



Technical Service Bulletin

GROUP	NUMBER
ENGINE	23-EM-006H
DATE	MODEL(S)
OCTOBER 2023	SANTA CRUZ (NXT)

SUBJECT: DTC P2181 – INTEGRATED THERMAL MANAGEMENT (ITM) REPLACEMENT AND ECU UPDATE

Description: Certain 2022-2023MY Santa Cruz (NXT) vehicles may experience a warning lamp illumination for a diagnostic trouble code P2181 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 reprogram the powertrain control module to update the control logic.

NOTE: Completion of both ITM replacement using the part listed below and ECU update to revise the control logic is required for the repair of P2181 “Cooling System Performance” condition.



Applicable Vehicles:

- ALL 2022 - 2023MY Santa Cruz (NXT) vehicles

Parts Information:

Part Name	Before	After*	QTY
Integrated Thermal Management Module (ITM)	25600-2S500	25600-2S600QQH	1

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

GDS Information:

Model	Event #**	Description***
Santa Cruz 2.5T (NXT)	1008	ECU UPGRADE - NX4OB 2.5 TGDI P2181 IMPROVEMENT
Santa Cruz 2.5L (NXT)	1029	ECU UPGRADE - NX4OB 2.5 GDI P2181/P0456 IMPROVEMENT

NOTE:** Use a later available event as listed in the GDS for ECM Update screen if one is available.

NOTE*:** For proper engine operation, ECU update must be completed only after ITM replacement.

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

Warranty Information:

Model	Op. Code	Operation	Op. Time	Casual Part	Nature Code	Cause Code
Santa Cruz (NXT)	30DA13R0	DTC Inspection + ITM Replacement + ECU Update	2.1 M/H	25600-2S500	I52	ZZ3

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 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 3: This TSB includes Repair validation photos. Op times include VIN, Mileage and Repair 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.**

Service Procedure:**STUI**

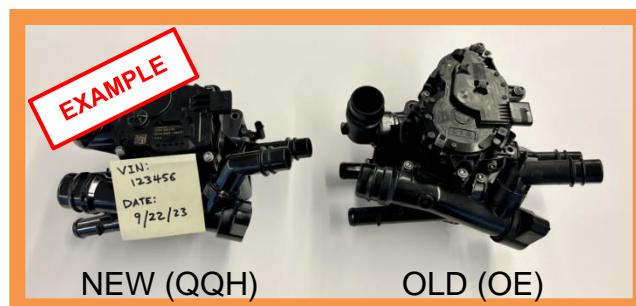
This TSB includes Repair validation photos. Refer to the latest Digital Documentation Policy for requirements.

1. Confirm with GDS scan tool that DTC P2181 “Cooling System Performance” condition exists.
 - ❖ This TSB only applies if DTC P2181 condition exists.
2. If DTC P2181 is present, replace the existing ITM with the revised ITM (P/N 25600-2S600QQH).
 - **Shop Manual:** Engine Mechanical System > Cooling System > Integrated Thermal Management > Repair Procedures

3.

STUI

Before installing the new ITM, take a STUI photo of the QQH part next to the removed old part.



NOTE: Follow the steps in the next page to perform “ITM Coolant Filling Method” with the GDS after the ECU update that contains the new control logic.

NOTICE

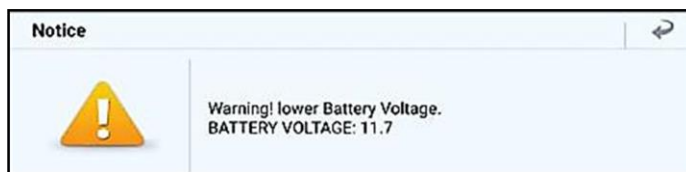
You must initially perform the GDS ECU Update in Auto Mode.

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

NOTICE

GDS Vehicle Battery Low Voltage Warning:

If voltage is below 12 volts as per the below GDS warning, then select **Back** and run the vehicle for at least 20 minutes to ensure an adequate battery state of charge for reliable update results. Turn ignition back on, and then retry the ECU update again.

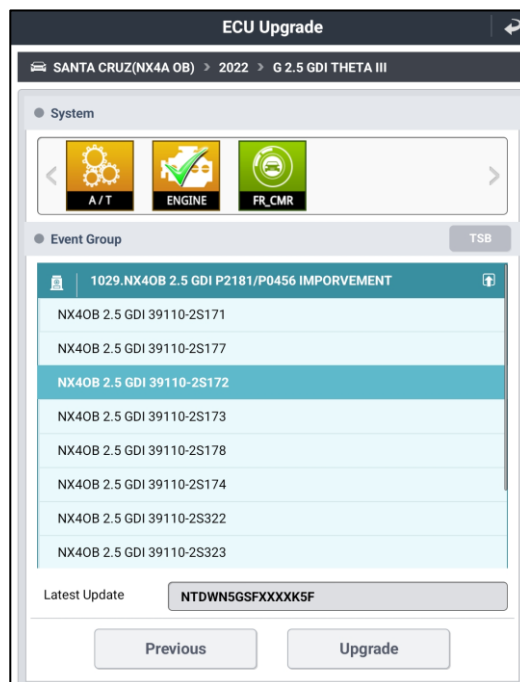


4. Perform the ECU Update in Auto Mode.

Use the Auto Mode ID Check to verify the ECU ROM ID before updating the software.

i Information

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

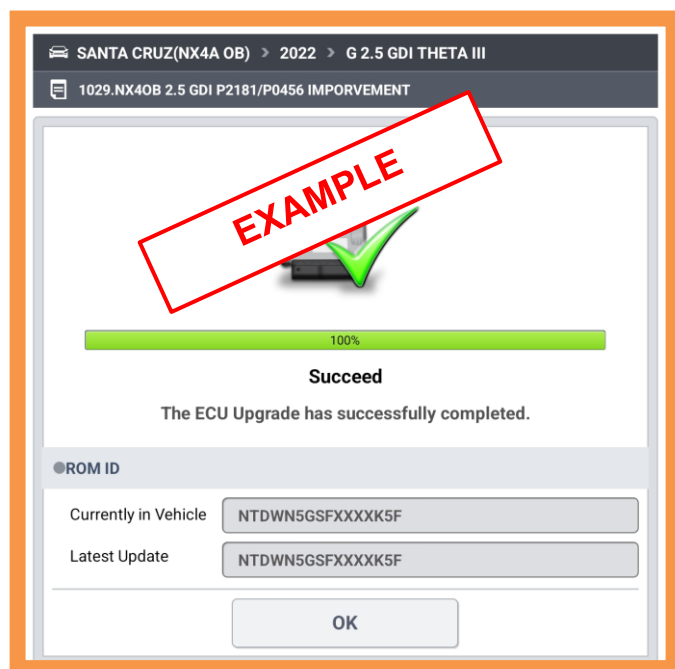


5.

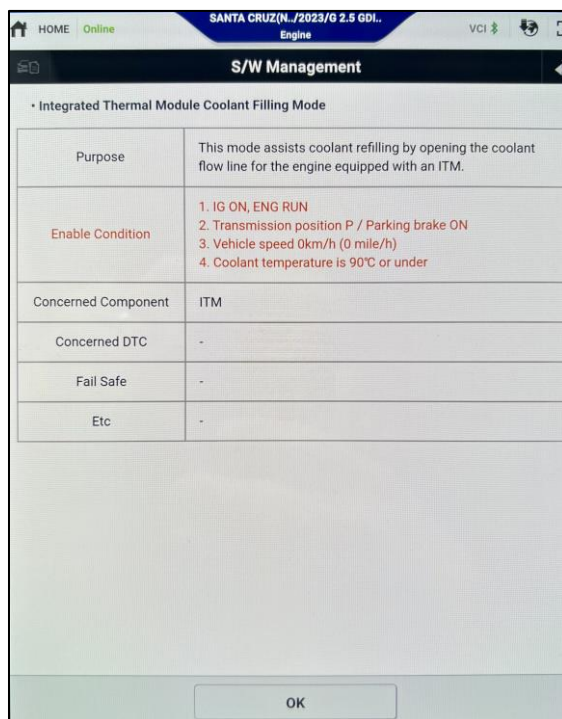
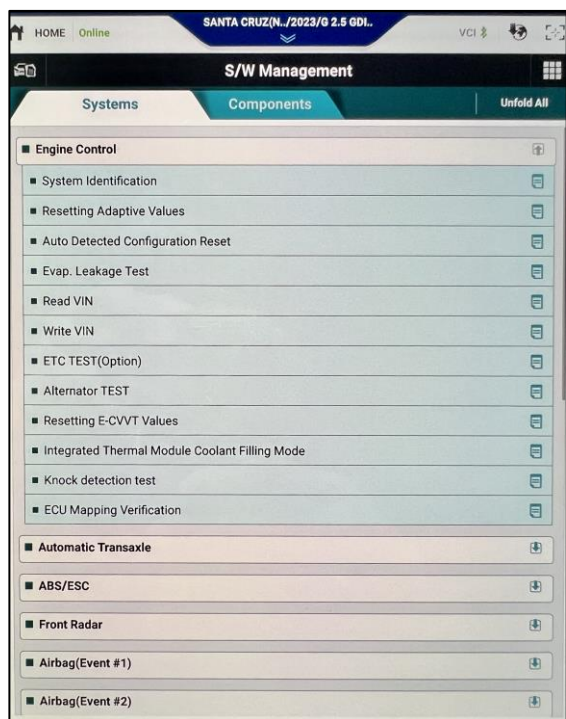
STUI

📷

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



6. After the ECU Upgrade process shows 100% complete, cycle the ignition key to OFF for at least 10 seconds to reset the control unit.
7. Perform an All Systems Fault Code search and erase the history of the DTC that may have incidentally occurred from the ECU update.
8. Start the vehicle and then perform the ITM Coolant Filling Method to fully air bleed the cooling system using the GDS to enter the “Integrated Thermal Module Coolant Filling Mode”.



ROM ID Information Table: Event #1008

Model	MY/TM	ECU Part Number	ROM ID	
			OLD	NEW
Santa Cruz 2.5T (NXT)	22MY / DCT	39100-2SNX2	NXDWD5TKGXXXXK6A NXDWD5TKGXXXXK6B	NXDWD5TKGXXXXK6C
	23MY / DCT	39110-2SNX2	NXEWD5TKGXXXXM0A	NXEWD5TKGXXXXM0B

ROM ID Information Table: Event #1029

Model	TM / 2 or 4WD	ECU Part Number	ROM ID	
			OLD	NEW
Santa Cruz 2.5T (NXT)	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

Manual Mode Password: Event #1008 (NXT w/2.5T)

ECM Menu	Password
NX4OB 2.5 TGDI 39100-2SNX2	2200
NX4OB 2.5 TGDI 39110-2SNX2	2700

Manual Mode Password: Event #1029 (NXT w/2.5L)

ECM Menu	Password
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