HYUNDAI Technical Service Bulletin	GROUP **CAMPAIGN**	NUMBER **25-01-001H**
	DATE **JANUARY 2025**	MODEL(S) **SONATA (DN8/DN8A)**

SUBJECT: ECU UPDATE & CHECK VALVE/FUEL TANK INSPECTION AND REPLACEMENT (SERVICE CAMPAIGN 9B1)

This TSB supersedes 24-01-020H to update the Part Number for the Check Valve and include information regarding DTC P14EE00.

★ 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.

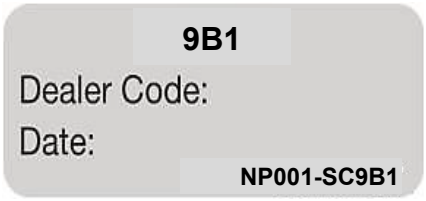
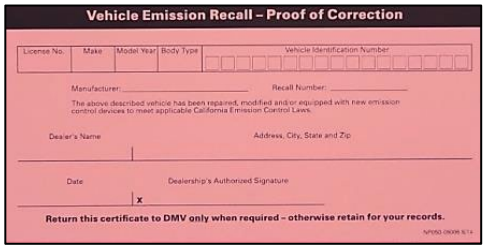
Description: Certain 2021-2023MY Sonata (DN8) and 2020-2022MY Sonata (DN8A) vehicles may have DTC P0451 stored in the ECU. Follow this bulletin to inspect the check valve, fuel pump cover and fuel tank, and update the ECU. If necessary, replace the check valve and/or fuel tank based on inspection results. The ECU Upgrade contains a revised DTC P14EE00 which supersedes P0451.

Applicable Vehicles (Certain):

- 2021–2023MY Sonata (DN8) equipped with 1.6T engines produced 04/02/2021 - 10/07/2023 (VIN starts with KMH)
- 2020–2022MY Sonata (DN8A) equipped with 1.6T engines produced 10/22/2019 - 02/17/2022 (VIN starts with 5NP)

Parts Information:

Part Name	Part Number	Qty.	Remarks
Fuel Tank Assembly	31150-L0000	1	Order only if fuel tank replacement is required.
Fuel Tank Heat Protector	31220-L1000	1	
Fuel Tank Band	31210-L1000	LH (1)	
	31211-L1000	RH (1)	
Fuel Tank Pad	31101-L1100 (DN8 only)	2	
	31101-C1000	5	
	31101-L1000	4	
	31101-3X000	1	
Fuel Pump A/S Cover Assembly	31107-L1000	1	
Fuel Pump Packing	31115-0W000	1	
Rear Muffler Gasket	28751-3S100	1	
Fuel Pump Plate Cover	31152-L0000	1	

Part Name	Part Number	Figure	Remarks
Check Valve	28918-2M431QQH		1. Clip-Hose (14720-15006S) 2. Clip-Hose (14720-13806S) 3. Valve-Check 4. Hose Vapor Assembly A 5. Hose Vapor Assembly B
Campaign Sticker	NP001-SC9B1		Apply to all vehicles regardless of state
Vehicle Emission Recall - Proof of Correction Card	NP050-09006		Order only for states: CA, CO, CT, DE, MA, MD, ME, NJ, NY, OR, PA, RI, VT, WA

Required Equipment/Supplies:

Name	Equipment/Supply #	Figure	Remarks
Air Bleeding Tool	09580-3D100		Essential tool that was previously sent to dealers
Pressurization Adapter	KQ234-C6104FFF		Tool previously sent to dealers as part of TSBs 21-EM-003H and 23-EM-007H

GDS Information:

System	Event #	Description
Engine	1167	DN8(A) ECU UPGRADE AND FUEL TANK EXPANSION CHECK

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

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Sonata (DN8/DN8A)	40D219R0	Check Valve Inspection (GOOD), ECU Update, and Sticker Application	0.4 M/H	39116-2M033	I11	ZZ3
	40D219R1	Check Valve Inspection (NO GOOD), Fuel Tank Band Gap Inspection (≤ 25mm), Check Valve Replacement, ECU Update, and Sticker Application	0.9 M/H			
	40D219R2	Check Valve Inspection (NO GOOD), Fuel Tank Band Gap Inspection (>25mm), Fuel Pump Service Cover Inspection (GOOD), Check Valve/Fuel Tank/Fuel Tank Band/Heat Protector Replacement, ECU Update, and Sticker Application	2.0 M/H			
	40D219R3	Check Valve Inspection (NO GOOD), Fuel Tank Band Gap Inspection (>25mm), Fuel Pump Service Cover Inspection (NG), Open RA TL Case	0.6 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 service 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: This TSB includes Repair validation photos. Op times include VIN, Mileage, photo capture of the “ECU update complete” screen and if necessary, measurement of the gap between the fuel tank and fuel tank band. Refer to the latest Digital Documentation Policy for repair validation requirements.
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.**

ROM ID Information Table:

Model	MY	EM	TM	ECU Part Number	ROM ID	
					Old	New
Sonata (DN8/DN8A)	20MY	GAMMA2 1.6T-GDI	8AT	39116-2M003	TDNA0NU06F00EE03	TDNA0NU06FA4AE03
					TDNA0NU06F10EE03	
					TDNA0NU06F20EE03	
					TDNA0NU06F30EE03	
					TDNA0NU06F40EE03	
					TDNA0NU06F522E03	
					TDNA0NU06F622E03	
					TDNA0NU06F724E03	
					TDNA0NU06F84AE03	
					TDNA0NU06F94AE03	
	21MY			39116-2M013	TDNA1NU06F024E03	TDNA1NU06F44AE03
					TDNA1NU06F124E03	
					TDNA1NU06F24AE03	
					TDNA1NU06F34AE03	
	22MY			39116-2M023	TDNA2NU06F02FE03	TDNA2NU06F3FBE03
					TDNA2NU06F12FE03	
					TDNA2NU06F2FBE03	
	23MY			39116-2M033	TDNA3NU06F02NE03	TDNA3NU06F2NBE03
					TDNA3NU06F1NBE03	

Service Procedure:

STUI

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

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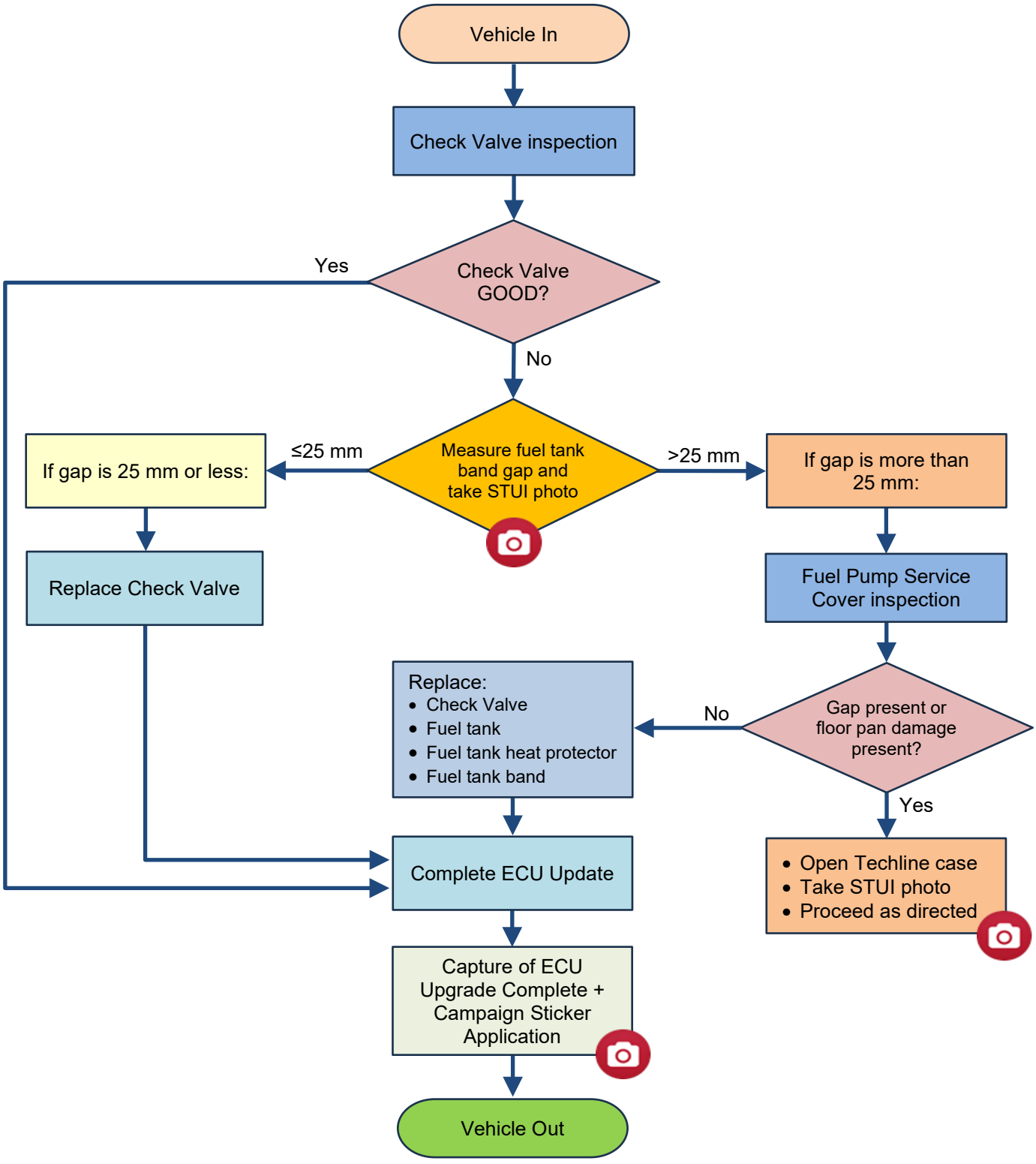
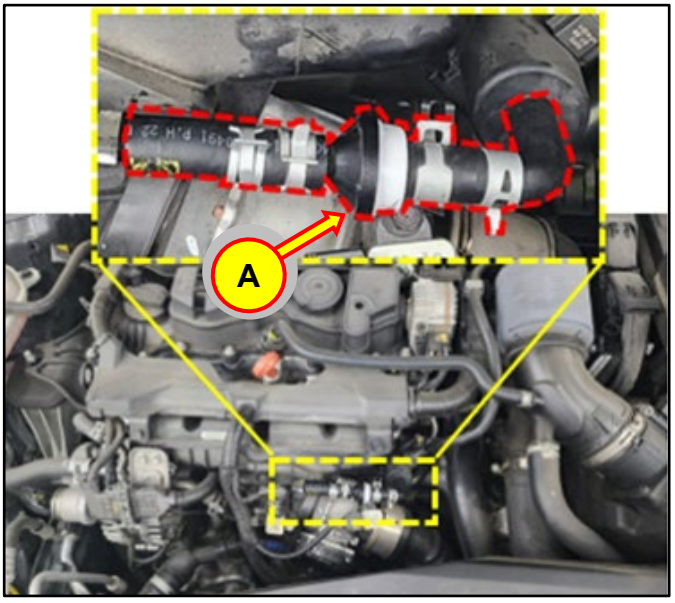
Service Procedure Flowchart

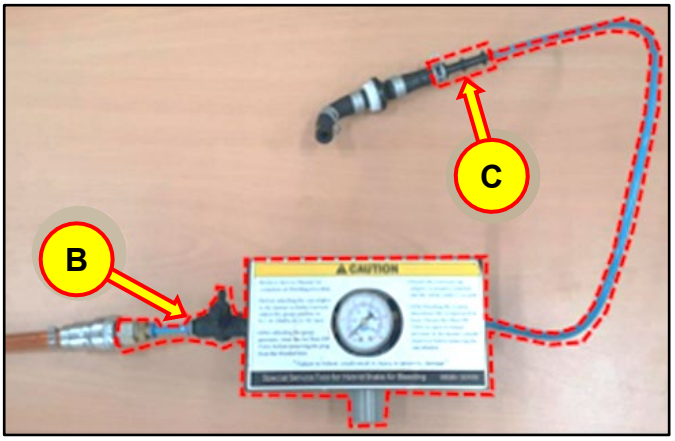


Check Valve Inspection/Replacement

1. Open the hood and remove the PCSV check valve (A) from the vehicle.



2. Connect the removed check valve to the air bleeding tool (B) by using the pressurization adapter (C).

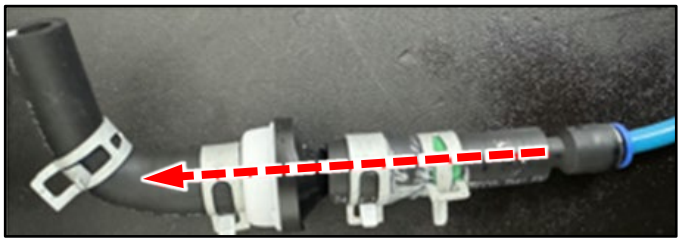


Information

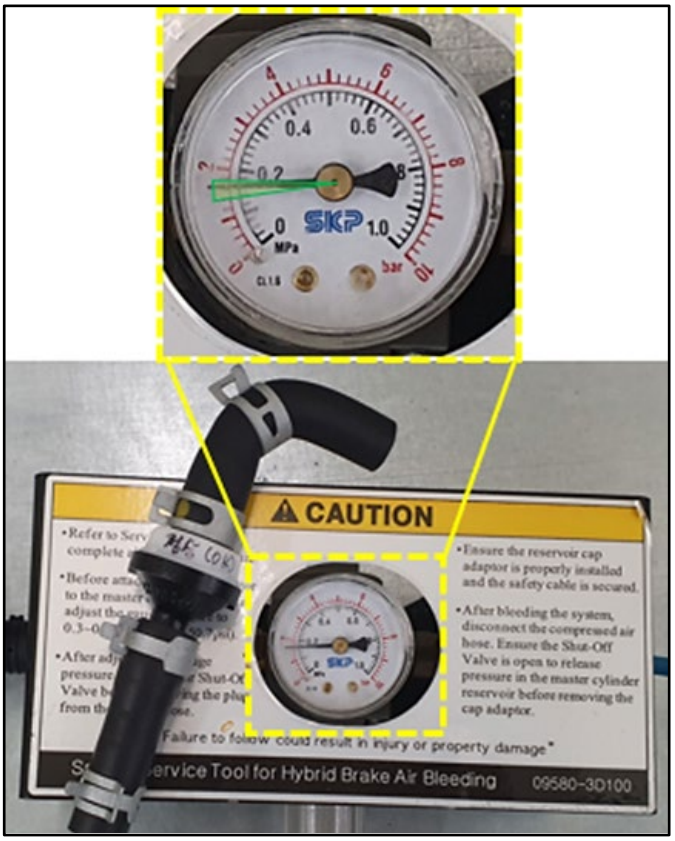
Be sure to connect the coupler to the check valve in the direction shown and clamp it.

Otherwise, this inspection **CANNOT** be conducted properly due to air flow of the check valve and/or a small leak at the connecting area.

Direction of Air Flow

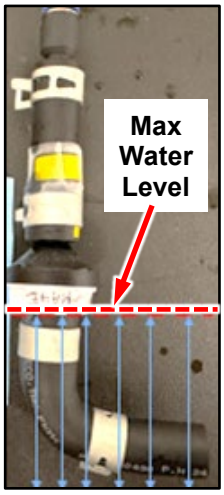


3. **Open** the air valve and set the air pressure between **1.4 -1.8 Bar**.



4. Perform the check valve inspection by referencing the images on the right.

   To observe for leakage, **partially** submerge the right angle hose end of the check valve in a bucket of water as shown and confirm if air bubbles are present.



NOTICE

Do **NOT** submerge the entire check valve.

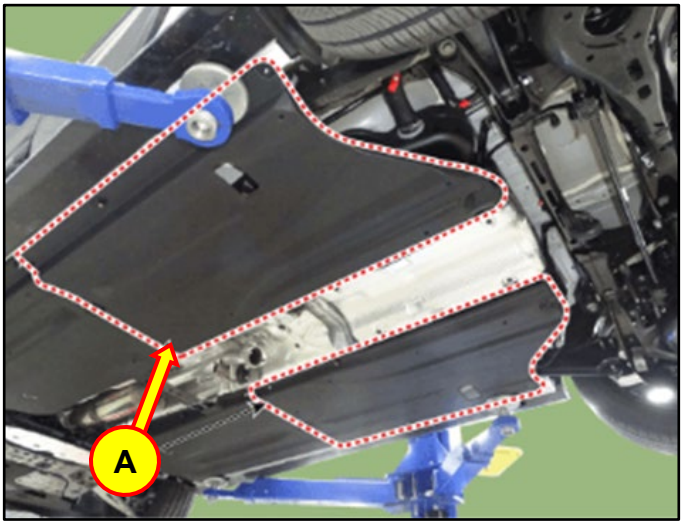
- If no bubbles are present, the check valve test result is **(GOOD)**.
  Reinstall the check valve and proceed to the **ECU Update Procedure** on page 17.

- If bubbles are present, the check valve test result is **NO GOOD** (**NG**).
  Continue to **Fuel Tank Band Gap Inspection** on page 8.

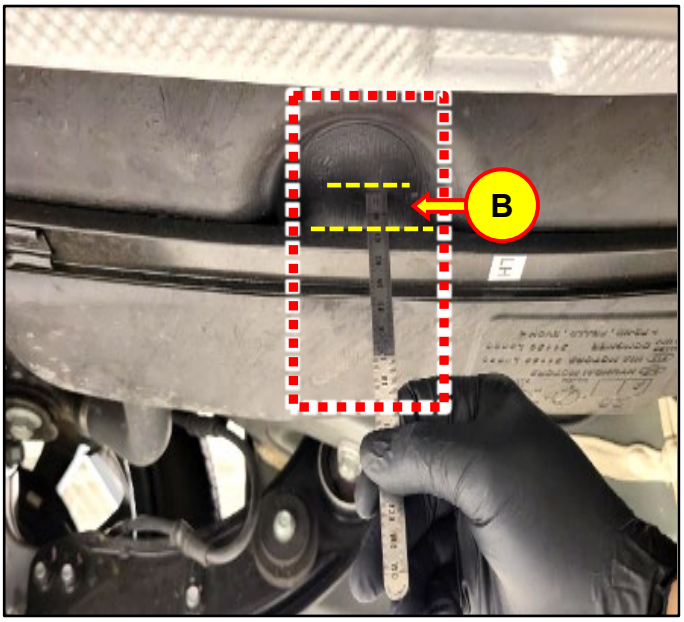
Fuel Tank Band Gap Inspection

1. Lift the vehicle using a lift.

   Remove the rear floor under cover (A).



2. Use a suitable measuring tool gauged for millimeters to measure the gap (B) between the fuel tank and fuel tank band from the **center** of the groove as shown in the figure.



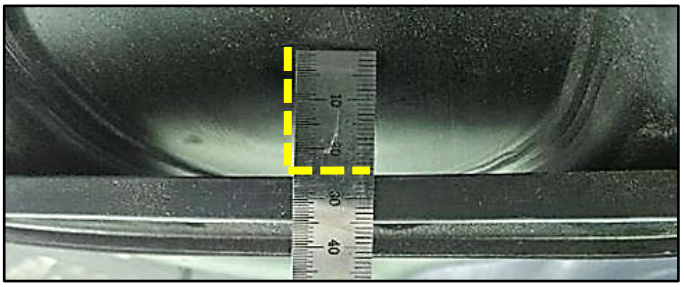
3. ***STUI***

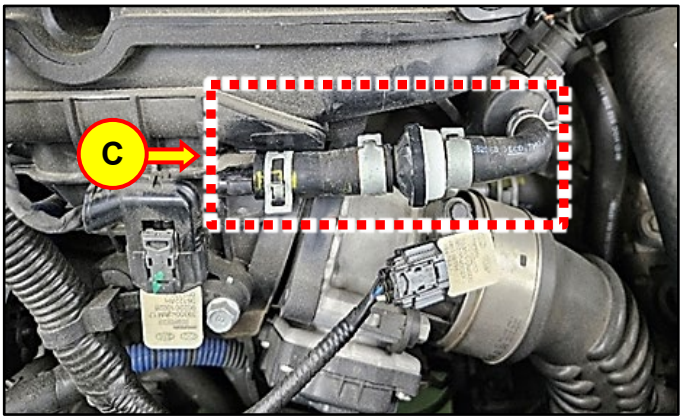
Using STUI, take a photo of gap showing the ruler and measurement, with the last 6 digits of the VIN and the date of repair on a piece of paper.

Upload the photo to STUI.

NOTE: Photo at right shown as measurement example only, and may not represent a gap of >25mm.

- If the gap is **25 mm or less**:
  - Replace the check valve (C) with a new part.
  - Proceed to the **ECU Update Procedure** on page 17.





- If the gap is **more** than **25mm** continue to **Fuel Pump Service Cover Inspection and Fuel Tank Replacement** below.

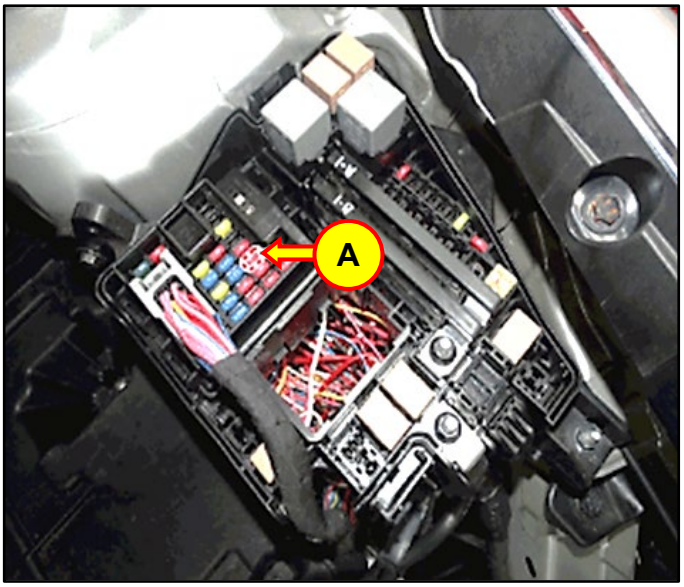
Fuel Pump Service Cover Inspection and Fuel Tank Replacement

1. Turn **OFF** the ignition switch.

   Remove the fuel pump fuse (A).

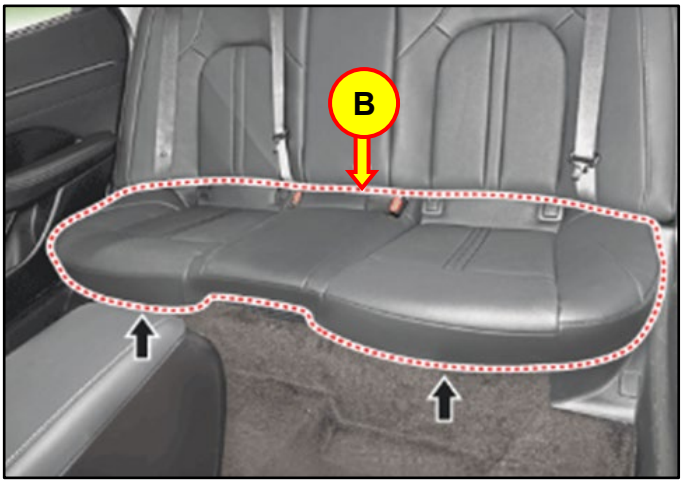
   Start the engine and let idle and then turn **OFF** the ignition after the engine has stopped on its own.

   Record customer radio presets and disconnect the battery negative (–) cable, then install the fuel pump fuse.



2. Remove the rear seat cushion by referring to the shop manual:

   - **Body (Interior and Exterior) > Rear Seat > Rear Seat Assembly > Repair procedures**



CAUTION

Wear gloves to prevent injury to hands.

NOTICE

Do **NOT** damage, bend, or scratch parts the trim and panel during the removal.

Remove the rear seat cushion assembly (B) by pulling it upward.

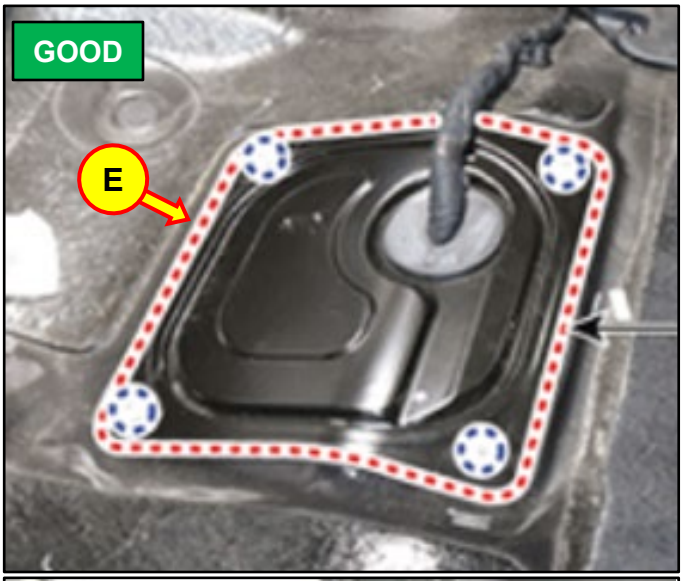
3. Disconnect the rear seat heater connector if equipped (C).

4. Disconnect the rear seat heater unit connector if equipped (D).

5. Inspect the fuel pump service cover (E).

- If a gap is **NOT** present (**GOOD**):
  - Replace the check valve.
  - Proceed to **step 8.**

- If a gap **is** present (**NG**)
  - Open RA Techline Case.
  - Continue to **step 6**.



6.

STUI

Using STUI, take a photo of the gap in the fuel pump service cover, with the last 6 digits of the VIN and the date of repair on a piece of paper.

Upload the photo to STUI.

7. Proceed as directed by Techline.
Service procedure is complete.

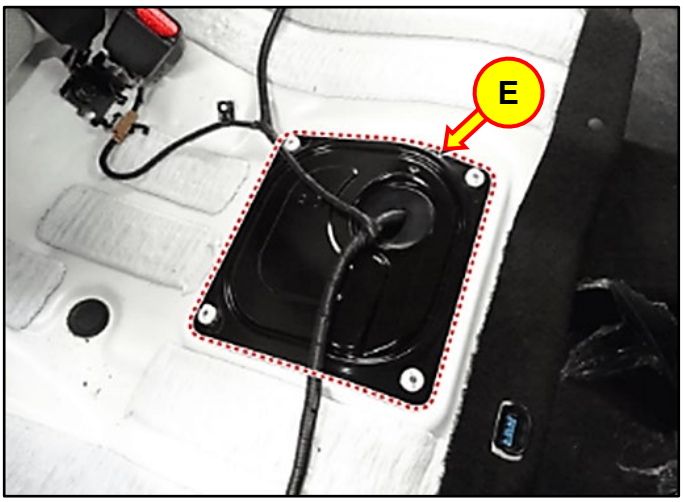
8. Release the residual pressure in the fuel line by referring to the shop manual:

   - **Engine Control / Fuel System > Fuel Delivery System > Release Residual Pressure in Fuel Line**

Information

After the **Release Residual Pressure in Fuel Line** procedure, use a shop towel to cover the hose connection to prevent residual fuel from spilling out before removing any fuel connection.

9. Remove the fuel pump service cover (E).

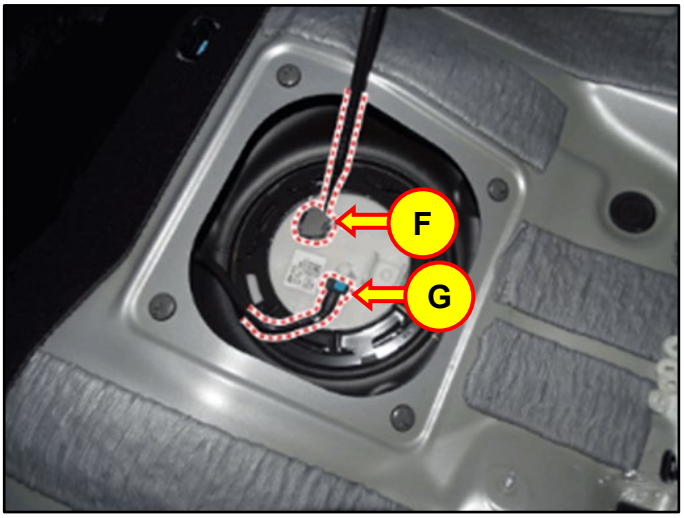


Information

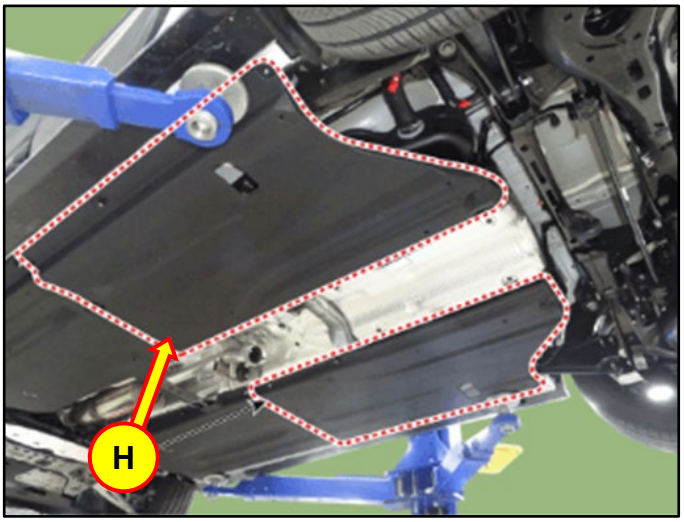
Replace with a new service cover after new fuel tank is installed.

10. Disconnect the fuel pump connector (F).

    Disconnect the fuel feed tube quick connector (G).



11. Lift the vehicle and remove the rear muffler assembly.



Refer to the shop manual:

- **Engine Mechanical System > Intake and Exhaust System > Muffler > Repair procedures > Rear Muffler**

During the reversed installation, replace with new gaskets.

Tightening Torque:

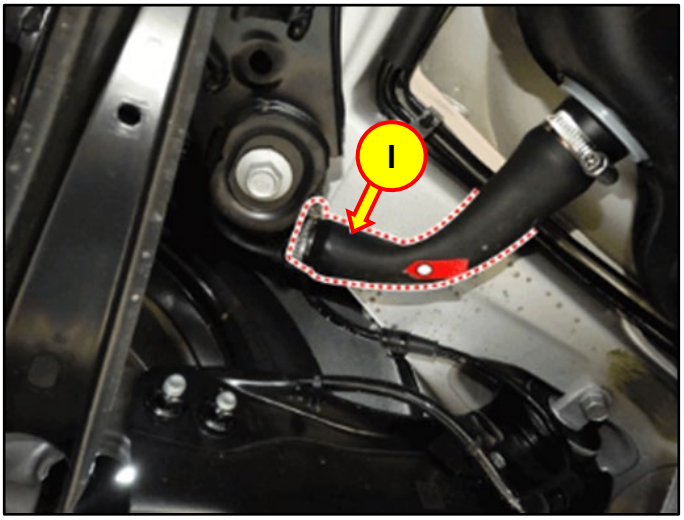
lb-ft	37
N.m	49

Remove the side under cover (H).

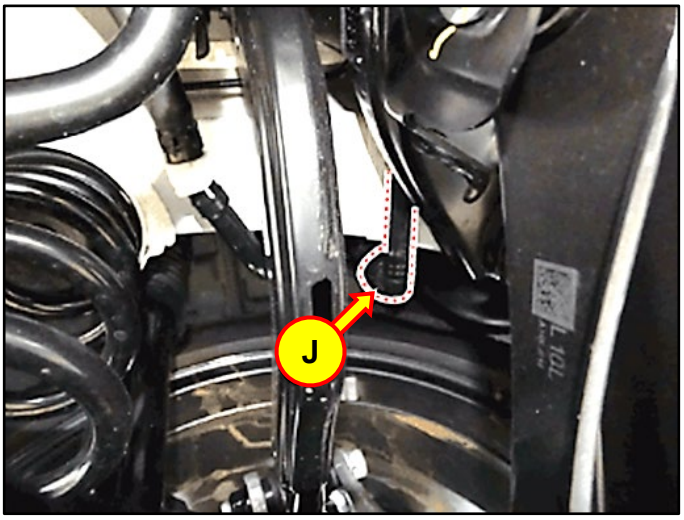
Tightening Torque:

lb-ft	7.95
lb-in	95.4
N.m	10.8

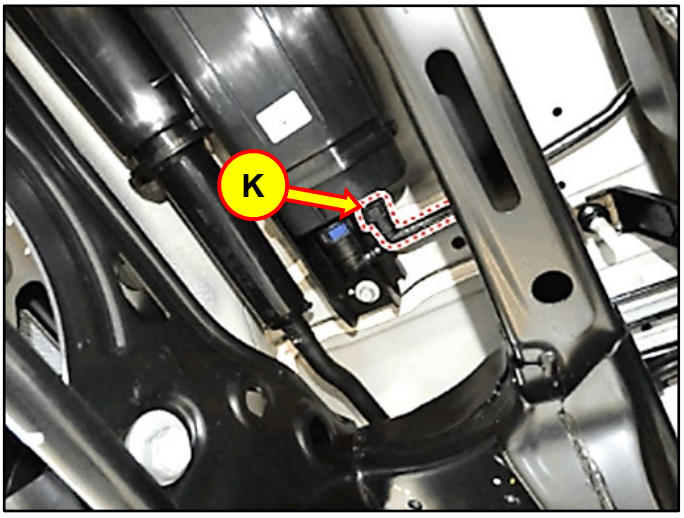
12. Disconnect the fuel filler hose (I).



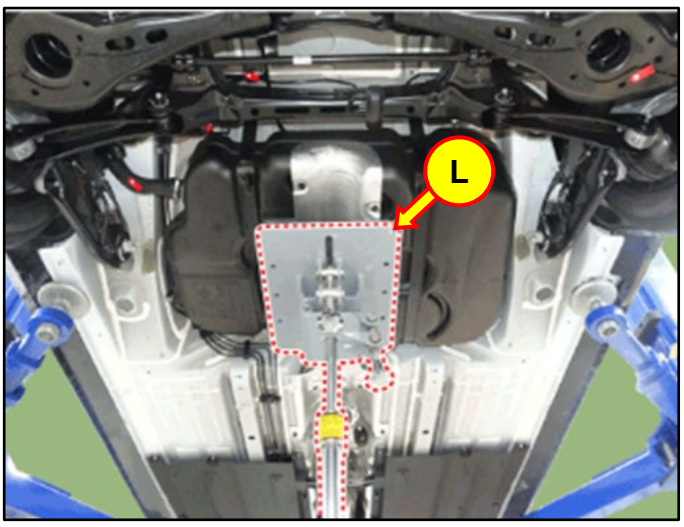
13. Disconnect the leveling tube quick connector (J).



14. Disconnect the vapor tube quick connector (K).



15. Use a jack (L) to support the fuel tank.



16. Remove the fuel tank band (M) and then the fuel tank (N) from the vehicle.

Tightening Torque:

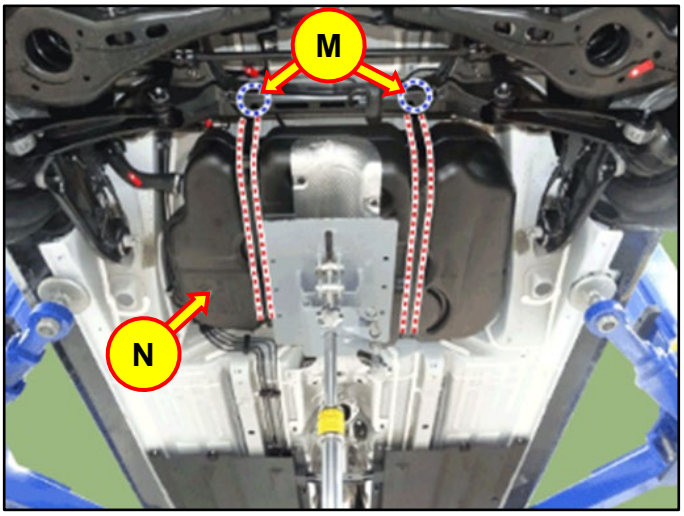
lb-ft	35
N.m	47

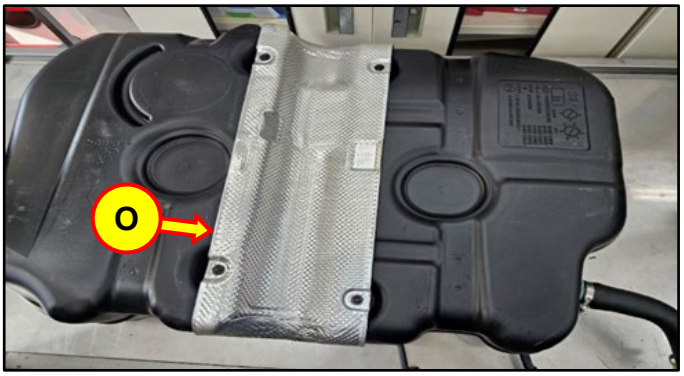
Information

Replace fuel tank bands during installation.

Use a siphon pump to transfer fuel to supplied tank.

Attach the fuel tank heat protector (O) supplied to the new fuel tank.





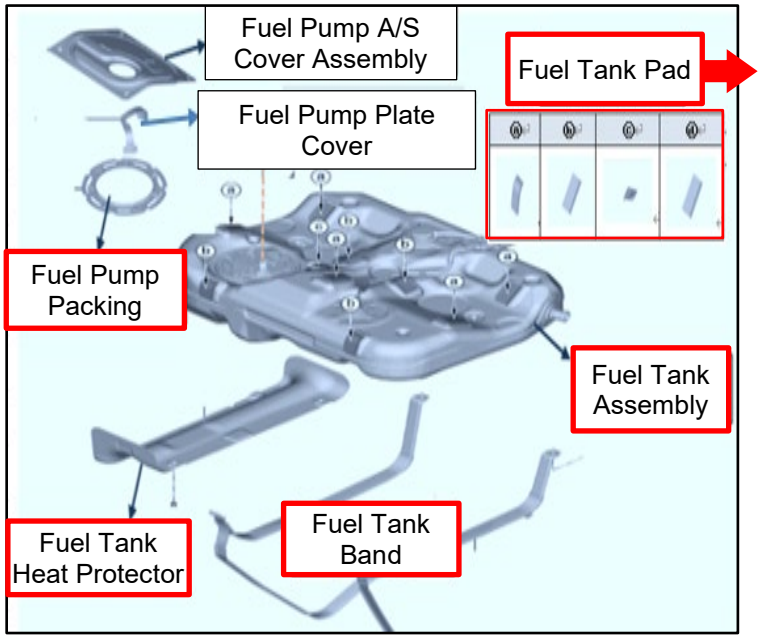
Information

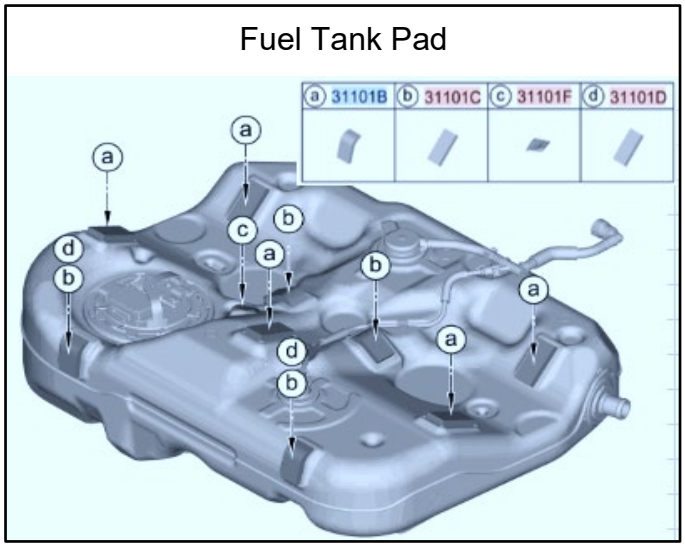
Do **NOT** reuse:

- Fuel tank assembly, fuel tank heat protector, fuel tank bands, fuel tank pads, fuel pump packing.

Replace fuel pump plate cover and fuel pump a/s cover assembly.

Reuse all other items.





Part Numbers:

- a = 31101-C1000 (Qty: 5)
- b = 31101-L1000 (Qty: 4)
- c = 31101-3X000 (Qty: 1)
- d = 31101-L1100 (Qty: 2)

17. Reinstall and reconnect all components in the reverse order of removal. Start the engine, ensure proper operation, and check for fuel leaks.
    Clear the Diagnostic Trouble Code (DTC) associated with the fuel pump fuse using the diagnostic tool.

NOTICE

Removing the fuel pump fuse may trigger a Diagnostic Trouble Code (DTC). Use the diagnostic tool to clear the code(s) after completing the **Release Residual Pressure in Fuel Line** procedure.

18. Proceed to the **ECU Update Procedure**.

ECU Update Procedure (Automatic or Manual)

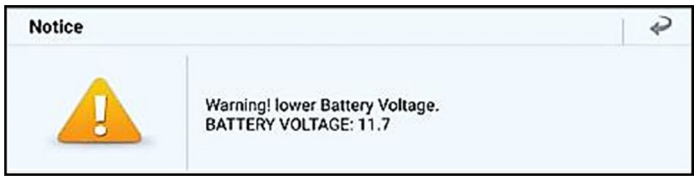
NOTICE

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 ECU update again.

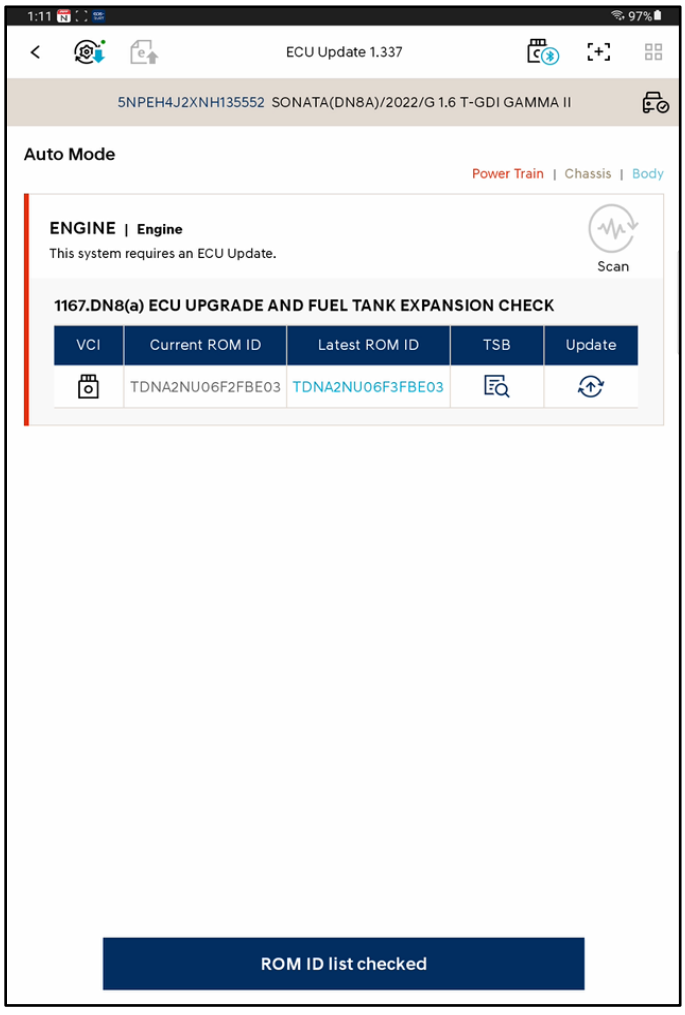


1. Perform the ECU update in Auto Mode.

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

Information

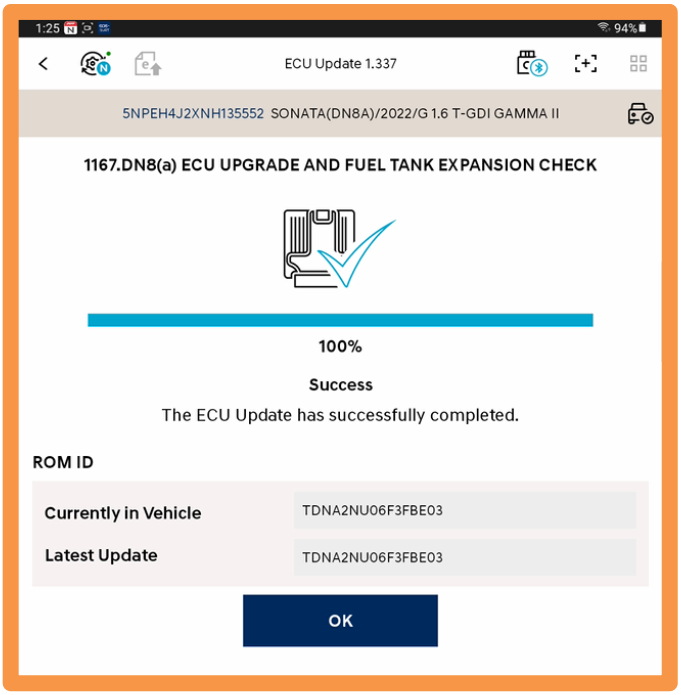
Refer to **TSB # 24-GI-012H**, "**ECU Update Procedure for Tablet-Based GDS-Smart**", for additional information.



2. After the ECU update process shows 100% complete, cycle the ignition key to **OFF** for at least **10 seconds** to reset the control unit.

3. **STUI**

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



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

5. Start the engine to confirm proper operation of the vehicle.

   If the vehicle sets DTC P14EE00, this means the check valve needs to be replaced.

6. Proceed to **Campaign Sticker Application**.

NOTICE

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

Manual Mode Password:

ECM Menu	Password
DN8(a) GAMMA 1.6TGDI ECU 39116-2M003	2003
DN8(a) GAMMA 1.6TGDI ECU 39116-2M013	2013
DN8(a) GAMMA 1.6TGDI ECU 39116-2M023	2023
DN8(a) GAMMA 1.6TGDI ECU 39116-2M033	2033

Campaign Sticker Application (All Vehicles)

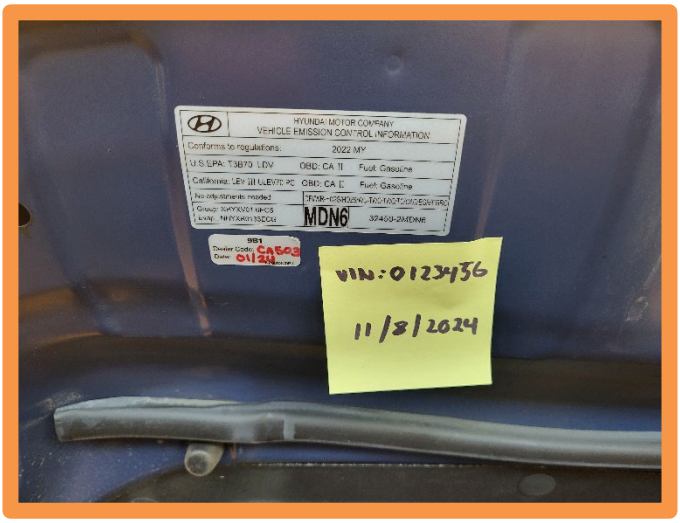
1. Using a permanent marker or pen, fill in the information on the NP001-SC9B1 Campaign Sticker and apply onto the hood in the area next to the Emission Label as shown (A).

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

2. **STUI**

   Using STUI, photograph the already installed campaign sticker next to the emissions label with the last 6 digits of the VIN and the date of the repair on a piece of paper.

   Upload the photo to STUI.



3. Proceed to next section and complete the **Vehicle Emission Recall - Proof of Correction Card** for the states listed on page 20.

   If not applicable to your state, the repair process 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
2. Enter "Hyundai"
3. Enter Model Year
4. Enter Model (i.e. Sonata)
5. Enter the vehicle's VIN Number
6. Enter Campaign Number (i.e. 9B1)
7. Enter Dealership Name
8. Enter Dealership's Address
   NOTE: Enter the physical address, not the mailing address (not a P.O. Box)
9. Enter Date of Repair
10. Service Manager Sign Here