

HYUNDAI
Technical Service Bulletin

GROUP RECALL	NUMBER 24-01-055H-1
DATE AUGUST 2024	MODEL(S) SANTA FE (MX5A)

INSPECTION FOR TRANSMISSION NOISE OR DAMAGE,
**SUBJECT: TCU SOFTWARE UPDATE, AND TRANSMISSION REPLACEMENT
(RECALL 263)**

This TSB supersedes TSB #24-01-055H to update the Subject on all pages, and to add: service kit information to the Parts Information table on page 2, additional OP codes to Warranty Information on page 3, additional instructions to the overall Service Procedure flowchart on page 4, and additional service procedures on pages 10-18.

★ 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 campaigns.

Description: The Dual Clutch Transmission (DCT) in certain Santa Fe (MX5A) vehicles could become damaged during normal operation due to Transmission Control Unit (TCU) software logic that could engage the parking pawl without the driver selecting the Park position. This condition could cause noise within the transmission and/or allow for unintended movement while the vehicle is powered down or in Park. Unintended vehicle movement could lead to a vehicle rollaway, increasing the risk of a crash and injury to occupants or vulnerable bystanders. This bulletin provides instruction to inspect the transmission, replace if necessary, and update the TCU software.

Applicable Vehicles (Certain):

- 2024MY Santa Fe (MX5A) equipped with MX5A-8DCT produced from 04/23/2024 – 07/02/2024

GDS Information: AT / Transmission

System	Event #	Description
TCU	1129	MX5A 2.5T 8DCT HP EOP SENSORLESS LOGIC UPDATE WHEN MOTOR MIL ILLUMINATE

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

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

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Parts Information:

Model	Part Name	Part Number	Figure	Remarks
Santa Fe (MX5A) 2.5T 8DCT FWD	FWD Transmission Assy-DCT (Without TCU)	43000-2N112QQH	(includes transmission fluid)	
		43000-2N112		
Santa Fe (MX5A) 2.5T 8DCT AWD	AWD Transmission Assy-DCT (Without TCU)	43000-2N114QQH	(includes transmission fluid)	
		43000-2N114		
All	DCT Replacement Service Kit	RC263-DCTSK		
*** Includes Contents Below ***				
Bolt (Steering Joint to Steering Gear Assy)		56415-L1000		1 each
Split Pin (Outer Tie Rod to Spindle)		57799-4D200		2 each
Lock Nut (Outer Tie Rod to Spindle)		55259-2M000		2 each
Seal Lock Bolt (Lower Torque Mount)		21991-P6000		1 each
Front Driveshaft Lock Nut		49551-4T000		2 each
Front Driveshaft Retainer Clip		49557-P2000		2 each
Propeller Shaft Bolts		11435-10256K		7 each
TCM Connector Bolt (TCM to DCT Housing)		95443-2N000		1 each
Transfer Case O-Ring		47354-3D100		1 each

NOTE 1: Please order QQH part number if inventory is available. If QQH part is not on hand, please order OE part.

NOTE 2: Please order the kit, not the individual parts. The kit will trigger ordering of the related parts.

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Warranty Information:

Model	Op. Code	Operation	Op. Time	Casual Part	Nature Code	Cause Code
Santa Fe (MX5A) 2.5T 8DCT	41DA09R0	Inspection and TCU Update	0.8 M/H	954A1-2N820	W17	ZZ3
Santa Fe (MX5A) 2.5T 8DCT FWD	41DA09R1	Inspection, FWD Transmission Replacement, TCU Update, and Air Bleeding (P/N 43000-2N112 replaced)	3.8 M/H		Q94	ZZ3
Santa Fe (MX5A) 2.5T 8DCT AWD	41DA09R2	Inspection, AWD Transmission Replacement, TCU Update, and Air Bleeding (P/N 43000-2N114 replaced)	4.1 M/H			
Santa Fe (MX5A) 2.5T 8DCT FWD	41DA09R3	Inspection, FWD Transmission Replacement, TCU Update, and Air Bleeding (P/N 43000-2N112QQH replaced)	3.8 M/H			
Santa Fe (MX5A) 2.5T 8DCT AWD	41DA09R4	Inspection, FWD Transmission Replacement, TCU Update, and Air Bleeding (P/N 43000-2N114QQH replaced)	4.1 M/H			

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 recall 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: Op times include VIN, Mileage, and photo capture of the “ECU update complete” screen and DCT case housing 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.**

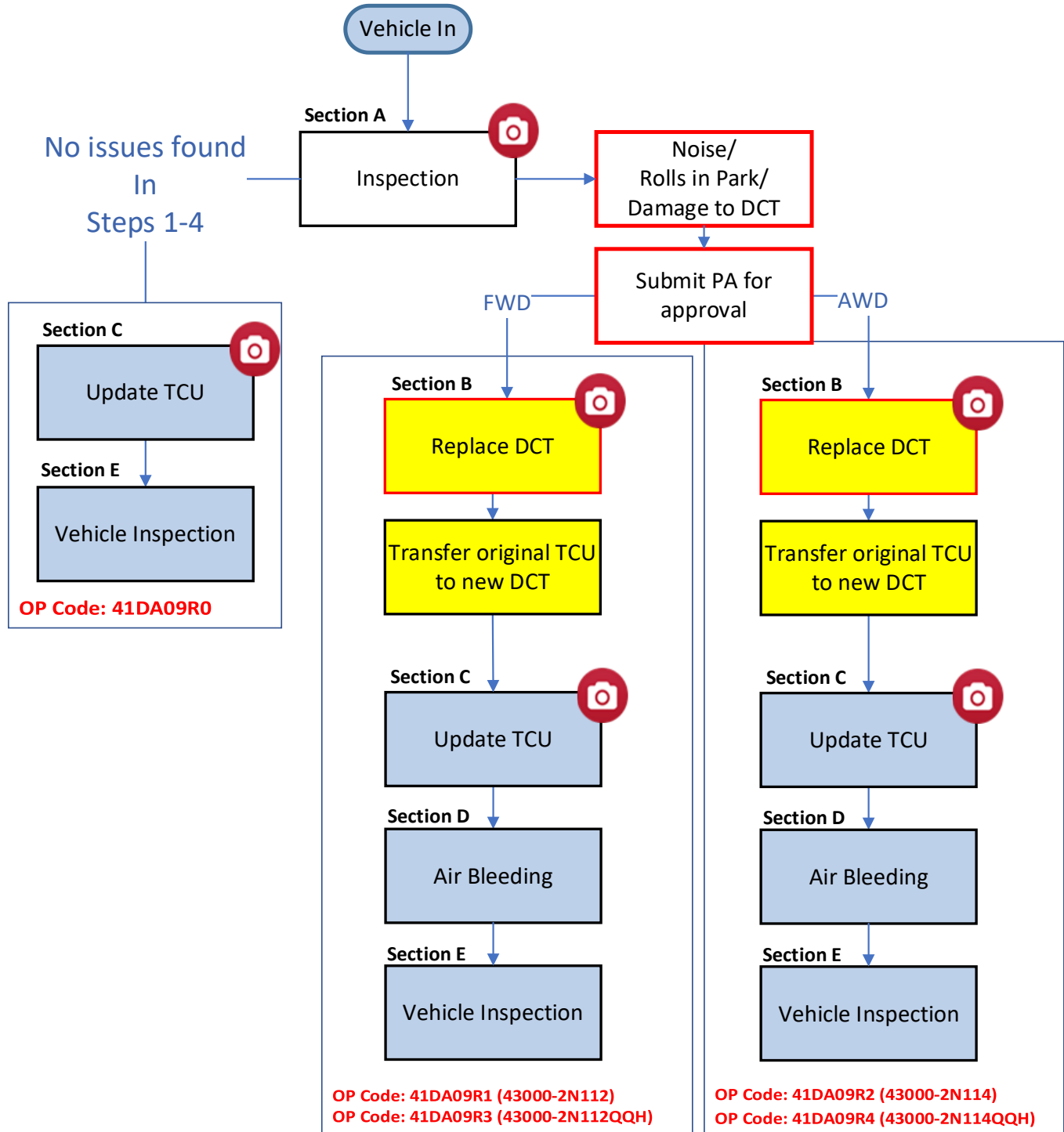
NOTE 5: A PA is required for transmission replacement. **Dealer cannot submit claim without a PA # if transmission was replaced.**

ROM ID Information: Event # 1129

Model	Engine	System	ECU Part Number	ROM ID	
				Old	New
Santa Fe (MX5A)	Theta 2.5T	TCU	954A1-2N820	VMX5AXT25XXXXNS1 VMX5AXT25XXXXNS2	VMX5AXT25XXXXNS3
			954A1-2N830	VMX5AXT25XXTXNS1 VMX5AXT25XXTXNS2	VMX5AXT25XXTXNS3

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

1. Refer to flowchart for overall procedure.

A. Inspection

1. **Static Test:** Perform 3 times.

- A. Turn **ON** the engine.
- B. Shift the transmission while the brake pedal is depressed to:
N↔D, N↔R, P↔D, P↔R, D↔R
 - Vehicle should not experience any abnormal shift shock while stationary.
 - If vehicle does experience any abnormal shift shock, proceed to **Step 5**.

2. **Creep Test:** Perform 3 times.

- A. Turn **ON** the engine.
- B. Shift the transmission from **Park** to **Drive**. Allow vehicle to creep forward.
- C. Shift the transmission from **Park** to **Reverse**. Allow vehicle to creep backwards.
 - Vehicle should start moving within 1-2 seconds, without hesitation or juddering.
 - If vehicle does experience hesitation or juddering, proceed to **Step 5**.



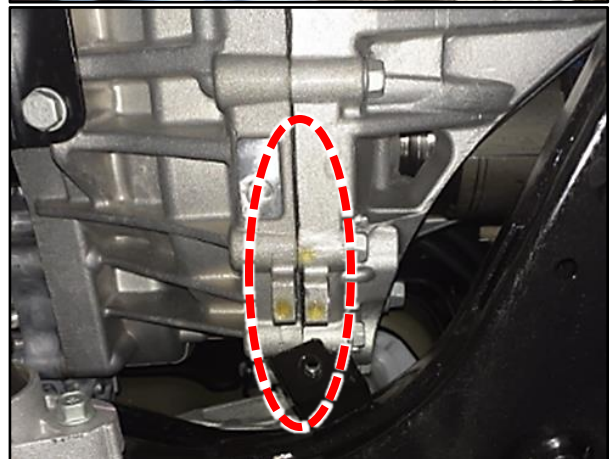
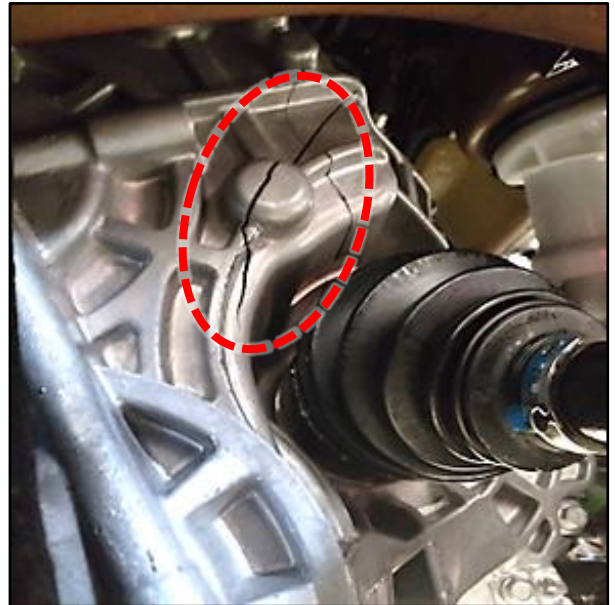
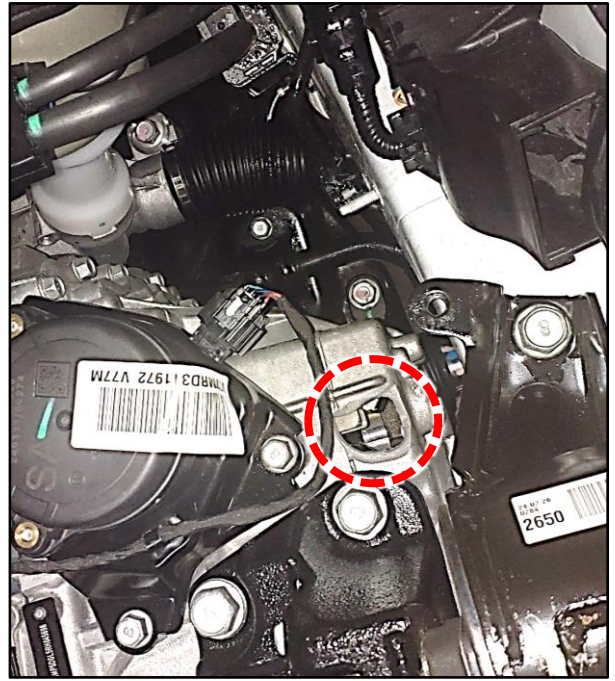
Information

Do **NOT** step on the accelerator.

3. Shift the transmission to **Park** with the parking brake **OFF** and ensure parking pawl engages:
- If the vehicle **rolls** while the transmission is in **Park**:
 - Go to **Step 6**.
 - If vehicle does **NOT** roll then proceed to **Step 4**.

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4. Inspect for damage, cracks, holes, or leaks on the transmission:
 - A. Remove the airbox, battery, and battery tray to inspect the **top of the transmission**.
 - B. Remove the engine room under cover to inspect the **bottom of the transmission**.



5.

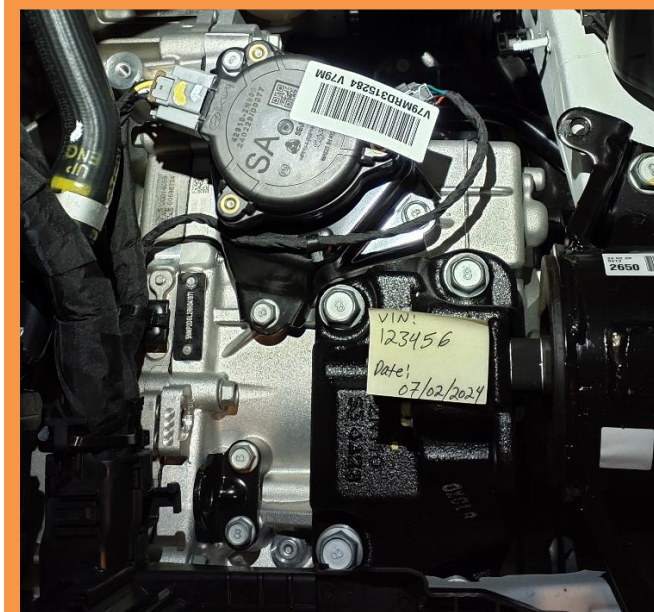
STUI



Using STUI, take a photo (NOT a video) of the current transmission housing , showing either damage or no damage, with the last 6 digits of the VIN and the date of repair on a piece of paper.

Show both the top and bottom of transmission housing.

Upload the photos to STUI.



6. If there were NO issues found during steps 1-4, proceed with **Section C. TCU Update Procedure**.

If there were **any issues** (rolling, noise, hesitation/juddering, or DCT damage) found during steps 1-4:

- Submit a PA for approval (see next page).
- Then proceed with the next section, **B. DCT Replacement**.

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PA Approval Required for Replacement

If replacement of the transmission is required based on inspection, please submit a Prior Approval (PA) request for approval with the following:

A Prior Approval (PA) is required for transmission replacement.

1. Please include pictures of the transmission (top and bottom of transmission housing as directed in TSB)
2. The type of test the vehicle fails in #1-3 of TSB (i.e. static test, creep test, parking pawl test), if applicable
3. Copy of the vehicle's repair order

Please ensure group type is 'TRANSMISSION' and claim type is 'RECALL/CAMPAIGN' for the PA. PA will review Dealer's request upon submission. Once PA is approved, the dealer may order the necessary replacement part.

B. DCT Replacement

1. Follow the published Service Information from the applicable Shop Manual to replace the Dual Clutch Transmission.

Refer to Shop Manual:

- **Dual Clutch Transmission System > Dual Clutch Transmission System > Removal/Installation**

NOTICE

Be sure to record the audio station presets (XM, AM, FM, etc.) prior to disconnecting the battery.



Information

Replace all the components found within the DCT Replacement Service Kit, as specified in the Shop Manual.

2. During the removal of the front subframe from the vehicle, loosen and unbolt the LH and RH lower control arm ball joint assemblies.

NOTICE

The lower control arm ball joints do **not** need to be removed from the steering knuckle as shown in the Shop Manual.

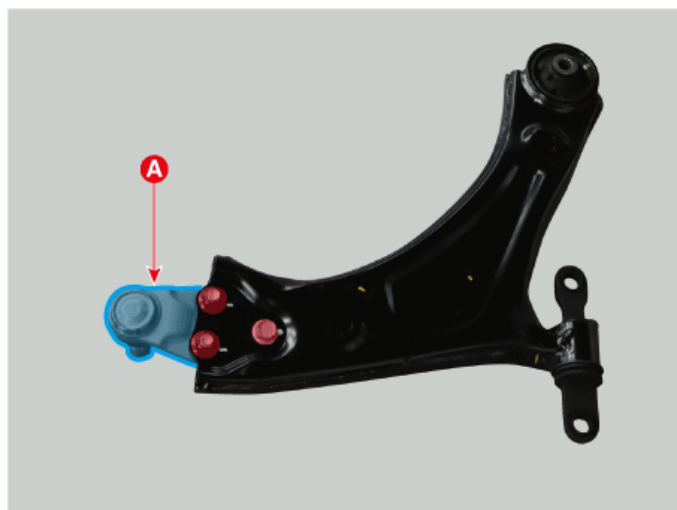
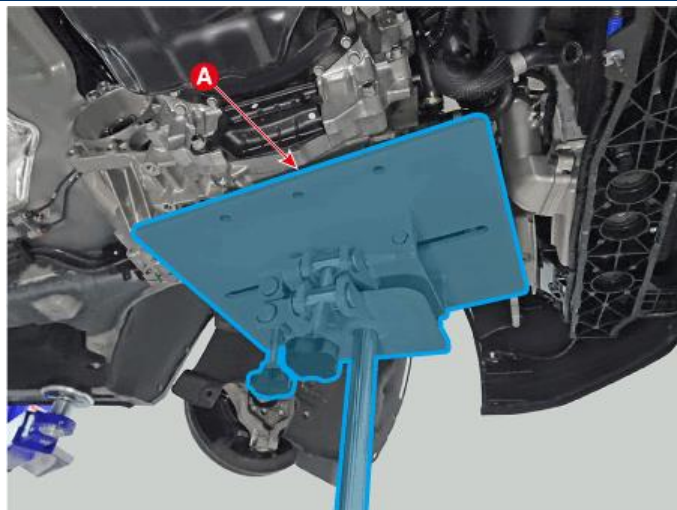
Tightening Torque:

lb-ft

94.0

N.m

127.5

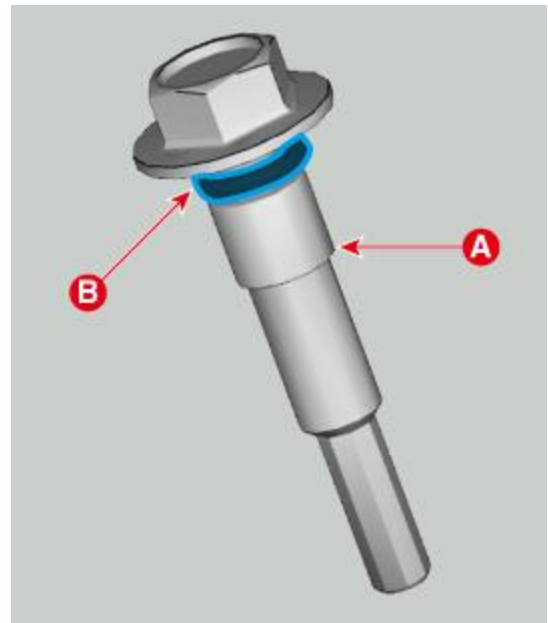


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3. After replacing the DCT assembly, transfer the original TCU to the new DCT. When installing the TCU, a new TCM connector bolt (A) must be used. Apply oil to the O-ring (B) before tightening it.

Tightening Torque:

lb-ft	7.2
N.m	9.8

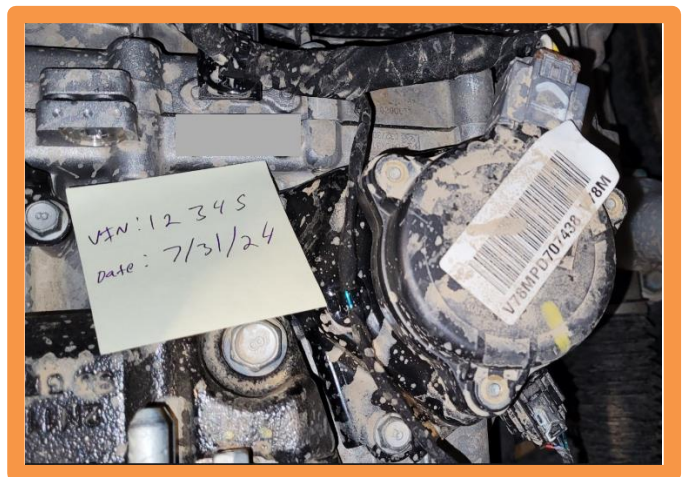


4.

STUI

Using STUI, take a picture of the serial number of the DCT next to a piece of paper with the last six digits of the VIN and date of repair in the photo.

Ensure the photo is in focus and upload to STUI.

**Information**

Please note that the original transmission includes the VIN plate stamped on the DCT housing, which is not present on the replacement transmission.

5. Proceed to **Section C** for the TCU update.

C. TCU Update Procedure

NOTICE

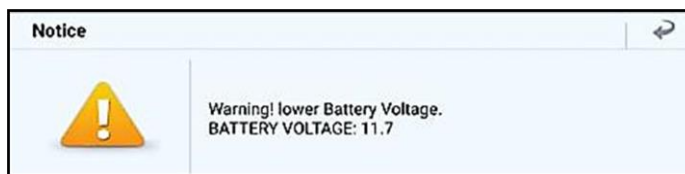
You must initially perform the GDS ECU update in Auto Mode.

- 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 per the GDS warning, then select **Back** and attach a battery charger to ensure an adequate battery charge for reliable update results. Turn ignition back **ON**, and then retry the TCU update again.



Information

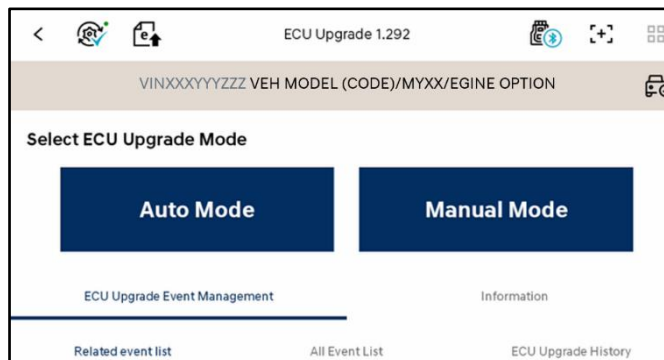
- Verify the vehicle battery has reasonable charge.
- Turn off all lamps (do **NOT** leave head lamp switch in auto mode) and all accessories.
- Perform update with the ignition switch in the ON position.
- Do **NOT** disconnect any cables connected to the vehicle or scan tool during update.
- Do **NOT**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

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

Use the **ID Check** to verify the ROM ID before updating the software.

Information

Refer to **TSB 24-GI-012H**, “ECU Update Procedure for Tablet-Based GDS-Smart”, for additional information.



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2. Select the **AT | Transmission** 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 upgrade fails, please remove the power connector or the battery (–) connector from the indoor fuse box for at least 5 seconds and reassemble it to retry the upgrade.

NOTICE

If the current ROM ID version is any of the following:

- **VMX5AXT25XXXXNS1**
- **VMX5AXT25XXTXNS1**

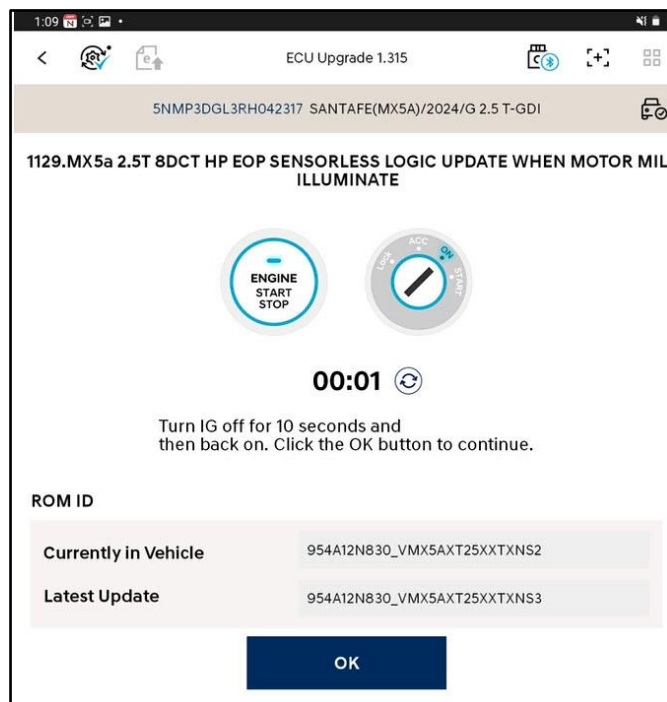
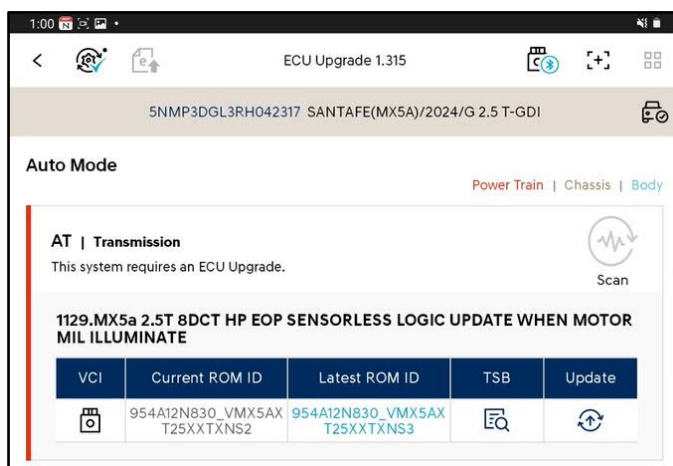
Please update in Manual Mode to **NS3** and then proceed to **Section D**.

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).



Information

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

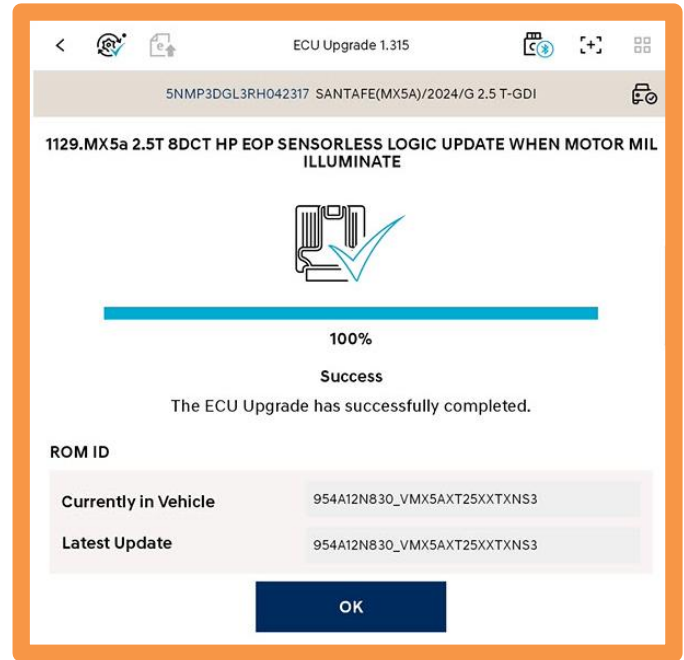


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4.

STUI

Take a screenshot of the “ECU Update Complete” screen 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. Start the engine OR place in **Ready** mode to confirm proper operation of the vehicle.

Manual Mode Passwords: Event # 1129

TCM Menu	Password
MX5a 2.5T 8DCT TCU 954A1-2N820	9531
MX5a 2.5T 8DCT TCU 954A1-2N830	9532

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D. Air Bleeding, Transmission Relearning, and Line Pressure Removal Mode

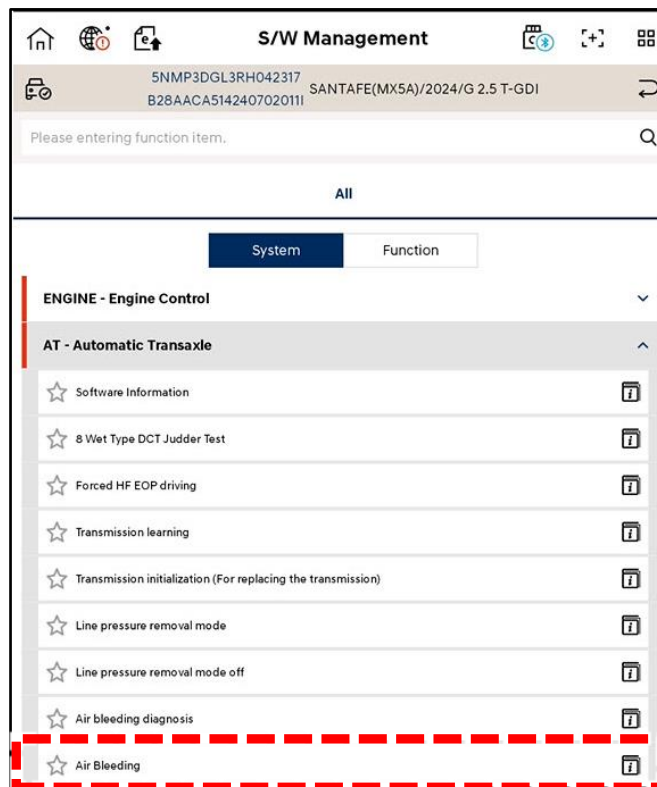
i Information

Section D is only necessary if the transmission was replaced.

1. Within **S/W Management**, select **AT-Automatic Transaxle**, and select **Air Bleeding** function to proceed.

i Information

Transmission should be in **Park** with the ignition **ON**.



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2. Select **OK**.

3. Wait until **Air Bleeding** is complete.

S/W Management	
• Air bleeding	
Test purpose	This function executes air bleeding in the transmission.
Test conditions	1. Stopping (0 KPH) 2. Gear shift stage in park position (P) 3. IG ON (IG ON) 4. Normal battery voltage (10 V or higher) 5. NO DTC
Related components	-
Linked DTC	-
Defects	-
Others	-
OK	

4. Within **S/W Management**, select **AT-Automatic Transaxle**, and select **Transmission learning** function to proceed.



Information

Do **NOT** operate any other functions while performing this task.

S/W Management	
5NMP3DGL3RH042317 B28AACAS142407020111	
SANTAFE(MX5A)/2024/G 2.5 T-GDI	
Please entering function item.	
All	
System Function	
ENGINE - Engine Control	
AT - Automatic Transaxle	
☆ Software Information	
☆ 8 Wet Type DCT Judder Test	
☆ Forced HF EOP driving	
☆ Transmission learning	
☆ Transmission initialization (For replacing the transmission)	
☆ Line pressure removal mode	
☆ Line pressure removal mode off	
☆ Air bleeding diagnosis	
☆ Air Bleeding	

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5. Select **OK**.

The screenshot shows the 'S/W Management' screen with a red dashed box around the 'OK' button at the bottom. The screen displays the following information:

S/W Management	
• Transmission learning	
Test purpose	This function checks the driving of the electric lubricating oil pump.
Test conditions	1. Stopping (0 KPH) 2. Gear shift stage in park position (P) 3. IG ON 4. Normal battery voltage (10 V or higher) 5. NO DTC
Related components	-
Linked DTC	-
Defects	-
Others	-

6. Within **S/W Management**, select **AT-Automatic Transaxle**, and select **Line pressure removal mode** function to proceed.

**Information**

Do **NOT** operate any other functions while performing this task.

Ensure all doors are closed and unlocked.

The screenshot shows the 'S/W Management' screen with a red dashed box around the 'Line pressure removal mode' function. The screen displays the following information:

Vehicle Information: 5NMP3DGL3RH042317, B28AACAS142407020111, SANTAFE(MX5A)/2024/G 2.5 T-GDI

Please enter function item.

All

System Function

ENGINE - Engine Control

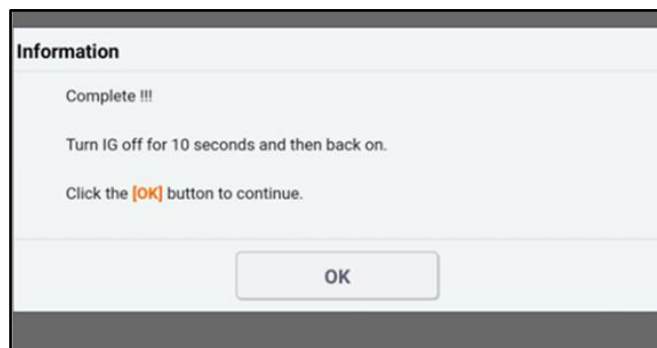
AT - Automatic Transaxle

- ☆ Software Information
- ☆ 8 Wet Type DCT Judder Test
- ☆ Forced HF EOP driving
- ☆ Transmission learning
- ☆ Transmission initialization (For replacing the transmission)
- ☆ Line pressure removal mode
- ☆ Line pressure removal mode off
- ☆ Air bleeding diagnosis
- ☆ Air Bleeding

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7. Once the line pressure removal mode is complete, turn **OFF** ignition for **10 seconds** and turn back **ON**.

Wait for **1 minute**.



8. Turn **ON** the engine and wait for **1 minute**.

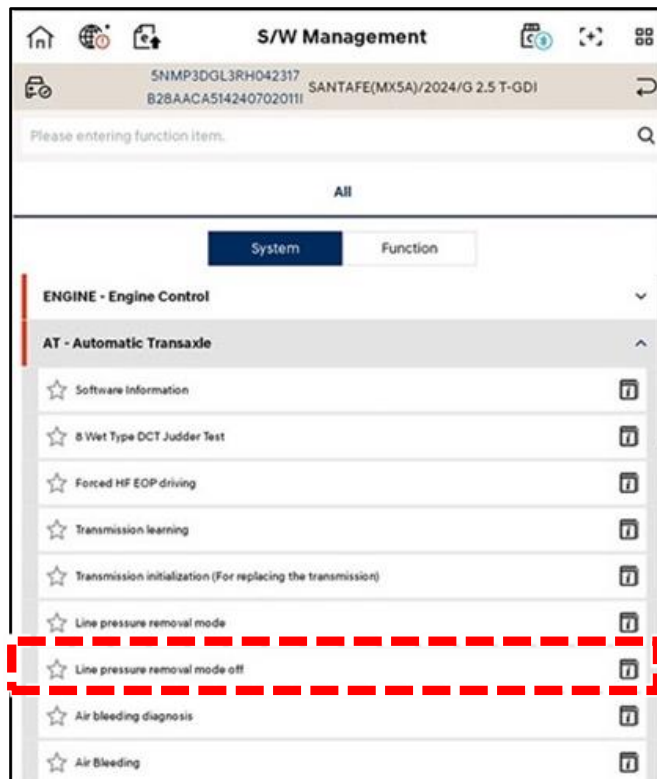
Turn **OFF** the engine. After 3 seconds, turn the **engine ON again**.

9. With the engine running, **scan the vehicle for DTCs**:
- If DTC P086800 is detected:
 - Check the control fluid level and perform detailed diagnosis.
- If **DTCs are NOT detected**: proceed to the next step.

10. Select **Line pressure removal mode off**.

NOTICE

If the **Line pressure removal mode off** is not performed, drivability concerns can occur such as shift shock.



E. Vehicle Driving Inspection

1. **Static Test:** Perform **3 times**.

- A. Turn **ON** the engine.
- B. Shift the transmission while the brake pedal is depressed to:
N↔D, N↔R, P↔D, P↔R, D↔R

Vehicle should **NOT** experience any abnormal shift shock while stationary.

2. **Creep Test:** Perform **3 times**.

- A. Turn **ON** the engine.
- B. Shift the transmission from **Park** to **Drive**. Allow vehicle to creep forward.
- C. Shift the transmission from **Park** to **Reverse**. Allow vehicle to creep backwards.
- D. Vehicle should start moving within **1-2 seconds**, without hesitation or juddering.

i **Information**

Do **NOT** step on the accelerator.

3. **Test Drive:**

- A. Turn **ON** the engine.
- B. Perform a short test drive (~0.25mi) with the vehicle, applying **20-30%** accelerator input (APS).
 - Vehicle should launch without hesitation, and upshifts should **NOT** have issues.

4. **Other Inspections:**

- A. If any issues were found during the tests, check for DTCs.
 - If issues are still present after detailed diagnosis, contact Techline.