

 **HYUNDAI**
Technical Service Bulletin

GROUP	NUMBER
ENGINE MECHANICAL	25-EM-005H
DATE	MODEL(S)
JUNE 2025	SANTA CRUZ (NXT)

SUBJECT: INTEGRATED THERMAL MANAGEMENT (ITM)
REPLACEMENT & ECU SOFTWARE UPDATE – DTC P218100

This TSB supersedes 23-EM-006H to add the water inlet O-ring and pink coolant to the “Parts Information” section (page 2), add the “SST Information” section (page 2), update ROM ID Information and Manual Mode Passwords (pages 4 & 11), and add a separate “ECU Update Procedure” section (pages 7-11).

Description: Certain 2022-2023MY Santa Cruz (NXT) vehicles may exhibit a warning lamp illumination for a diagnostic trouble code P218100 that is related to the Integrated Thermal Management Module (ITM). Follow the service procedure outlined in this bulletin to replace the ITM with a revised part and update the Engine/Electronic Control Unit (ECU).

NOTICE

- Completion of both ITM replacement using the part listed below and the ECU updates to revise the control logic is required to repair “DTC P218100 - Cooling System Performance”.
- A Prior Approval (PA) is **NOT** required for this repair, regardless if the affected part is outside of the New Vehicle Limited Warranty (5 years/60,000 miles).



Applicable Vehicles:

- ALL 2022–2023MY Santa Cruz (NXT)

SUBJECT:



INTEGRATED THERMAL MANAGEMENT (ITM)
REPLACEMENT & ECU SOFTWARE UPDATE - DTC P218100

Parts Information:

Model	Part Name	Part Number		Quantity
Santa Cruz (NXT)	Integrated Thermal Management (ITM) Module	25600-2S600 (OLD)	25600-2S600QQH (NEW)	1
	Water Inlet O-Ring	25462-2S000		1
	Pink Coolant	00232-19098		2

NOTE: For proper engine operation, ITM replacement must be completed before the ECU update.

SST Information:

Tool Name	Tool Number	Figure	Ordering Information
VCI 3	G0VHNNN06		Website: https://hyundaiesentialtools.com/ Email: Hyundaitools@snapon.com Phone: 1-855-763-9199 Hours: 7 AM – 7 PM CST
VCI 2	G1XDDMN001		

GDS Information:

System	Event Number*	Description
Engine	1008	ECU UPGRADE - NX4OB 2.5 TGDI P2181 IMPROVEMENT
	1029	ECU UPGRADE - NX4OB 2.5 GDI P2181/P0456 IMPROVEMENT

(*or use a later available event listed in the GDS **Engine** update screen if one is available.)

NOTE: For proper engine operation, ITM replacement must be completed before the ECU update.

SUBJECT:INTEGRATED THERMAL MANAGEMENT (ITM)
REPLACEMENT & ECU SOFTWARE UPDATE - DTC P218100**Warranty Information:**

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Santa Cruz (NXT)	30DA13R0	DTC Inspection & ITM Replacement, and ECU Software Update	2.1 M/H	25600-2S000	I52	ZZ3

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

NOTE 2: This TSB includes repair justification in the form of an automatically uploaded DTC via GDS e-Report at the time of diagnosis. To ensure adherence to the Digital Documentation Policy prior to claim submission, DTC history can be reviewed via the e-Report function within the GDS. Taking a picture of the existing/replacement ITM next to each other and screen capture of the 'ECU update complete' screen is also required.

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 part is not returned.**

NOTE 4: 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.

NOTE 5: A Prior Approval (PA) is **NOT** required for this repair.

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ROM ID Information:

Model	Event Number	TM 2 or 4WD	ECU Part Number.	ROM ID	
				Current	Latest
Santa Cruz (NXT) 2.5 GDI	1029	8AT2	39110-2S171	NTDWN5GMFXXXXK5B NTDWN5GMFXXXXK5C NTDWN5GMFXXXXK5D	NTDWN5GMFXXXXK5F
		8AT2	39110-2S177	NTDWN5GKFXXXXK5B NTDWN5GKFXXXXK5C NTDWN5GKFXXXXK5D	NTDWN5GKFXXXXK5F
		8AT2	39110-2S172	NTDWN5GSFXXXXK5B NTDWN5GSFXXXXK5C NTDWN5GSFXXXXK5D	NTDWN5GSFXXXXK5F
		8AT4	39110-2S173	NTDWN5GMGXXXXK5B NTDWN5GMGXXXXK5C NTDWN5GMGXXXXK5D	NTDWN5GMGXXXXK5F
		8AT4	39110-2S178	NTDWN5GKGXXXXK5B NTDWN5GKGXXXXK5C NTDWN5GKGXXXXK5D	NTDWN5GKGXXXXK5F
		8AT4	39110-2S174	NTDWN5GSGXXXXK5B NTDWN5GSGXXXXK5C NTDWN5GSGXXXXK5D	NTDWN5GSGXXXXK5F
		8AT2	39110-2S322	NTEWN5GMFXXXXM0B	NTEWN5GMFXXXXM0D
		8AT2	39110-2S323	NTEWN5GKFXXXXM0B	NTEWN5GKFXXXXM0D
		8AT4	39110-2S325	NTEWN5GMGXXXXM0B	NTEWN5GMGXXXXM0D
		8AT4	39110-2S326	NTEWN5GKGXXXXM0B	NTEWN5GKGXXXXM0D
Santa Cruz (NXT) 2.5 T-GDI	1008	8DCT4	39100-2SNX2	NXDWD5TKGXXXXK6A NXDWD5TKGXXXXK6B	NXDWD5TKGXXXXK6C
			39100-2SNX3	NXDWD5TSGXXXXK6A NXDWD5TSGXXXXK6B	NXDWD5TSGXXXXK6C
			39100-2SNX7	NXDWD5TMGXXXXK6A NXDWD5TMGXXXXK6B	NXDWD5TMGXXXXK6C
			39110-2SNX2	NXEWD5TKGXXXXM0A	NXEWD5TKGXXXXM0B
			39110-2SNX3	NXEWD5TSGXXXXM0A	NXEWD5TSGXXXXM0B
			39110-2SNX7	NXEWD5TMGXXXXM0A	NXEWD5TMGXXXXM0B

Service Procedure:

DIGITAL DOCUMENTATION



This TSB includes repair justification in the form of an automatically uploaded DTC via GDS e-Report at the time of diagnosis. In addition, taking a picture of the existing/replacement ITM next to each other and capture of the ECU update complete screen is also required.

NOTICE

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

***i* Information**

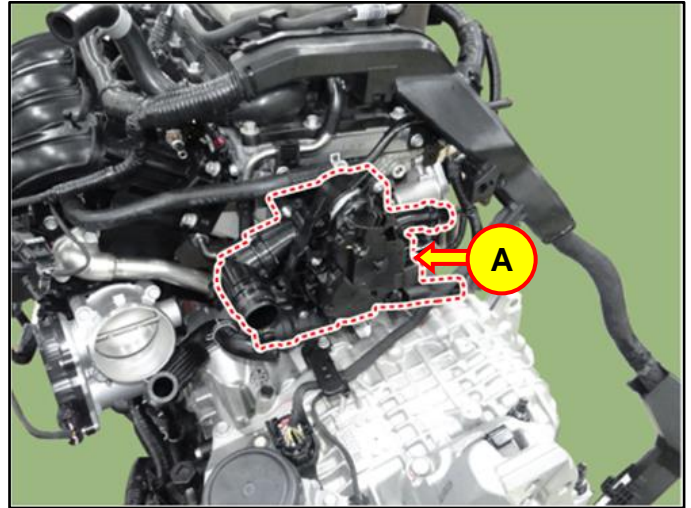
This TSB **ONLY** applies if GDS determines the vehicle is affected by DTC P2181.

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ITM Replacement

1. Utilize the GDS to detect DTC P218100:
Cooling System Performance:
 - If DTC P218100 is present, then replace the ITM (A) by referring to the shop manual.
 - **Engine Mechanical System > Cooling System > Integrated Thermal Management > Repair procedures**
 - If DTC P218100 is **NOT** present, then the service procedure is now complete.



2.

DIGITAL DOCUMENTATION



Using STUI, take a photo of the new (QQH) part next to the removed, old part.

Upload the photo to STUI.



NEW (QQH)

OLD (OE)

3. Reinstall parts in the reverse order of removal.

ECU Update Procedure

DIGITAL DOCUMENTATION

This TSB includes screen capture of the **ECU Software Update** screen at 100% success.

NOTICE

You must initially perform the GDS ECU update in Auto Mode.

- If the ECU update starts but then fails in Auto Mode, perform the update in Manual Mode to recover.

NOTICE

Ensure the vehicle's battery charge is **above 11.0 Volts** and the tablet's battery charge is **above 30%** before performing a software update to avoid update failure.

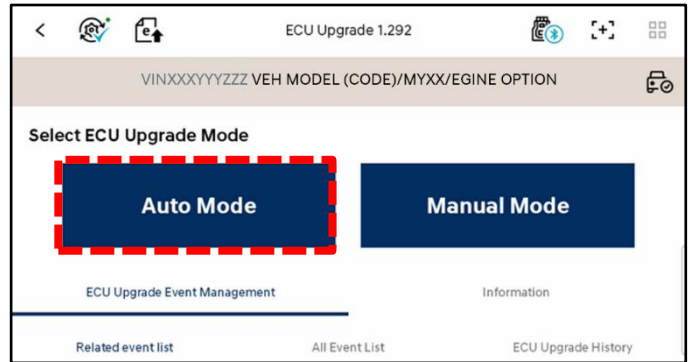
**Information**

- Turn **OFF** all lamps (do **NOT** leave head lamp switch in auto mode) and all accessories.
- Perform update with the ignition switch in the **ON** position.
- Do **NOT** disconnect any cables connected to the vehicle or scan tool during the update.
- Do **NOT** start the engine during the update.
- Do **NOT** turn **OFF** the ignition switch during the update.

1. Perform the ECU update in **Auto Mode**.

i Information

Refer to **TSB # 25-GI-011H**, “ECU Update Procedure for Tablet-Based GDS-Smart”, for additional information.



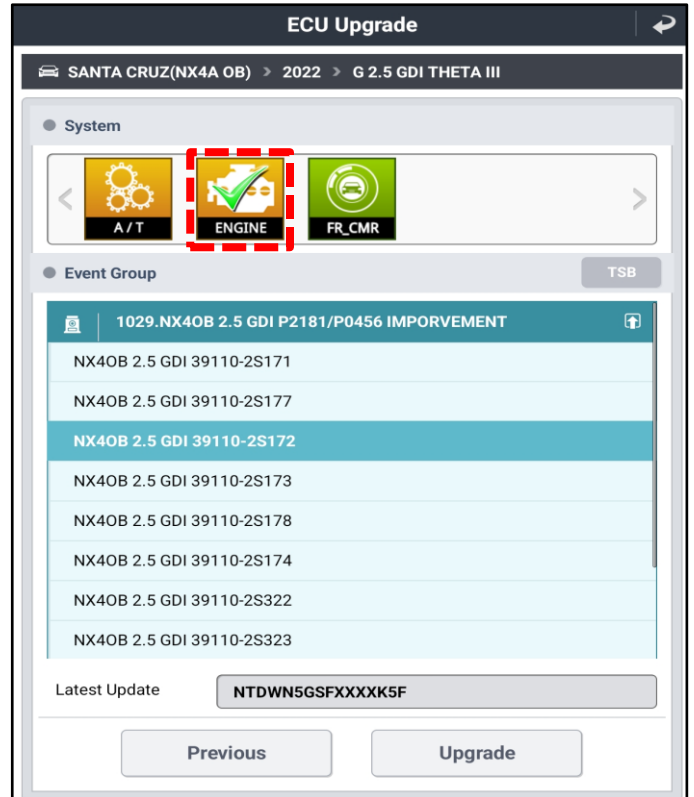
2. Select the **Engine** system to scan the vehicle’s current ROM ID.

NOTICE

Check the current ROM ID version and compare it to the ROM ID Information table before attempting to perform the software update.

NOTICE

If the update fails, remove the power connector from the in-cabin fuse box for at least **5 seconds**. Alternatively, disconnect the negative (-) **12V** battery terminal, wait at least **5 seconds**. Reassemble and retry the update.



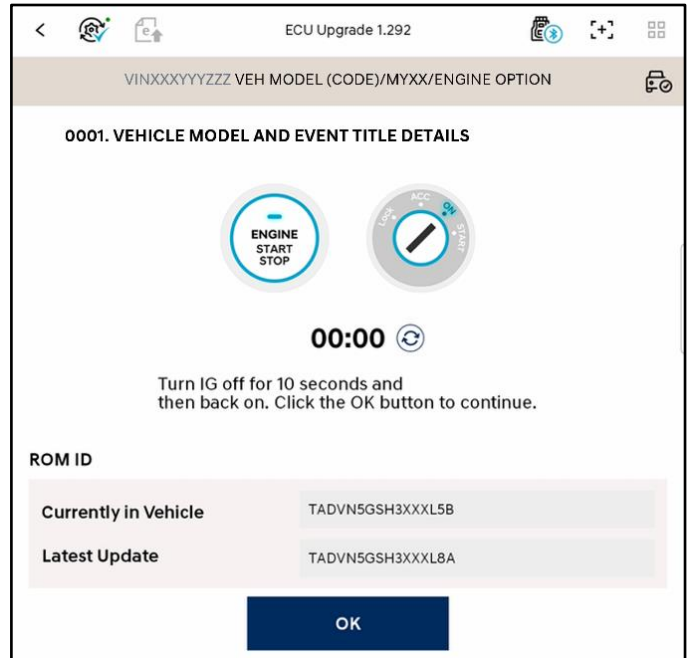
SUBJECT:

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- 3. After the ECU update process shows 100% complete, follow the prompts on the screen to cycle the ignition **OFF** for at least **10 seconds** to reset the control unit (certain models may take up to **30 seconds**).

i Information

Use the **Refresh** button to reset the timer.

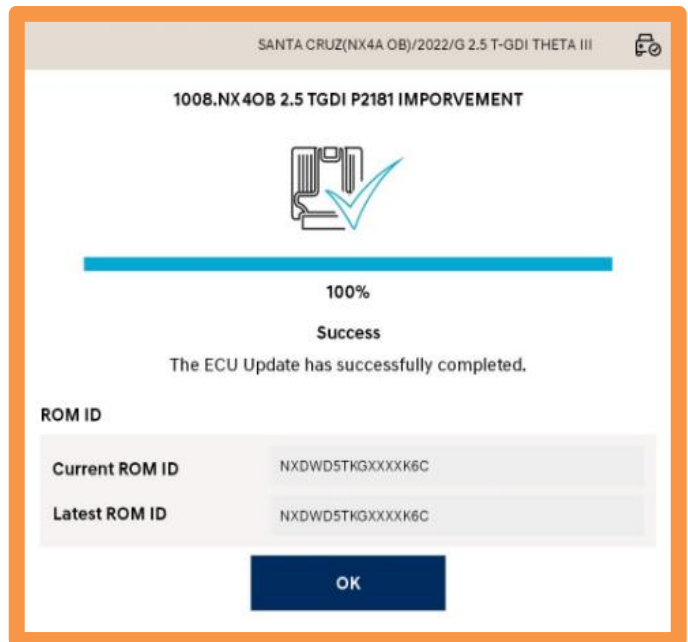


- 4.

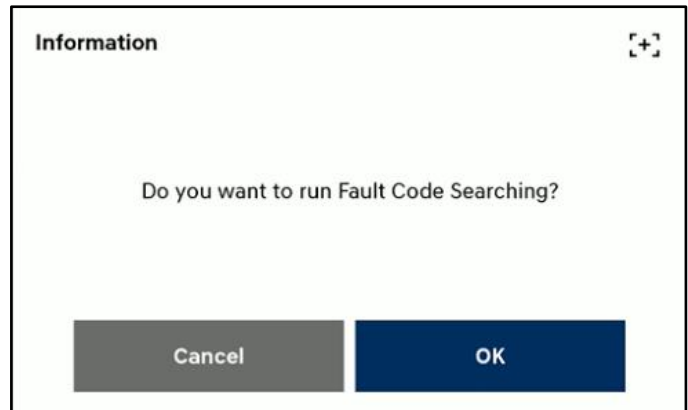
DIGITAL DOCUMENTATION



Take a screenshot of the ECU update complete screen(s) using your tablet and upload to STUI.



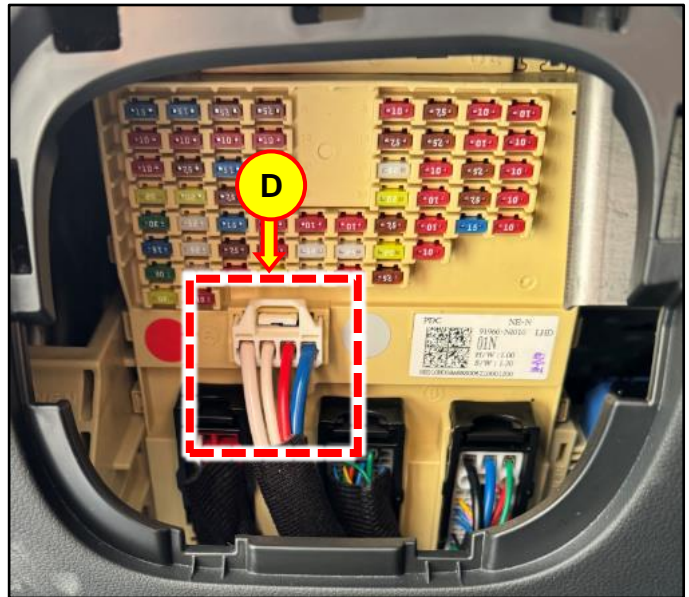
- 5. Perform an **All Systems Fault Code** search and erase DTC history that had incidentally occurred from the ECU update.



6. Disconnect the power connector (D) of the indoor fuse box, wait at least **5 seconds**, then reconnect it.

i Information

Alternatively, disconnect the negative (-) **12V** battery terminal, wait at least **5 seconds**, then reconnect it.



7. Perform the ITM Coolant Filling Method to fully bleed the cooling system using GDS to enter the **Integrated Thermal Module Coolant Filling Mode**.

Refer to the shop manual:

- **Engine Mechanical System > Cooling System > Coolant > Repair procedures**

! WARNING

NEVER remove the radiator cap when the engine is hot. Serious scalding could be caused by hot fluid under high pressure escaping from the radiator.

NOTICE

Failure to follow the ITM bleeding procedure under **S/W Management** in GDS may result in air pockets and overheating of the engine.

8. The service procedure is now complete.

Integrated Thermal Module Coolant Filling Mode	
Purpose	This mode assists coolant refilling by opening the coolant flow line for the engine equipped with an ITM.
Enable Condition	<ol style="list-style-type: none"> 1. IG ON, ENG RUN 2. Transmission position P / Parking brake ON 3. Vehicle speed 0km/h (0 mile/h) 4. Coolant temperature is 90°C or under
Concerned Component	ITM
Concerned DTC	-
Fail Safe	-
Etc	-

NOTICE

If the ECU update fails in Auto Mode, perform the update in Manual Mode using the password(s) below.

Manual Mode Passwords:

Event	ECM Menu	Password
1008 (N 2.5T)	NX4OB 2.5 TGDI 39100-2SNX2	2200
	NX4OB 2.5 TGDI 39100-2SNX3	2300
	NX4OB 2.5 TGDI 39100-2SNX7	2201
	NX4OB 2.5 TGDI 39110-2SNX2	2700
	NX4OB 2.5 TGDI 39110-2SNX3	2310
	NX4OB 2.5 TGDI 39110-2SNX7	2710
1029 (NXT 2.5L)	NX4OB 2.5 GDI 39110-2S171	2171
	NX4OB 2.5 GDI 39110-2S177	2177
	NX4OB 2.5 GDI 39110-2S172	2172
	NX4OB 2.5 GDI 39110-2S173	2173
	NX4OB 2.5 GDI 39110-2S178	2178
	NX4OB 2.5 GDI 39110-2S174	2174
	NX4OB 2.5 GDI 39110-2S322	2322
	NX4OB 2.5 GDI 39110-2S323	2323
	NX4OB 2.5 GDI 39110-2S325	2325
	NX4OB 2.5 GDI 39110-2S326	2326