

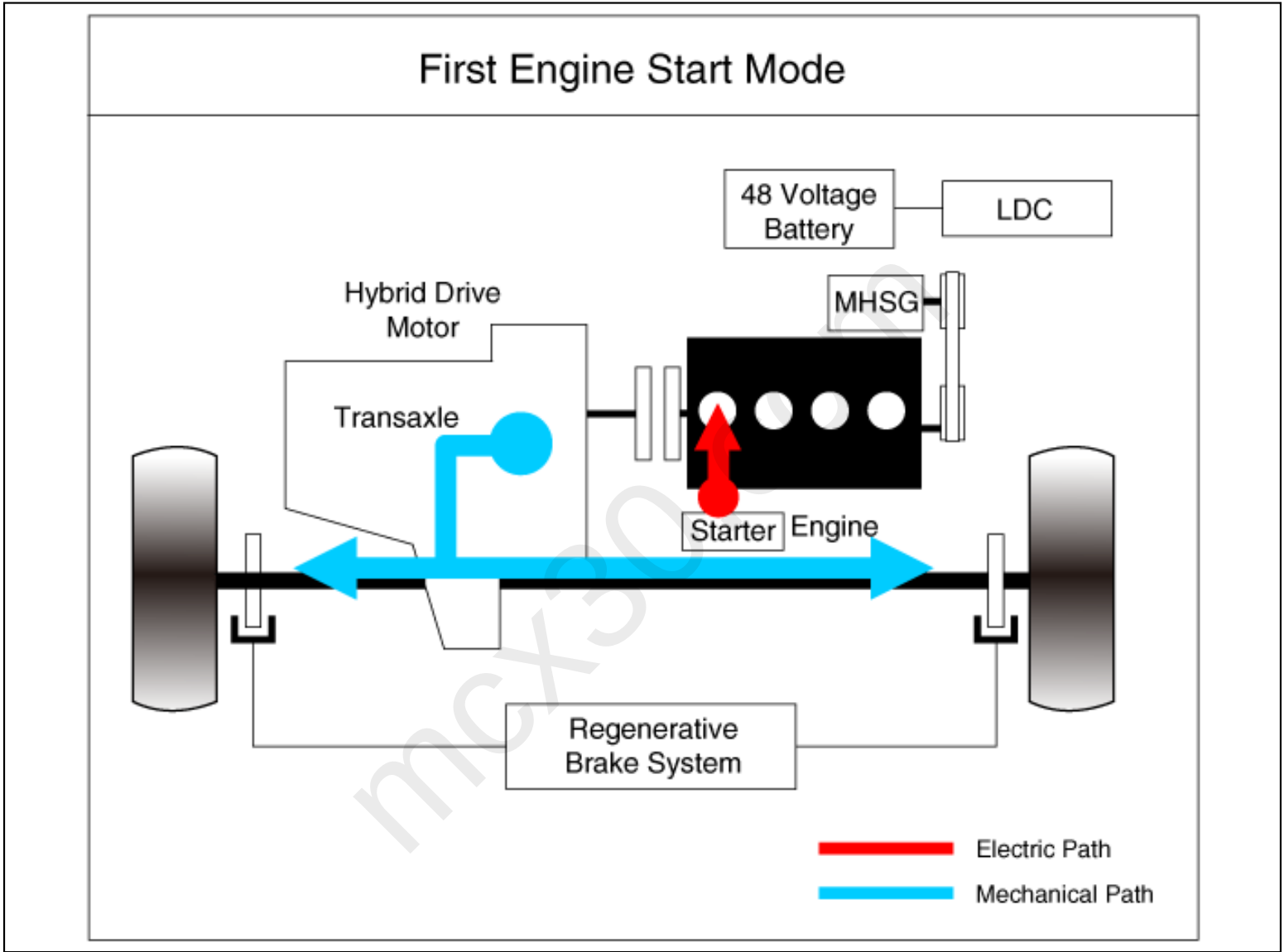
Description

The Mild Hybrid Electric Vehicle (MHEV) uses hybrid power source (Engine, MHSG), so its fuel efficiency is relatively high and exhaust emission is very small compared to the traditional vehicle which uses only engine as power source. It consists of the engine, motor, 48V voltage battery and control modules.

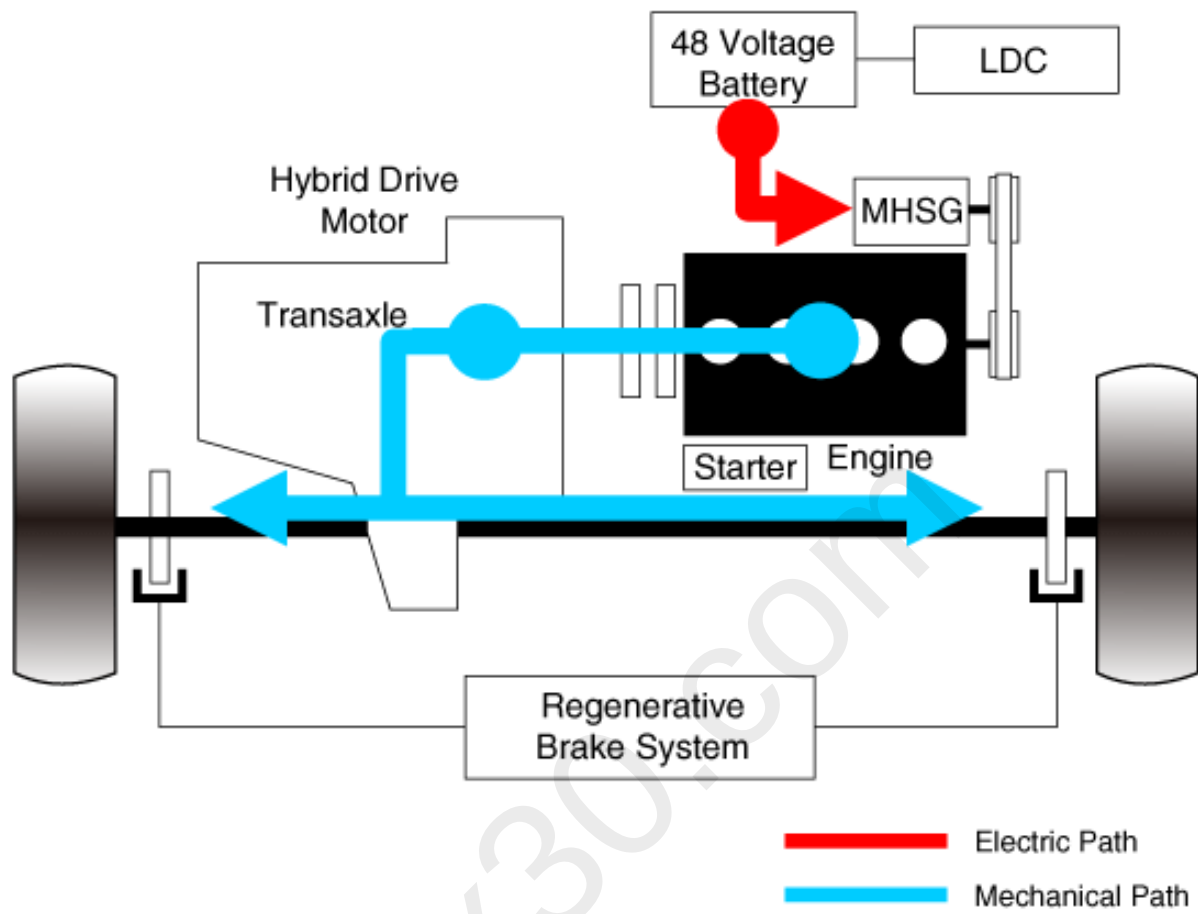
In Engine supports the motor in case the vehicle needs more power (HEV Mode).

The Mild Hybrid Starter Generator (MHSG) not only drives the vehicle but also generates electric energy during regenerative braking for charging the 48 voltage battery.

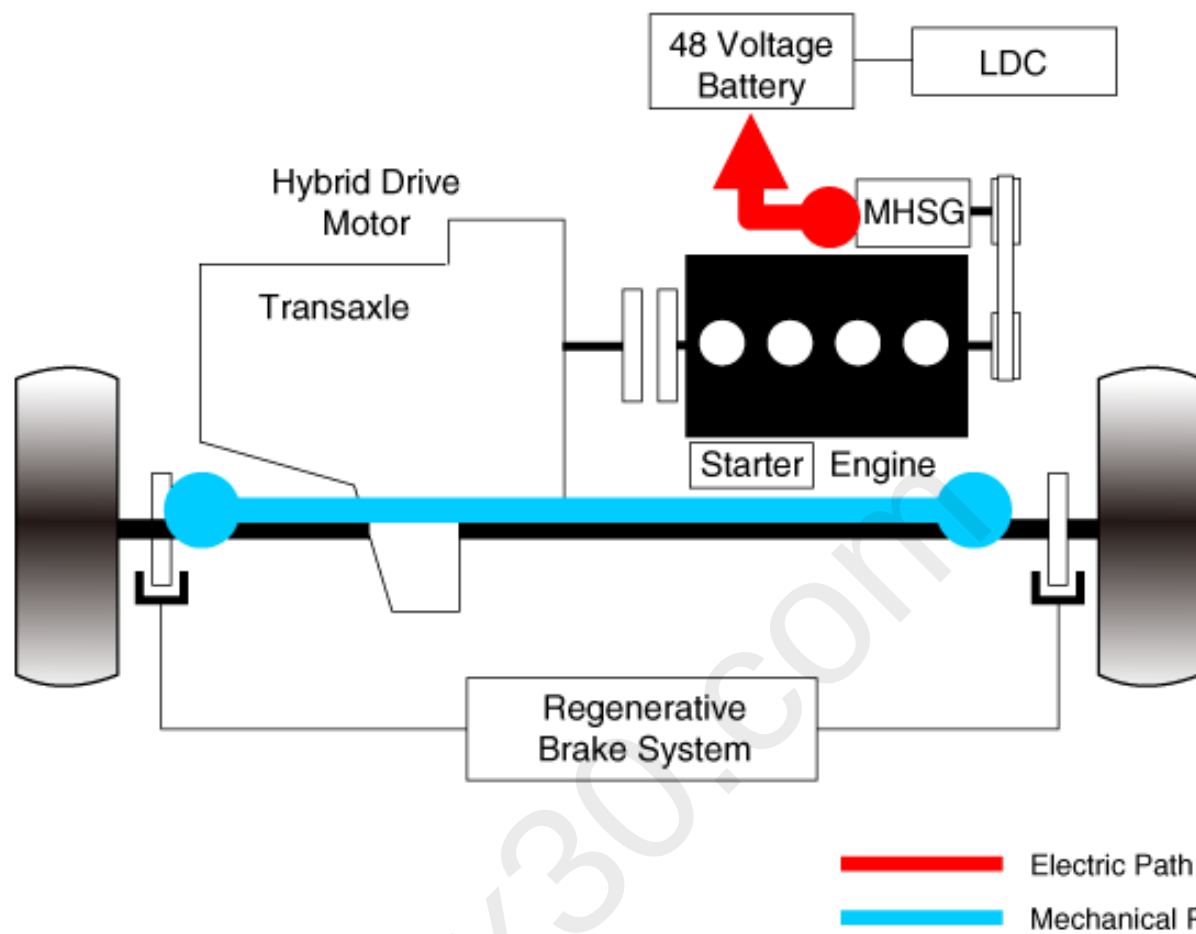
[MHEV Operation Mode and Power Flow]



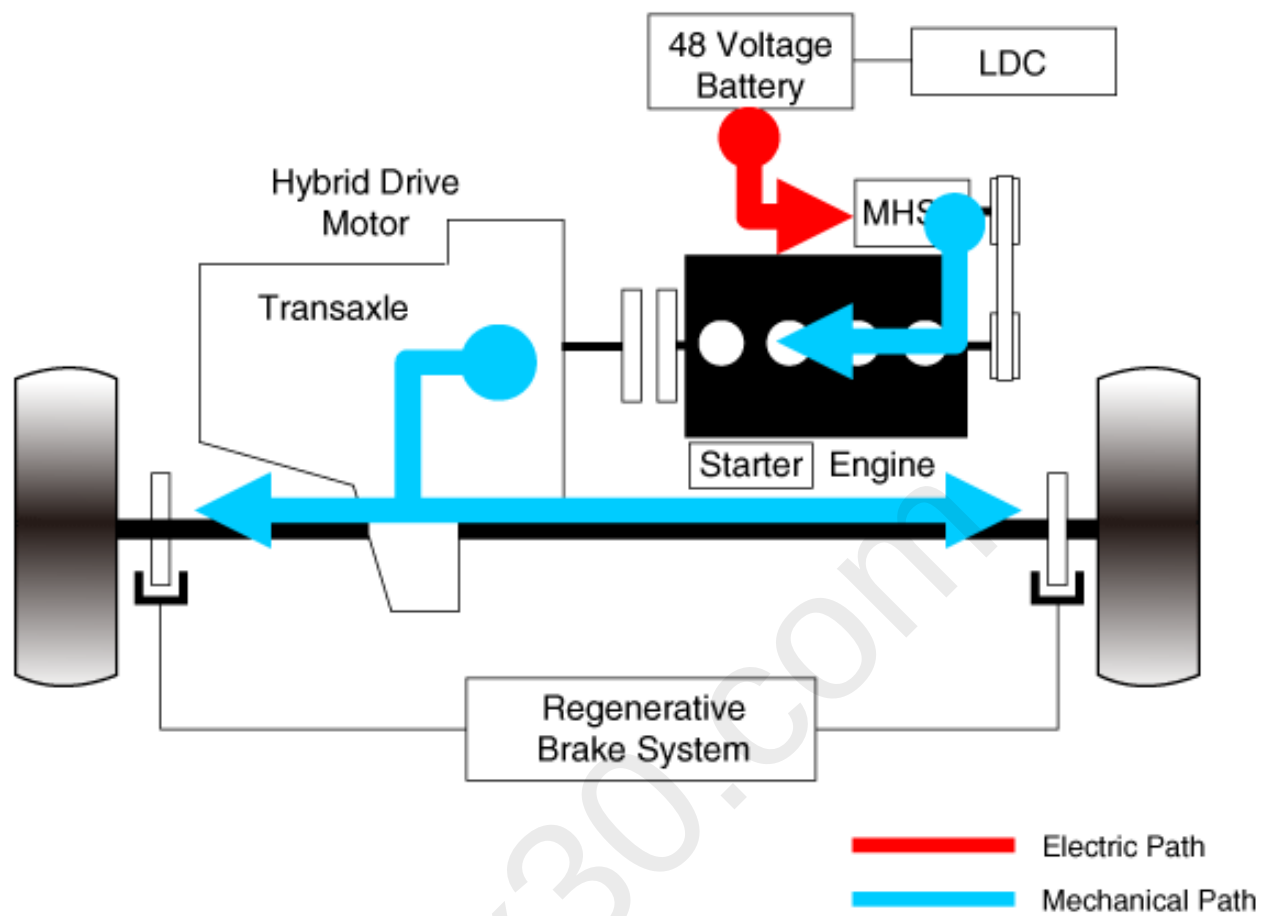
MHEV Mode



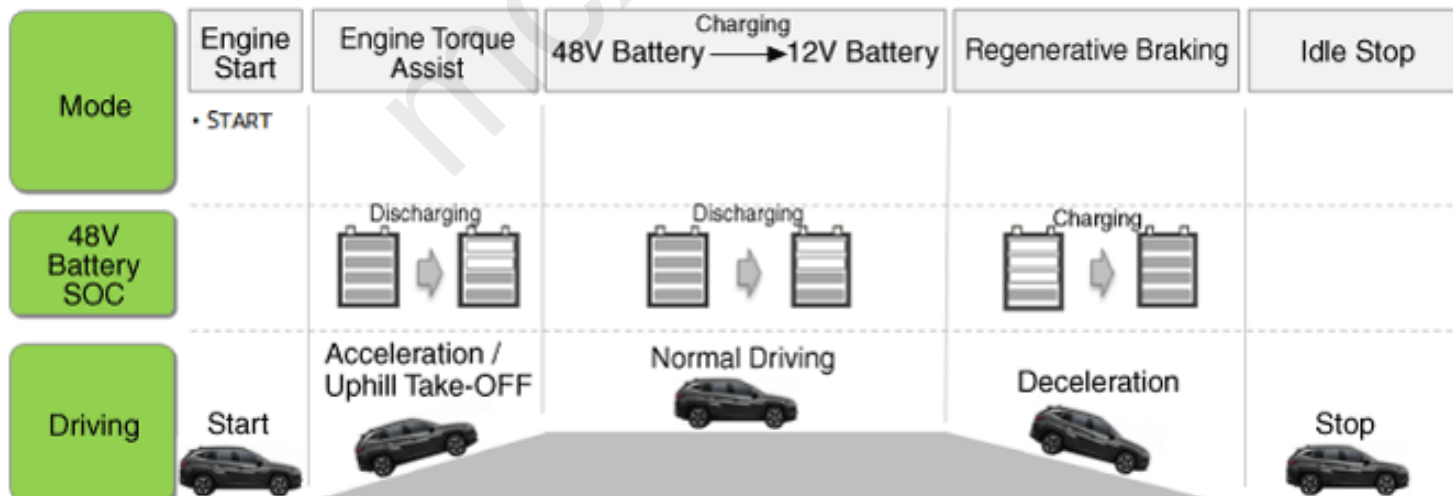
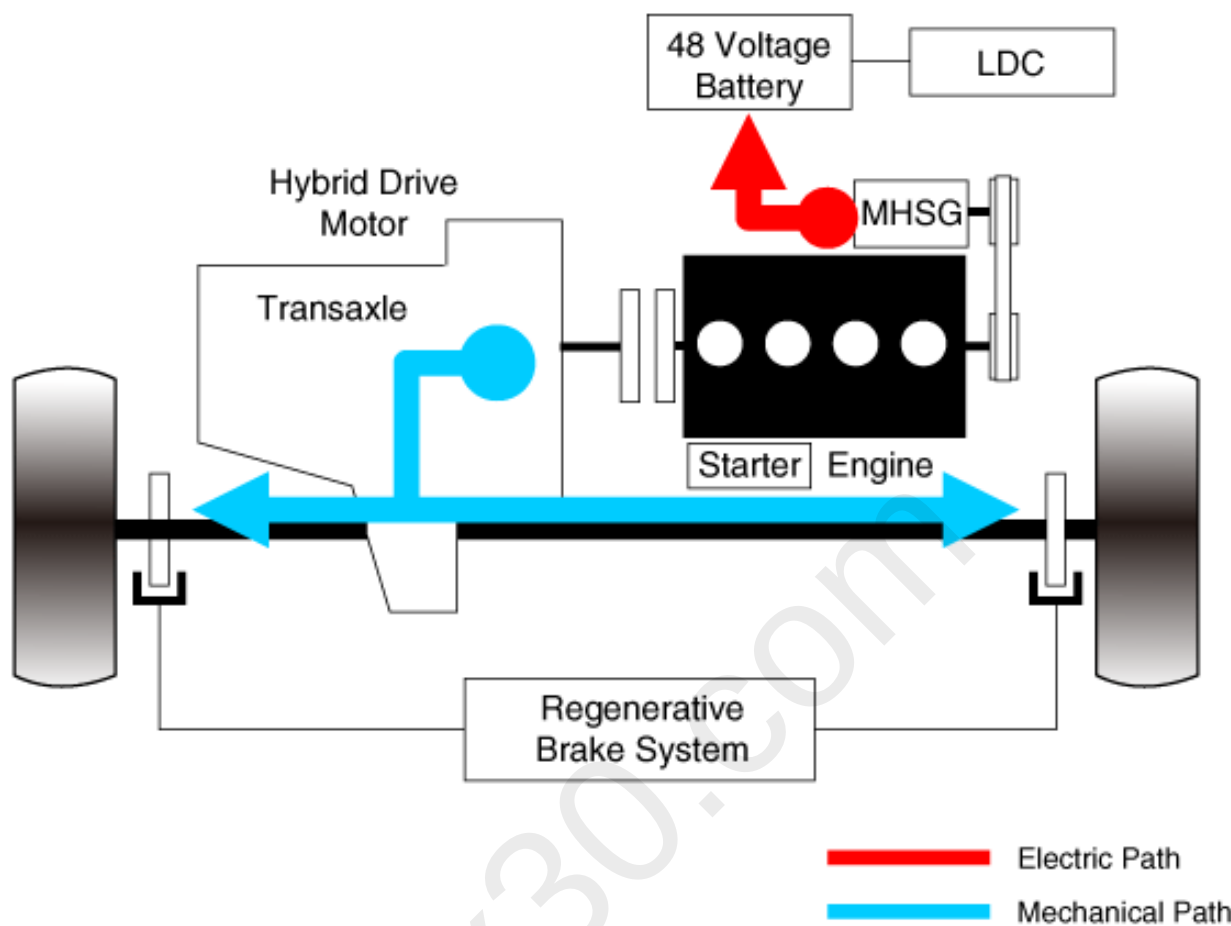
Regenerative Braking

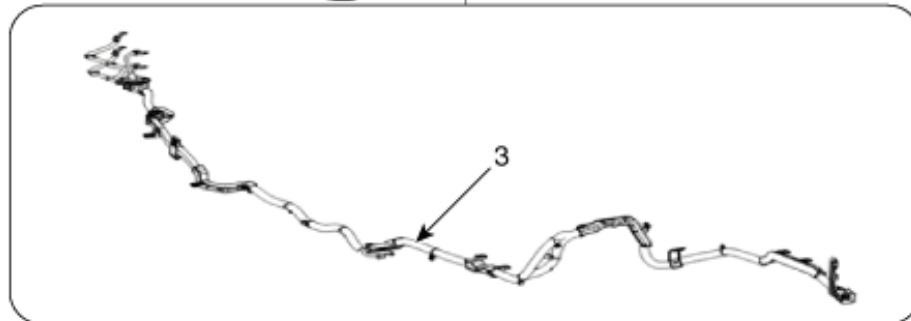
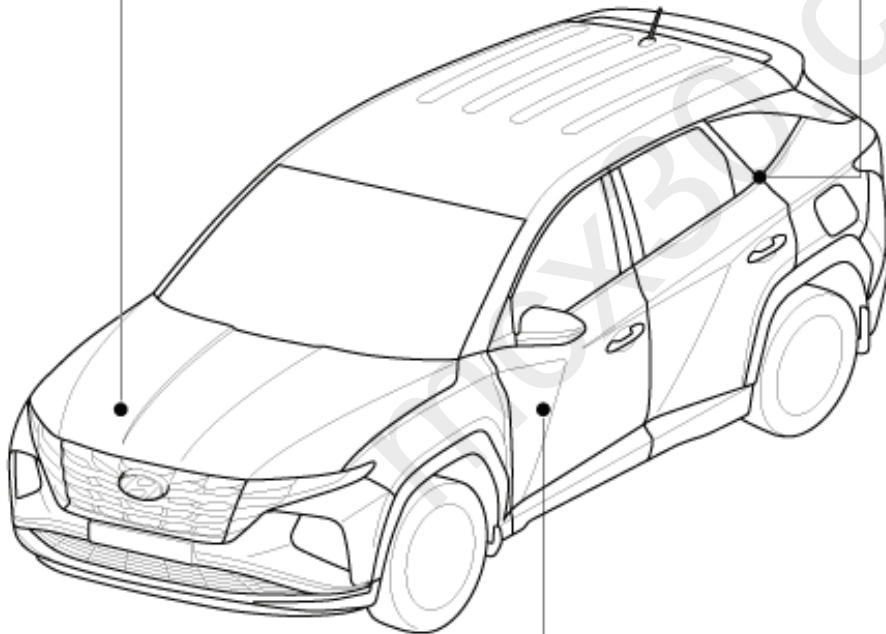
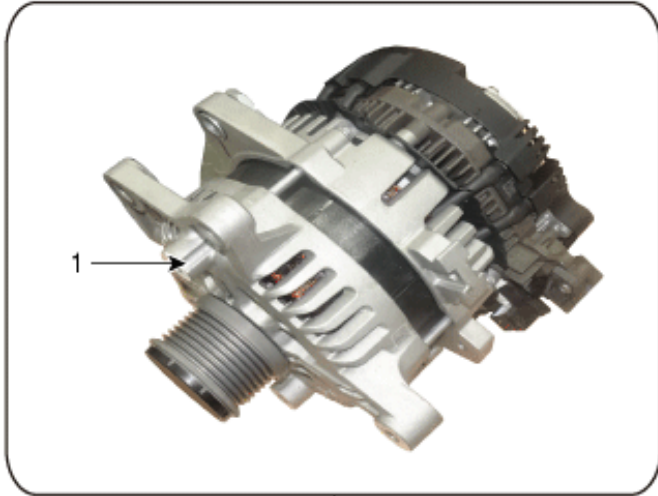


Engine Start during ISG Mode



48 Voltage Battery Charging Mode

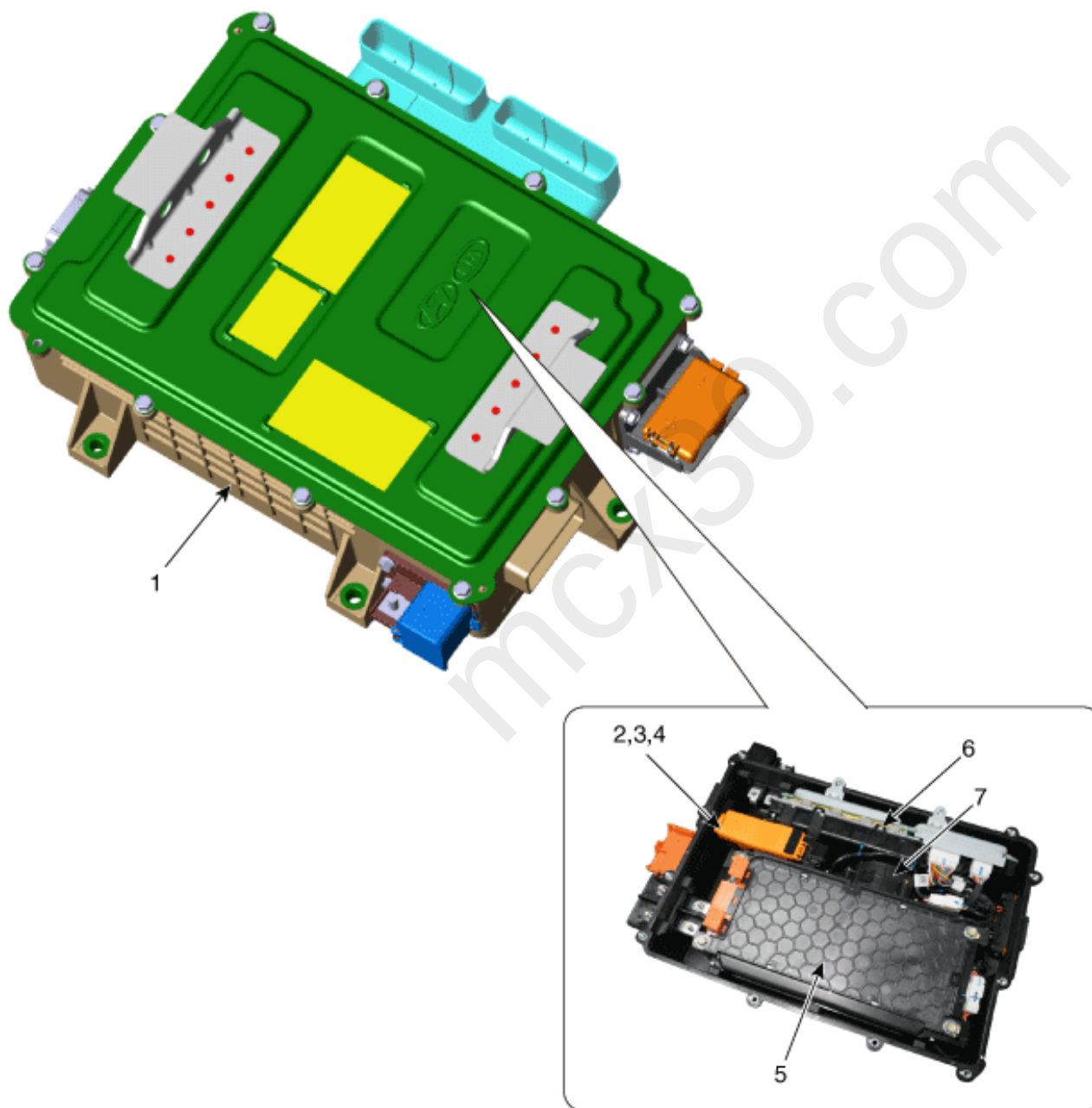




1. Mild Hybrid Starter Generator (MHSG)
2. 48V Battery

3. Power Cable

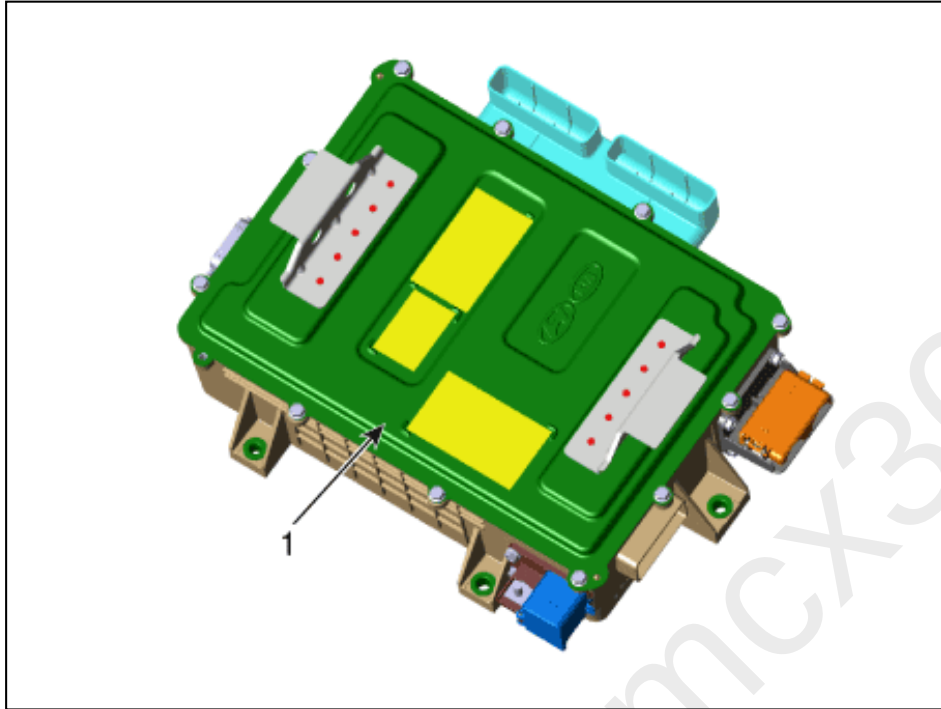
48V Battery Assembly



1. 48V Battery Assembly
2. Power relay assembly
3. Main Fuse
4. Main relay

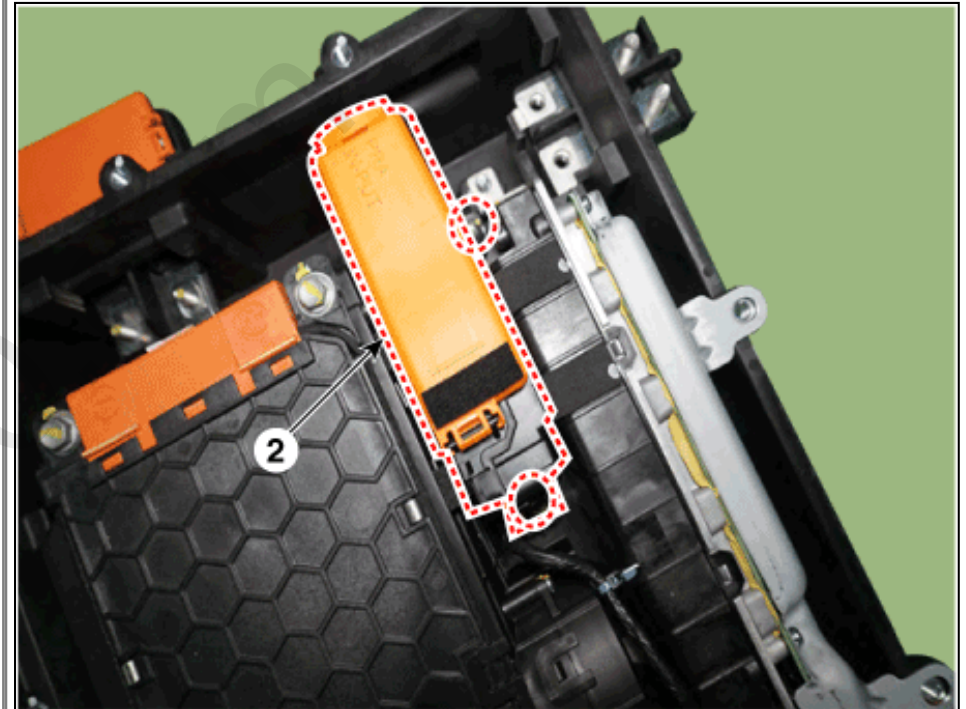
5. Battery Module Assembly
6. BMS & LDC Assembly
7. Battery Cooling Fan

1. 48V Battery Assembly

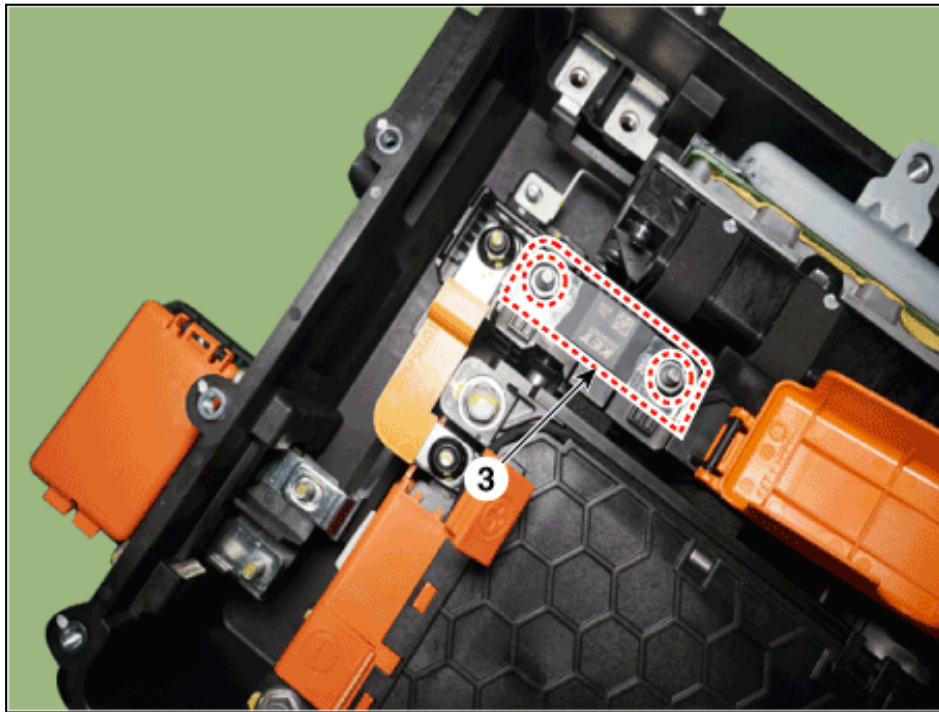


3. Main Fuse

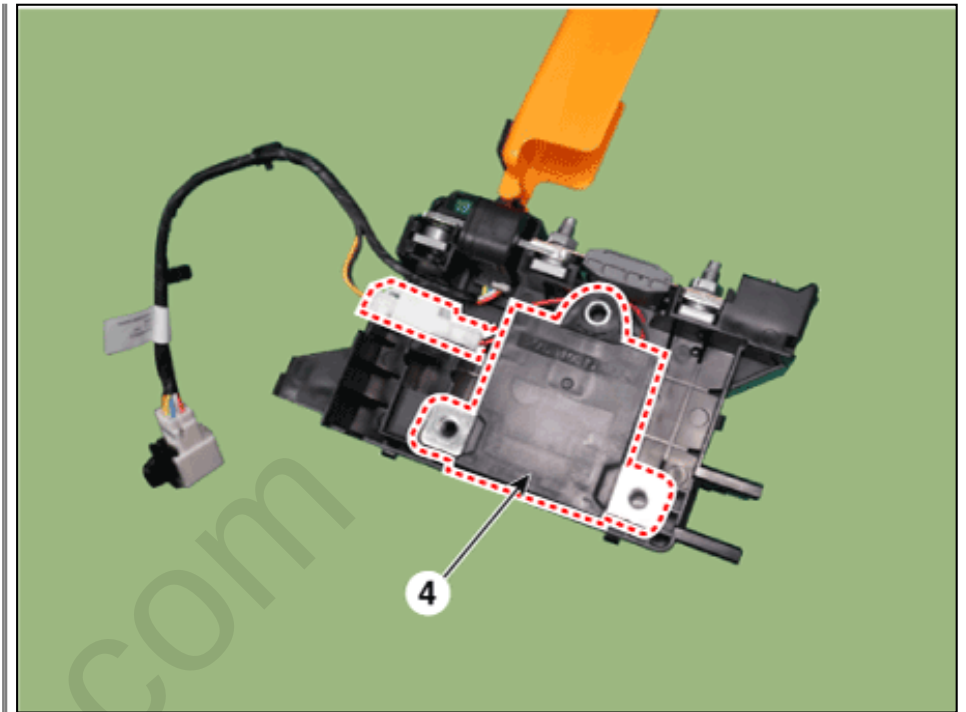
2. Power relay assembly



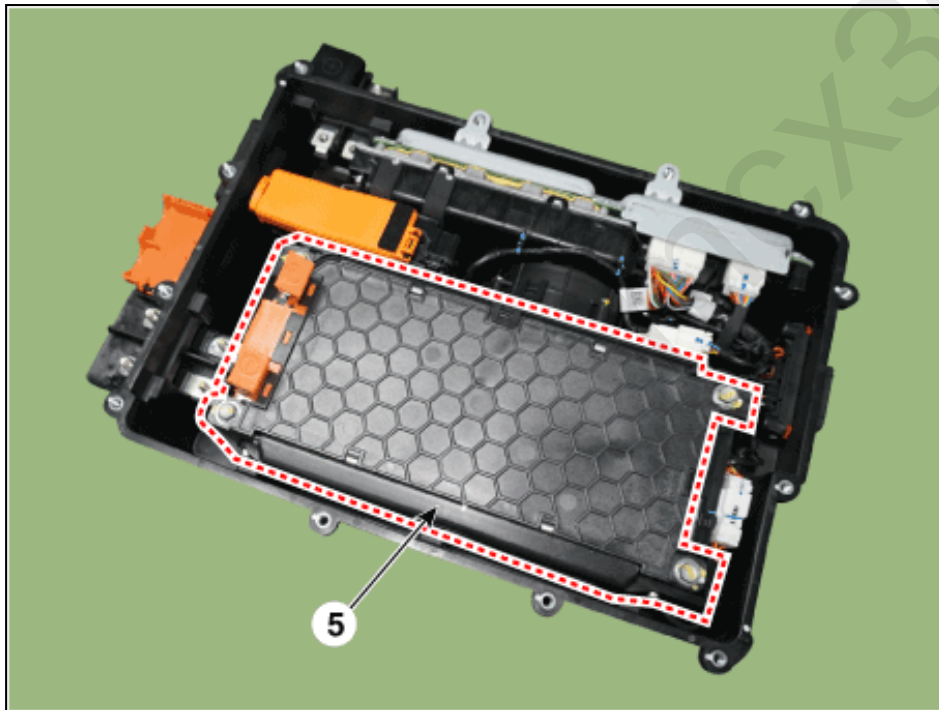
4. Main Relay



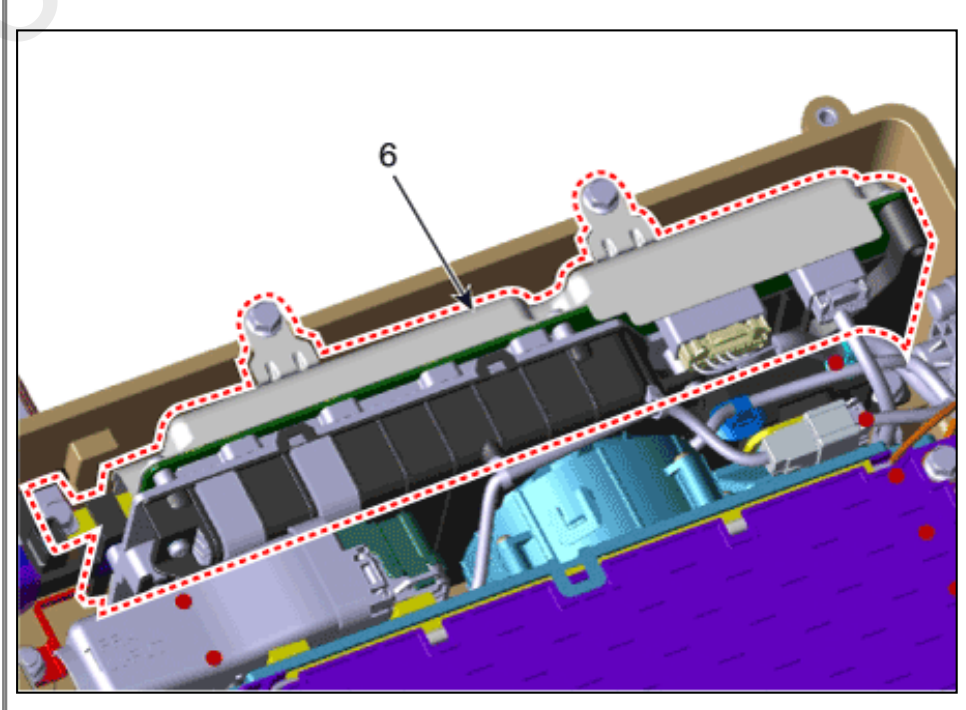
5. Battery Module Assembly

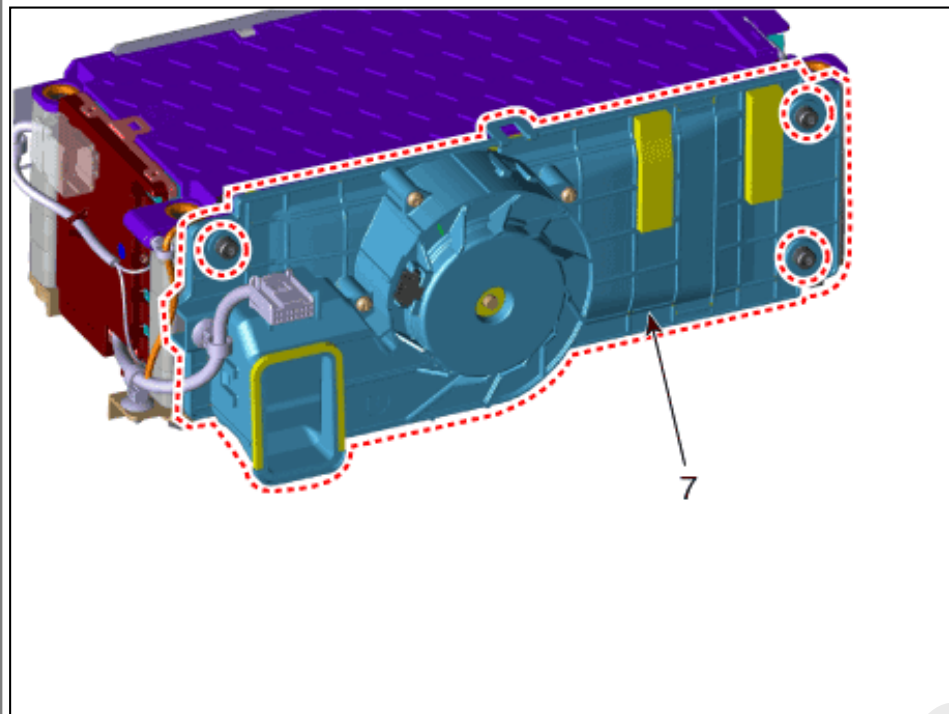


6. BMS & LDC Assembly



7. Battery Cooling Fan

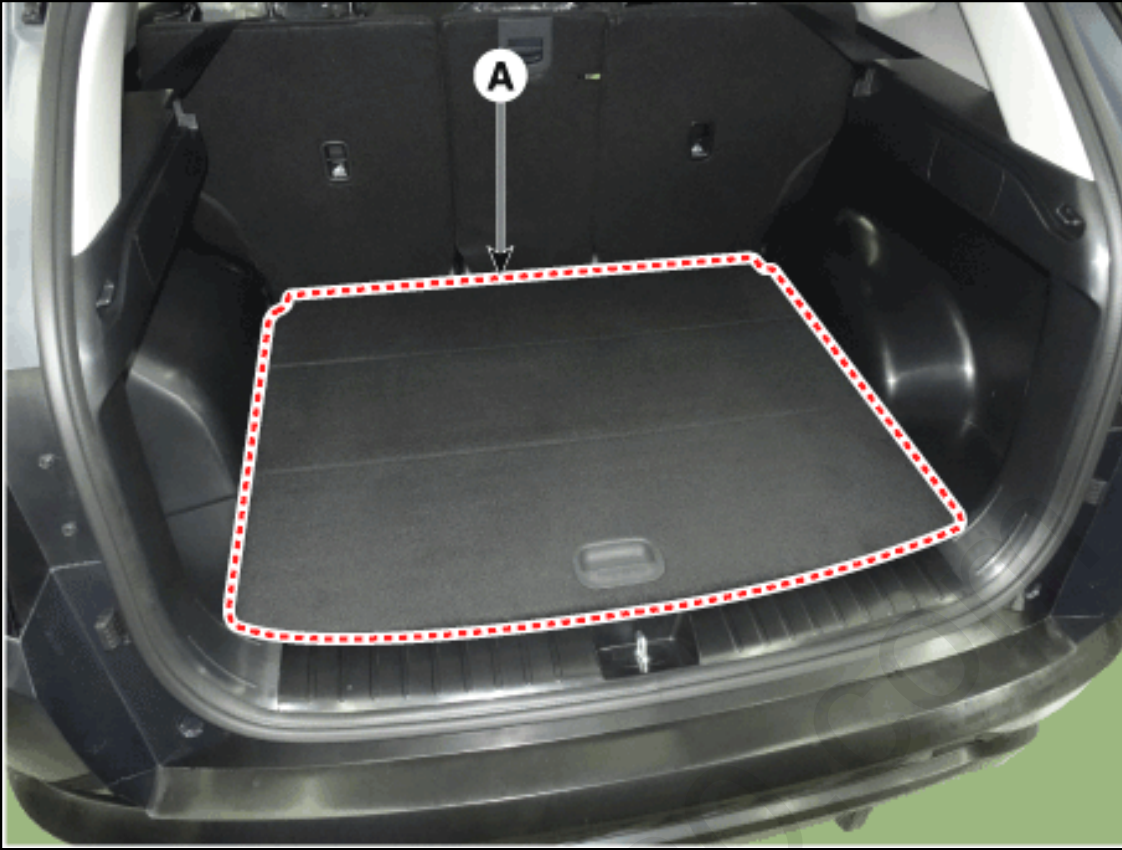




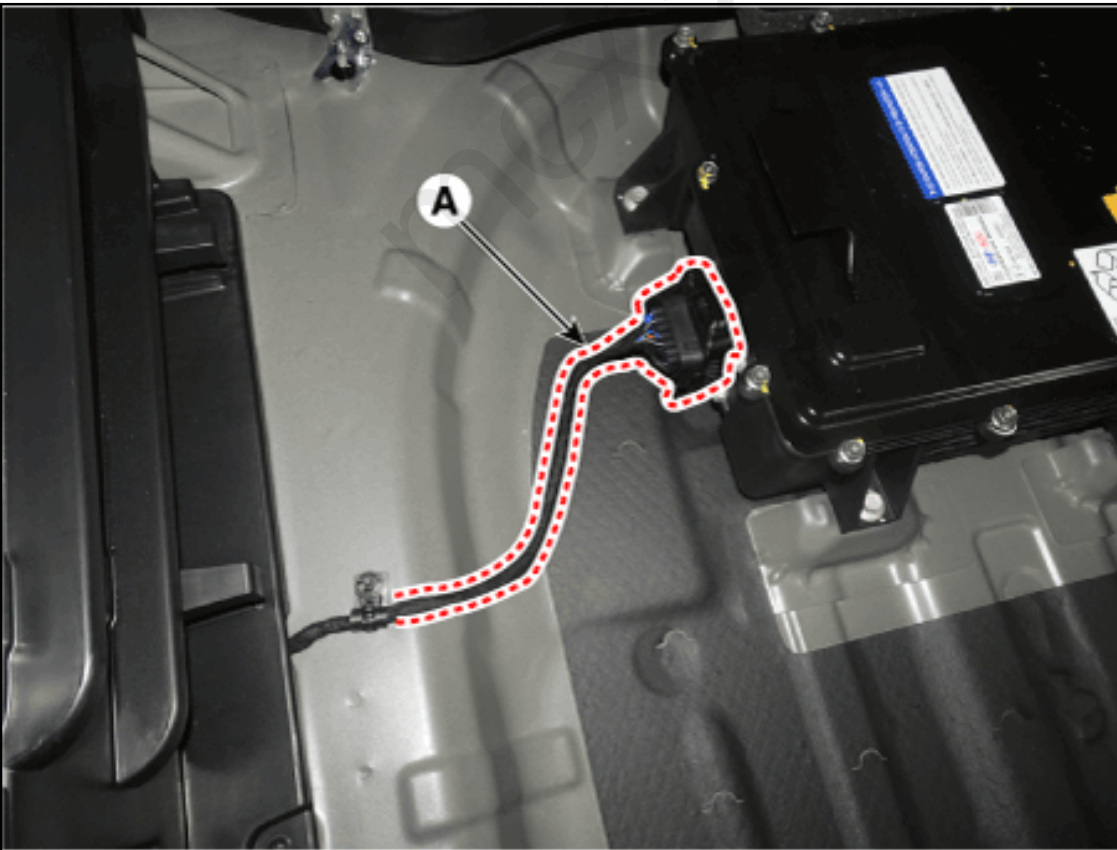
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Removal

1. Turn the ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the luggage board (A).



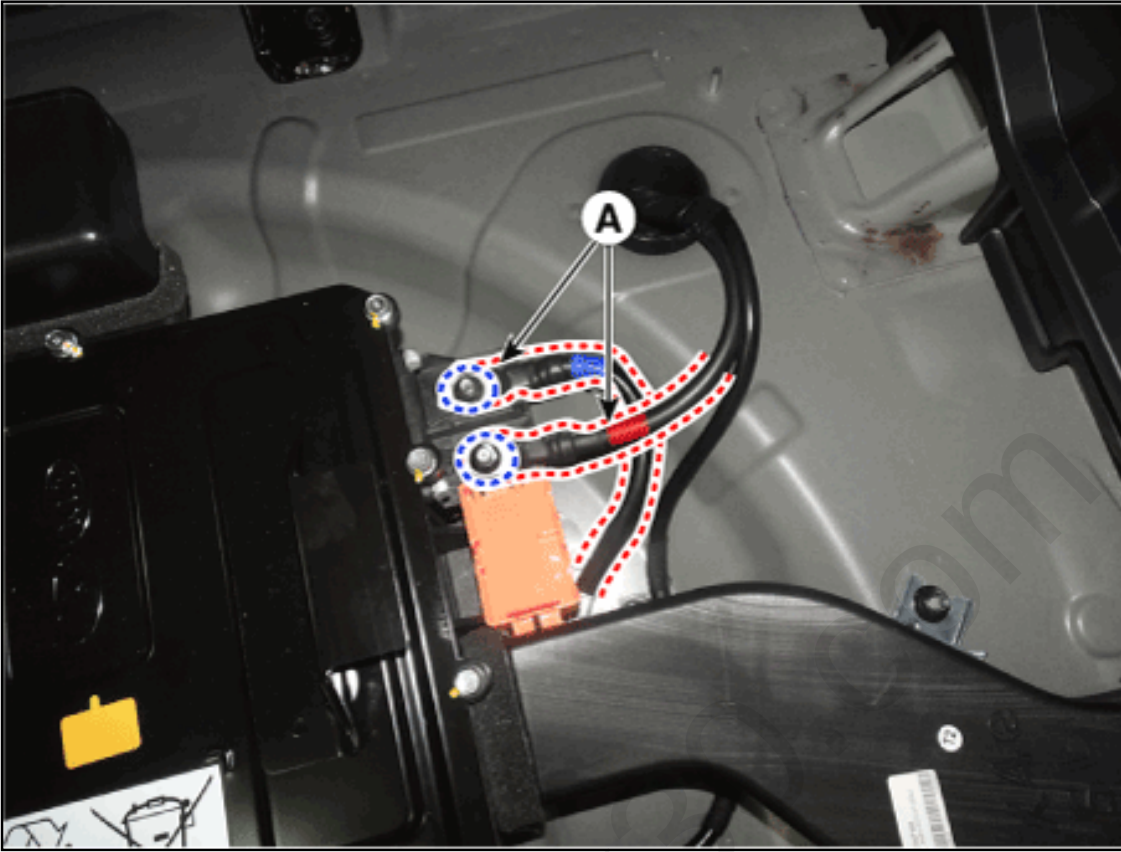
3. Disconnect the BMS ECU extension wiring harness connector (A).



4. Disconnect the inverter power cables (A).

Tightening torque :

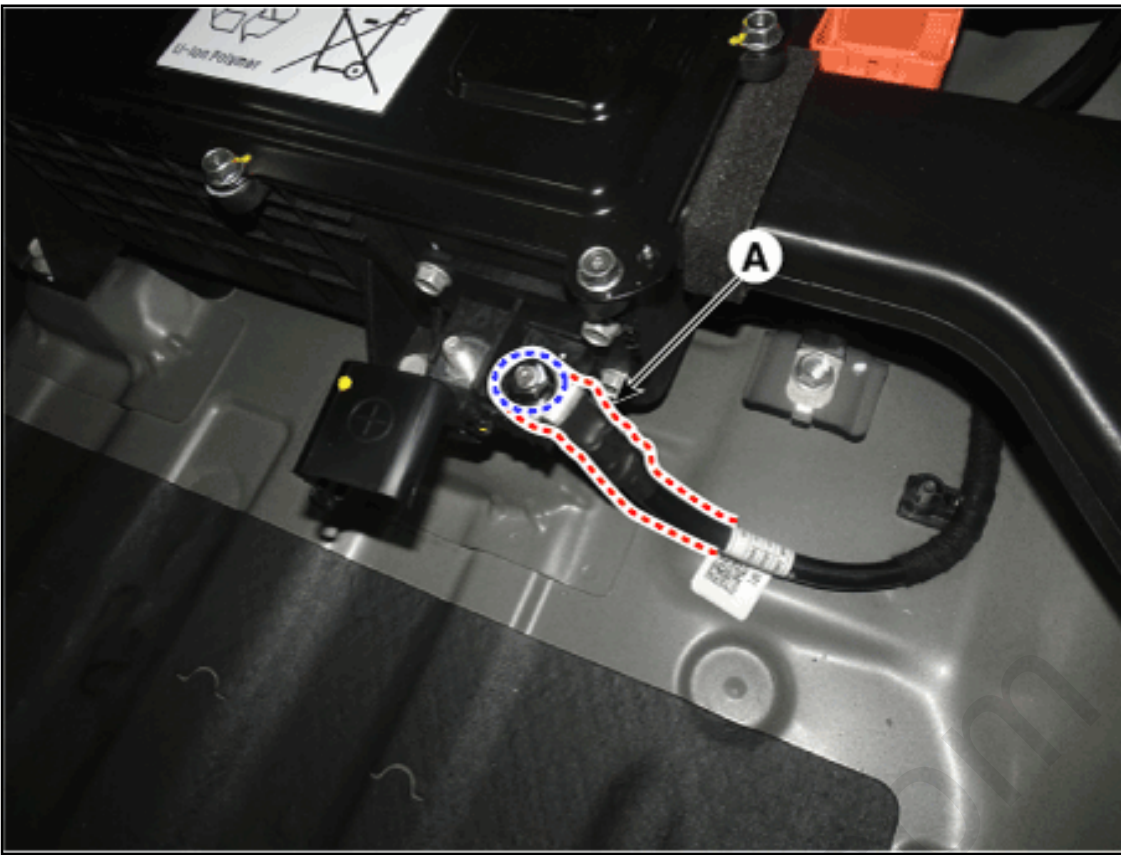
26.5 - 32.4 N.m (2.7 - 3.3 kgf.m, 19.5 - 23.9 lb-ft)



5. Disconnect the 12V (+) cable (A).

Tightening torque :

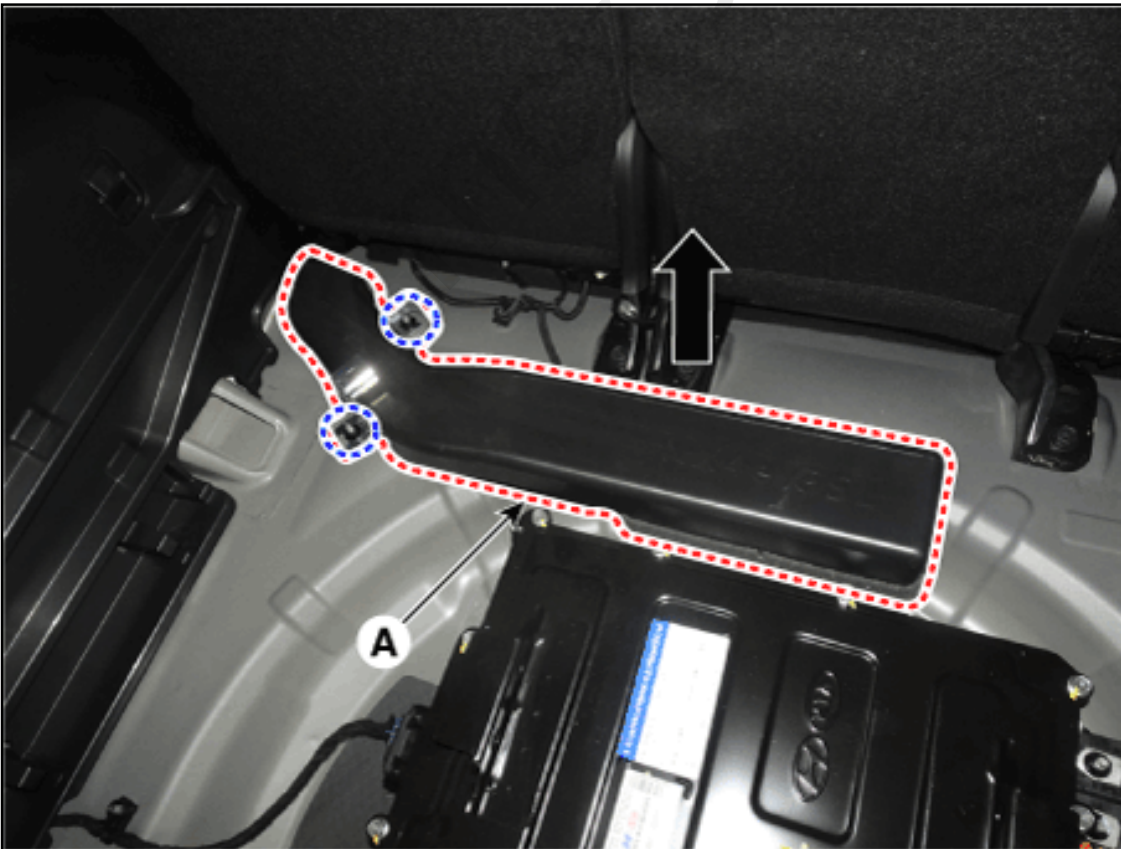
26.5 - 32.4 N.m (2.7 - 3.3 kgf.m, 19.5 - 23.9 lb-ft)



6. Separate the inlet cooling duct (A) in the direction of the arrow.

Tightening torque :

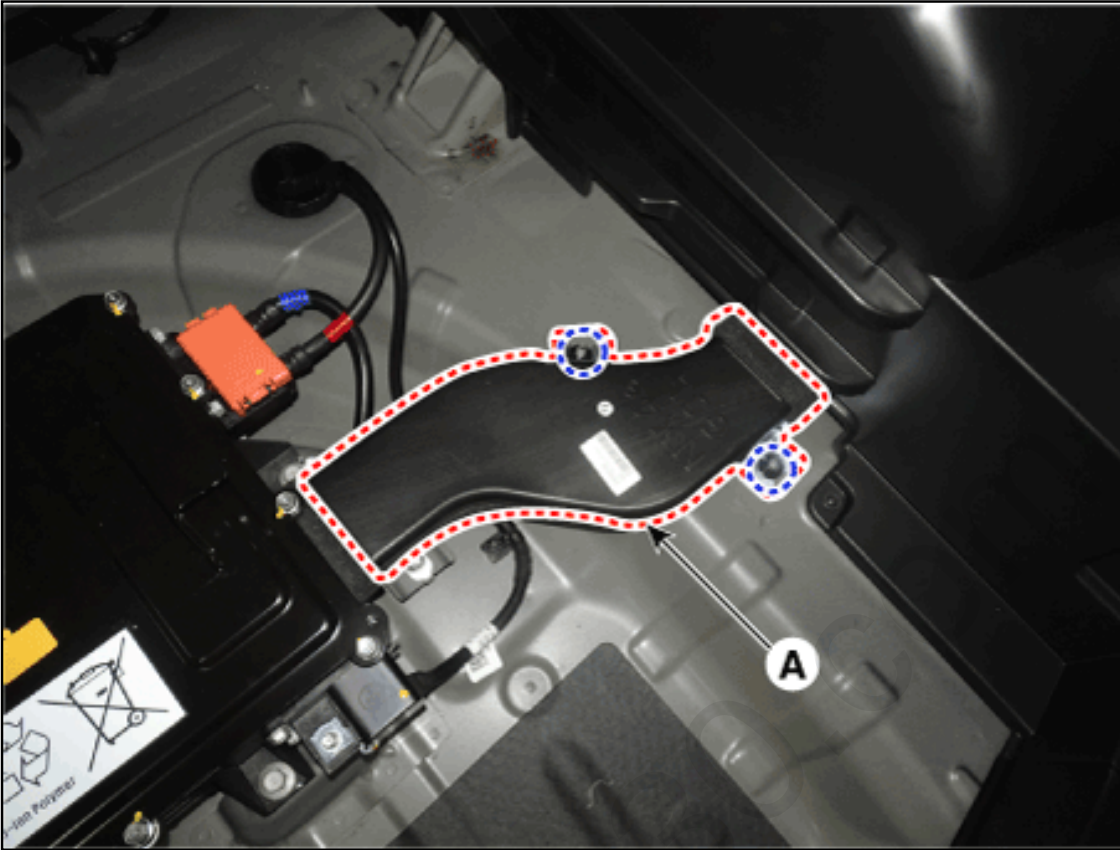
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the outlet cooling duct (A).

Tightening torque :

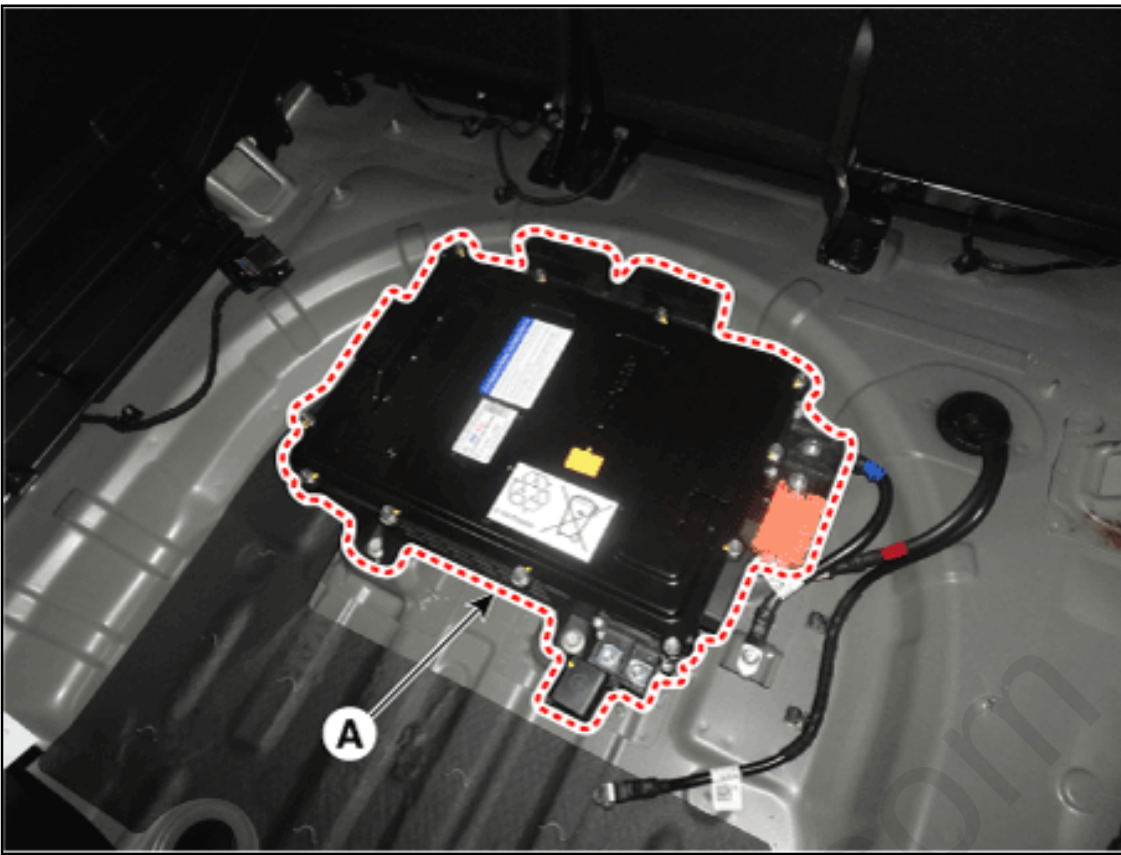
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



8. Remove the 48V battery assembly (A).

Tightening torque :

19.6 - 29.4 N.m (2.0 - 3.0 kgf.m, 14.5 - 21.7 lb-ft)



Installation

1. Install in the reverse order of removal.

Specifications

Item	Specification
Number of Cells	12 Cells × 1 Module [12 Cell] 1 Cell = 3.75 V
Type	LiPB (Lithium ion Polymer Battery)
Rated Voltage (V)	45
Nominal Capacity (Ah)	9.8

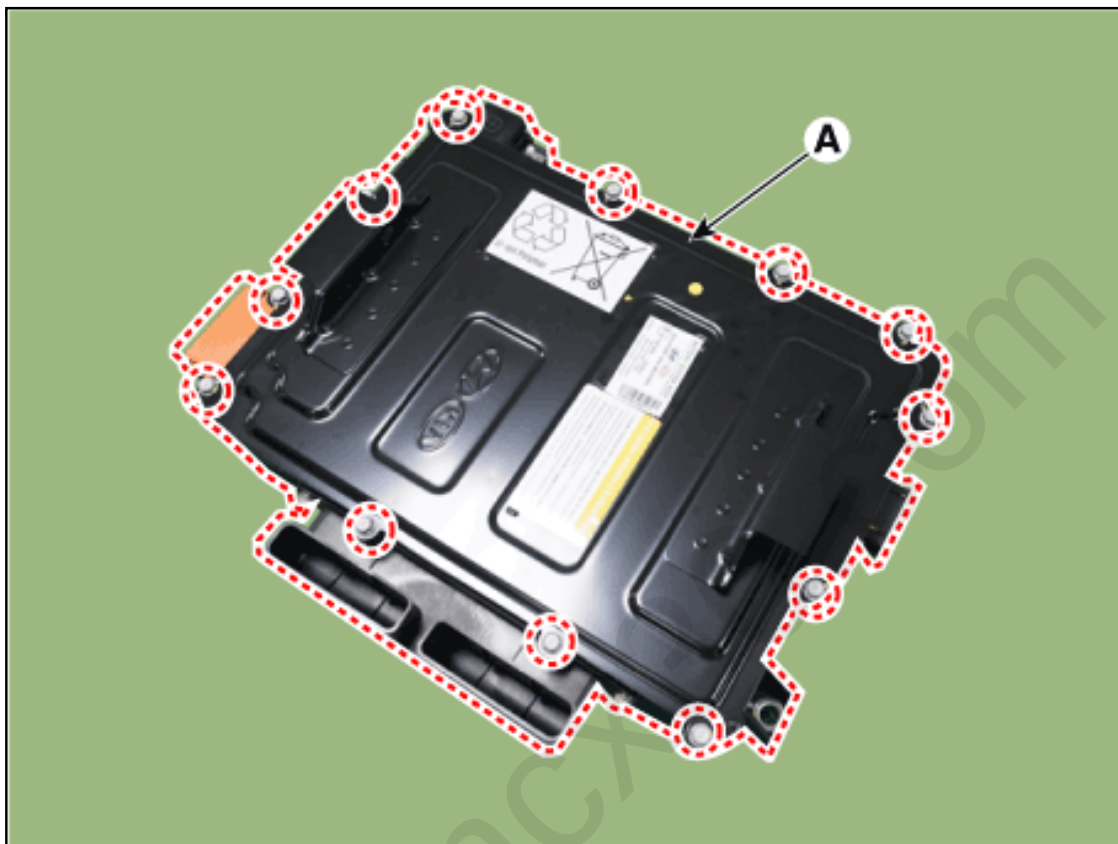
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Removal

1. Turn ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the 48V battery assembly.
(Refer to 48V Battery System - "Repair procedures")
3. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

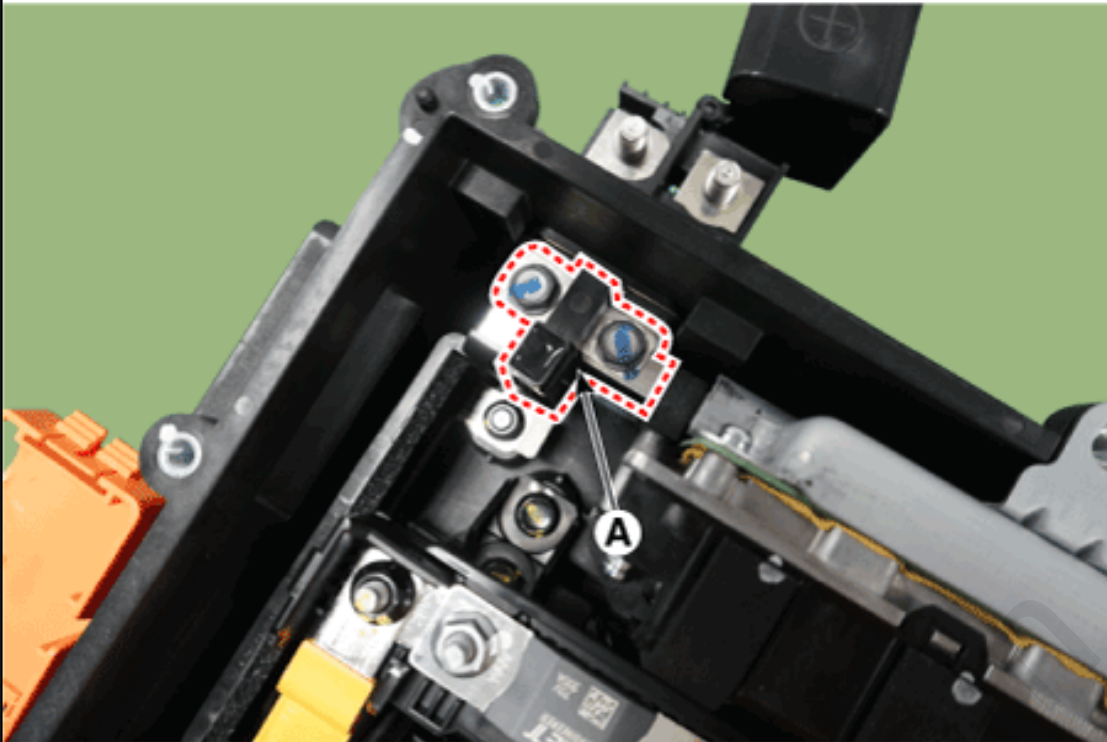
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



4. Remove the terminal capacitor (A) after loosening the mounting bolts.

Tightening torque :

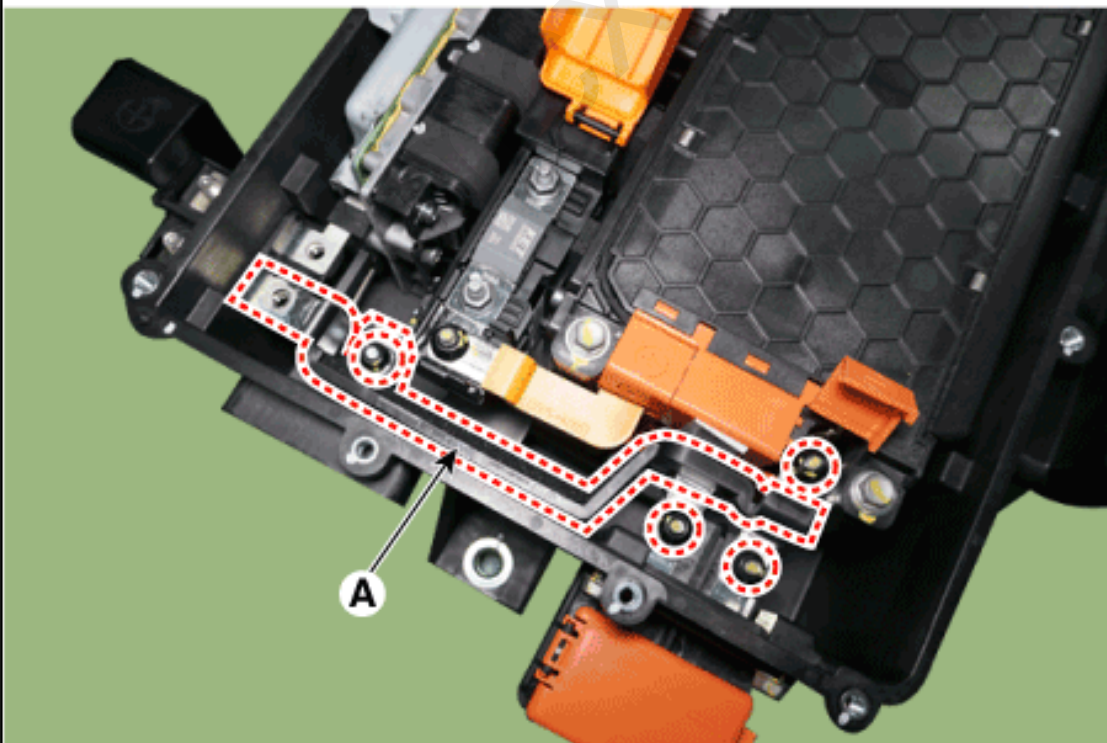
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



5. Remove the mounting nuts and remove the battery module (-) busbar (A).

Tightening torque :

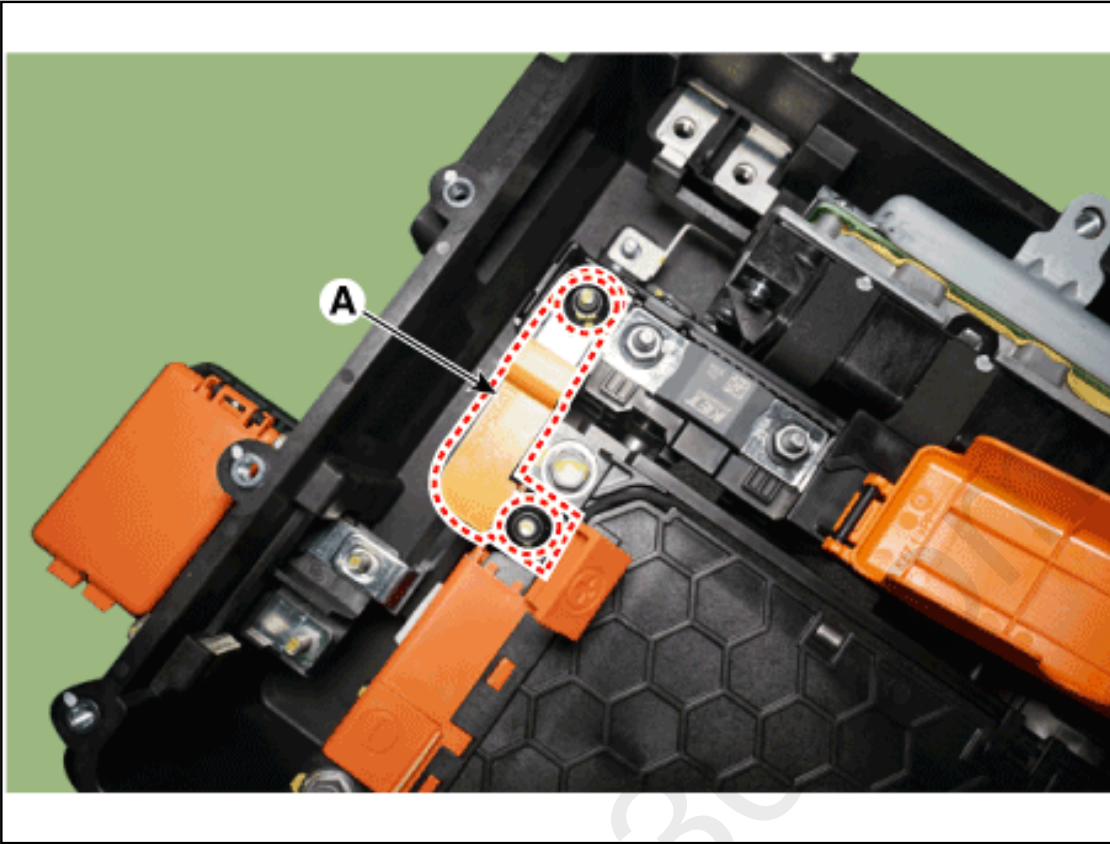
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



6. Remove the mounting nuts and remove the battery module (+) busbar (A).

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the BMS wiring harness terminal after loosening the mounting bolts (A).

Tightening torque :

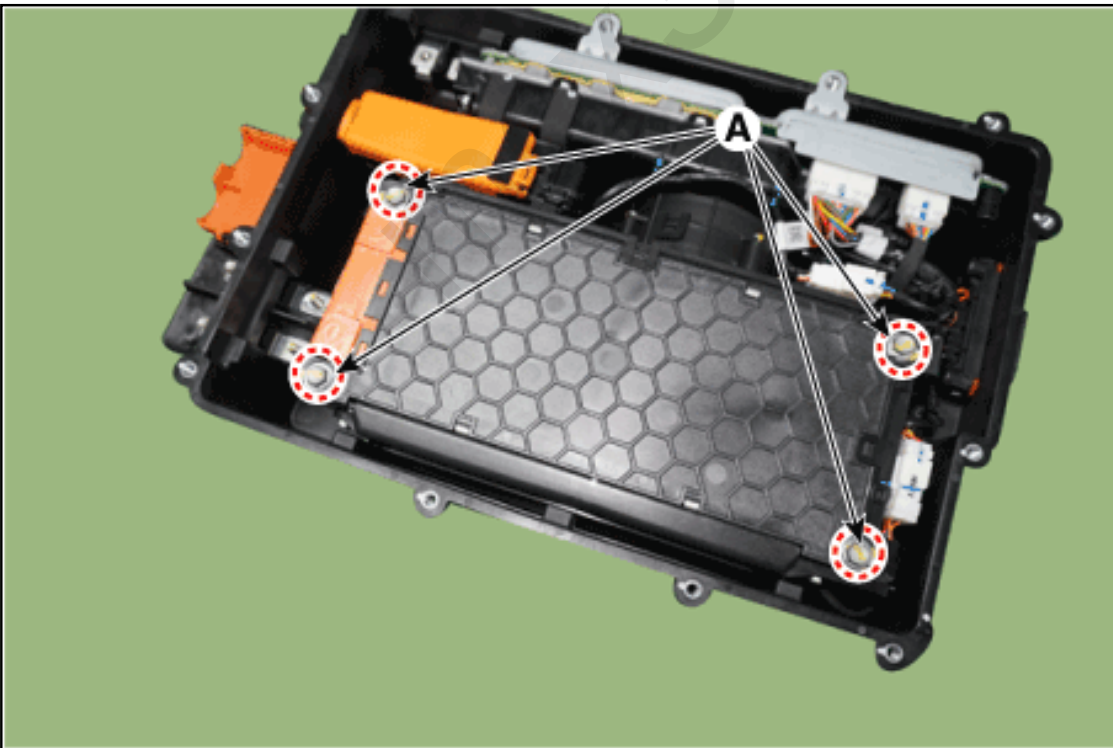
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



8. Remove the 48V battery case assembly after loosening the mounting bolts (A).

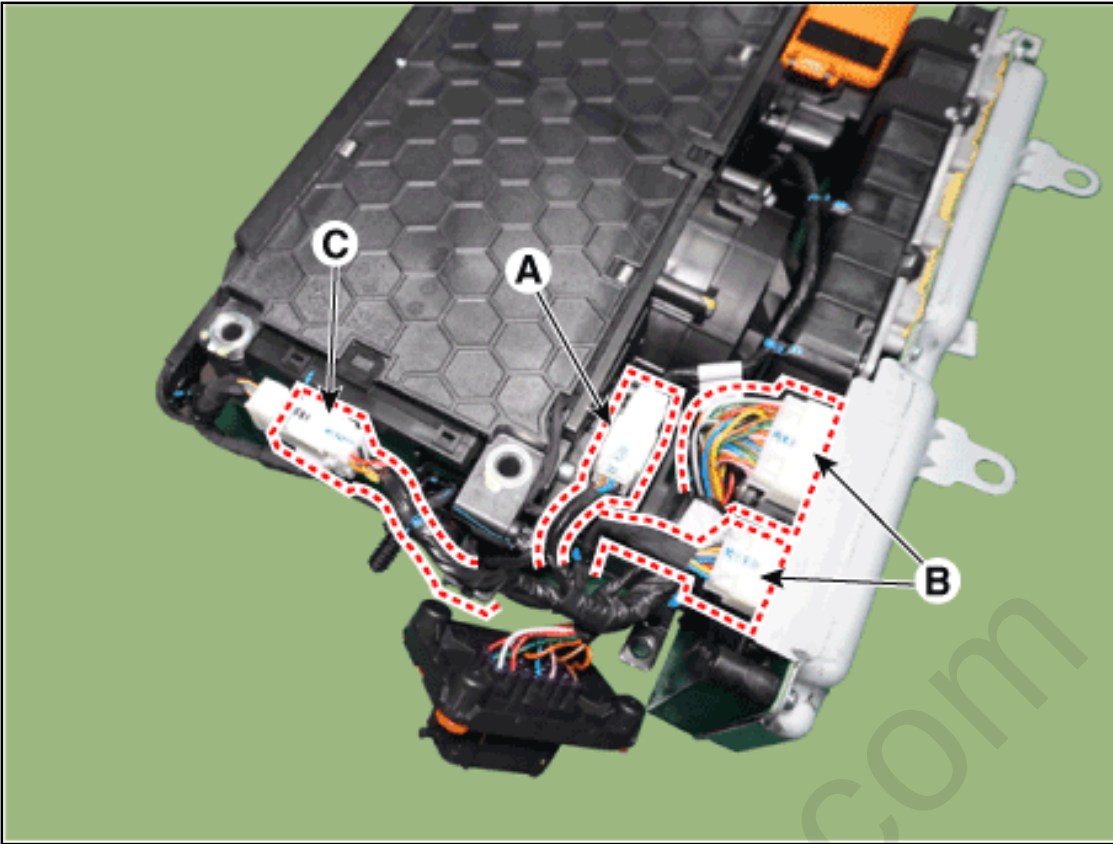
Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)

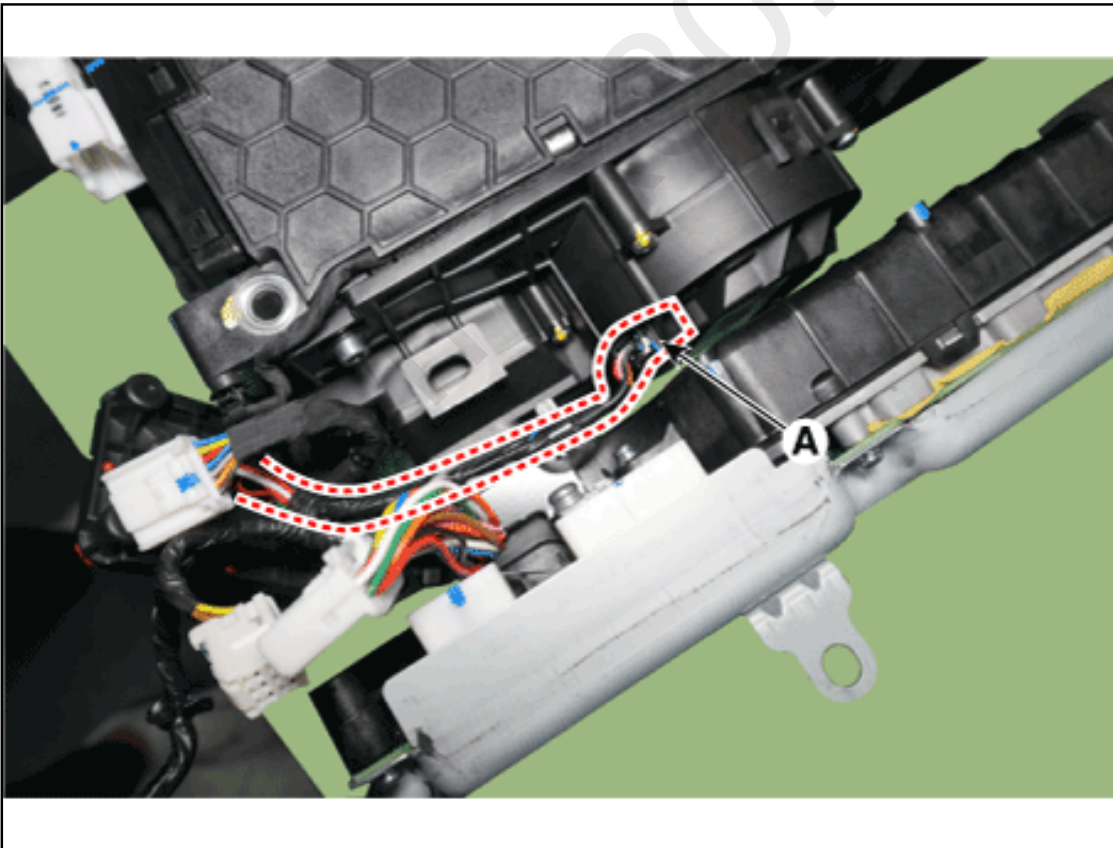


9. Disconnect the PRA extension connector (A) and the BMS & LDC connectors (B).

10. Disconnect the battery temperature sensor extension connector (C).



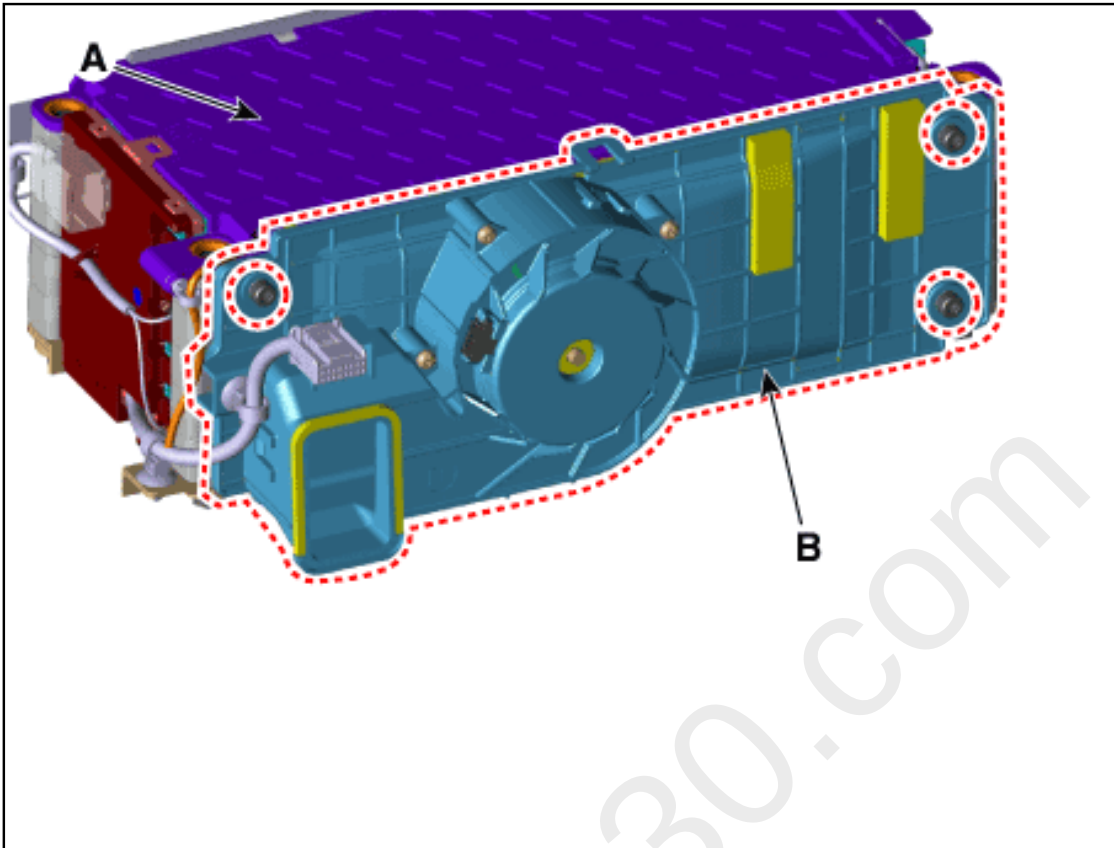
11. Disconnect the cooling blower fan connector (A).



12. Remove the battery cooling blower unit (B) from the battery module (A).

Tightening torque :

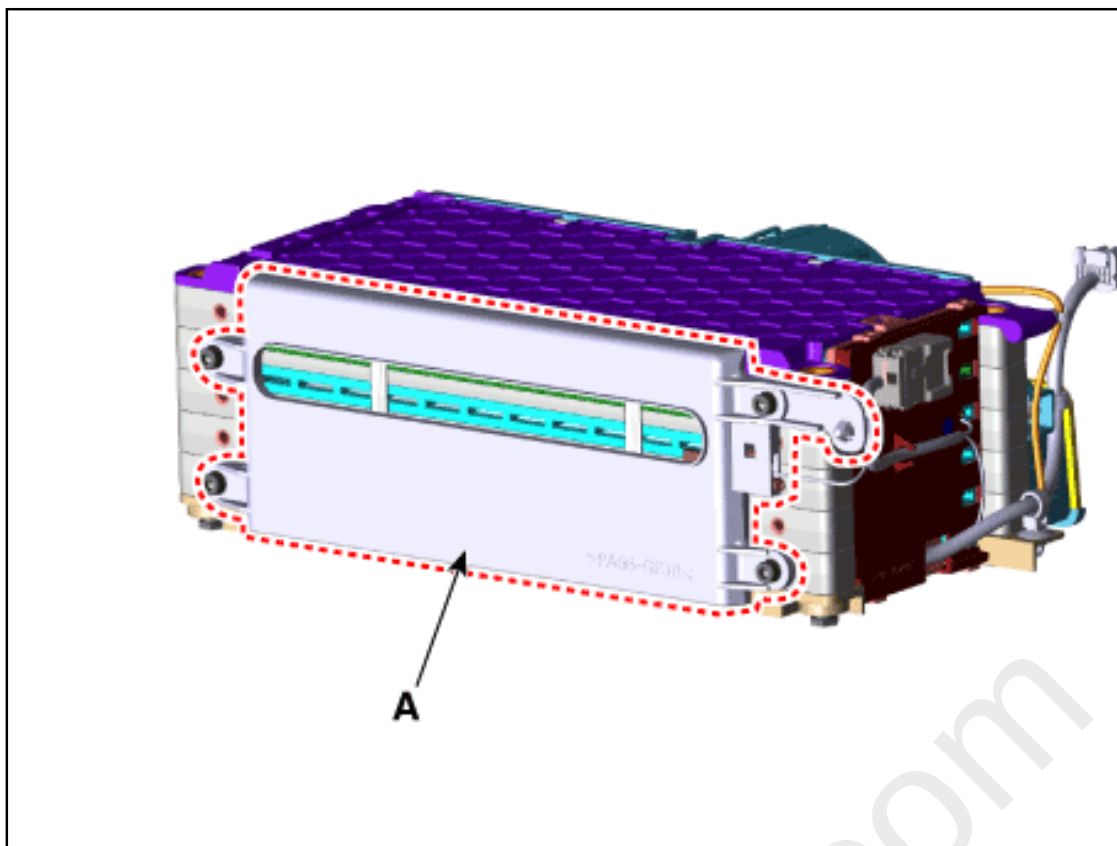
5.9 - 9.8 N.m (0.6 - 1.0 kgf.m, 4.3 - 7.2 lb-ft)



13. Remove the battery module Inlet duct (A) after loosening mountin bolts.

Tightening torque :

3.4 - 6.4 N.m (0.35 - 0.65 kgf.m, 2.5 - 4.7 lb-ft)



Installation

1. Install in the reverse order of removal.

Description

The Power Relay Assembly (PRA) consists of the positive main relay. It is located inside the battery pack assembly and controls the high voltage power circuit between the high voltage battery and inverter by the control signal of BMS ECU.

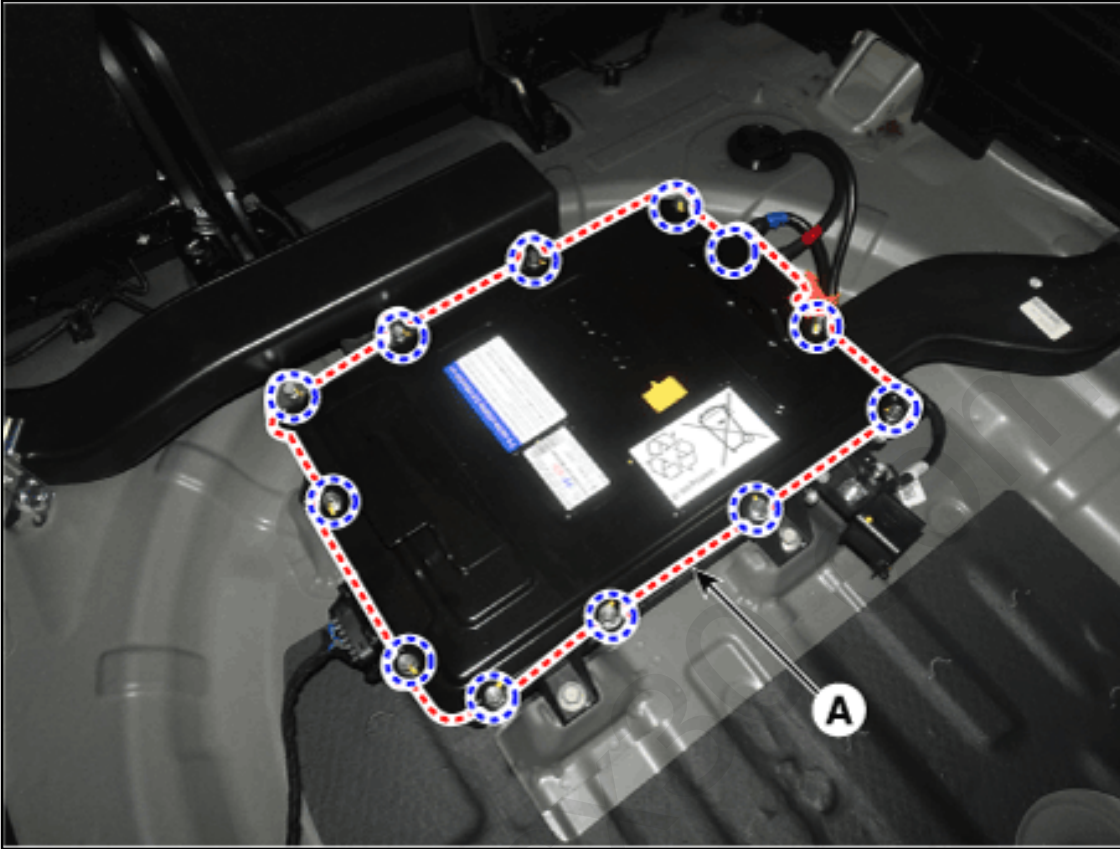
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Removal

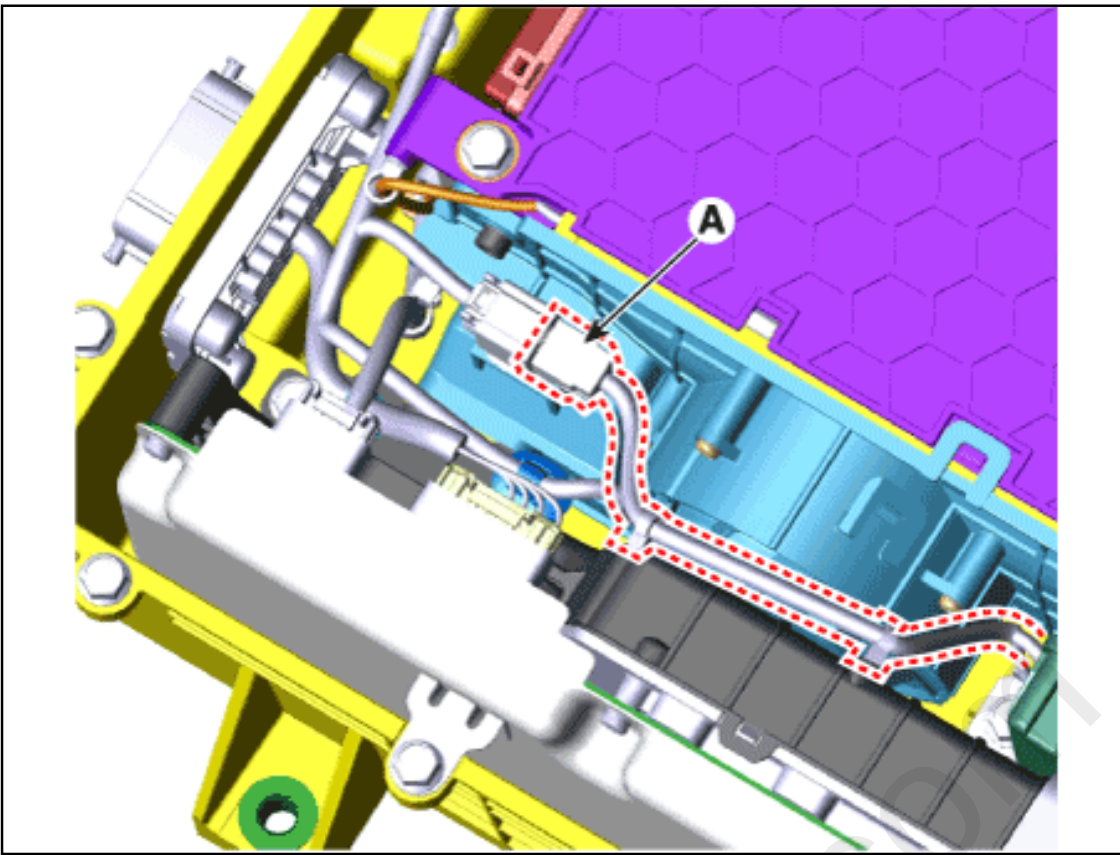
1. Turn ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



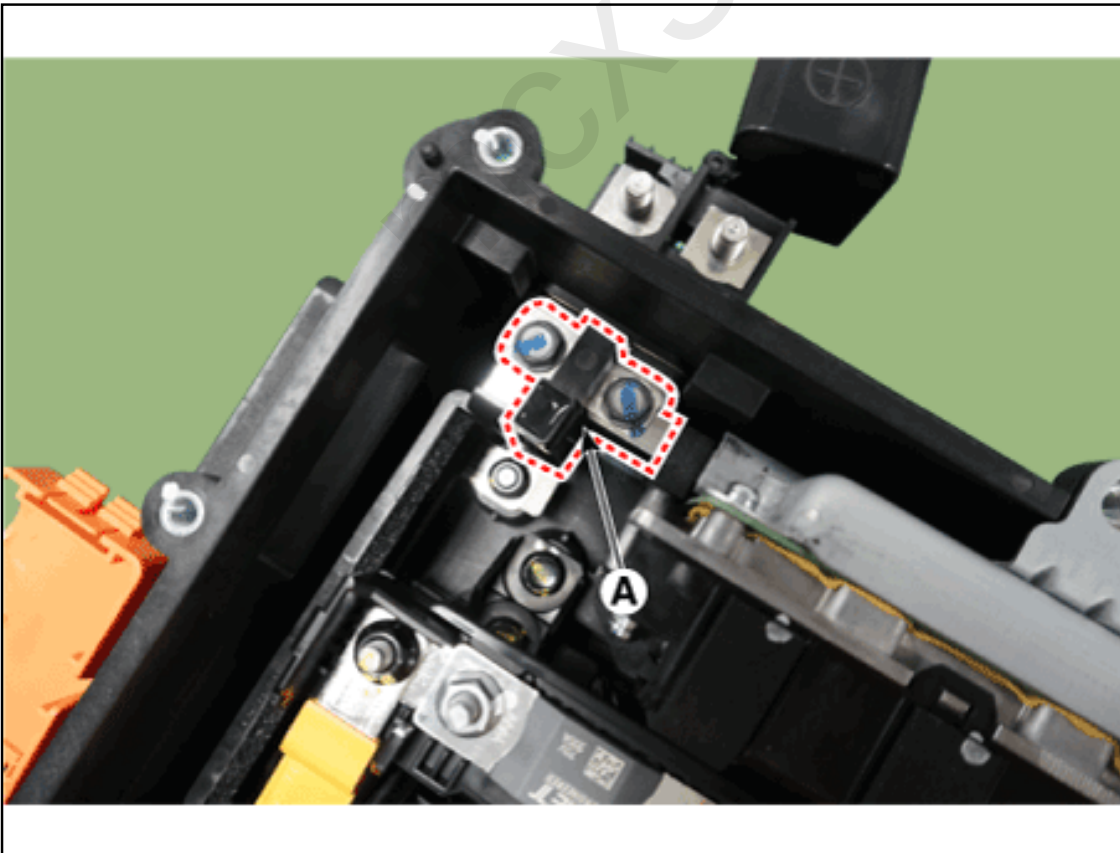
3. Disconnect the PRA extension connector (A).



4. Remove the terminal capacitor (A) after loosening the mounting bolts.

Tightening torque :

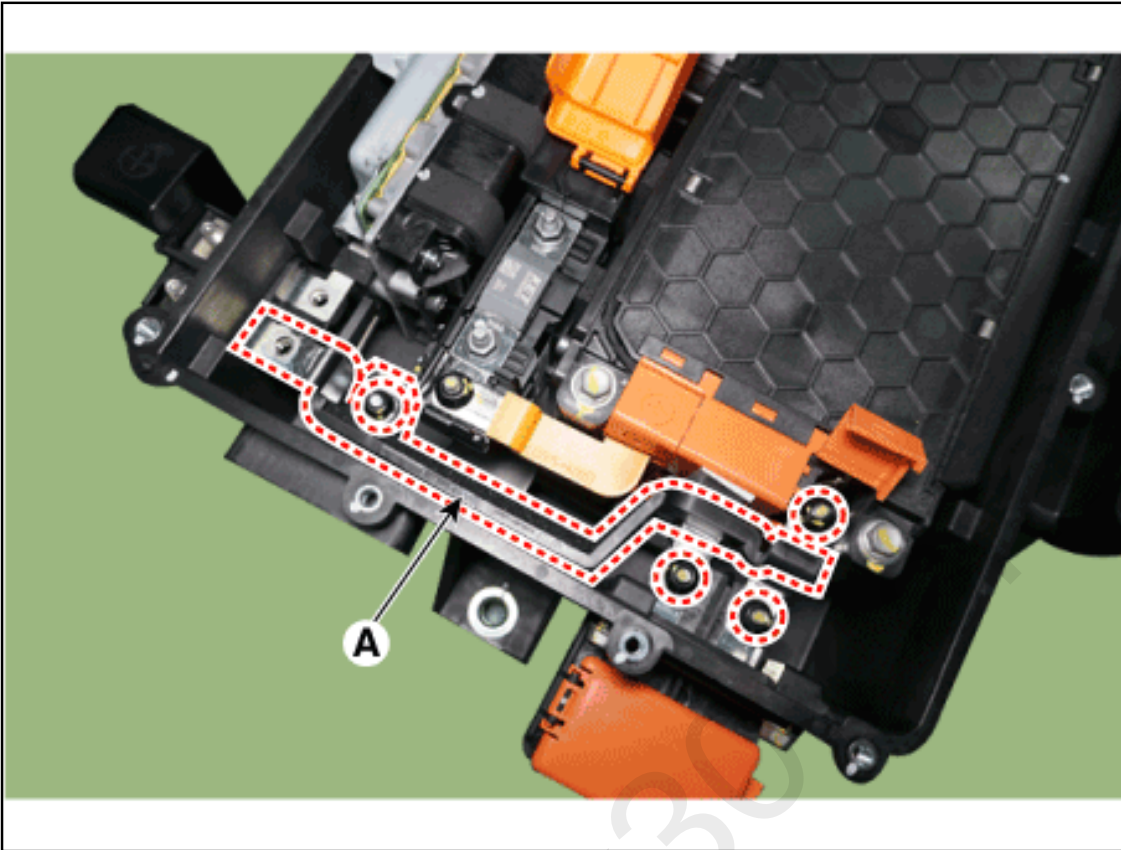
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



5. Remove the mounting nuts and remove the battery module (-) busbar (A).
-

Tightening torque :

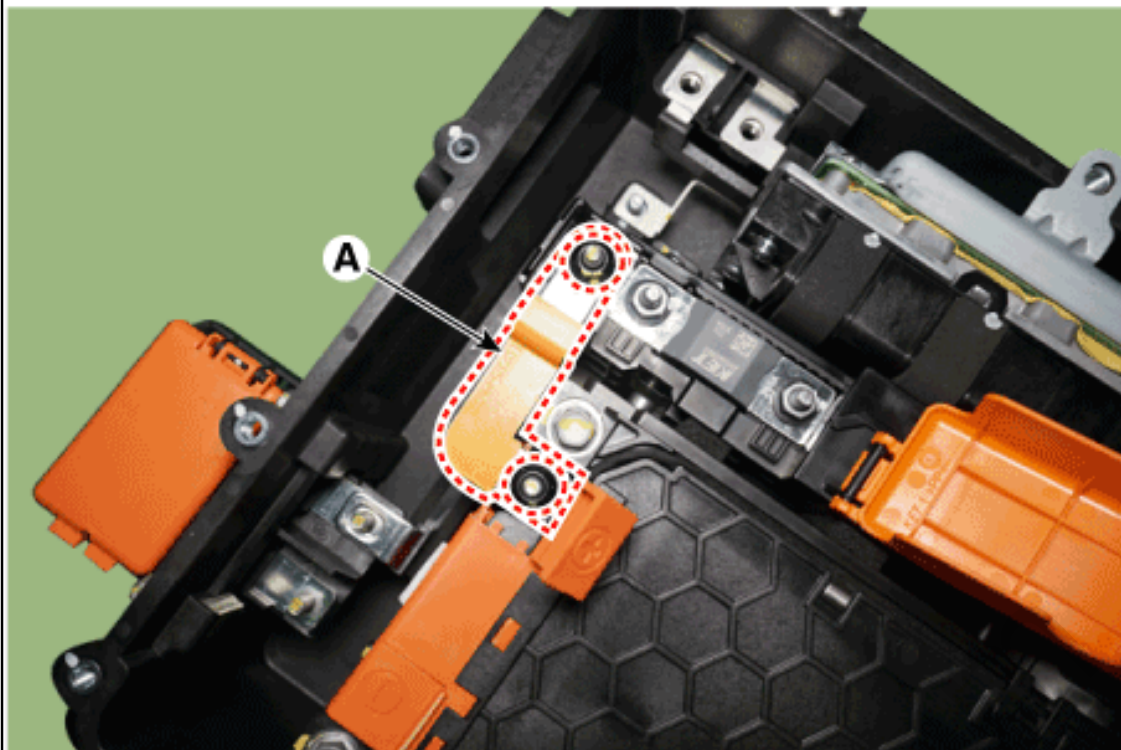
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



6. Remove the mounting nuts and remove the battery module (+) busbar (A).
-

Tightening torque :

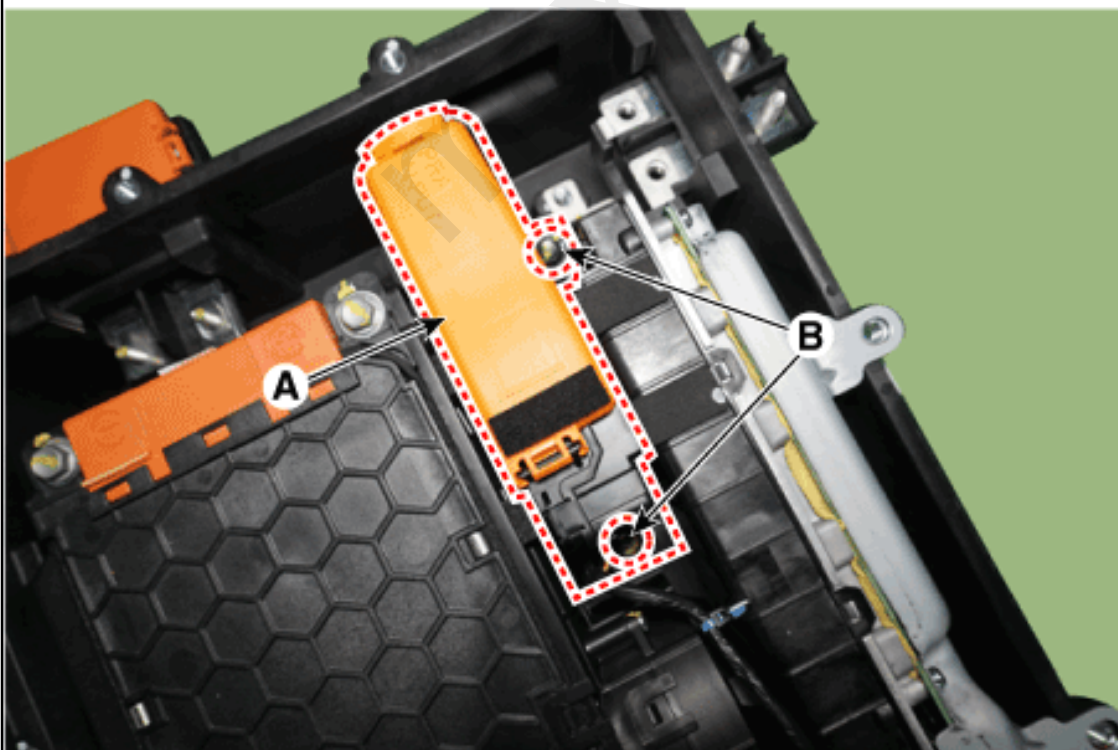
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the PRA assembly (A) after loosening the mounting bolts (B).

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)

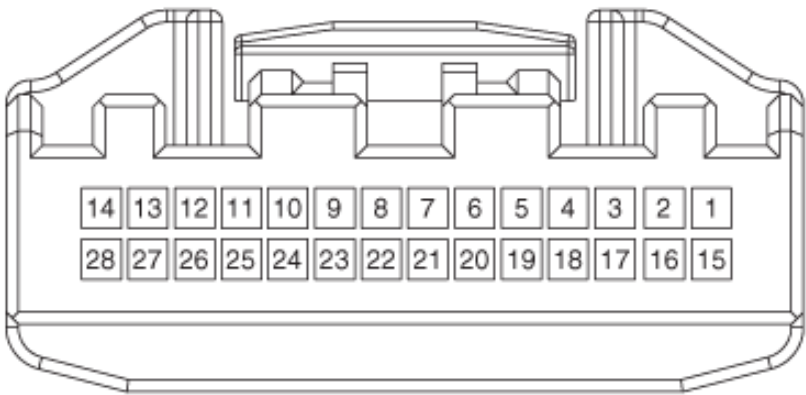


Installation

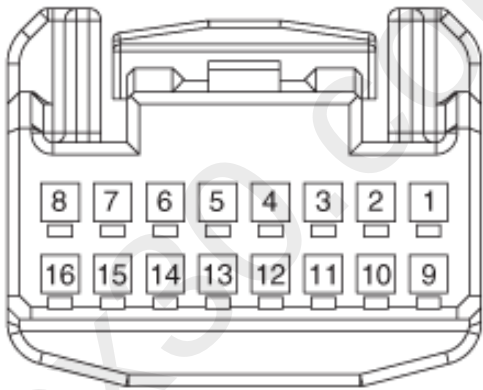
1. Install in the reverse order of removal.

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BMS ECU Terminal and Input/Output
Signal



Connector [B01-A]



Connector [B01-B]

Terminal Function

Connector [B10-A]

Pin No	Description	Connected to
1	12V Battery power (B+)	PCB Block (Fuse - F43)
2	IG ON signal input	ICU junction block (Fuse - F7)
3	Ground	Ground
4	Battery current sensor power (VCC)	48V Battery current sensor [Power relay assembly]
5	Cooling fan IG signal input	48V Battery cooling fan
6	48V Battery main relay [+] control	48V Battery main relay (+) [Power relay assembly]
7	48V Battery temperature sensor #4 signal Input	48V Battery temperature sensor #4
8	Cooling fan speed control	48V Battery cooling fan

9	48V Battery current sensor [high range] signal input	48V Battery current sensor [Power relay assembly]
10	48V Battery temperature sensor #1 signal Input	48V Battery temperature sensor #1
11	48V Battery temperature sensor #2 signal Input	48V Battery temperature sensor #2
12	48V Battery temperature sensor #3 signal Input	48V Battery temperature sensor #3
13	P-CAN [Low]	Other control module, data link connector (DLC), multi-purpose check connector
14	P-CAN [High]	Other control module, data link connector (DLC), multi-purpose check connector
15	12V Battery power (B+)	PCB Block (Fuse - F43)
16	48V Battery temperature sensor #5 signal Input	48V Battery temperature sensor #5
17	Ground	Ground
18	Battery current sensor ground	48V Battery current sensor [Power relay assembly]
19	48V Battery main relay [+] ground	48V Battery main relay (+) [Power relay assembly]
20	48V Battery temperature sensor #5 ground	48V Battery temperature sensor #5
21	48V Battery temperature sensor #4 ground	48V Battery temperature sensor #4
22	Cooling fan feed back input signal	48V Battery cooling fan
23	48V Battery current sensor [low range] signal input	48V Battery current sensor [Power relay assembly]
24	48V Battery temperature sensor #1 ground	48V Battery temperature sensor #1
25	48V Battery temperature sensor #2 ground	48V Battery temperature sensor #2
26	48V Battery temperature sensor #3 ground	48V Battery temperature sensor #3
27	PT-Local-CAN [High]	Other control module, data link connector (DLC), multi-purpose check connector
28	PT-Local-CAN [Low]	Other control module, data link connector (DLC), multi-purpose check connector

Connector [B01-B]

Pin No	Description	Connected to
1	-	
2	Battery Cell [Module 1 /Cell 0] Voltage Input	Battery Cell [Module 1 /Cell 0]
3	Battery Cell [Module 1 /Cell 2] Voltage Input	Battery Cell [Module 1 /Cell 2]
4	Battery Cell [Module 1 /Cell 4] Voltage Input	Battery Cell [Module 1 /Cell 4]
5	Battery Cell [Module 1 /Cell 6] Voltage Input	Battery Cell [Module 1 /Cell 6]
6	Battery Cell [Module 1 /Cell 8] Voltage Input	Battery Cell [Module 1 /Cell 8]
7	Battery Cell [Module 1 /Cell 10] Voltage Input	Battery Cell [Module 1 /Cell 10]
8	Battery Cell [Module 1 /Cell 12] Voltage Input	Battery Cell [Module 1 /Cell 12]
9	-	
10	Battery Cell [Module 1 /Cell 1] Voltage Input	Battery Cell [Module 1 /Cell 1]

11	Battery Cell [Module 1 /Cell 3] Voltage Input	Battery Cell [Module 1 /Cell 3]
12	Battery Cell [Module 1 /Cell 5] Voltage Input	Battery Cell [Module 1 /Cell 5]
13	Battery Cell [Module 1 /Cell 7] Voltage Input	Battery Cell [Module 1 /Cell 7]
14	Battery Cell [Module 1 /Cell 9] Voltage Input	Battery Cell [Module 1 /Cell 9]
15	Battery Cell [Module 1 /Cell 11] Voltage Input	Battery Cell [Module 1 /Cell 11]
16	-	

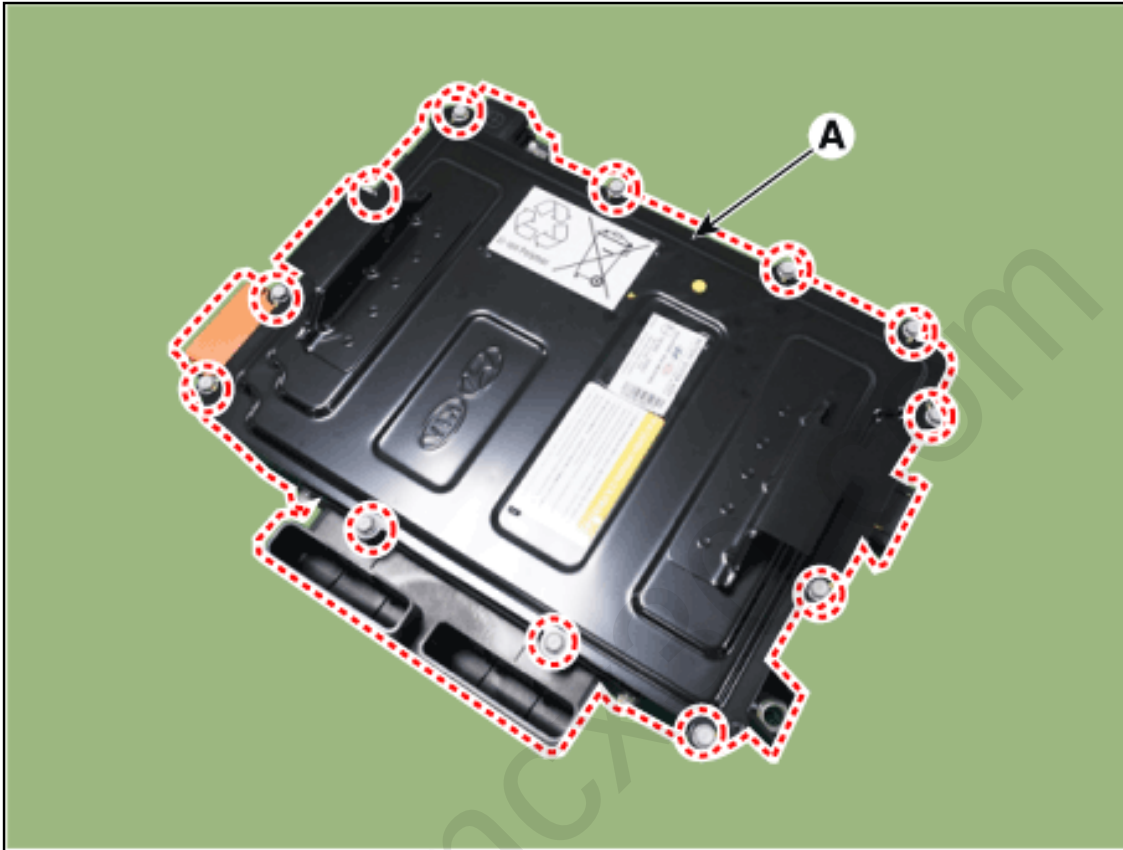
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Removal

1. Turn ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the 48V battery assembly.
(Refer to 48V Battery System - "Repair procedures")
3. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

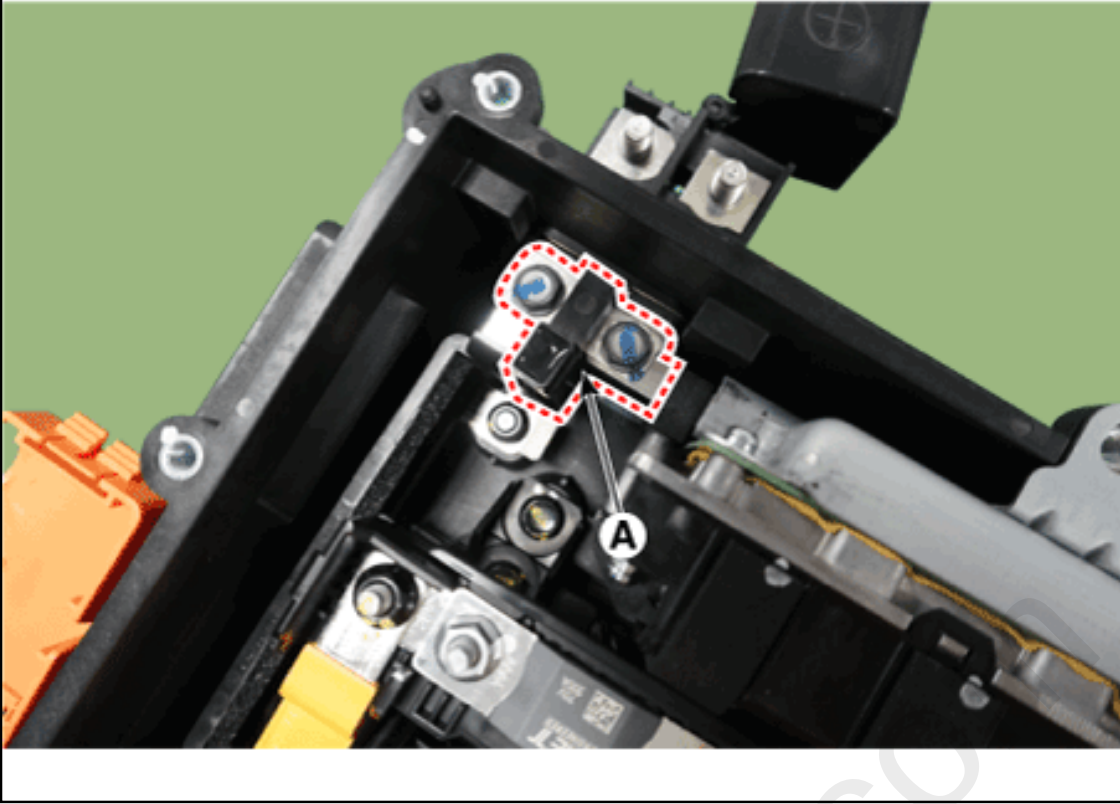
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



4. Remove the terminal capacitor (A) after loosening the mounting bolts.

Tightening torque :

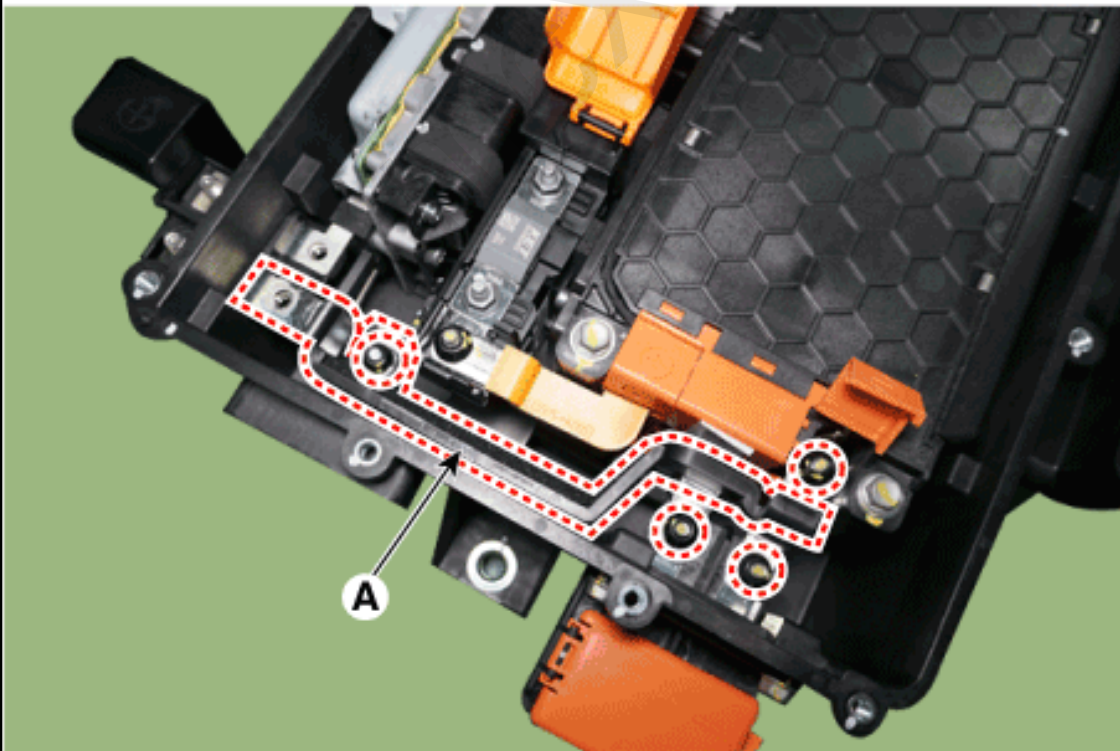
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



5. Remove the mounting nuts and remove the battery module (-) busbar (A).

Tightening torque :

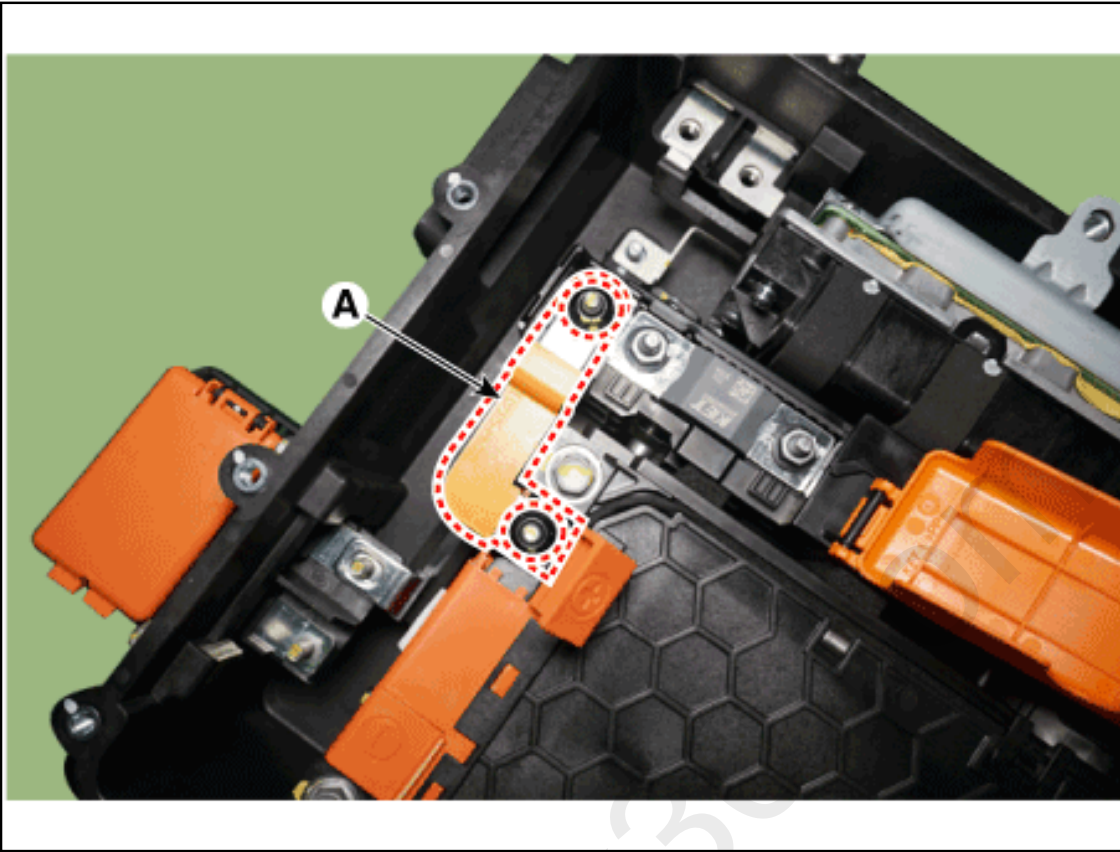
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



6. Remove the mounting nuts and remove the battery module (+) busbar (A).
-

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the BMS wiring harness terminal after loosening the mounting bolts (A).
-

Tightening torque :

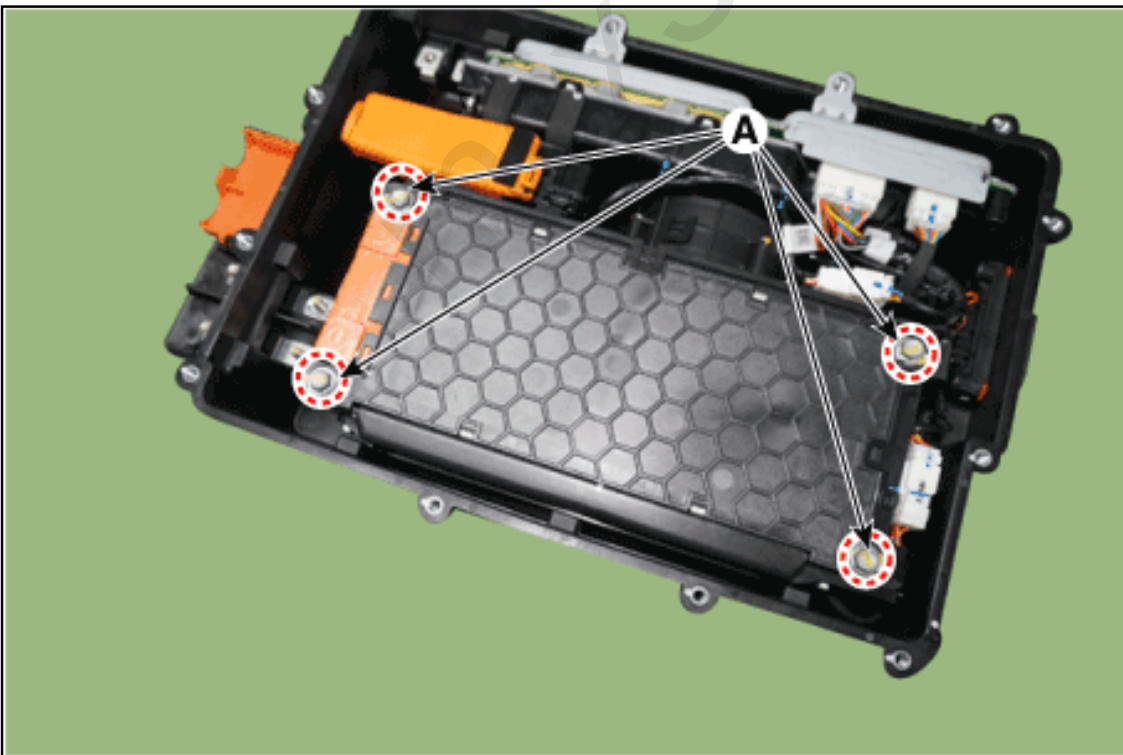
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



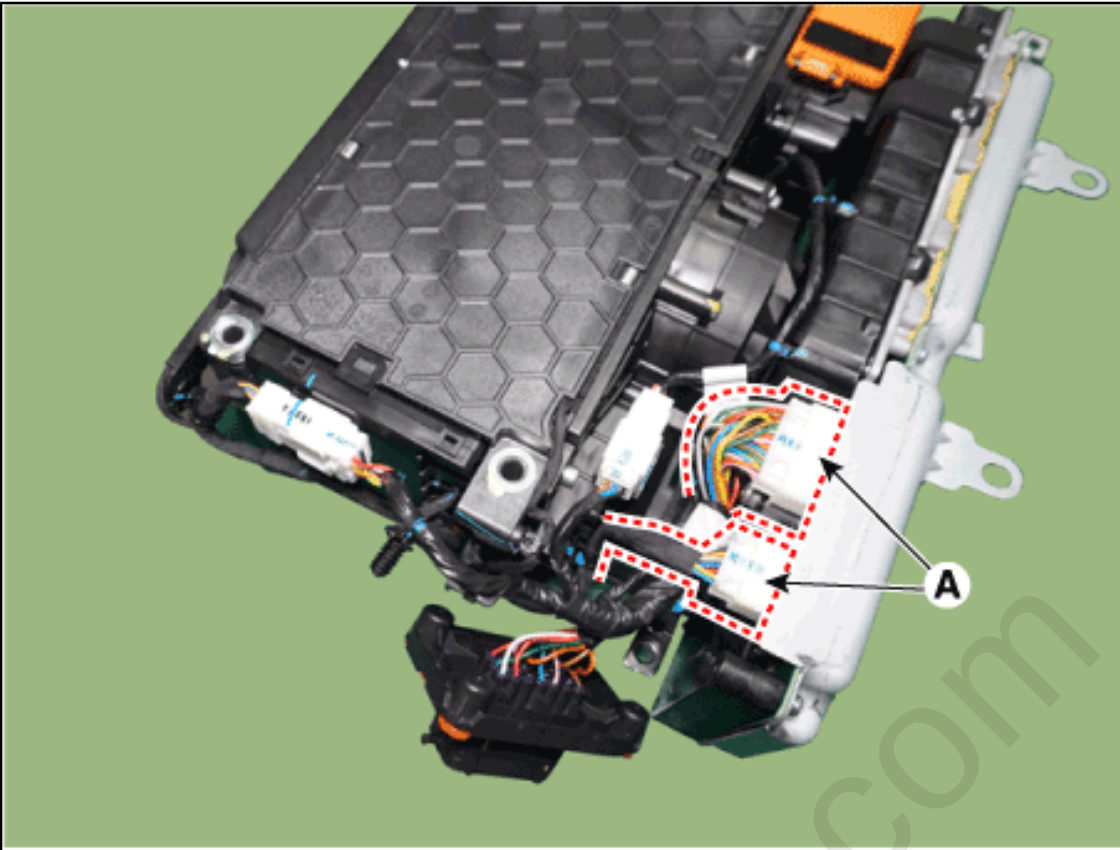
8. Remove the 48V battery case assembly after loosening the mounting bolts (A).

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



9. Disconnect the BMS & LDC connectors (A).



10. Remove the BMS & LDC assembly.



Installation

1. Install in the reverse order of removal.

Description

Mounted in the power relay assembly (RPA), the main fuse protects the high voltage battery and high voltage circuits from overcurrent.

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Specifications

Item	Specification
Rated Voltage (V)	70
Fuse Rated Current (A)	300

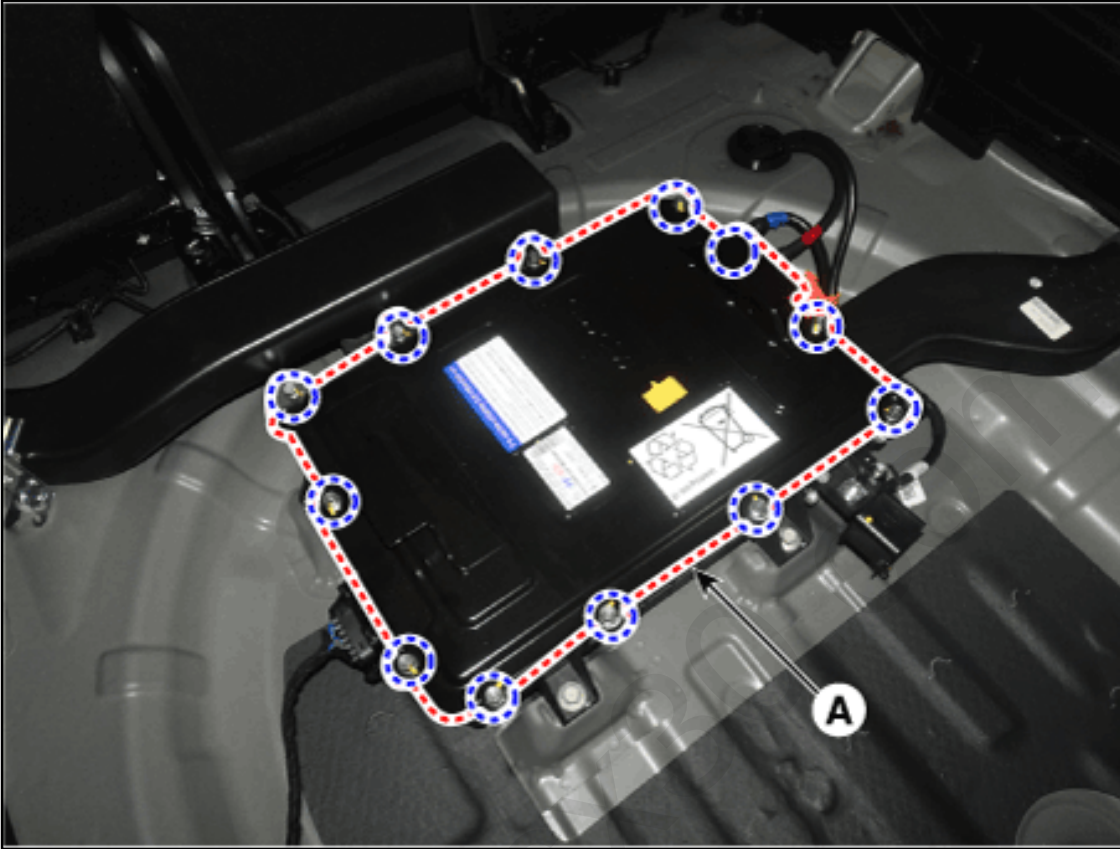
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Removal

1. Turn the ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

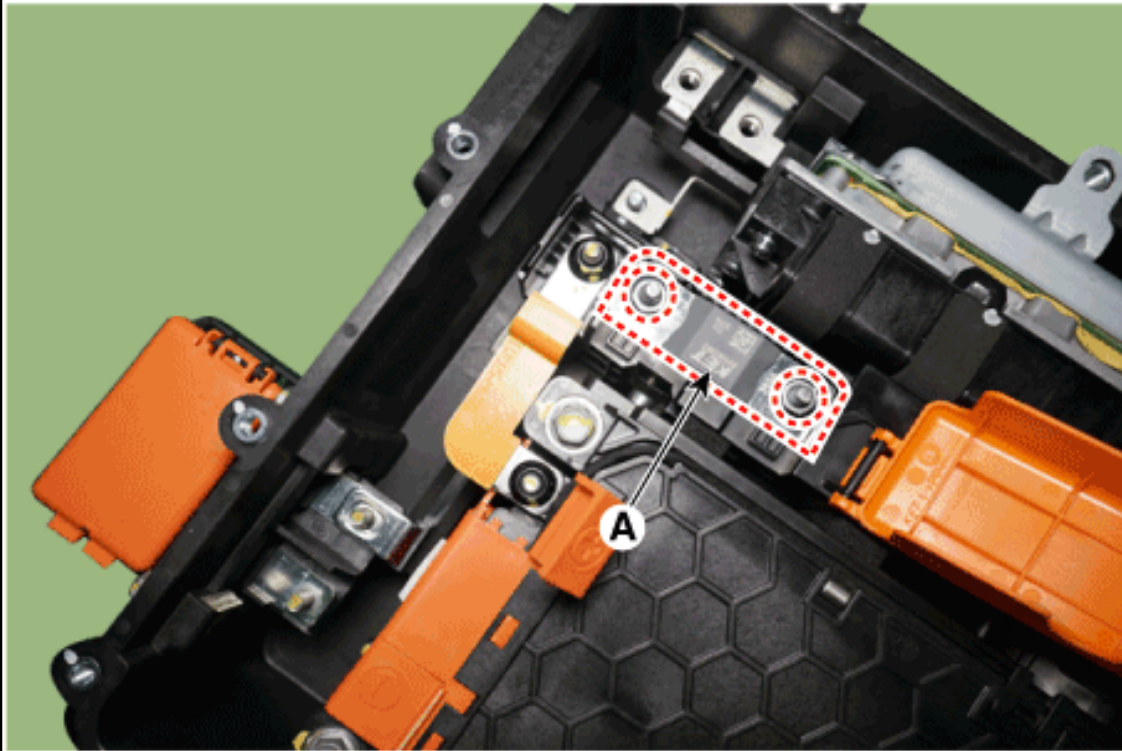
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



3. Remove the mounting nuts and remove the main fuse (A).

Tightening torque :

7.5 - 10.5 N.m (0.76 - 1.07 kgf.m, 5.5 - 7.7 lb-ft)



Installation

1. Install in the reverse order of removal.

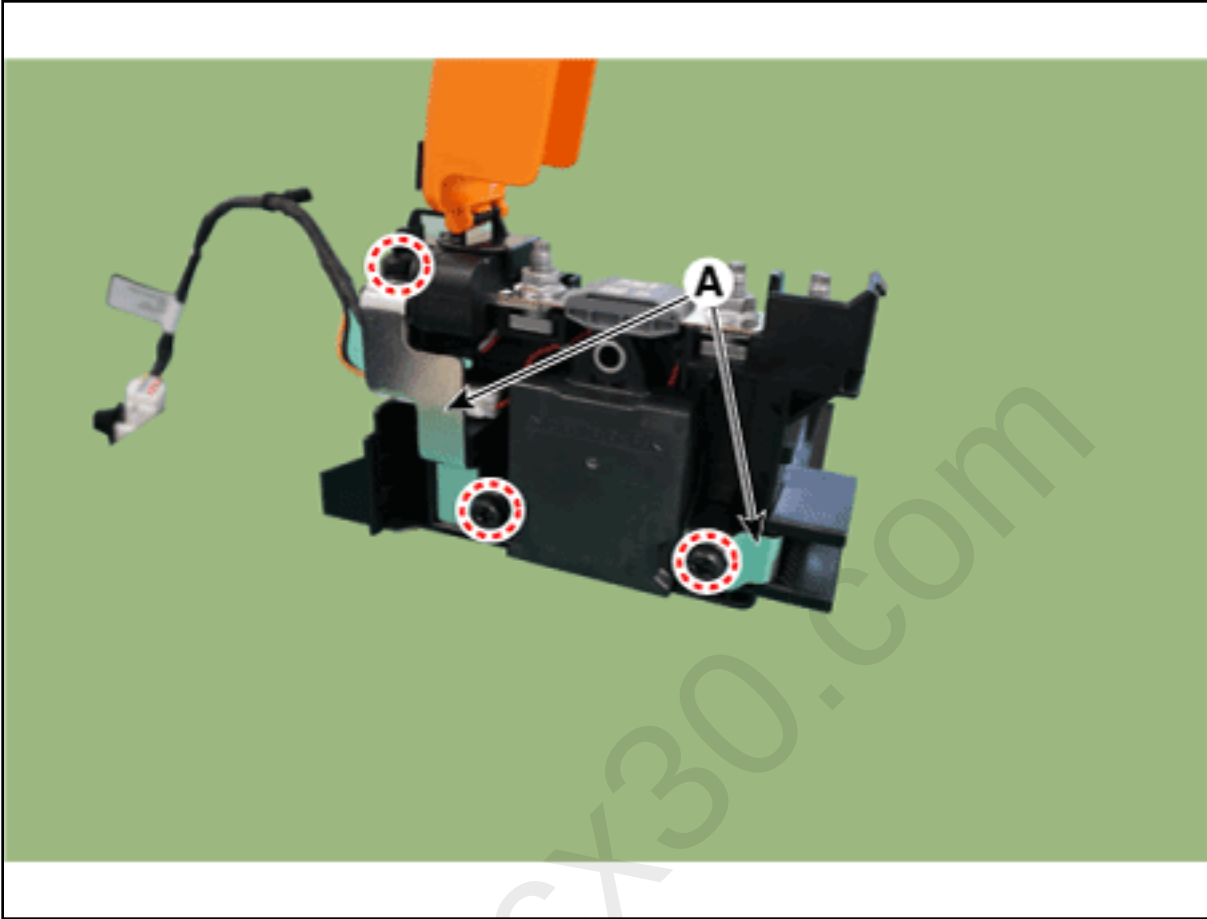
Specifications

Item	Specification
Rated Current (A)	100

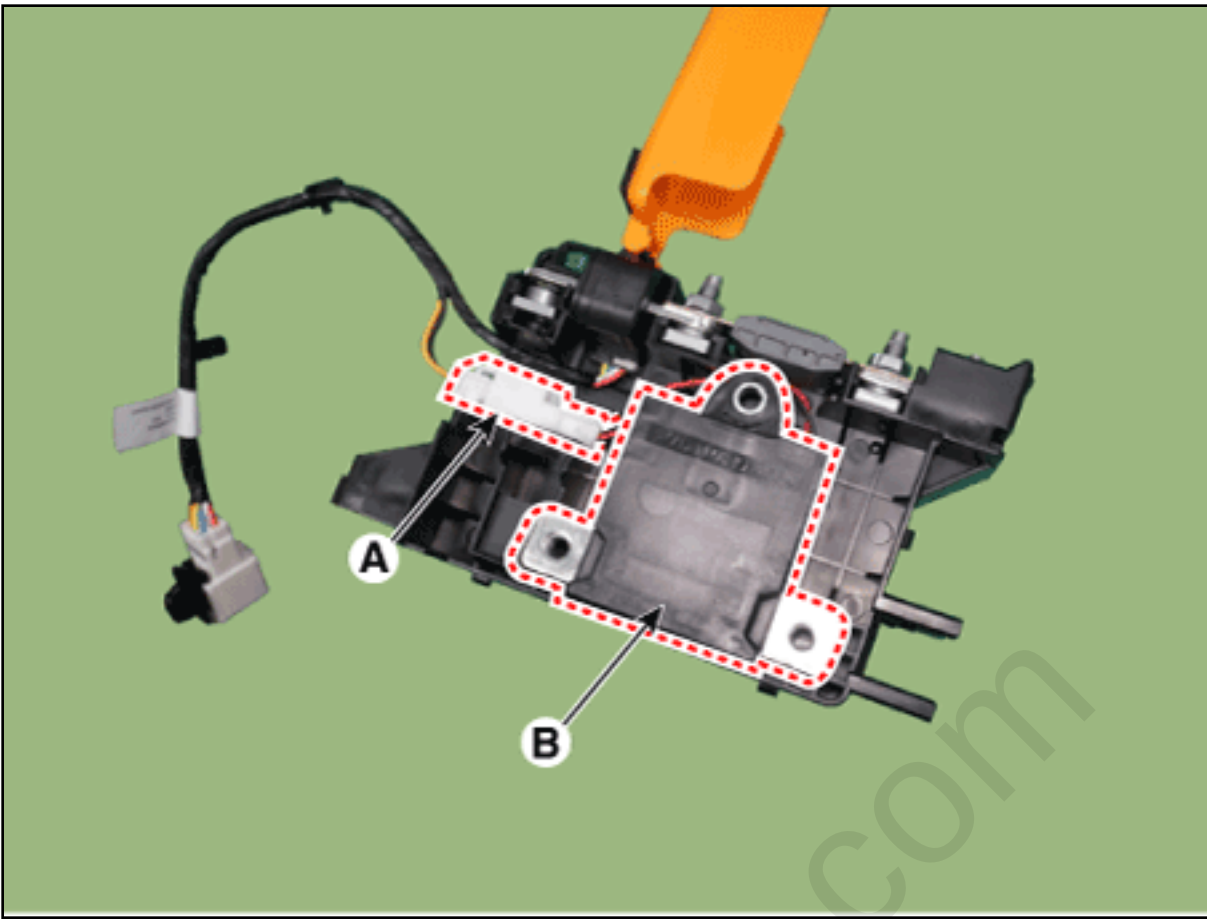
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Removal

1. Remove the PRA assembly.
(Refer to 48V Battery System - "Power Relay Assembly (PRA)")
2. Remove the PRA cover.
3. Remove the mounting bolts and remove the power relay busbar (A).



4. Disconnect the main relay connector (A).
5. Remove the main relay (B).



Installation

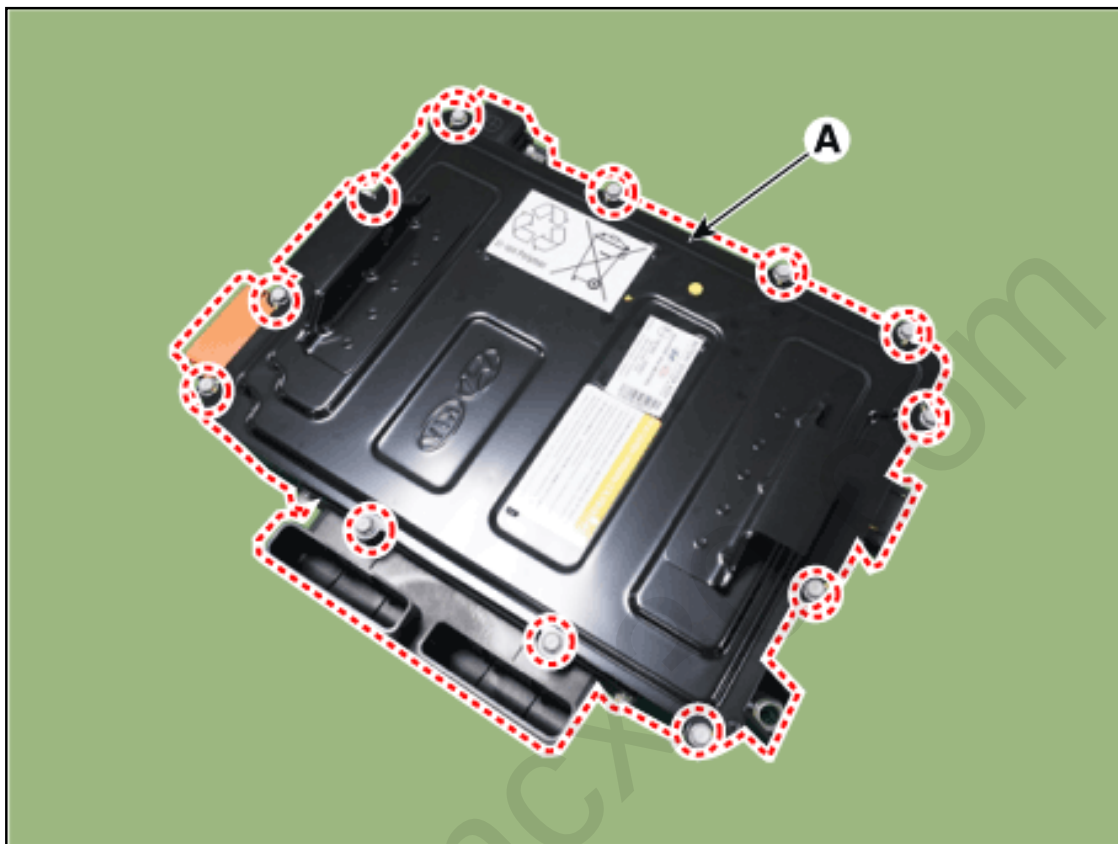
1. Install in the reverse order of removal.

Removal

1. Turn ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the 48V battery assembly.
(Refer to 48V Battery System - "Repair procedures")
3. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

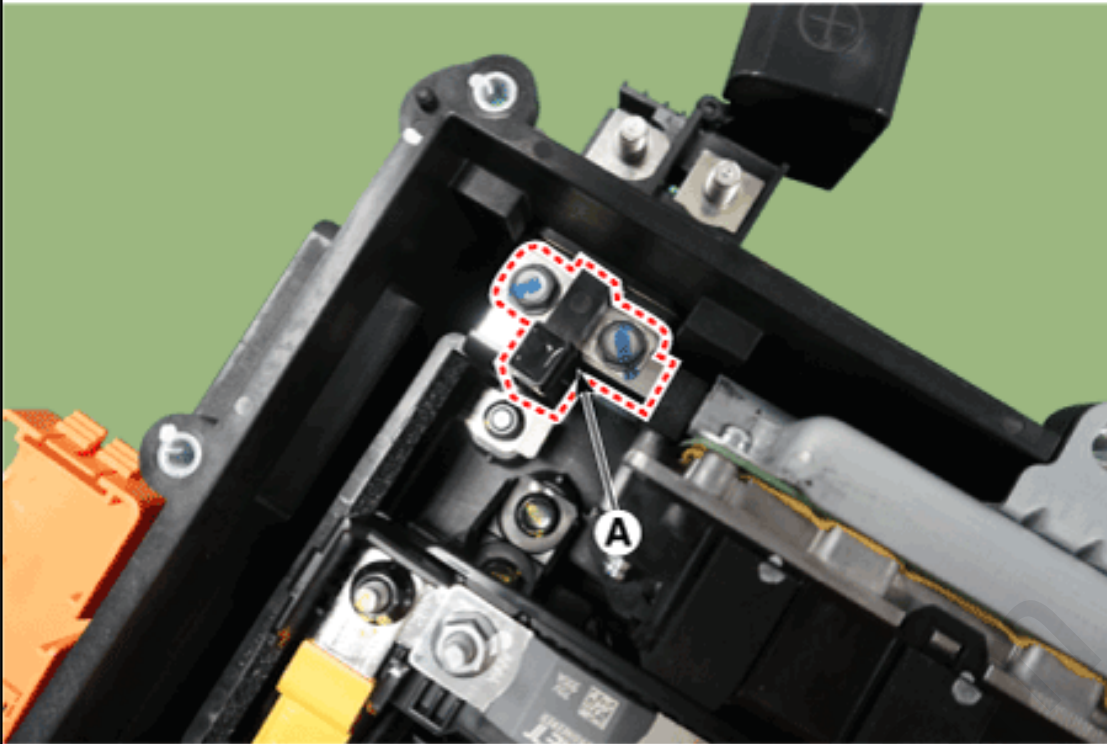
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



4. Remove the terminal capacitor (A) after loosening the mounting bolts.

Tightening torque :

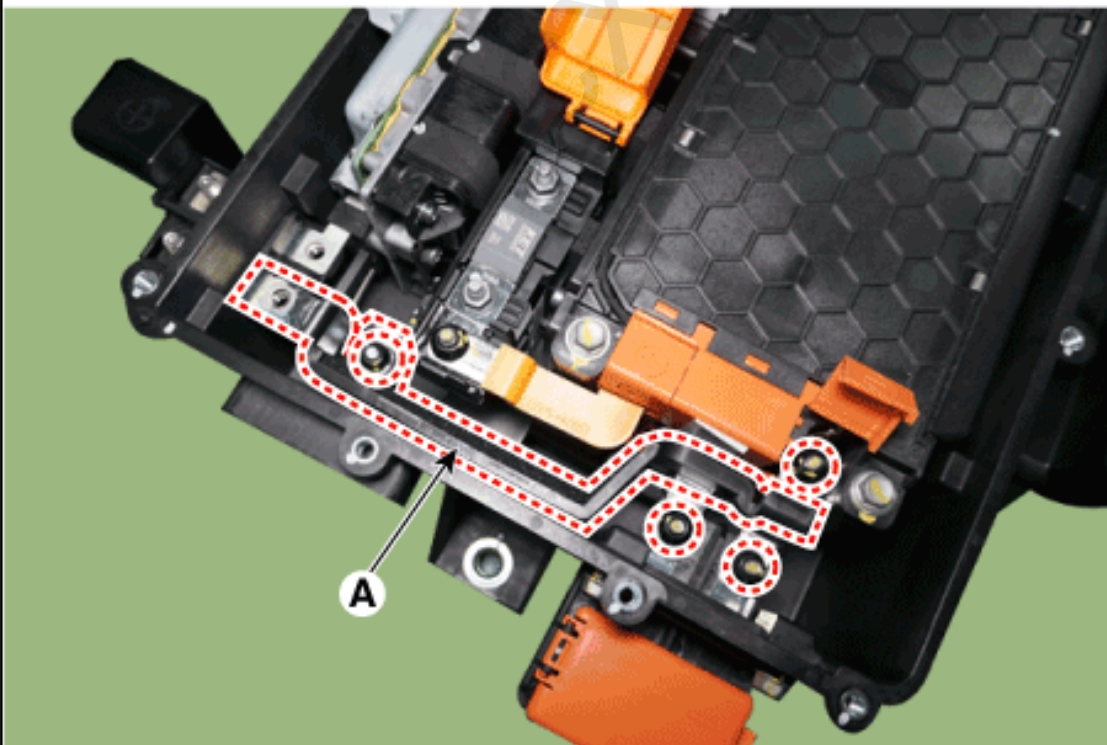
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



5. Remove the mounting nuts and remove the battery module (-) busbar (A).

Tightening torque :

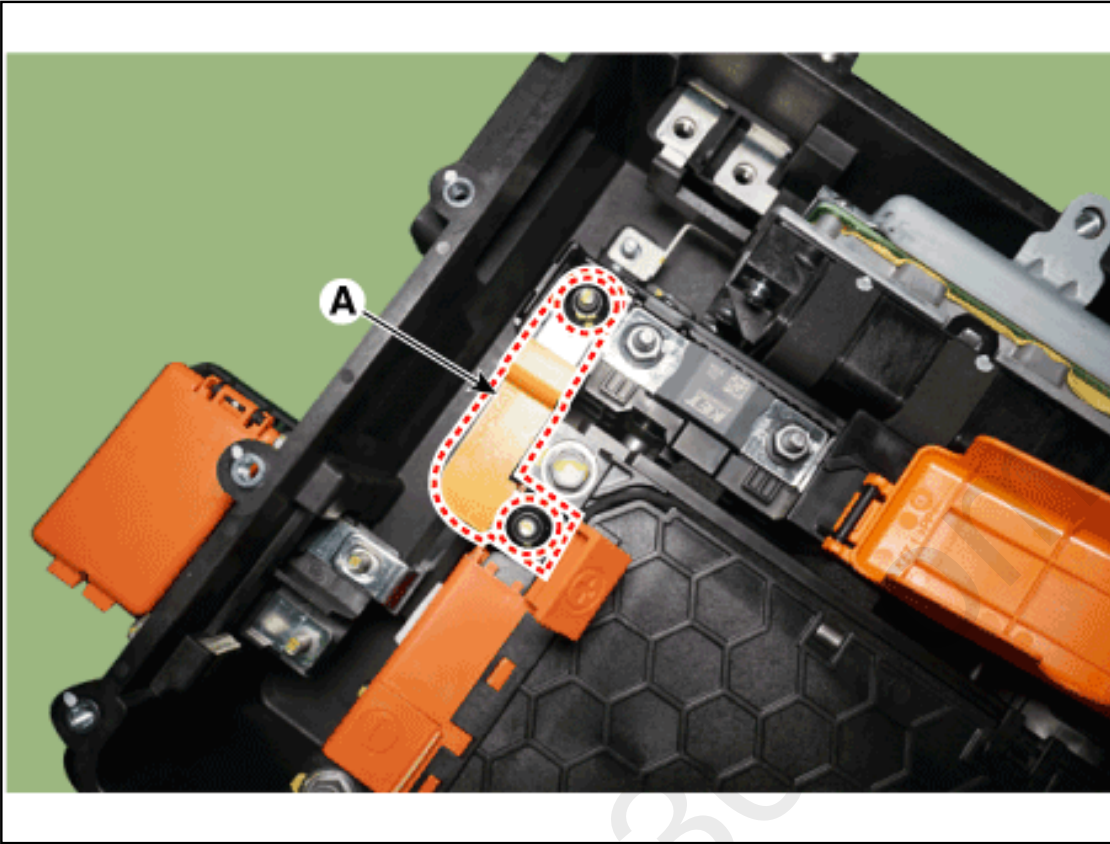
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



6. Remove the mounting nuts and remove the battery module (+) busbar (A).

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the BMS wiring harness terminal after loosening the mounting bolts (A).

Tightening torque :

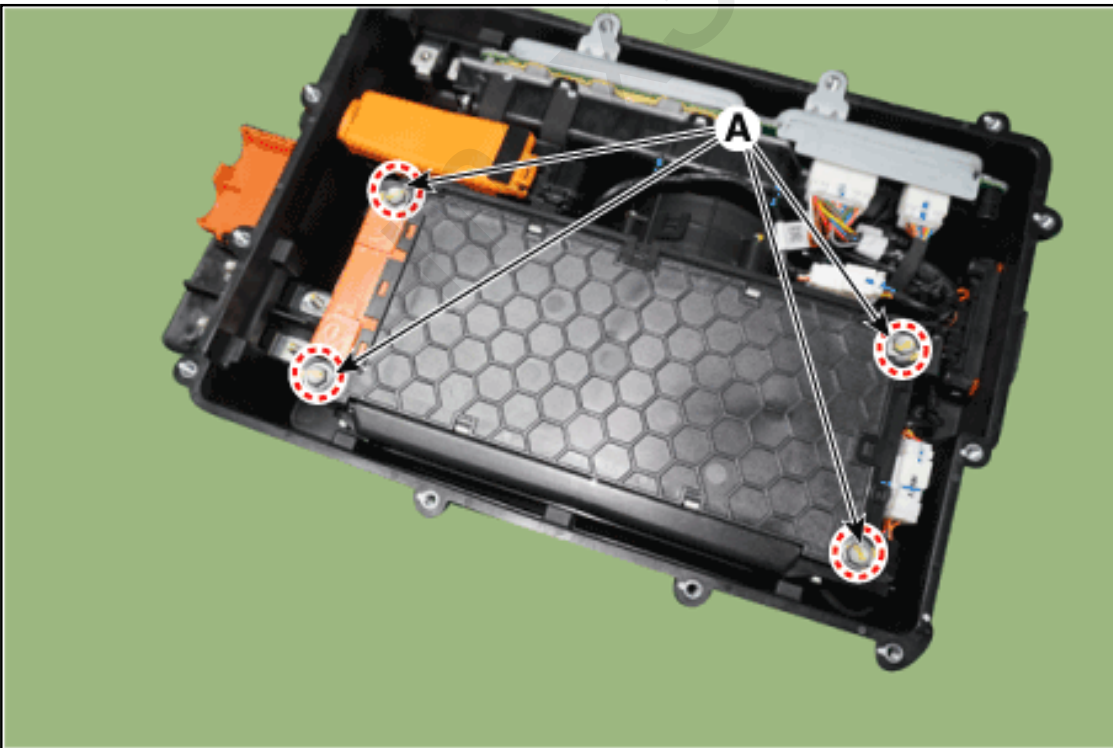
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



8. Remove the 48V battery case assembly after loosening the mounting bolts (A).

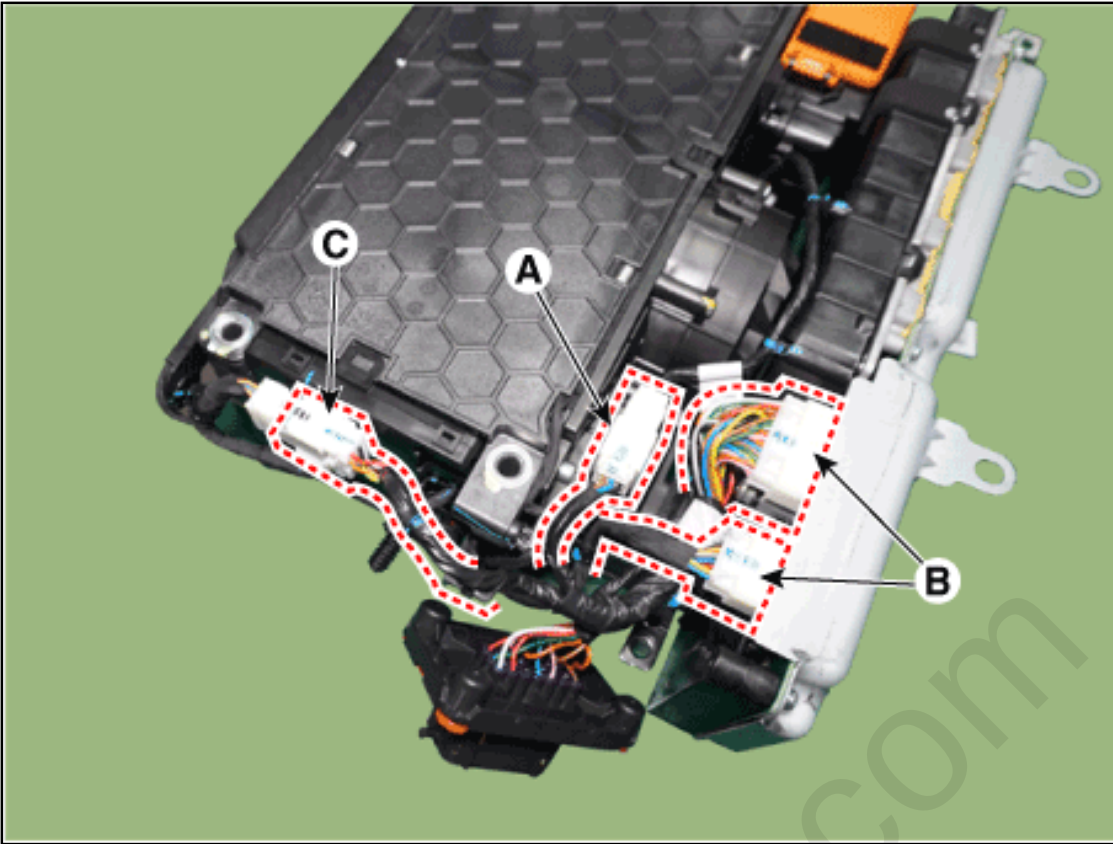
Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)

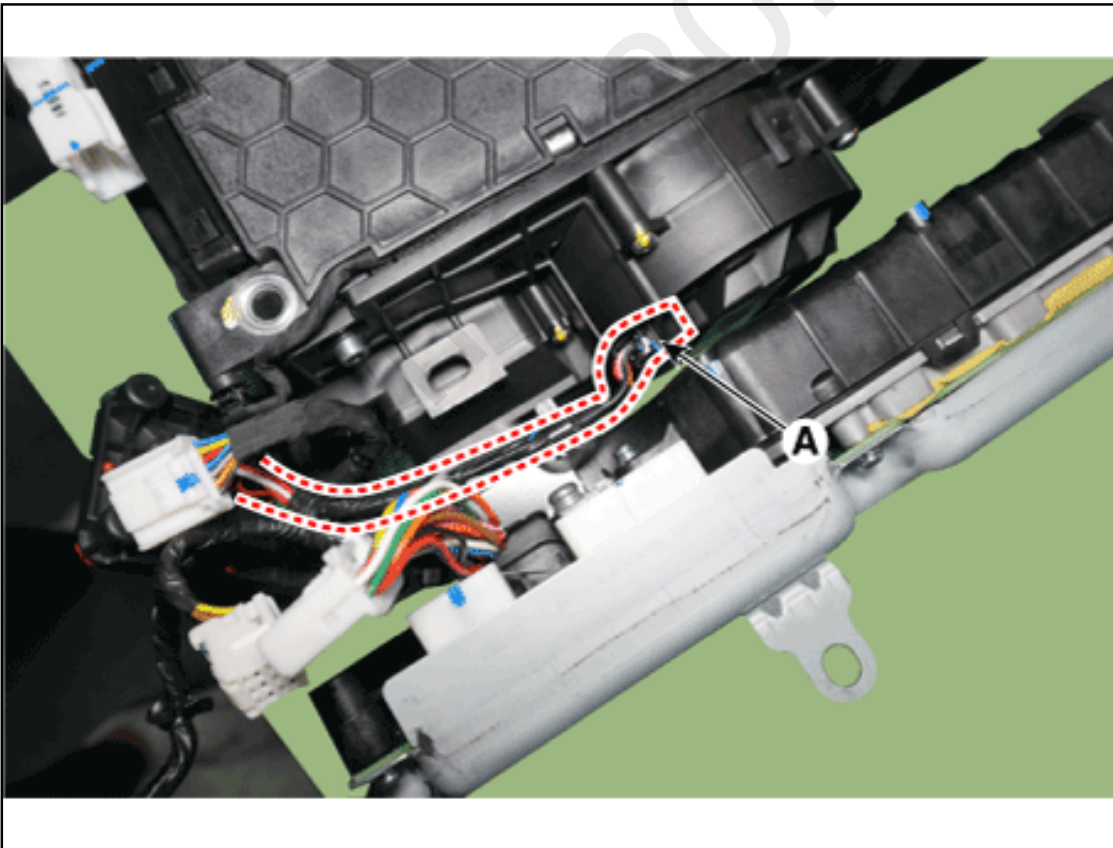


9. Disconnect the PRA extension connector (A) and the BMS & LDC connectors (B).

10. Disconnect the battery temperature sensor extension connector (C).



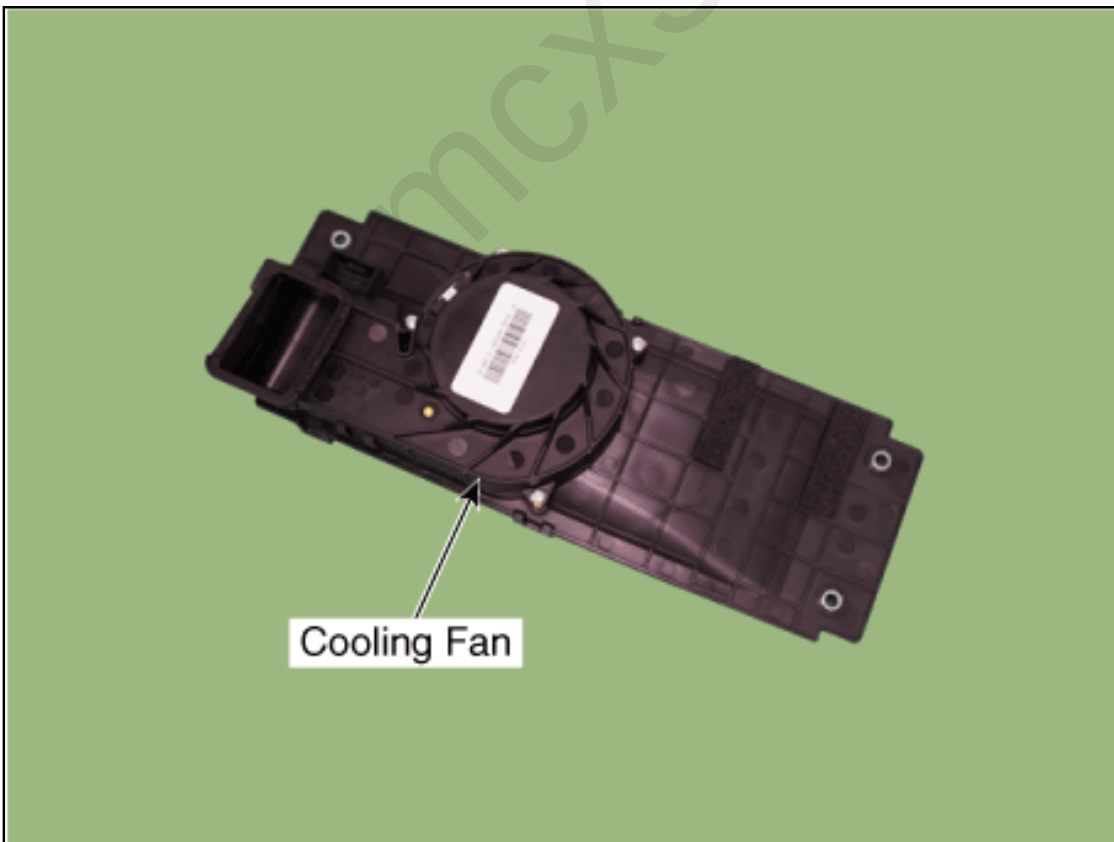
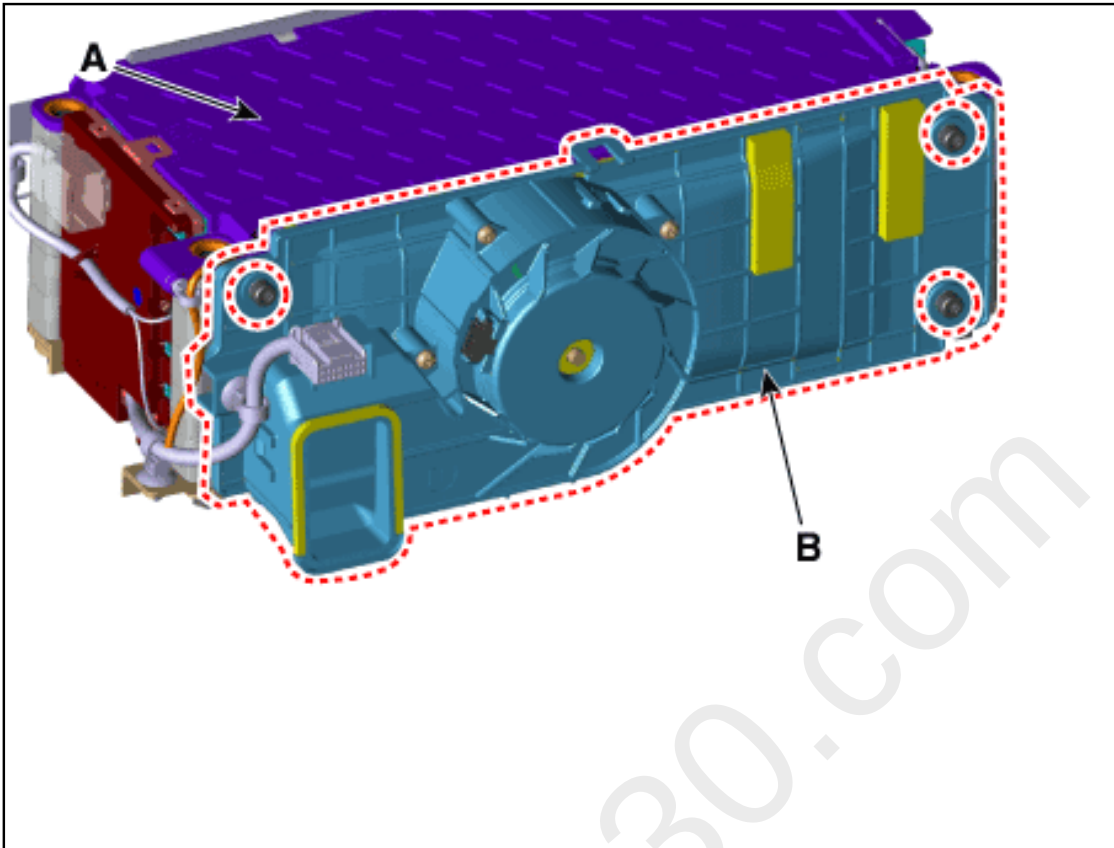
11. Disconnect the cooling blower fan connector (A).



12. Remove the battery cooling blower unit (B) from the battery module (A).

Tightening torque :

5.9 - 9.8 N.m (0.6 - 1.0 kgf.m, 4.3 - 7.2 lb-ft)



Installation

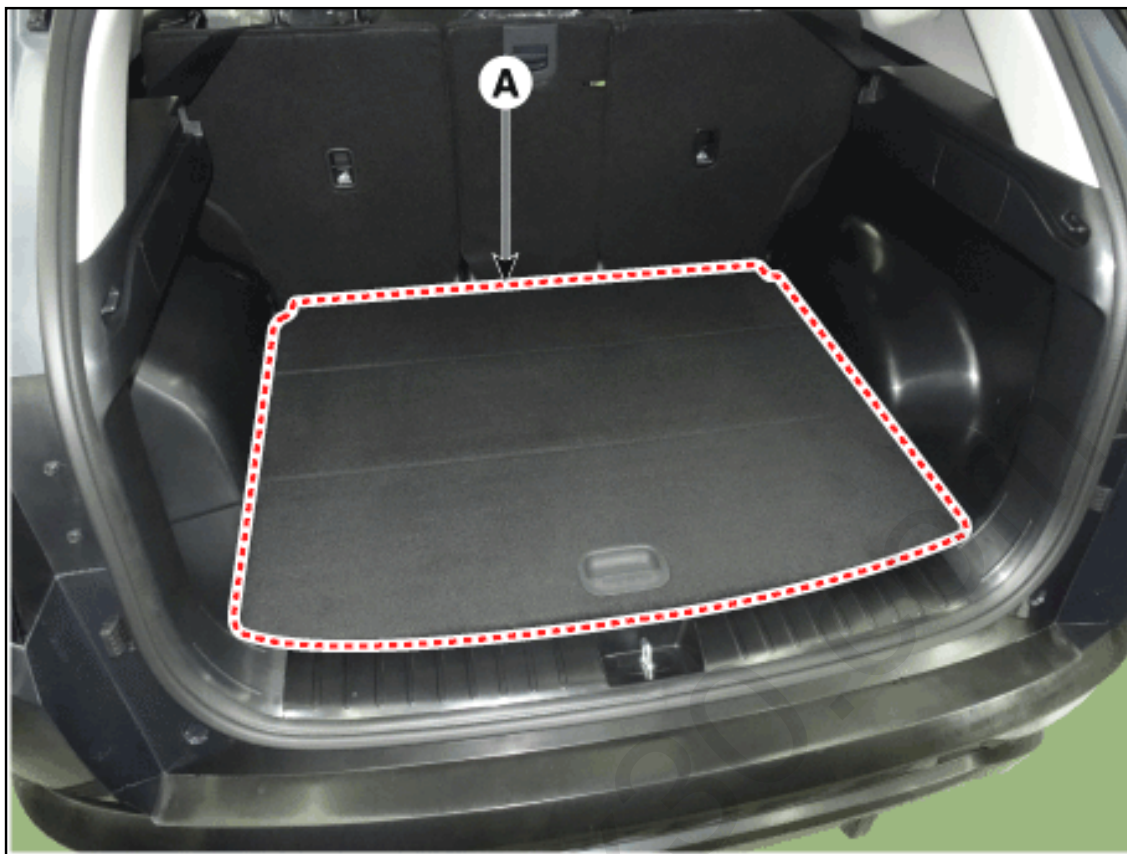
1. Install in the reverse order of removal.

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Removal and Installation

[Battery Pack Assembly Inlet Duct]

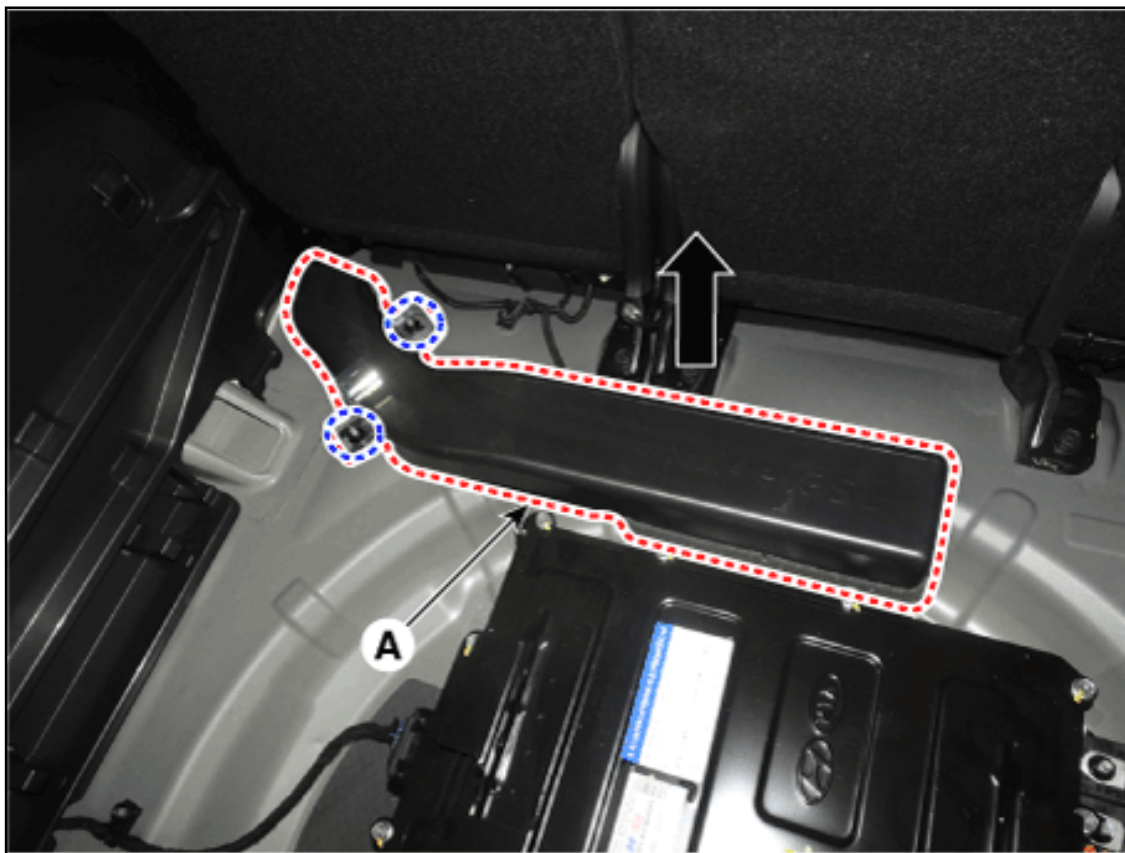
1. Turn the ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the luggage board (A).



3. Separate the inlet cooling duct (A) in the direction of the arrow.

Tightening torque :

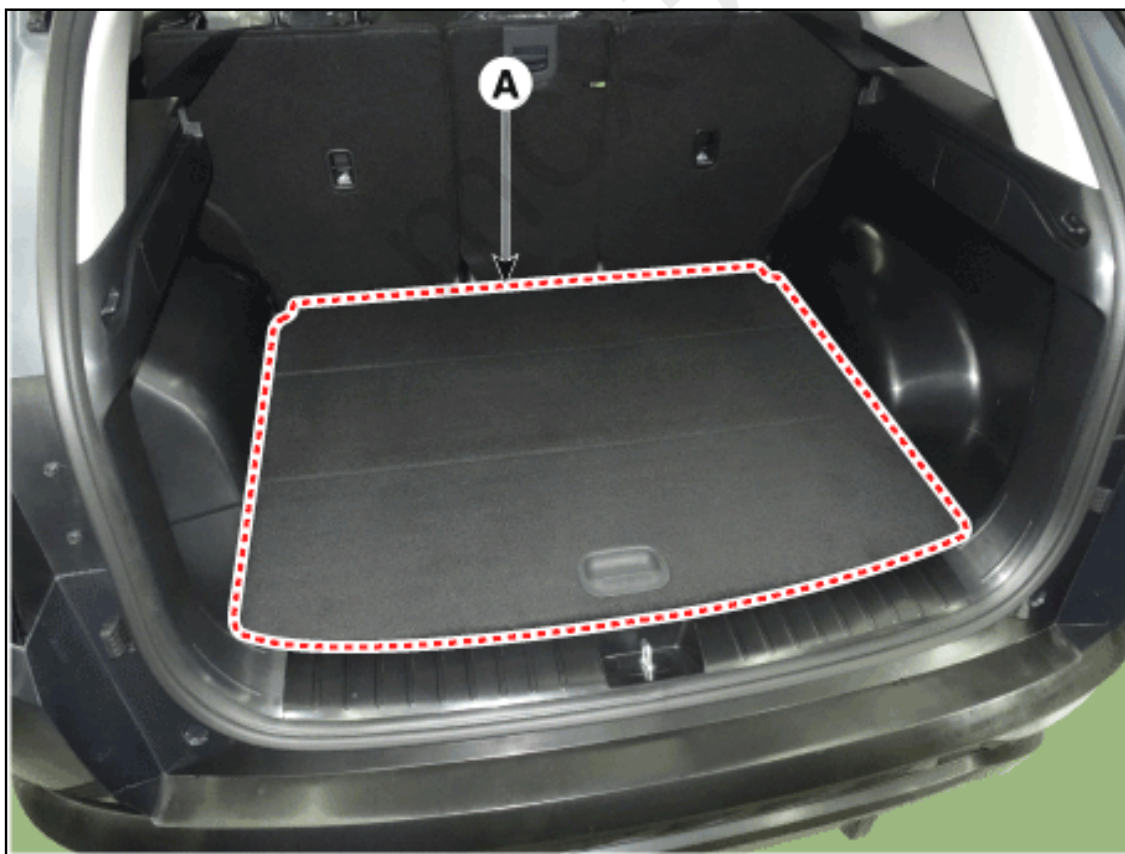
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



4. Install in the reverse order of removal.

[Battery Pack Assembly Outlet Duct]

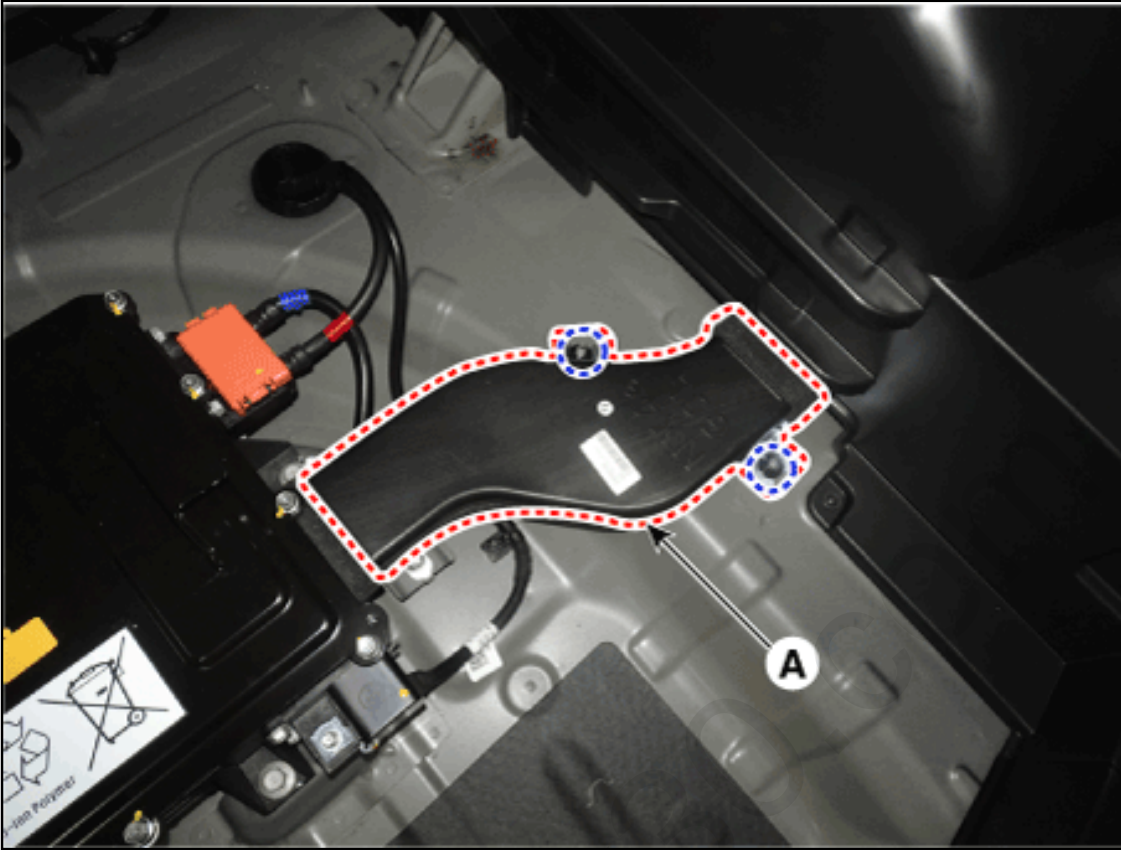
1. Turn the ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the luggage board (A).



3. Remove the outlet cooling duct (A).

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



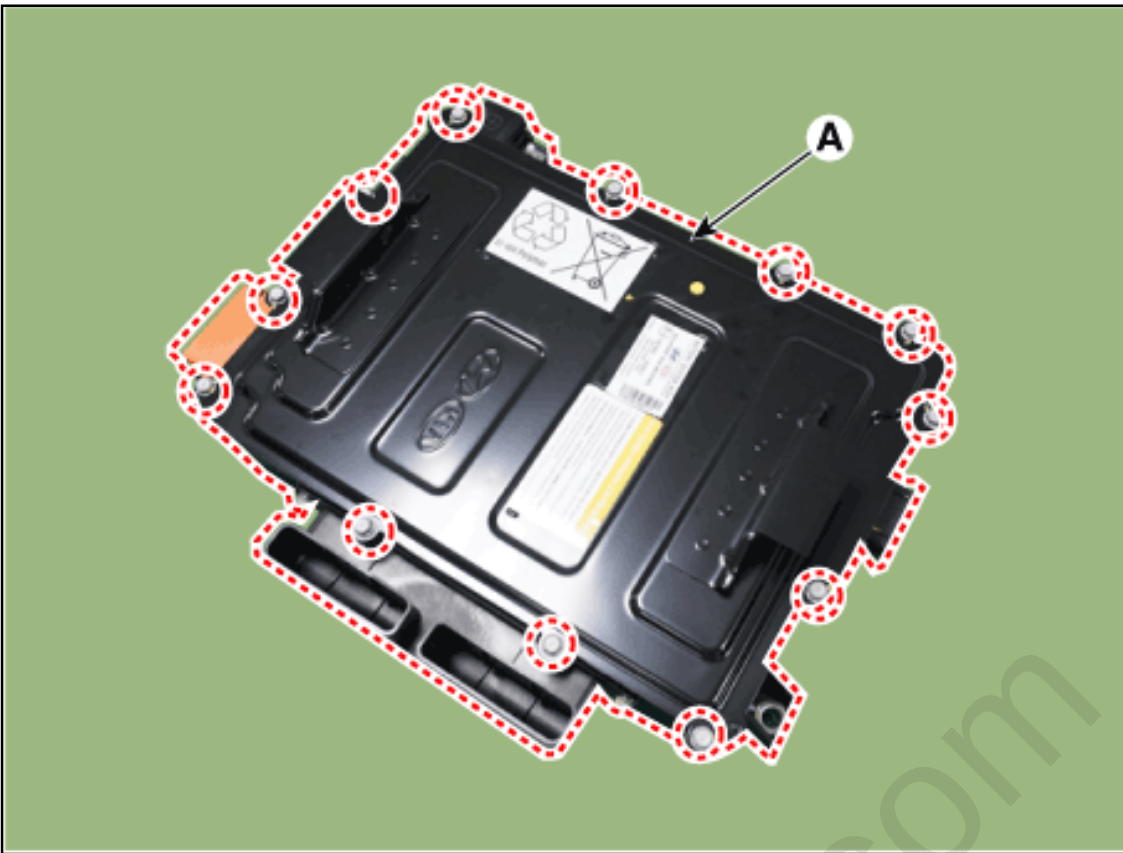
4. Install in the reverse order of removal.

[Battery Module Inlet Duct]

1. Turn ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the 48V battery assembly.
(Refer to 48V Battery System - "Repair procedures")
3. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

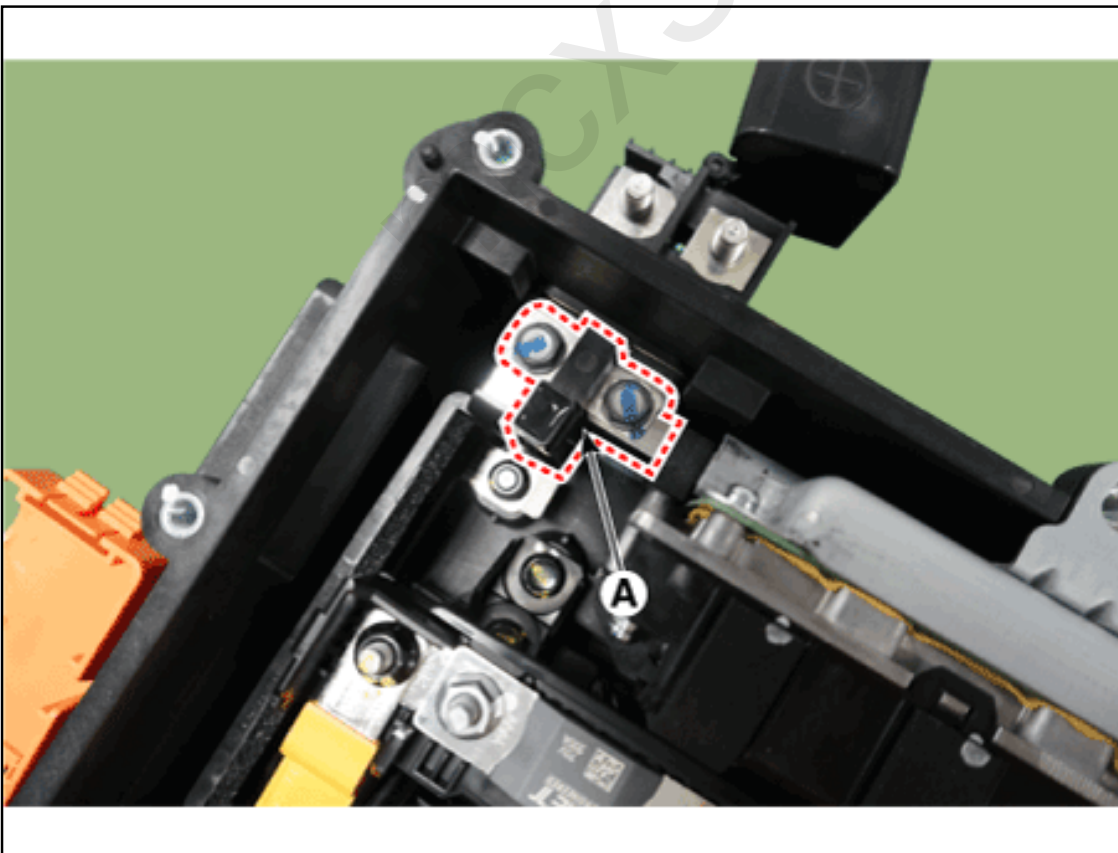
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



4. Remove the terminal capacitor (A) after loosening the mounting bolts.

Tightening torque :

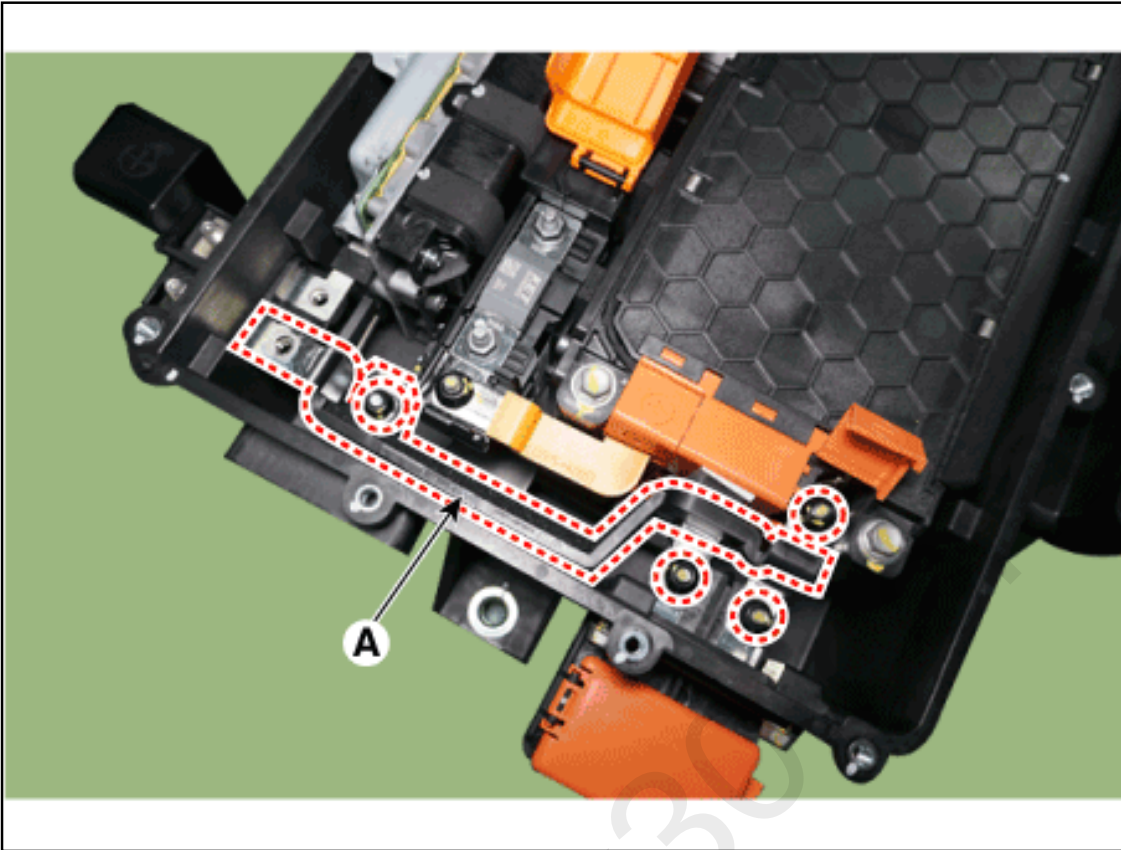
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



5. Remove the mounting nuts and remove the battery module (-) busbar (A).
-

Tightening torque :

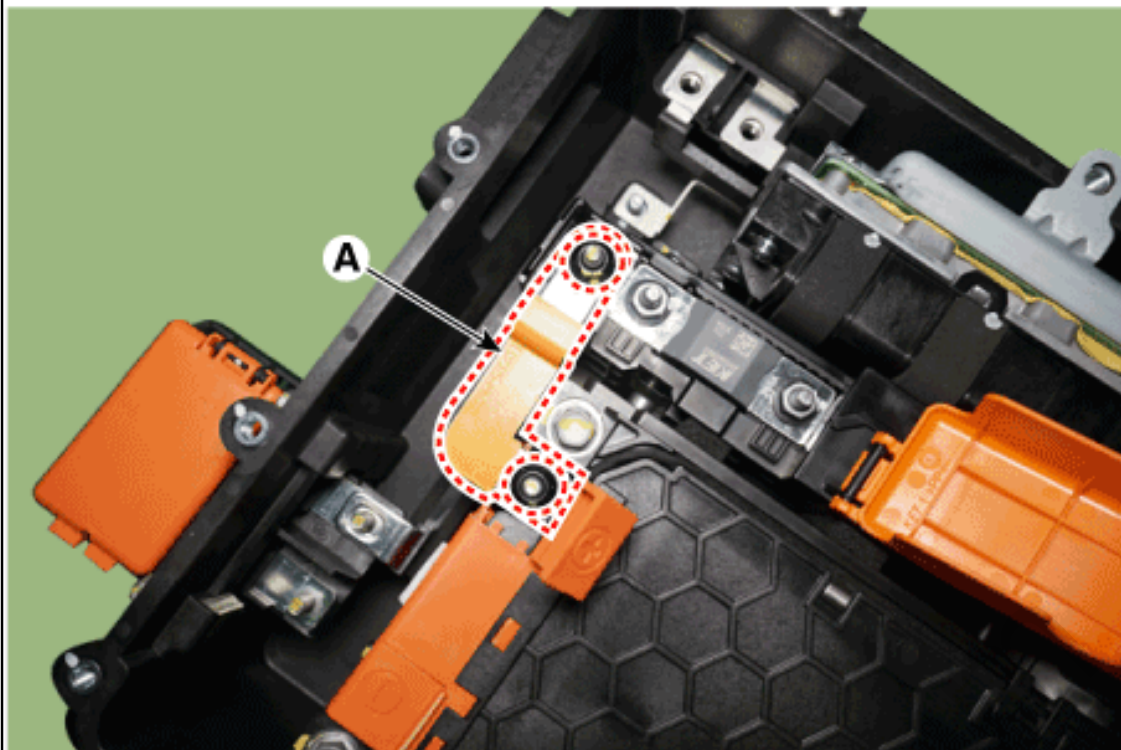
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



6. Remove the mounting nuts and remove the battery module (+) busbar (A).
-

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the BMS wiring harness terminal after loosening the mounting bolts (A).

Tightening torque :

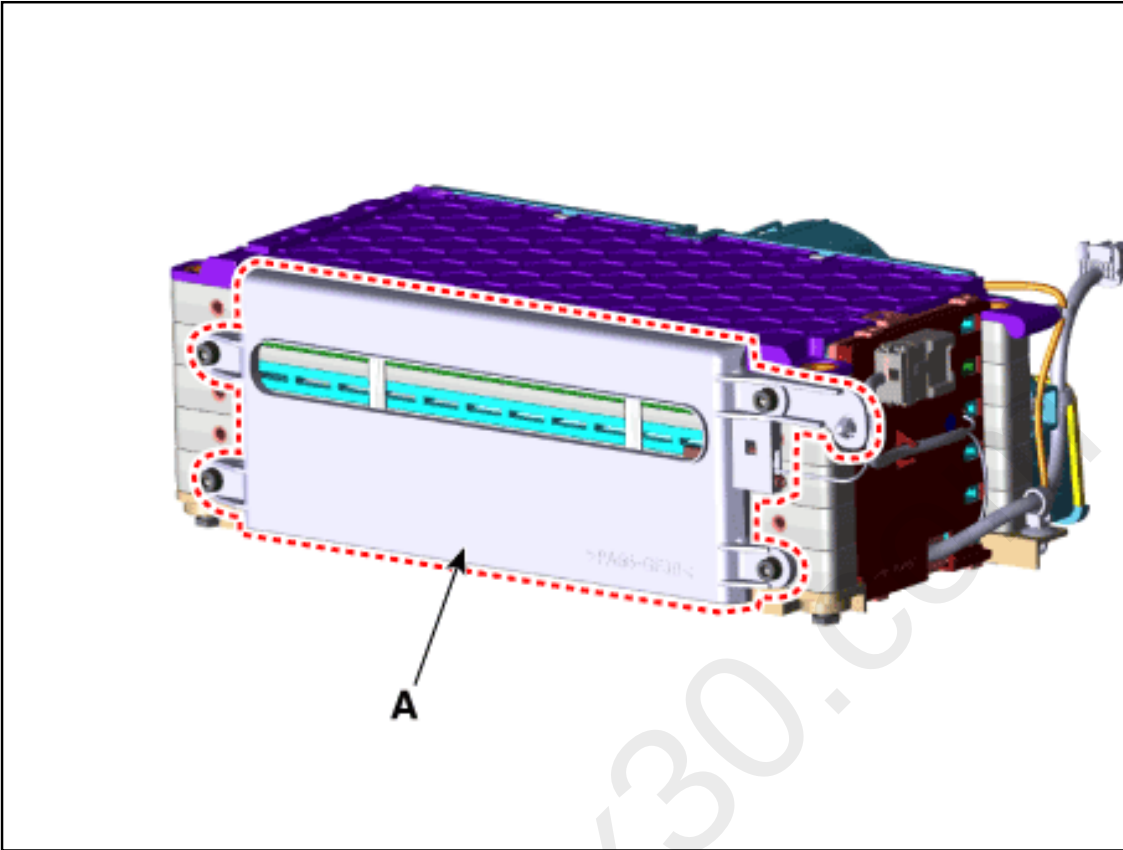
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



8. Remove the battery case assembly.
9. Remove the battery module inlet duct (A) after loosening mounting bolts.

Tightening torque :

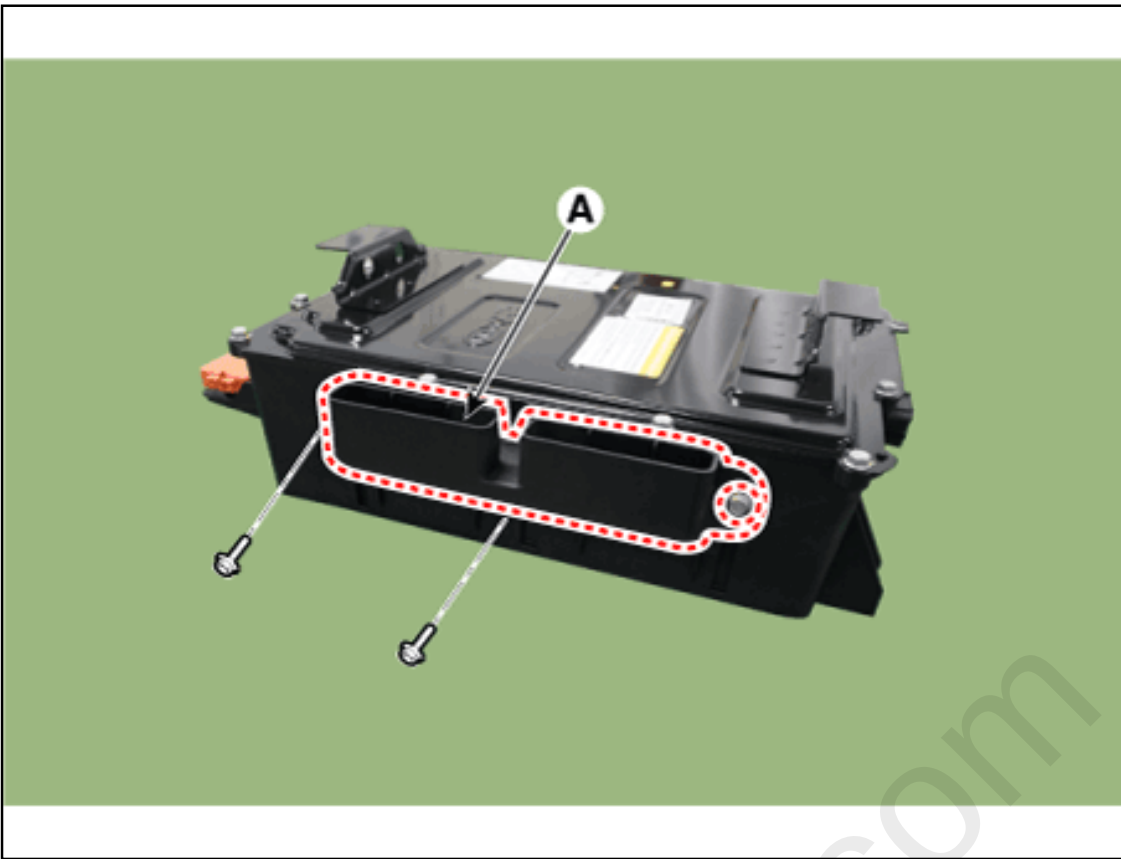
3.4 - 6.4 N.m (0.35 - 0.65 kgf.m, 2.5 - 4.7 lb-ft)



10. Install in the reverse order of removal.

[Battery Module Inlet B Duct]

1. Remove the 48V battery assembly.
(Refer to 48V Battery System - "Repair procedures")
2. Remove the battery pack assembly inlet duct B (A) after loosening the mounting bolts.



3. Install in the reverse order of removal.

Specifications

Item	Specification	
Converter (48V → 12V)	Input Voltage (V)	24 - 54
	Output Voltage (V)	12 - 15.1
	Power (kW)	2.3

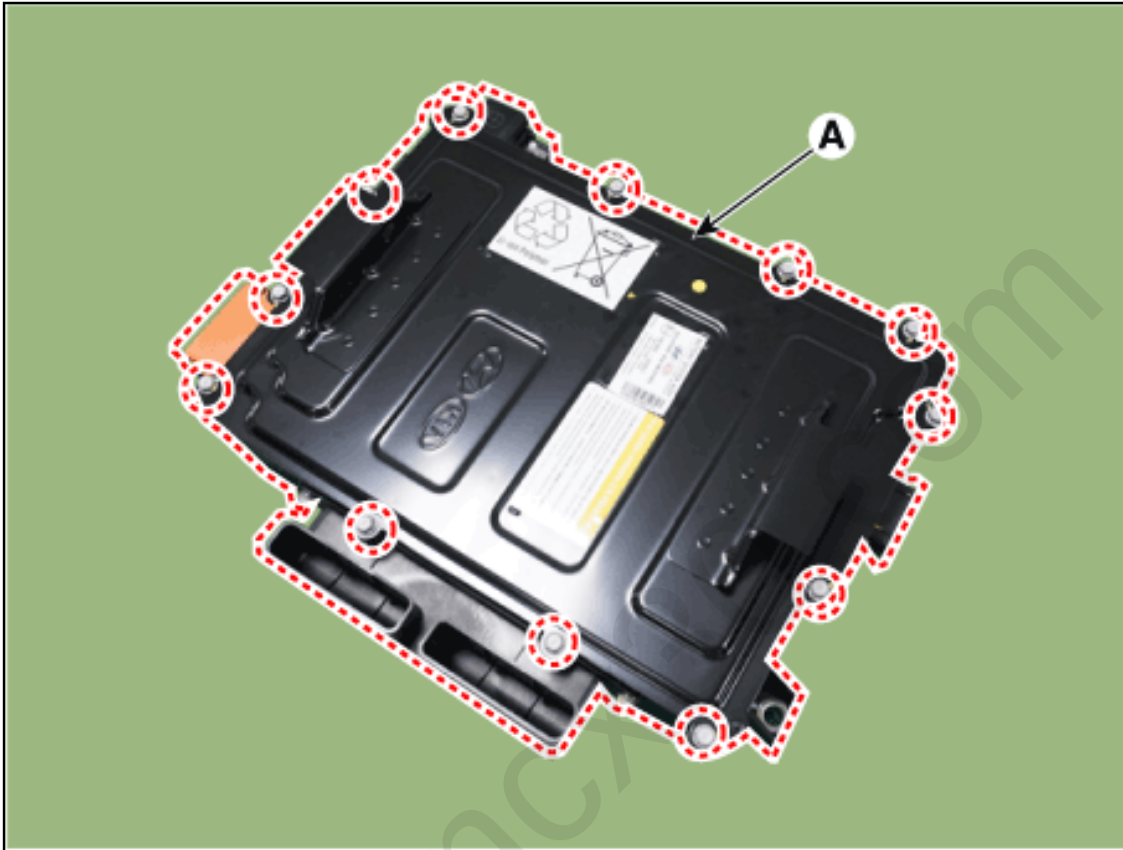
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Removal

1. Turn ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the 48V battery assembly.
(Refer to 48V Battery System - "Repair procedures")
3. Remove the battery cover (A) after loosening the mounting bolts.

Tightening torque :

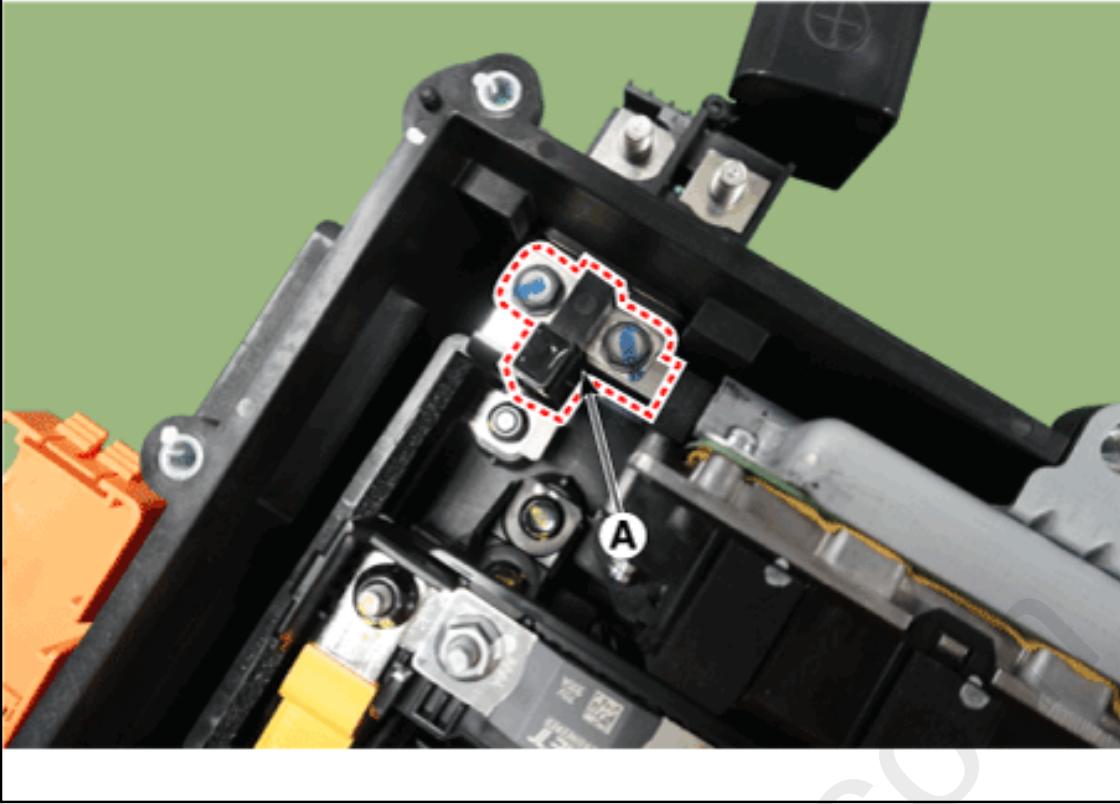
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



4. Remove the terminal capacitor (A) after loosening the mounting bolts.

Tightening torque :

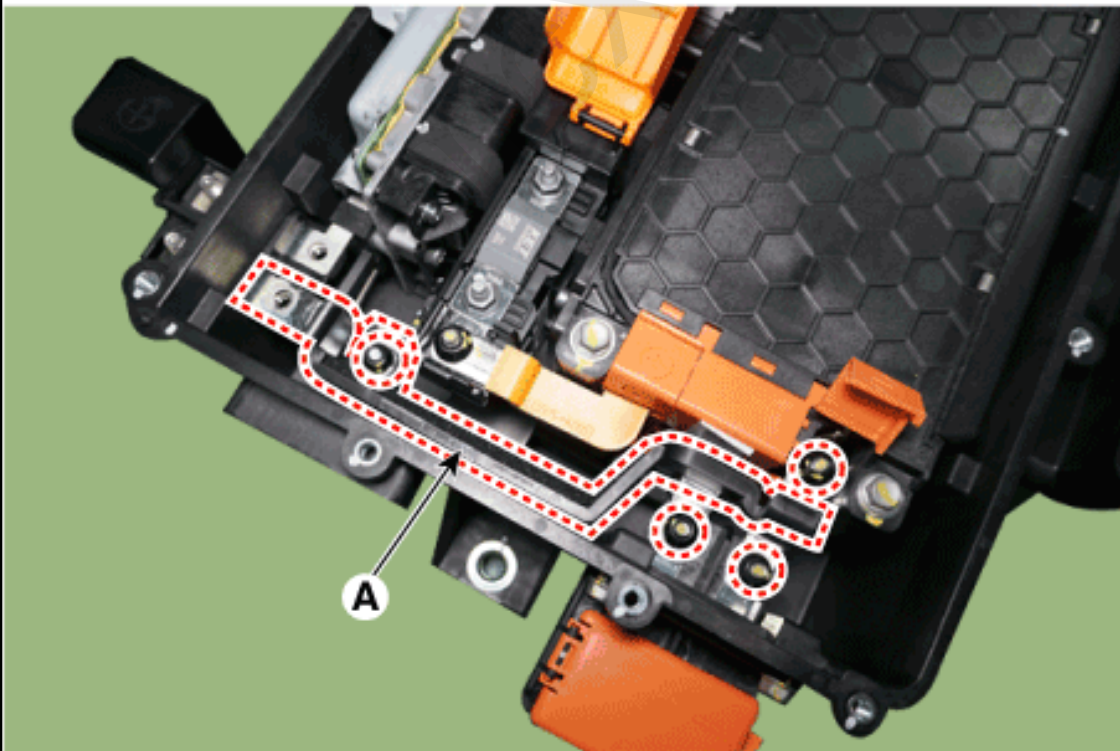
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



5. Remove the mounting nuts and remove the battery module (-) busbar (A).

Tightening torque :

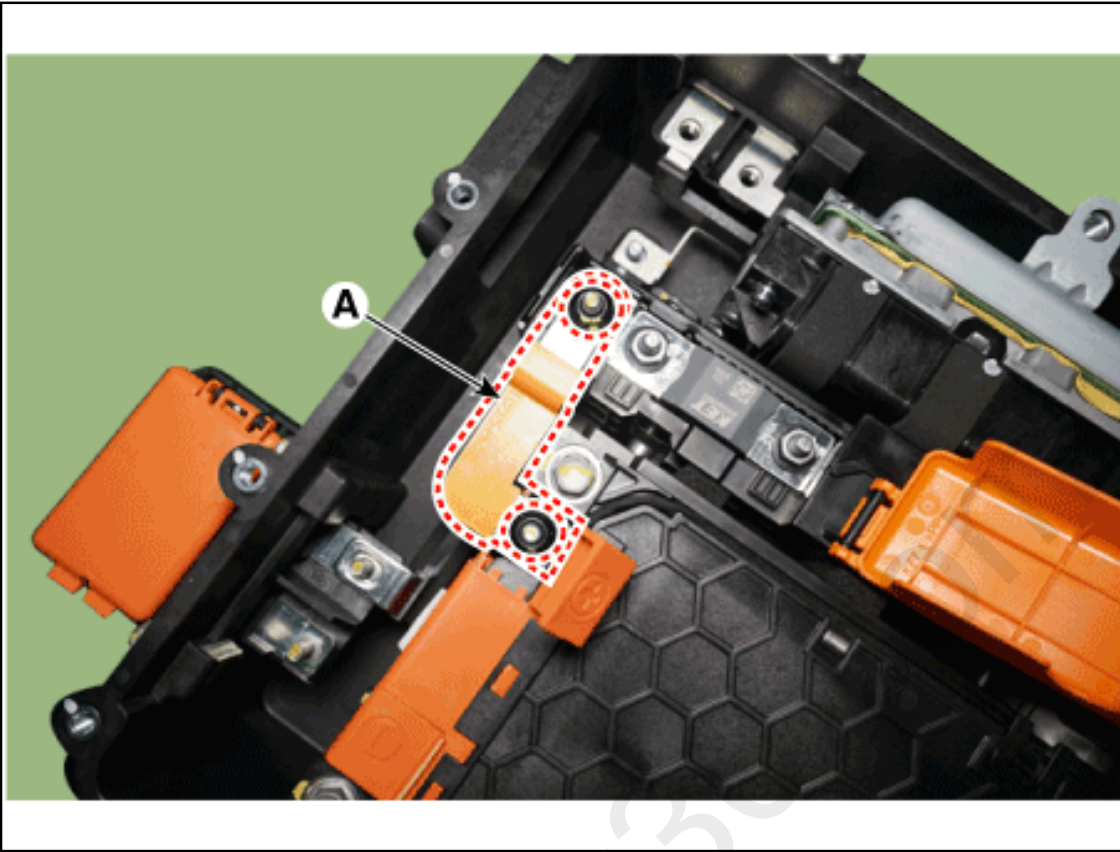
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



6. Remove the mounting nuts and remove the battery module (+) busbar (A).
-

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



7. Remove the BMS wiring harness terminal after loosening the mounting bolts (A).
-

Tightening torque :

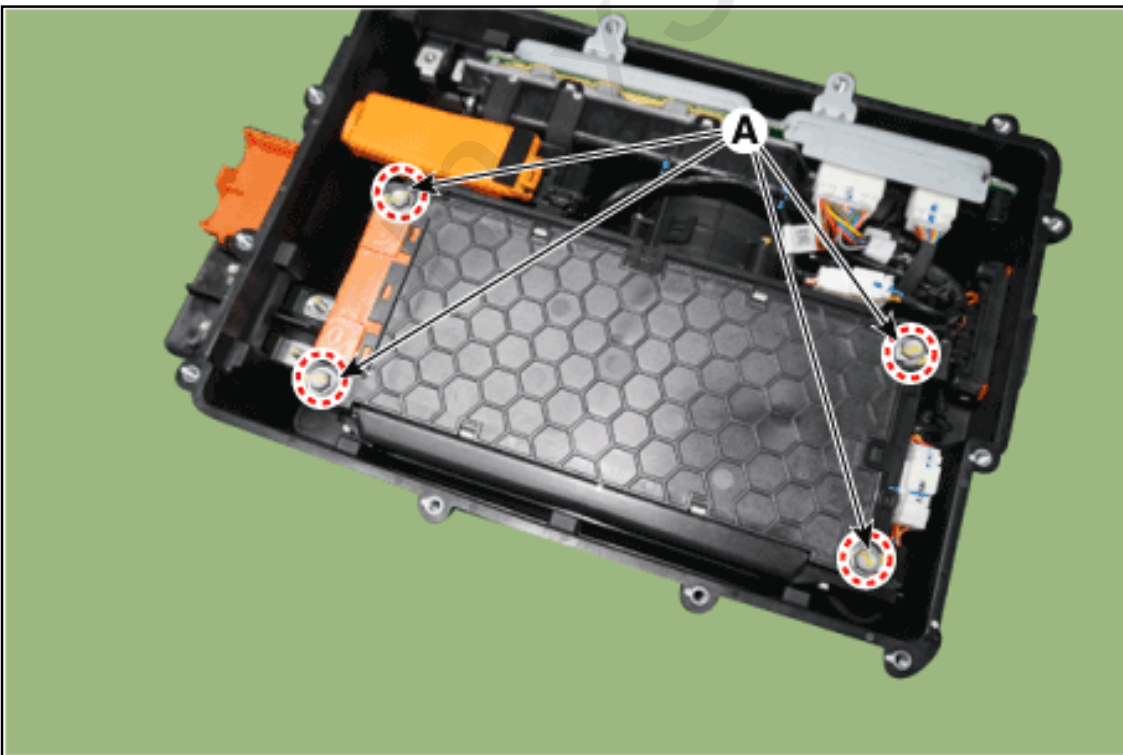
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



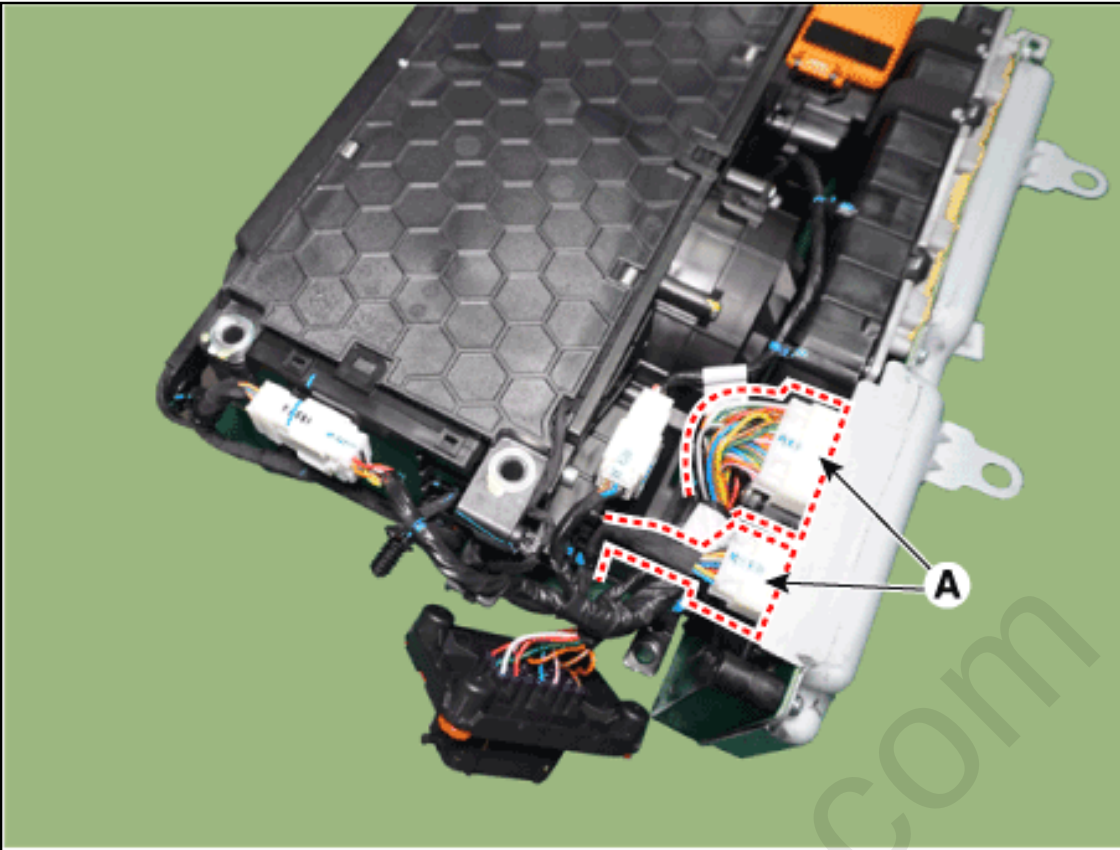
8. Remove the 48V battery case assembly after loosening the mounting bolts (A).

Tightening torque :

7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



9. Disconnect the BMS & LDC connectors (A).



10. Remove the BMS & LDC assembly.



Installation

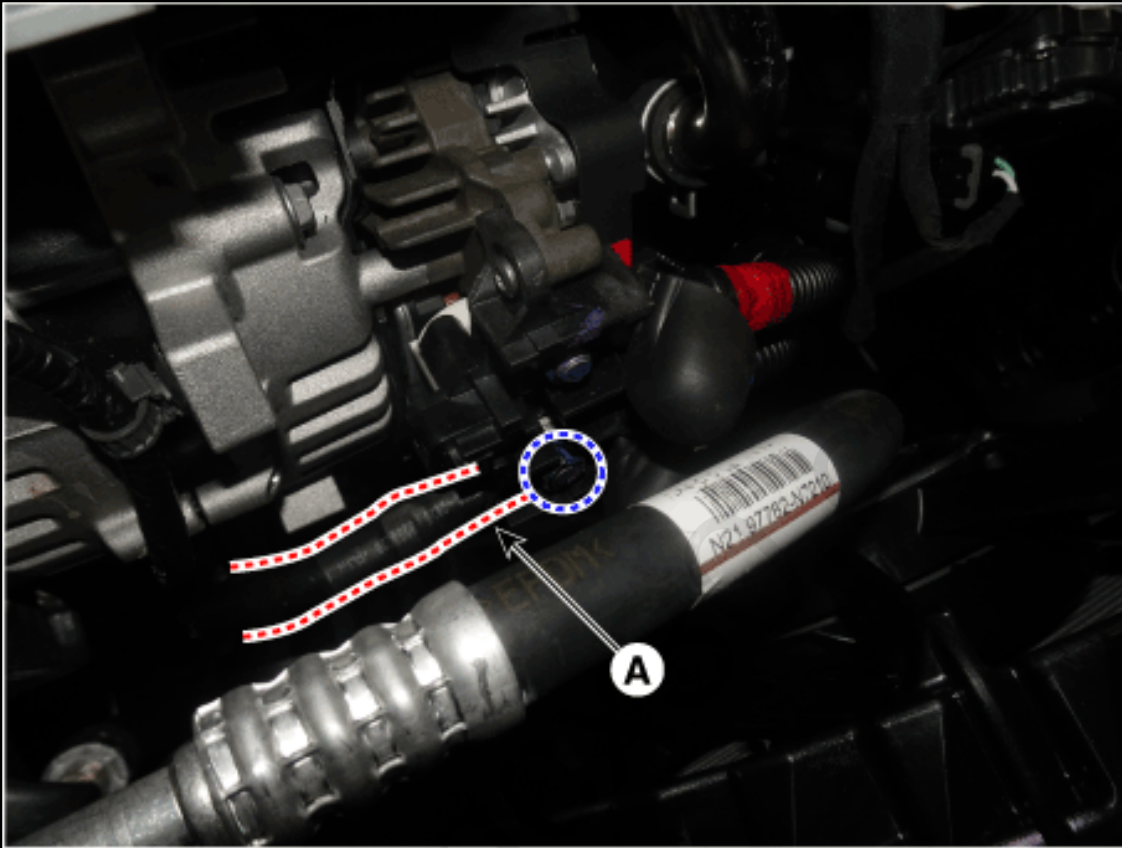
1. Install in the reverse order of removal.

Removal

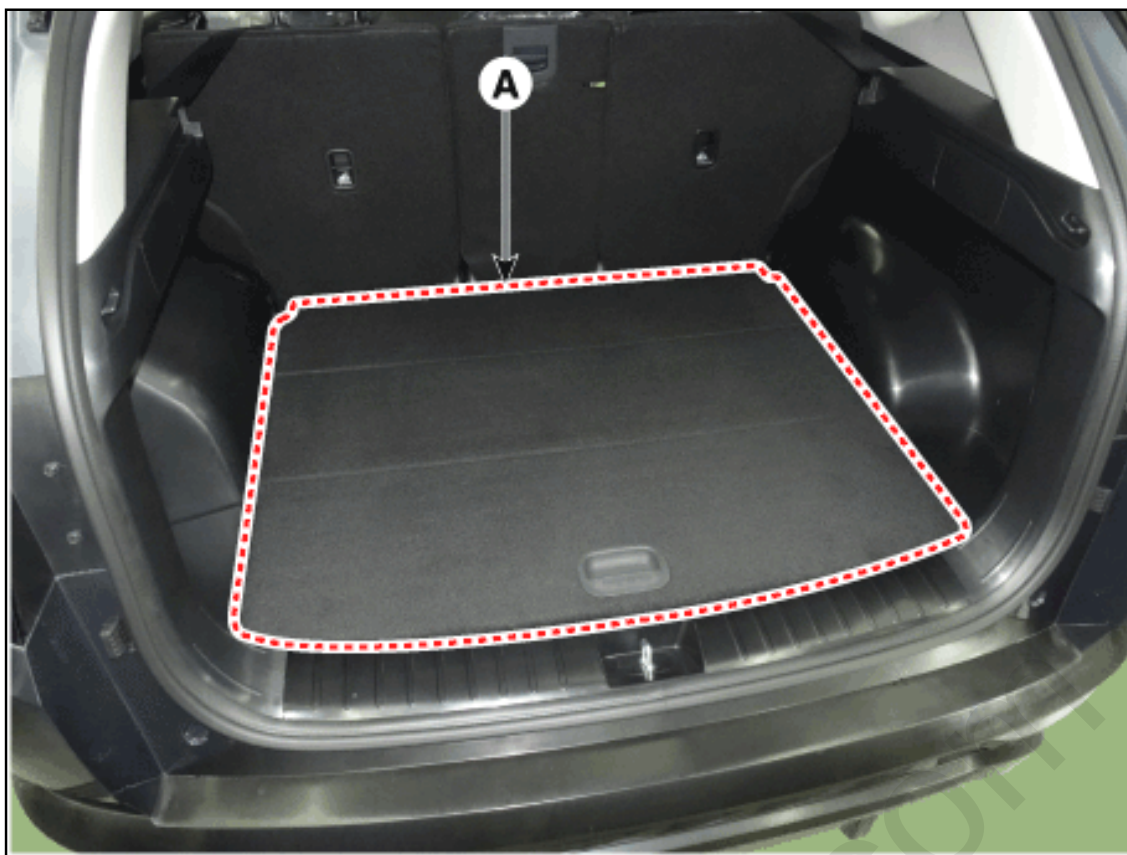
1. Turn the ignition switch OFF and disconnect the battery (-) terminal.
2. Remove the engine room under cover.
(Refer to Engine Mechanical System - "Engine Room Under Cover")
3. Disconnect the ground cable (A).

Tightening torque :

18.6 - 24.5 N.m (1.9 - 2.5 kgf.m, 13.7 - 18.1 lb-ft)



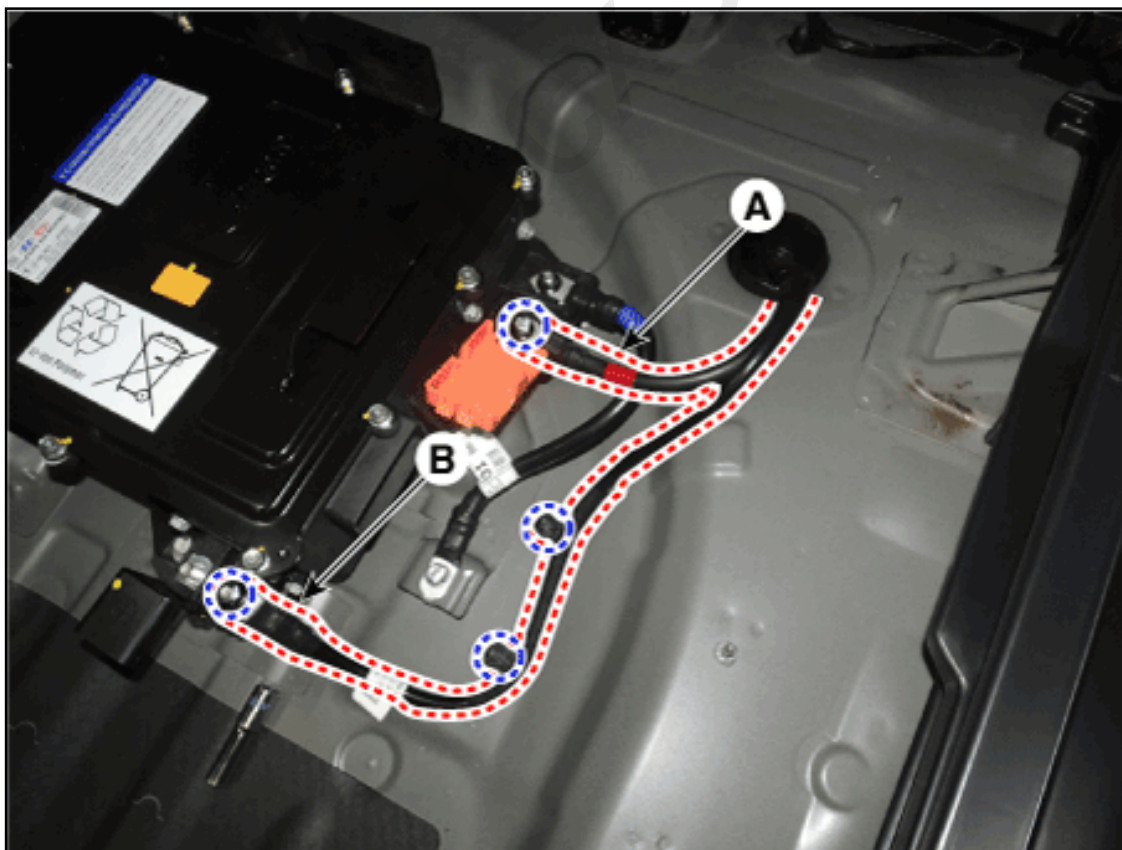
4. Remove the luggage board (A).



5. Disconnect the inverter power cable (A) and 12V (+) cable (B).

Tightening torque :

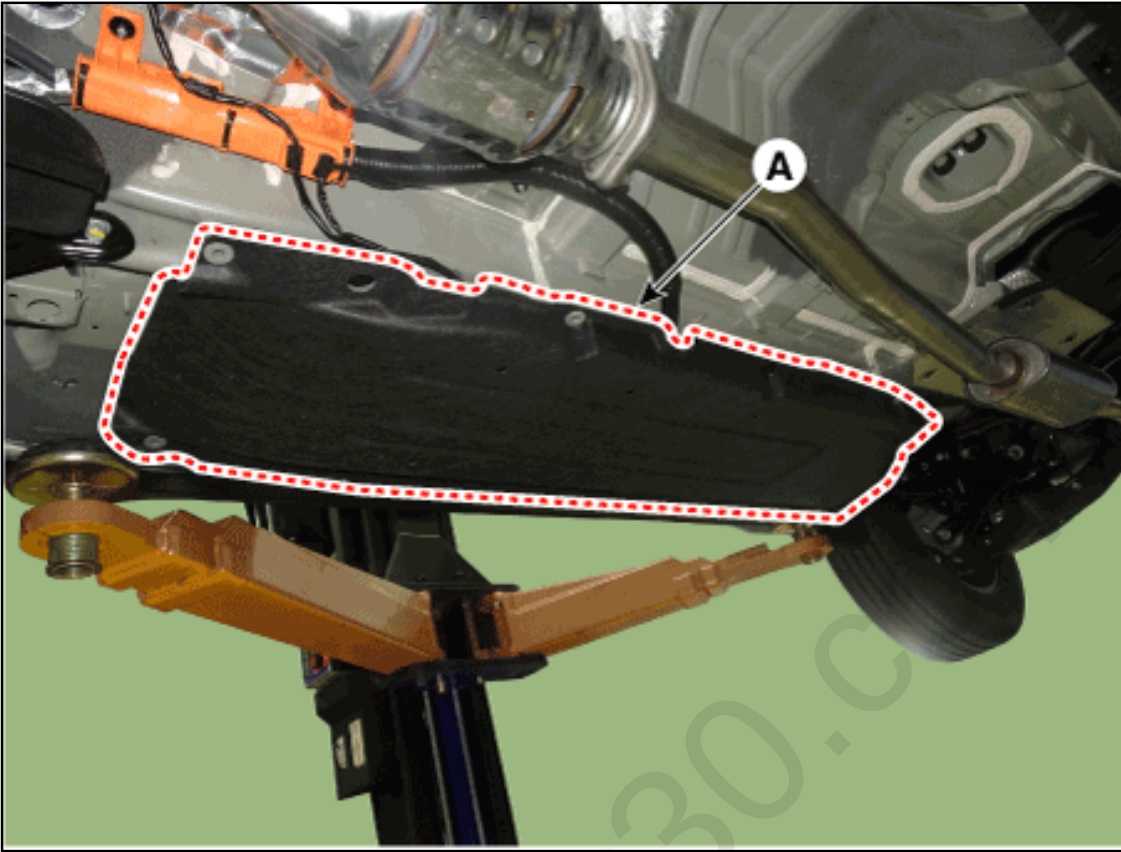
26.5 - 32.4 N.m (2.7 - 3.3 kgf.m, 19.5 - 23.9 lb-ft)



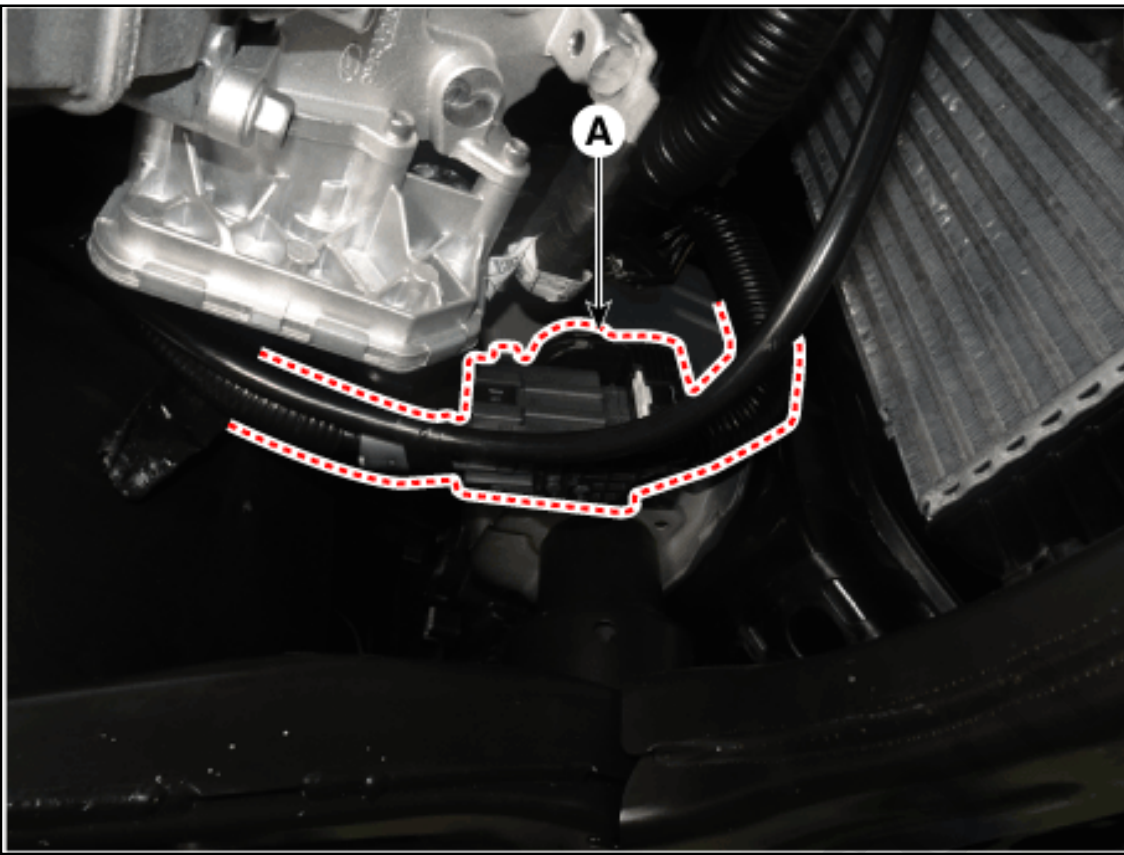
6. Remove the RH floor under cover (A).

Tightening torque :

9.8 - 11.8 N.m (1.0 - 1.2 kgf.m, 7.2 - 8.7 lb-ft)



7. Disconnect the extension connector (A).

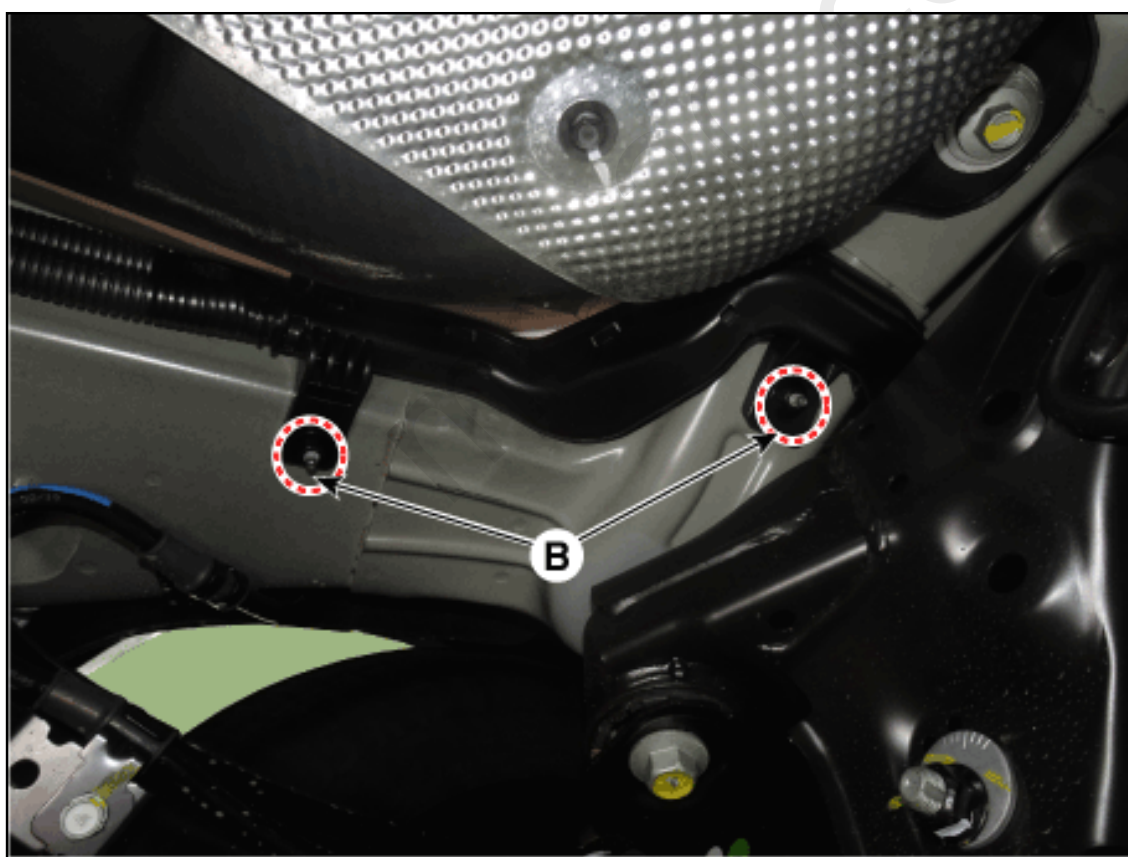
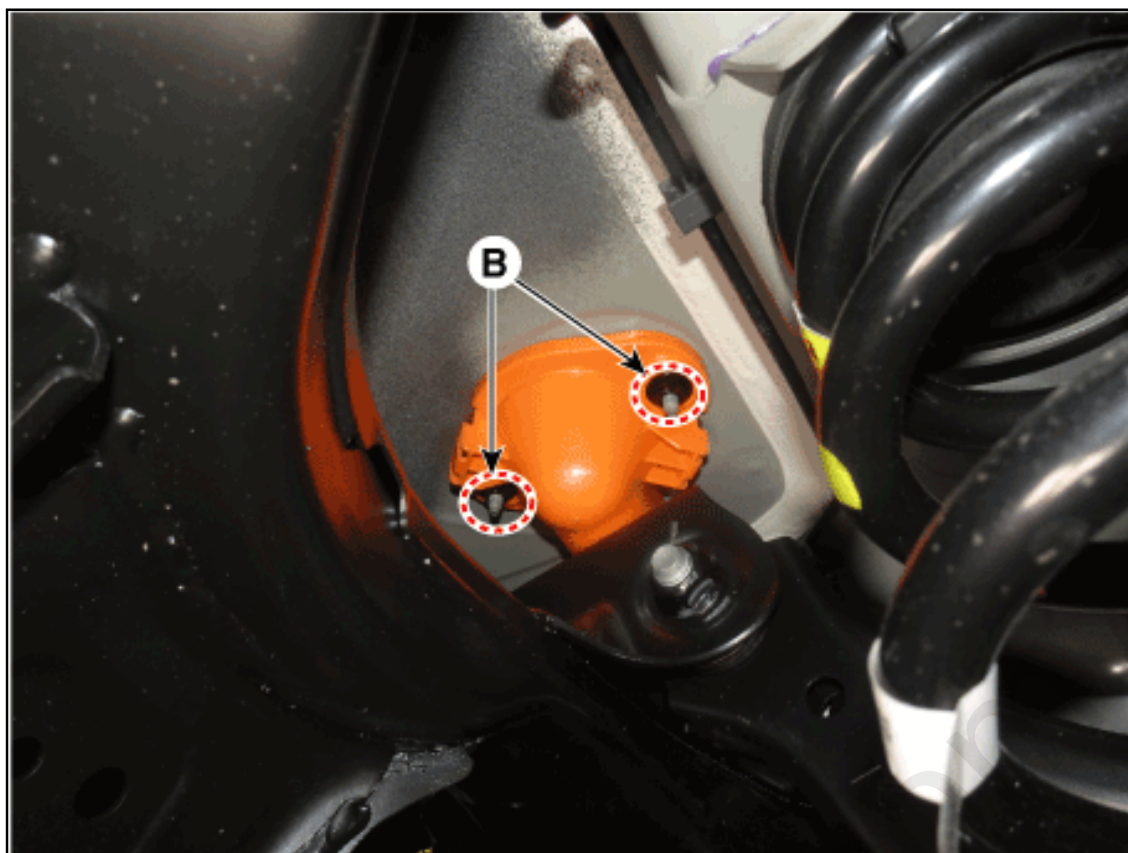


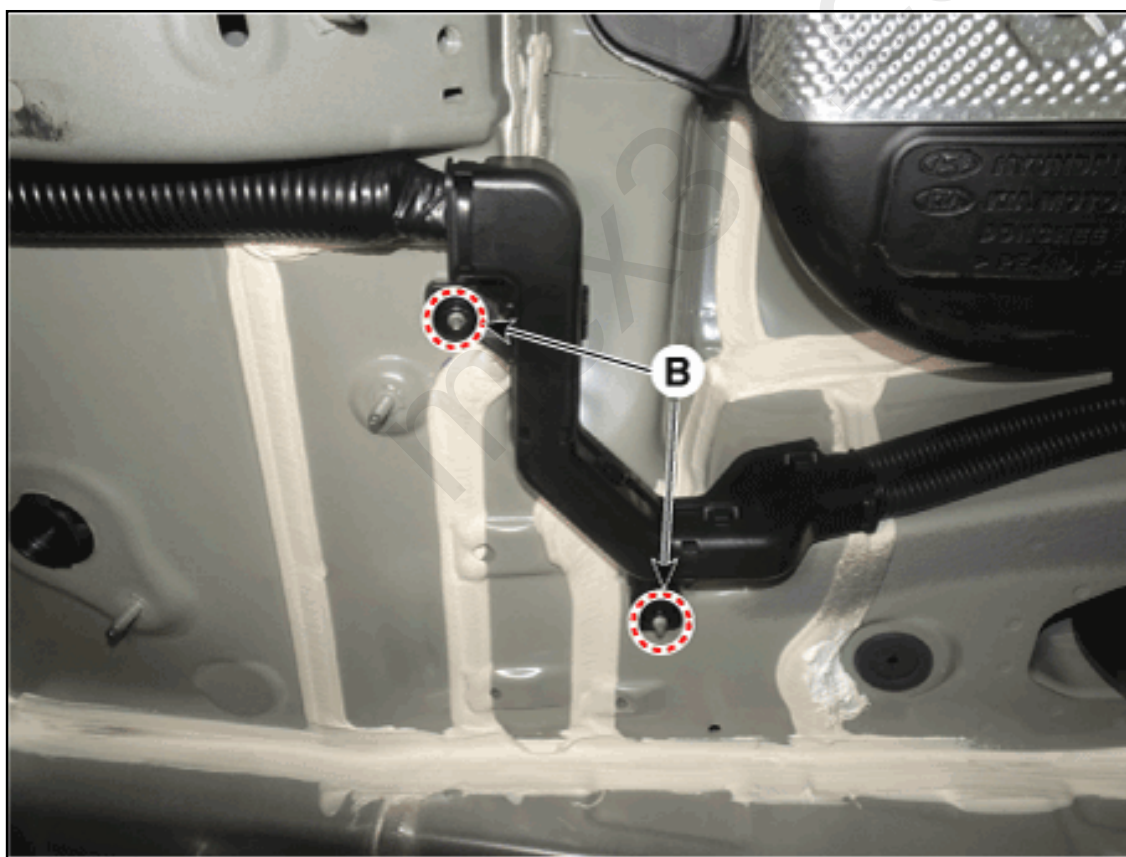
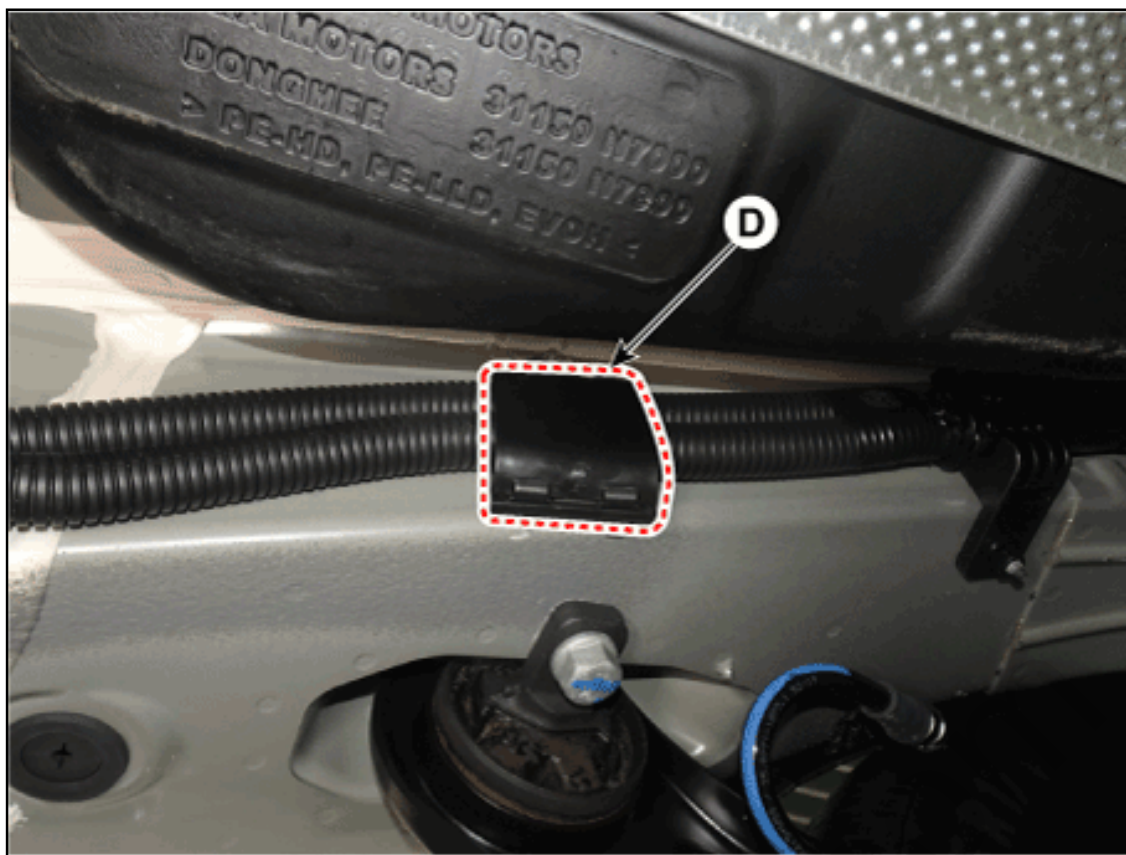
8. Remove the rear cross member.
(Refer to Suspension System - "Rear Cross Member")
9. Remove the 48V battery power cable ground bolt (A), nuts (B) and then separate the fastener (C) and bracket (D).

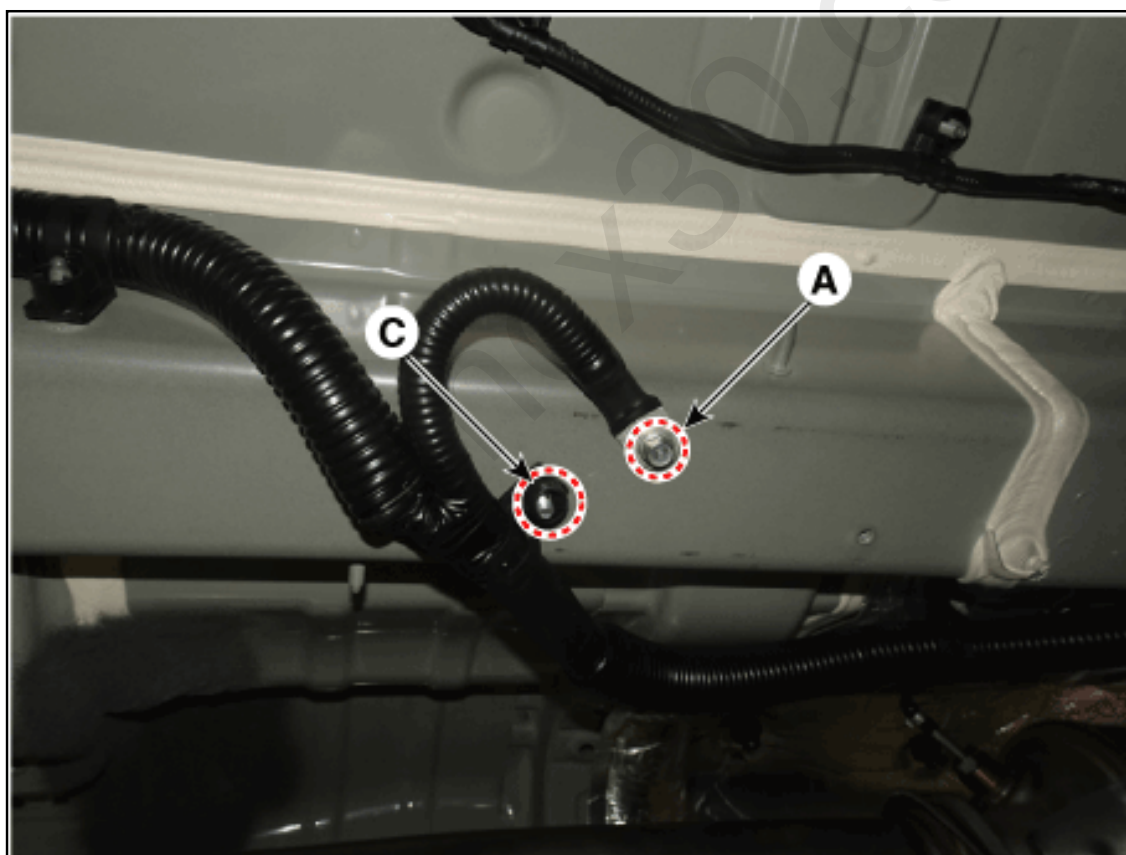
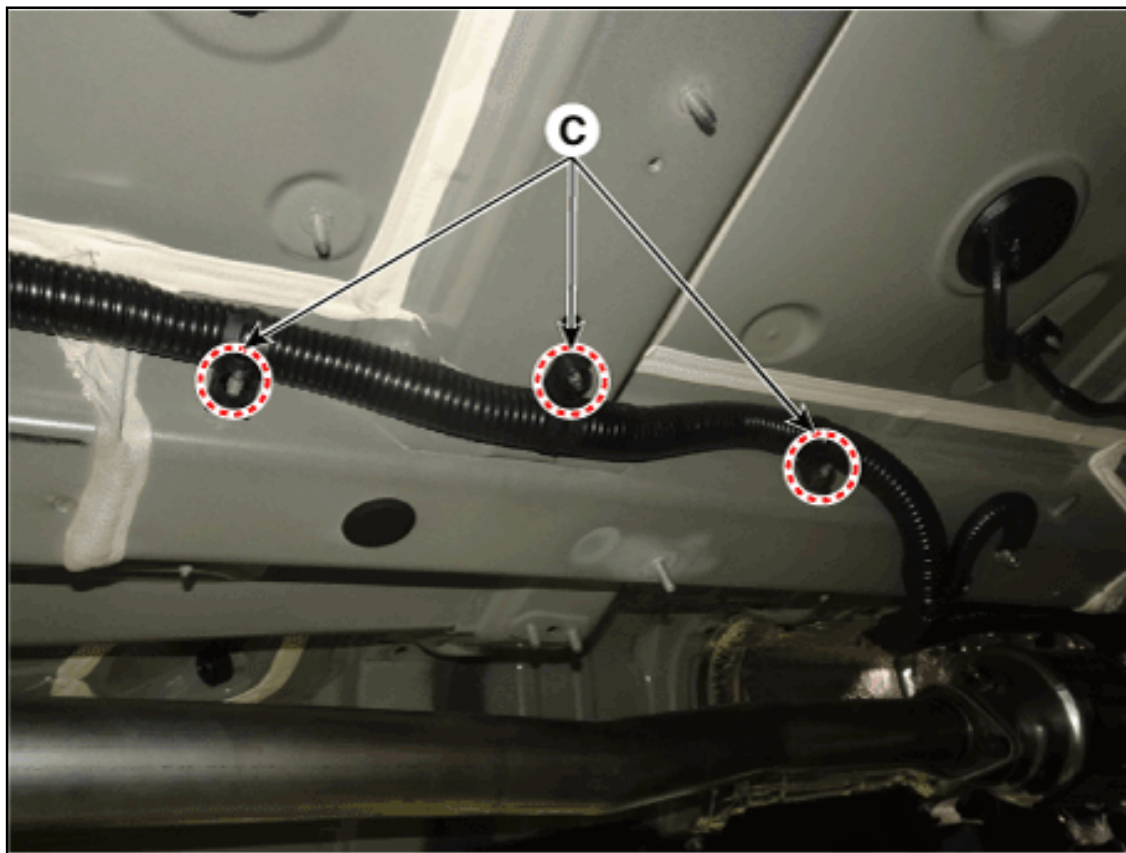
Tightening torque :

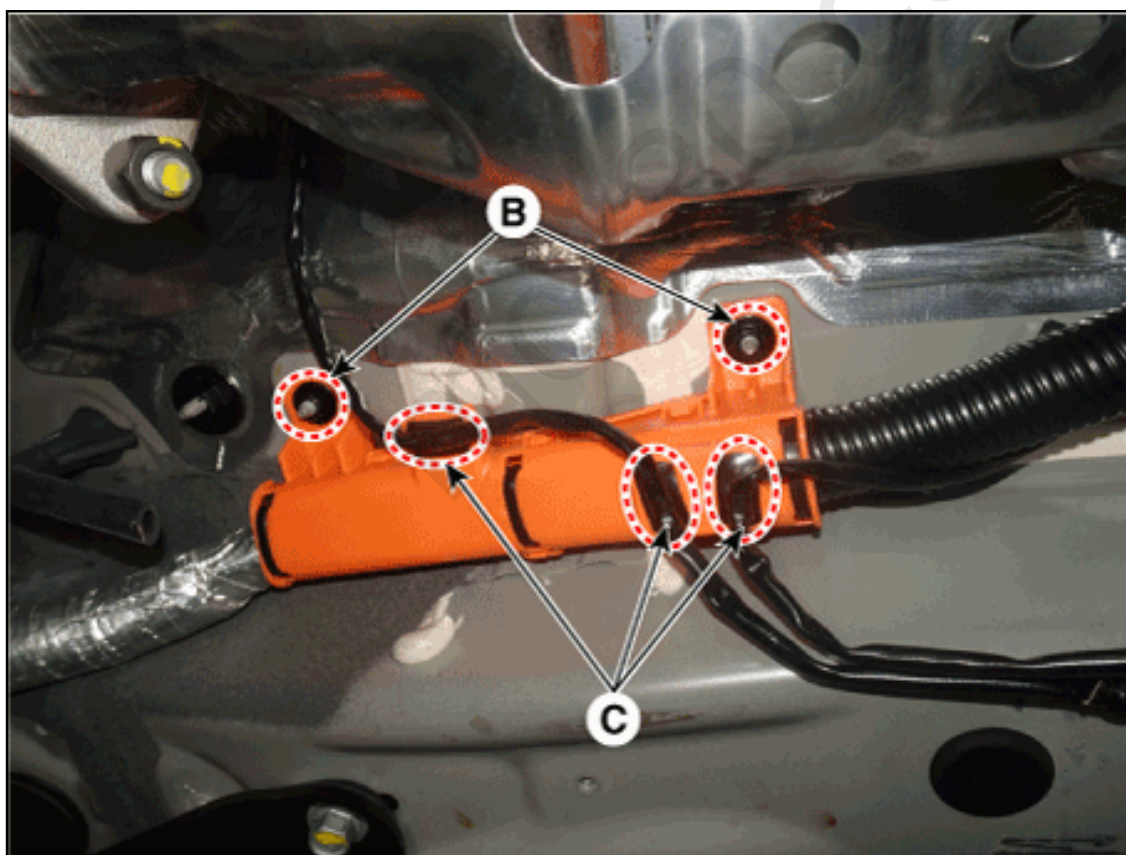
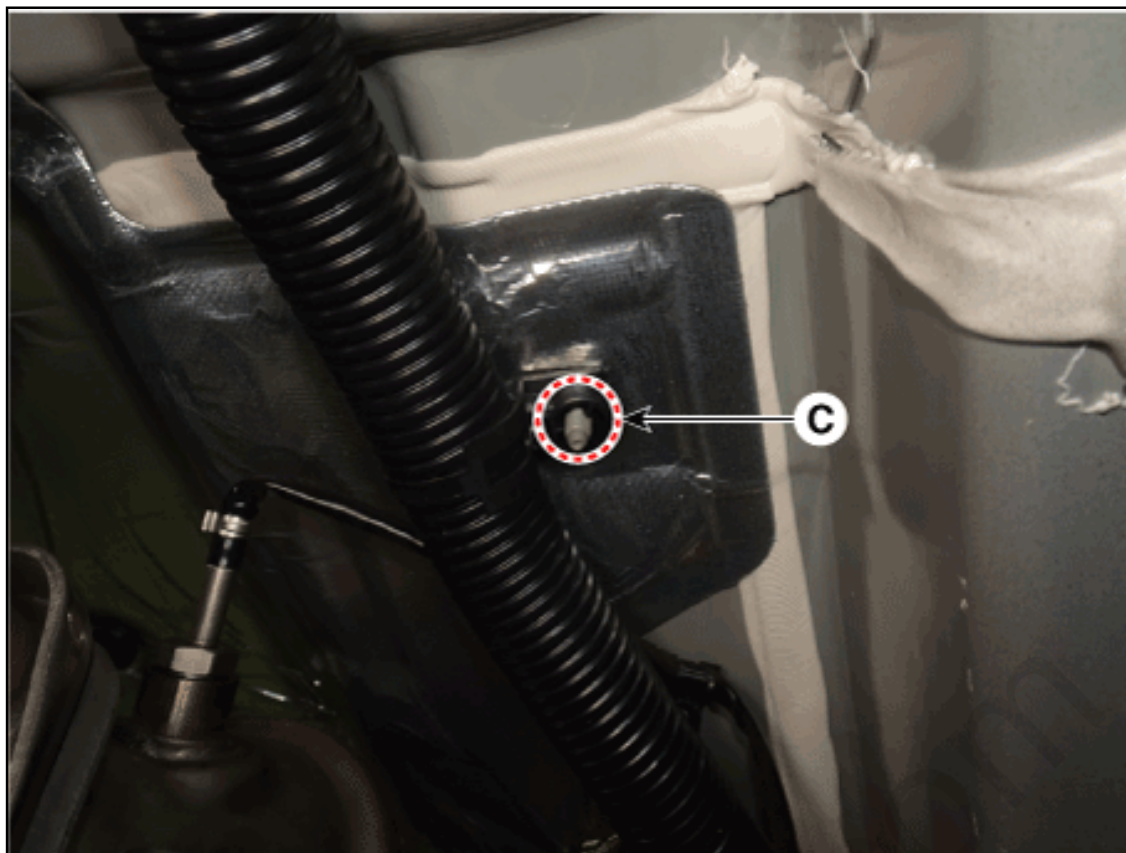
Bolt : 9.8 - 11.8 N.m (1.0 - 1.2 kgf.m, 7.2 - 8.7 lb-ft)

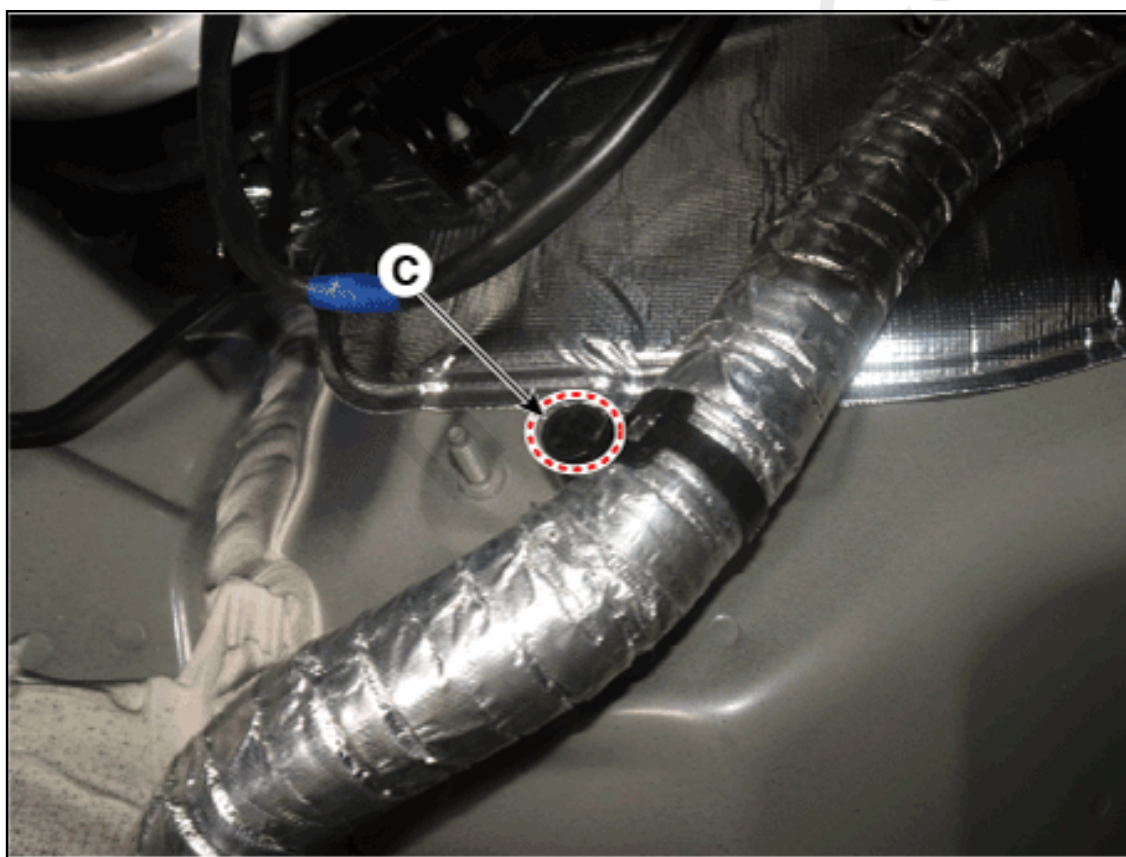
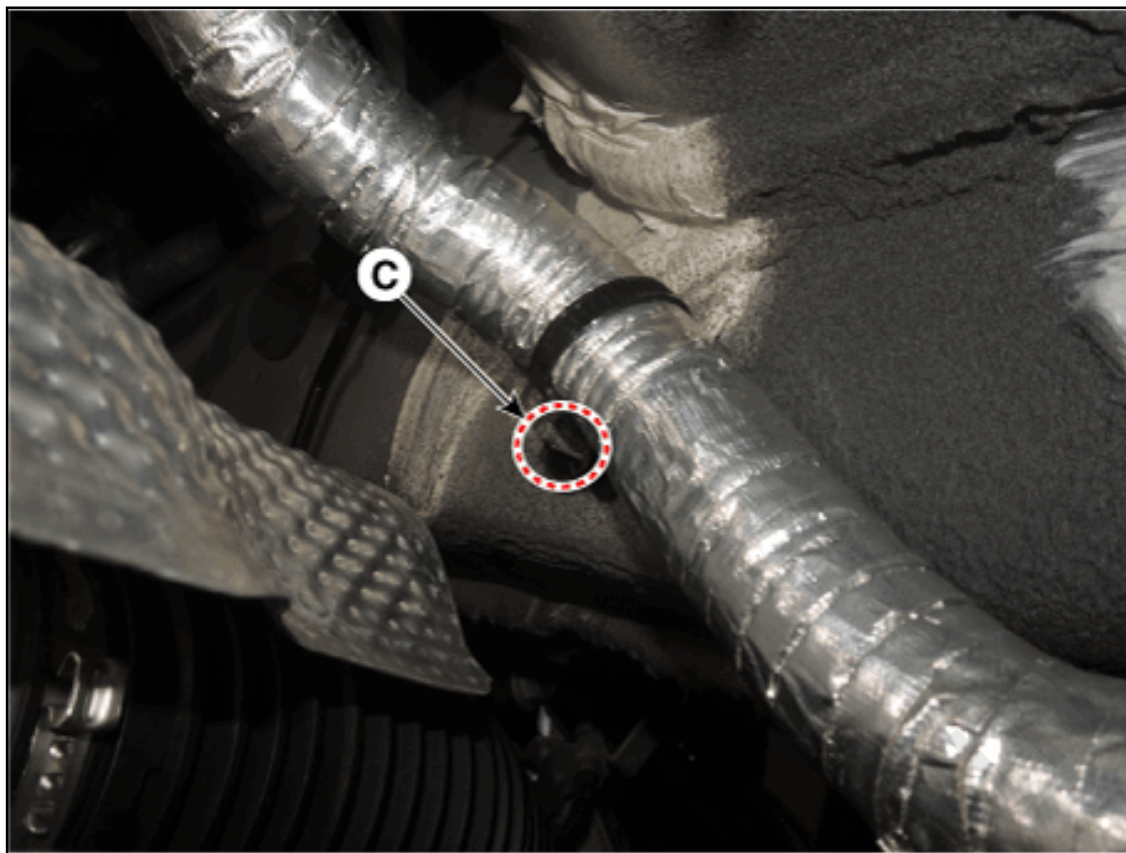
Nuts : 7.8 - 9.8 N.m (0.8 - 1.0 kgf.m, 5.8 - 7.2 lb-ft)

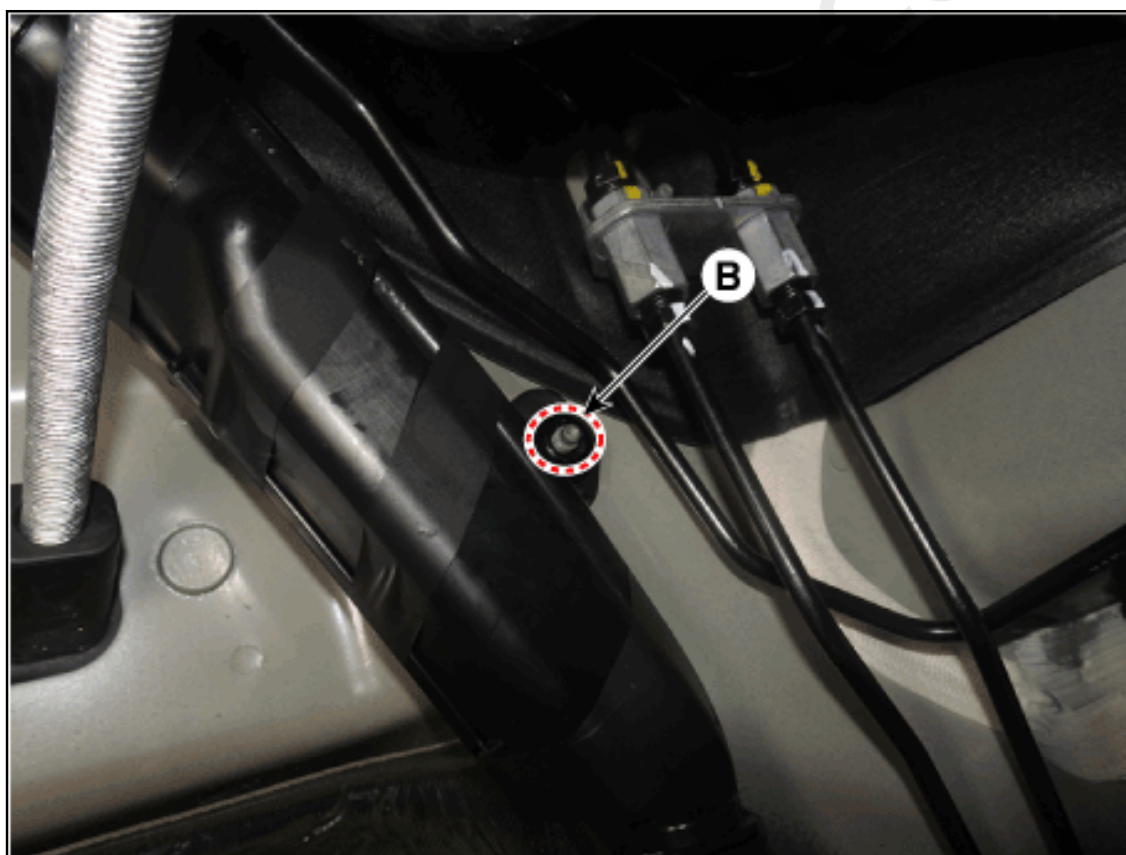
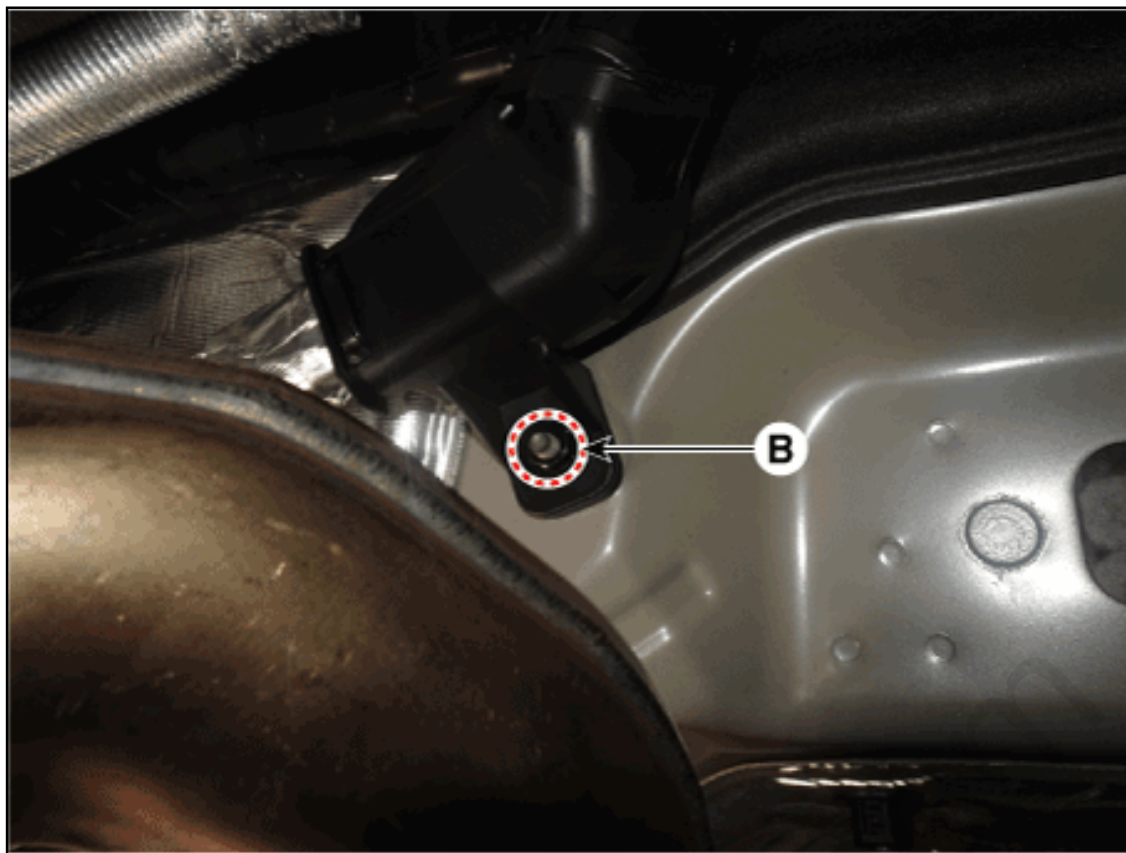




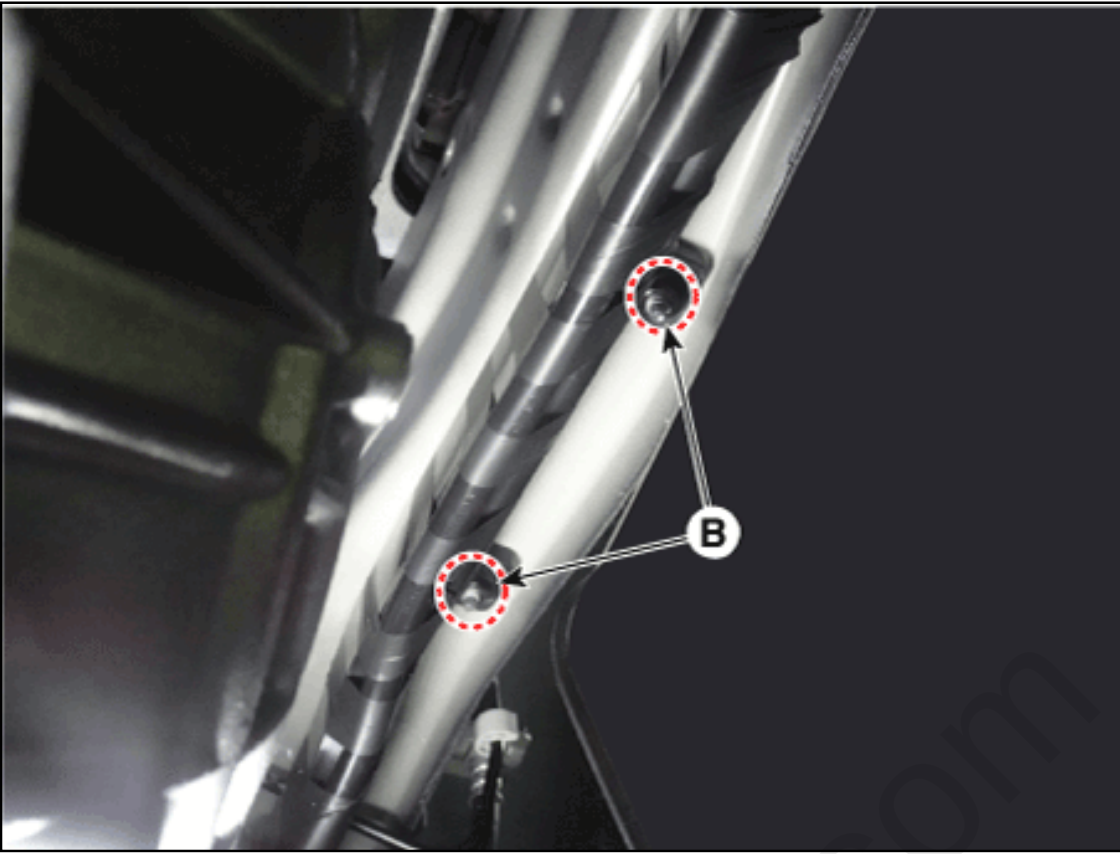










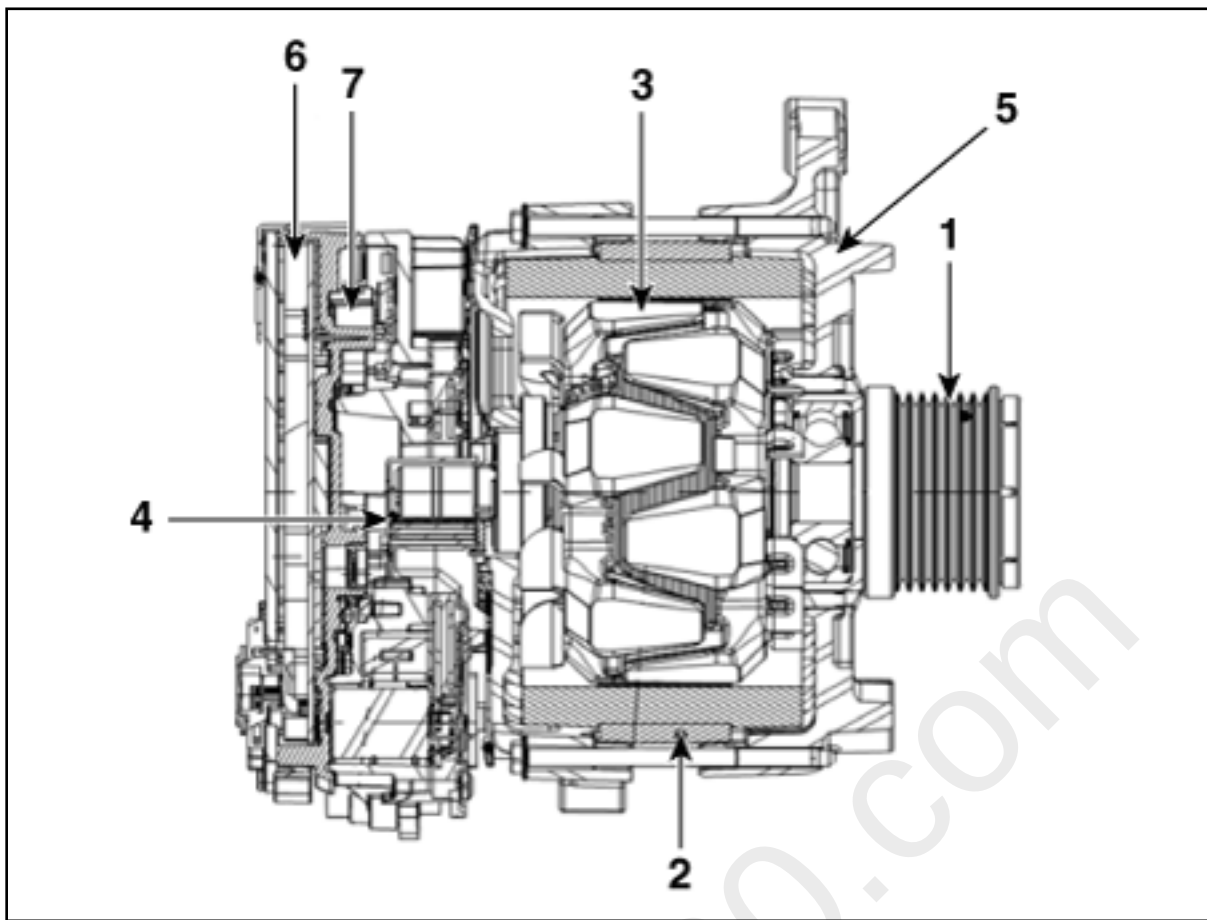


10. Remove the 48V battery power cable.

Installation

1. Install in the reverse order of removal.

Components



- 1. Pulley
- 2. Stator assembly
- 3. Rotor assembly
- 4. Brush holder assembly

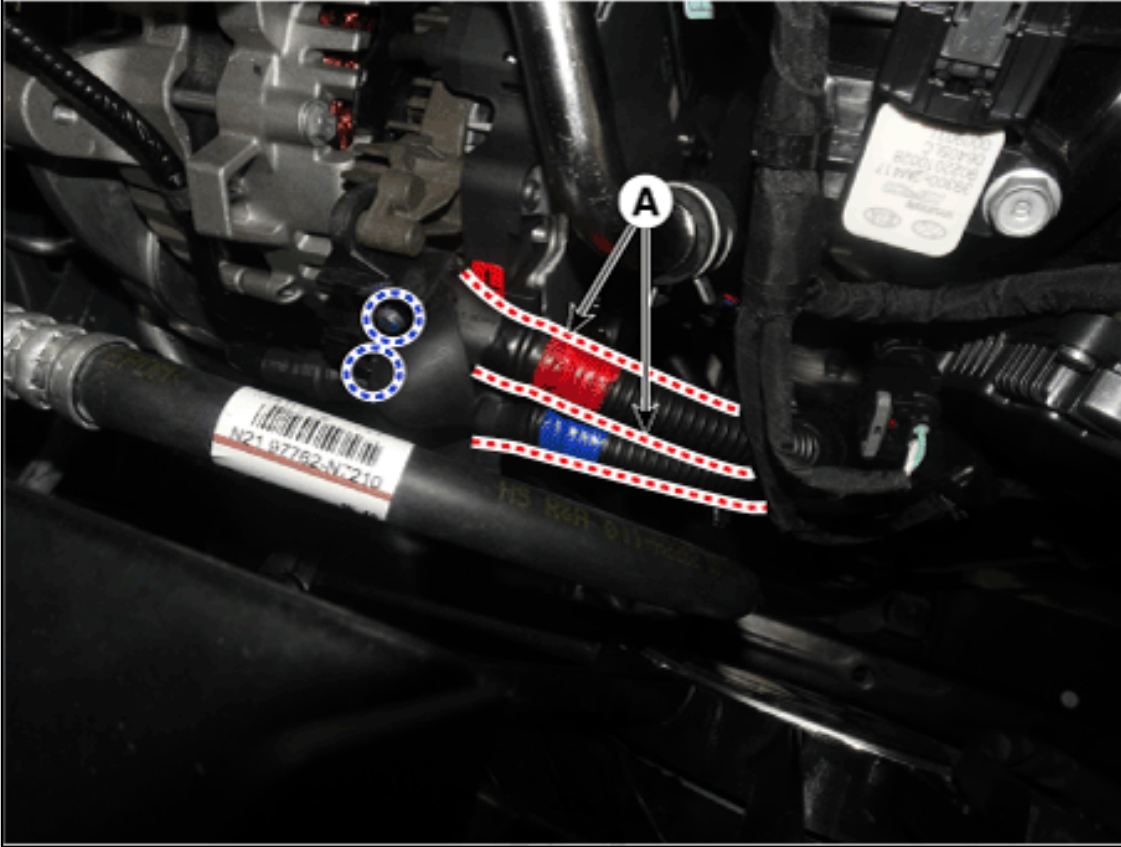
- 5. Front bracket assembly
- 6. Rear bracket assembly
- 7. Inverter assembly

Removal

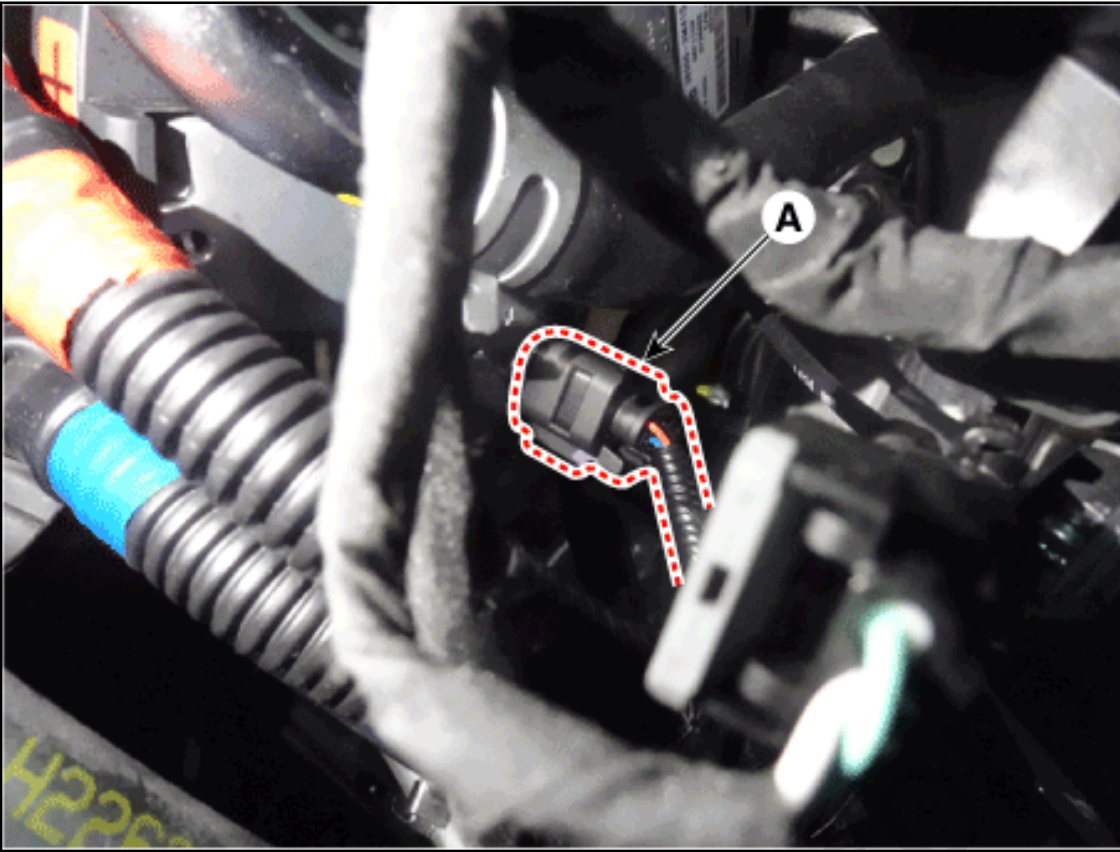
1. Turn the ignition switch OFF and disconnect the battery (-) terminal.
2. Disconnect the mild hybrid starter generator (MHSG) cables (A)

Tightening torque :

18.6 - 24.5 N.m (1.9 - 2.5 kgf.m, 13.7 - 18.1 lb-ft)



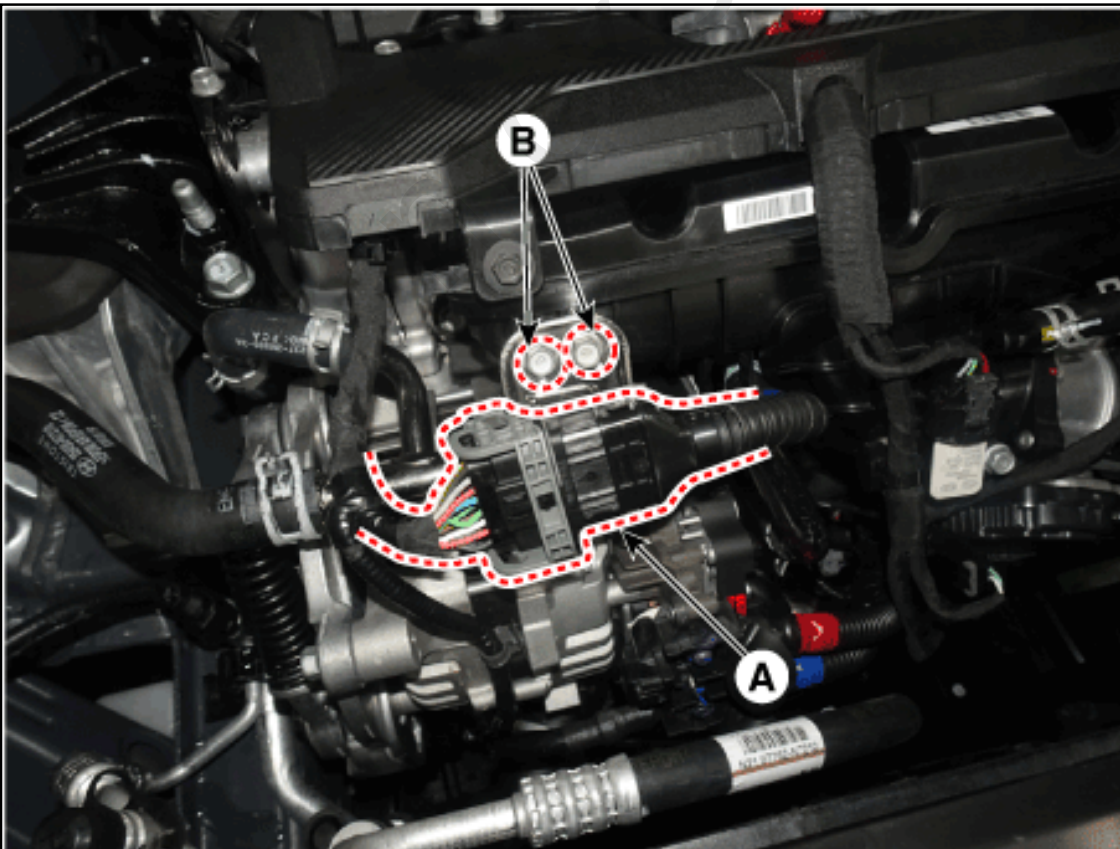
3. Disconnect the mild hybrid starter generator (MHSG) connector (A).



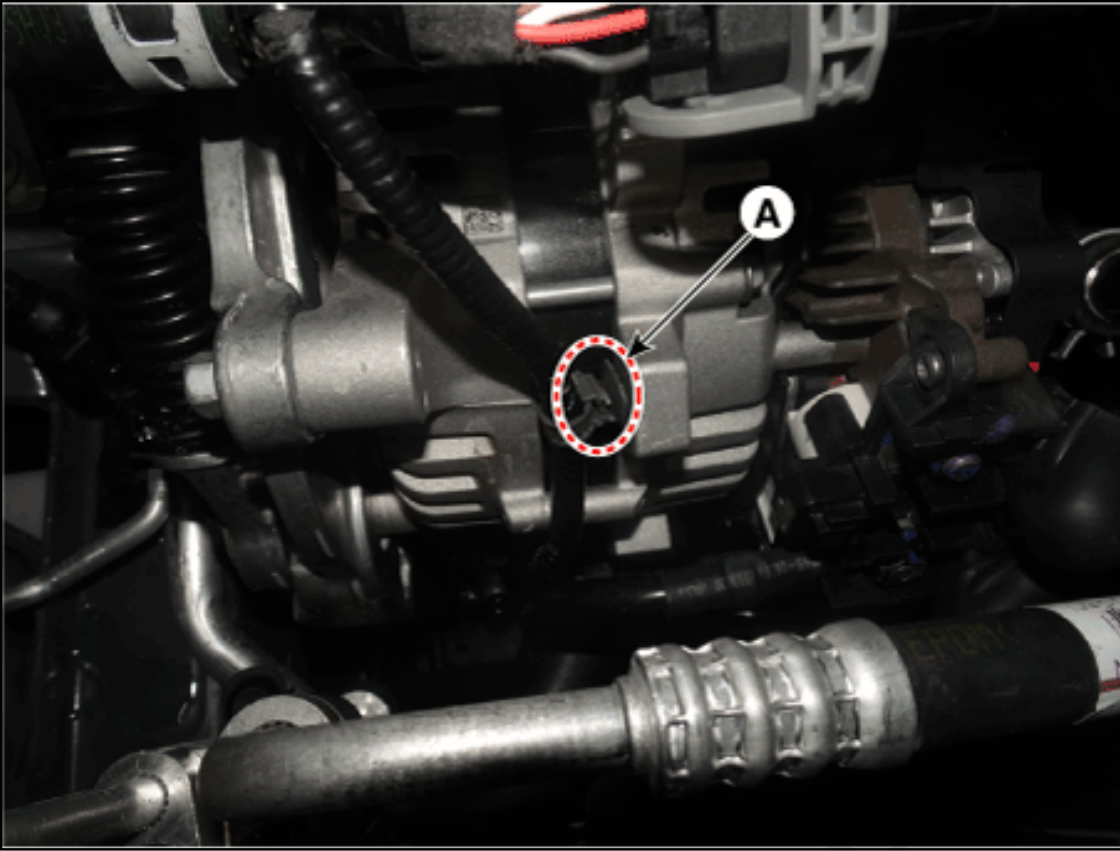
4. Disconnect the extension connector (A) and then remove the turbo charger coolant pipe mounting bolts (B).

Tightening torque :

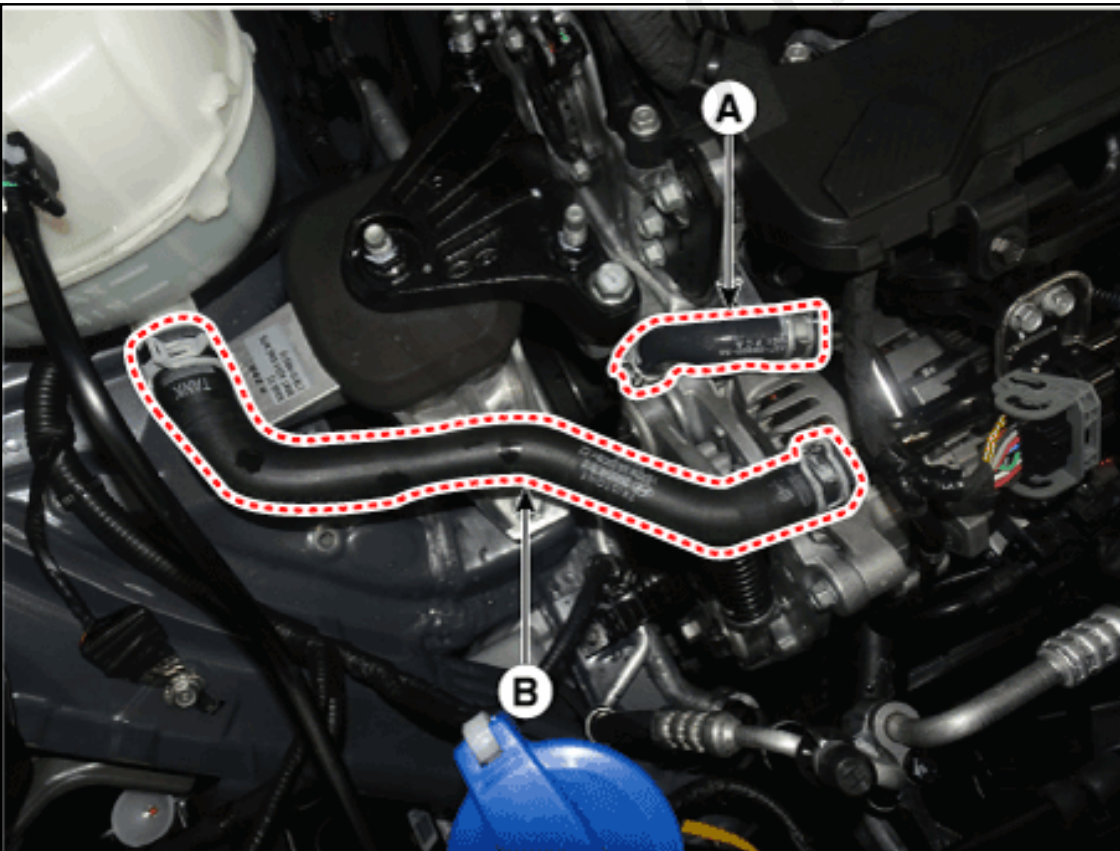
9.8 - 11.8 N.m (1.0 - 1.2 kgf.m, 7.2 - 8.7 lb-ft)



5. Separate the fastener (A) from the mild hybrid starter generator (MHSG).



6. Disconnect the turbo charger coolant hose (A) and reservoir tank coolant hose (B).

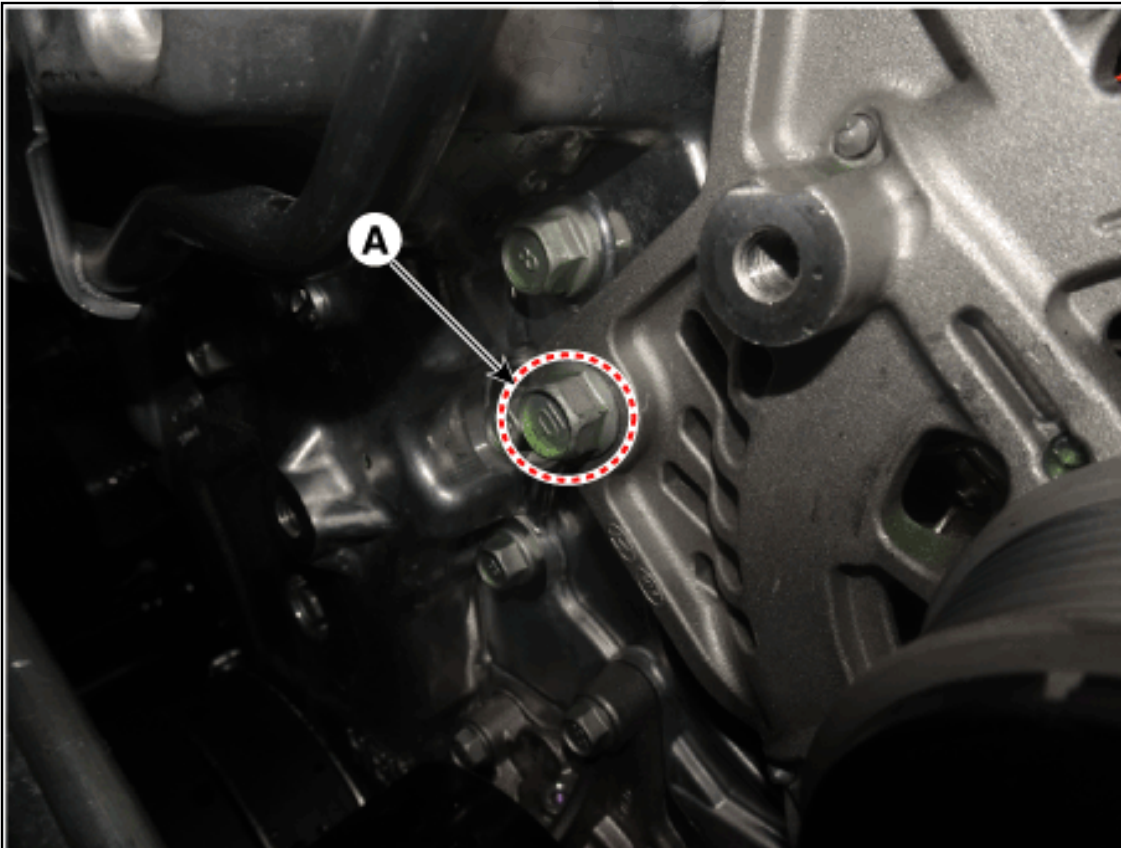


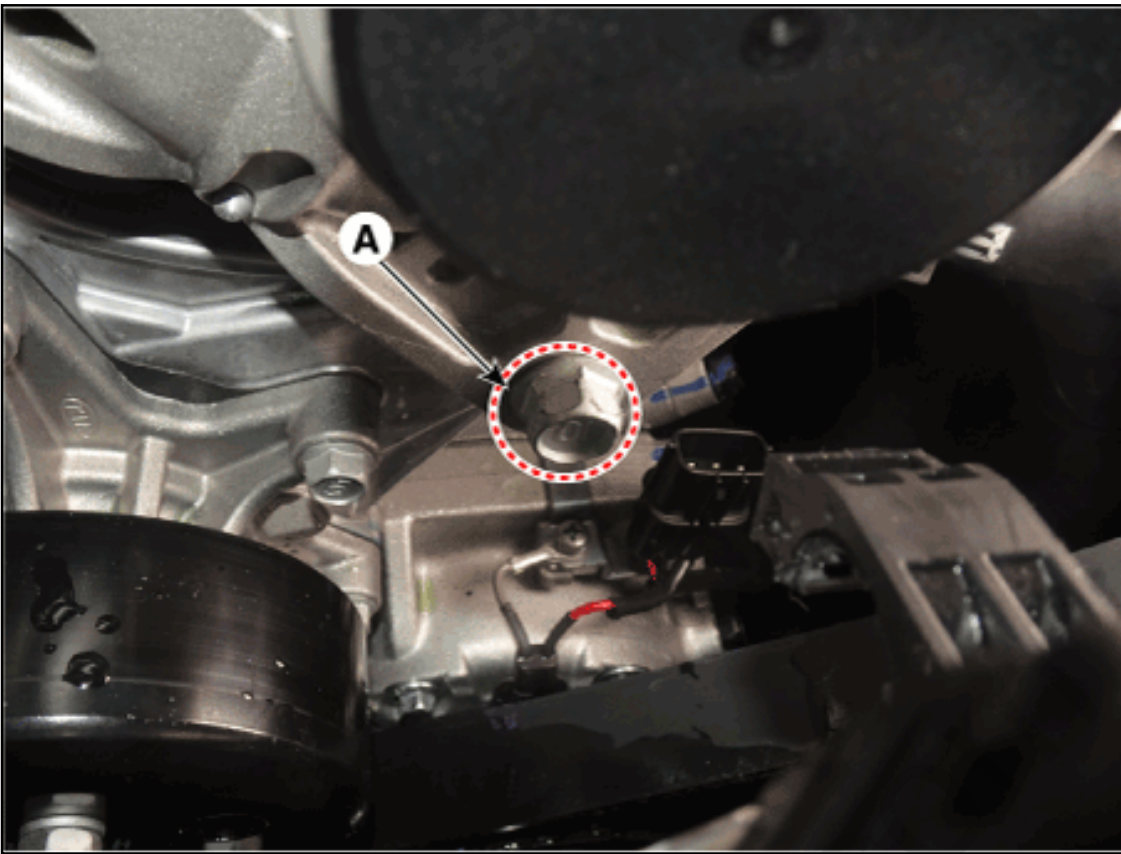
7. Remove the drive belt tensioner.
(Refer to Engine Mechanical System - "Drive Belt Tensioner")

8. Remove the mild hybrid starter generator (MHSYG) mounting bolt (A).

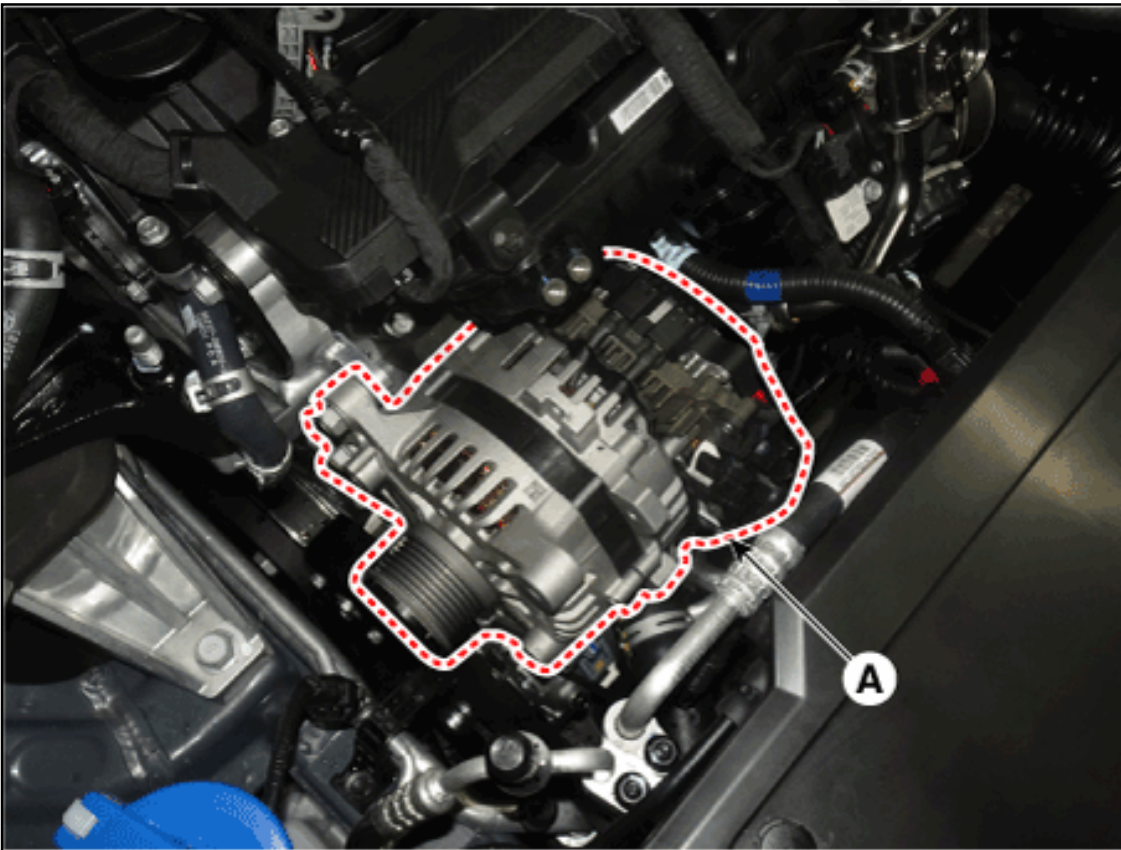
Tightening torque :

49.0 - 63.7 N.m (5.0 - 6.5 kgf.m, 36.2 - 47.0 lb-ft)





9. Remove the mild hybrid starter generator (MHS) (A).





Installation

1. Install in the reverse order of removal.