| | GROUP | MODEL |
|---|---|---|
| ![Kia logo] | ELE | 2023MY Sportage (NQ5, NQ5a) w/Theta III 2.5L GDI |
| | NUMBER | DATE |
| | 319 | February 2024 |

# TECHNICAL SERVICE BULLETIN

SUBJECT:

## 2.5L GDI THETA III ECU SOFTWARE UPGRADE FOR ISG OPERATION LOGIC

This bulletin provides information to upgrade the Engine Control Unit (ECU) software on some 2023MY Sportage (NQ5) vehicles equipped with a Theta III 2.5L GDI engine, produced from December 15, 2021 through July 17, 2023 and Sportage (NQ5a) vehicles equipped with Theta III 2.5L GDI engine, produced from January 12, 2022 through July 10, 2023, due to the possibility of an intermittent restart failure in rare circumstances with Idle Stop Go (ISG) enabled. The existing logic may prevent the vehicle from restarting automatically within a short time period (0.2 second) after entering "auto stop" mode and under certain engine and ambient conditions. However, if this occurs, the engine can be restarted by the driver after placing the gear shift selector to Park (P) or Neutral (N) and pressing the ENGINE START/STOP button. Follow the procedure outlined in this publication to upgrade the 'ENGINE' system software and improve the ISG logic to correct this concern on the applicable vehicle.



📄 **NOTICE**

**A Technical Service Bulletin is a field fix repair program without customer notification that may be performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.**

## ECU Upgrade Procedure:

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

| Upgrade Event Name |
| --- |
| 702. NQ5/NQ5A Theta 2.5GDI ISG Operation Logic Improvement |

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### 📄 NOTICE

- Confirm a <u>fully charged battery</u> (12.3 volts or higher is necessary) is used <u>or</u> utilize a fully charged jump starter box connected to the battery.
- **Ensure the KDS GDS 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 <u>not</u> 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' <u>or</u> 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.

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### ⓘ 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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Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.

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KIA

> 📄 **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 #702

| Model | System | Smart Key | ECU P/No. | ROM ID Previous | ROM ID New |
|-------|--------|-----------|-----------|-----------------|------------|
| NQ5 (FWD) | ECM | Yes | 39100 2S210 | NQDWD5GMAXXXXL7A<br>NQEWD5GMAXXXXL7A<br>NQEWD5GMAXXXXL7B<br>NQEWD5GMAXXXXM1A | NQEWD5GMAXXXXM1B |
| NQ5 (FWD) | ECM | No | 39100 2S215 | NQDWD5GKAXXXXL7A<br>NQEWD5GKAXXXXL7A<br>NQEWD5GKAXXXXL7B<br>NQEWD5GKAXXXXM1A | NQEWD5GKAXXXXM1B |
| NQ5 (AWD) | ECM | Yes | 39100 2S232 | NQDWD5GMJXXXXL7A<br>NQEWD5GMJXXXXL7A<br>NQEWD5GMJXXXXL7B<br>NQEWD5GMJXXXXM1A | NQEWD5GMJXXXXM1B |
| NQ5 (AWD) | ECM | No | 39100 2S233 | NQDWD5GKJXXXXL7A<br>NQEWD5GKJXXXXL7A<br>NQEWD5GKJXXXXL7B<br>NQEWD5GKJXXXXM1A | NQEWD5GKJXXXXM1B |
| NQ5a (FWD) | ECM | Yes | 39100 2S226 | NQEWN5GMAXXXXL7A<br>NQEWN5GMAXXXXL7B<br>NQEWN5GMAXXXXM1A | NQEWN5GMAXXXXM1B |
| NQ5a (FWD) | ECM | No | 39100 2S231 | NQEWN5GKAXXXXL7A<br>NQEWN5GKAXXXXL7B<br>NQEWN5GKAXXXXM1A | NQEWN5GKAXXXXM1B |
| NQ5a (AWD) | ECM | Yes | 39100 2S234 | NQEWN5GMJXXXXL7A<br>NQEWN5GMJXXXXL7B<br>NQEWN5GMJXXXXM1A | NQEWN5GMJXXXXM1B |
| NQ5a (AWD) | ECM | No | 39100 2S235 | NQEWN5GKJXXXXL7A<br>NQEWN5GKJXXXXL7B<br>NQEWN5GKJXXXXM1A | NQEWN5GKJXXXXM1B |

*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.*

Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.

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📄 **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.
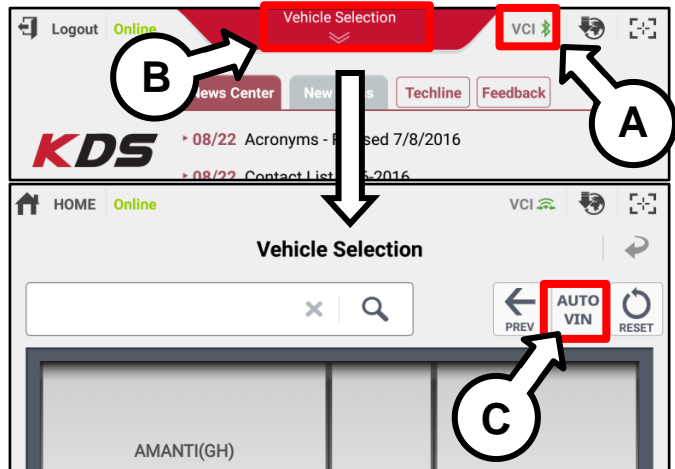
   📄 **NOTICE**

   **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'**.

5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #702. NQ5/NQ5A Theta 2.5GDI ISG Operation Logic Improvement.**

> 📄 **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.

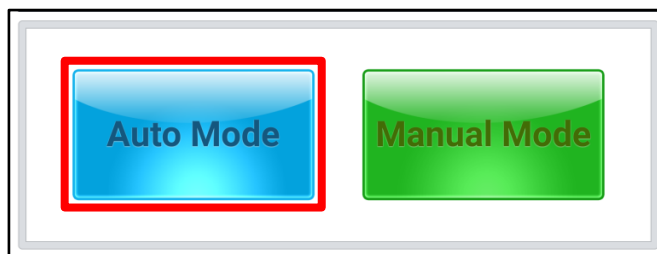| Event | Status |
| --- | --- |
| 271.QF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT | Downloading |
| 273.TF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT | Ready |

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.

6. 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.**

Auto Mode    Manual Mode

7. Select **'ENGINE'** system and applicable **'Event Group'** (D) for the vehicle:

   **Event #702. NQ5/NQ5A Theta 2.5GDI ISG Operation Logic Improvement**

ECU Upgrade

🚗 SPORTAGE(NQ5) > 2023 > G 2.5 GDI THETA III

● System

ENGINE    **D**

● Event Group    TSB

702.NQ5/NQ5A Theta 2.5GDI ISG operation logic improvement
NQ5 2.5GDI ULEV70 2/4WD : 39110-2S210

NQ5 2.5GDI ULEV70 2/4WD : 39110-2S215

8. 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.
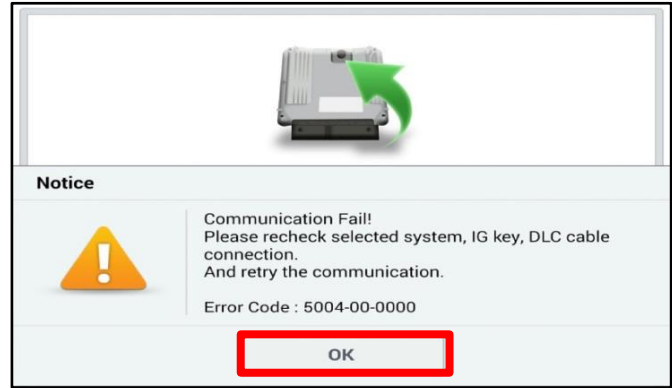
**F**

6%

ECU Upgrading...(2/2)

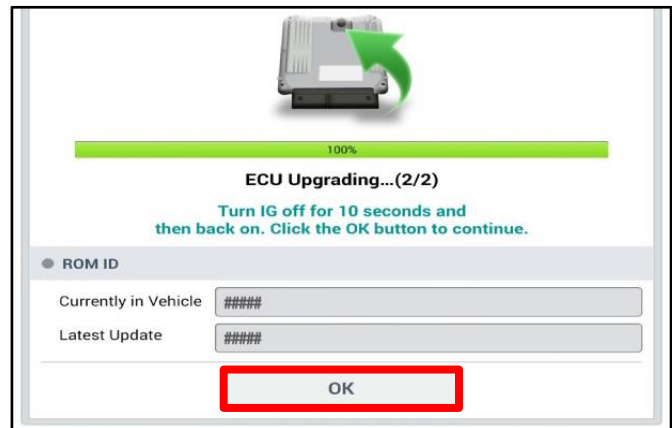ECU is in the process of being upgraded. Please wait a few minute.

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9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select **'OK'** and restart the from step 4.
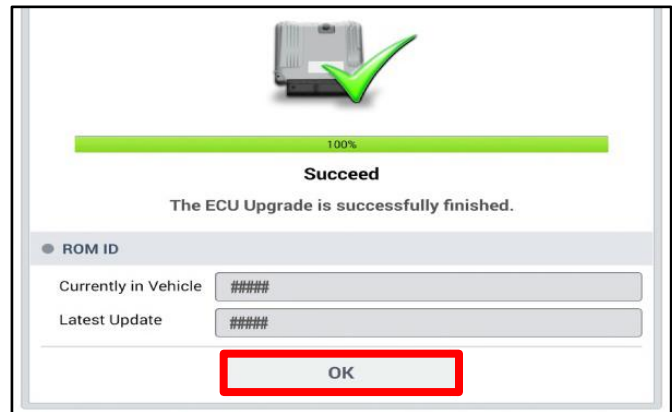
> 📄 **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
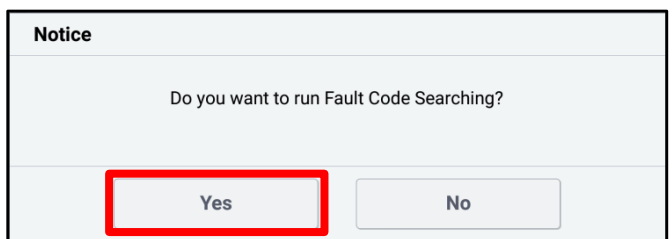


10. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Select **'OK'** to continue.



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.

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|---|---|

## 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: 39110-2S210 | 5751 |
| NQ5 2.5GDI ULEV70 2/4WD: 39110-2S215 | 5751 |
| NQ5 2.5GDI ULEV70 4WD: 39110-2S232 | 5753 |
| NQ5 2.5GDI ULEV70 4WD: 39110-2S233 | 5754 |
| NQ5a 2.5GDI ULEV70 2/4WD: 39110-2S226 | 5755 |
| NQ5a 2.5GDI ULEV70 2/4WD: 39110-2S231 | 5756 |
| NQ5a 2.5GDI ULEV70 4WD: 39110-2S234 | 5757 |

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.

2. Select the **'ENGINE'** system under the System selection menu. Select **Upgrade Event #702** 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.

**SUBJECT:** 2.5L GDI THETA III ECU ISG SW LOGIC IMPROVEMENT

## AFFECTED VEHICLE RANGE:

| Model | Production Date Range |
|---|---|
| Sportage (NQ5) | December 15, 2021 to July 17, 2023 |
| Sportage (NQ5a) | January 12, 2022 to July 10, 2023 |

## REQUIRED TOOL:

| Tool Name | Figure | Comments |
|---|---|---|
| KDS |  | Kia Diagnostic System |

## WARRANTY INFORMATION:

**N Code: D94   C Code: ZZ3**

| Model | Claim Type | Causal P/N | Qty. | Repair Description | Labor Op Code | Op Time | Replacement P/N | Qty. |
|---|---|---|---|---|---|---|---|---|
| NQ5 NQ5a | W | 39100 2S210 | 0 | Theta 2.5L GDI ISG Operation Logic Improvement | 39100F01 | 0.3 M/H | N/A | 0 |