



GROUP	MODEL
ELE	2023MY Carnival (KA4)
NUMBER	DATE
267	September 2022

TECHNICAL SERVICE BULLETIN

SUBJECT:

SERVICE ACTION: 3.5L GDI ECM LOGIC IMPROVEMENT (SA508)

This bulletin provides the procedure to update the software logic of the Engine Control Module (ECM) on some 2023MY Carnival (KA4) vehicles produced from March 24, 2022 through July 14, 2022, that may experience a temporary, lower than expected engine speed while decelerating or idling, while applying torque converter dampening. 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.



Kia Diagnostic System (KDS)

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 SA508.

A printed copy is for reference only; publication information can be updated at any time. Always refer to KGIS for the latest information. After logging in kdealer.com, the newest technical publications are listed in 'Service Releases' and has the latest service information that has been released.

ECU Upgrade Procedure:

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

Upgrade Event Name
624. KA4 LAMBDA 3.5GDI ECU 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 #624

Model	EM	IMMO 	ECU P/No.	ROM ID	
				Previous	New
KA4	Lambda 3.5L GDI	Yes	39110 3N683	GKA 3NU0HF000M03	GKA 3NU0HF100M03
		No	39110 3N684	GKA 3NU0HE000M03	GKA 3NU0HE100M03
		Yes	39110 3N685	GKA 3NU0HF000ML3	GKA 3NU0HF100ML3
		No	39110 3N686	GKA 3NU0HE000ML3	GKA 3NU0HE100ML3
		Yes	39110 3N687	GKA 3NU0HK000M03	GKA 3NU0HK100M03
		Yes	39110 3N688	GKA 3NU0HK000ML3	GKA 3NU0HK100ML3

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

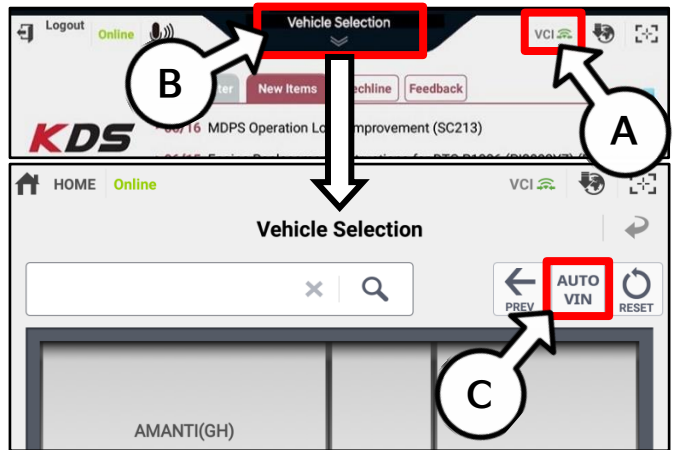
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



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 #624.

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%

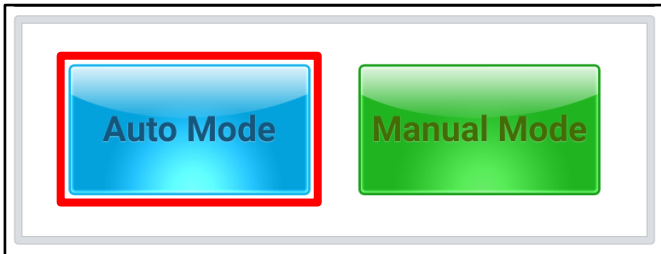
Do not touch any system buttons while performing this function.

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 #624 and select Upgrade to continue.

System

ENGINE A/T

ROM ID

Currently in Vehicle: #####

Latest Update: #####

ID Check (D)

Event Group: ###.XX -----

TSB

Previous Upgrade

- 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%

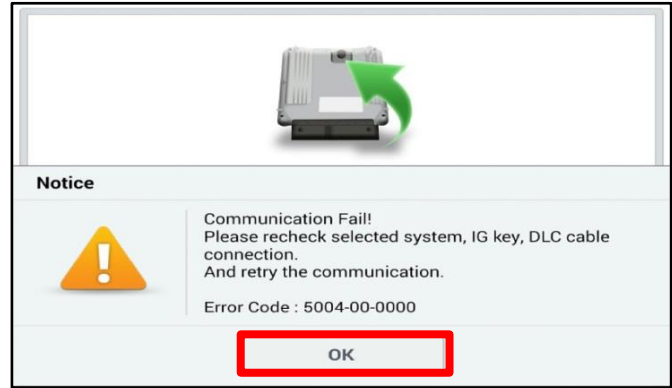
ECU Upgrading...(2/2)

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

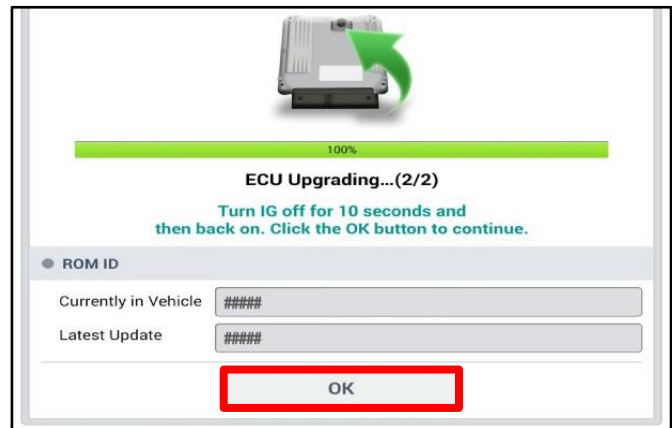
- If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select 'OK' and restart the procedure from step 4.

NOTICE

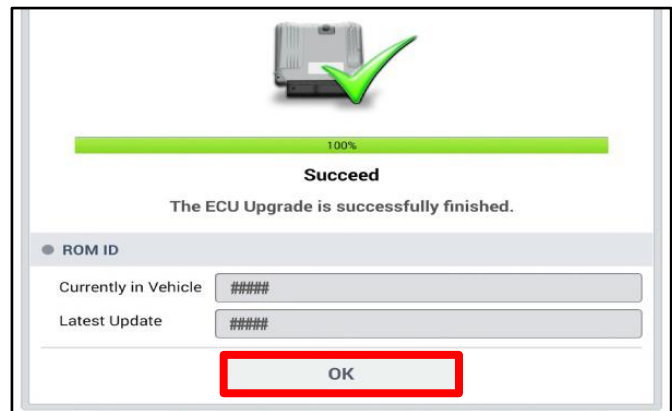
If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



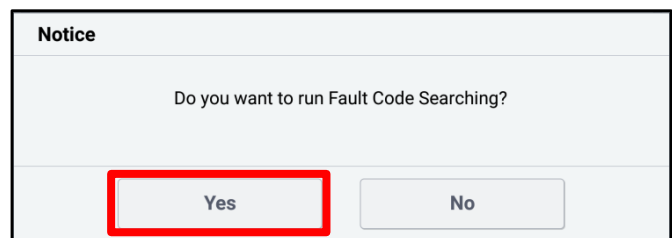
- When instructed on the KDS, turn the ignition OFF for ten (10) seconds then back on. Select 'OK' to continue.



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



- 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.



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



SUBJECT:

SERVICE ACTION: 3.5L GDI ECM LOGIC IMPROVEMENT (SA508)**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
KA4 Lambda 3.5GDI +IMMO/SMK: 39110-3N683	3683
KA4 Lambda 3.5GDI -IMMO: 39110-3N684	3684
KA4 Lambda 3.5GDI +IMMO/SMK: 39110-3N685	3685
KA4 Lambda 3.5GDI -IMMO: 39110-3N686	3686
KA4 Lambda 3.5GDI +IMMO/SMK: 39110-3N687	3687
KA4 Lambda 3.5GDI +IMMO/SMK: 39110-3N688	3688

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **Engine** system under the System selection menu. Select **Upgrade Event #624** 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:

SERVICE ACTION: 3.5L GDI ECM LOGIC IMPROVEMENT (SA508)**AFFECTED VEHICLE RANGE:**

Model	Production Date Range
Carnival (KA4)	March 24, 2022 to July 14, 2022

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	39110 3N683	0	(SA508) 3.5L GDI ECM Logic Improvement	220095R0	0.4 M/H	N/A	0

NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA508 when accessing the WebDCS system.