



Technical Service Bulletin

GROUP	NUMBER
CAMPAIGN	23-01-060H
DATE	MODEL(S)
JULY 2023	IONIQ 5 (NE1) IONIQ 6 (CE1)

SUBJECT: DTC P1A9096 CHECK FOR ICCU & FUSE REPLACEMENT AND ICCU SOFTWARE UPDATE (SERVICE CAMPAIGN 997)

★ 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.

Description: Certain 22-23MY Ioniq 5 (NE1) & 23MY Ioniq 6 (CE1) vehicles may have a condition where low 12V auxiliary battery charging occurs due to an ICCU (Intelligent Charging Control Unit) fault and may set the following DTC P1A9096 – “DC/DC Converter Input Voltage Sensor Fault”. When a fault occurs, the vehicle may enter a reduced power mode while various warning lights, an audible chime will sound, and large messaging in the vehicle’s instrument cluster will appear and instruct the driver to stop the vehicle. The Service Procedure flow to be followed is outlined by the flowchart on Page-3. The ICCU system is to be checked by GDS for DTC P1A9096 and depending on the result, will involve either an ICCU software update, or ICCU and potential fuse replacement. Only replace the fuse after it is inspected to confirm to be blown/open.

Applicable Vehicles (Certain):

- 2022-23MY IONIQ 5 (NE1) produced from 10/04/2021 - 06/22/2023
- 2023MY IONIQ 6 (CE1) produced from 12/14/2022 - 06/20/2023.

NOTICE

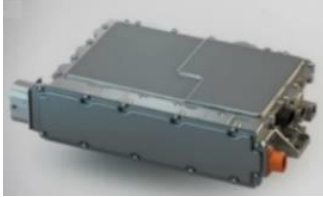
This service campaign can only be performed at certified IONIQ Hyundai dealers.

GDS Information:

System	Event #	Description
ICCU	1001*	NE1 ICCU OVER-CURRENT DIAGNOSTIC ENHANCEMENT UPGRADE
ICCU	1005*	CE1 ICCU OVER-CURRENT DIAGNOSTIC ENHANCEMENT UPGRADE

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

Parts Information:

Part Name	Model	Part Number	Remark
Integrated Charge Control Unit (ICCU)	Ioniq 5 (NE1)	36400-1XAA0QQH	As needed only if DTC P1A9096 stored: 
	Ioniq 6 (CE1)	36400-1XEA0QQH	
Fuse**	Both	375F2-GI040QQH	Order this fuse with an ICCU. **However, per section-E only install the fuse after ICCU is replaced, should inspection of the fuse confirm it is blown/open.
**CAUTION: Do not install fuse before ICCU replace. DTC P1B77 Battery PRA damage will occur.			
Coolant (LLC-10)	Both	00232-19098	Pink coolant. Up to 1 Gallon.

Warranty Information:

MODEL	OP CODE	OP NAME	CAUSAL PART	OP TIME	NATURE	CAUSE
Ioniq 5 (NE1) & Ioniq 6 (CE1)	30D073R0	DTC CHECK AND ICCU SOFTWARE UPDATE	36400-1XAA0QQH (Ioniq 5)	0.4 M/H	I3A	ZZ3
	30D073R1	DTC CHECK, ICCU REPLACE AND FUSE INSPECTION	36400-1XEA0QQH (Ioniq 6)	2.1 M/H		

NOTE 1: Software update or ICCU/fuse replacement due to DTC P1A9096 is to be submitted on the Claim Entry Screen as "Campaign" type. If other DTC other than P1A9096 appears during inspection, perform the appropriate diagnosis per shop manual and submit as normal warranty..

NOTE 2: Op code 30D073R1 will reimburse for 1 Gallon of Coolant and for the fuse regardless if fuse is used or not.

NOTE 3: If a part is found in need of replacement while performing this campaign and the affected part is still under warranty, submit a separate claim using the same repair order. If the affected part is out of warranty, submit a Prior Approval request for goodwill consideration prior to performing the work.

NOTE 4: This TSB includes Repair validation photos. Op times including VIN, Mileage, and Repair validation photos as outlined in the Digital Documentation Policy.

NOTE 5: The incident parts are subject to callback through the normal Warranty Technical Center (WTC) parts return process. **Claim is subject to debit if the part is not returned.**

Service Procedure:

STUI



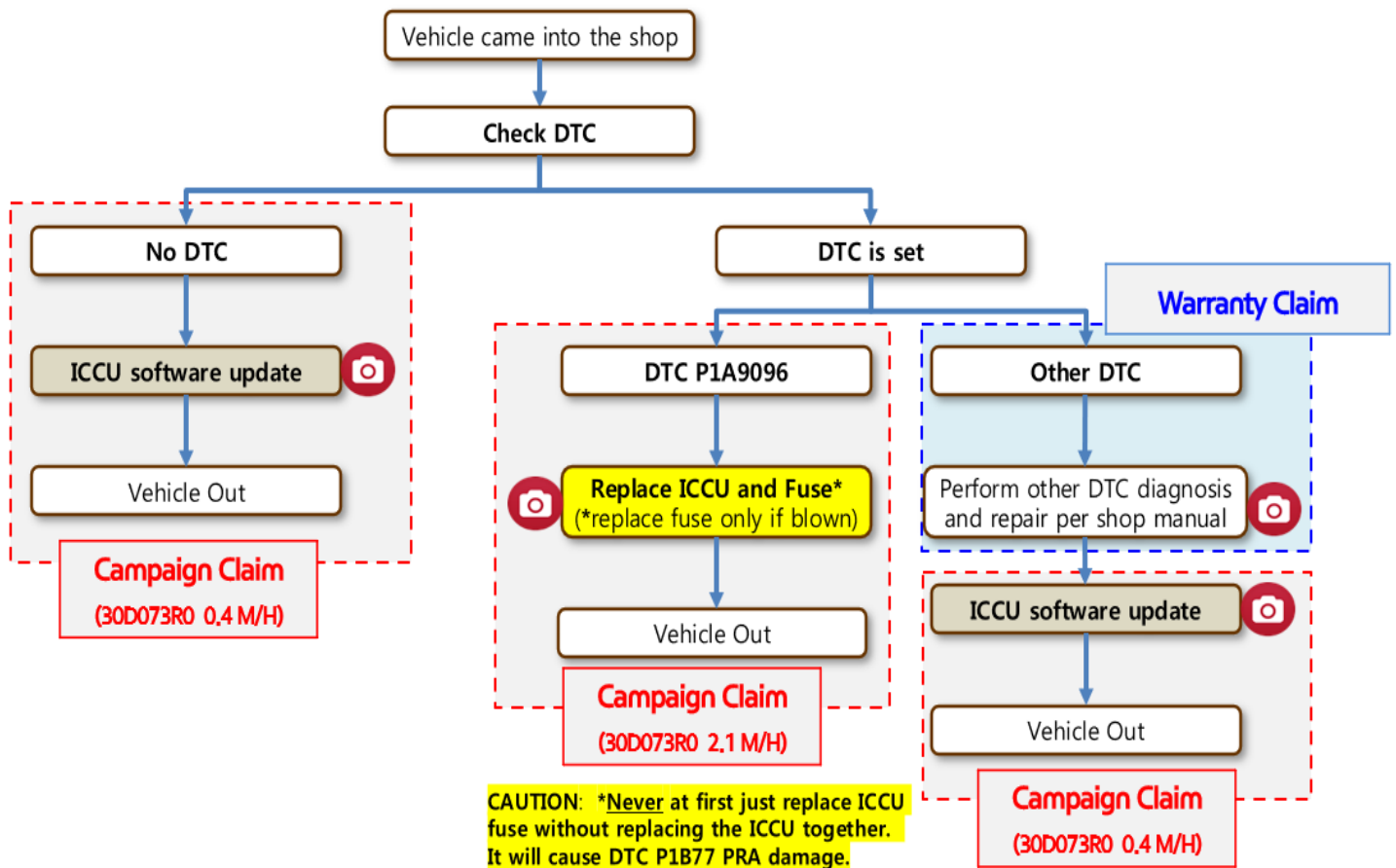
This TSB includes Repair validation photos. Refer to the latest Warranty Digital Documentation Policy for requirements.

Table Of Contents:

Section	Pages	Description
A	4	DTC CHECK
B	4-6	ICCU SOFTWARE UPDATE
C	7-9	ICCU REPLACEMENT FOR THE IONIQ 5 (NE1)
D	10-13	ICCU REPLACEMENT FOR THE IONIQ 6 (CE1)
E	14-16	EV BATTERY ICCU FUSE INSPECTION

Summary of Service Procedure Flow:

NOTE: See Campaign Bulletin Procedure Video at: <https://vimeo.com/845260120/1351eab6b2>



A. DTC CHECK

A1. Perform All Fault Search by GDS.

A2. **Check the ICCU system for DTC P1A9096 either found as an active or history DTC?**

- **No** – (DTC P1A9096 is not found stored):
 - Perform ICCU Software Update – see section B. **(Campaign Claim 0.4 M/H)**
 - NOTE: If any other DTC or symptom is found stored, diagnose and repair per shop manual before performing the ICCU Update. **(Warranty Claim)**
- **Yes** – (DTC P1A9096 is found stored):
 - Replace ICCU:
 - Ioniq 5 (NE1) – see section C
 - Ioniq 6 (CE1) – see section D
 - Inspection to determine whether or not to replace the Fuse – see section E. **(replace only if the fuse is confirmed to be blown/open)**
(Campaign Claim 2.1 M/H)

B. ICCU SOFTWARE UPDATE

B1.

⚠ WARNING

GDS Vehicle Battery Voltage:

- This ICCU Update is long, so the 12V battery must be at good charge level (>60% SOC). Attach a Battery Charger to maintain the 12V battery if the vehicle had the DTC P1A9096 incident, as it would be more likely that the 12V Battery will be low.
- If the voltage is below 12 volts as per the GDS warning, then select **Back** and run the vehicle at least 30 minutes to reach an adequate battery state of charge to prevent an ECU Update failure. Cycle the ignition **OFF/ON** before retrying the ECU update again.



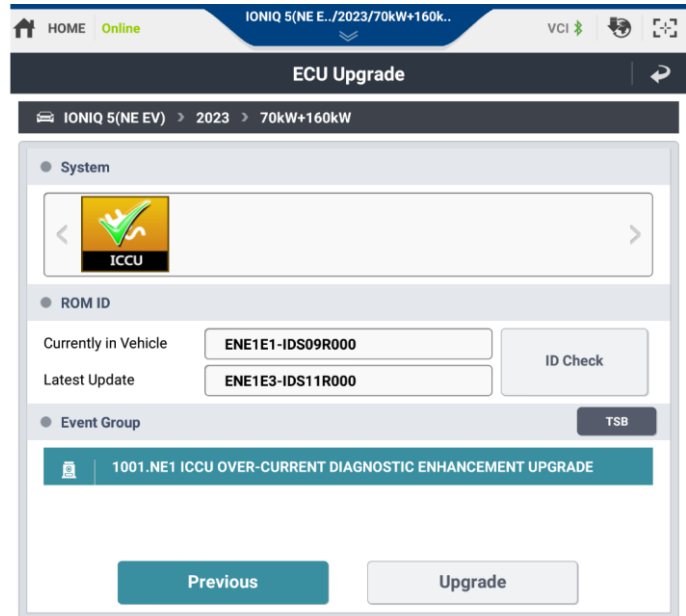
i Information

GDS ECU Updates must be performed in Auto Mode.

- If ECU Update starts but then fails in Auto Mode, perform 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).


B2. Perform the ICCU Update in Auto Mode.

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



B3. After the ECU Upgrade process shows 100% complete, cycle the ignition key to OFF for at least 10 seconds to reset the control unit.

B4. Take a screenshot of the ECU Update complete screen and upload to STUI.

STUI 

Take a screenshot of the ECU Update Complete screen using your particular tablet's screenshot save method and upload to STUI.



ROM ID Information table:

VEHICLE	SYSTEM	ICCU P/No.	ROM ID	
			OLD	NEW
Ioniq 5 (NE1 EV)	ICCU	36401-1XAA0	ENE1E1-IDS02R000 ENE1E1-IDS51R000 ENE1E1-IDS03R000 ENE1E1-IDS05R000 ENE1E1-IDS07R000 ENE1E1-IDS08R000 ENE1E1-IDS09R000 ENE1E3-IDS10R000	ENE1E3-IDS11R000
Ioniq 6 (CE1 EV)	ICCU	36401-1XEA0	ECE1E3-IDS02R000	ECE1E3-IDS03R000

Manual Mode Password Information:

ICCU Event 1001:

MENU	PASSWORD
NE1 EV ICCU 36401-1XAA0	1384

ICCU Event 1005:

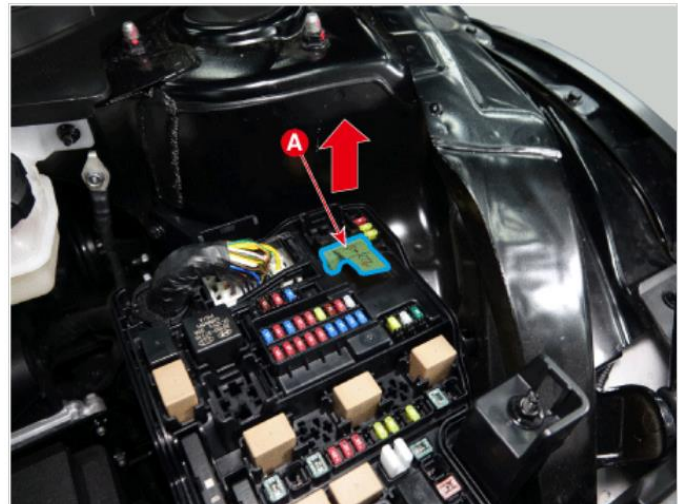
MENU	PASSWORD
CE1 ICCU 36401-1XEA0	1331

C. ICCU REPLACEMENT FOR THE IONIQ 5 (NE1)

- C1. Shut off the high voltage circuit and wait 5 minutes for capacitors to discharge.

i Information

Refer to the shop manual:
Battery Control System > High Voltage
Shut-off Procedures



- C2. Drain the motor coolant.

i Information

Refer to the shop manual:
Cooling System > Motor Cooling System
> Coolant

- C3. Remove the rear seat assembly.

i Information

Refer to the shop manual:
Body (Interior and Exterior) > Rear Seat
> Rear Seat Assembly

- C4. Remove the luggage side trim.

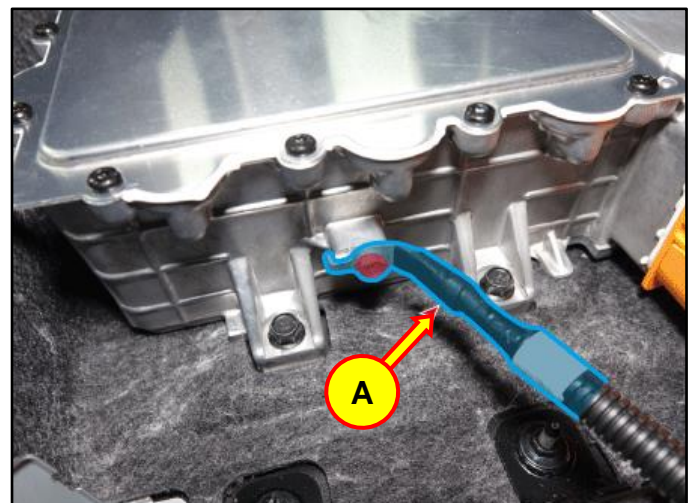
i Information

Refer to the shop manual:
Body (Interior and Exterior) > Trunk Trim
> Luggage Side Trim

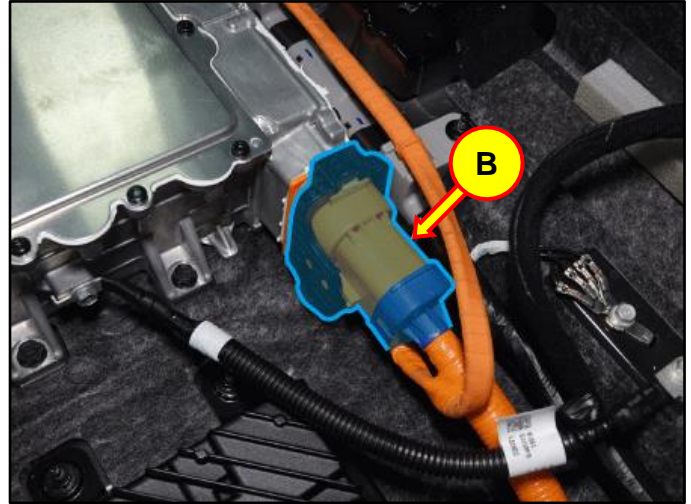
- C5. Remove the ground (A) after removing the mounting bolt.

Tightening Torque:

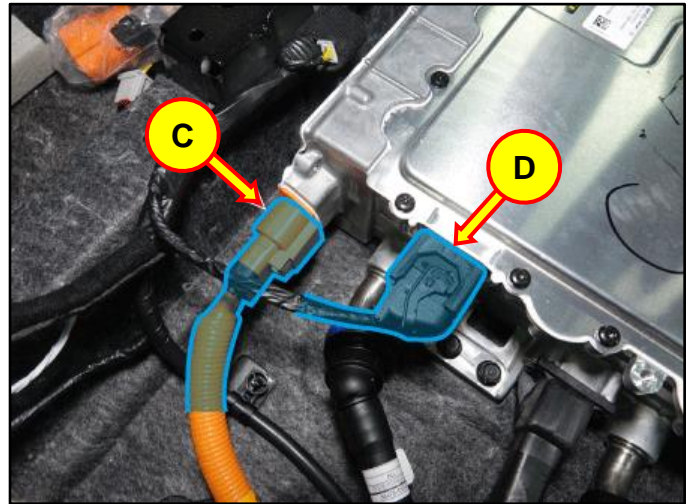
lb-ft	7
lb-in	84
N.m	9



C6. Disconnect the ICCU AC connector (B).



C7. Disconnect the ICCU DC connector (C) and ICCU signal connector (D).



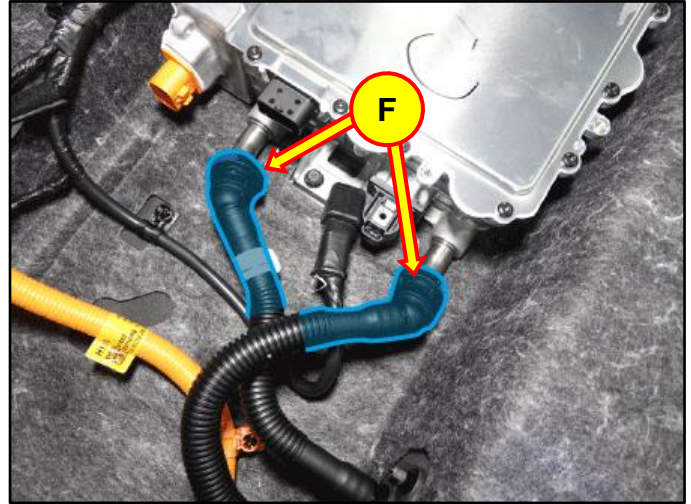
C8. After loosening the mounting bolts, remove the LDC plus (E).

Tightening Torque:

lb-ft	7
lb-in	84
N.m	9



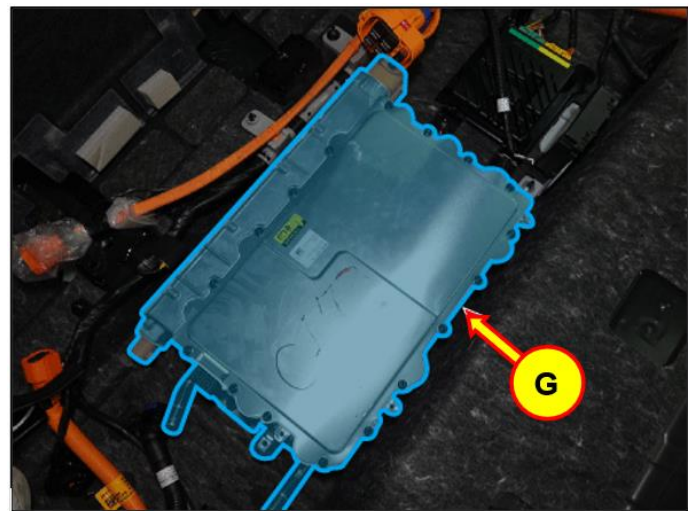
C9. Disconnect the coolant tube quick connectors (F).



C10. After removing the mounting bolts, remove the ICCU (G).

Torque Tightening:

lb-ft	19
N.m	25



C10. Install the replacement ICCU and take STUI photo for upload once installed.

Install in the reverse order of the removal.

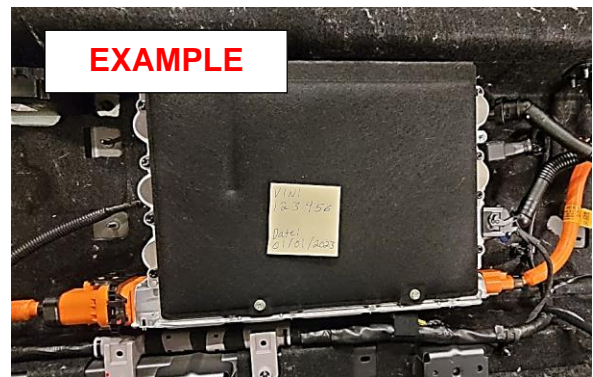
Refill the motor cooling system with coolant and then fully bleed out air using the GDS diagnostic tool.

STUI



Using STUI, take a photo of the new ICCU with the last 6 digits of the VIN and the date of repair on a piece of paper. Upload the photo to STUI.

EXAMPLE

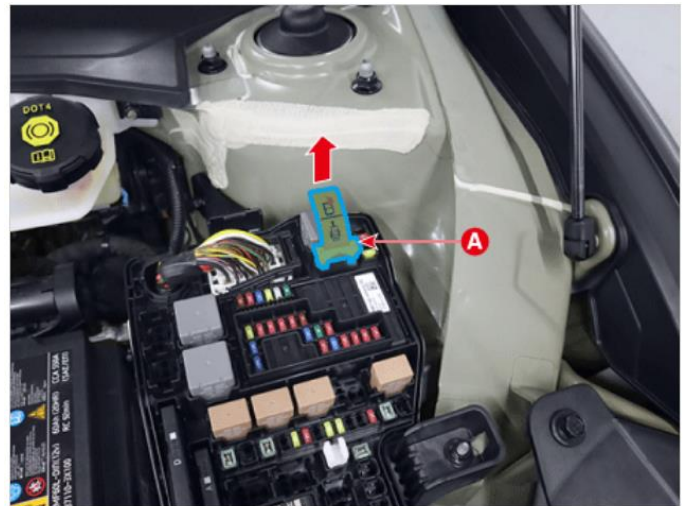


D. ICCU REPLACEMENT FOR THE IONIQ 6 (CE1)

D1. Shut off the high voltage circuit.

i Information

Refer to the shop manual:
Battery Control System > High Voltage
Shut-off Procedures



Drain the motor coolant.

i Information

Refer to the shop manual:
Cooling System > Motor Cooling System
> Coolant

Remove the rear seat cushion cover assembly.

i Information

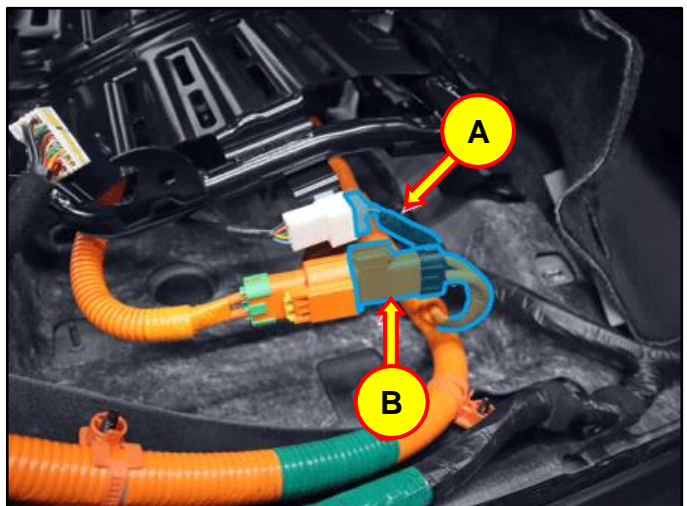
Refer to the shop manual:
Body (Interior / Exterior / Electrical) >
Rear Seat > Rear Seat Cushion Cover
Assembly

Remove the rear wheel house trim.

i Information

Refer to the shop manual:
Body (Interior / Exterior / Electrical) >
Interior Trim > Rear Wheel House Trim

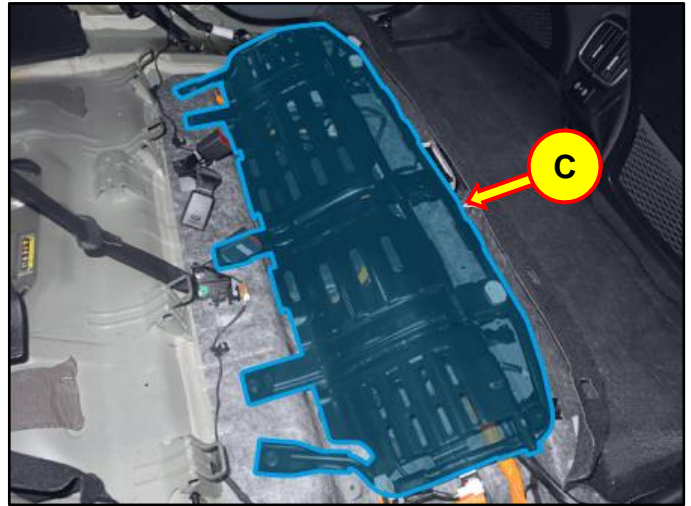
Disconnect the V2L signal connector (A).and
V2L extension connector (B).



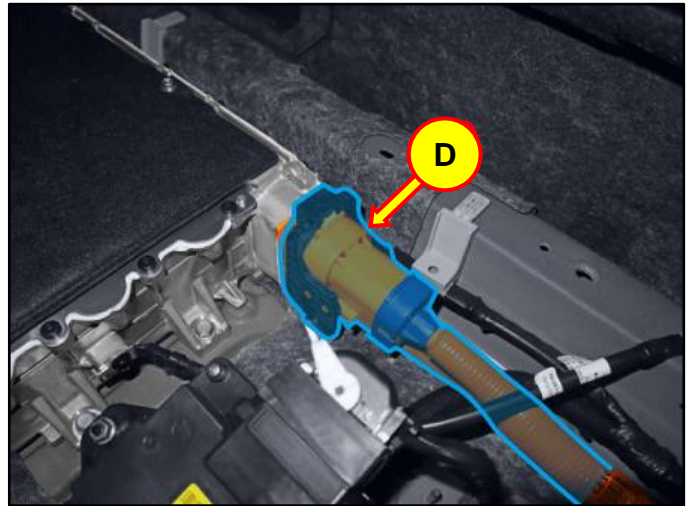
D2. After removing the bolts and nuts, remove the upper frame (C).

Torque Tightening:

lb-ft	19
N.m	25



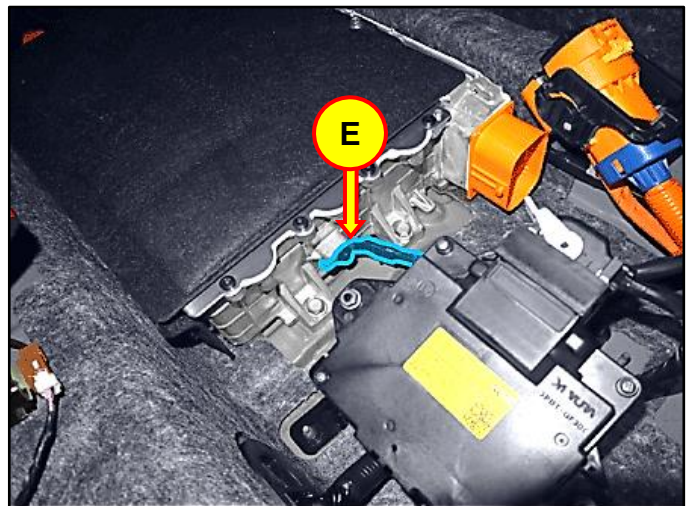
D3. Disconnect the ICCU AC connector (D).



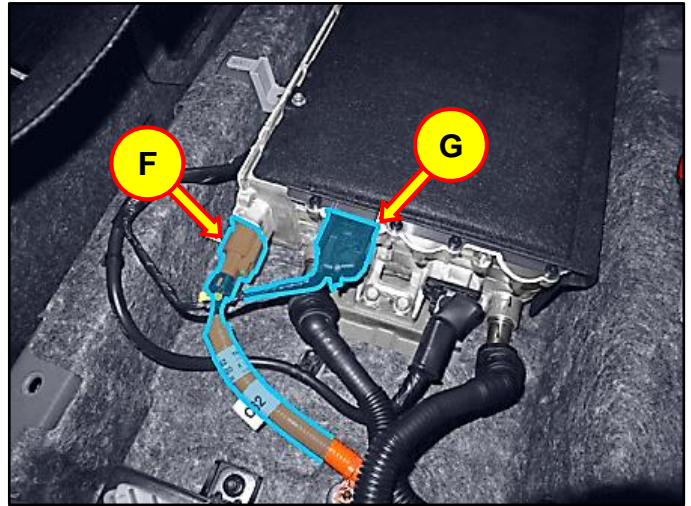
D4. After removing the bolt, Remove the LDC ground (E).

Torque Tightening:

lb-ft	10
N.m	13



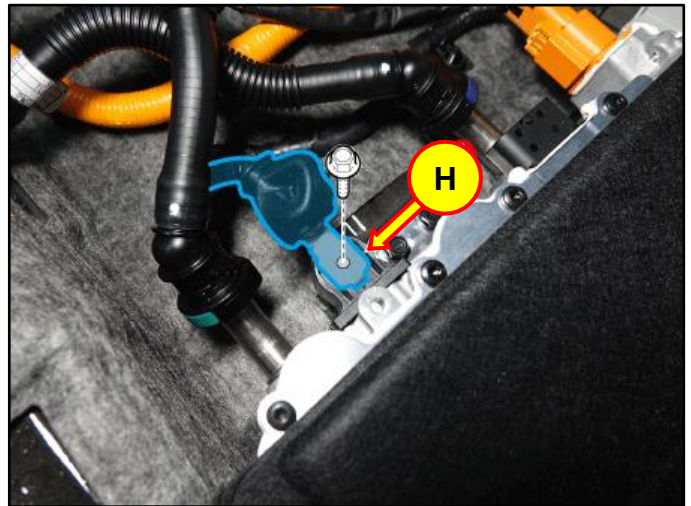
D5. Disconnect the ICCU DC connector (F) and ICCU signal connector (G).



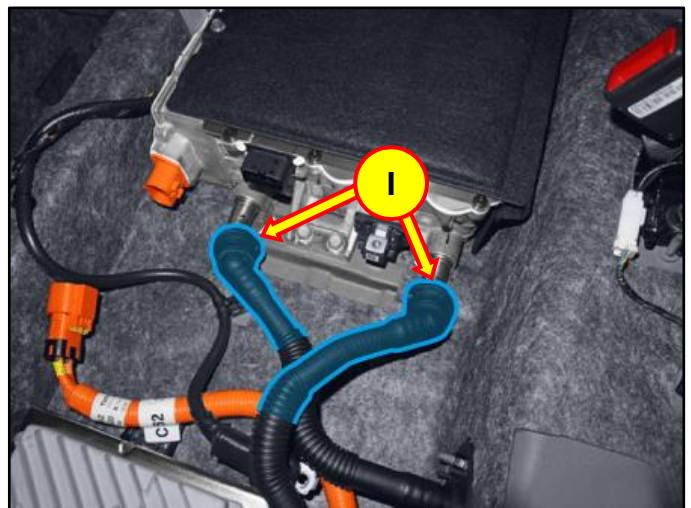
D6. After removing the bolt, remove the LDC (+) (H).

Tightening Torque:

lb-ft	7
lb-in	84
N.m	9



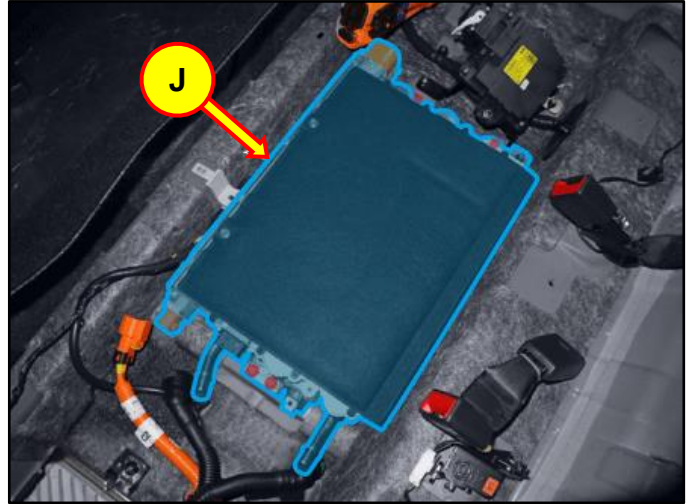
D7. Disconnect the coolant quick connector (I).



D8. After removing the bolt, remove the ICCU (J).

Torque Tightening:

lb-ft	19
N.m	25



D9. Install the replacement ICCU and take STUI photo for upload once installed.

Install in the reverse order of the removal.

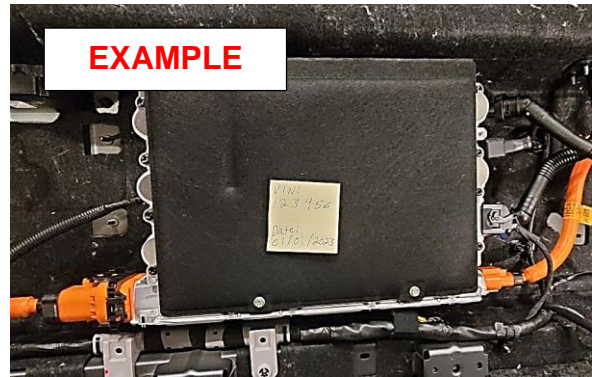
Refill the motor cooling system with coolant and then fully bleed out air using the GDS diagnostic tool.

STUI



Using STUI, take a photo of the new ICCU with the last 6 digits of the VIN and the date of repair on a piece of paper. Upload the photo to STUI.

EXAMPLE



E. EV BATTERY ICCU FUSE INSPECTION (Only applies after ICCU was replaced)

CAUTION

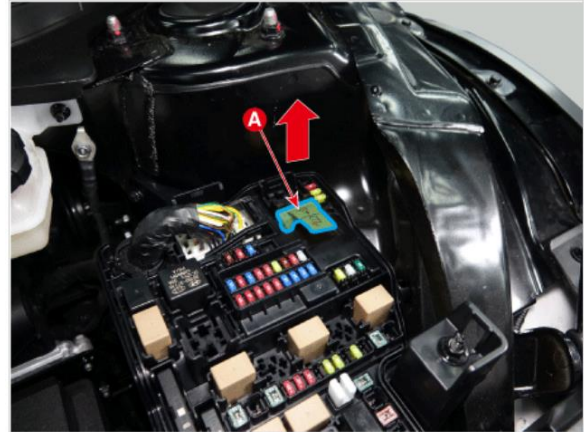
ONLY PERFORM THIS SECTION AFTER REPLACING THE ICCU.

Do not install fuse before the ICCU. DTC P1B77 EV Battery PRA damage will occur.

- E1. Shut off the high voltage circuit and wait 5 minutes for capacitors to discharge.

i Information

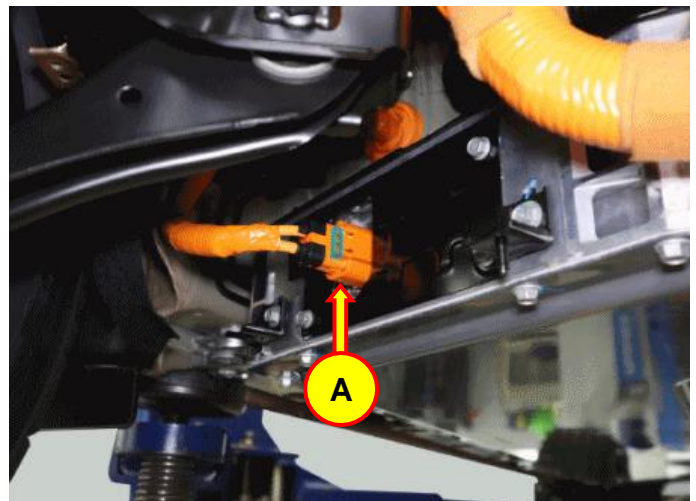
Refer to the shop manual:
 Battery Control System > High Voltage Shut-off Procedures



- E2. Remove the rear under cover.

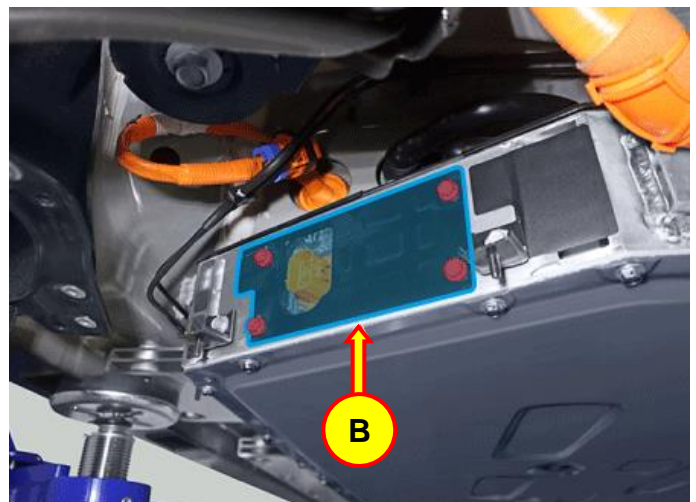
i Information

Refer to the shop manual:
 Motor and Reduction Gear System > Rear Motor and Reduction Gear System > Rear Under Cover



- E3. Disconnect the ICCU high voltage connector (A).

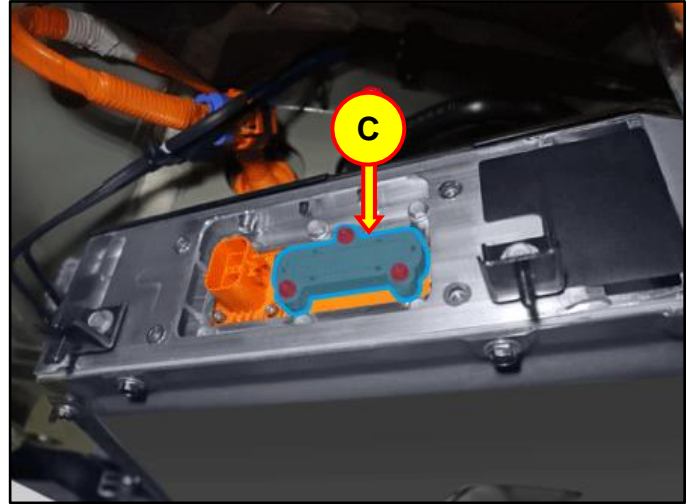
- E4. Remove the ICCU high voltage connector assembly cover (B).



Tightening Torque:

lb-ft	8
lb-in	96
N.m	10

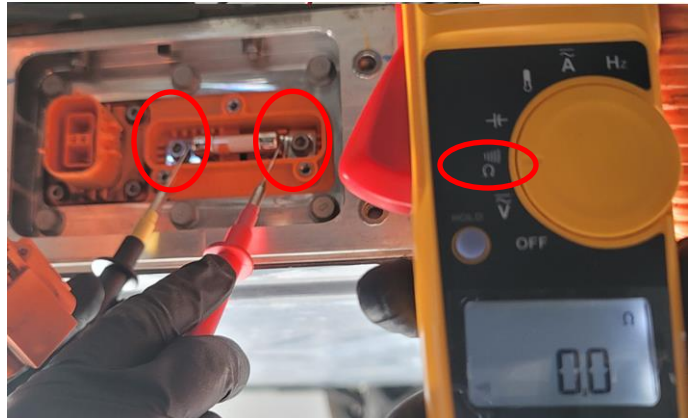
E5. Remove the ICCU fuse cover (C).



E6. Using a commonly available multimeter. Set at the ohmmeter measuring mode and inspect the fuse condition by checking the fuse's resistance value:

- **Fuse is Good:** Less than 1.0 ohm.

**DO NOT REPLACE THE FUSE.
Do not follow the remaining steps to
replace the fuse.**



- **Fuse is Bad (Blown/Open):**
Resistance greater than 1.0 ohm or OL.

CAUTION

**ONLY REPLACE THE FUSE IF
FOUND TO BE BAD
(BLOWN/OPEN).**

It can be difficult or with complication removing the fuse, which may include the nuts holding the fuse holder falling back into the battery.



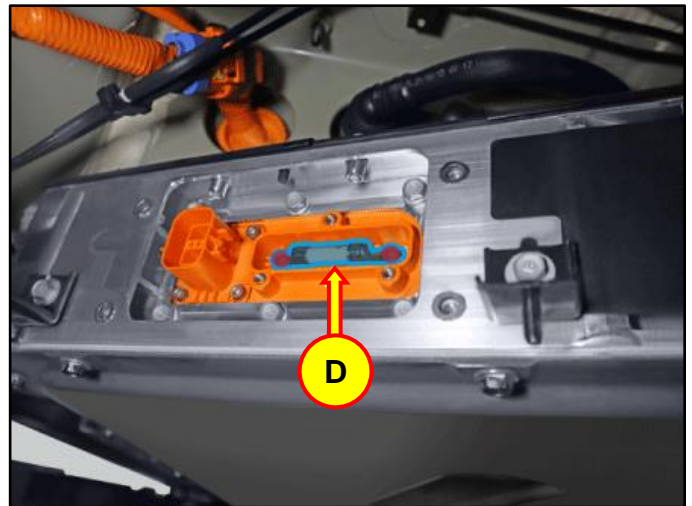
E7. Remove the ICCU fuse (D).

▲ CAUTION

Avoid using power driver to remove and install the bolts. Use a hand tool only.

There can be difficulty removing the fuse, which may include the nuts of the at the back of the fuse holder falling back into the battery.

See the below special instruction should this occur.



E8. Install the supplied new ICCU fuse.

Install back in the reverse order of removal.

SPECIAL INSTRUCTION: Only applies when ICCU Fuse rear nut(s) falls back into the battery.

1. Remove:
 - 6 qty. 10mm bolts (Green marked),
 - 4 qty. bolts by Allen wrench (Red marked).
2. Push in bottom area. Pull out top area.
3. Reach in and grab the nut behind the plate on the bottom surface.
4. Hold the nut at the back side.
5. Install the fuse bolt at the place that the nut had dropped.
6. Install all the other bolts in reverse order of removal.
7. Install the rest of the fuse bolts.

NOTE: Contact Techline if the above procedure did not resolve a dropped nut problem.

