HYUNDAI Technical Service Bulletin	GROUP **HYBRID CONTROL**	NUMBER **23-HC-002H**
	DATE **AUGUST 2023**	MODEL(S) **SONATA HYBRID (DN8 HEV)**
SUBJECT:	ECU UPDATE AND GDS-M 'INTEGRATED THERMAL MODULE COOLANT FILLING MODE'	

Description: This bulletin provides information related to the Engine Control Module (ECM) software update and coolant replacement for 2020-2023MY Sonata Hybrid (DN8 HEV) vehicles to improve the coolant filling mode by discharging air bubbles.

Applicable Vehicles : All 2020-2023MY Sonata Hybrid (DN8 HEV) with exhaust heat recovery system.

GDS Information:

Event #	Description
924	DN8 HEV COOLANT A/S FILLING MODE

(*or use a later available event as listed in the GDS ECM Update screen if one is available.)

NOTICE

GDS Vehicle Battery Voltage Warning:

If voltage is below 12 volts as per the GDS warning, then select **Back** and run the engine at least 15 minutes to reach an adequate battery state of charge to prevent ECU Update failure. Cycle the ignition **OFF/ON** before retrying ECU update again.

Warranty Information:

Model	Op. Code	Operation	Op. Time	Casual Part	Nature Code	Cause Code
Sonata Hybrid (DN8 HEV)	07100F12	ECU Update and GDS-M 'Integrated Thermal Module Coolant Filling Mode' Function	0.9 M/H	39116-2J002	I3A	ZZ3
	07100F13	GDS-M 'Integrated Thermal Module Coolant Filling Mode' Function (for Vehicles With Updated ECU)	0.5 M/H	39116-2J002		

Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

NOTE 1: Normal warranty applies.
NOTE 2: Submit claim on Claim Entry Screen as "Warranty" type.
NOTE 3: This TSB includes Repair validation photos. Op times includes VIN, mileage, and validation photos as outlined in the Digital Documentation Policy.
NOTE 4: The incident parts are subject to callback through the normal Warranty Technical Center (WTC) parts return process. **Claim is subject to debit if the part is not returned.**
NOTE 5: If a part is found in need of replacement while performing this TSB 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

ROM ID Information Table:

Model	TM	IMMO	ECU P/N	ROM ID	
				Old	New
DN8 HEV	6AT	+IMMO	39116-2J002	HDN80NS0AQ30RC00	HDN80NS0AQ780C00
				HDN80NS0AQ470C00	
			39116-2J012	HDN81NS0AQ10SC00	HDN81NS0AQ680C00
				HDN81NS0AQ20TC00	
				HDN81NS0AQ370C00	
			39116-2J013	HDN82NS0AQ370C00	HDN82NS0AQ680C00

If the automatic ECU update process fails, **cycle the ignition key to OFF for at least 30 seconds to reset the control unit**. Then resume programming using the Manual ECU Update process.

After the ECU update process shows 100% complete, **cycle the ignition key again to OFF for at least 30 seconds to reset the control unit**. This step is important for establishing normal powertrain communication and to prevent system errors.

Manual Update:

Model	Event	Menu	Password
DN8 HEV	924	DN8 HEV 6AT +IMMO 39116-2J002	2002
		DN8 HEV 6AT +IMMO 39116-2J012	2012
		DN8 HEV 6AT +IMMO 39116-2J013	2013

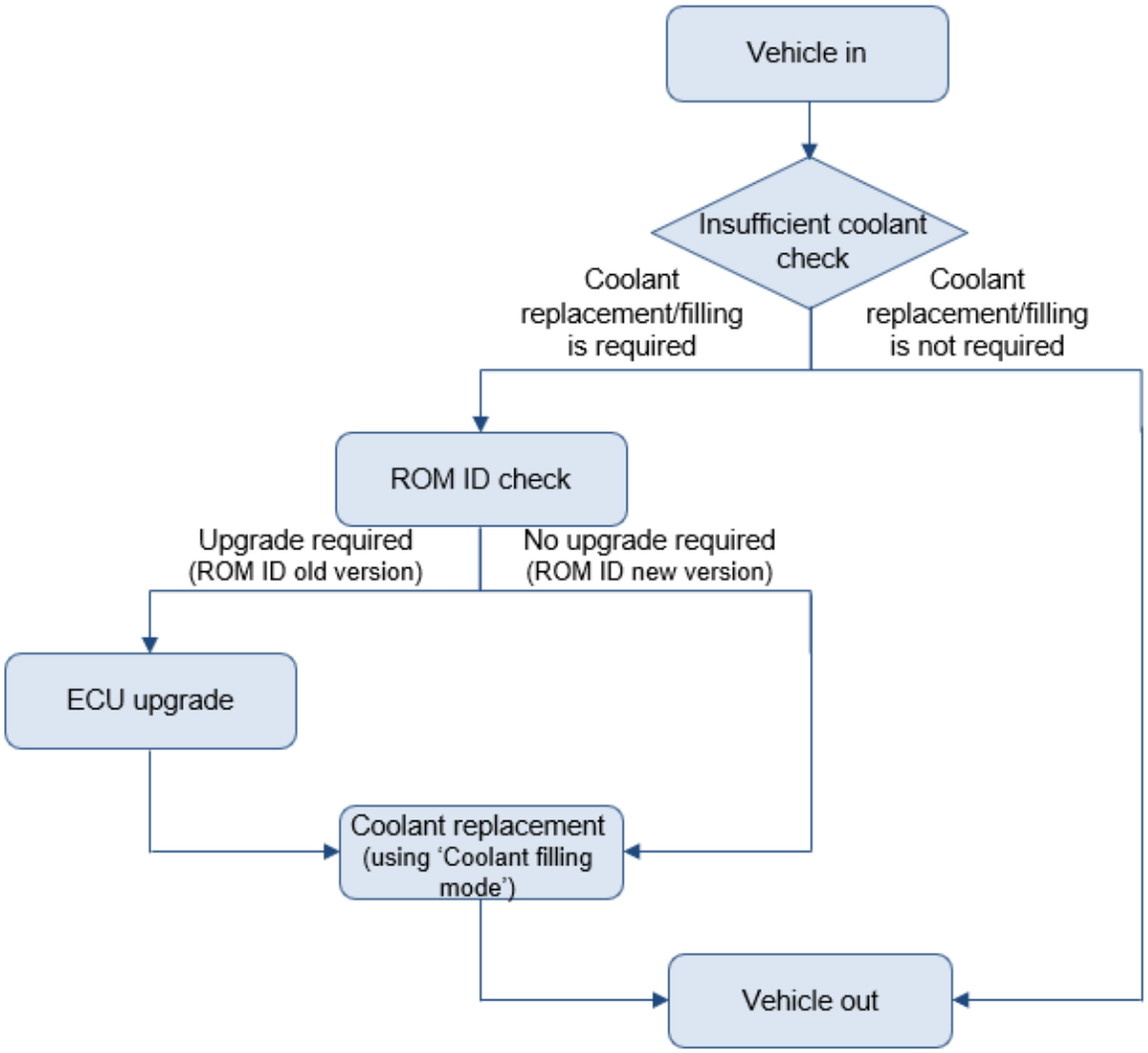
NOTE: After the ECU update has been completed:
- Clear any ECM DTC(s) after the ECU update.
- Start the engine to confirm proper operation of the vehicle.

Service Procedure:

STUI

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

Perform the service procedure referring to the flow chart below.



NOTES:

- Refer to TSB 15-GI-001 for additional tablet-based Mobile GDS ECU update information.
- After the ECU Upgrade process shows 100% complete, **cycle the ignition key to OFF for at least 30 seconds to reset the control unit**. This step is important for establishing normal powertrain communication and to prevent system errors.
- Clear DTC(s) present after the ECU update.
- Start engine to confirm proper operation of the vehicle.

GDS-M Integrated Thermal Module Coolant Filling Mode Function

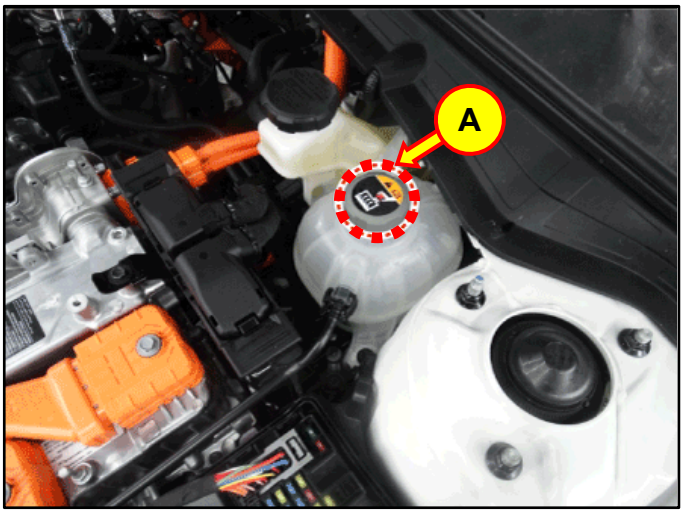
1.

⚠ CAUTION

Before starting the 'Coolant Filling Mode' procedure, **Make sure ROM ID is latest version**.

⚠ CAUTION

Never remove the radiator cap when the engine is hot. Serious scalding could occur by hot fluid escaping under high pressure from the radiator.



Make sure the engine and radiator are cool to the touch, then open the reservoir tank cap (A), supplement the coolant, and reinstall the reservoir cap.

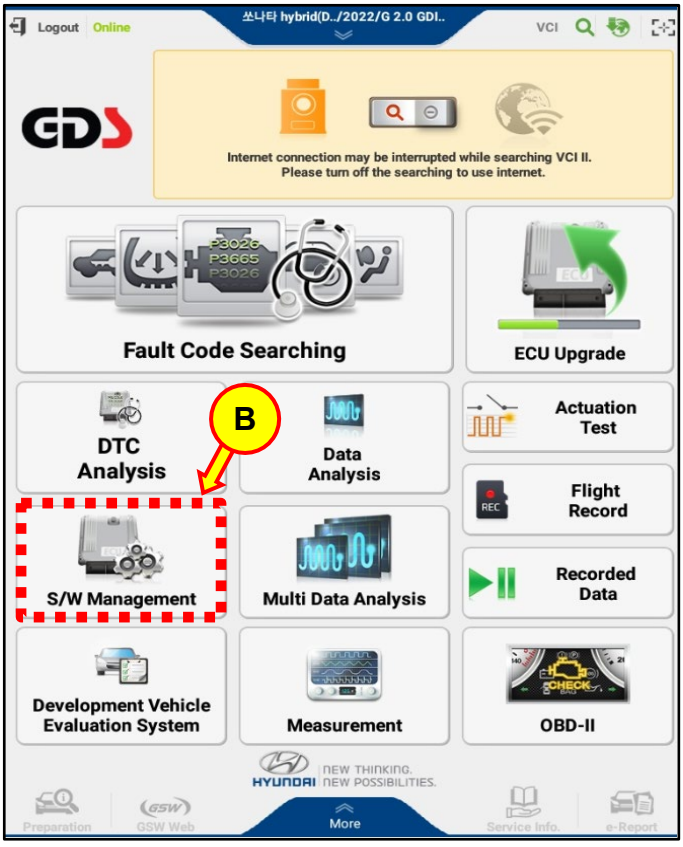
Refer to Shop Manual:
Engine Mechanical System > Cooling System > Coolant > Repair procedures

2. After turning ENG ON, connect the GDS diagnostic device.

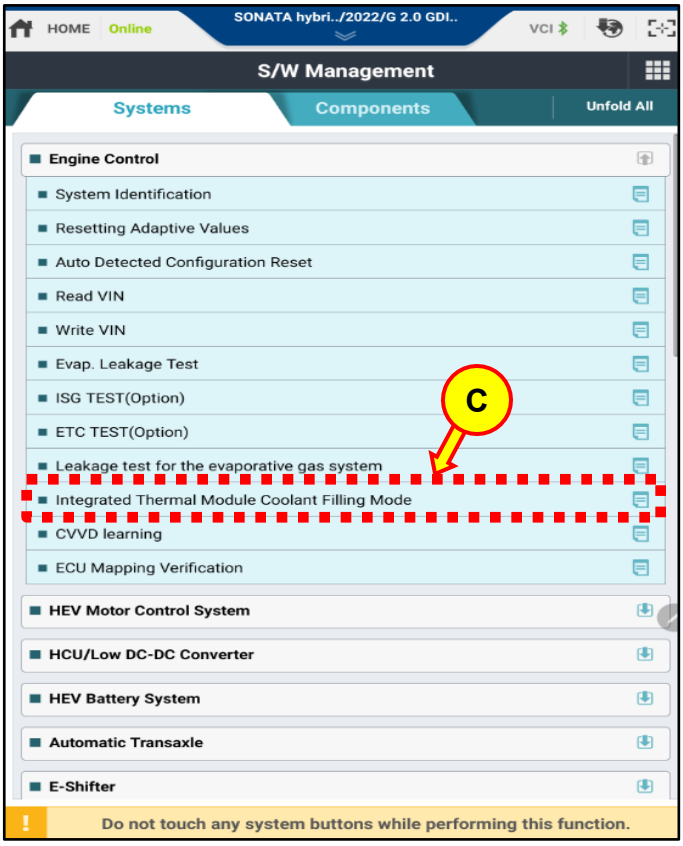
3. Place the gear in P (Park) position and engage the emergency brake.

4. Turn off the A/C and set the air conditioning temperature and the number of blowers to maximum.

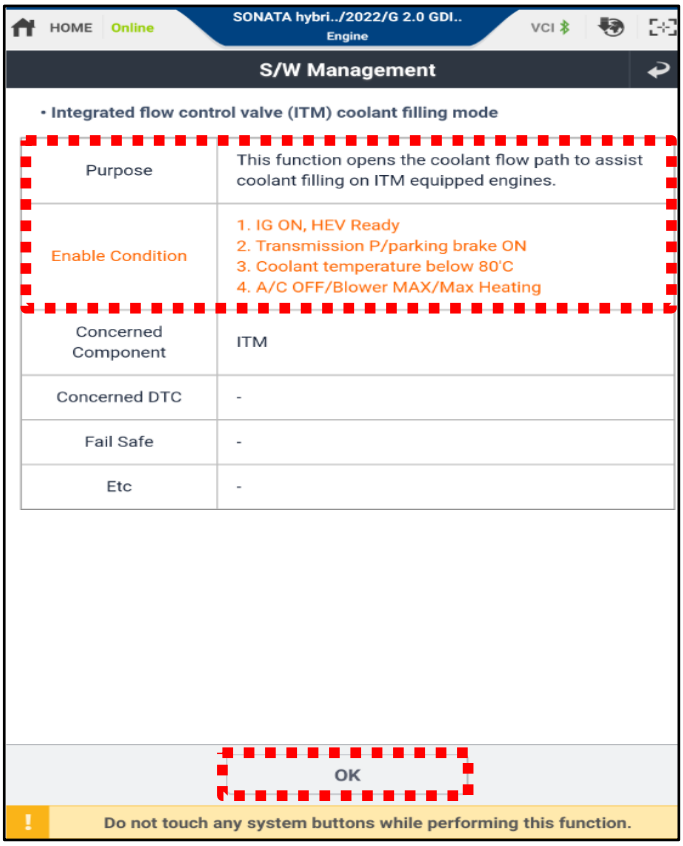
5. Select '**S/W Management**' (B).



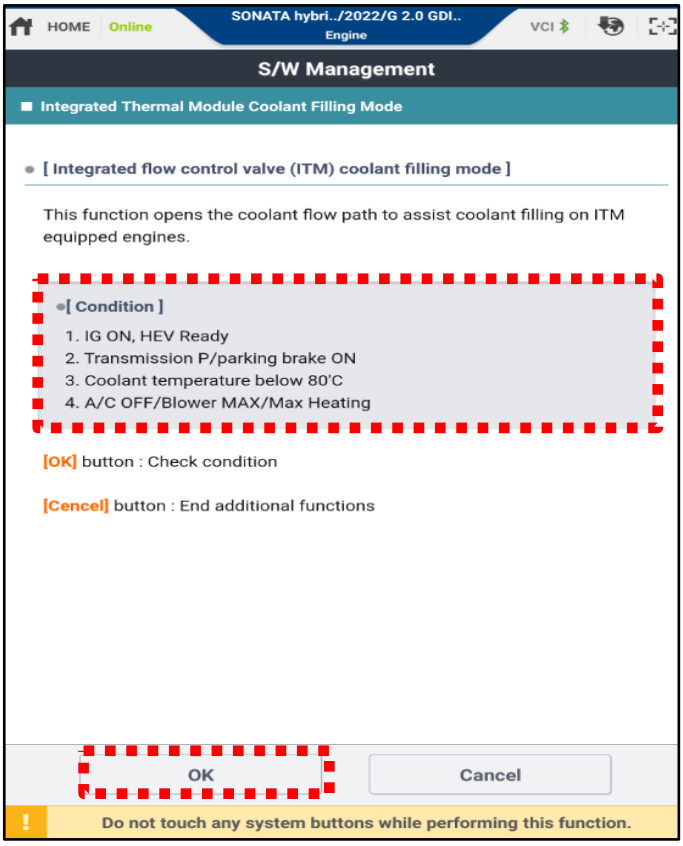
6. Select the '**Integrated Thermal Module Coolant Filling Mode**' (C).



7. After checking the 'Purpose' and 'Enable Condition', press **'OK'** to proceed.



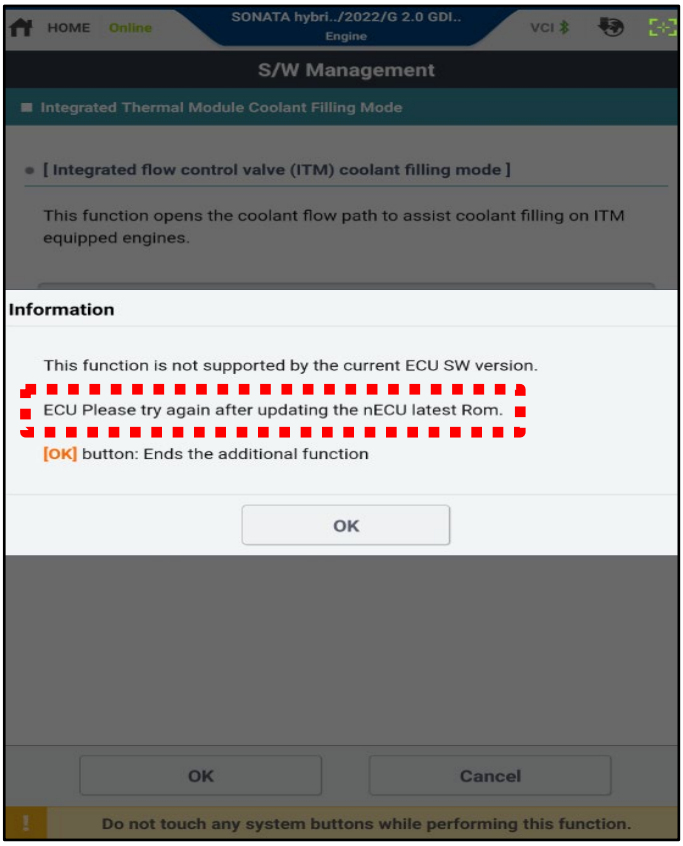
8. Check the items listed under Condition and press **'OK'**.



9. If the phrase "ECU please try again after updating the nECU latest Rom" appears, then the ECU version must be updated to V80 or higher (current version: V70).

   - Refer to TSB 15-GI-001 for additional tablet-based Mobile GDS ECU update information.

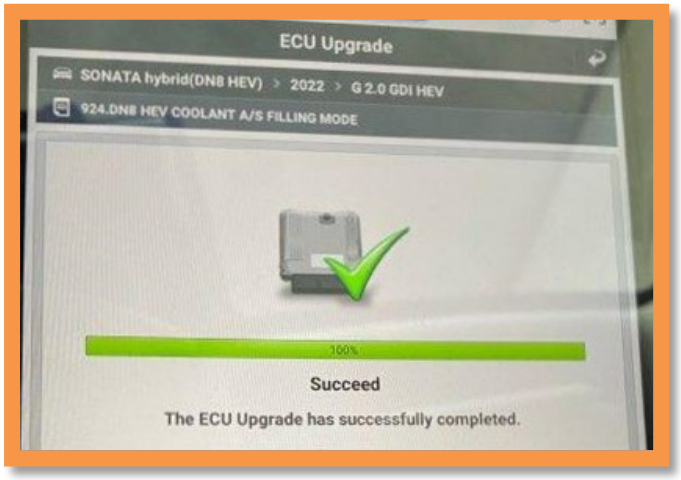
   If ECU Update is not required, skip to step 11.



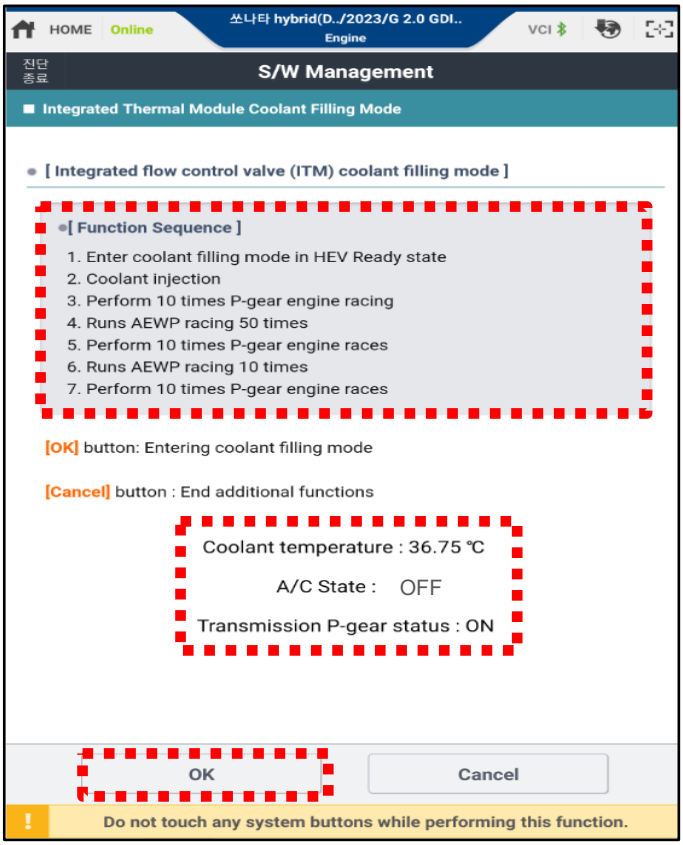
10. If ECU required updating in step 9, a STUI picture is required.

STUI

Take a screenshot of the ECU Update Complete screen using your particular tablet's screenshot save method and upload to STUI.

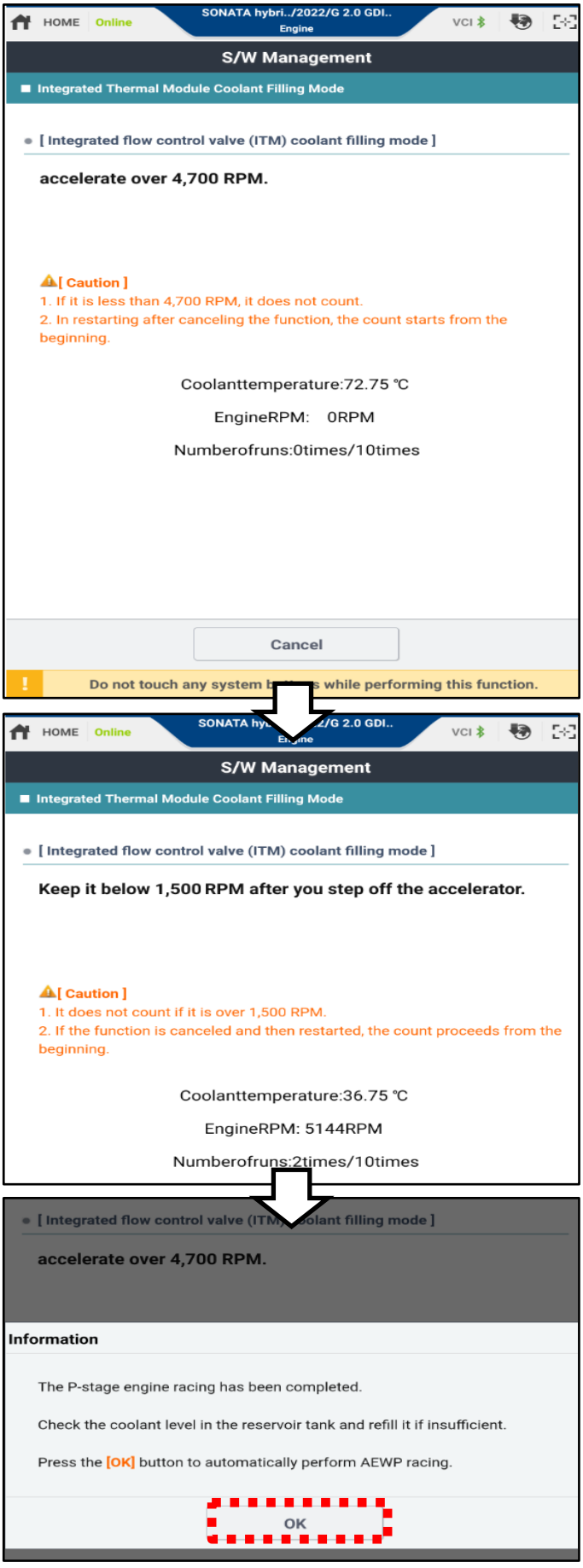


11. Check the items listed in Function Sequence, then verify the following:
    - Coolant temperature of 98°F (36.75°C)
    - A/C OFF state
    - Transmission in "P" (Park)

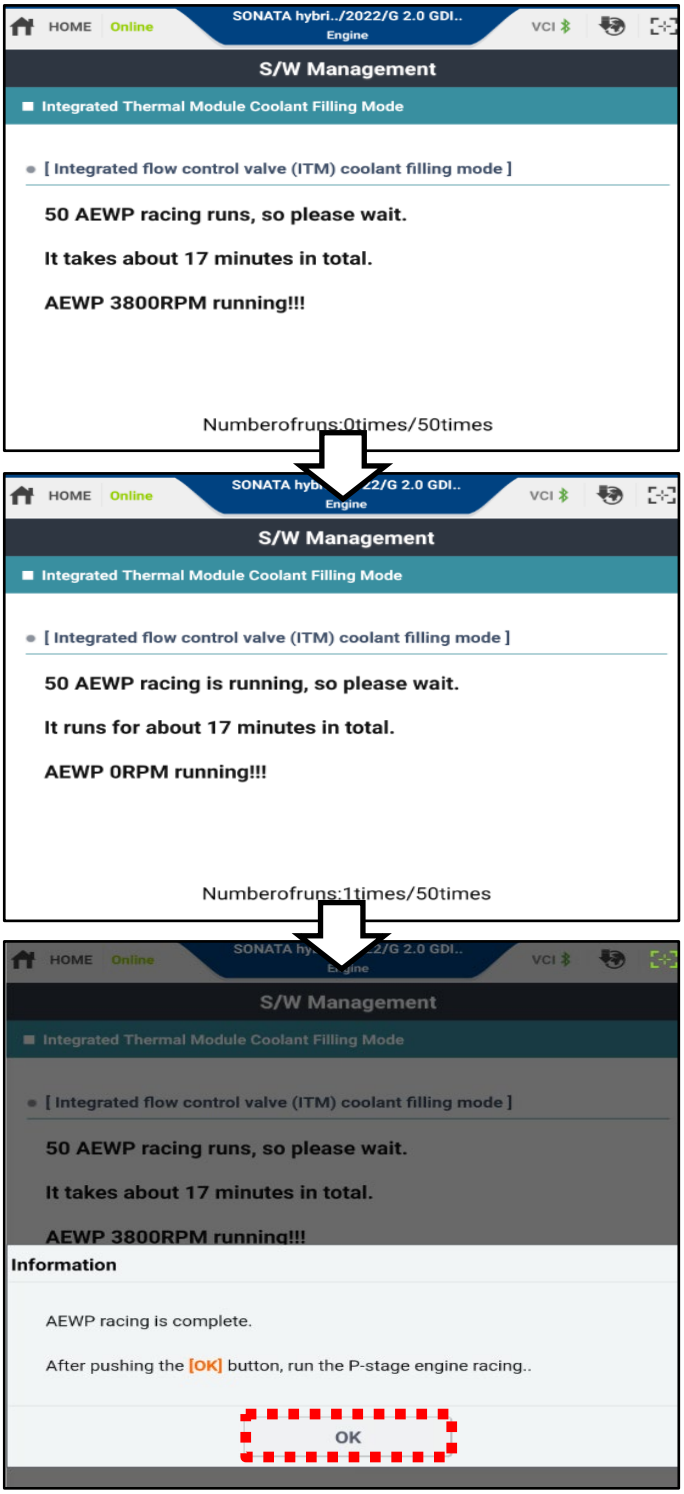


12. With transmission in P (Park), step on the accelerator pedal and raise it to 4,700 rpm or more, then lower it to 1,500 rpm or less.

    Repeat 10 times and check the amount of coolant in the reservoir tank before replenishing. (Follow instructions on GDS as shown at right.)

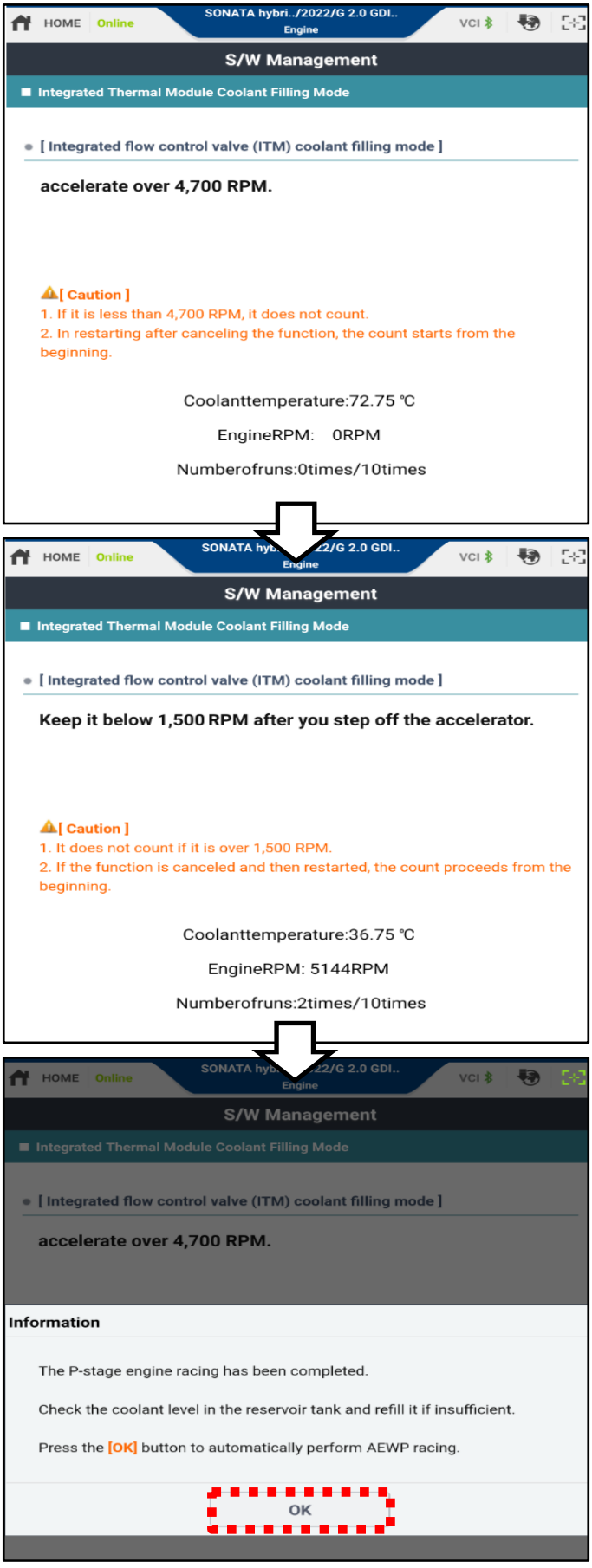


13. Wait until AEWP racing is automatically performed 50 times.

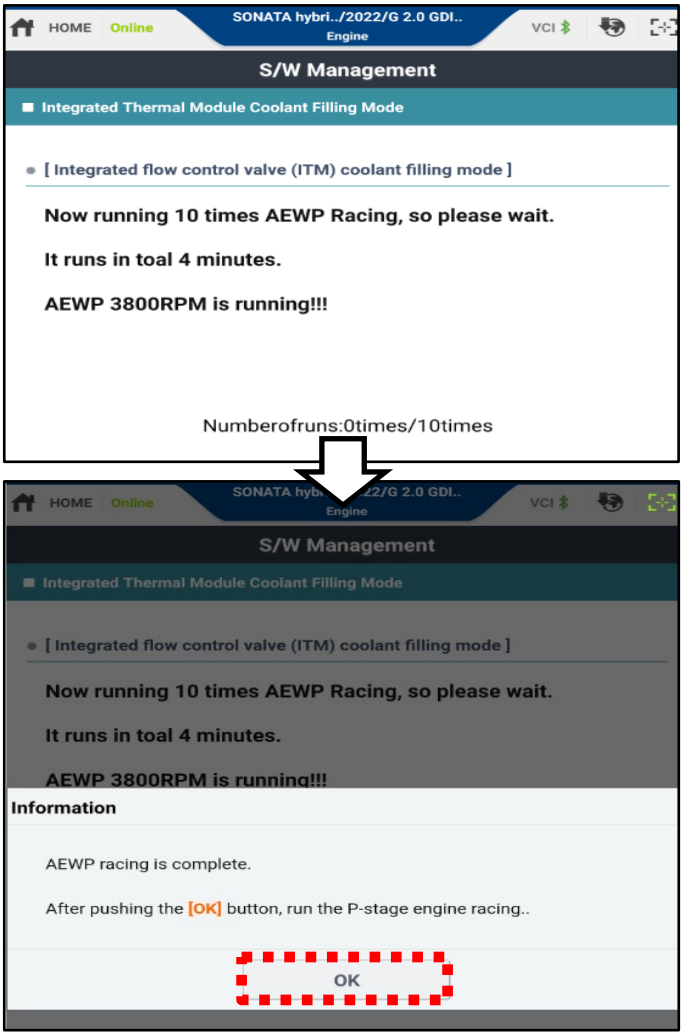


14. With transmission in P (Park), step on the accelerator pedal and raise it to 4,700 rpm or more, then lower it to 1,500 rpm or less.

    Repeat 10 times and check the amount of coolant in the expansion bottle before replenishing. (Follow instructions on GDS as shown at right.)

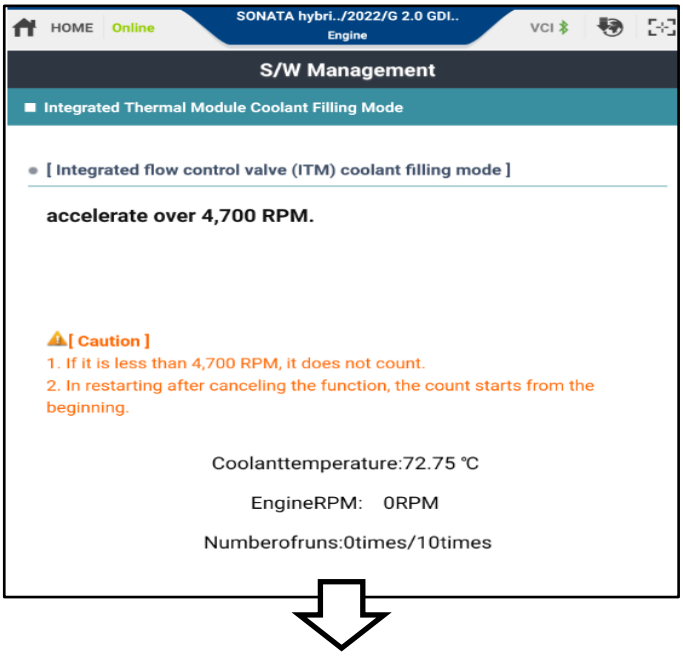


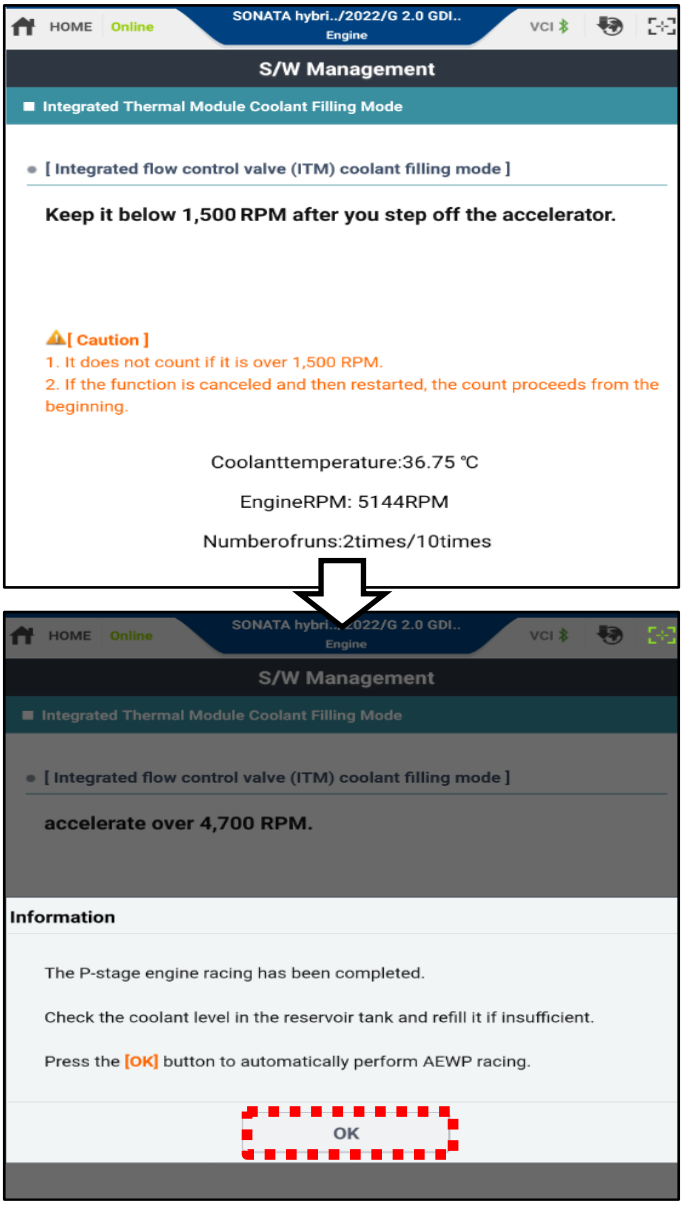
15. Wait until AEWP racing is automatically performed 10 times.



16. With transmission in P (Park), step on the accelerator pedal and raise it to 4,700 rpm or more, then lower it to 1,500 rpm or less.

    Repeat 10 times and check the amount of coolant in the expansion bottle before replenishing. (Follow instructions on GDS as shown at right.)

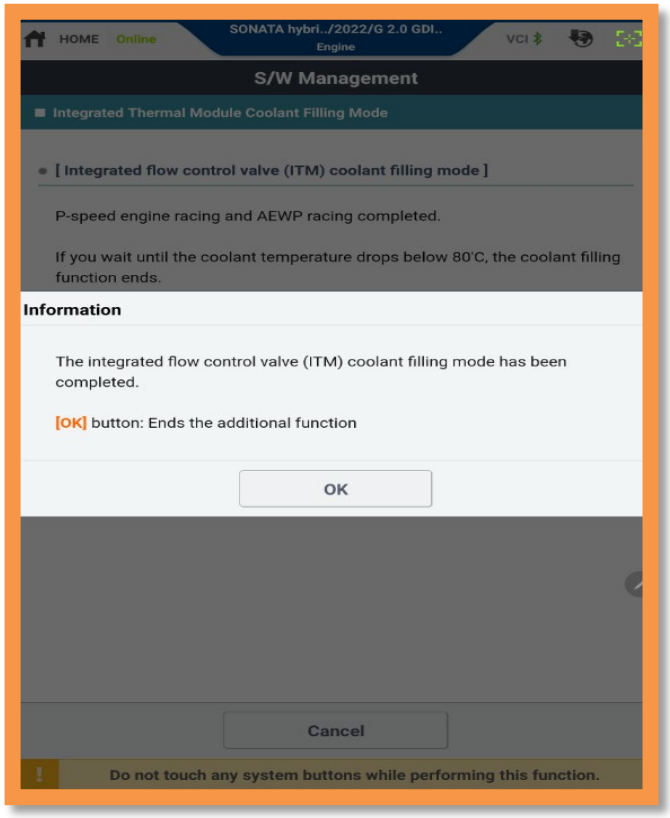



HOME
Online
SONATA hybri.../2022/G 2.0 GDI..
Engine
VCI
S/W Management
Integrated Thermal Module Coolant Filling Mode
[Integrated flow control valve (ITM) coolant filling mode]
Keep it below 1,500 RPM after you step off the accelerator.
[Caution]
1. It does not count if it is over 1,500 RPM.
2. If the function is canceled and then restarted, the count proceeds from the beginning.
Coolanttemperature:36.75 ℃
EngineRPM: 5144RPM
Numberofruns:2times/10times
HOME
Online
SONATA hybri...2022/G 2.0 GDI..
Engine
VCI
S/W Management
Integrated Thermal Module Coolant Filling Mode
[Integrated flow control valve (ITM) coolant filling mode]
accelerate over 4,700 RPM.
Information
The P-stage engine racing has been completed.
Check the coolant level in the reservoir tank and refill it if insufficient.
Press the [OK] button to automatically perform AEWP racing.
OK

17. When the phrase "Ends the additional function" appears on the diagnostic device, check the amount of coolant and reinstall the reservoir tank cap.

STUI

Take a screenshot of the 'Integrated flow control valve (ITM) coolant filling mode has been completed' screen using your particular tablet's screenshot save method and upload to STUI.



18. Procedure is complete.