



Technical Service Bulletin

GROUP CAMPAIGN	NUMBER 25-01-087H
DATE NOVEMBER 2025	MODEL(S) SEE BELOW

SUBJECT: ECU SOFTWARE UPDATE FOR THETA II EMISSIONS IMPROVEMENT (SERVICE CAMPAIGN 9C2)

*** IMPORTANT**

Dealers must perform this service campaign on all affected vehicles prior to customer retail delivery 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: Certain Santa Fe (TMA), Sonata (LFA) and Tucson (TL) vehicles equipped with Theta II engines may exhibit elevated engine-out emissions. This bulletin provides instructions for updating the Engine Control Module (ECM) to address this condition.



Applicable Vehicles (Certain):

Model Year	Model	Engine	Production Dates
2019 - 2020	Santa Fe (TMA)	2.4L GDI Theta II	05/23/2018 - 08/23/2021
2019	Sonata (LFA)		07/23/2018 - 09/30/2019
2019 - 2021	Tucson (TL)		01/30/2018 - 02/04/2021

Parts Information:

Model	Part Name	Part Number	Figure	Remarks
Santa Fe (TMA) Sonata (LFA) Tucson (TL)	Emissions Label	NP001-SC9C2	<p>9C2</p> <p>Dealer Code: Date:</p> <p>NP001-SC9C2</p>	Apply to all vehicles regardless of state
	Vehicle Emission Recall - Proof of Correction Card	NP050-09006		Order only for states: CA, CO, CT, DE, ME, MD, MA, NJ, NY, OR, PA, RI, VT, WA

SST Information:

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

NOTE: VCI 2 can **NO** longer be ordered but can be used for the updates in this TSB.

GDS Information:

Model	System	Event Number*	Description
Sonata (LFA)	Engine	1329	LFa PE ECU UPGRADE - EMISSION LOGIC IMPROVEMENT
Santa Fe (TMA)		1267	TMa ECU UPGRADE - EMISSION LOGIC IMPROVEMENT
Tucson (TL)		1269	TL PE ECU UPGRADE - EMISSION LOGIC IMPROVEMENT

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

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Sonata (LFA)	50D115R0	Theta II ECU Software Update + Emissions Label Application	0.4 M/H	28510-2GAV0	M73	ZZ3
Santa Fe (TMA)	50D115R2			28510-2GBB0		
Tucson (TL)	50D115R3			28510-2EMN0		
All w/ BOTH Campaigns 953 & 9C2 Open	50D115R8	Administrative + Emissions Label Application: Refer to NOTE 4 Below	0.2 M/H	28510-2GAV0 (LFA)		
				28510-2GBB0 (TMA)		
				28510-2EMN0 (TL)		

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 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 3: Op times include VIN, mileage, and photo capture of the “ECU update complete” screen as outlined in the Digital Documentation Policy.

NOTE 4: If both campaigns **953** and **9C2** are open on a vehicle, submit a claim with the applicable operation code referencing the latest TSB for **Service Campaign 953**. Then, submit a second claim for **Service Campaign 9C2** using operation code 50D115R8.

Service Procedure:

DIGITAL DOCUMENTATION



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

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 the update from failing.

i 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 update.
- Do **NOT** start the engine during update.
- Do **NOT** turn **OFF** the ignition switch during update.

Table of Contents

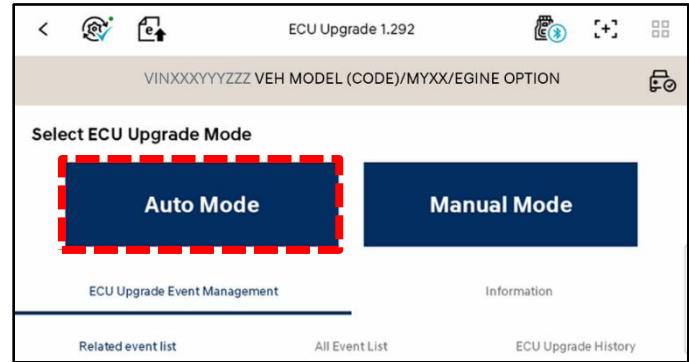
- ECU Update Procedure..... 5
- Emissions Label Application (for All Vehicles) 8
- Vehicle Emission Recall – Proof of Correction Card (for Vehicles Registered in Certain States) 9

ECU Update Procedure

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.



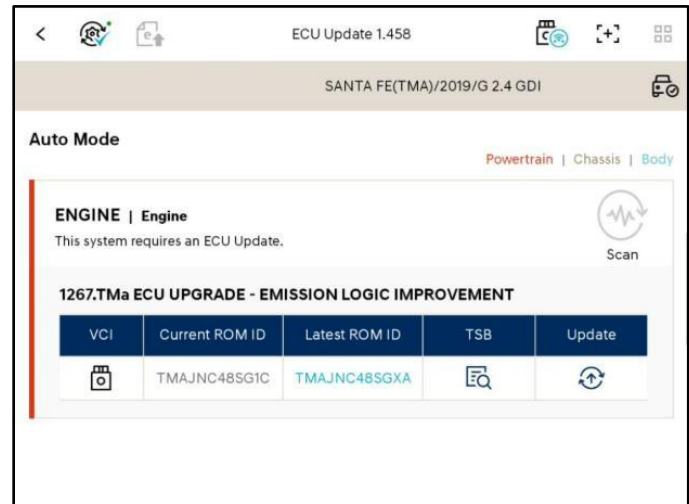
2. Verify the ROM ID by selecting the **Engine** system to scan the vehicle's current ROM ID.

NOTICE

Check the current ROM ID version and compare it to the [ROM ID Information](#) table before attempting to perform the software update.

NOTICE

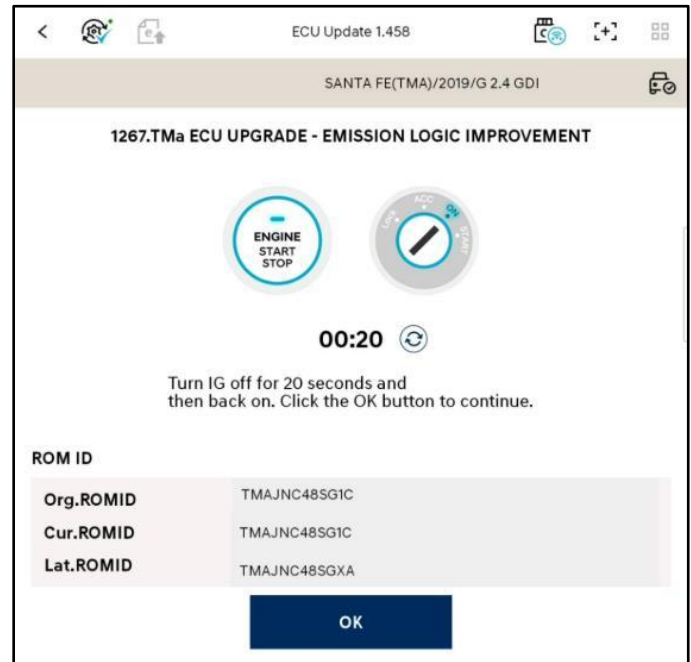
If the update fails, remove the power connector from the indoor fuse box for at least **5 seconds**, then reconnect it. Alternatively, disconnect the negative (-) **12V** battery terminal, wait at least **5 seconds**, then reconnect it. Retry the update.



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.

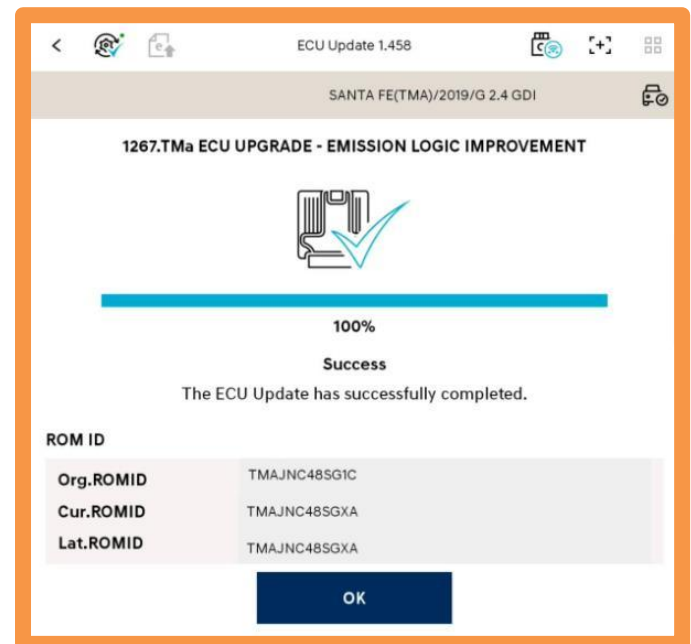
DIGITAL DOCUMENTATION



Using the tablet or GDS screen capture function, take a screenshot of the ECU Update "Success" result screen.

Upload the photo to STUI.

NOTE: The VIN/Date/Time/Mileage photo imprint is **NOT** required for GDS screenshots.



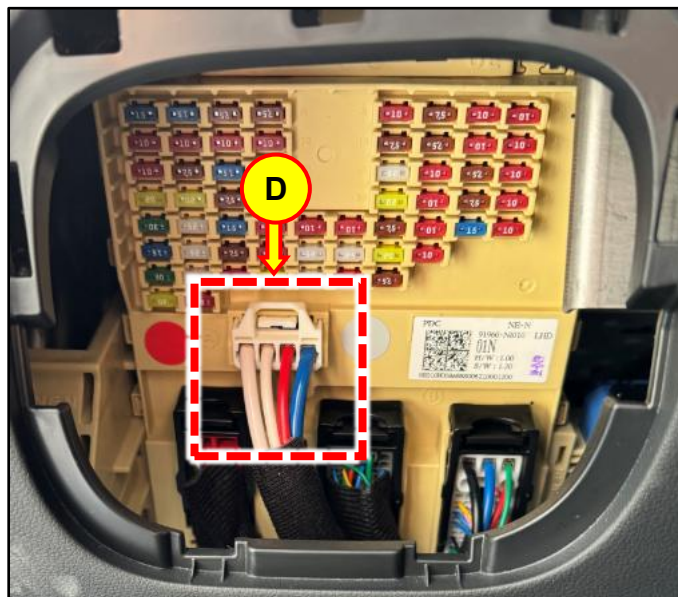
5. Perform an **All Systems Fault Code** search and erase DTC history that had incidentally occurred from the ECU update.



- 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.



- Start the engine to confirm proper operation of the vehicle.
- Proceed to [Emissions Label Application \(for All Vehicles\)](#) on the next page.

NOTICE

If the ECU update fails in Auto Mode, perform the update in Manual Mode using the **Manual Mode Passwords** below.

Manual Mode Passwords:

Event	Model	ECM Menu	Password
1329	Sonata (LFA)	LFa PE 2.4GDI ECU 39112-2GGK7	2127
		LFa PE 2.4GDI ECU 39112-2GGK2	2122
1267	Santa Fe (TMA)	TMa PE 2.4GDI ECU 39171-2GTC0/D0	2071
		TMa PE 2.4GDI ECU 39171-2GTC5/D5	5217
		TMa PE 2.4GDI ECU 39173-2GTE0/F0	9372
		TMa PE 2.4GDI ECU 39173-2GTG0/H0	2869
		TMa PE 2.4GDI ECU 39171-2GTC1/D1	1993
		TMa PE 2.4GDI ECU 39171-2GTC6/D6	9322
		TMa PE 2.4GDI ECU 39173-2GTE1/F1	3838
		TMa PE 2.4GDI ECU 39173-2GTG1/H1	4322
1269	Tucson (TL)	TL PE 2.4GDI ECU 39171-2GPA0/B0	6161
		TL PE 2.4GDI ECU 39171-2GPG0	6497
		TL PE 2.4GDI ECU 39173-2GPA0/B0	3904
		TL PE 2.4GDI ECU 39173-2GPC0	4242
		TL PE 2.4GDI ECU 39171-2GPA1/B1	7890
		TL PE 2.4GDI ECU 39171-2GPG1	8672
		TL PE 2.4GDI ECU 39171-2GPB2	2546
		TL PE 2.4GDI ECU 39171-2GPG2	1546

Emissions Label Application (for All Vehicles)

1. Fill in the Dealer Code and Date on the Emissions Label, and apply adjacent to the existing label, on the underside of the hood, as shown.

Be sure to clean the mounting surface to ensure proper label adhesion.



2. Using the STUI camera function, take a photo of the Emissions Label attached to the vehicle.

DIGITAL DOCUMENTATION



Using the STUI camera function, take a photo of the Emissions Label attached to the vehicle.

Upload the photo to STUI.

NOTE: If the STUI camera function is **NOT** used, write the last 6 digits of the VIN and the date of repair on a piece of paper to include in the photo.



3. Proceed to the next section and complete the [Vehicle Emission Recall - Proof of Correction Card](#) for the states listed.

If **NOT** applicable to your state, the service procedure is complete.

Vehicle Emission Recall – Proof of Correction Card (for Vehicles Registered in Certain States)

For vehicles registered in California, Colorado, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington:

VEHICLE EMISSION RECALL - PROOF OF CORRECTION CARD

A Vehicle Emission Recall - Proof of Correction card must be filled out for all vehicles registered in California, Colorado, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. Residents of these states, who own an affected vehicle, will be required to possess a Vehicle Emission Recall - Proof of Correction card as evidence of voluntary service campaign completion, when they apply for vehicle registration renewal.

WHAT TO DO WITH THE CARD:

The Vehicle Emission Recall - Proof of Correction card must be completed by the Dealership's Service Manager using a permanent ink pen. A fine point pen is recommended. When filling in the information, copy the information directly from the vehicle, not from the repair order.

ALL INFORMATION MUST BE PRINTED AND NEAT.

The copy of the card shown below indicates the areas to be filled in. Each area must be filled in.

The completely filled out Vehicle Emission Recall - Proof of Correction card should be given to the owner of the vehicle upon completion of the Campaign.

- | | |
|-----------------------------------|---|
| 1. Enter Vehicle's License Number | 7. Enter Dealership Name |
| 2. Enter "Hyundai" | 8. Enter Dealership's Address |
| 3. Enter Model Year | NOTE: Enter the physical address, not the mailing address (not a P.O. Box) |
| 4. Enter Model (e.g. Tucson) | 9. Enter Date of Repair |
| 5. Enter the vehicle's VIN | 10. Service Manager Sign Here |
| 6. Enter Campaign Number: 9C2 | |

Vehicle Emission Recall – Proof of Correction

License No. 1	Make 2	Model Year 3	Body Type 4	Vehicle Identification Number 5
----------------------	---------------	---------------------	--------------------	--

Manufacturer: _____ **2** Recall Number: _____ **6**

The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws.

Dealer's Name **7** Address, City, State and Zip **8**

Date **9** Dealership's Authorized Signature **10**

Return this certificate to DMV only when required – otherwise retain for your records.

NP050-09006 8/14

ROM ID Information:

Model	Event	IMMO	ECU Part Number	ROM ID	
				Current	Latest
2019MY Sonata (LFA)	1329	O	39112-2GGK7	LPAJNS4ERE6A LPAJNS4ERG1B LPAJNS4ERG1C LPAJNS4ERG1D LPAJNS4ERG1E	LPAJNS4ERGXA
		X	39112-2GGK2	LPAJNS4EME6A LPAJNS4EMG1B LPAJNS4EMG1C LPAJNS4EMG1D LPAJNS4EMG1E	LPAJNS4EMGXA
2019MY Santa Fe (TMA)	1267	O	39171-2GTC0 39171-2GTD0	TMAJNC48SE2A TMAJNC48SE2B TMAJNC48SEAC TMAJNC48SEAD TMAJNC48SEAE TMAJNC48SEAF TMAJNC48SG1A TMAJNC48SG1B TMAJNC48SG1C TMAJNC48SG1D TMAJNC48SG1E TMAJNC48SG1F	TMAJNC48SGXA
			39171-2GTC5	TMAJNS48SE2A TMAJNS48SE2B TMAJNS48SEAC TMAJNS48SEAD TMAJNS48SEAE TMAJNS48SEAF TMAJNS48SG1A TMAJNS48SG1B TMAJNS48SG1C TMAJNS48SG1D TMAJNS48SG1E TMAJNS48SG1F	TMAJNS48SGXA
		X	39173-2GTE0 39173-2GTF0	TMAJNC48NE2A TMAJNC48NE2B TMAJNC48NEAC TMAJNC48NEAD TMAJNC48NEAE TMAJNC48NEAF TMAJNC48NG1A TMAJNC48NG1B TMAJNC48NG1C TMAJNC48NG1D TMAJNC48NG1E TMAJNC48NG1F	TMAJNC48NGXA

ROM ID Information (continued):

Model	Event	IMMO	ECU Part Number	ROM ID	
				Current	Latest
2019MY Santa Fe (TMA)	1267	X	39173-2GTG0	TMAJNS48NE2A	TMAJNS48NGXA
				TMAJNS48NE2B	
				TMAJNS48NEAC	
				TMAJNS48NEAD	
TMAJNS48NEAE					
TMAJNS48NEAF					
TMAJNS48NG1A					
TMAJNS48NG1B					
TMAJNS48NG1C					
TMAJNS48NG1D					
TMAJNS48NG1E					
TMAJNS48NG1F					
2020MY Santa Fe (TMA)	1267	O	39171-2GTC1 39171-2GTD1	TMAKNC48SG11	TMAKNC48SGXA
				TMAKNC48SG1A	
				TMAKNC48SG1B	
				TMAKNC48SG1C	
		TMAKNC48SG3A			
		TMAKNC48SG3B			
		TMAKNC48SG3C			
		TMAKNC48SG3D			
TMAKNC48SG3E					
X	39171-2GTC6	TMAKNS48SG11	TMAKNS48SGXA		
		TMAKNS48SG1A			
	TMAKNS48SG1B				
	TMAKNS48SG1C				
39173-2GTE1 39173-2GTF1	TMAKNC48NG11	TMAKNC48NGXA			
	TMAKNC48NG1A				
TMAKNC48NG1B					
TMAKNC48NG1C					
39173-2GTG1	TMAKNC48NG3A	TMAKNS48NGXA			
	TMAKNC48NG3B				
	TMAKNC48NG3C				
	TMAKNC48NG3D				
	TMAKNC48NG3E				
	TMAKNS48NG11				
TMAKNS48NG1A					
TMAKNS48NG1B					
TMAKNS48NG1C					
TMAKNS48NG3A					
TMAKNS48NG3B					
TMAKNS48NG3C					
TMAKNS48NG3D					
TMAKNS48NG3E					

ROM ID Information (continued):

Model	Event	IMMO	ECU Part Number	ROM ID	
				Current	Latest
2019MY Tucson (TL)	1269	O	39171-2GPA0 39171-2GPB0	TPDJNC4ERE6A TPDJNC4ERE6B TPDJNC4ERG1A TPDJNC4ERG1B TPDJNC4ERG1C TPDJNC4ERG1D	TPDJNC4ERGXA
			39171-2GPG0	TPDJNS4ERE6A TPDJNS4ERE6B TPDJNS4ERE6C TPDJNS4ERG1D TPDJNS4ERG1E TPDJNS4ERG1F TPDJNS4ERG1G	TPDJNS4ERGXA
39171-2GPA1 39171-2GPB1			TPDKNC4ERG1A TPDKNC4ERG1B TPDKNC4ERG3A TPDKNC4ERG3B TPDKNC4ERG3C	TPDKNC4ERGXA	
39171-2GPG1			TPDKNS4ERG1A TPDKNS4ERG1B TPDKNS4ERG3A TPDKNS4ERG3B TPDKNS4ERG3C	TPDKNS4ERGXA	
2021MY Tucson (TL)			39171-2GPB2	TPDLNC4ERG3A	TPDLNC4ERGXA
	39171-2GPG2	TPDLNS4ERG3A	TPDLNS4ERGXA		