



HYUNDAI
Technical Service Bulletin

GROUP RECALL	NUMBER 22-01-093H
DATE DECEMBER 2022	MODEL(S) SANTA FE (TMa) SONATA (DN8a/DN8) SANTA CRUZ (NXT) VELOSTER N (JSN) KONA N (OSN) ELANTRA N (CN7N)

SUBJECT: 8-SPEED WET DCT TCU UPDATE (RECALL 236)

*** IMPORTANT**

Vehicle repairs related to safety recalls are critically important and must be performed properly in accordance with TSB procedures. Review this bulletin in its entirety prior to beginning any repair work.

As required by federal law, dealers must not deliver new vehicles for sale or for lease to customers until all open recalls have been performed. Dealers must also perform all open recalls on used vehicles, demo, and rental vehicles prior to placing them into customer use and whenever an affected vehicle is in the shop for any maintenance or repair.

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

Description: Certain Hyundai vehicles equipped with 8-speed dual clutch transmissions (DCT) may encounter drivability symptoms, such as rough upshifts, hesitations, or lack of motive power, and/or certain Diagnostic Trouble Codes (DTC) such as P1C2D03.

This bulletin provides information regarding a software update for the Transmission Control Unit (TCU) to revise the logic on the drivability conditions and "fail safe" driving capability. In cases where the DTC P1C2D03 is on, the transmission will need to be replaced.

Applicable Vehicles:

Certain 2021MY - 2022MY Santa Fe (TMa) 2.5T (VINs beginning with "5NM") produced between 11/20/2020 - 05/03/2022

Certain 2021MY - 2022MY Sonata (DN8a/DN8) 2.5T N-Line Trim (VINs beginning with "5NP" and "KMH") produced between 11/24/2020 - 03/31/2022

Certain 2022MY Santa Cruz (NXT) 2.5T produced between 06/22/2021 - 05/13/2022

Certain 2021MY- 2022MY Veloster N (JSN) 2.0T produced between 08/28/2020 - 05/13/2022

Certain 2022MY Kona N (OSN) 2.0T produced between 10/05/2021 - 05/04/2022

Certain 2022MY Elantra N (CN7N) 2.0T produced between 09/15/2021 - 04/08/2022

Warranty Information:

MODEL	OP CODE	OPERATION	OP TIME	CAUSAL PART	NATURE CODE	CAUSE CODE
Santa Fe (TMa) Sonata (DN8a – VIN starts /w 5NP) Santa Cruz (NXT)	21D155R0	TCU Upgrade + Air Bleeding	0.7 M/H	954A1-2N250 (TMa) 954A1-2N060 (DN8a) 954A1-2N460(NXT)	I3T	ZZ3
Kona N (OSN) Sonata (DN8 – VIN starts with KMH) Elantra N (CN7N) Veloster N (JSN)	21D155R1	TCU Upgrade + Air Bleeding	0.7 M/H	954A1-2N410 (OSN) 954A1-2N060 (DN8) 954A1-2N510 (CN7N) 954A1-2N020 (JSN)	I3T	ZZ3
ALL	Refer to WEBLTS for current OP code	Transmission Replacement (if DTC P1C2D03 is ON)	Refer to WEBLTS for current LTS time	43000* 430F0*	I3T	ZZ3

Note 1: Submit Claim on Campaign Claim Entry Screen.

Note 2: If DCT replacement is needed (DTC P1C2D03 is found at time of recall repair), please submit a warranty claim under the Warranty Claim entry screen and follow the HMA Warranty and Prior Approval (if applicable) policy.

Note 3: If a part that is not covered by this campaign 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 4: The incident parts are subject to callback through the normal Warranty Technical Center (WT C) parts return process. **Claim is subject to debit if the part is requested and not returned.**

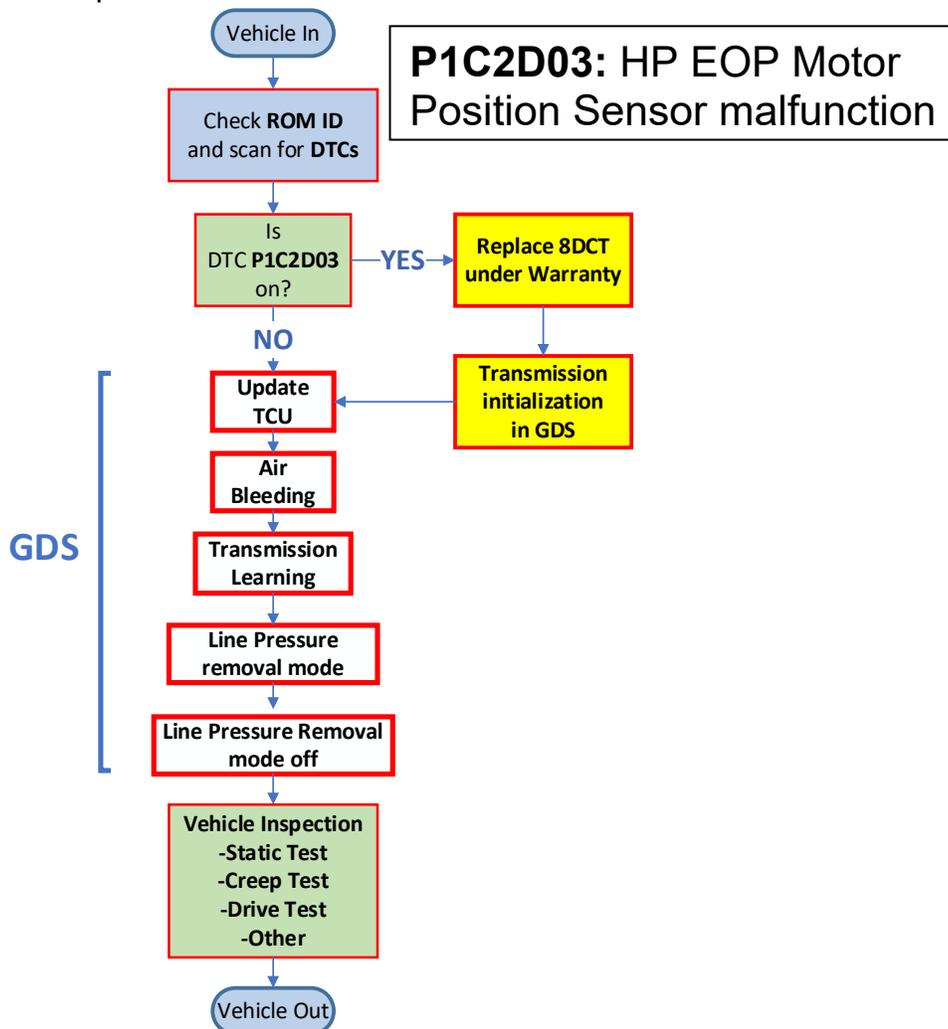
Note 5: *Please refer to the applicable parts catalog for the full part number.



Refer to the QR code or link below for guided video information:
[Hyundai Service Learning - Recall 236 Service Procedure](#)

Service Procedure:

1. Refer to the flowchart below for overall procedure.



A. Check ROM ID and DTC

1. Check the ROM ID of the TCU of the vehicle.
2. Scan the vehicle for any DTCs.
3. If DTC P1C2D03 is **not** found, then proceed to Section B.
4. If the DTC **P1C2D03** is found, replace the DCT according to the shop manual. Then proceed to Section B.

i Information

Please refer to standard HMA warranty policy & procedures for DCT replacement.

NOTICE

Make sure to perform **Transmission initialization** within GDS after replacing the DCT, otherwise drivability issues may occur.

B. TCU Update

1. Perform the TCU Update using GDS.

i Information

To verify the vehicle is affected, be sure to check the version of the vehicle's control unit ROM ID with reference to the ROM ID Information Table mentioned below before attempting to upgrade the control unit software.

TCU Update and ROM Information Table:

EVENT	MODEL	ENGINE	TCU P/N	ROM ID		REMARK
				OLD	NEW	
#895	Santa Fe (TMa)	Theta 2.5T	954A0-2N250	VTMPT25XXX720NS0	VTMPT25XXX900NSA	SBW
				VTMPT25XXX720NS1		
				VTMPT25XXX730NS2		
				VTMPT25XXX800NS3		
				VTMPT25XXX800NS4		
				VTMPT25XXX800NS5		
				VTMPT25XXX832NS6		
				VTMPT25XXX900NS8		
#896	Sonata (DN8a/ DN8) with N Line Trim	Theta 2.5T	954A0-2N060	VDN8T25XXX700NS0	VDN8T25XXX900NSC	SBW
				VDN8T25XXX700NS1		
				VDN8T25XXX720NS2		
				VDN8T25XXX720NS3		
				VDN8T25XXX720NS4		
				VDN8T25XXX730NS5		
				VDN8T25XXX800NS6		
				VDN8T25XXX832NS7		
				VDN8T25XXX832NS8		
				VDN8T25XXX900NSA		
#897	Santa Cruz (NXT)	Theta 2.5T	954A0-2N460	WNX4T25X4X730NS0	WNX4T25X4X900NS9	SBC
				WNX4T25X4X800NS1		
				WNX4T25X4X800NS2		
				WNX4T25X4X800NS3		
				WNX4T25X4X800NS4		
				WNX4T25X4X832NS5		
				WNX4T25X4X900NS7		
#898	Veloster N (JSN)	Theta 2.0T	954A0-2N020	WJSNT20XXX700NS0	WJSNT20XXX900NS7	SBC
				WJSNT20XXX700NS1		
				WJSNT20XXX700NS2		
				WJSNT20XXX730NS3		
				WJSNT20XXX800NS4		
				WJSNT20XXX832NS5		

#899	Kona N (OSN)	Theta 2.0T	954A0-2N410	WOSNT20XXX730NS0	WOSNT20XXX900NS6	SBC
				WOSNT20XXX730NS1		
				WOSNT20XXX800NS2		
				WOSNT20XXX800NS3		
				WOSNT20XXX832NS4		
#900	Elantra N (CN7N)	Theta 2.0T	954A0-2N510	WCN7T20XXX800NS0	WCN7T20XXX900NS4	SBC
				WCN7T20XXX800NS1		
				WCN7T20XXX832NS2		

Note: SBC = Shift By Cable, SBW = Shift By Wire

i Information

You must initially perform GDS DCT TCU Update in Auto Mode.

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

i Information

1. Verify the vehicle battery has reasonable charge.
2. Turn off all lamps (Do not leave head lamp switch in auto mode.), and all accessories.
3. Perform update with the ignition switch in the **ON** position.
4. Do not disconnect any cables connected to the vehicle or scan tool during update.
5. Do not start the engine during update.
6. Do not turn off the ignition switch during update.

NOTICE

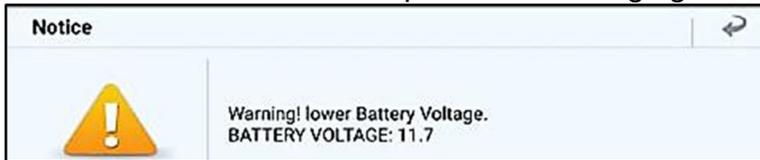
GDS-M Vehicle Battery Low Voltage Warning:

When the vehicle battery is lower than 12 volts, the GDS-M will trigger a Low Battery Voltage Warning. If this Warning occurs,

A. Connect the battery to a fully charged battery jump pack or GR8 charger using “Power Supply Mode” to continue the software update.

OR

B. Select “BACK” to exit the SW update. Then, start the engine and idle with the headlights on for 20 minutes. Return to the SW update after charging the battery.



Failure to do either one of these steps can cause the vehicle battery to die during the update, causing the vehicle to become inoperable.

GDS Information:

System Selection: A/T

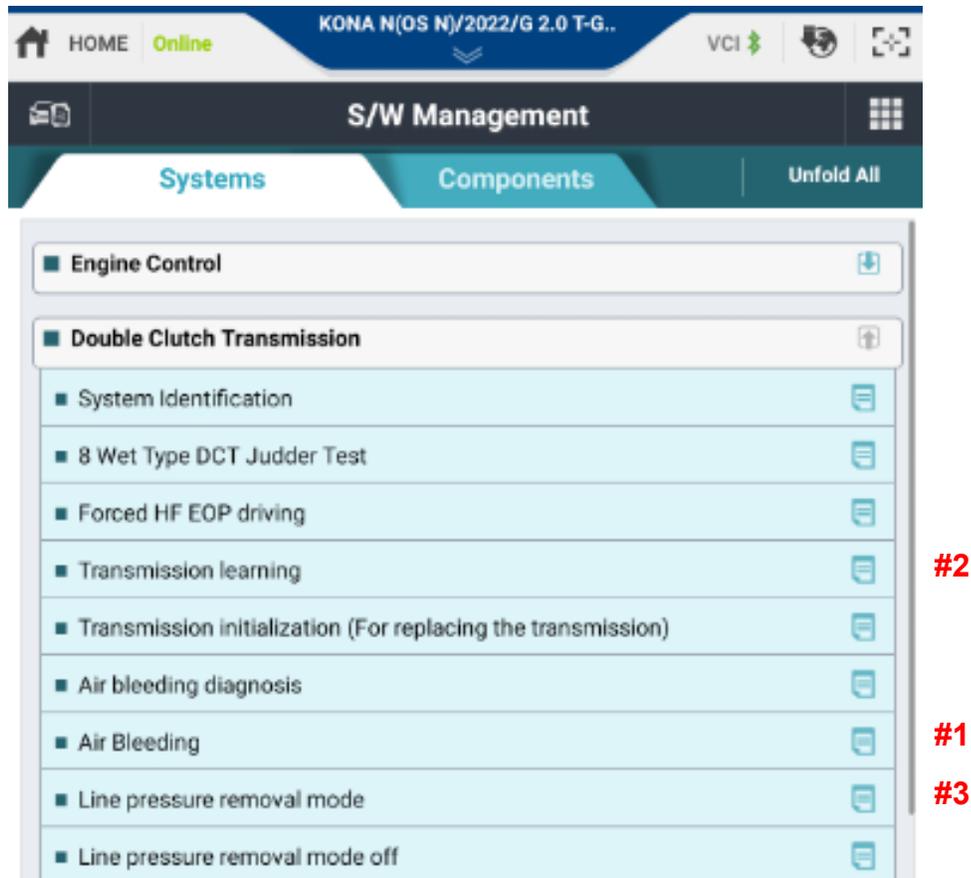
*Event #	Description
895	TM PE THETA 2.5T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)
896	DN8 N THETA 2.5T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)
897	NX4AT THETA 2.5T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)
898	JS N THETA 2.0T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)
899	OS PE N THETA 2.0T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)
900	CN7 N THETA 2.0T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)

* or use a later available event as listed in the GDS update screen, if one is available.

Manual Update: If the DCT TCU Update starts but then fails in auto mode, perform the update in Manual Mode to recover.

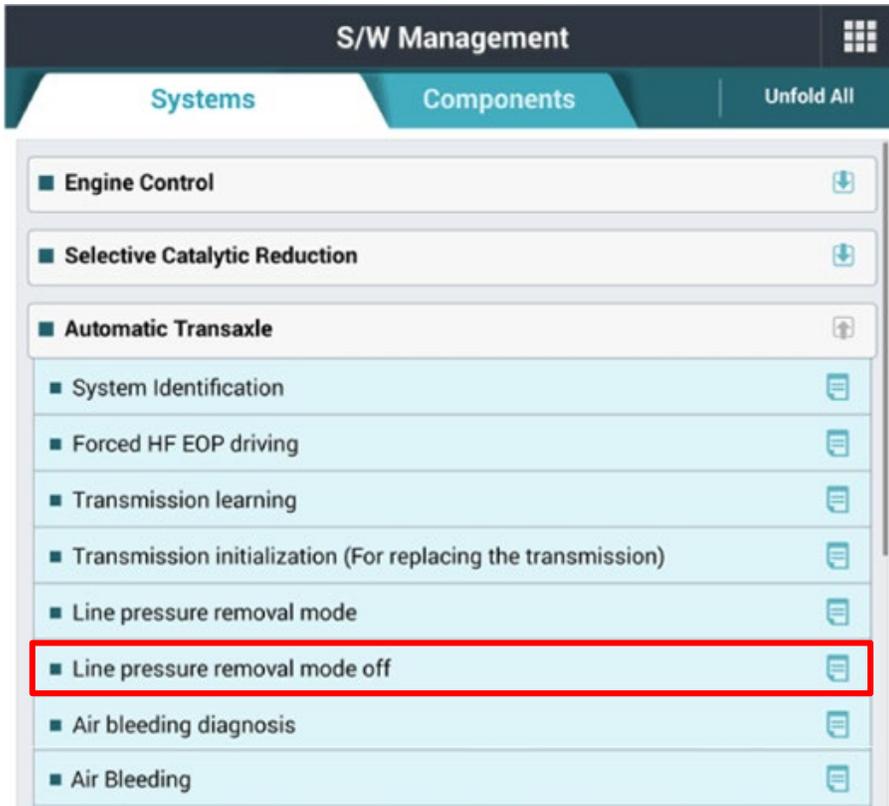
Event #	MENU	Password
895	TM PE THETA 2.5T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)	2250
896	DN8 N THETA 2.5T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)	2060
897	NX4AT THETA 2.5T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)	2460
898	JS N THETA 2.0T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)	2020
899	OS PE N THETA 2.0T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)	2410
900	CN7 N THETA 2.0T SOL. VALVE OPERATING FREQUENCY LOGIC IMPROVEMENT(TCU)	2510

2. After performing the TCU Upgrade, select **S/W Management** and **Double Clutch Transmission** within the GDS. Perform the following procedures in the order shown.



3. After performing “Line pressure removal mode,” leave IG on and wait for **1 minute**.
4. Turn the **engine on** and let the engine idle for **1 minute**.
5. Turn the engine **off**. After 3 seconds, turn the **engine on again**.
6. With the engine running, scan the vehicle for DTCs.
- 6a. If DTC P086800 **is detected** – check and replace the control fluid according to the shop manual.
- 6b. If DTC P086800 **is not detected** – proceed to the next step.

7. Perform the “Line pressure removal mode off” within the GDS.



NOTICE

If the “Line pressure removal mode off” is not performed, drivability concerns can occur (shift shock).

#4

C. Vehicle Static Test

1. Turn the vehicle engine on.
2. While depressing the brake pedal, shift the vehicle into gear(N↔D/N↔R/P↔D/P↔R/D↔R).
3. Vehicle should not experience any abnormal shift shock while stationary.

D. Vehicle Creep Test

1. Turn the vehicle engine on.
2. Shift the vehicle from Park to Drive – do not press the accelerator pedal, allow vehicle to creep forward (for 30 seconds).
3. Shift the vehicle from Park to Reverse – do not press the accelerator pedal, allow vehicle to creep backwards (for 30 seconds).
4. Vehicle should start moving within 1-2 seconds, without hesitation or juddering.

E. Vehicle Driving Test

1. Turn the vehicle engine on.
2. Perform a short test drive with the vehicle, applying 20-30% accelerator input (APS).
3. Vehicle should launch without hesitation and upshifts should have no issue.

F. Other Inspection

1. If any issues were found during Sections B-E above, check for DTCs/perform diagnosis.
2. Replace the transmission assembly if issues are still present after detailed diagnosis.
Repeat Sections B-F.