	GROUP	MODEL
KIA	ELE	**2022MY EV6 (CV)**
	NUMBER	DATE
	291	**April 2023**

TECHNICAL SERVICE BULLETIN

SUBJECT: BMS UPGRADE FOR BATTERY CONDITIONING MODE

This bulletin provides the procedure to install the Battery Conditioning Mode function on some 2022MY EV6 (CV) vehicles produced from November 17, 2021 through October 21, 2022 by updating the software logic of the Battery Management System (BMS). This procedure should only be performed if specifically requested by the customer and should be clearly documented on the RO that it is being performed "per customer request." The battery conditioning mode will optimize the Direct Current (DC) charging performance of the electric vehicle (EV) battery in low outdoor temperatures, by allowing the EV battery to preheat prior to arriving at a DC charger site. The software requires that the owner selects a DC charger site as a point of interest (POI) via the vehicle's navigation system to enable the battery conditioning heating when EV battery temperature is below 68°F. Battery heating impact on DC charging may vary depending on initial EV battery temperature and the estimated time to arrive at the POI. It may be possible to enable battery conditioning mode for a longer time prior to departure, as it can help to achieve the longer battery heating time needed in very low temperatures. Enabling the battery conditioning mode will use battery power and temporarily reduce the driving range until the vehicle is charged. Follow the procedure outlined in this publication to apply the improved logic to the 'BMS' system using the KDS ECU Upgrade function as described in this bulletin. Some 2022MY vehicles may already have the software installed. 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.

Note: If the software is installed and 'Winter Mode' is displayed under 'EV Settings', confirm that **ELE292/SA533** has been completed **and** that the latest 'MapCare' version is updated on the vehicle by referring to **ELE208** for the 'Battery Condition Mode' to become available.

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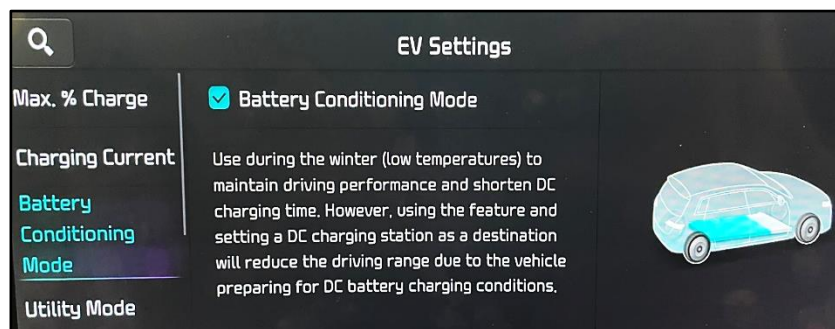
ECU Upgrade Procedure:

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

Upgrade Event Name
657. CV BMS UPGRADE FOR BATTERY CONDITIONING FUNCTION

> **📄 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.

> **ⓘ 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.

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**
>
> 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 #657

Model	System	ECU P/No.	ROM ID	
			Previous	New
CV	BMS	375A0 CV150	5100 5200	5500
		375A0 CV050	5108 5208	5508

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**
>
> **The customer must request in the opening RO that the 'Battery Conditioning Mode' software be installed.** Failure to follow the procedure outlined in this bulletin can result in a warranty claim chargeback for unnecessary software upgrade if the 'new' ROM ID is already installed on the vehicle. **Refer to the table above.**
>
> If the software was previously installed and 'Winter Mode' is displayed under 'EV Settings', confirm that ELE292/SA533 has been completed and that the latest 'MapCare' version is updated on the vehicle by referring to ELE208 for the 'Battery Condition Mode' to become available.

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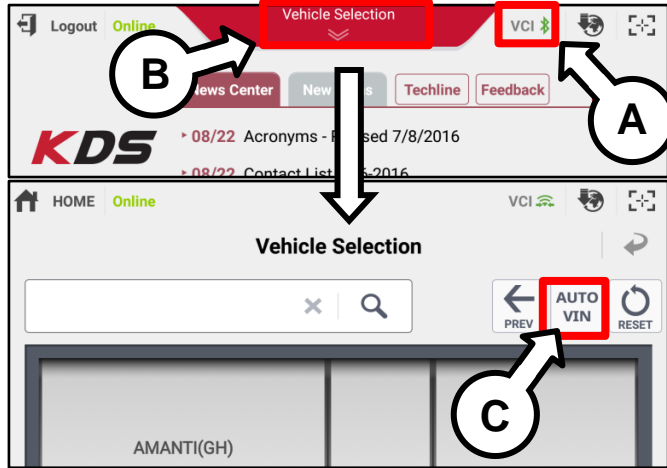
   > 📄 **NOTICE**
   >
   > **The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.**
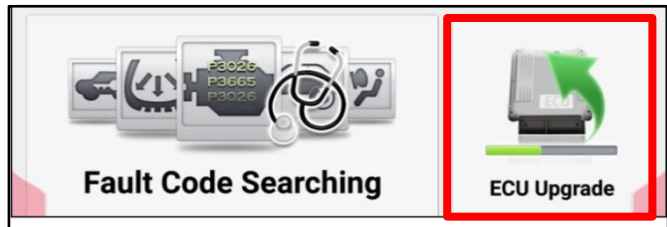
2. With the ignition **ON**, turn ON the KDS tablet. Select **'KDS'** from the home screen.

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 #657. CV BMS UPGRADE FOR BATTERY CONDITIONING FUNCTION**.

> 📄 **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
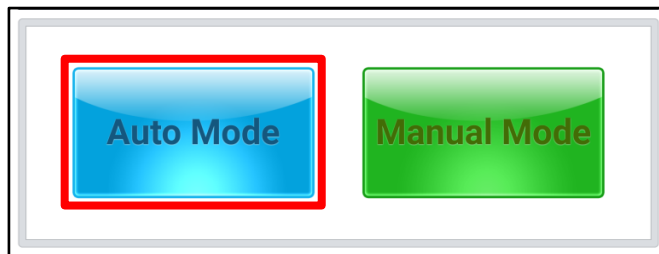
7. Select the **'BMS'** system under the System selection menu.

Touch ID Check (D) and confirm that the latest update is available (if applicable)

Select **Upgrade Event #657** and select **Upgrade** to continue.

● System

BMS ✓   **D**

● ROM ID

Currently in Vehicle   ######   ID Check
Latest Update   ######

● 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.
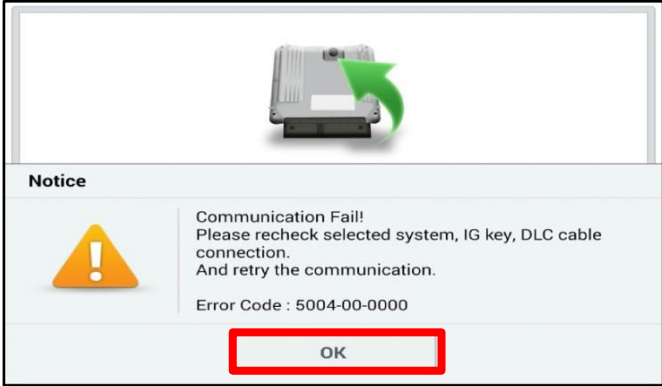
F   6%

ECU Upgrading...(2/2)

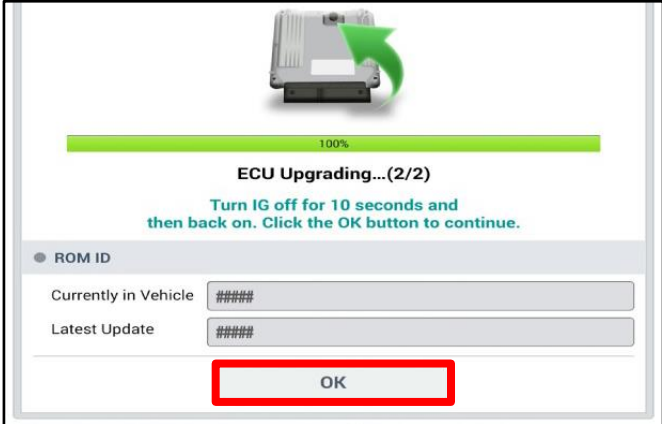ECU is in the process of being upgraded. Please wait a few minute.

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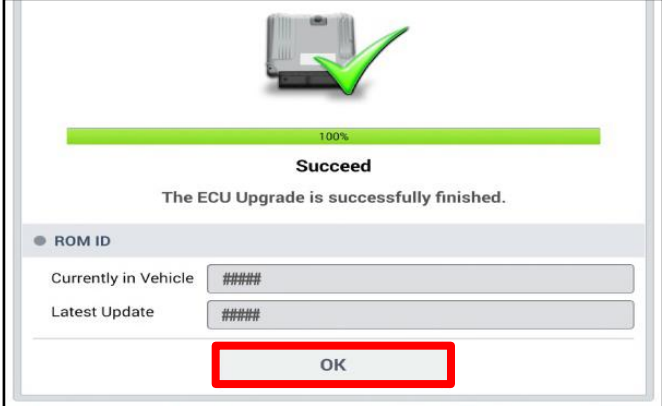
> 📄 **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
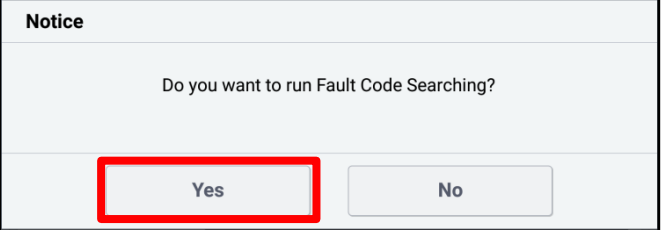

Notice

⚠ 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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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
CV BMS: 375A0-CV150	7100
CV BMS: 375A0-CV050	7008

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

2. Select the **BMS** system under the System selection menu. Select **Upgrade Event #657** 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
EV6 (CV)	November 17, 2021 to October 21, 2022

REQUIRED TOOL:

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

WARRANTY INFORMATION:

N Code: I3N   C Code: ZZ3

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
W	375A0 CV150	0	CV BMS Software Logic Improvement	J23750F0	0.3 M/H	N/A	0