



Technical Service Bulletin

| | |
|---------------------------|---|
| GROUP CAMPAIGN | NUMBER 23-01-017H |
| DATE MARCH 2023 | MODEL(S) Ioniq 5 Electric (NE1) |

SUBJECT: IONIQ 5 EV BATTERY CONDITIONING TO OPTIMIZE COLD DC CHARGING (SERVICE CAMPAIGN T9Q)

This bulletin revises 22-01-094H to a later version of VCU Update of GDS Event 935 to improve Eco mode driving performance. The VCU update also includes additional continuous improvements listed on the last page.

★ IMPORTANT

Dealers must perform this Service Campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.

Access the “Vehicle Information” screen via WEBDCS to identify open campaigns.

Applicable Vehicles:

- Certain 2022MY IONIQ 5 Electric (NE1) – **All Wheel Drive (AWD/4WD) Model Only**

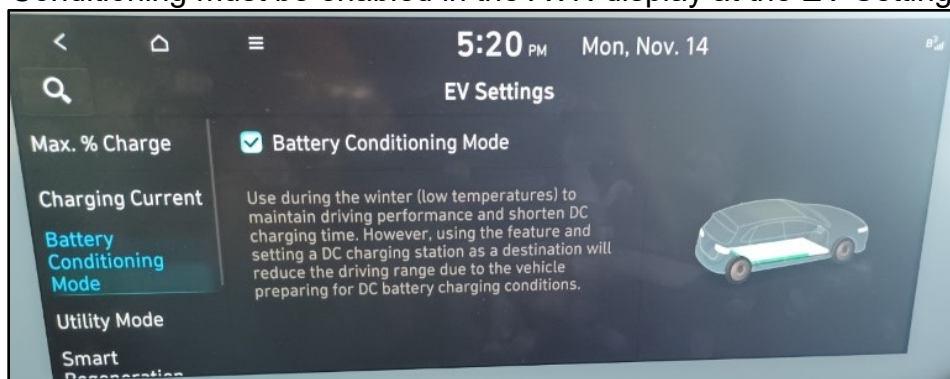
Description: This bulletin provides the information to inspect and add the Battery Conditioning function as necessary. Some late 2022MY vehicles may already have the function. The Battery Conditioning function optimizes the DC charging performance of the EV battery when the temperature of the battery is below 68°F (20°C). This function allows the EV battery to preheat prior to arriving at a DC charger site. Once software has been updated, it requires the owner of the vehicle to select a DC charger site as a POI (point of interest) in the vehicle’s navigation system to enable the battery conditioning heating when EV battery is below 68°F. Battery heating impact on DC charging will vary depending on the initial battery temperature and the estimated time to arrive at the POI. If it is possible to enable battery conditioning for longer time prior to departure, it can help to achieve the longer battery heating time needed at very low temperatures, but will temporarily reduce range. Enabling the battery conditioning will use battery power and temporarily reduce the driving range until charging.

The following vehicle updates need to be performed to add the Battery Conditioning function:

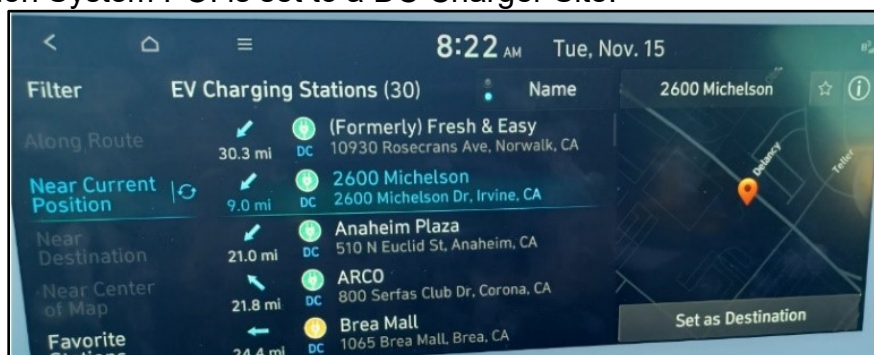
- BMS (Battery Management System) Software Update
- VCU (Vehicle Control Unit) Software Update
- AVN Map Software Update (only applies to certain earlier vehicles produced before Oct 2021)

Battery Conditioning Operation (once installed in vehicle):

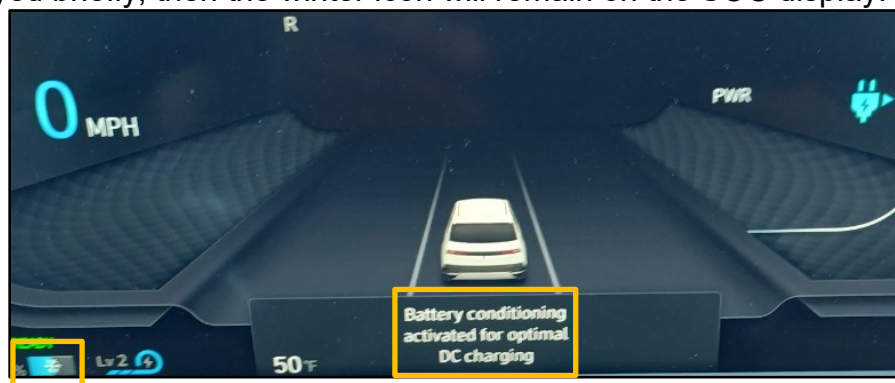
1. The Battery Conditioning must be enabled in the AVN display at the EV Settings Screen:



2. The Navigation System POI is set to a DC Charger Site.



3. When the Battery Module Temperature is below 68°F (20°C), then the Battery Conditioning will activate after 1 - 2 min of heating system checks and preparation. The following splash screen will be displayed briefly, then the winter icon will remain on the SOC display.



Parts Information:

| Parts | Type | Size | Description |
|-------|------|-------|---|
| USB | A | 64 GB | THE UPDATER APPLICATION WILL AUTOMATICALLY FORMAT AND COPY THE DOWNLOADED FILES TO THE DRIVE USING VISUAL PROMPTS AS NEEDED. LOCALLY AVAILABLE. |

GDS Information:

| System | Event # | Description |
|-----------|---------|--|
| BMS | 892* | NE EV BATTERY CONDITIONING FUNCTION UPGRADED (BMS) |
| VCU (4WD) | 935* | NE VCU 4WD IMPROVEMENT |

* or select the latest available Event # that displays in GDS.

AVN Update:

***i* Information**

Certain IONIQ 5 vehicles with software versions older than October 2021 (211001) must be updated.

Warranty Information:

| VEHICLE | OP CODE | OP NAME | OP TIME | CAUSAL PART | NATURE | CAUSE |
|------------------------|----------|---|---------|-------------|--------|-------|
| Ioniq 5 Electric (NE1) | IONIQCHI | INSPECTION ONLY FOR BATTERY CONDITIONING | 0.3 M/H | 39751-1XNN1 | D21 | ZZ6 |
| | IONIQCHG | BATTERY CONDITIONING UPDATE | 0.8 M/H | 39751-1XNN1 | D21 | ZZ6 |
| | IONIQCHA | BATTERY CONDITIONING UPDATE WITH AVN MAP UPDATE | 1.2 M/H | 39751-1XNN1 | D21 | ZZ6 |

NOTE 1: Submit claim on Campaign Claim Entry screen.

NOTE 2: If a part that is not covered by this TSB needs replacement while performing this TSB, and the affected part is still under warranty, please submit a separate claim using the same repair order. If the part is out of warranty, submit a prior approval request for goodwill consideration prior to performing the work.

NOTE 3: Op time includes taking STUI picture and uploading. The STUI photo must be taken as directed. If not included, claim will be subject to debit.

STUI



This TSB includes STUI picture as a requirement. Please include the last 6 digits of the VIN and date of repair on a piece of paper to include in the photo. Ensure the VIN and date of repair are clearly visible. Finally, please ensure all captured pictures are completed according to step 6 in this TSB and uploaded to STUI. All claims submitted that have illegible, incomplete, or incorrect picture(s) are subject to debit.

Service Procedure:

***i* Information**

ECU Update may require a long time. If a vehicle is received below 35% EV Battery SOC it may have a 12V Battery too low, so charge the battery operating in Ready mode for at least 20 mins or use a battery charger. Be sure to do so if this battery warning occurs during the GDS ECU update.

GDS ECU Updates must be performed in Auto Mode.

- If ECU Update starts but then fails in Auto Mode, perform the update in Manual Mode to recover.
- Turn off ignition for 30 seconds and try Manual Mode recovery.
- If unsuccessful, re-attempt Manual Mode after disconnecting the cables from the 12V battery terminals and performing cap discharge (connecting bar or heavy wire between “+” to “-” cables).

 WARNING

GDS Vehicle Battery Voltage:

- If the voltage is below 12 volts as per the GDS warning, then select **Back** and run the vehicle at least 15 minutes to reach an adequate battery state of charge to prevent an ECU Update failure. Cycle the ignition **OFF/ON** before retrying ECU update again.



1. Perform the BMS Update in Auto Mode.
 - a. Use the Auto Mode ID Check to verify the BMS ROM ID before updating the software.

i Information

If both the BMS and VCU Update attempts state they have already been completed, then the vehicle may already have the Battery Conditioning function. Confirm this at the AVN EV settings as per steps 6-7.



- b. After the ECU Upgrade process shows 100% complete, cycle the ignition key to **OFF** for at least 10 seconds to reset the control unit. This step is important for establishing normal communication and to prevent system errors.

2. Perform the VCU Update in Auto Mode.

- a. Use the Auto Mode ID Check to verify the VCU ROM ID before updating the software.

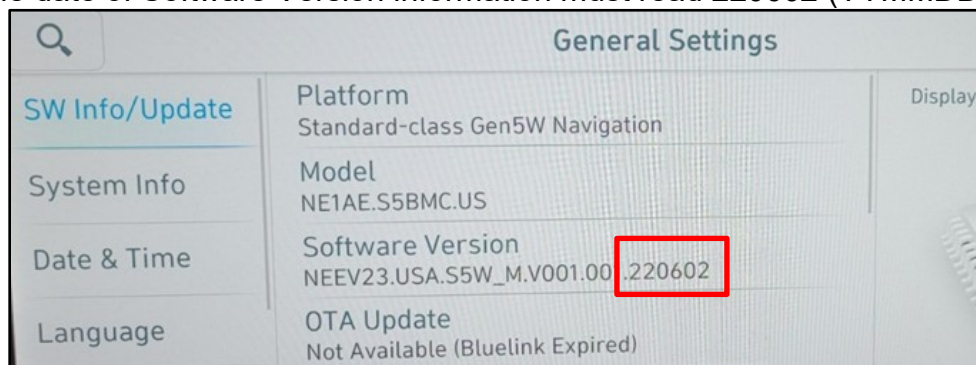


- b. After the ECU Upgrade process shows 100% complete, cycle the ignition key to **OFF** for at least 10 seconds to reset the control unit.
3. Perform an All Systems Fault Code search and erase the history of the DTC that had incidentally occurred from the ECU update.
4. Start the vehicle in **Ready** mode to confirm a proper operation of the vehicle.
5. Check and perform the AVN Map Update if required. Insert STUI photo if required. If not required, then skip to step 6.

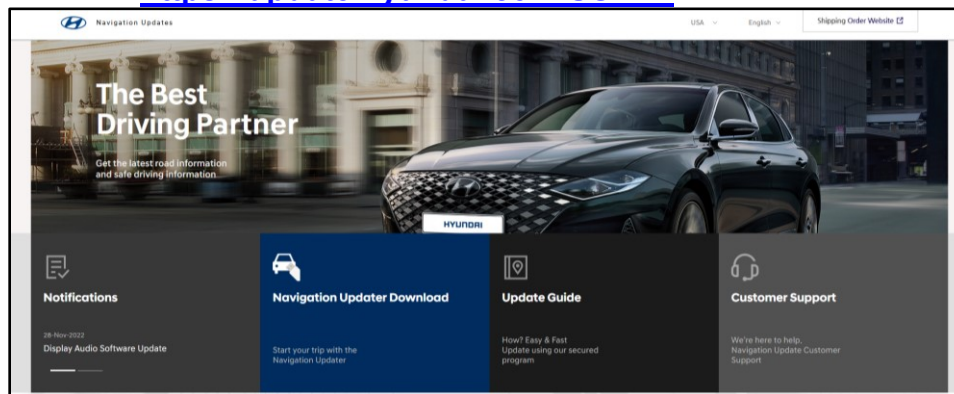
i Information

Certain IONIQ 5 vehicles with software versions older than October 2021 (211001) must be updated.

- Press the SETUP button on the trim below the display screen.
- Press General Settings in the menu displayed on the screen (if not displayed you may need to scroll down)
 - a. The date of Software Version information must read 220602 (YYMMDD)



Hyundai Update Website: <https://update.hyundai.com/US/EN/>

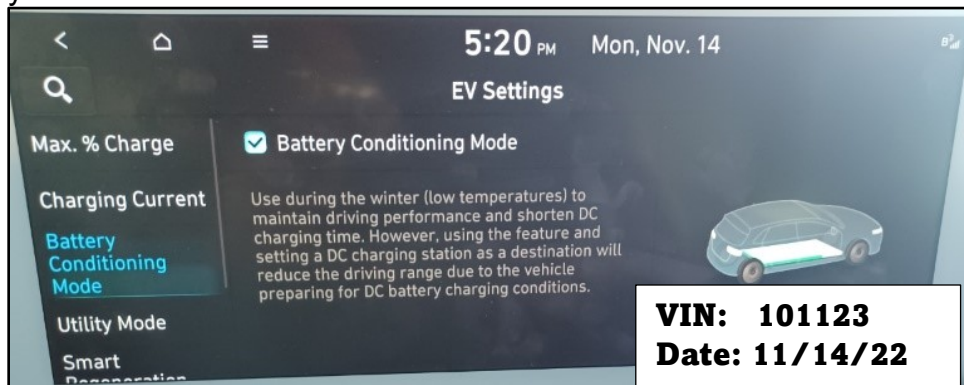


- “Navigation Updater Download” downloads required\
- Application to the computer.
- Update Guide explains how to perform the in-vehicle update steps.
- You may reference “How-to” videos explaining how to navigate the website at the Hyundai “How To” link: <https://hyundaihowtos.com/videos/mapcare-bluelink-hyundai/>
- When using the Update Website you will need to download an Updater application onto the computer being used.

- You will need a Type A USB 3.0 thumb drive minimum 64GB in size, the updater application will automatically format and copy the downloaded files to the drive using visual prompts as needed.
- Download times from the website may vary pending internet connection (30mins – 1.5hours). Recommend the user to download on an administrative computer and save it to drive for future usages.

6. Confirm that the Battery Conditioning function is now present in the AVN EV settings screen.

7. Take STUI photo of the EV Settings screen by STUI to document that the Battery Conditioning function is present in the vehicle. Include piece of paper in the photo writing in the last 6 of VIN and date. Do not cover the AVN screen date/time or the Battery Conditioning portion of the AVN screen display.



STUI



This TSB includes a STUI picture as a requirement. Please include the last 6 digits of the VIN and date of repair on a piece of paper. Ensure the VIN and date of repair are clearly visible. Finally, please ensure all captured pictures are completed according to the steps in this TSB and uploaded to STUI. All claims submitted that have illegible, incomplete, or incorrect picture(s) are subject to debit.

Event 892 (BMS):

| VEHICLE | SYSTEM | MY | BMS P/No. | ROM ID | |
|----------------|--------|------|-------------|--|------|
| | | | | OLD | NEW |
| IONIQ5 (NE) | BMS | 22MY | 375A0-GI150 | 4400,4500,4600,4700,4800, 5000,5300 | 5400 |
| | | | 375A0-GI100 | 4402,4502,4602,4702,4802, 5002,5302 | 5402 |
| | | | 375A0-GI050 | 4408,4508,4608,4708,4808, 5008,5308 | 5408 |
| | | | 375A0-GI000 | 440A,450A,460A,470A,480A, 500A,530A | 540A |
| | | | 375A0-GI350 | 500C,530C | 540C |
| | | | 375A0-GI300 | 500E,530E | 540E |

Event 935 (VCU 4WD):

| VEHICLE | SYSTEM | MY | VCU P/No. | ROM ID | |
|--------------------|--------|------|-------------|--|------------------|
| | | | | OLD | NEW |
| IONIQ5 (NE) 4WD | VCU | 22MY | 39751-1XNN1 | NE1A-N0-S07-V300 NE1A-N0-SB0-V400 NE1A-N0-SB1-V400 NE1A-N0-SB2-V400 NE1A-N0-SB3-V400 NE1A-N0-SD2-V400 | NE1A-N0-SB5-V400 |

Manual Mode Password:

Event 892 (BMS):

| MENU | PASSWORD |
|--|----------|
| NE EV BMS 375A0-GI150 [ID: 4400,4500,4600,4700,4800,5000,5300] | 8921 |
| NE EV BMS 375A0-GI100 [ID: 4402,4502,4602,4702,4802,5002,5302] | 8922 |
| NE EV BMS 375A0-GI050 [ID: 4408,4508,4608,4708,4808,5008,5308] | 8923 |
| NE EV BMS 375A0-GI000 [ID: 440A,450A,460A,470A,480A,500A,530A] | 8924 |
| NE EV BMS 375A0-GI350 [ID: 500C,530C] | 8925 |
| NE EV BMS 375A0-GI300 [ID: 500E,530E] | 8926 |

Event 935 (VCU 4WD):

| MENU | PASSWORD |
|-------------------------|----------|
| NE1 VCU 4WD 39751-1XNN1 | 1054 |

Ioniq 5 AWD Additional Continuous Improvements:

- Added battery conditioning
- EPB (Electronic Parking Brake) auto engagement when shift into Park/auto disengagement shift out of Park while pressing brake pedal
- DTE (Distance to Empty) strategy
- Snow road surface performance
- Air conditioning performance during AC slow charging
- Enhance i-Pedal mode operation
- Enhance charging sequence