HYUNDAI Technical Service Bulletin	GROUP **RECALL**	NUMBER **24-01-086H-1**
	DATE **DECEMBER 2024**	MODEL(S) **SEE BELOW**

SUBJECT: DTC P1A9096 CHECK FOR ICCU & FUSE REPLACEMENT & ICCU SOFTWARE UPDATE (RECALL 272)

This TSB supersedes TSB 24-01-086H to update all sections with information for IONIQ 5 ROBOTAXI (NER) models.

★ IMPORTANT

Vehicle repairs related to safety recalls are critically important and must be performed properly in accordance with TSB procedures. Review this bulletin in its entirety prior to beginning any repair work.

As required by federal law, dealers must not deliver new vehicles for sale or for lease to customers until all open recalls have been performed. Dealers must also perform all open recalls on used vehicles, demo, and rental vehicles prior to placing them into customer use and whenever an affected vehicle is in the shop for any maintenance or repair.

Access the “Vehicle Information” screen via WebDCS to identify open recalls.

Description: Certain 2022-2024MY IONIQ 5 (NE EV) and 2023-2025MY IONIQ 6 (CE EV) and 2024MY IONIQ 5 ROBOTAXI (NER) vehicles are equipped with an Integrated Charging Control Unit (ICCU) which charges the vehicle’s 12-volt auxiliary battery and powers low-voltage vehicle accessory equipment. The ICCU may be subject to certain electrical load conditions that can cause the internal metal-oxide semiconductor field-effect transistor (MOSFET) to fail, potentially resulting in an open ICCU fuse. An open ICCU fuse results in an inability to charge the 12-volt battery. Upon fault detection, and accompanied by a series of driver warnings, the vehicle will enter a design-intended “fail-safe” driving mode that allows immediate full propulsion while gradually reducing motive power over time as the vehicle’s battery is discharged. If the vehicle is driven until the 12-volt battery state-of-charge is fully depleted the vehicle will lose all motive power, potentially increasing the risk of a crash. Vehicle systems such as air bags, braking, and powered steering remain operational.

The Service Procedure flow to be followed is outlined by the flowchart on page 5. The ICCU system is to be checked by GDS for DTC P1A9096 and depending on the result, will first involve an ICCU software update and, based on inspection results, either an ICCU and/or potential fuse replacement.

Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

SUBJECT:	DTC P1A9096 CHECK FOR ICCU & FUSE REPLACEMENT & ICCU SOFTWARE UPDATE (RECALL 272)

Applicable Vehicles (Certain):

- 2022-2024MY IONIQ 5 (NE EV) produced from 10/04/2021 - 10/09/2024
- 2023-2025MY IONIQ 6 (CE EV) produced from 12/14/2022 - 10/09/2024
- 2024MY IONIQ 5 ROBOTAXI (NER) produced from 10/09/2023 – 10/29/2024

NOTICE

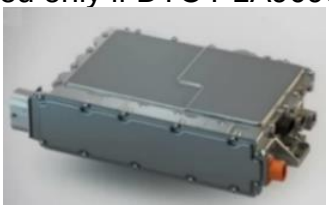
To avoid any potential damage to IONIQ vehicles, this recall can only be performed at IONIQ certified dealers.

GDS Information:

System	Event #	Description
ICCU	1154*	**NE** ICCU SOFTWARE UPDATE, AND ICCU AND FUSE REPLACEMENT (Secondary)
	1155*	**CE** ICCU SOFTWARE UPDATE, AND ICCU AND FUSE REPLACEMENT (Secondary)
	1156*	**NER** ICCU SOFTWARE UPDATE, AND ICCU AND FUSE REPLACEMENT (Secondary)

(*****or use a later available event as listed in the GDS **ICCU** Update screen if one is available.)

Parts Information:

Part Name	Model	Part Number	Remark
Integrated Charge Control Unit (ICCU)	IONIQ 5 (NE EV)	36400-1XAA0QQH	As needed only if DTC P1A9096 stored: 
	IONIQ 6 (CE EV)	36400-1XEA0QQH	
	IONIQ 5 ROBOTAXI (NER)	36400-1XMA0QQH	
Fuse	Both	375F2-GI040QQH	Order High-Voltage Fuse in Conjunction with the ICCU

NOTICE

Do **NOT** install fuse before ICCU replacement. DTC P1B77 Battery PRA damage will occur.

Coolant	Both	00232-19098	Up to 3.7 liters (1 gallon)

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature	Cause
IONIQ 5 (NE EV) & IONIQ 6 (CE EV) & IONIQ 5 ROBOTAXI (NER)	41D225R0	DTC Check (**NO** P1A9096) and ICCU Software Update	0.4 M/H	36400-1XAA0 (IONIQ 5) 36400-1XEA0 (IONIQ 6) 36400-1XMA0 (IONIQ 5 ROBOTAXI)	W11	ZZ3
	41D225R1	DTC Check (**YES** P1A9096), ICCU & Fuse Replacement and Replaced ICCU has Latest Software Version (**YES**)	2.1 M/H			
	41D225R2	DTC Check (**YES** P1A9096), ICCU & Fuse Replacement, Replaced ICCU Does **NOT** have Latest Software Version, and ICCU Software Update	2.4 M/H			

NOTE 1: Submit claim on Claim Entry Screen as “Campaign” type.
NOTE 2: If a part is found in need of replacement while performing this recall 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 3: This TSB includes Repair validation photos. Op times include VIN, Mileage, and repair validation photos, as outlined in the Digital Documentation Policy.
NOTE 4: 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.**
NOTE 5: Op Codes 41D225R1 and 41D225R2 includes reimbursement of coolant (up to 3.7 liters/1 gallon).

SUBJECT:	DTC P1A9096 CHECK FOR ICCU & FUSE REPLACEMENT & ICCU SOFTWARE UPDATE (RECALL 272)

ROM ID Information:

Model	System	ICCU Part Number	ROM ID	
			Old	New
IONIQ 5 (NE EV)	ICCU	36401-1XAA0	ENE1E1-IDS02R000 ENE1E1-IDS51R000 ENE1E1-IDS03R000 ENE1E1-IDS05R000 ENE1E1-IDS07R000 ENE1E1-IDS08R000 ENE1E1-IDS09R000 ENE1E3-IDS10R000 ENE1E3-IDS11R000 ENE1E3-IDS13R000	ENE1E3-IDS14R000
IONIQ 6 (CE EV)	ICCU	36401-1XEA0	ECE1E3-IDS02R000 ECE1E3-IDS03R000 ECE1E3-IDS06R000	ECE1E3-IDS07R000
IONIQ 5 ROBOTAXI (NER)	ICCU	36401-1XMA0	ENE1E3RIDS01R000 ENE1E3RIDS02R000 ENE1E3RIDS04R000	ENE1E3RIDS05R000

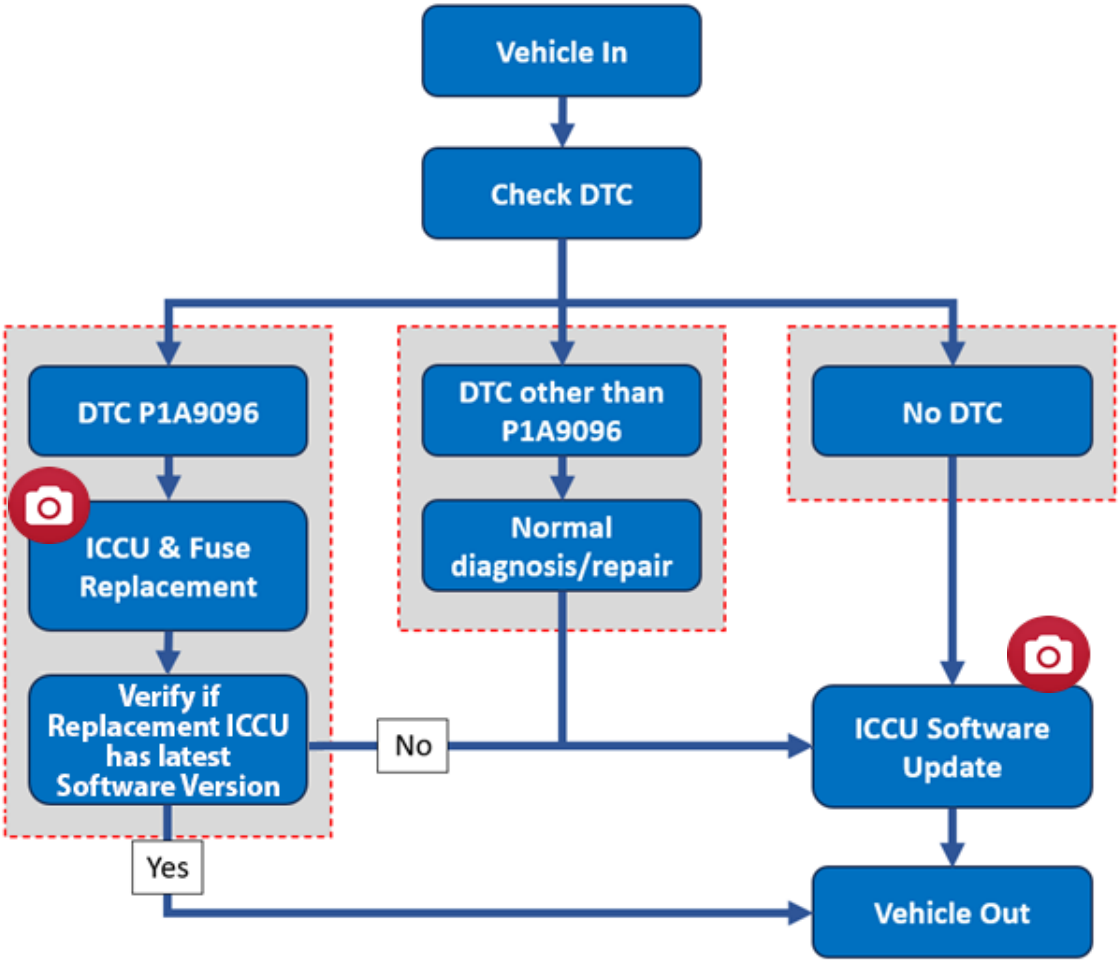
Service Procedure:

STUI

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

Table of Contents:

Service Procedure Flowchart:



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** **(Submit 41D225R0, 0.4 M/H)**

Information

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 (NE EV) & IONIQ 5 ROBOTAXI (NER) – see **Section C**
    - IONIQ 6 (CE EV) – see **Section D**
  - Replace the Fuse – see **Section E**
  - Check if replaced ICCU has latest software version.
    - **No –** Update ICCU software, **Submit 41D225R2, 2.4 M/H**
    - **Yes – Submit 41D225R1, 2.1 M/H**

NOTICE

Replace the high-voltage fuse in conjunction with the ICCU. Failure to do so may result in PRA damage.

If any other DTC or symptoms is found/stored, diagnose and repair per shop manual before performing the ICCU update.

NOTICE

When performing repairs it is **critical** to ensure the ICCU and high-voltage fuse are replaced simultaneously. Damage to the PRA may occur if the vehicle is in **Ready Mode** without the replacement ICCU part installed.

B. ICCU Software Update

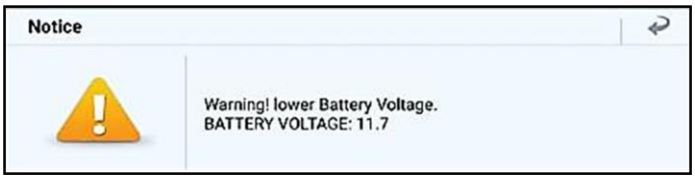
NOTICE

You must initially perform the GDS ECU Update in Auto Mode.

- If the ECU Update starts but then fails in Auto Mode, perform the update in Manual Mode to recover.

NOTICE

GDS Vehicle Battery Low Voltage Warning:
If voltage is below 12 volts per the GDS warning, then select **Back** and attach a battery charger to ensure an adequate battery charge for reliable update results. Turn ignition back **ON**, and then retry the ECU update again.

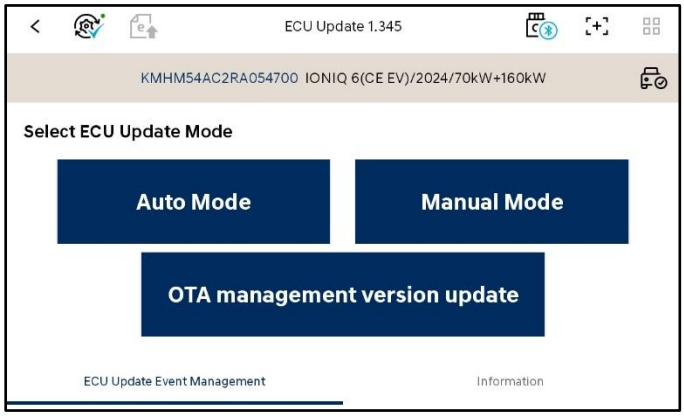


B1. Perform the ICCU update in **Auto Mode**.

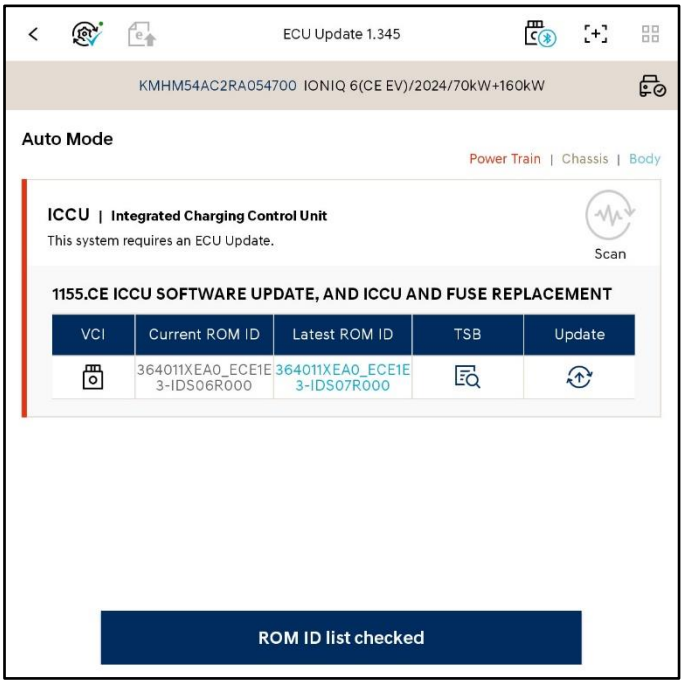
Use the **ID Check** to verify the ROM ID before updating the software.

Information

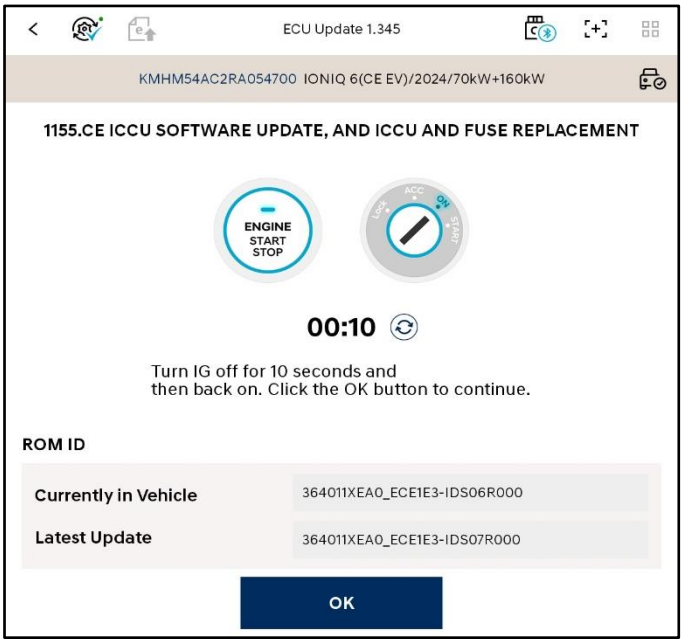
Refer to **TSB # 24-GI-012H**, "**ECU Update Procedure for Tablet-Based GDS-Smart**", for additional information.



B2. Select the **ICCU** system to scan the vehicle's current ROM ID.



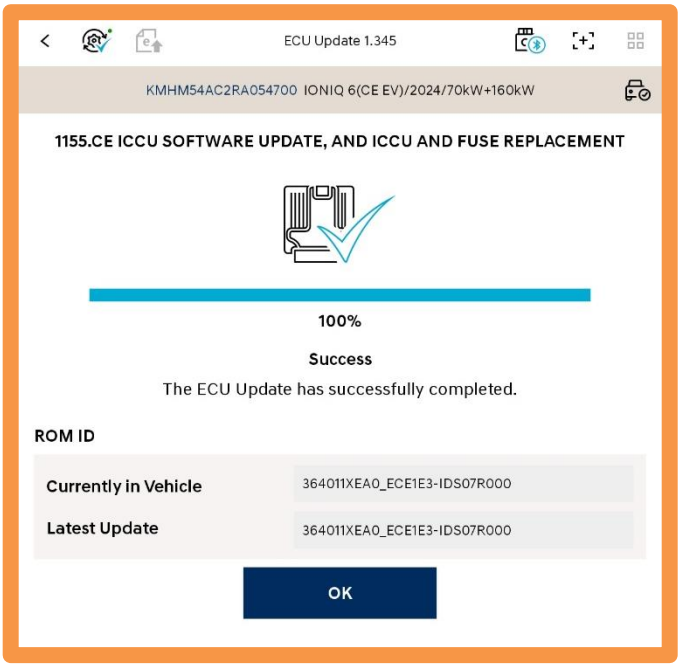
B3. After the ECU Upgrade process shows 100% complete, cycle the ignition key to **OFF** for at least **10 seconds** to reset the control unit.



B4.

STUI

Take a screenshot of the ECU update complete screen using your tablet and upload to STUI.



B5. Perform an **All Systems Fault Code** search and erase DTC history that had incidentally occurred from the ECU update.

B6. Start the vehicle in **Ready** mode to confirm proper operation of the vehicle.

Information

For multiple ECU updates, go back to the Auto Mode screen to view all updates available in one screen.

NOTICE

If the ECU update fails in Auto Mode, perform the update in Manual Mode using the password(s) below.

Manual Mode Password Information:

ICCU Event	Menu	Password
1154	NE1 EV ICCU 36401-1XAA0	4832
1155	CE1 ICCU 36401-1XEA0	2323
1156	NER ICCU 36401-1XMA0	6789

C. ICCU Replacement for IONIQ 5 (NE EV) and IONIQ 5 ROBOTAXI (NER)

⚠ WARNING

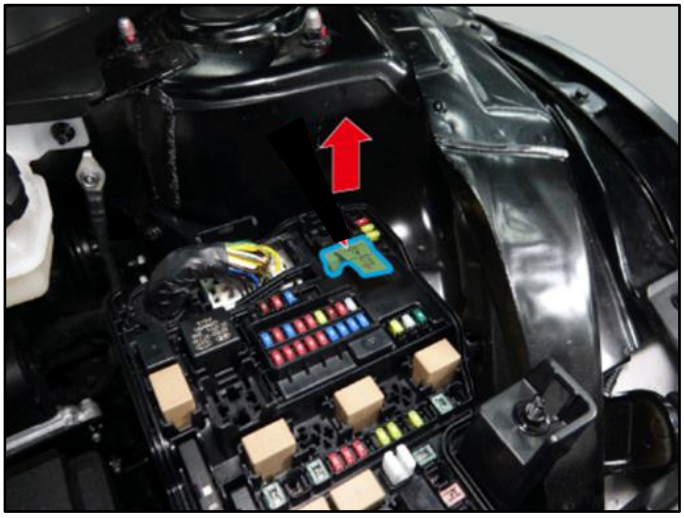
Read the **Safety and Precautions** and **High Voltage Shut-Off** procedures before performing work related to high-voltage systems. Failure to do so may result in serious electrical injuries.

Ensure to follow your country's/region's regulations when performing work on or around HV components.

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

Refer to the shop manual:

- **Battery Control System > High Voltage Shut-off Procedures**



⚠ CAUTION

Wait for more than **5 minutes** so that the capacitor in the high voltage system will be fully discharged.

C2. Drain the motor coolant by referring to the shop manual:

- **Cooling System > Motor Cooling System > Coolant > Coolant Refilling and Bleeding**

C3. Remove the rear seat assembly by referring to the shop manual:

- **Body (Interior and Exterior) > Rear Seat > Rear Seat Assembly > Replacement**

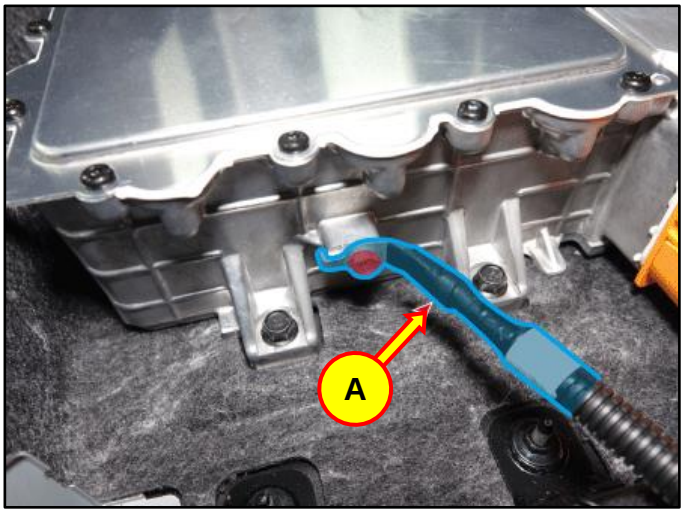
C4. Remove the luggage side trim by referring to the shop manual:

- **Body (Interior and Exterior) > Trunk Trim > Luggage Side Trim > Replacement**

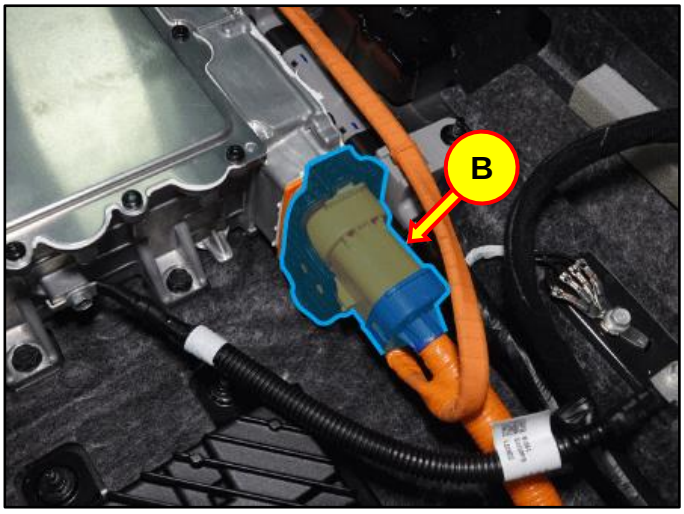
C5. Remove the ground (A) after removing the mounting bolt.

Tightening Torque:

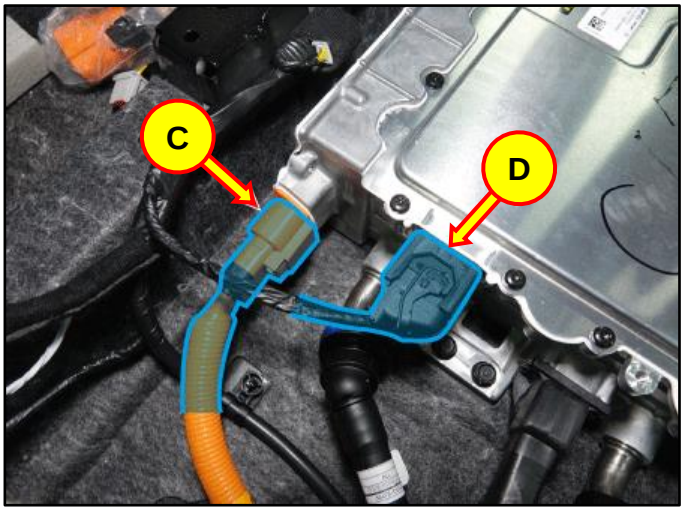
lb-ft	7
lb-in	84
N.m	9



C6. Disconnect the ICCU AC connector (B).



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

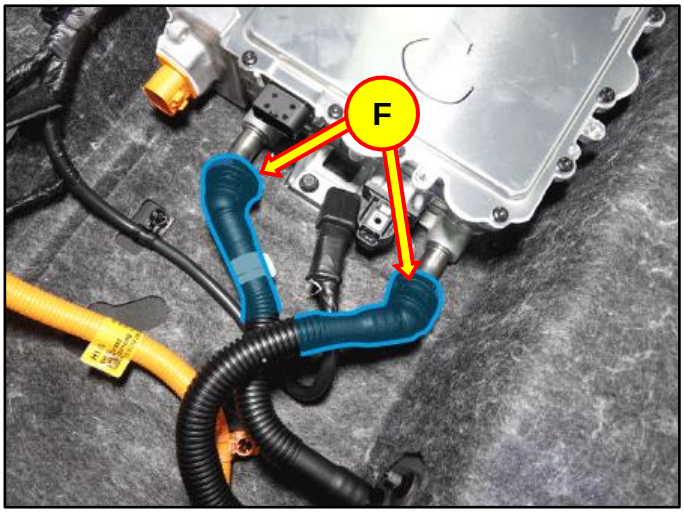


C8. After loosening the mounting bolts, remove the LDC plus (E).

Tightening Torque:

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

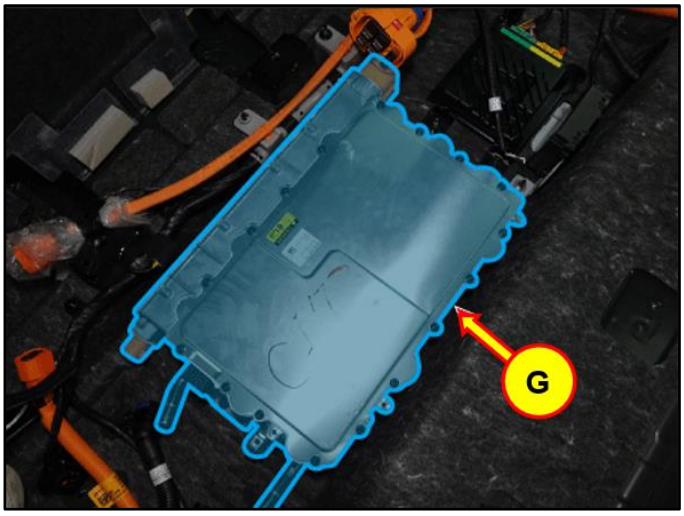
C9. Place an absorbent mat under the coolant tube quick connectors (U) then disconnect the coolant tube connectors (U).



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

Tightening Torque:

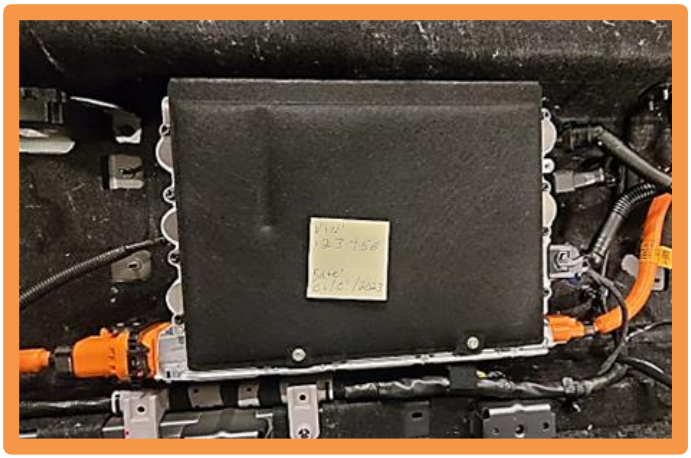
lb-ft	19
N.m	25



C11. Install the replacement part and take a STUI photo for uploading.

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.



C12. Reinstall all parts in the reverse order of removal.

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

Refer to the shop manual:

- **Cooling System > Motor Cooling System > Coolant > Coolant Refilling and Bleeding**

D. ICCU Replacement for IONIQ 6 (CE EV)

⚠ WARNING

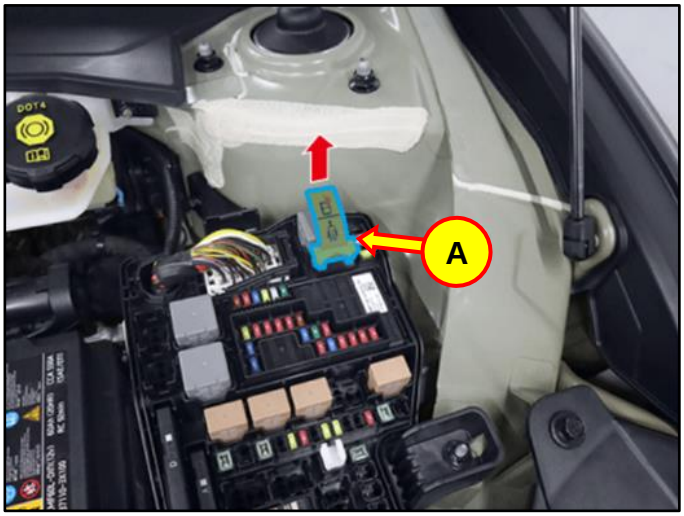
Read the **Safety and Precautions** and **High Voltage Shut-Off** procedures before performing work related to high-voltage systems. Failure to do so may result in serious electrical injuries.

Ensure to follow your country's/region's regulations when performing work on or around HV components.

D1. Shut **OFF** the high-voltage circuit (A).

Refer to the shop manual:

- **Battery Control System > High Voltage Shut-off Procedures**



⚠ CAUTION

Wait for more than **5 minutes** so that the capacitor in the high voltage system will be fully discharged.

D2. Drain the motor coolant by referring to the shop manual:

- **Cooling System > Motor Cooling System > Motor Coolant > Coolant Refilling and Bleeding**

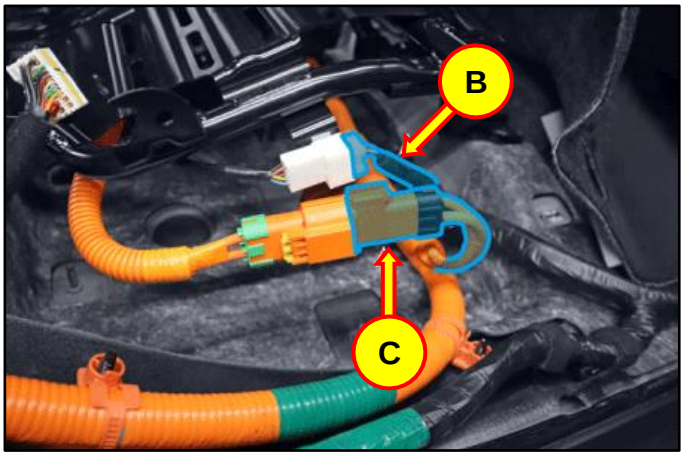
D3. Remove the rear seat cushion cover assembly by referring to the shop manual:

- **Body (Interior / Exterior / Electrical) > Rear Seat > Rear Seat Cushion Cover Assembly > Removal**

D4. Remove the rear wheel-house trim by referring to the shop manual:

- **Body (Interior / Exterior / Electrical) > Interior Trim > Rear Wheel House Trim > Removal**

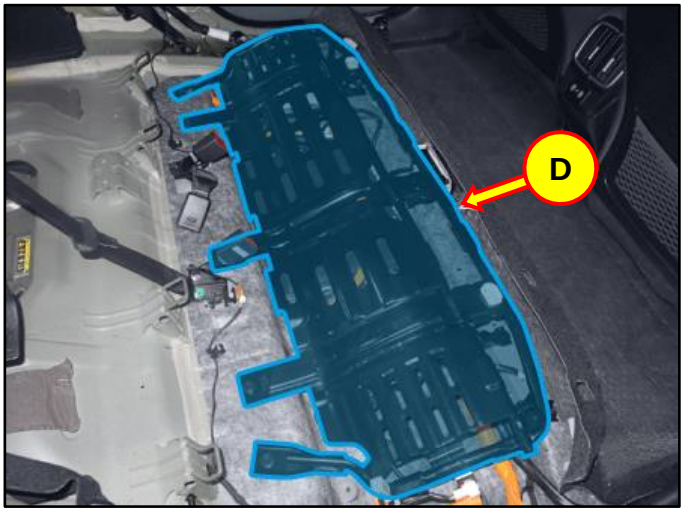
D5. Disconnect the V2L signal connector (B).and V2L extension connector (C).



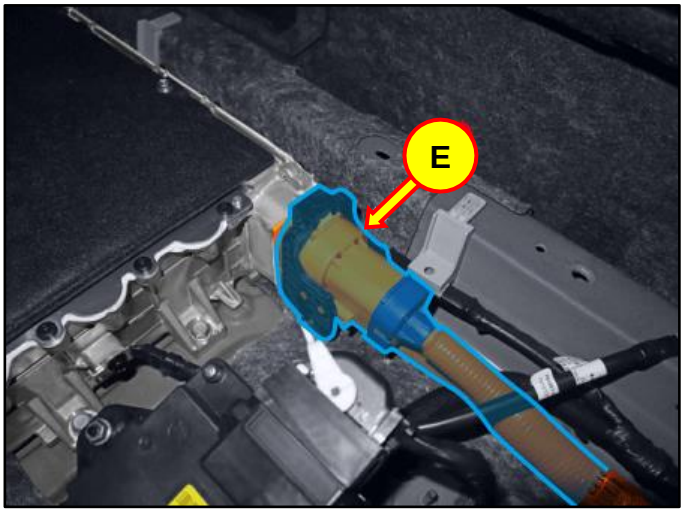
D6. After removing the bolts and nuts, remove the upper frame (D).

Tightening Torque:

lb-ft	19
N.m	25



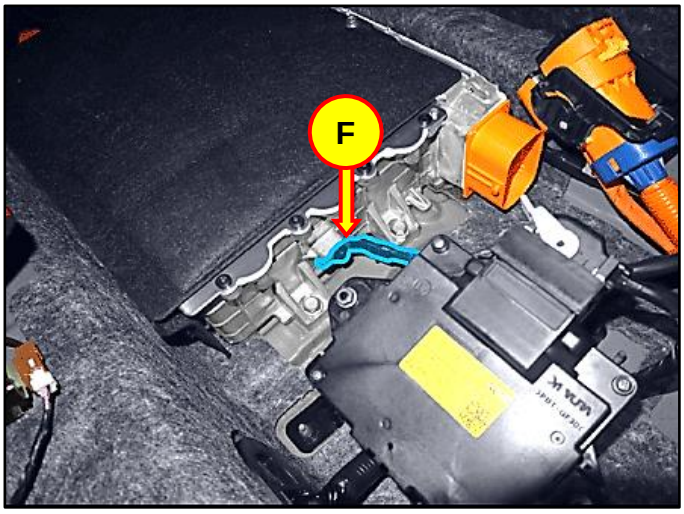
D7. Disconnect the ICCU AC connector (E).



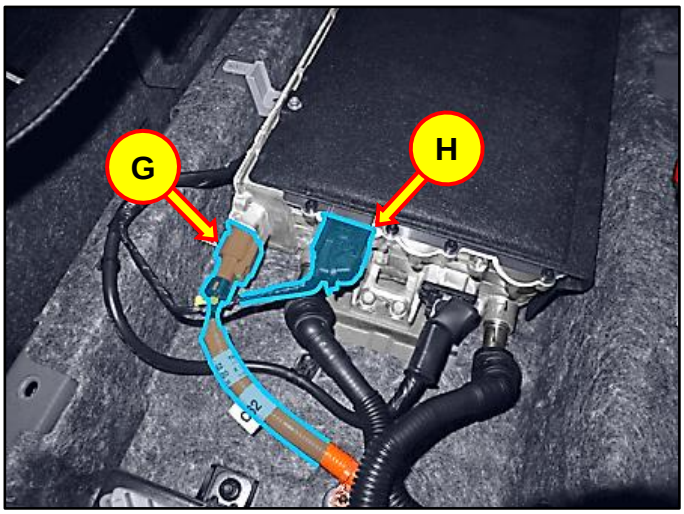
D8. After removing the bolt, remove the LDC ground (F).

Tightening Torque:

lb-ft	10
N.m	13



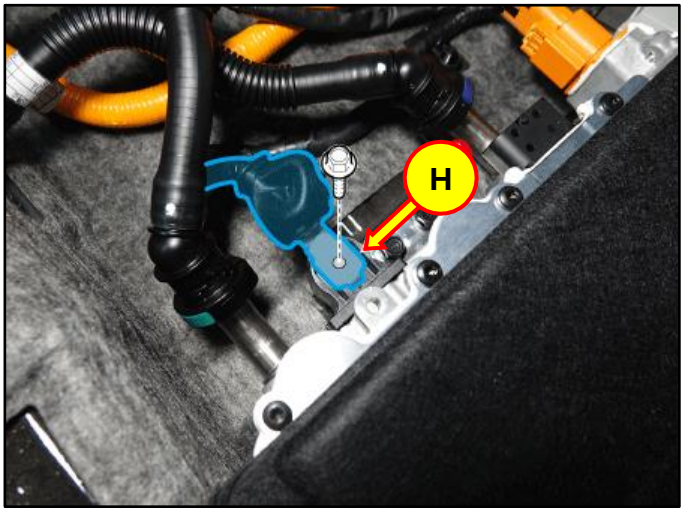
D9. Disconnect the ICCU DC connector (G) and ICCU signal connector (H).



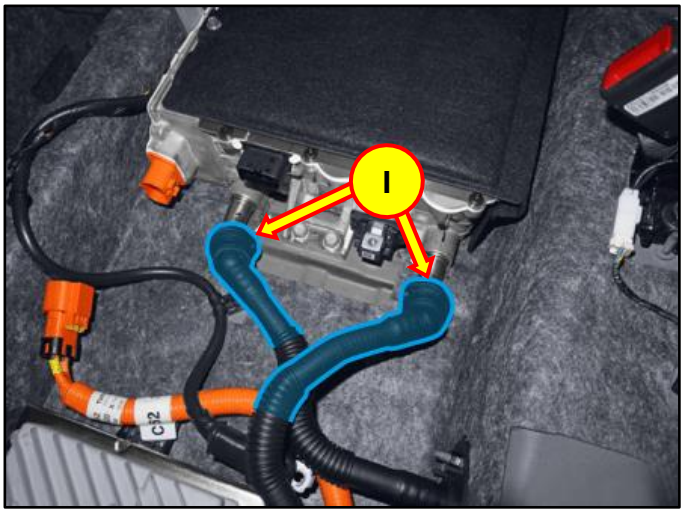
D10. After removing the bolt, remove the LDC (+) (H).

Tightening Torque:

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



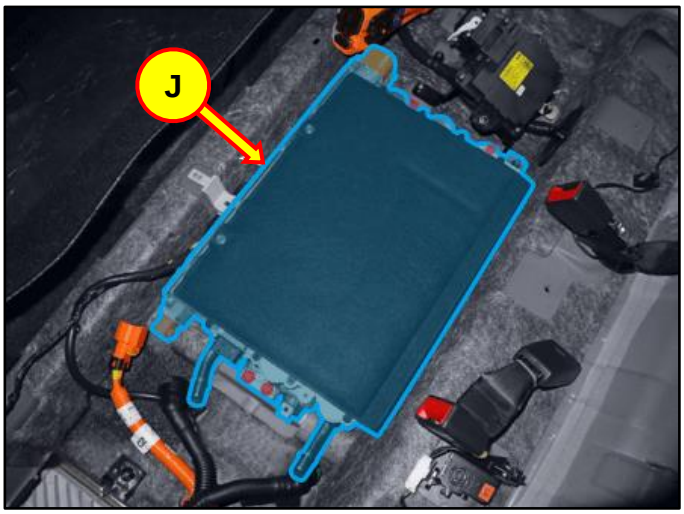
D11. Place absorbent mat under the coolant tubes then disconnect the coolant quick connector (I).



D12. After removing the bolt, remove the ICCU (J).

Torque Tightening:

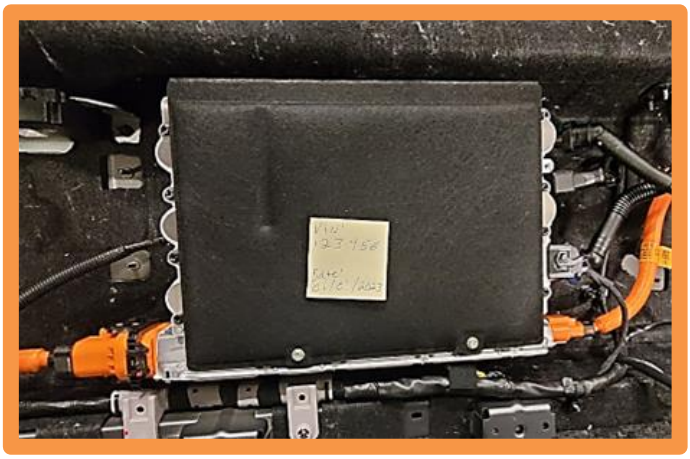
lb-ft	19
N.m	25



D13. Install the replacement part and take a STUI photo for uploading.

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.



D14. Reinstall all parts in the reverse order of removal.

D15. Refill the motor cooling system with coolant and then fully bleed out air using the GDS diagnostic tool.

Refer to the shop manual:

- **Cooling System > Motor Cooling System > Coolant > Coolant Refilling and Bleeding**

E. EV Battery ICCU Fuse Replacement (perform ONLY after ICCU is replaced)

NOTICE

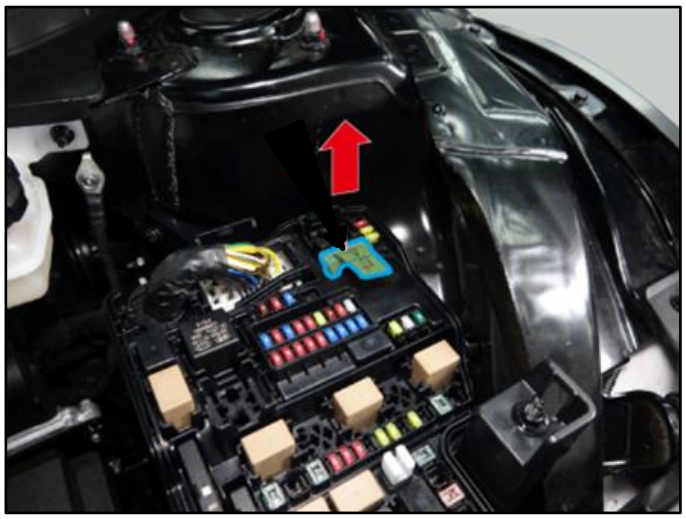
ONLY PERFORM THIS SECTION AFTER REPLACING THE ICCU.

Do **NOT** install a fuse before installing 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.

Refer to the shop manual:

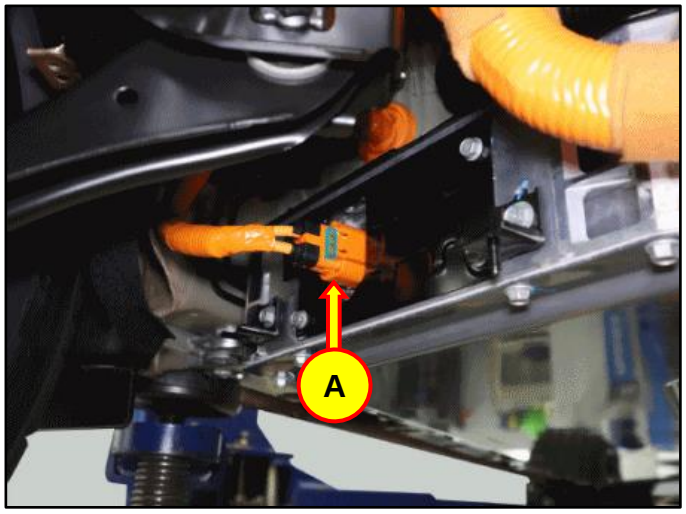
- **Battery Control System > High Voltage Shut-off Procedures**



E2. Remove the rear under cover by referring to the shop manual:

- **Motor and Reduction Gear System > Rear Motor and Reduction Gear System > Rear Under Cover > Removal and Installation**

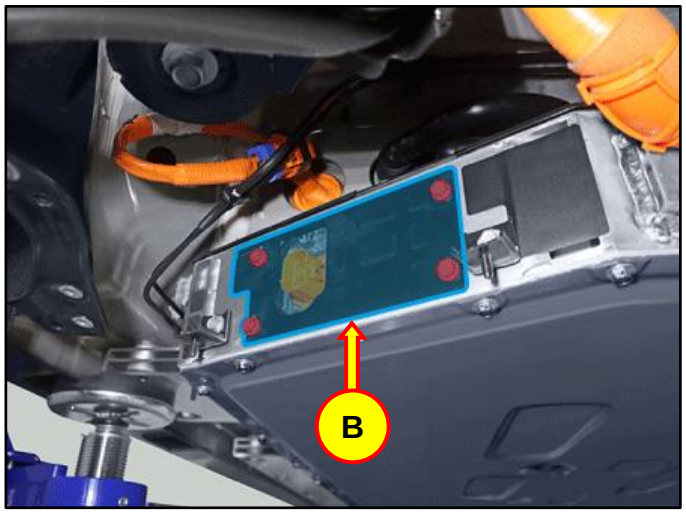
E3. Disconnect the ICCU high-voltage connector (A).



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

Tightening Torque:

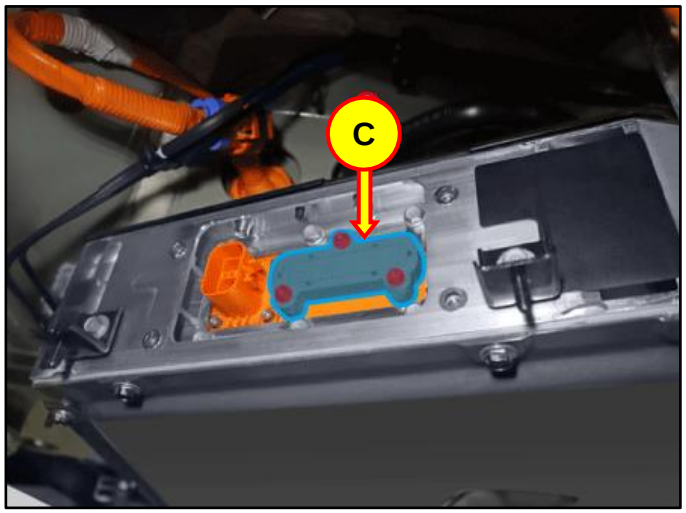
lb-ft	8
lb-in	96
N.m	10



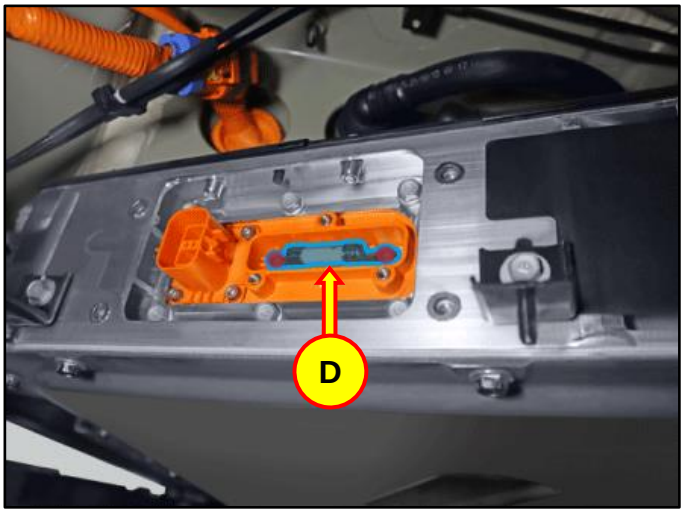
E5. Remove the ICCU fuse cover (C).

Tightening Torque:

lb-ft	3.7
lb-in	44
N.m	5



E6. Remove the ICCU fuse (D).



NOTICE

Removing the fuse may be difficult since the nuts holding the fuse holder may fall into the battery.

NOTICE

Avoid using a power driver to remove and install the bolts. **ONLY** use hand tools.

Removing the fuse may be difficult since the nuts holding the fuse holder may fall into the battery.

If this occurs, see below for **SPECIAL INSTRUCTIONS**.

E7. Install the supplied replacement part for the ICCU fuse.

E8. Reinstall all parts in the reverse order of removal.

F. SPECIAL INSTRUCTIONS (perform **only** if ICCU fuse rear nut(s) falls into the battery)

F1. Remove the following parts:
- 6 qty. 10mm bolts (green)
- 4 qty. bolts by Allen wrench (red)

F2. Push in bottom area. Pull out top area.

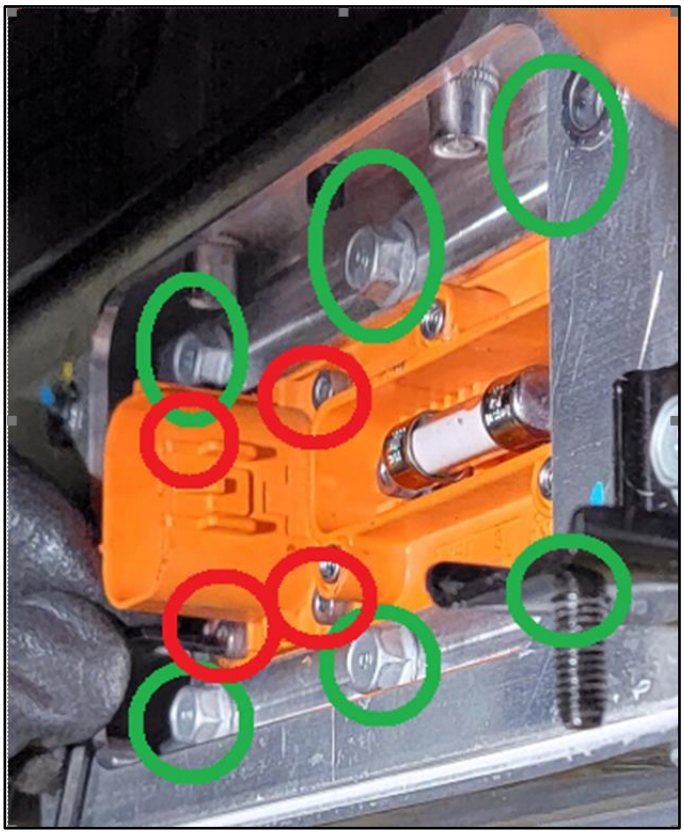
F3. Reach in to grab the nut behind the plate on the bottom surface.

F4. Hold the nut at the back side.

F5. Install the fuse bolt at the location where the nut had fallen.

F6. Reinstall all the other bolts in reverse order of removal.

F7. Install the rest of the fuse bolts.



Information

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