



GROUP	MODEL
ENG	2023MY Sportage (NQ5/NQ5a)
NUMBER	DATE
238	May 2022

## TECHNICAL SERVICE BULLETIN

### SERVICE ACTION: ECM LOGIC IMPROVEMENT FOR DTC P0456/P013E (SA498)

SUBJECT:

This bulletin provides the procedure to update the software logic of the Engine Control Module (ECM) system on some 2023MY Sportage (NQ5/NQ5a) vehicles equipped with Theta 2.5L GDI engine and 8AT produced in the date ranges shown below, which may exhibit a MIL ON with DTC P0456 or P013E. Follow the procedure outlined in this publication to apply the improved logic to the 'Engine' system using the KDS ECU Upgrade function as described in this bulletin. For confirmation that the latest reflash has been applied to a vehicle you are working on, verify the ROM ID using the table on page 3 of this bulletin. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.

#### DTC Description:

- P0456: Evaporative Emission System / Leak Detected (very small leak)
- P013E: O2 Sensor Delayed Response / Rich to Lean Bank 1 Sensor 2

Model	Production Date Range
Sportage (NQ5)	December 15, 2021 to April 15, 2022
Sportage (NQ5a)	January 25, 2022 to April 25, 2022

#### NOTICE

A Service Action is a repair program without customer notification that is performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.

Repair status for a VIN is provided on WebDCS (Service → Warranty Coverage → Warranty Coverage Inquiry → Campaign Information). Not completed Recall / Service Action reports are available on WebDCS (Consumer Affairs → Not Completed Recall → Recall VIN → Select Report), which includes a list of affected vehicles.

This issue number is SA498.

**ECU Upgrade Procedure:**

To correct this condition, the ECU should be reprogrammed using the KDS download, as described in this bulletin.

**Upgrade Event Name**

617. NQ5/NQ5a THETA 2.5GDI ENGINE MIL ON DTC (P0456, P013E) JUDGMENT LOGIC IMPROVEMENT

**NOTICE**


- Confirm a fully charged battery (12.3 volts or higher is necessary) is used or utilize a fully charged jump starter box connected to the battery.
- **Ensure the KDS is sufficiently charged at 60% or higher prior to reflash.**
- All ECU upgrades must be performed with the ignition set to the 'ON' position unless otherwise stated.
- **Damaged VCI II units should not be used and promptly replaced.**
- Be careful not to disconnect the VCI-II connected to the vehicle during the ECU upgrade procedure.
- **DO NOT start the engine during ECU upgrade.**
- DO NOT turn the ignition key 'OFF' or interrupt the power supply during ECU upgrade.
- **When the ECU upgrade is completed, turn the ignition 'OFF' and wait 10 seconds before starting the engine.**
- ONLY use approved ECU upgrade software designated for the correct application.

**IMPORTANT**

It is recommended to ALWAYS check the Electronic Parts Catalog (EPC) to locate the ECU Part Number respective to Auto/Manual Mode ROM IDs. DO NOT reference the parts label affixed to the ECU.



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**NOTICE**

Before attempting an ECU upgrade on any Kia model, make sure to first determine whether the applicable model is equipped with an immobilizer  security system. Failure to follow proper procedures may cause the PCM to become inoperative after the upgrade and any claims associated with this repair may be subject to chargeback.

**ROM ID INFORMATION TABLE:**

Upgrade Event #617

Model	EM	TM	2WD/ 4WD	IMMO		ECU P/No.	ROM ID		
							Previous	New	
NQ5 (2.5 GDI)	ULEV 70	8AT	2WD/ 4WD	Yes		39100 2S210	NQDWD5GMAXXXL7A NQEWD5GMAXXXL7A	NQEWD5GMAXXXL7B	
						39100 2S215	NQDWD5GKAXXXL7A NQEWD5GKAXXXL7A	NQEWD5GKAXXXL7B	
			4WD			39100 2S232	NQDWD5GMJXXXXL7A NQEWD5GMJXXXXL7A	NQEWD5GMJXXXXL7B	
						39100 2S233	NQDWD5GKJXXXXL7A NQEWD5GKJXXXXL7A	NQEWD5GKJXXXXL7B	
NQ5a (2.5 GDI)			2WD/ 4WD			4WD	39100 2S226	NQEWN5GMAXXXL7A	NQEWN5GMAXXXL7B
							39100 2S231	NQEWN5GKAXXXL7A	NQEWN5GKAXXXL7B
			4WD			39100 2S234	NQEWN5GMJXXXXL7A	NQEWN5GMJXXXXL7B	
						39100 2S235	NQEWN5GKJXXXXL7A	NQEWN5GKJXXXXL7B	

*To verify the vehicle is affected, be sure to check the Calibration Identification of the vehicle's ECM ROM ID and reference the Information Table as necessary.*



**NOTICE**

**Prior to performing the ECU upgrade, be sure to check that the KDS is fully charged.**

1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

**NOTICE**

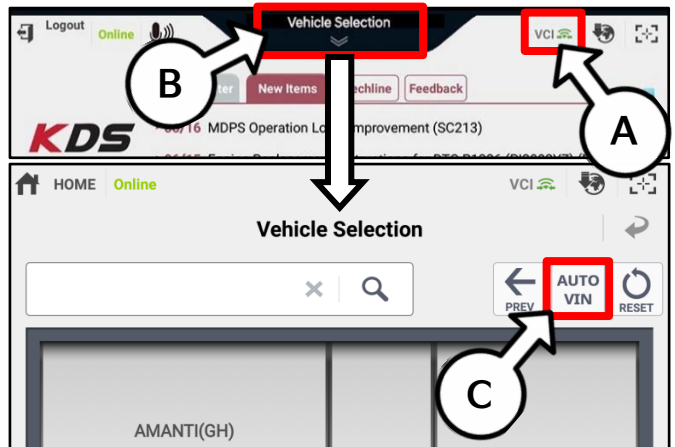
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



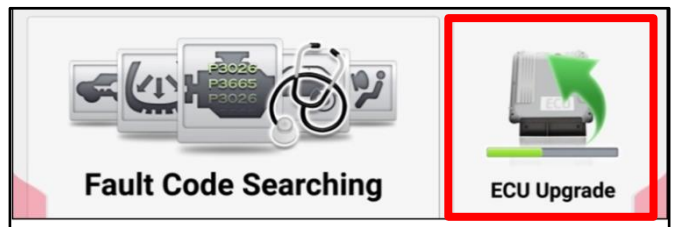
2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.



3. Confirm communication with VCI (A) and then configure the vehicle (B) using the 'AUTO VIN' (C) feature.



4. Select 'ECU Upgrade'.



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- The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #617.

**NOTICE**

The vehicle must be identified in Vehicle Selection to download an Event for that vehicle.

After the download is complete, the program will shut down to install. Please wait until the program restarts.

Event	Status
271.QF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Downloading
273.TF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Ready

36%

Do not touch any system buttons while performing this function.

KDS screenshot shown above is for demonstration purposes only. Events shown in screenshot are not applicable to this bulletin.

- Select Auto Mode.

**CAUTION**

Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.

- Select the ENGINE system under the System selection menu. Touch ID Check (D) and confirm that the latest update is available. Select Upgrade Event #617 and select Upgrade to continue.

- The ECU upgrade will begin and the progress of the upgrade will appear on the bar graph. Upgrade part (1/2) (E) will download the upgrade event to the VCI-II. Upgrade part (2/2) (F) will upgrade the ECU.

**CAUTION**

Do not touch the system buttons (like 'Back', 'Home', 'etc.') while performing ECU Upgrade.

**E**

23%

**ECU Upgrading...(1/2)**

ECU is in the process of being upgraded. Please wait a few minute.

**F**

6%

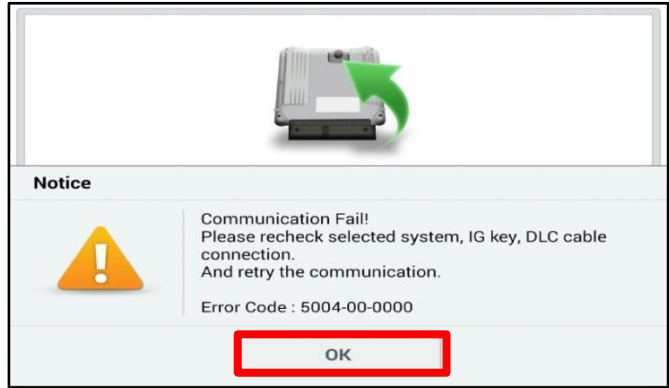
**ECU Upgrading...(2/2)**

ECU is in the process of being upgraded. Please wait a few minute.

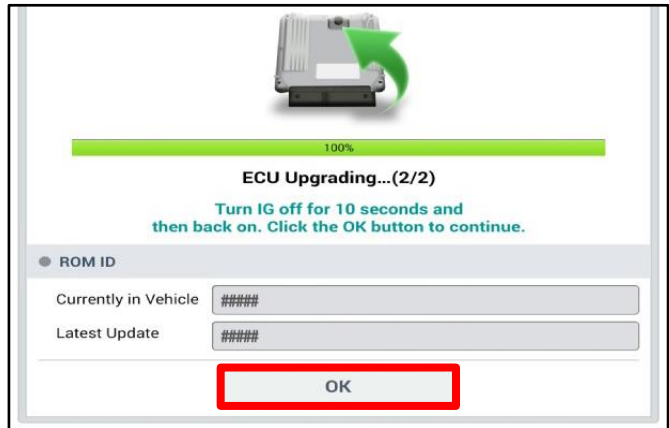
- 9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select 'OK' and restart the procedure from step 4.

**NOTICE**

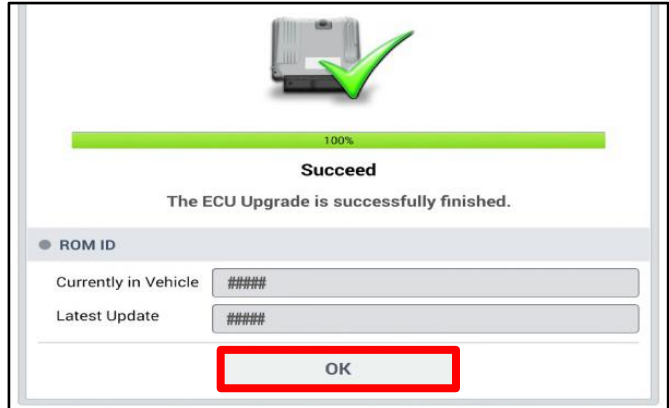
**If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**



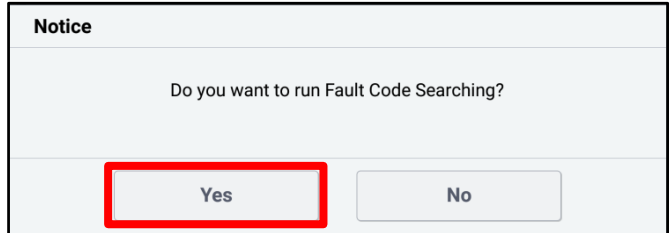
- 10. When instructed on the KDS, turn the ignition OFF for ten (10) seconds then back on. Select 'OK' to continue.



- 11. Once the upgrade is complete, select 'OK' to finalize the procedure.



- 12. When prompted, select 'YES' to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.



- 13. Start the engine to confirm normal operation of the vehicle.



**Manual Upgrade Procedure:****NOTICE**

The manual upgrade should ONLY be performed if the automatic upgrade fails.

**If the automatic upgrade fails, turn the ignition 'OFF' for about 10 seconds then place it back in the 'ON' position to reset the control unit BEFORE performing manual upgrade.**

See table below for 'Manual Mode' passwords.

## Manual Mode ECU Upgrade Passwords

Menu	Password
NQ5 2.5GDI ULEV70 2/4WD: 39100-2S210	2210
NQ5 2.5GDI ULEV70 2/4WD: 39100-2S215	2215
NQ5 2.5GDI ULEV70 4WD: 39100-2S232	2232
NQ5 2.5GDI ULEV70 4WD: 39100-2S233	2233
NQ5a 2.5GDI ULEV70 2/4WD: 39100-2S226	2226
NQ5a 2.5GDI ULEV70 2/4WD: 39100-2S231	2231
NQ5a 2.5GDI ULEV70 4WD: 39100-2S234	2234
NQ5a 2.5GDI ULEV70 4WD: 39100-2S235	2235

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #617** and select **Upgrade** to continue.
3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 3, and select **OK**.
4. Enter the appropriate password from the Manual Mode password table above and select **OK**.
5. The upgrade will begin and the progress of the upgrade will appear on the bar graph.
6. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Select **OK**.
7. Once the upgrade is complete, select **OK** to finalize the procedure.
8. When prompted, select **YES** to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.
9. Start the engine to confirm proper operation of the vehicle.

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**AFFECTED VEHICLE RANGE:**

Model	Production Date Range
Sportage (NQ5)	December 15, 2021 to April 15, 2022
Sportage (NQ5a)	January 25, 2022 to April 25, 2022

**REQUIRED TOOL:**

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

**WARRANTY INFORMATION:**

**N Code: N99 C Code: C99**

Model	Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
NQ5	V	39100 2S210	0	(SA498) ECM Logic Improvement	220055R0	0.3 M/H	N/A	0
NQ5a					220A04R0			

**NOTICE**

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA498 when accessing the WebDCS system.

