



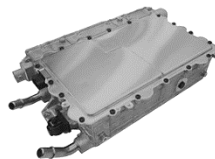
GROUP	MODEL
Service Campaign	2022-2023MY EV6 (CV)
NUMBER	DATE
SC271	July 2023

VOLUNTARY SERVICE CAMPAIGN

SUBJECT:

ICCU SOFTWARE UPGRADE OR ICCU ASSEMBLY AND FUSE REPLACEMENT (SC271)

This bulletin provides information to inspect the Integrated Charging Control Unit ("ICCU") in certain 2022-2023MY EV6 (CV) vehicles manufactured from November 17, 2021 through May 30, 2023. Depending on the results of the inspection, dealers are to either install an improved ICCU software logic or replace the ICCU and ICCU Fuse. The ICCU in the subject vehicle may get damaged due to an over-current condition in the high-voltage system. This condition may cause the illumination of the "Service Warning Light," "Check electric vehicle system", and/or "Stop vehicle and check power supply" warning messages, along with audible beeps, instructing the driver to stop the vehicle at a safe location. Following these warnings, gradual reductions in power may occur. If the vehicle continues to be driven, it will gradually come to a halt. Kia is conducting this Voluntary Service Campaign to improve the ICCU software logic to prevent high-voltage circuit damage. Follow the procedure outlined in this publication. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.



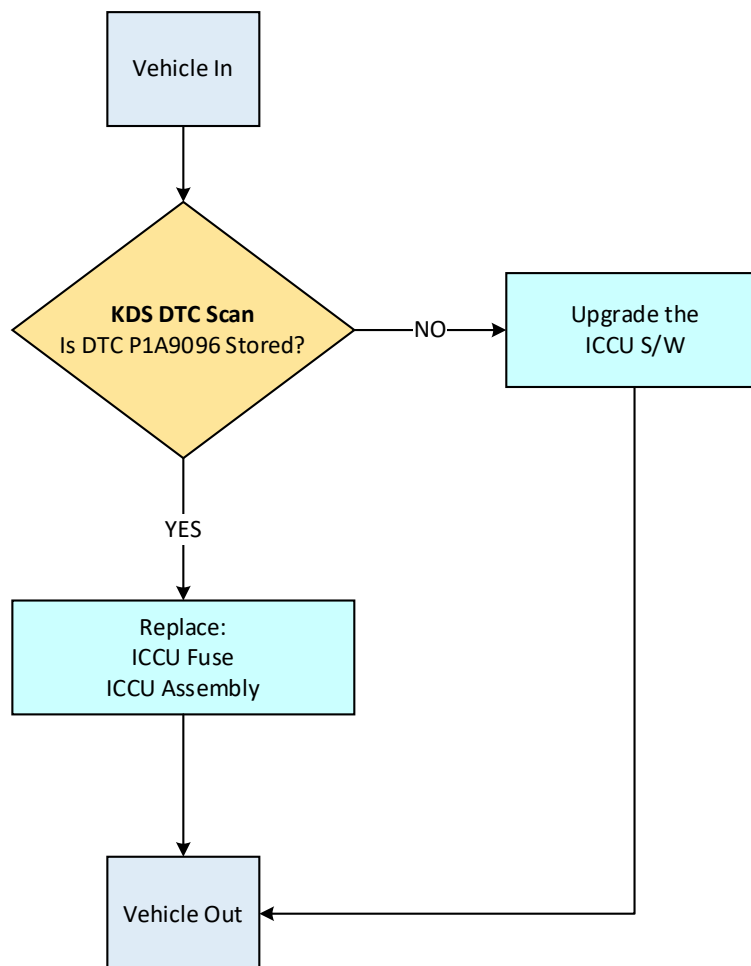
NOTICE

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.

Inspection Procedure:

Follow the flowchart below to inspect the vehicle you are working on and confirm if DTC P1A9096 is stored.

- DTC P1A9096 (Not Stored) → Upgrade the ICCU Software (Event #685)
- DTC P1A9096 (Stored) → Replace the ICCU Fuse and ICCU Assembly
(DO NOT perform ICCU software upgrade if ICCU Assy/Fuse are replaced)

**NOTICE**

If DTC P1A9096 is presented any time after the software upgrade is completed, then repair the vehicle under normal (W) warranty claim (If applicable) using a non-QQK replacement part.

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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
685.CV CVGT ICCU UPGRADE FOR DIAGNOSTIC ENHANCEMENT


NOTICE

- Confirm a fully charged battery (12.3 volts or higher is necessary) is used or 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 not 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' or 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.

ROM ID INFORMATION TABLE:

Upgrade Event #685

Model	System	IMMO		ECU P/No.	ROM ID	
					Previous	New
EV6 (CV)	ICCU	Yes		36400 1XFA0	ECV1E1 IDS51R000 ECV1E1 IDS03R000 ECV1E1 IDS05R000 ECV1E1 IDS07R000 ECV1E1 IDS08R000 ECV1E1 IDS09R000 ECV1E3 IDS10R000	ECV1E3 IDS11R000

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

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

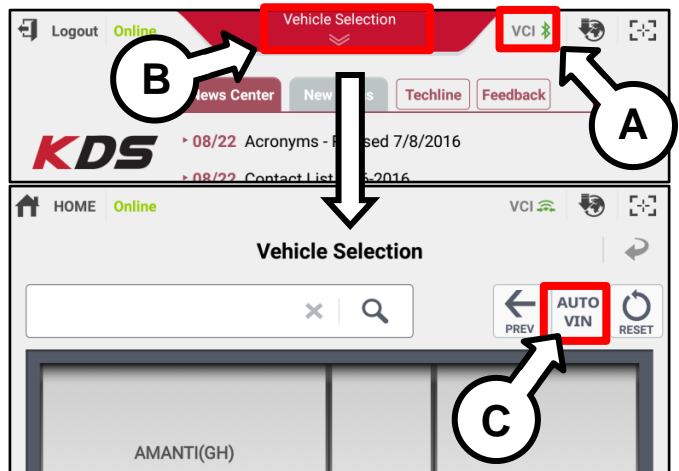
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



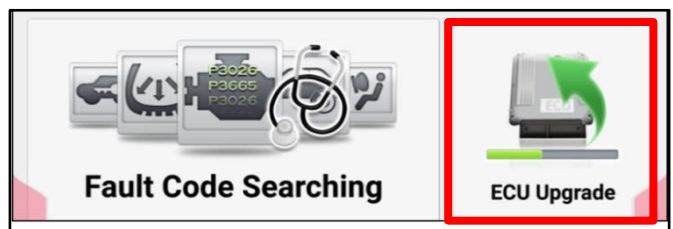
2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.



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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- The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #685.

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%

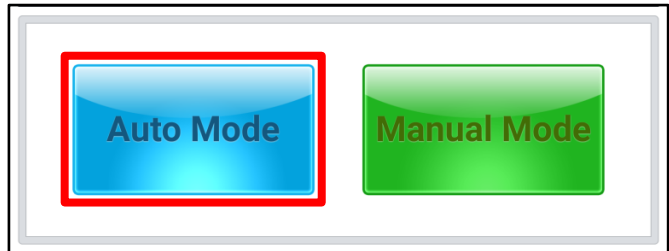
Do not touch any system buttons while performing this function.

KDS screenshot shown above is for demonstration purposes only. Events shown in screenshot are not applicable to this bulletin.

- 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.



- Select the 'ICCU' system under the System selection menu.
- Select the Upgrade Event #685.CV CVGT ICCU UPGRADE FOR DIAGNOSTIC ENHANCEMENT and select 'Upgrade' to continue.

- 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.

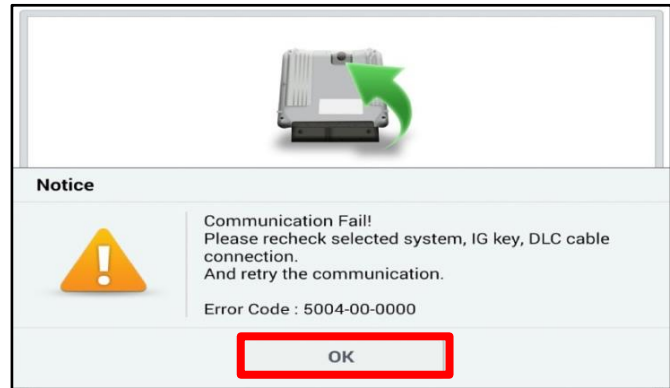


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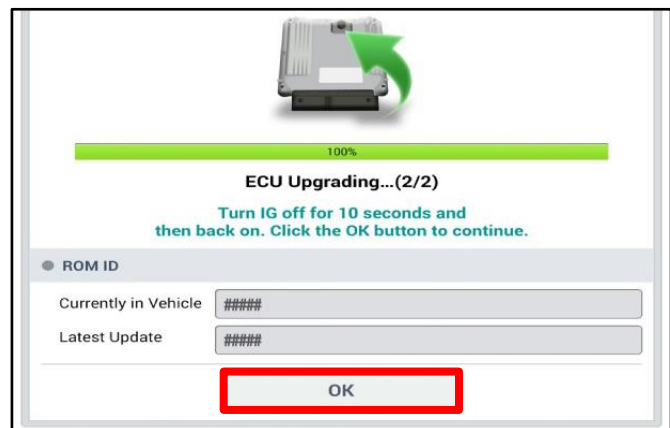
9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select 'OK' and restart the from step 4.

 **NOTICE**

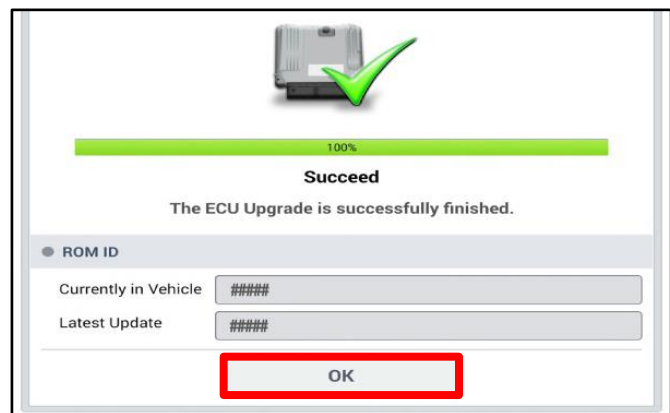
If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



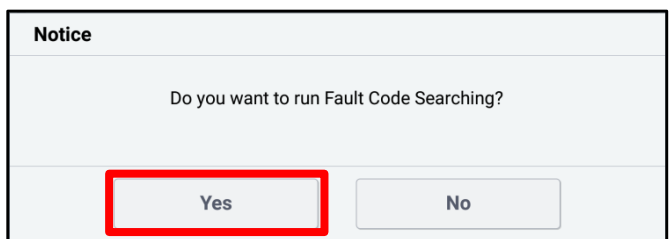
10. When instructed on the KDS, turn the ignition OFF for ten (10) seconds then back on. Select 'OK' to continue.



11. Once the upgrade is complete, select 'OK' to finalize the procedure.



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.



13. Start the engine to confirm normal operation of the vehicle.

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

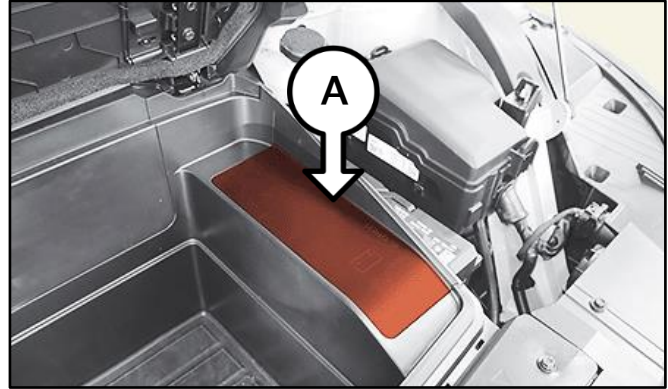
Menu	Password
CV, CV GT ICCU: 36400-1XFA0	1312

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the '**ICCU**' system under the System selection menu. Select **Upgrade Event #685** 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.

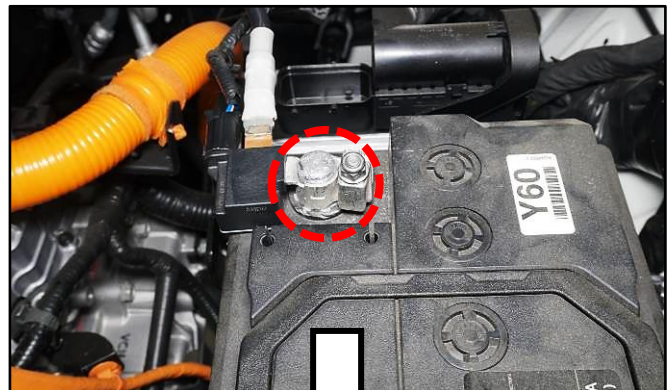
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Replacement Procedure:

1. Open the hood and open the auxiliary battery (12V) service cover and fuse (A).



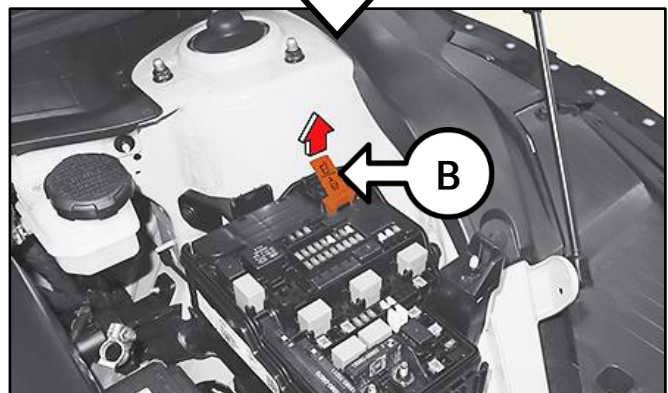
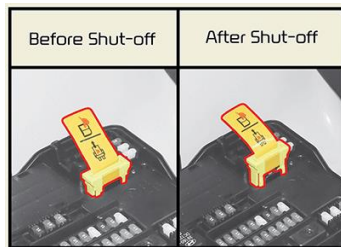
2. Open the hood and disconnect the battery negative (-) post cable.



3. Remove the room junction block cover and disconnect the service interlock connector (B).

NOTICE

It takes at least 5 minutes for capacitor of the high voltage battery system to discharge completely.



4. Open the coolant reservoir tank pressure cap (C) to release pressure.

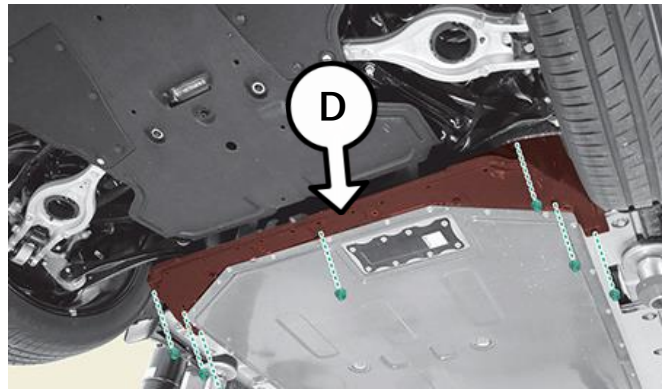


- 5. Remove the rear under cover (D).

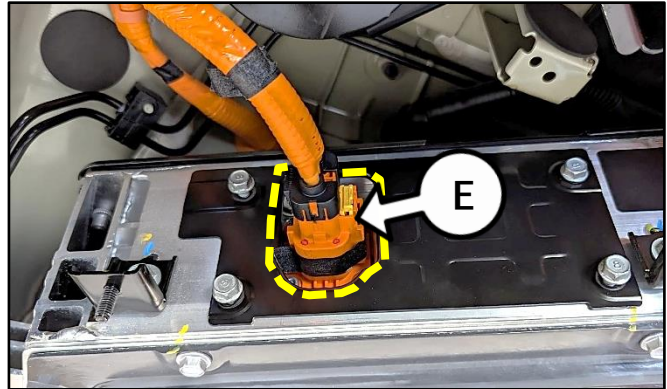
Note: Long Range model shown for reference use only. Standard range will appear different.



Tightening torque for nuts:
5.8 - 8.7 lb.ft (7.8 - 11.8 N.m)



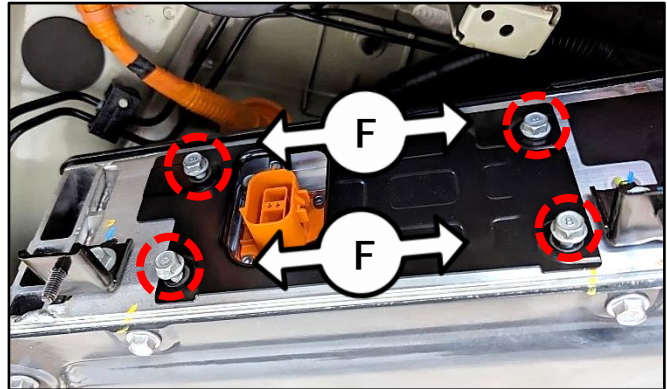
- 6. Disconnect the ICCU Connector (E).



- 7. Remove the four (4) ICCU fuse service cover retaining bolts (F).



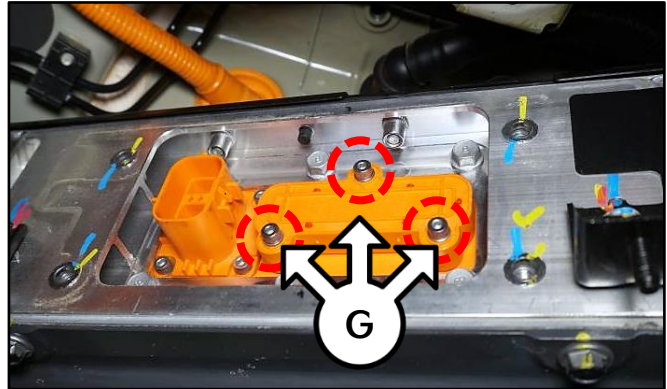
Tightening torque for bolts (F):
5.8 - 8.7 lb.ft (7.8 - 11.8 N.m)



- 8. Remove the three (3) ICCU fuse cover retaining bolts (G).



Tightening torque for T3 hex bolts (G):
22.6 - 29.5 lb.in (2.5 - 3.3 N.m)

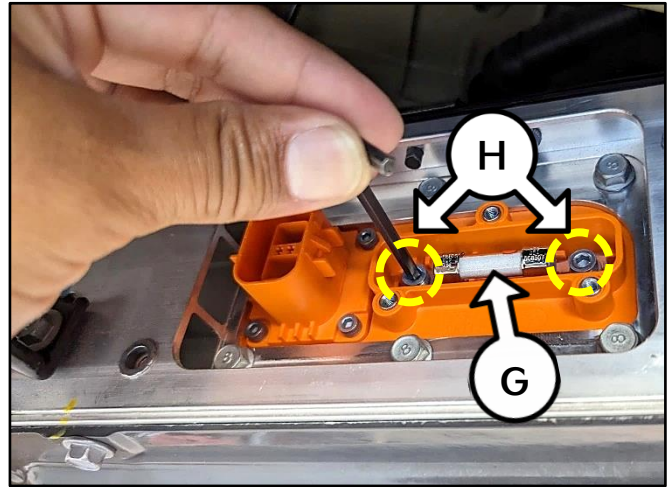


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9. Carefully and gently remove the two (2) ICCU fuse (H) retaining allen head bolts (H) using a hand tool and replace the ICCU fuse (I) with a new part.

 **CAUTION**

DO NOT use a power tool to remove these bolts. There are two (2) securing nuts inside the battery. If the nuts fall inside the battery, additional time will be required to extract them.

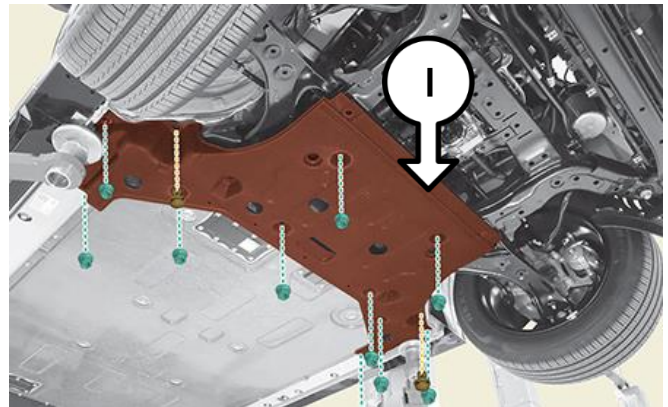


Tightening torque for T5 hex bolts (H):
39.1 -47.7 lb.in (3.3 - 4.0 N.m)

10. Reinstall all removed parts in the reverse order of removal after ICCU Assembly and Fuse replacement is completed as outlined below (Steps 11 - 25), then refer to step 26.

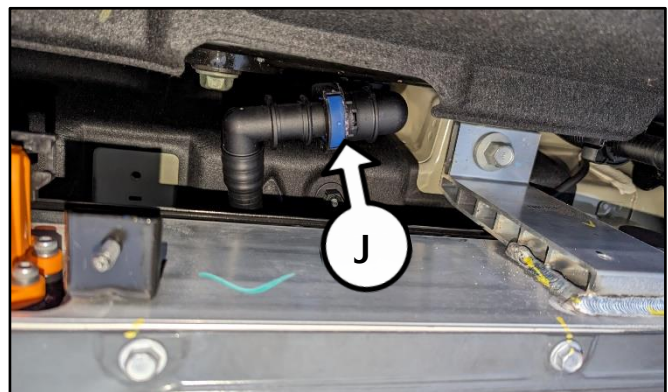
11. Remove the front rear under cover (I).

Note: Image shown for reference only. The front under cover does not need to be removed.



Front of Battery

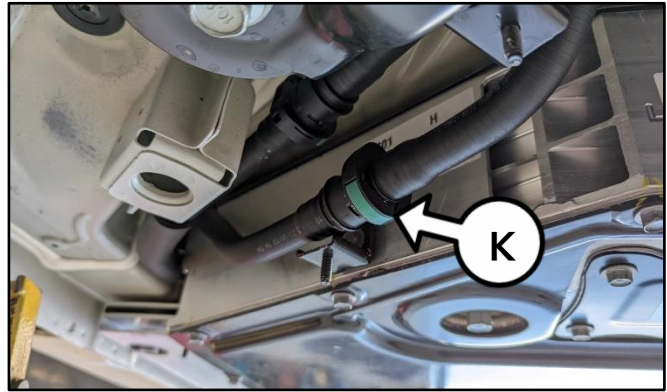
12. Disconnect the **blue** rear coolant hose connector (J).



Rear of Battery

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- 13. Disconnect the front coolant **green** hose connector (K).



Front Right Side of Battery

- 14. Using shop air, blow out the ICCU coolant from the **blue** rear disconnected coolant hose.

 **TECH TIP**

Wearing a rubber glove, create a tight seal using hand when blowing into the **blue** hose connector end.

Note: Use a drain pan to collect the coolant fluid from the front disconnected hose.



- 15. Remove the rear seat assembly (L) by referring to "Body Interior and Exterior → Rear Seat Assembly → Removal and Installation" in the applicable Shop Manual on KGIS.



- 16. Remove the left (LH) and right (RH) side rear door scuff trim (M).

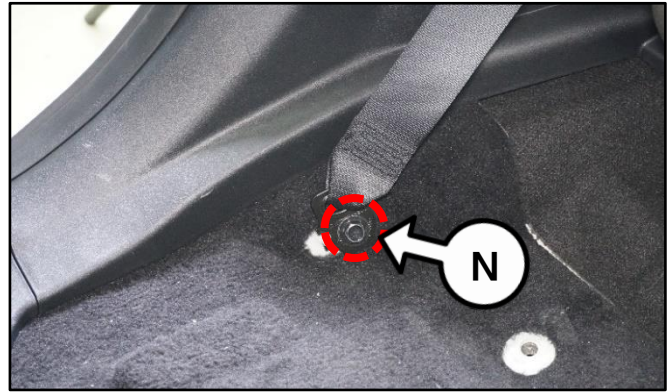


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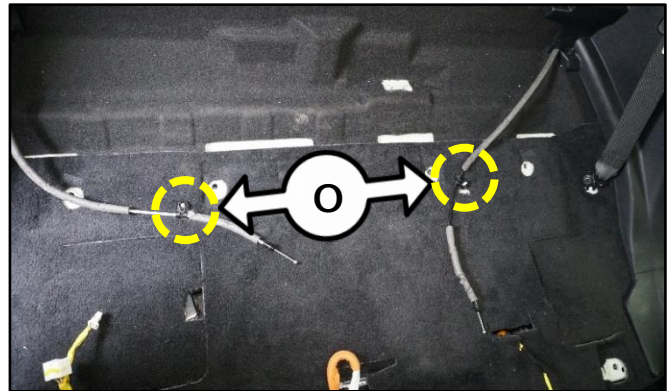
17. Remove both (LH and RH) the rear seat belt lower anchor retaining bolts (N).



Tightening torque for bolt (N):
29.7 - 44.1 lb.ft (40.2 - 59.8 N.m)



18. Detach the two (2) folding lever cables (O) from the floor carpet.

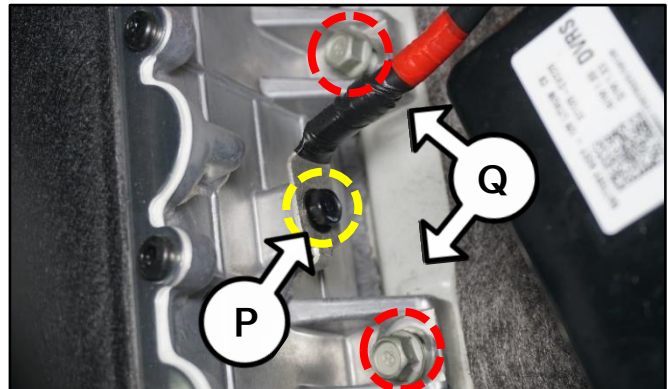


19. Disconnect the LDC cable by loosening the retaining bolt (P).

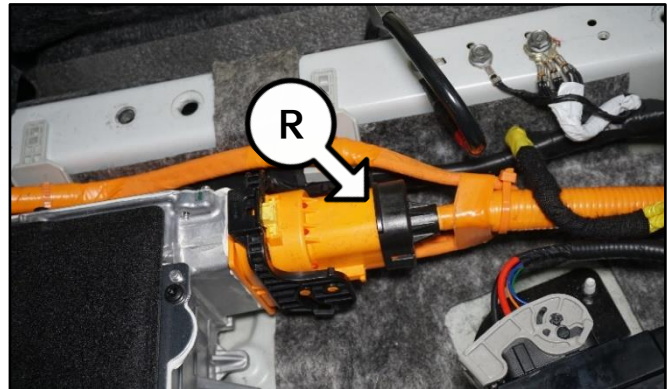
20. Remove the two (2) ICCU retaining bolts (Q).



Tightening torque for bolt (P):
5.8 - 8.7 lb.ft (7.8 - 11.8 N.m)



21. Disconnect the combo charge inlet wire harness connector (R).

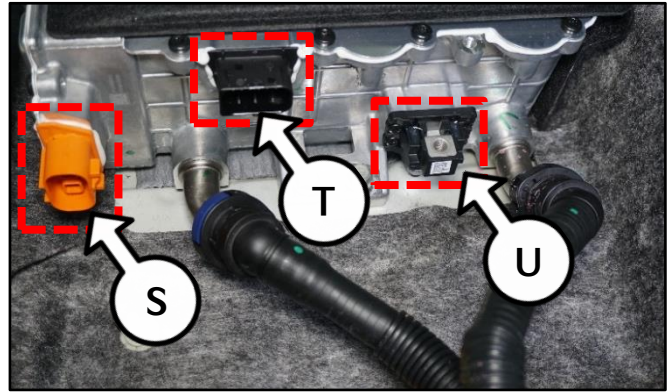


22. Disconnect the following:

- HV power connector (S)
- ICCU connector (T)
- LDC positive (+) cable (U)



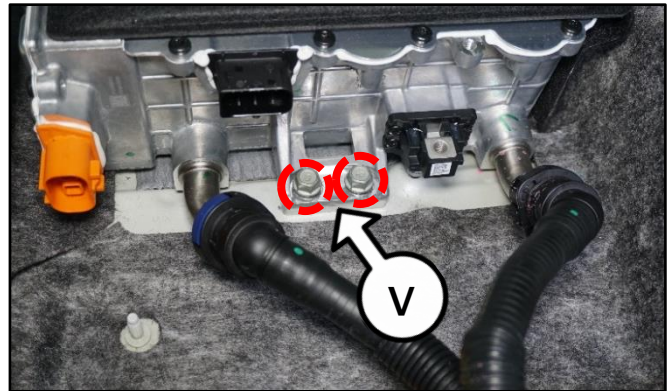
Tightening torque for bolt (U):
5.8 - 7.2 lb.ft (7.8 - 9.8 N.m)



23. Remove the two (2) ICCU assembly retaining bolts (V).

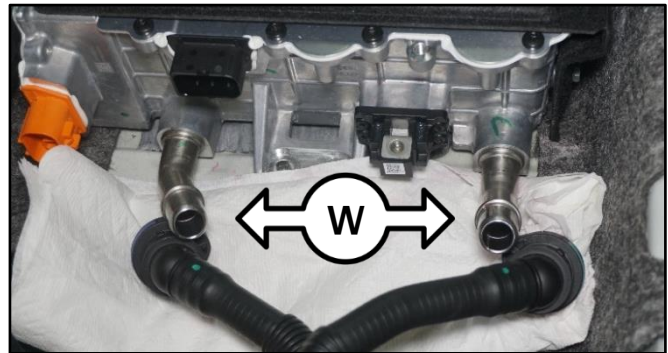


Tightening torque for bolts (V):
5.8 - 8.7 lb.ft (7.8 - 11.8 N.m)

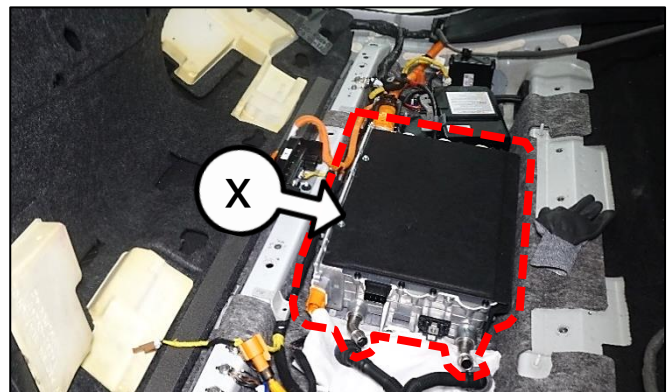


24. Disconnect the two (2) ICCU coolant hoses (W) from the ICCU assembly.

Note: Place an absorbing towel to collect any remaining coolant fluid residue when detaching the coolant hoses.



25. Replace the ICCU assembly (X) with a new part.



26. Reinstall all removed parts in the reverse order of removal.


27. Confirm normal vehicle operation.

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AFFECTED VEHICLE RANGE:

Model	Production Date Range
EV6 (CV)	November 17, 2021 to May 30, 2023

REQUIRED TOOL:

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

REQUIRED PART:

Part Name	Part Number	Figure	Qty.
ICCU Assembly	36400 1XFA0QQK		1
ICCU Fuse	375F2 GI040QQK	N/A	

Note: If DTC P1A9096 is presented any time after the software upgrade is completed, then repair the vehicle under normal (W) warranty claim (if applicable) using a non-QQK replacement part.

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.
R	36400 1XFA0	0	(SC271) DTC Inspection + ICCU S/W Upgrade (P1A9096 <u>Not</u> Stored)	230054R0	0.3 M/H	N/A	0
			(SC271) DTC Inspection + ICCU Assembly & Fuse Replacement (P1A9096 Stored)	230054R1	1.9 M/H	36400 1XFA0QQK 375F2 GI040QQK	1

Note: Refer to Warranty Bulletin 2023-21 for claim submission procedures. Manually enter sublet code 'X2' for reimbursement of one roundtrip rideshare expense or up to three (3) days of rental expense, with supporting documentation for Fuse and Safety Plug Replacement only.

NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference **SC271** when accessing the KDealer+ system.

