TECHNICAL SERVICE BULLETIN

Subject:

SERVICE ACTION: ECM LOGIC UPDATE FOR DTC P2118 AND THROTTLE BODY FREEZING (SA514)

> 📄 **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. **Refer to claim instructions on pages 2 & 10.**

This bulletin provides the procedure to update the software logic of the Engine Control Module (ECM) system on some 2022-2024MY Carnival (KA4) vehicles produced from January 4, 2021 through November 6, 2023, which may exhibit an MIL "ON" with DTC P2118. The throttle body plate may freeze after a cold soak in very cold temperatures, possibly causing the vehicle to go into "limp-home" mode. Once the vehicle is warmed up, the throttle body performs normally. 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 pages 3-5 of this bulletin. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.

DTC Description:
P2118OO: Throttle Actuator Control Motor Current Range/Performance

> 📄 **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 KDealer+ (Service → Warranty Coverage → Warranty Coverage Inquiry → Campaign Information). Not completed Recall / Service Action reports are available on KDealer+ (Consumer Affairs → Not Completed Recall → Recall VIN → Select Report), which includes a list of affected vehicles.
>
> This issue number is **SA514**.

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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
712.KA4 LAMBDA 3.5GDI ENGINE MIL ON DTC (P2118 & P00B7) JUDGMENT LOGIC IMPROVEMENT

Revised Publication – Dealer Claim Instructions

- Any vehicle updated with the previous SW Event #637 on or before 2/15/24, will need to use the previous Op Code 220128R0 when submitting the claim.
- Vehicles updated with the new SW Event #712 on or after 2/22/24, will need to use thecan submit the new provided Op Code 220128R1 when submitting the claim.

📄 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 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.**

ⓘ 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.

KIA

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ROM ID INFORMATION TABLE:

Upgrade Event #712

This upgrade MUST BE performed with both ECM & TCU CAL IDs paired as noted in the table below.

MY	IMMO	ECU P/No.	ROM ID Previous	ROM ID New	TCU CAL ID
2024	Yes	39110 3N693	GKA 4NU0HF000M03 GKA 4NU0HF100M03 GKA 4NU0HF200M03 GKA 4NU0HF300M03	GKA 4NU0HF400M03	TKA4G35X0XSA2NS1 SKA4G35X0XSA2NS1
	No	39110-3N694	GKA 4NU0HE000M03 GKA 4NU0HE100M03 GKA 4NU0HE200M03 GKA 4NU0HE300M03	GKA 4NU0HE400M03	
	Yes	39110 3N695	GKA 4NU0HF000ML3 GKA 4NU0HF100ML3 GKA 4NU0HF200ML3 GKA 4NU0HF300ML3	GKA 4NU0HF400ML3	
	No	39110 3N696	GKA 4NU0HE000ML3 GKA 4NU0HE100ML3 GKA 4NU0HE200ML3 GKA 4NU0HE300ML3	GKA 4NU0HE400ML3	
	Yes	39110 3N697	GKA 4NU0HK000M03 GKA 4NU0HK100M03 GKA 4NU0HK200M03 GKA 4NU0HK300M03	GKA 4NU0HK400M03	
	Yes	39110 3N698	GKA 4NU0HK000ML3 GKA 4NU0HK100ML3 GKA 4NU0HK200ML3 GKA 4NU0HK300ML3	GKA 4NU0HK400ML3	
2023	Yes	39110 3N683	GKA 3NU0HF000M03 GKA 3NU0HF100M03 GKA 3NU0HF200M03 GKA 3NU0HF300M03 GKA 3NU0HF400M03	GKA 3NU0HF500M03	TKA4G35X0XSA1NS0 TKA4G35X0XSA2NS1 SKA4G35X0XSA1NS0 SKA4G35X0XSA2NS1
	No	39110 3N684	GKA 3NU0HE000M03 GKA 3NU0HE100M03 GKA 3NU0HE200M03 GKA 3NU0HE300M03 GKA 3NU0HE400M03	GKA 3NU0HE500M03	
	Yes	39110 3N685	GKA 3NU0HF000ML3 GKA 3NU0HF100ML3 GKA 3NU0HF200ML3 GKA 3NU0HF300ML3 GKA 3NU0HF400ML3	GKA 3NU0HF500ML3	
	No	39110 3N686	GKA 3NU0HE000ML3 GKA 3NU0HE100ML3 GKA 3NU0HE200ML3 GKA 3NU0HE300ML3 GKA 3NU0HE400ML3	GKA 3NU0HE500ML3	

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Upgrade Event #712

This upgrade MUST BE performed with both ECM & TCU CAL IDs paired as noted in the table below.

MY	IMMO	ECU P/No.	ROM ID Previous	ROM ID New	TCU CAL ID
2023	Yes	39110 3N687	GKA 3NU0HK000M03 GKA 3NU0HK100M03 GKA 3NU0HK200M03 GKA 3NU0HK300M03 GKA 3NU0HK400M03	GKA 3NU0HK500M03	TKA4G35X0XSA1NS0 TKA4G35X0XSA2NS1
2023	Yes	39110 3N688	GKA 3NU0HK000ML3 GKA 3NU0HK100ML3 GKA 3NU0HK200ML3 GKA 3NU0HK300ML3 GKA 3NU0HK400ML3	GKA 3NU0HK500ML3	SKA4G35X0XSA1NS0 SKA4G35X0XSA2NS1
2022	Yes	39110 3N121 (SBC)	GKA 0NU0HF000M03 GKA 0NU0HF100M03 GKA 0NU0HF200M03 GKA 0NU0HF300M03 GKA 0NU0HF400M03 GKA 0NU0HF500M03 GKA 0NU0HF600M03 GKA 0NU0HF700M03 GKA 0NU0HF800M03 GKA 0NU0HF900M03	GKA 0NU0HFA00M03	TKA4G35X0XSA1NS0 TKA4G35X0XSA2NS1
2022	Yes	39110 3N196 (SBW)			SKA4G35X0XSA1NS0 SKA4G35X0XSA2NS1
2022	No	39110 3N122 (SBC)	GKA 0NU0HE000M03 GKA 0NU0HE100M03 GKA 0NU0HE200M03 GKA 0NU0HE300M03 GKA 0NU0HE400M03 GKA 0NU0HE500M03 GKA 0NU0HE600M03 GKA 0NU0HE700M03 GKA 0NU0HE800M03 GKA 0NU0HE900M03	GKA 0NU0HEA00M03	TKA4G35X0XSA1NS0 TKA4G35X0XSA2NS1
2022	No	39110 3N197 (SBW)			SKA4G35X0XSA1NS0 SKA4G35X0XSA2NS1
2022	Yes	39110 3N506	GKA 0NU0HF000ML3 GKA 0NU0HF100ML3 GKA 0NU0HF200ML3 GKA 0NU0HF300ML3 GKA 0NU0HF400ML3 GKA 0NU0HF500ML3 GKA 0NU0HF600ML3 GKA 0NU0HF700ML3 GKA 0NU0HF800ML3 GKA 0NU0HF900ML3	GKA 0NU0HFA00ML3	TKA4G35X0XSA1NS0 TKA4G35X0XSA2NS1 SKA4G35X0XSA1NS0 SKA4G35X0XSA2NS1
2022	No	39110 3N507	GKA 0NU0HE000ML3 GKA 0NU0HE100ML3 GKA 0NU0HE200ML3 GKA 0NU0HE300ML3 GKA 0NU0HE400ML3 GKA 0NU0HE500ML3 GKA 0NU0HE600ML3 GKA 0NU0HE700ML3 GKA 0NU0HE800ML3 GKA 0NU0HE900ML3	GKA 0NU0HEA00ML3	

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Upgrade Event #712

This upgrade MUST BE performed with both ECM & TCU CAL IDs paired as noted in the table below.

MY	IMMO	ECU P/No.	ROM ID Previous	ROM ID New	TCU CAL ID
2022	Yes	39110 3N651	GKA 0NU0HK000M03 GKA 0NU0HK100M03 GKA 0NU0HK200M03 GKA 0NU0HK300M03 GKA 0NU0HK400M03 GKA 0NU0HK500M03 GKA 0NU0HK600M03 GKA 0NU0HK700M03 GKA 0NU0HK800M03 GKA 0NU0HK900M03	GKA 0NU0HKA00M03	TKA4G35X0XSA1NS0 TKA4G35X0XSA2NS1 SKA4G35X0XSA1NS0 SKA4G35X0XSA2NS1
	Yes	39110 3N652	GKA 0NU0HK000ML3 GKA 0NU0HK100ML3 GKA 0NU0HK200ML3 GKA 0NU0HK300ML3 GKA 0NU0HK400ML3 GKA 0NU0HK500ML3 GKA 0NU0HK600ML3 GKA 0NU0HK700ML3 GKA 0NU0HK800ML3 GKA 0NU0HK900ML3	GKA 0NU0HKA00ML3	

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.

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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-ll to the OBD-ll connector, located under the driver's side of the instrument panel.
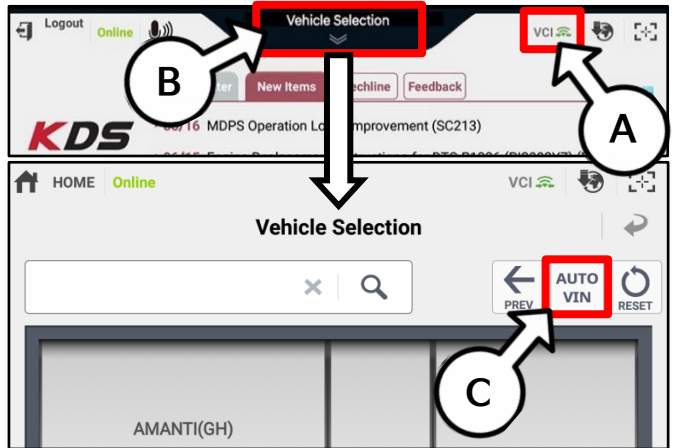
   > 📄 **NOTICE**
   >
   > **The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.**
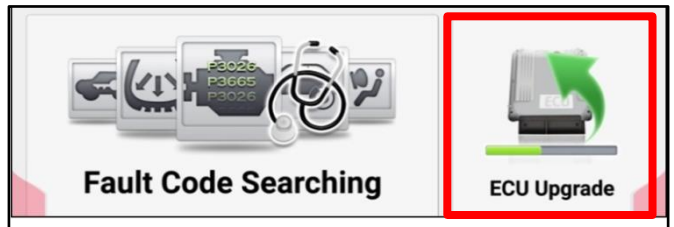
2. With the ignition **ON**, turn ON the KDS tablet. Select **'KDS'** from the home screen.

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 #712**.

> 📄 **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.

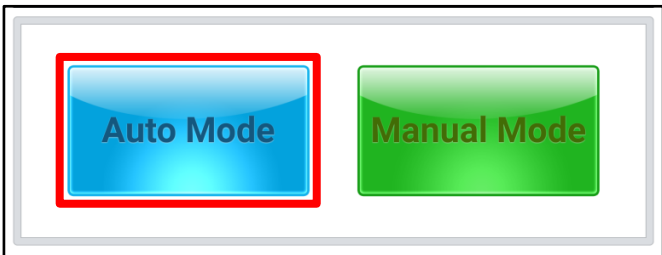| Event	Status
271.QF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Downloading
273.TF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Ready

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:

   712.KA4 LAMBDA 3.5GDI ENGINE MIL ON DTC (P2118 & P00B7) JUDGMENT LOGIC IMPROVEMENT

CARNIVAL(KA4) > 2023 > G 3.5 GDI LAMBDA III

● System

ENGINE   PSD

D

● Event Group   TSB

KA4 Lambda 3.5GDI +IMMO/SMK (23MY) : 39110-3N688
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N121(SBC)
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N196(SBW)
KA4 Lambda 3.5GDI -IMMO (22MY) : 39110-3N122(SBC)
KA4 Lambda 3.5GDI -IMMO (22MY) : 39110-3N197(SBW)
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N688

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-Il. 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)

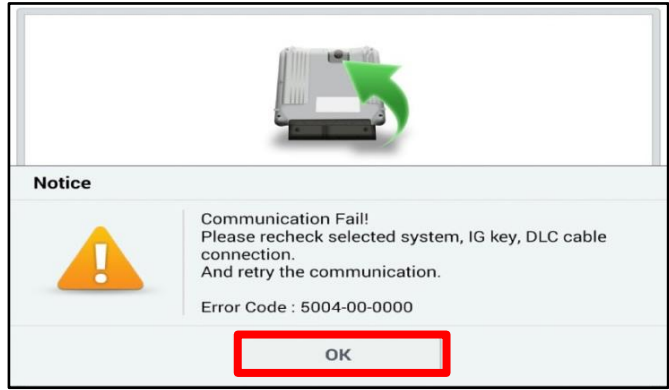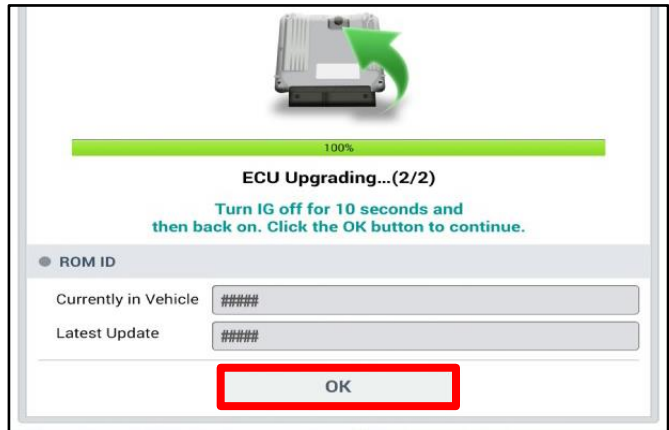ECU is in the process of being upgraded. Please wait a few minute.

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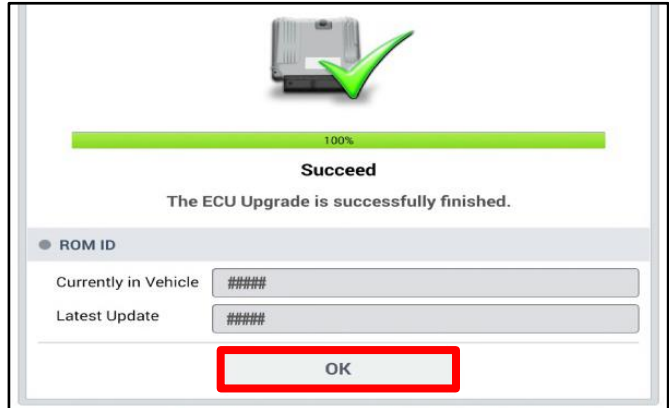
> 📄 **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
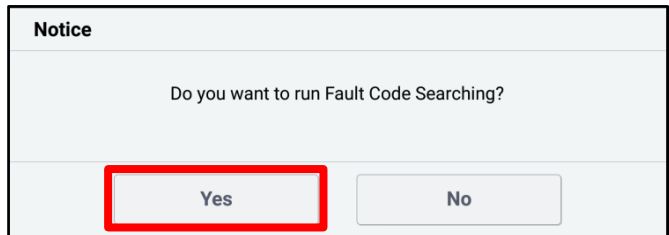
Notice

⚠️ 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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SUBJECT:

SERVICE ACTION: ECM LOGIC UPDATE FOR DTC P2118 AND THROTTLE BODY FREEZING (SA514)

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 ULEV 70 (24MY) : 39110-3N693	3693
KA4 Lambda 3.5GDI ULEV 70 (24MY) : 39110-3N694	3964
KA4 Lambda 3.5GDI ULEV 70 (24MY) : 39110-3N695	3695
KA4 Lambda 3.5GDI ULEV 70 (24MY) : 39110-3N696	3696
KA4 Lambda 3.5GDI ULEV 70 (24MY) : 39110-3N697	3067
KA4 Lambda 3.5GDI ULEV 70 (24MY) : 39110-3N698	3698
KA4 Lambda 3.5GDI +IMMO/SMK (23MY) : 39110-3N683	3639
KA4 Lambda 3.5GDI -IMMO (23MY) : 39110-3N684	0364
KA4 Lambda 3.5GDI +IMMO/SMK (23MY) : 39110-3N685	5863
KA4 Lambda 3.5GDI -IMMO (23MY) : 39110-3N686	3586
KA4 Lambda 3.5GDI +IMMO/SMK (23MY) : 39110-3N687	7863
KA4 Lambda 3.5GDI +IMMO/SMK (23MY) : 39110-3N688	2335
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N121(SBC)	9999
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N196(SBW)	9699
KA4 Lambda 3.5GDI -IMMO (22MY) : 39110-3N122(SBC)	8322
KA4 Lambda 3.5GDI -IMMO (22MY) : 39110-3N197(SBW)	9739
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N506	6350
KA4 Lambda 3.5GDI -IMMO (22MY) : 39110-3N507	7510
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N651	1973
KA4 Lambda 3.5GDI +IMMO/SMK (22MY) : 39110-3N652	2348

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

2. Select the '**ENGINE**' system under the System selection menu. Select **Upgrade Event #712** and select **Upgrade** to continue.

3. Select the appropriate control unit part number with reference to the ROM ID Information Table on pages 3-4, 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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SUBJECT:	**SERVICE ACTION: ECM LOGIC UPDATE FOR DTC P2118 AND THROTTLE BODY FREEZING (SA514)**

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Carnival (KA4)	January 4, 2021 to November 6, 2023

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	(SA514) ECM Logic Improvement	220128R1 (See Message Below)	0.4 M/H	N/A	0

Dealer Claim Instructions: Any vehicle updated with the previous SW Event #637 **on or before 2/15/24**, will need to use the previous **Op Code 220128R0** when submitting the claim. Vehicles updated with the new SW Event #712 **on or after 2/22/24**, can submit the claim with the new provided **Op Code 220128R1** above.

> 📄 **NOTICE**
>
> **VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA514 when accessing the KDealer+ system.**

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