TECHNICAL SERVICE BULLETIN

SUBJECT:

SERVICE ACTION: ECM OBD CODE DISPLAY LOGIC IMPROVEMENT (SA474)

> **📄 NOTICE**
>
> **This bulletin has been revised to include additional information.** New/revised sections of this bulletin are indicated by a black bar in the margin area.

This bulletin provides the procedure to update the software logic of the Engine Control Module (ECM) system on some 2019MY Stinger (CK) vehicles equipped with the 2.0L T-GDI engine and 8AT transmission, 2020MY Soul (SK3) vehicles with 2.0L MPI engine and 6MT transmission, and 2020MY Sportage (QL) vehicles with 2.4L GDI engine and 6AT transmission, in order to improve OBD authentication code display logic. Apply the improved logic to the ECM 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, <u>verify that the vehicle is included in the list of affected VINs</u>.

Model	Production Date Range
Stinger (CK)	June 7, 2018 to March 15, 2019
Soul (SK3)	December 26, 2018 to March 7, 2019
Sportage (QL)	December 27, 2018 to March 13, 2019

> **📄 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 <u>SA474</u>.**

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ECU Upgrade Procedure:

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

Upgrade Event Name
416.SK3 NU 2.0MPI MT ECM OBD AUTHENTICATION CODE DISPLAY LOGIC IMPROVEMENT
417.QL PE THETA 2.4GDI 6AT ECM OBD AUTHENTICATION CODE DISPLAY LOGIC IMPROVEMENT
418.CK THETA 2.0TGDI 8AT ECM OBD AUTHENTICATION CODE DISPLAY 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 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 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.

📄 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.

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ROM ID INFORMATION TABLE:

Upgrade Event #416 (SK3)

Model	EM	TM	EM	IMMO 🚗	ECU P/No.	ROM ID	
						Previous	New
SK3	2.0L MPI	6MT	ULEV	Yes	39171 2ELD0	SKAUP2CS6B1A	SKAUP2CS6B1B
				No	39173 2ELD0	SKAUP2VS6B1A	SKAUP2VS6B1B

Upgrade Event #417 (QL)

Model	EM	TM	EM	IMMO 🚗	ECU P/No.	ROM ID	
						Previous	New
QL	2.4L GDI	6AT	SULEV	Yes	39171 2GRE1 39171 2GRF1	QPDKNS4ERG0A	QPDKNS4ERG0B
				No	39171 2GRG1 39171 2GRH1	QPDKNS4EMG0A	QPDKNS4EMG0B

Upgrade Event #418 (CK)

Model	EM	TM	EM	IMMO 🚗	ECU P/No.	ROM ID	
						Previous	New
CK	2.0L T-GDI	8AT	ULEV	Yes	39100 2CFR0	CKDJNC0TSF0A CKDJNC0TSE3A CKDJNC0TSE3B CKDJNC0TSE5A	CKDJNC0TSF0B
					39100 2CFR5	CKDJNC0FSF0A CKDJNC0FSE3A CKDJNC0FSE3B CKDJNC0FSE5A	CKDJNC0FSF0B

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.**

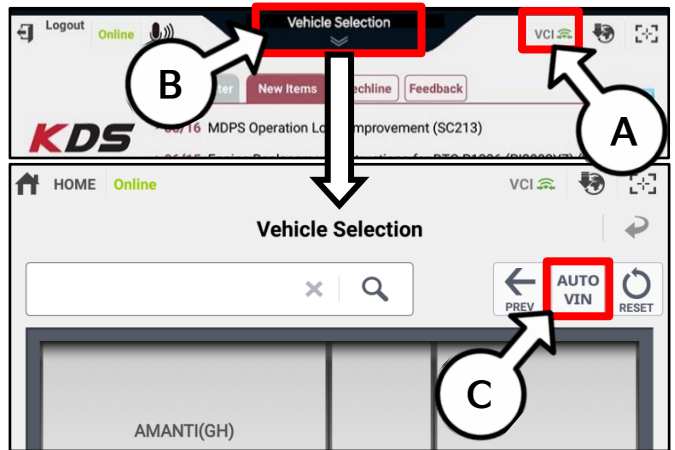1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

   > 📄 **NOTICE**
   >
   > **The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.**
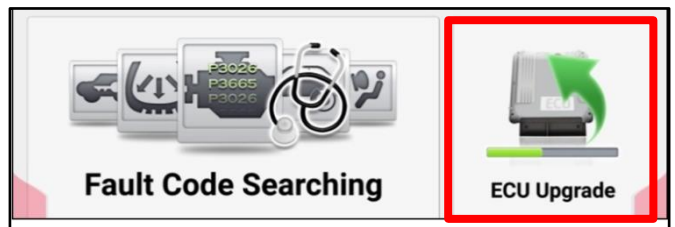
2. With the ignition **ON**, turn ON the KDS tablet. Select **'KDS'** from the home screen.

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

4. Select **'ECU Upgrade'**.

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5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #416 (SK3), #417 (QL), or #418 (CK)**.

> 📄 **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.

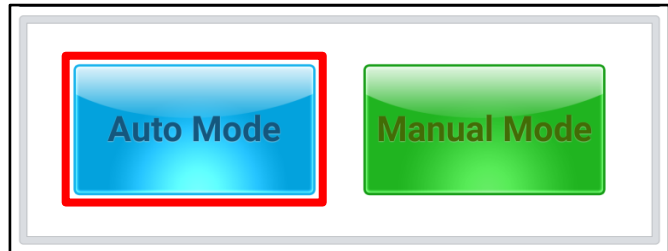| Event	Status
271.QF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Downloading
273.TF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Ready

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 the **Engine** system under the System selection menu.
Touch **ID Check** (D) and confirm that the latest update is available.
Select **Upgrade Event #416 (SK3), #417 (QL), or #418 (CK),** and select **Upgrade** to continue.

● System
ENGINE   A/T   **D**
● ROM ID
Currently in Vehicle ######
Latest Update ######   ID Check
● Event Group   TSB
###.XX -----
Previous   Upgrade

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.

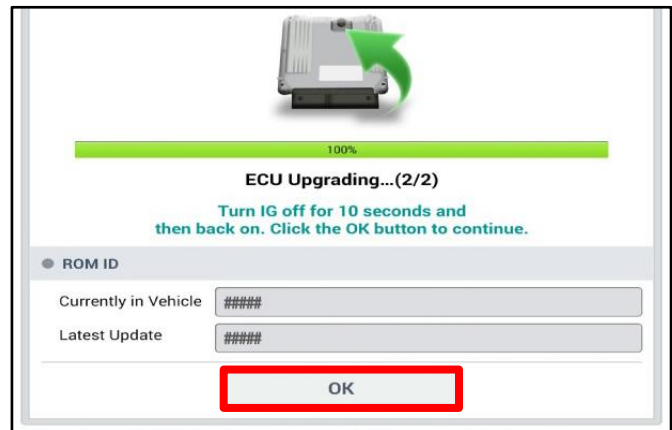**SUBJECT: SERVICE ACTION: ECM OBD CODE DISPLAY LOGIC IMPROVEMENT (SA474)**

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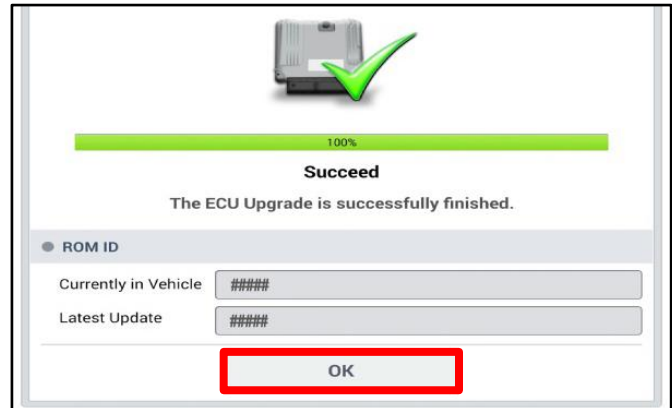
> 📄 **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
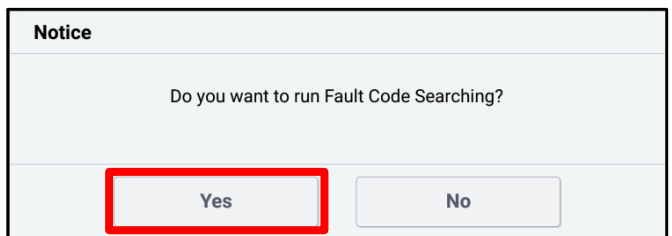
Notice

Communication Fail!
Please recheck selected system, IG key, DLC cable connection.
And retry the communication.

Error Code : 5004-00-0000

OK

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

100%

ECU Upgrading...(2/2)

Turn IG off for 10 seconds and then back on. Click the OK button to continue.

● ROM ID

Currently in Vehicle   ####
Latest Update   ####

OK

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

100%

Succeed

The ECU Upgrade is successfully finished.

● ROM ID

Currently in Vehicle   ####
Latest Update   ####

OK

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.

Notice

Do you want to run Fault Code Searching?

Yes   No

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

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KIA

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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
SK3 NU 2.0MPI 6MT -IMMO (ULEV) : 39173-2ELD0	7320
SK3 NU 2.0MPI 6MT +IMMO/SMK (ULEV) : 39171-2ELD0	7120
QL PE THETA 2.4GDI 6AT -IMMO (SULEV) : 39171-2GRG1/H1	1211
QL PE THETA 2.4GDI 6AT +IMMO/SMK (SULEV) : 39171-2GRE1/F1	1212
CK THETA 2.0TGDI 8AT +IMMO/SMK (ULEV) : 39100-2CFR0	0020
CK THETA 2.0TGDI 8AT +IMMO/SMK (ULEV) : 39100-2CFR5	0025

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

2. Select the **Engine** system under the System selection menu. Select **Upgrade Event #416 (SK3), #417 (QL), or #418 (CK)** 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:

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REQUIRED TOOL:

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

WARRANTY INFORMATION:

N Code: N99   C Code: C99

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
V	39173 2ELD0	0	(SA474) ECM Logic Improvement	210048R0	0.3 M/H	N/A	0

> 📄 **NOTICE**
>
> **VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference <u>SA474</u> when accessing the WebDCS system.**