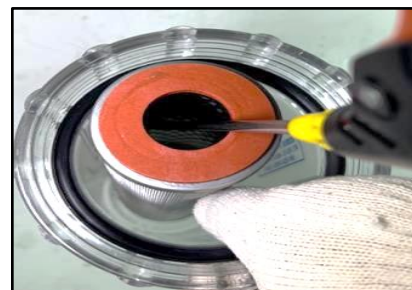
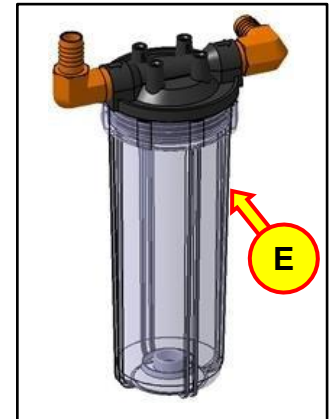
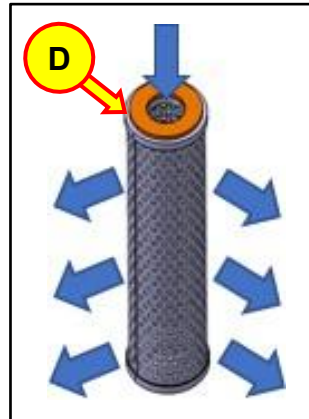


NOTICE

Spray the air gun into the gaps of the filter's inner wall, where sludge can get lodged. Rotate the filter to ensure even spraying and to remove as much buildup as possible.

NOTICE

A clogged filter may have decreased flow rate and reduced cleaning efficiency.

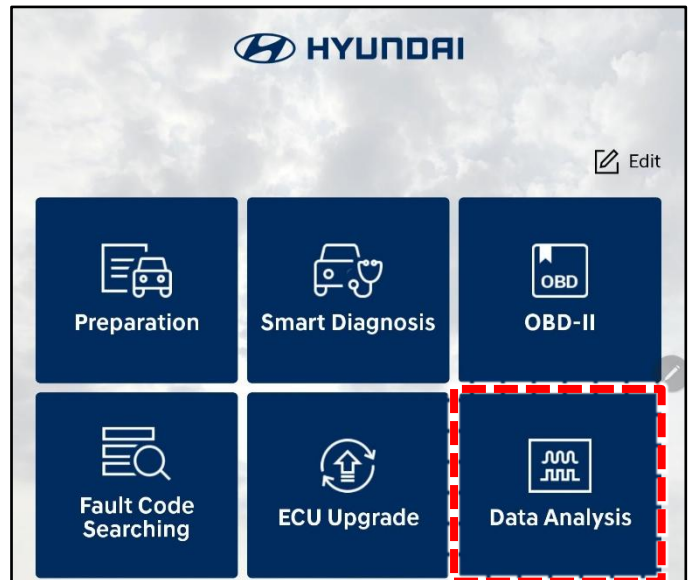


SUBJECT:**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)****Debris Discharge and Cooling System Cleaning – Santa Fe Plug-in Hybrid (TM PHEV) & Tucson Plug-in Hybrid (NX4 PHEV)*****i* Information**

Before proceeding with the service procedure, open the hood and visually inspect coolant color. If coolant color is pink or green (general coolant), then this TSB does **NOT** apply.

Preparation

1. Connect a VCI and launch GDS-Smart. Then select **Data Analysis**.



2. Bring the the Electric Water Pump (EWP) speed to above **2,000 rpm**.

***i* Information**

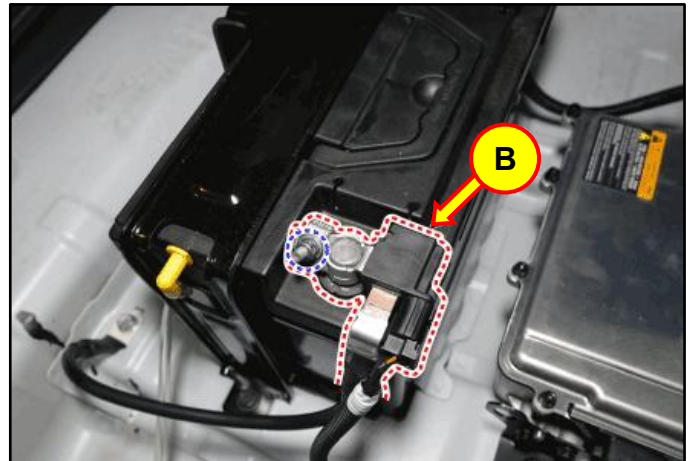
When EWP is above **2,800 rpm**, a warning message may appear on the cluster, such as **Refill Inverter Coolant**.

SUBJECT:**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)****Coolant Draining Procedure**

1. Turn **OFF** the ignition and remove the underhood service interlock connector (A).

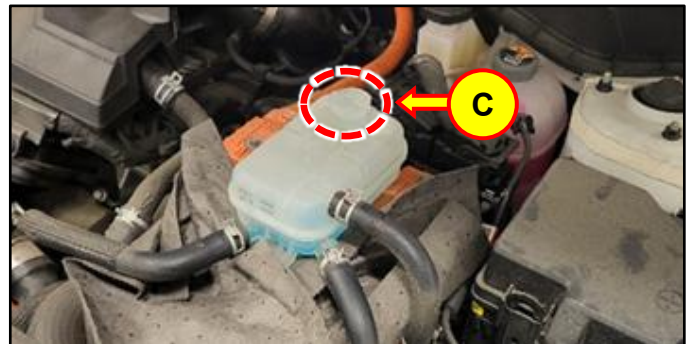


2. Disconnect the battery negative (-) cable (B) under the deck in the rear hatch area.

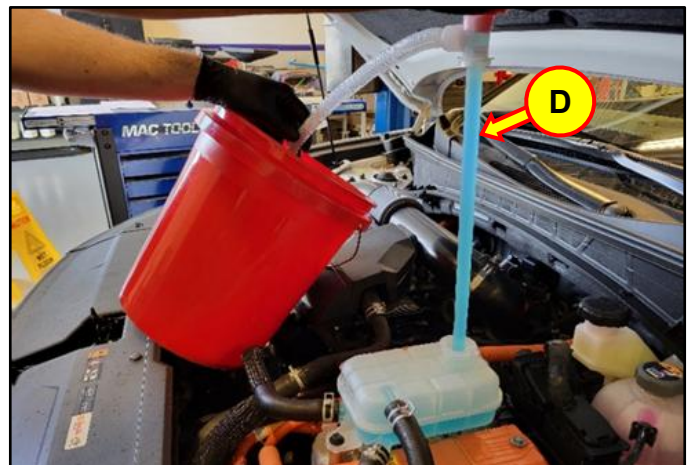
**Tightening Torque:**

lb-ft	6.5
lb-in	78
N.m	8.8

3. Remove the reservoir tank cap (C).



4. Insert a siphon pump hose (D) and drain the coolant into a bucket or similar container.



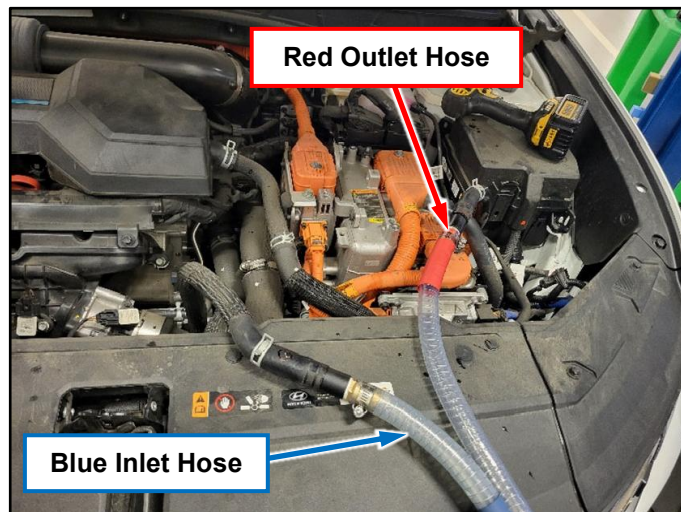
SUBJECT:**COOLING SYSTEM CIRCUIT DEBRIS DISCHARGE & COOLANT CHANGE
(SERVICE CAMPAIGN T9F)**Coolant Discharge & Air Draining Procedure

1. Verify the supplied **90 degree** angled hose fittings (A) are installed on the hose ends.



2. Disconnect the 2 hoses from the reservoir tank and connect them securely to the coolant flushing equipment hoses at the locations noted below.

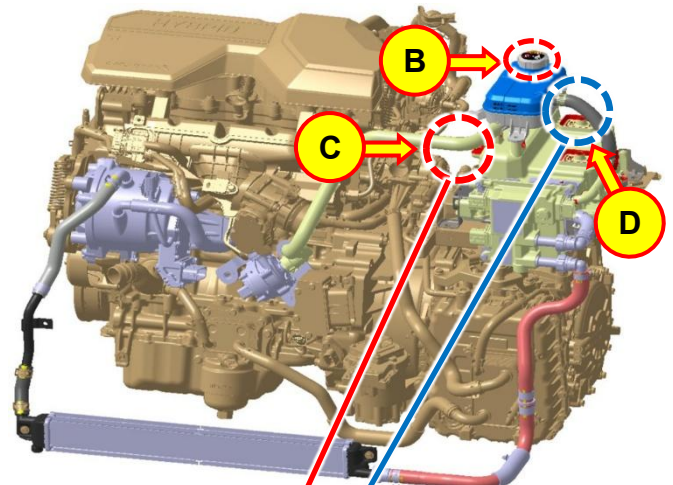
Equipment	Vehicle Connection Point
Blue Inlet Hose	Coolant tank inlet hose (left side of reservoir tank)
Red Outlet Hose	Coolant tank outlet hose (upper right side of reservoir tank)



3. Perform air draining for **2 minutes** to discharge and drain the coolant.
 - Air **ON**, Pump **OFF**, Inlet Valve **OFF**

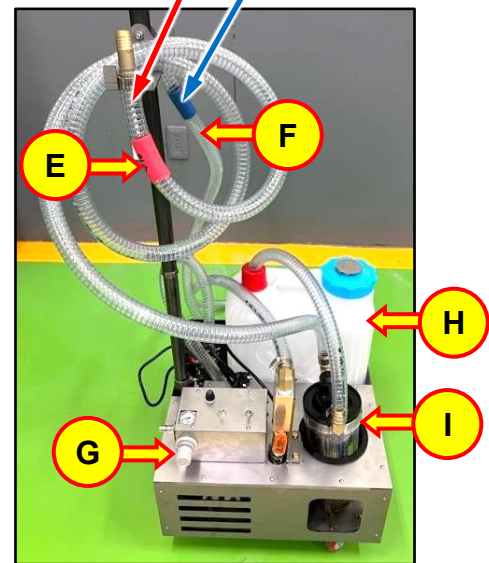
Perform flush and filter cleaning, circulating coolant for **3 minutes**.

- Air **ON**, Pump **ON**, Inlet Valve **ON**

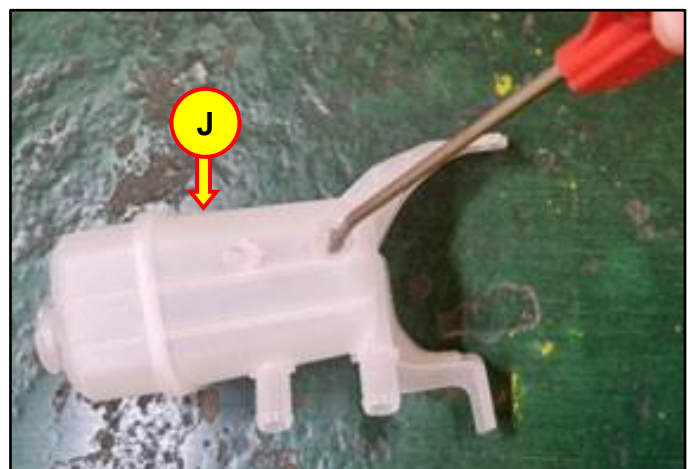


4. Refer to the diagrams on the right for the components below:

- Reservoir tank cap (B)
- Coolant tank outlet (hose) (C)
- Coolant tank inlet (hose) (D)
- Red outlet hose (E)
- Blue inlet hose (F)
- Coolant pump & air pressurizer (G)
- Coolant circulation container (H)
- Filter (I)

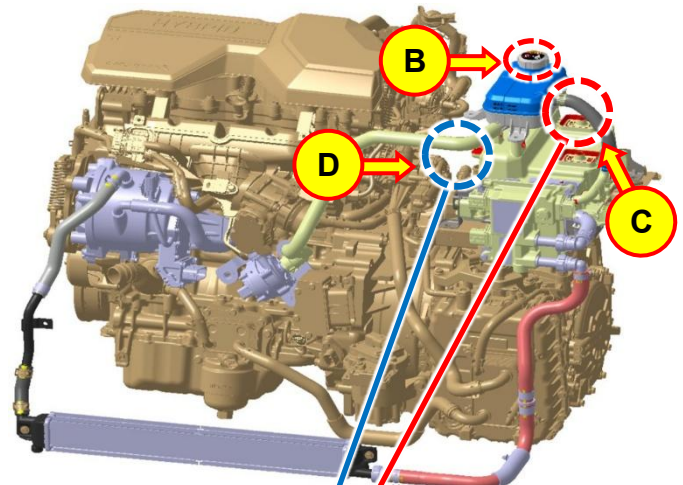


5. While the cleaning equipment is in operation, remove the reservoir tank (J).
6. Clean the residual coolant and debris inside the reservoir by injecting water and blowing air through the tank.
7. After **3 minutes**, turn **OFF** the coolant pump in the cleaning equipment and allow air to blow through the system for **30 seconds**. Turn **OFF** the air to the cleaning equipment.



8. Reverse the hose connections to the opposite of those in step 2.

Equipment	Vehicle Connection Point
Red Outlet Hose	Coolant tank inlet hose (left side of reservoir tank)
Blue Inlet Hose	Coolant tank outlet hose (upper right side of reservoir tank)



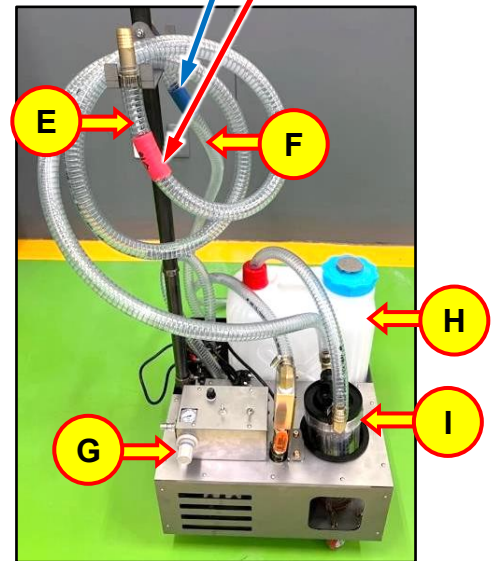
9. Perform air draining for **2 minutes** to discharge and drain the coolant.
- Air **ON**, Pump **OFF**, Inlet Valve **OFF**

Perform flush and filter cleaning, circulating coolant for **3 minutes**.

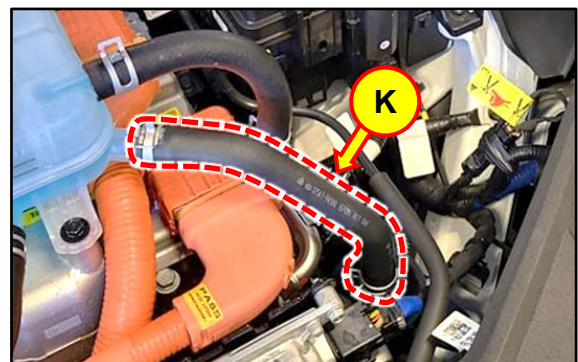
- Air **ON**, Pump **ON**, Inlet Valve **ON**

10. Refer to the diagrams on the right for the components below:

- Reservoir tank cap (B)
- Coolant tank outlet (hose) (C)
- Coolant tank inlet (hose) (D)
- Red outlet hose (E)
- Blue inlet hose (F)
- Coolant pump & air pressurizer (G)
- Coolant circulation container (H)
- Filter (I)

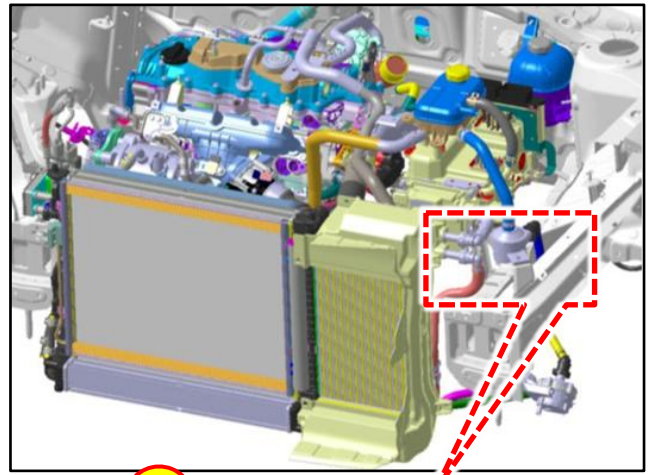


11. Swap back the coolant flushing equipment hoses and perform cleaning and air draining again (as in **steps 2 - 4** above).
12. Remove the air separator hose (K).



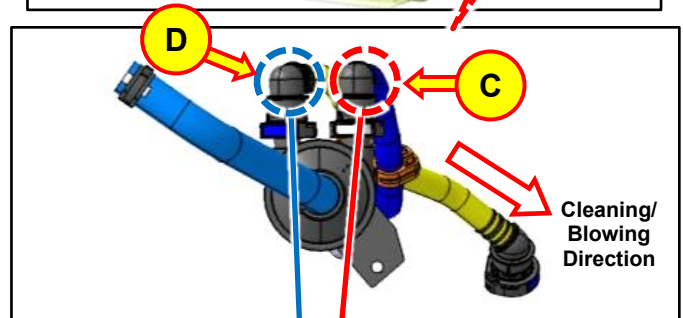
9. Disconnect the 2 circulation hoses from the reservoir tank hoses and connect them securely to the air separator hoses at the locations noted below.

Equipment	Vehicle Connection Point
Blue Inlet Hose	Air separator inlet hose (left when looking from the top)
Red Outlet Hose	Air separator outlet hose (right when looking from the top)



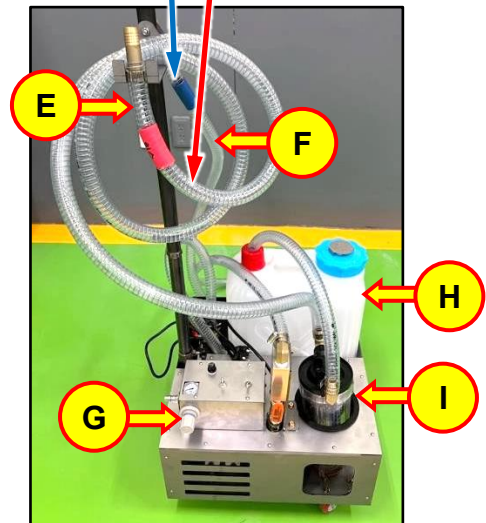
10. Perform flush and filter cleaning, circulating coolant for **5 minutes**.
- Air **ON**, Pump **ON**, Inlet Valve **ON**

Turn **OFF** coolant pump and allow air to blow through the system for 1 minute.
Turn **OFF** the air to the cleaning equipment.



11. Refer to the diagrams on the right for the components below:

- Reservoir tank cap (B)
- Coolant tank outlet (hose) (C)
- Coolant tank inlet (hose) (D)
- Red outlet hose (E)
- Blue inlet hose (F)
- Coolant pump & air pressurizer (G)
- Coolant circulation container (H)
- Filter (I)



12. Remove the coolant flushing equipment hoses and reinstall the original hoses of the vehicle in their original locations.

Proceed to the [Coolant Change](#) procedure.

Coolant Change

1. Reinstall the reservoir tank, and confirm the original hoses of the vehicle are reinstalled in their original locations.
2. Reconnect the service interlock connector.
3. Fill with new Electric Vehicle Battery System Coolant (BSC-2).

NOTICE

Fill the reservoir tank with the shop manual specifications listed for each model, approximately **1.5-2.0 gal (5.5-6.5L)**.

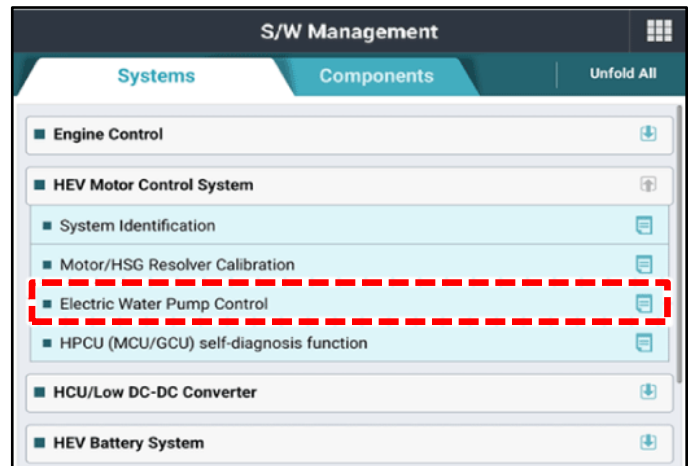
4. Perform air bleeding by circulating the coolant through the EWP.

Refer to the shop manual:

- **Hybrid Motor System > Hybrid Motor Cooling System > Coolant > Repair procedures**

Perform air bleeding through GDS (about **3 minutes**):

- **S/W Management > Electric Water Pump Control**



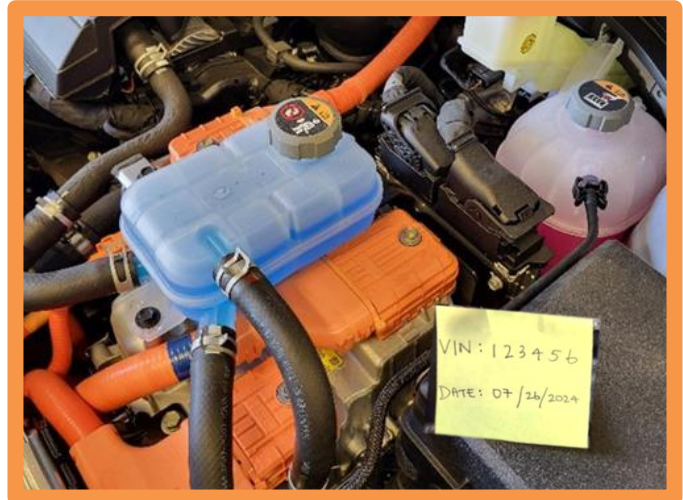
5. Perform additional air bleeding (about **10 minutes**) through GDS:
 - **S/W Management > BMS > EWP Max RPM Operation**

6.

**DIGITAL
DOCUMENTATION**

Using STUI, take a photo of the coolant reservoir tank filled with coolant after the cleaning and flushing procedure was completed, with the last 6 digits of the VIN and the date of repair on a piece of paper.

Upload the photo to STUI.



7. Place vehicle into **Ready** mode, and verify that the message **Refill Inverter Coolant** does **NOT** display.
- If the message displays, repeat the **Debris Discharge and Cooling System Cleaning** procedure.
 - If the message still displays after repeating the procedure, contact Techline for additional assistance (refer to TSB **25-GI-006H, Instructions for Contacting Tehcline**).
8. Clean the coolant flushing equipment thoroughly following the instructions in the [Coolant Flushing Equipment Maintenance](#) procedure on page 8.
9. The service procedure is now complete.