English

For Dismantlers

GRAND VITARA

Hybrid System
Lithium-ion Battery (177.6V – 4.3Ah)
Removal Manual

PRECAUTIONS FOR HIGH-VOLTAGE CIRCUIT INSPECTION AND SERVICE

CAUTION:

for Lithium-ion Battery:

This vehicle has a hybrid system that operates at high voltages. The hybrid system uses an HV battery which contains a carbonic acid ester based organic electrolyte. Be sure to follow the instructions in this manual to handle the system correctly. Failure to do so may result in serious injury or electrocution.

a. Technicians must undergo special training to be able to service and inspect the high-voltage system.

b. All high-voltage wire harnesses and connectors are colored orange. The HV battery and other high-voltage components have "High Voltage" caution labels. Do not carelessly touch these wires or components.

c. When there is a problem with a wire harness or connector of a high-voltage circuit, repairs to the harness or connector should not be attempted. Replace damaged or malfunctioning high-voltage wire or connector.

d. Before inspecting or servicing the high-voltage system, be sure to follow all safety measures, such as wearing insulated gloves and removing the service plug grip, to prevent electrocution. Carry the removed service plug grip in your pocket to prevent other technicians from accidentally installing it while you are servicing the vehicle.

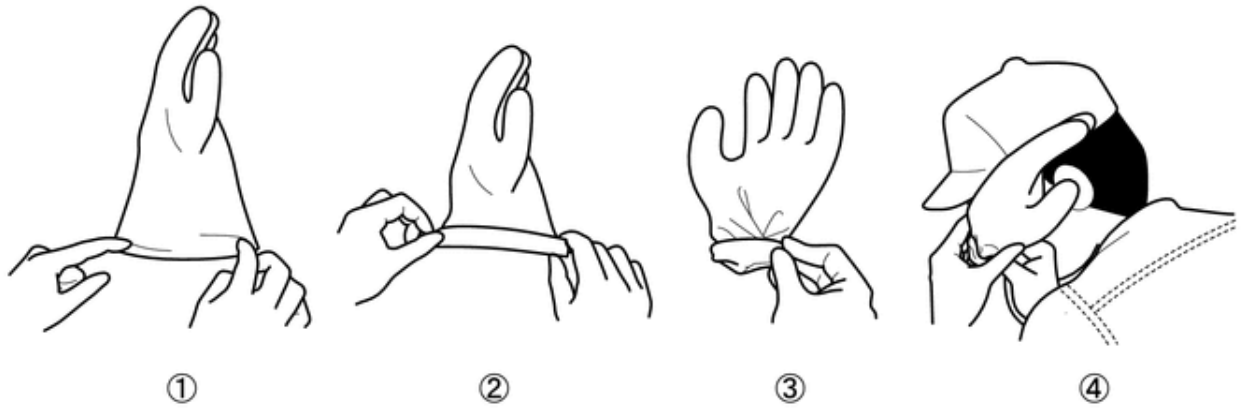
NOTICE:

・After removing the service plug grip, do not turn the ignition switch ON (READY), unless instructed by the repair manual, as this may cause a malfunction.

・After turning the ignition switch off, waiting time may be required before disconnecting the cable from the negative (-) auxiliary battery terminal.

Therefore, make sure to read the disconnecting the cable from the negative (-) auxiliary battery terminal notices before proceeding with work.

e. Before using insulated gloves, be sure to check them for cracks, tears and other types of damage by performing the following procedure.



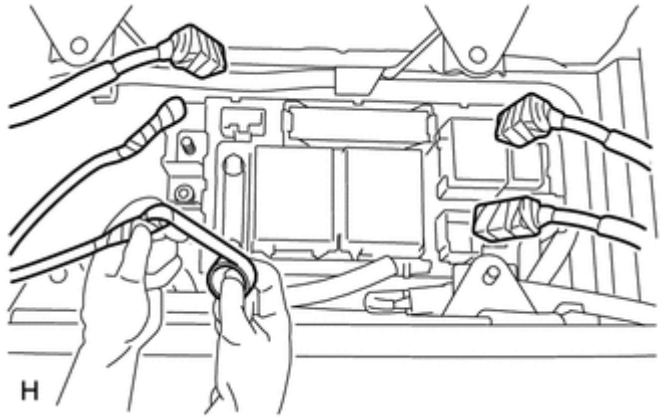
T

1. Place the glove on its side.
2. Roll the opening up 2 or 3 times.
3. Fold the opening in half to close it.
4. Confirm that there are no air leaks.

f. When servicing the vehicle, do not carry metal objects like mechanical pencils or rulers that can be dropped accidentally and cause a short circuit.

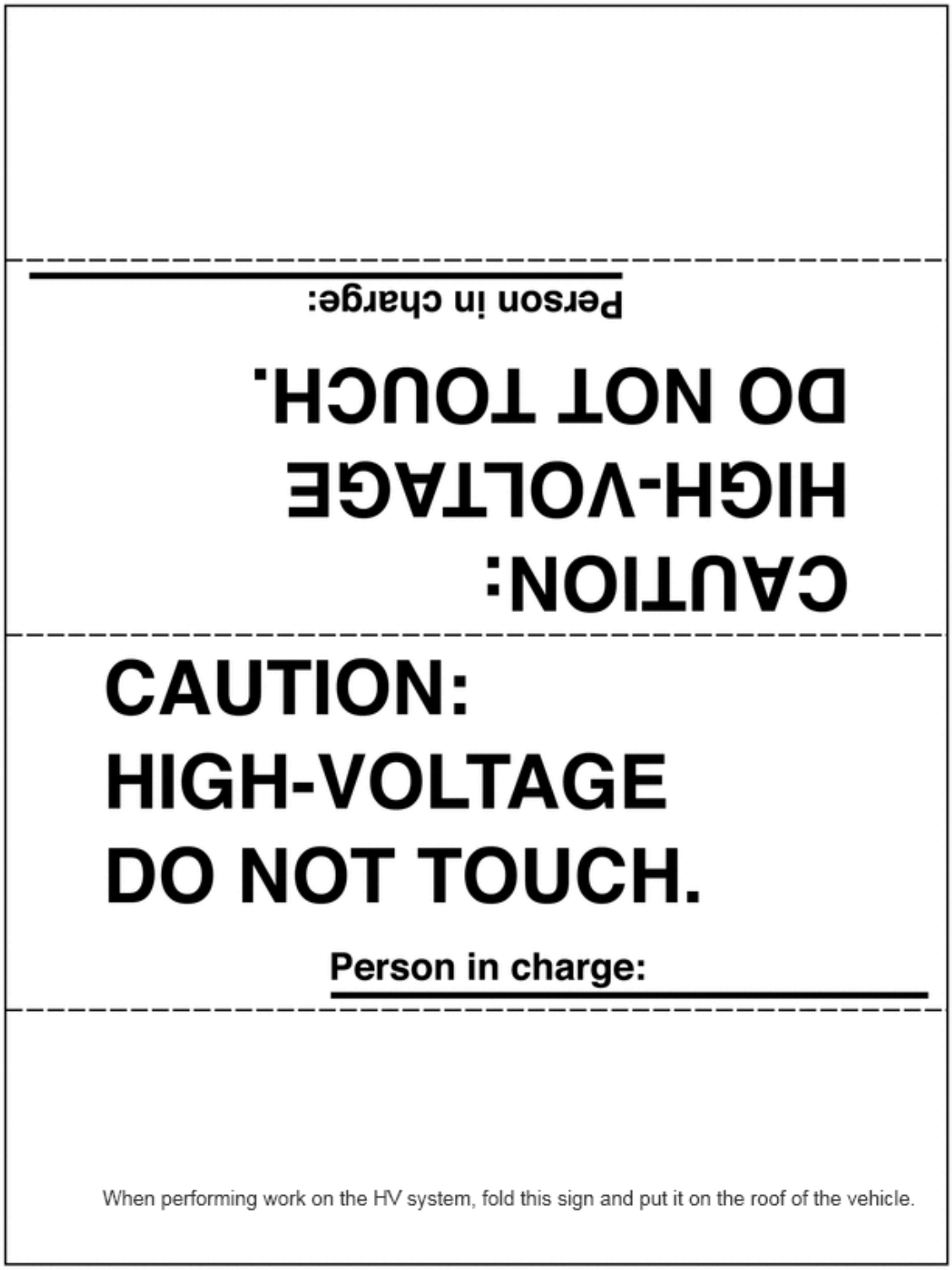
g. Before touching a bare high-voltage terminal, put on insulated gloves and use an electrical tester to make sure that the terminal voltage is 0 V.

h. After disconnecting or exposing a high-voltage connector or terminal, insulate it immediately using insulating tape.



i. Bolts and nuts for high-voltage terminals should be tightened to the specified torque. Both insufficient and excessive torque can cause a malfunction.

j. Use the "CAUTION: HIGH VOLTAGE DO NOT TOUCH" sign to notify other technicians that the high-voltage system is being inspected and/or repaired.



k. After servicing the high-voltage system and before reinstalling the service plug grip, make sure that you have not left any parts or tools inside the vehicle, that the high-voltage terminals are firmly tightened, and that the connectors are correctly connected.

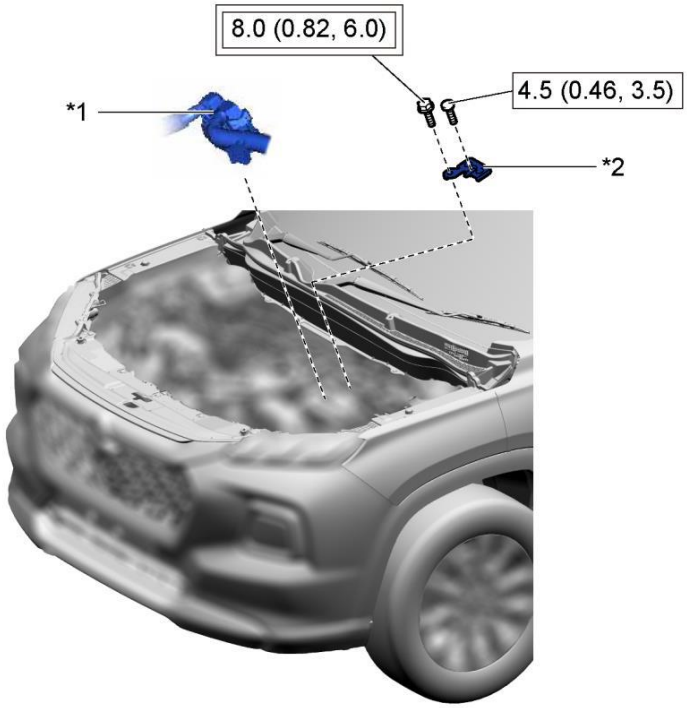
l. When performing work involving a high-voltage circuit, use either a tool wrapped with vinyl insulation tape or an insulated tool.

m. When installing hybrid system components such as the HV battery, make sure that the polarity of all connections is correct.

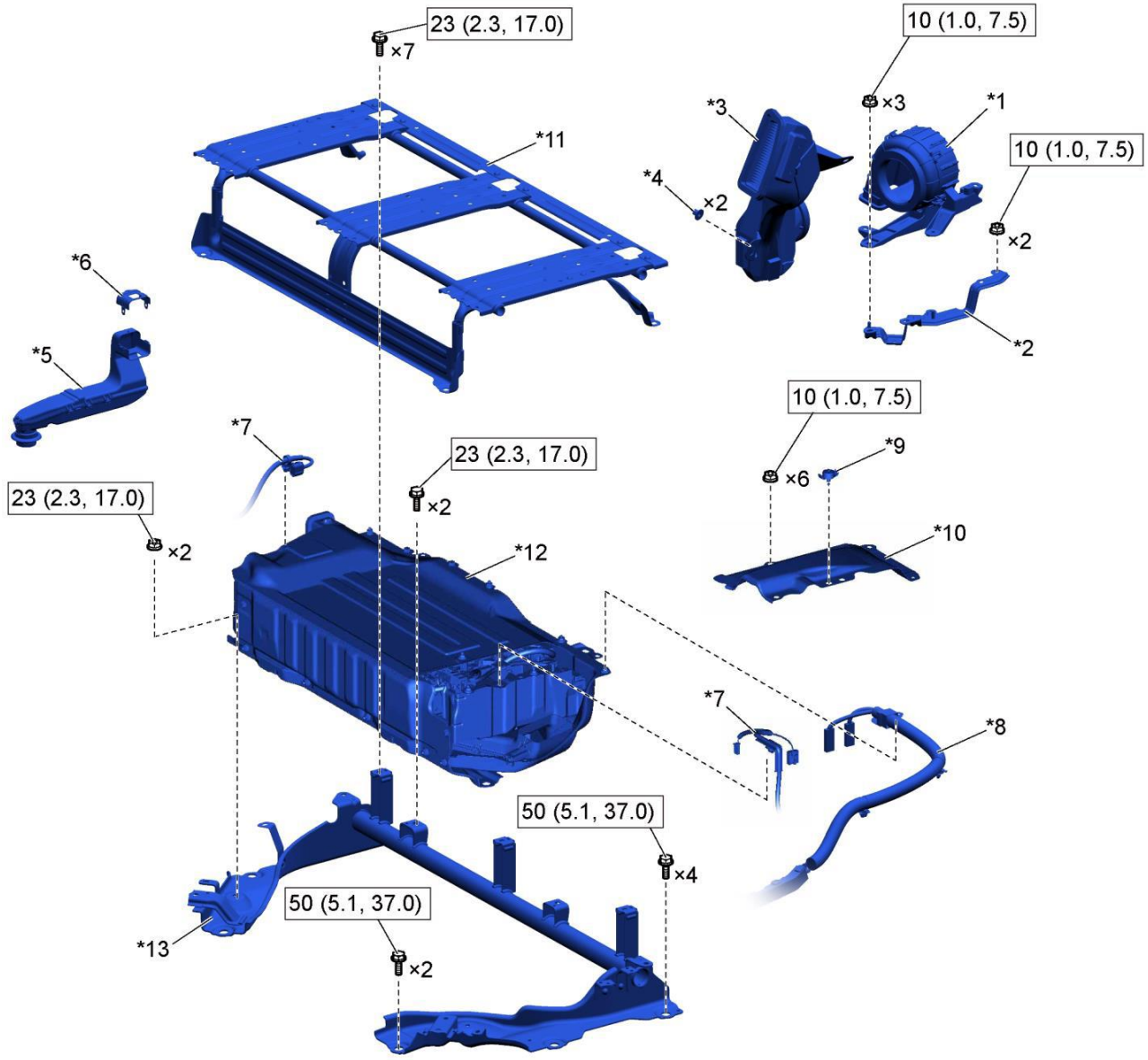
PRECAUTIONS TO BE OBSERVED WHEN PERFORMING INSPECTION OR SERVICE IN ENGINE COMPARTMENT (for HEV Model)

a. The vehicle automatically starts and stops the engine on and off when the READY light in the combination meter assembly is illuminated. To avoid injury, make sure that both the indicator on the ignition switch and the READY light in the combination meter assembly are off.

HV BATTERY
COMPONENTS



*1	ENGINE HARNESS	*2	CONNECTOR COVER ASSEMBLY
▭	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping" : N·m (kgf-m, lbf-ft)	▭	N·m (kgf-m, lbf-ft): Specified torque



*1	COOLING FAN	*2	FAN BRACKET
*3	COOLING AIR DUCT	*4	COOLING AIR DUCT CLIP
*5	GAS OUTLET DUCT	*6	GAS OUTLET DUCT COVER
*7	ENGINE HARNESS	*8	MAIN HV CABLE ASSEMBLY
*9	BATTERY COVER LOCK STRIKER	*10	HV BATTERY UPPER COVER PANEL
*11	HV BATTERY PACK UPPER COVER	*12	HV BATTERY
*13	HV BATTERY PACK BRACKET		
▭	N·m (kgf-m, lbf-ft): Specified torque		

REMOVAL

・ Before performing electrical work (connector disconnecting and reconnecting etc.), refer to "Precautions for Electrical System Work" in Section 00 of Related Manuals mentioned in FOREWORD of this manual.

・ The necessary procedures (adjustment, calibration, initialization, or registration) that must be performed after parts are removed and installed, or replaced during HV battery removal installation are shown below.

Necessary Procedures After Parts Removed/Installed/Replaced

Replaced Part or Performed Procedure	Necessary Procedures	Effect/Inoperative Function when Necessary Procedure not Performed
Replacement of HV battery	1. Prediagnostic battery charge 2. Battery diagnosis 3. Battery status info update	HV battery status information cannot be updated
Replacement of hybrid battery terminal block	Perform high voltage fuse accumulated load history reset	DTCs are stored

CAUTION:

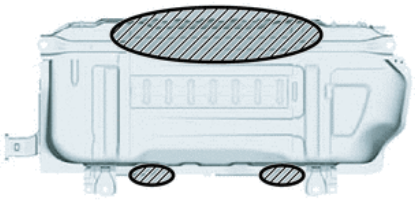
▪ Orange wire harnesses and connectors indicate high-voltage circuits. To prevent electric shock, always follow the procedure described in the repair manual.

▪ To prevent electric shock, wear insulated gloves when working on wire harnesses and components of the high voltage system.

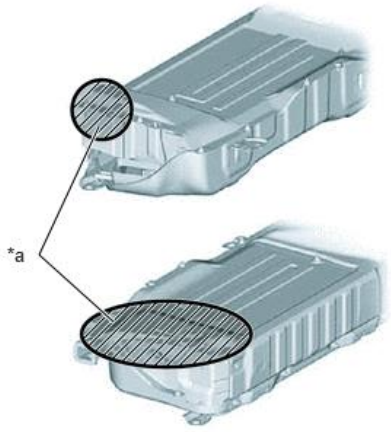
1. PRECAUTION

NOTICE:

- After turning the ignition switch off, waiting time may be required before disconnecting the cable from the negative (-) battery (lead-acid battery) terminal.
- When disconnecting negative (-) cable at battery, perform as follows.
  - Open driver door and set ignition “OFF”.
  - Do not close driver door before disconnecting negative (-) cable at battery.
  - Wait for 2 minutes.
  - Disconnect negative (-) cable at battery.
- If the HV battery has been struck or dropped, replace it.
- When connecting a connector to the HV battery, confirm that the connector is securely connected through the following:
  - Push the connector until a click sound is heard.
  - Visually check and confirm that the connector is securely connected by pulling on it.
- Make sure to insulate the high-voltage connectors and terminals of the HV battery with insulating tape after removing it. If the HV battery stored without insulating the connectors and terminals, electric shock or fire may result.
- When performing repairs around the HV battery, such as using a tap, do not allow metal shavings to enter the HV battery.
- Do not touch any high voltage wire harnesses, connectors or parts with bare hands.
- Hold the areas shown in the illustration and lift the HV battery.



- Do not allow foreign matter, such as grease or oil, to adhere to the bolts or nuts of the HV battery.
- Do not put your hands into the openings of the HV battery.



*a	Opening

- When removing/installing/moving the HV battery assembly, make sure not to tilt it more than 80°.
- Do not climb on top of or stand on the HV battery.
- Do not allow any foreign matter or water to enter the HV battery.
- If any bolts, nuts or clips are dropped into the HV battery, make sure to remove them.

2. READ VALUE USING SUZUKI SCAN TOOL (SUZUKI SDT-II)

a. Connect the SUZUKI scan tool (Suzuki SDT-II) to the DLC.

b. Turn the ignition switch on (IG).

c. Enter the following menus: Data List / HV Battery / Hybrid/EV Battery Temperature 1 to 6.

Display
Hybrid/EV Battery Temperature 1
Hybrid/EV Battery Temperature 2
Hybrid/EV Battery Temperature 3
Hybrid/EV Battery Temperature 4
Hybrid/EV Battery Temperature 5
Hybrid/EV Battery Temperature 6

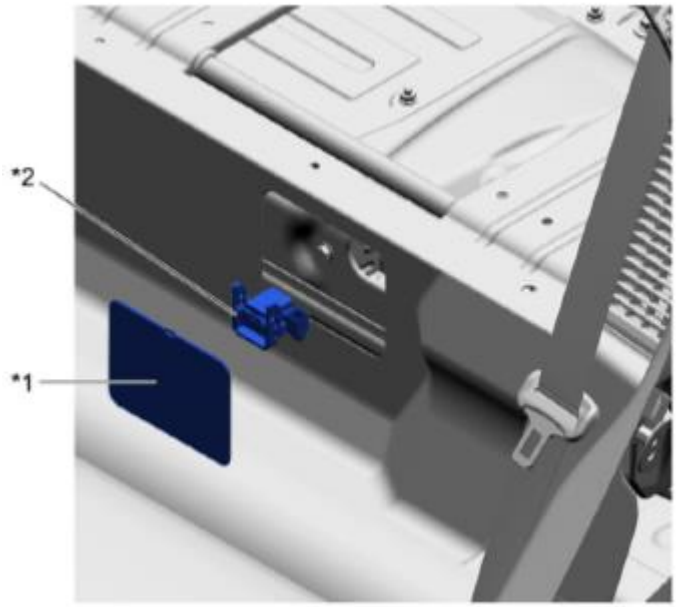
d. Read the Data List.

NOTICE:

If any of the temperatures listed in "Hybrid/EV Battery Temperature 1 to 6" are 50°C or more, leave the vehicle until the temperature drops to less than 50°C.

3. REMOVE SERVICE PLUG GRIP

COMPONENTS



*1	COVER No.2	*2	SERVICE PLUG GRIP

REMOVAL

・ The necessary procedures (adjustment, calibration, initialization, or registration) that must be performed after parts are removed and installed, or replaced during service plug grip removal/installation are shown below.

Necessary Procedures After Parts Removed/Installed/Replaced

Replaced Part or Performed Procedure	Necessary Procedures	Effect/Inoperative Function when Necessary Procedure not Performed
Replacement of service plug grip	Perform high voltage fuse accumulated load history reset	DTCs are stored

CAUTION:

・ Orange wire harnesses and connectors indicate high-voltage circuits. To prevent electric shock, always follow the procedure described in the repair manual.

▪ To prevent electric shock, wear insulated gloves when working on wire harnesses and components of the high voltage system.

(1) PRECAUTION

NOTICE:

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the negative (-) battery (lead-acid battery) terminal.

(2) CHECK FOR DTC

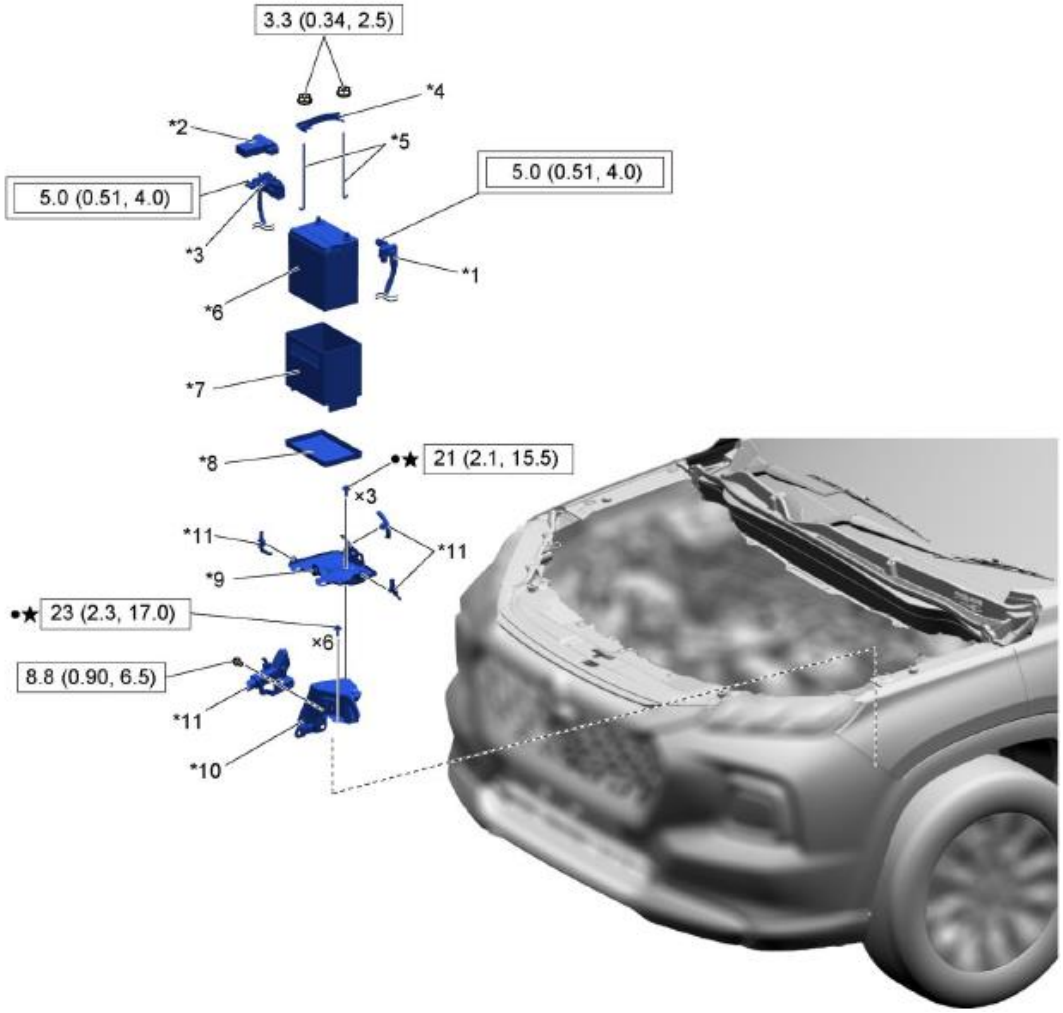
CAUTION:

Confirm that DTC P0AA6-49(Hybrid / EV Battery Voltage System Isolation Internal Electronic Failure)
P1C7C-49 (Hybrid / EV Battery Voltage System Isolation (A/C Area) Internal Electronic Failure)
P1C7D-49 (Hybrid / EV Battery Voltage System Isolation (Hybrid/EV Battery Area) Internal Electronic Failure)
P1C7E-49 (Hybrid / EV Battery Voltage System Isolation (Transaxle Area) Internal Electronic Failure)
P1C7F-49 (Hybrid / EV Battery Voltage System Isolation (Direct Current Area) Internal Electronic Failure) or P1C80-49 (Hybrid/EV Battery Voltage System Isolation (Rear Motor Area) Internal Electronic Failure) is not output before removing or installing the HV battery assembly. If this DTC is output, perform troubleshooting for this DTC first.

▪ To reduce the risk of electric shock, do not perform troubleshooting before checking for DTCs.

(3) DISCONNECT CABLE FROM NEGATIVE BATTERY (LEAD-ACID BATTERY) TERMINAL

COMPONENTS



*1	NEGATIVE BATTERY (LEAD-ACID BATTERY) TERMINAL	*2	BATTERY TERMINAL COVER
*3	POSITIVE BATTERY (LEAD-ACID BATTERY) TERMINAL	*4	BATTERY BAND
*5	BATTERY BOLT	*6	BATTERY (LEAD-ACID BATTERY)
*7	BATTERY COVER	*8	BATTERY TRAY (REGIN PARTS)
*9	BATTERY TRAY	*10	BATTERY MOUNTING LOWER BRACKET
*11	ENGINE HARNESS	-	-
▭	Tightening torque for "Major areasinvolving basic vehicle performance such as moving/turning/stopping": N·m (kgf-m, lbf-ft)	▭	N·m (kgf-m, lbf-ft): Specified torque
●	Non-reusable part	★	Precoated part

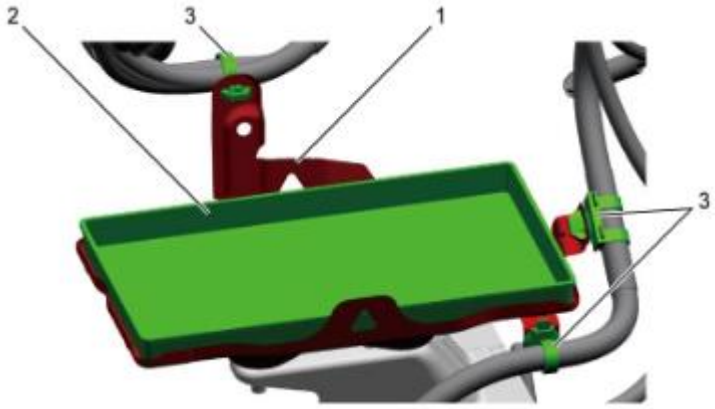
REMOVE BATTERY (LEAD-ACID BATTERY)

1) Set ignition “OFF”.
2) Disconnect negative (–) cable (1) at battery (2).
3) Disconnect positive (+) cable (3) at battery.
4) Loosen battery band nuts (4) and remove battery band (5).
5) Remove battery.

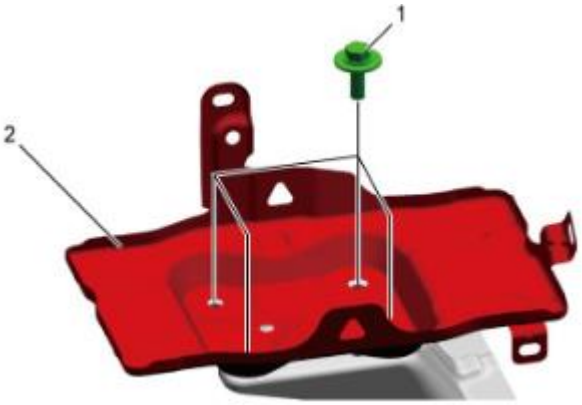
REMOVE BATTERY TRAY

Remove battery tray (1) as follows, if necessary.

a) Remove resin parts (2) of battery tray.
b) Remove harness clamps (3) from battery tray.

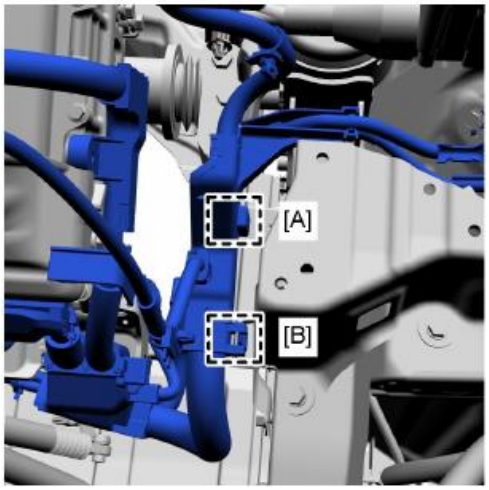


c) Remove battery tray bolts (1).
d) Remove battery tray (2).



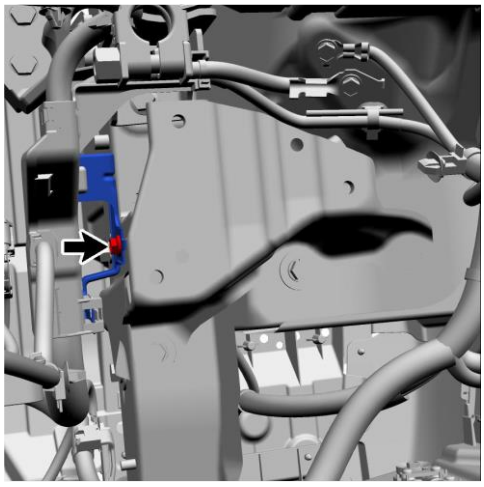
DISCONNECT ENGINE HARNESS

a. Disengage the clamp (A) and clamp (B).



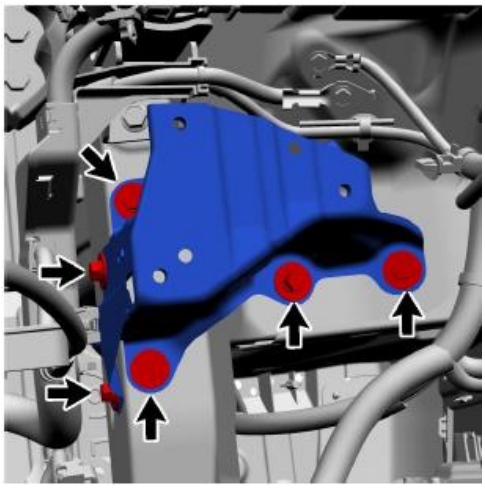
REMOVE ENGINE HARNESS BATTERY BRACKET

a. Remove the bolt and engine harness battery bracket.



REMOVE BATTERY MOUNTING LOWER BRACKET

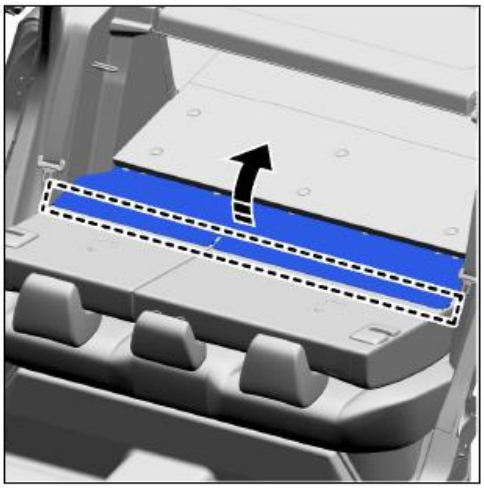
a. Remove the 6 bolts and battery mounting lower bracket.



(4) REMOVE CARPET OF HV BATTERY PACK FRONT COVER ASSEMBLY

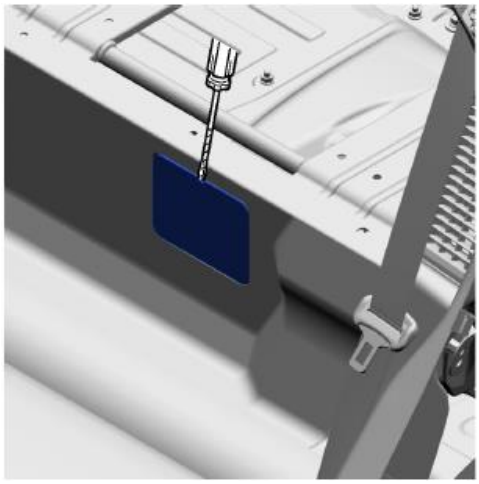
a. Fold the right and left rear seatbacks forward.

b. Disengage the hooks and remove the carpet of HV battery pack front cover assembly from the rear seatbacks as shown in the illustration.



(5) REMOVE COVER No.2

a. Using a flat-bladed screwdriver with its tip wrapped with protective tape, remove the cover No.2.



(6) REMOVE SERVICE PLUG GRIP

CAUTION:

- Wear insulated gloves.
- Do not inspect or service the high voltage system with the service plug grip installed.

- To reduce the risk of electric shock, make sure to remove the service plug grip to cut off the high voltage circuit before servicing the vehicle.

- To reduce the risk of electric shock, make sure to wait at least 10 minutes after removing the service plug grip to fully discharge the high voltage capacitor inside the inverter with converter assembly and hybrid motor control inverter assembly rear*.

- Keep the removed service plug grip in your pocket to prevent other technicians from accidentally installing it while you are servicing the vehicle.

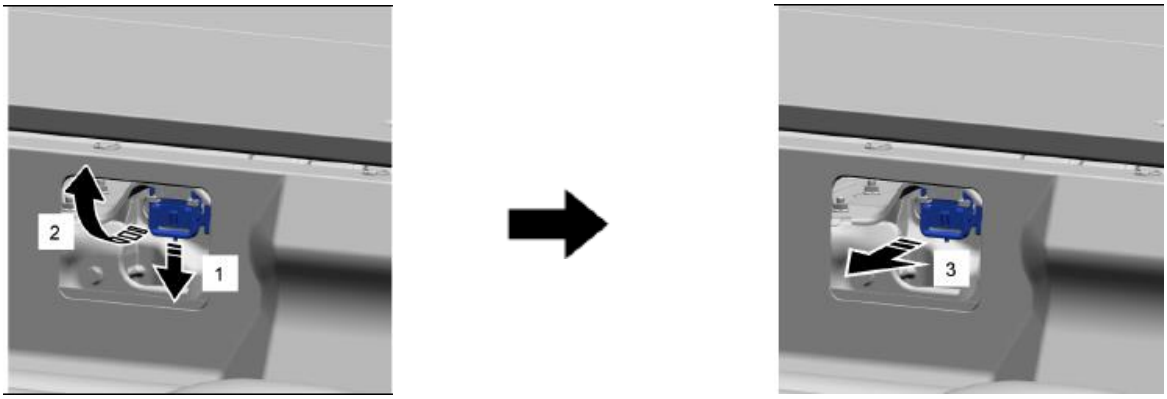
NOTICE:

- After removing the service plug grip, turning the ignition switch on (READY) may cause a malfunction. Do not turn the ignition switch on (READY) unless instructed by the repair manual.
- Do not touch the terminals of the service plug grip.
- If the service plug grip has been struck or dropped, replace it.

HINT:

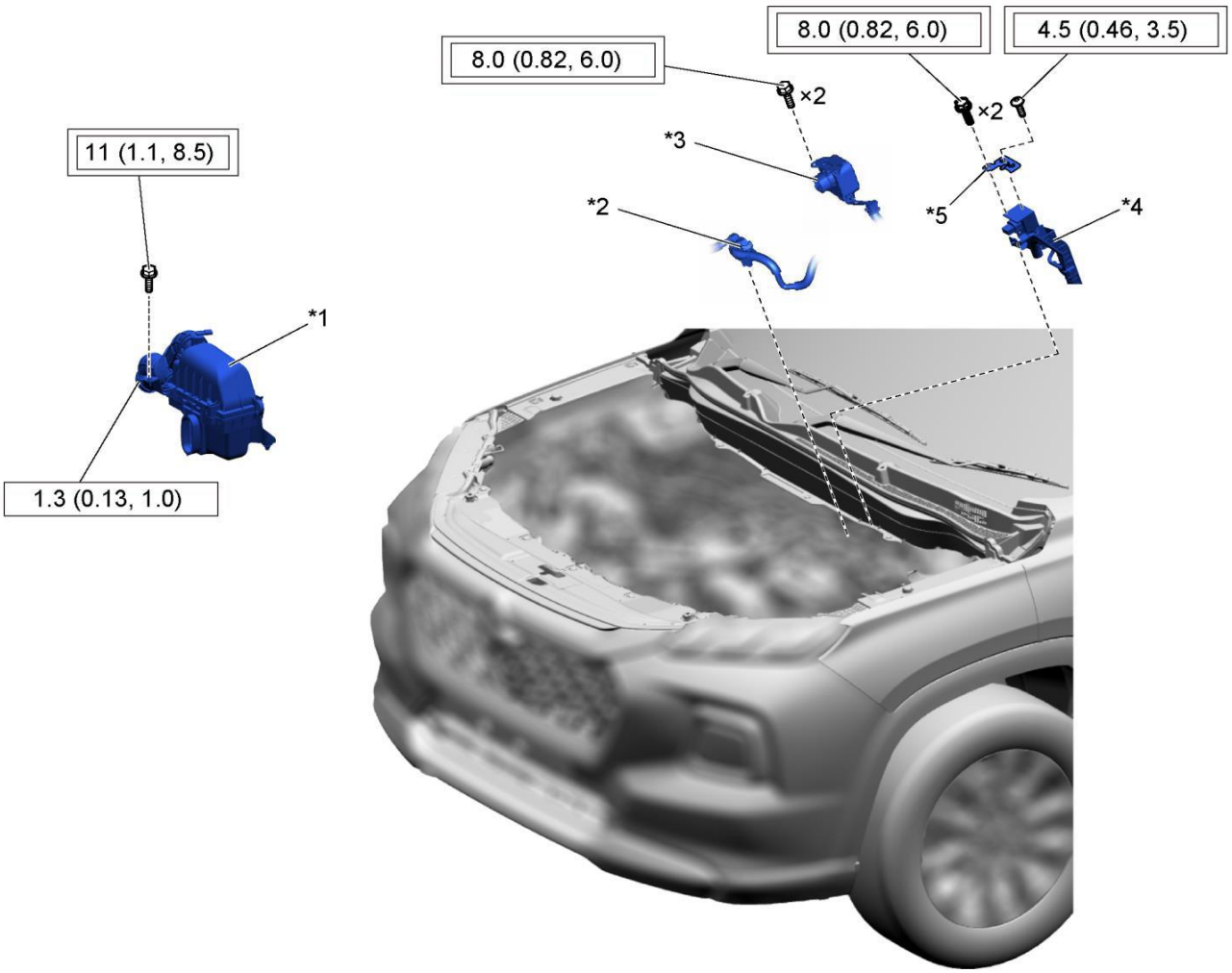
Waiting for at least 10 minutes is required to discharge the high voltage capacitor inside the inverter with converter assembly.

a. While wearing insulated gloves, rotate the handle of the service plug grip and remove the service plug grip as indicated by the arrows, in the order shown in the illustration.

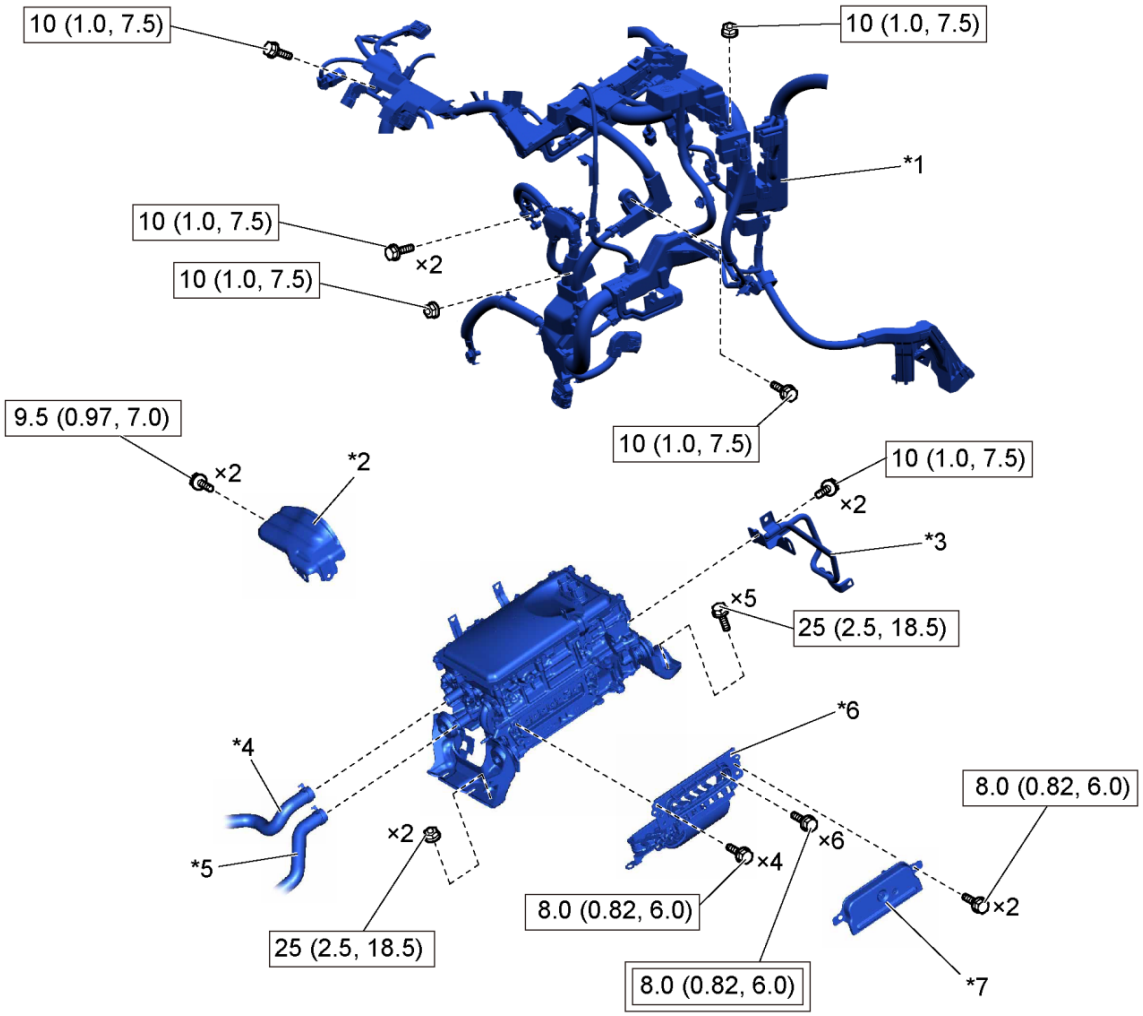


4. DISCONNECT ENGINE HARNESS

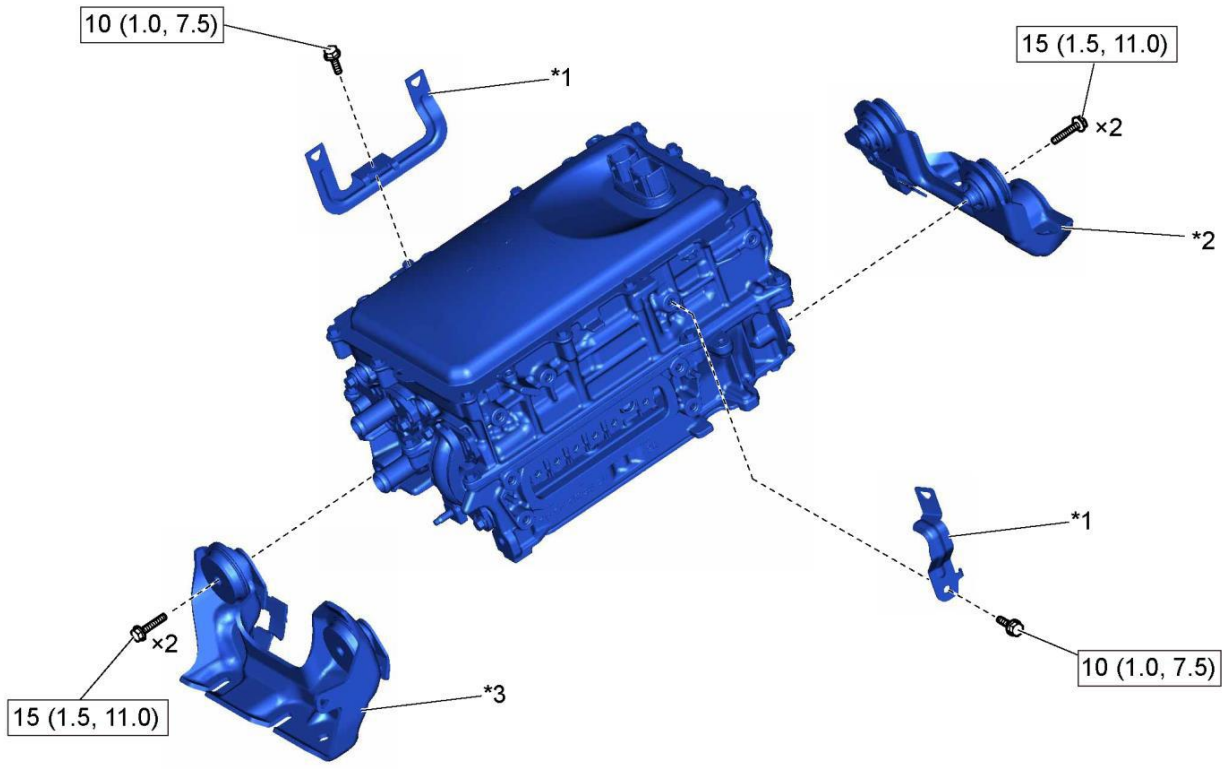
COMPONENTS



*1	AIR CLEANER ASSEMBLY / AIR CLEANER OUTLET HOSE	*2	ENGINE HARNESS
*3	COMPRESSOE HV CABLE ASSEMBLY	*4	MAIN HV CABLE ASSEMBLY
*5	CONNECTOR COVER ASSEMBLY	-	-
▭	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping": N·m (kgf-m, lbf-ft)	▭	N·m (kgf-m, lbf-ft): Specified torque



*1	ENGINE HARNESS	*2	INVERTER PROTECTOR
*3	MAIN HV CABLE CLAMP BRACKET	*4	INVERTER to DEGASSING TANK No.1 HOSE
*5	RADIATOR to INVERTER HOSE	*6	MOTOR CABLE
*7	UPPER INVERTER COVER SUB-ASSEMBLY	-	-
▭	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping" :N·m (kgf-m, lbf-ft)	▭	N·m (kgf-m, lbf-ft): Specified torque



*1	ENGINE HARNESS CLAMP BRACKET	*2	NO. 2 INVERTER BRACKET
*3	NO. 1 INVERTER BRACKET	*4	INVERTER WITH CONVERTER ASSEMBLY
▭	N·m (kgf-m, lbf-ft): Specified torque	-	-

(1) DISCONNECT ENGINE HARNESS

CAUTION:

Wear insulated gloves.

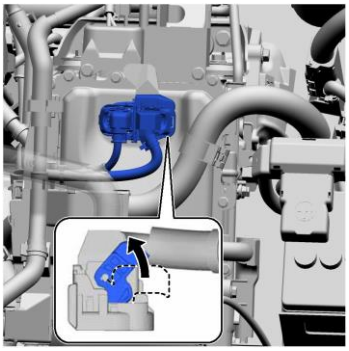
NOTICE:

Do not allow any foreign matter or water to enter the inverter with converter assembly.

a. Move the lock lever while pushing the lock on the connector, and disconnect the inverter with converter assembly connector.

NOTICE:

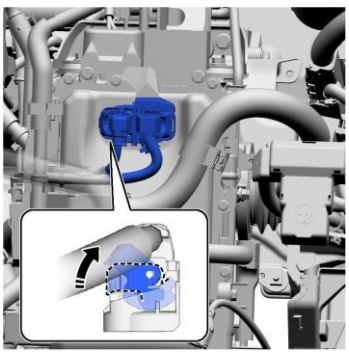
- **Do not damage the terminals, connector housing or inverter with converter assembly during disconnection.**
- **Cover the hole where the cable was connected with tape (non-residue type) or equivalent to prevent entry of foreign matter.**
- **Insulate the disconnected terminals with insulating tape.**
- **Do not touch the waterproof seal or terminals of the connector.**



b. Move the lock lever while pushing the lock on the connector, and disconnect the inverter with converter assembly connector.

NOTICE:

- **Do not damage the terminals, connector housing or inverter with converter assembly during disconnection.**
- **Cover the hole where the cable was connected with tape (non-residue type) or equivalent to prevent entry of foreign matter.**
- **Insulate the disconnected terminals with insulating tape.**
- **Do not touch the waterproof seal or terminals of the connector.**

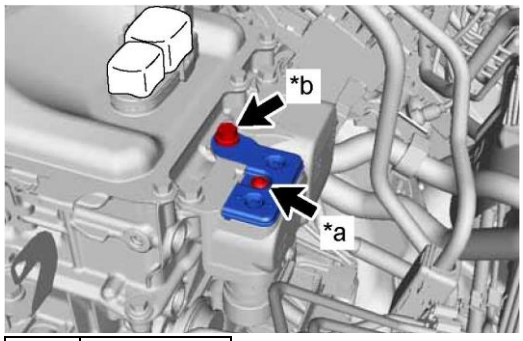


5. REMOVE CONNECTOR COVER ASSEMBLY

CAUTION:

Wear insulated gloves.

a. Remove the bolt (B).



*a	Bolt (A)
*b	Bolt (B)

b. Using a T25 "TORX" socket wrench, remove the bolt (A) and connector cover assembly from the inverter with converter assembly.

NOTICE:

- **Do not touch the connector cover assembly waterproof seal.**
- **Do not allow any foreign matter or water to enter the inverter with converter assembly.**

6. CHECK TERMINAL VOLTAGE

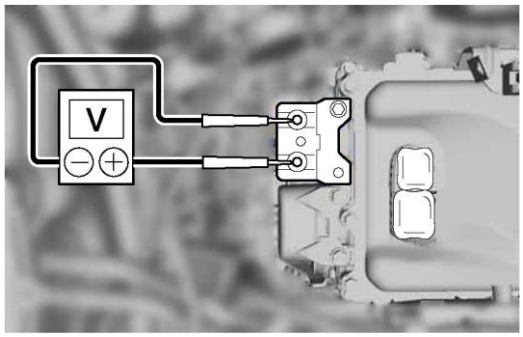
CAUTION:

Wear insulated gloves.

NOTICE:

Do not allow any foreign matter or water to enter the inverter with converter assembly.

a. Using a voltmeter, measure the voltage between the terminals of the 2 phase connectors.



b. Using a T25 "TORX" socket wrench, install the bolt.

Torque:

4.5 N·m (0.46 kgf-m, 3.5 lbf-ft)

NOTICE:

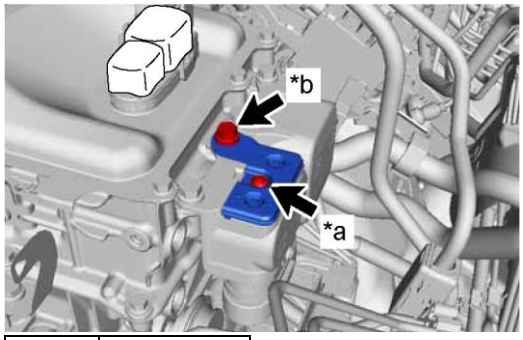
Do not touch the waterproof seal of the connector cover assembly.

7. INSTALL CONNECTOR COVER ASSEMBLY

CAUTION:

Wear insulated gloves.

a. Using a T25 "TORX" socket wrench, install the connector cover assembly to the inverter with converter assembly with the bolt (A).



*a	Bolt (A)
*b	Bolt (B)

Torque:

4.5 N·m (0.46 kgf-m, 3.5 lbf-ft)

NOTICE:

Do not touch the waterproof seal of the connector cover assembly.

b. Install the bolt (B).

Torque:

8.0 N·m (0.82 kgf-m, 6.0 lbf-ft)

8. CONNECT ENGINE HARNESS

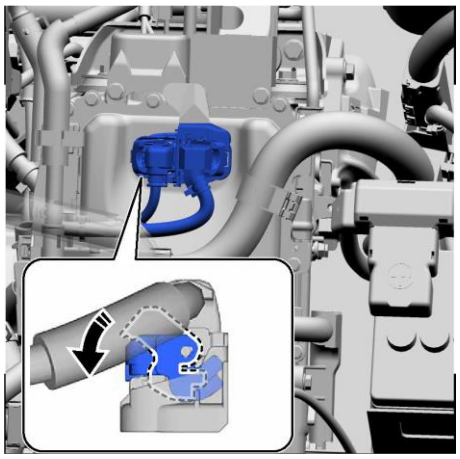
CAUTION:

Wear insulated gloves.

NOTICE:

Do not allow any foreign matter or water to enter the inverter with converter assembly.

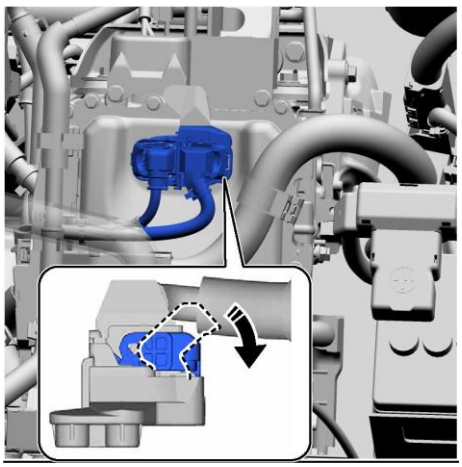
a. Connect the inverter with converter assembly connector and move the lock lever to lock them.



NOTICE:

- To prevent damage due to static electricity, do not touch the terminals of the disconnected connectors.
- Do not damage the terminals, connector housing or inverter with converter assembly when connecting the connectors.
- Do not touch the waterproof seal or terminals of the connectors.

b. Connect the inverter with converter assembly connector and move the lock lever to lock them.



NOTICE:

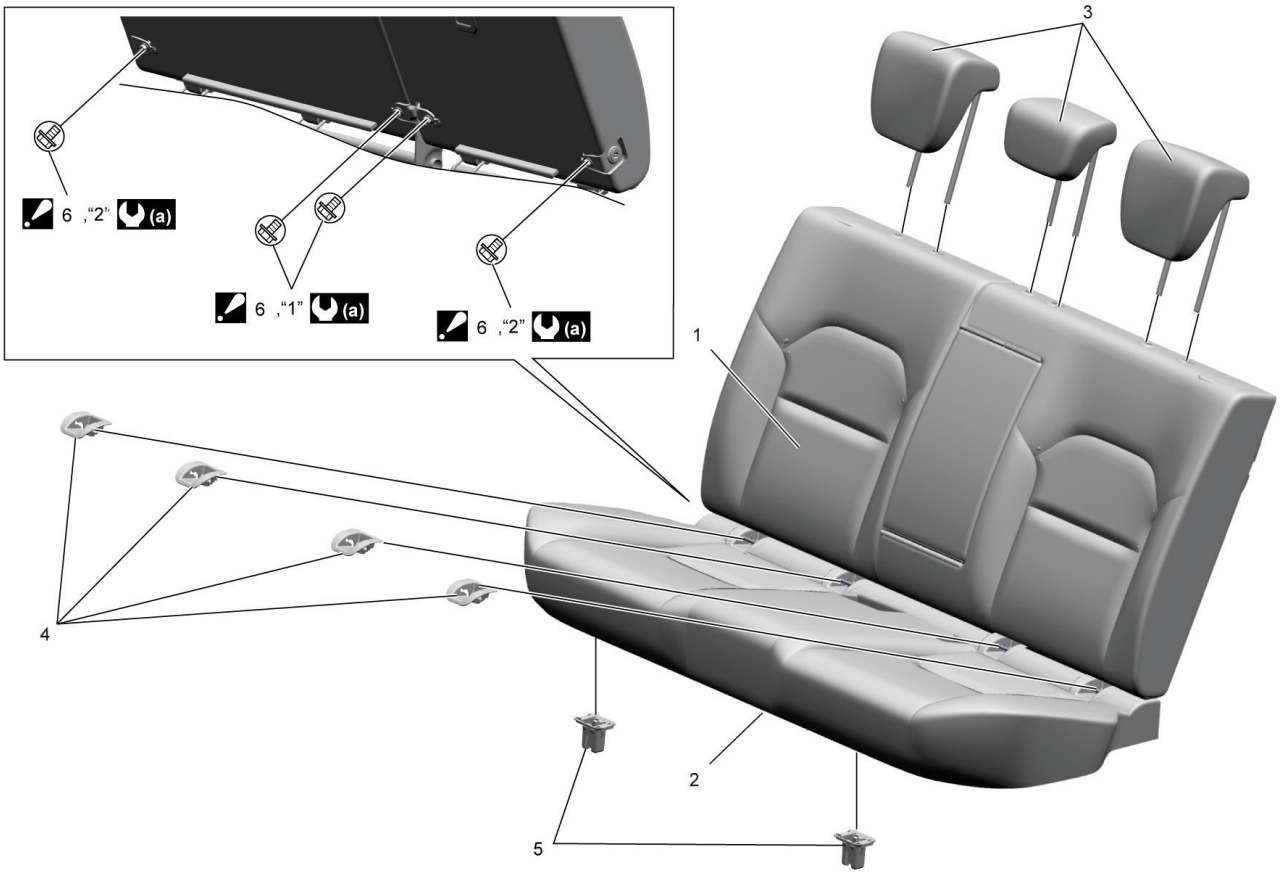
- To prevent damage due to static electricity, do not touch the terminals of the disconnected connectors.
- Do not damage the terminals, connector housing or inverter with converter assembly when connecting the connectors.
- Do not touch the waterproof seal or terminals of the connectors.

9. REMOVE REAR SEAT

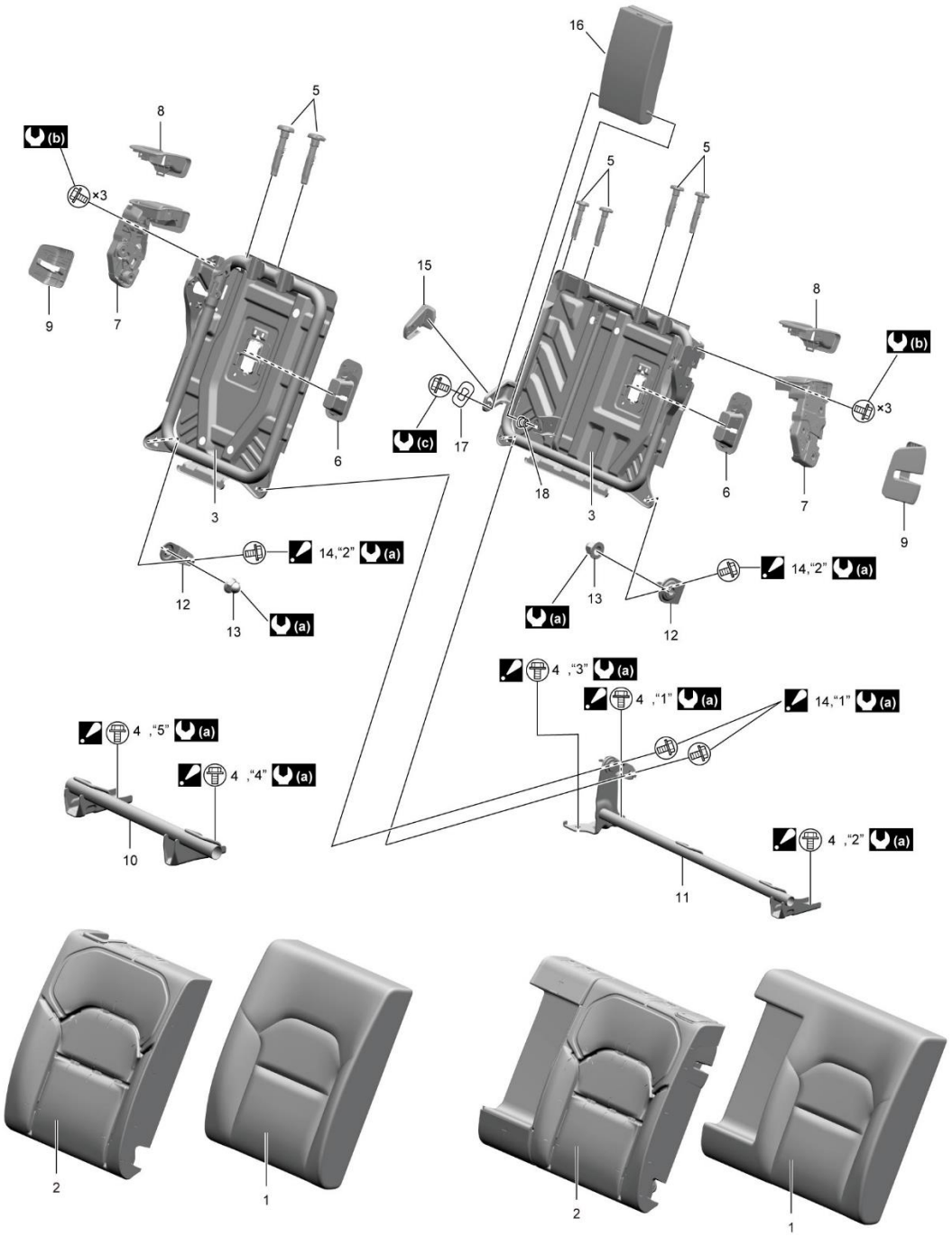
COMPONENTS

NOTE:

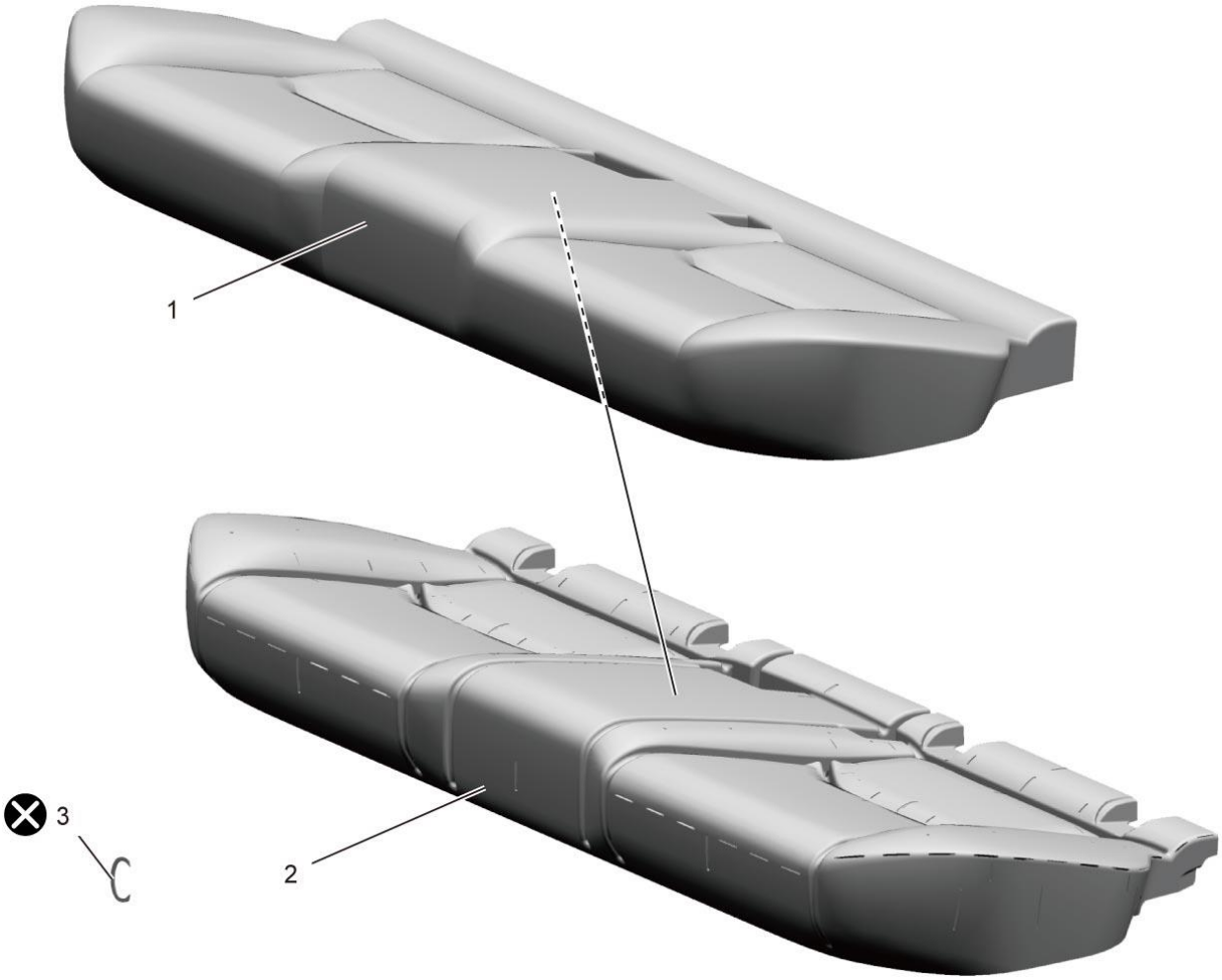
When replacing any seat component, select correct one referring to parts catalog.



1.Rear seat back assembly	4.Lower anchor bezel	(a) :43 N·m (4.4 kgf-m, 32.0 lbf-ft)
2.Rear seat cushion assembly	5.Rear seat cushion hook	
3.Rear headrest	6.Rear center hinge bracket bolt : Tighten rear center hinge bracket bolts in numerical order ("1" – "2").	

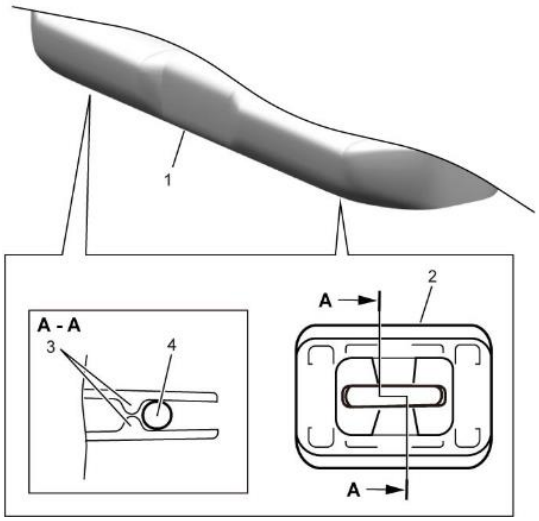


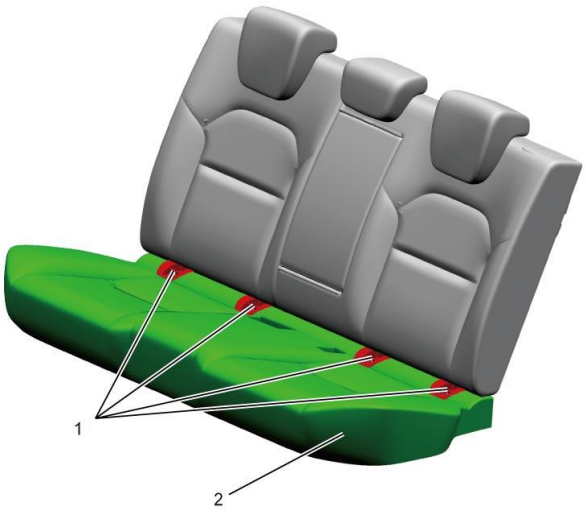
1.Rear seat back cover	8.Rear back lock bezel	15.Rear armrest cover
2.Rear seat back pad	9.Rear back lock hole bezel	16.Rear armrest
3.Rear back frame	10.Child anchorage bracket	17.Armrest washer
4.Rear seat mounting bolt : Tighten bolts in numerical order (“1” – “5“).	11.Rear seat center hinge	18.Armrest No.1 bush
5.Headrest guide	12.Rear side hinge	(a) :43 N·m (4.4 kgf-m, 32.0 lbf-ft)
6.Tether anchor cover	13.Rear side hinge nut	(b) :30 N·m (3.1 kgf-m, 22.5 lbf-ft)
7.Rear back lock assembly	14.Rear seat center hinge bolt : Tighten bolts in numerical order (“1” – “2“).	(c) :21 N·m (2.1 kgf-m, 15.5 lbf-ft)



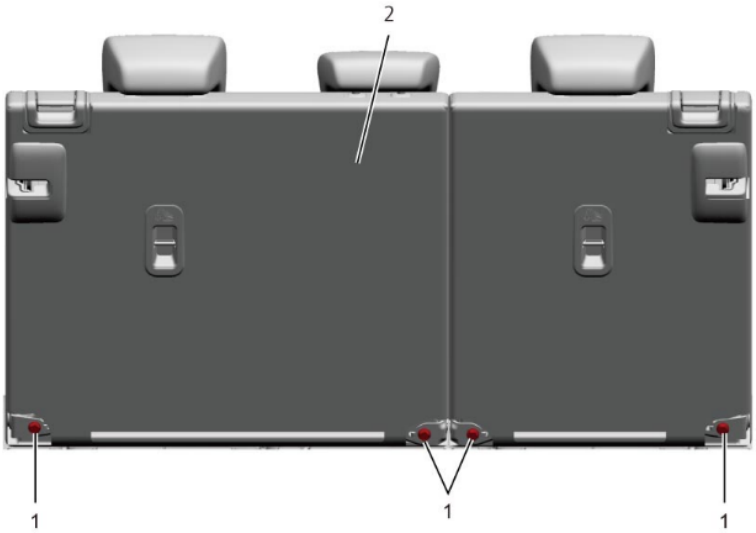
1.Rear cushion cover	3.Trim ring
2.Rear cushion pad	⊗ :Do not reuse.

1) Remove lower anchor bezel (1), and then remove rear seat cushion assembly (2).
NOTICE:
If remove rear cushion assembly (1) without releasing craws (3) of rear seat cushion hook (2) from striker (4) of rear cushion assembly, rear cushion assembly or body panel may come into damage.
Release craws of rear seat cushion hook from striker when removing rear cushion assembly.





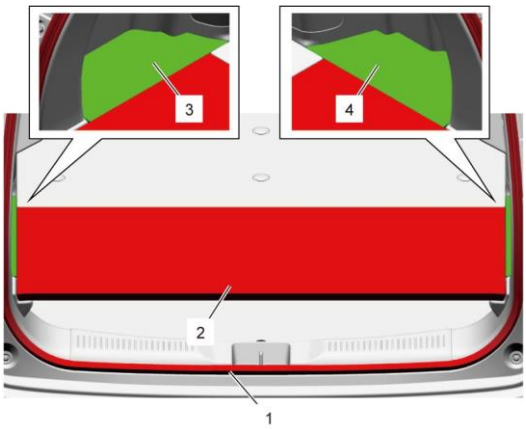
2) Tilt the rear seat back forward.
3) Remove rear seat hinge bolts (1), and then remove rear seat back assembly (2)



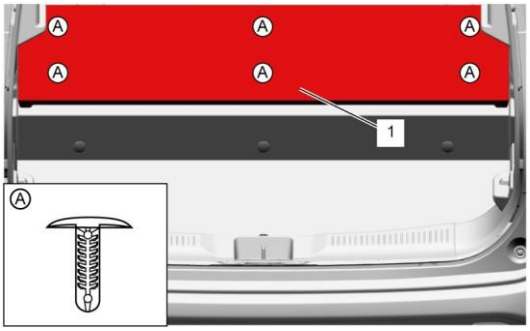
10. REMOVE LUGGAGE FLOOR FRONT BOARD

Tail end trim

1) Detach rear end door opening weather-strip (1) and remove luggage floor rear board (2), left board (3) and right board (4).

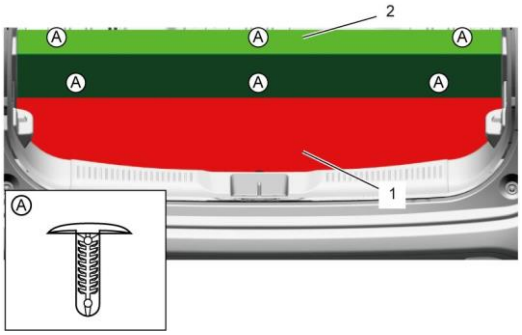


2) Remove clips, and then remove luggage floor front board (1).



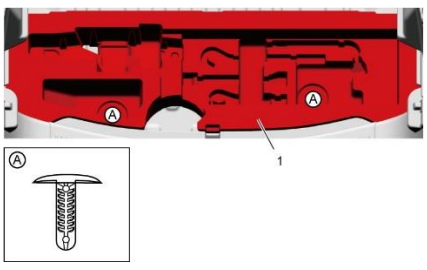
11. REMOVE BATTERY PACK CARPET

1) Remove luggage floor carpet (1), and then remove battery pack carpet (2).

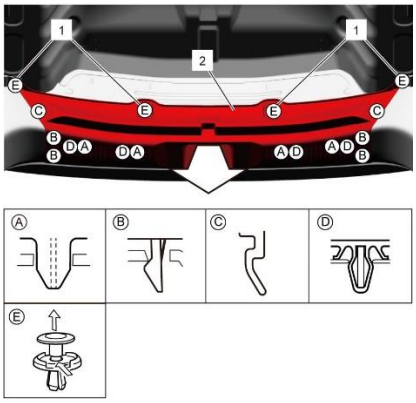


12. REMOVE TOOL BOX

1) Remove clips, and then remove tool box (1).

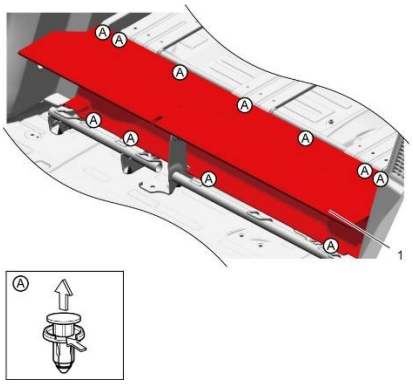


2) Remove clips (1), and then remove tail end trim (2) pulling it in arrow direction.



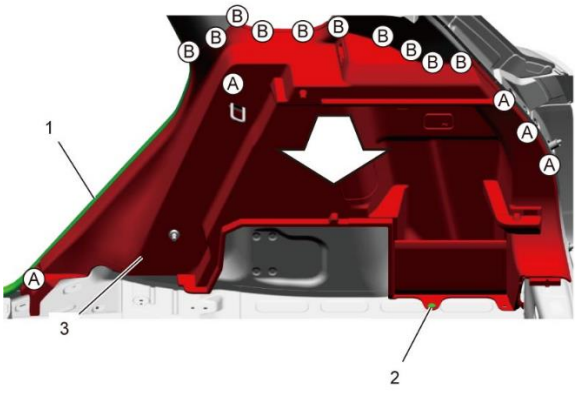
13. REMOVE HV BATTERY PACK FRONT COVER ASSEMBLY

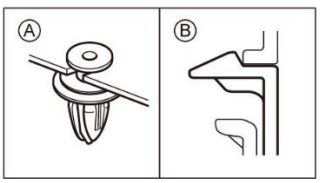
1) Remove clips, and then remove HV battery pack front cover assembly (1).



14. REMOVE QUARTER LOWER LEFT TRIM

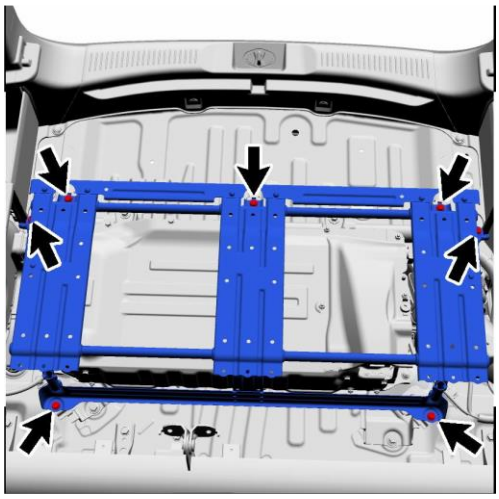
1) Detach rear part of rear door opening weather-strip (1).
2) Remove clip (2).





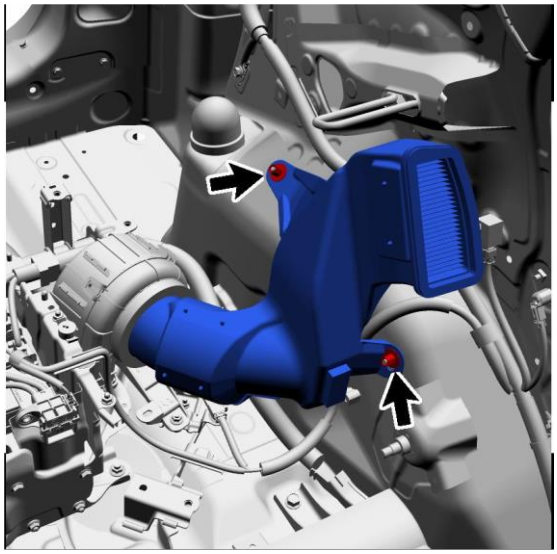
15. REMOVE HV BATTERY PACK UPPER COVER

a. Remove the 7 bolts and HV battery pack upper cover.



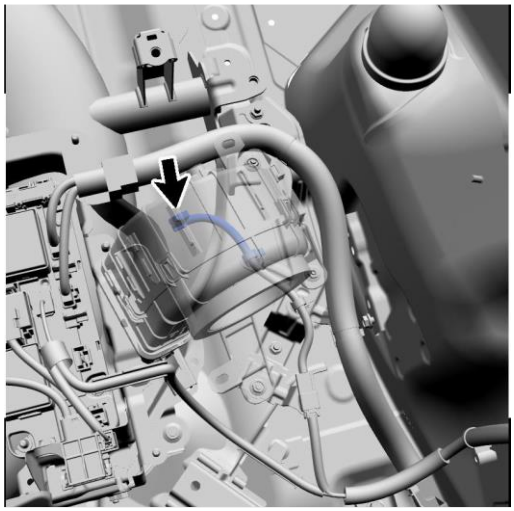
16. REMOVE COOLING AIR DUCT

a. Remove the 2 clips to remove the cooling air duct.



17. REMOVE COOLING FAN ASSEMBLY

a. Disconnect the cooling fan assembly connector.



b. Remove the 3 nuts to remove the cooling fan assembly.

NOTICE:

- **Be sure not to touch the fan part of the cooling fan assembly.**
- **Do not lift the cooling fan assembly using the wire harness.**

18. REMOVE HV BATTERY UPPER COVER PANEL

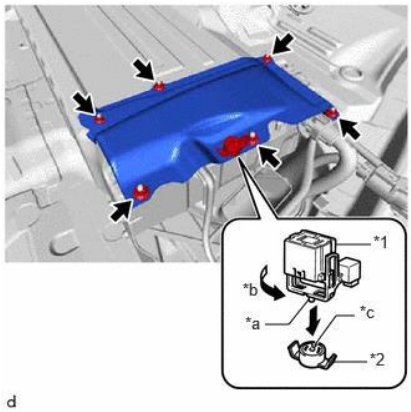
CAUTION:

Wear insulated gloves.

a. Using the service plug grip, remove the battery cover lock striker.

HINT:

Insert the projection of the service plug grip and turn the button of the battery cover lock striker counterclockwise to release the lock.



d

*1	Service Plug Grip
*2	Battery Cover Lock Striker
*a	Projection
*b	Turn
*c	Button

b. Remove the 6 nuts and HV battery upper cover panel from the HV battery.

19. DISCONNECT MAIN HV CABLE ASSEMBLY

CAUTION:

Wear insulated gloves.

NOTICE:

Insulate each disconnected high-voltage connector with insulating tape. Wrap the connector from the wire harness side to the end of the connector.

a. Disconnect the 2 HV battery junction block assembly connectors.

*a	Shield Ground

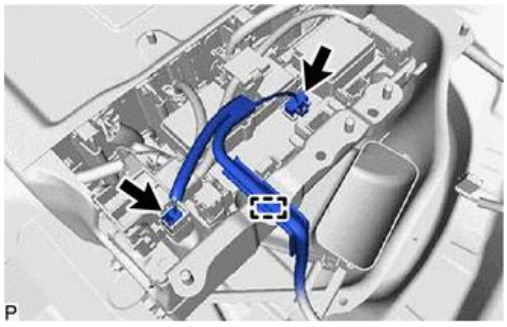
b. Disconnect the shield ground from the HV battery.

20. DISCONNECT FLOOR HARNESS

CAUTION:

Wear insulated gloves.

a. Disengage the clamp.



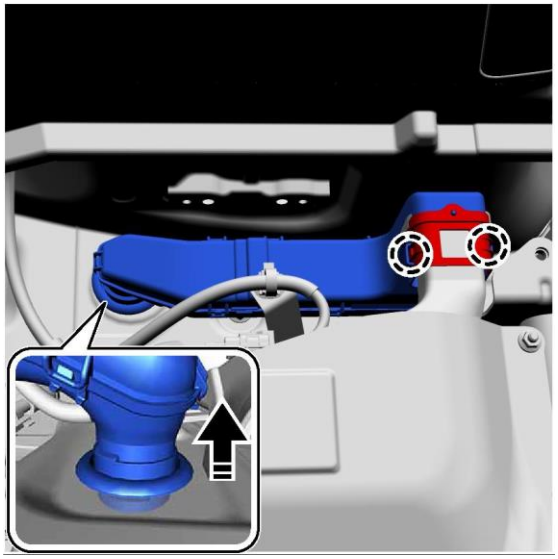
b. Disconnect the electric vehicle battery plug assembly connector.

c. Disconnect the HV battery junction block assembly connector.

21. REMOVE GAS OUTLET DUCT

a. Disengage the 2 claws to remove the gas outlet duct from the gas outlet duct.

b. Disconnect the No. 1 HV battery hose from the vehicle.

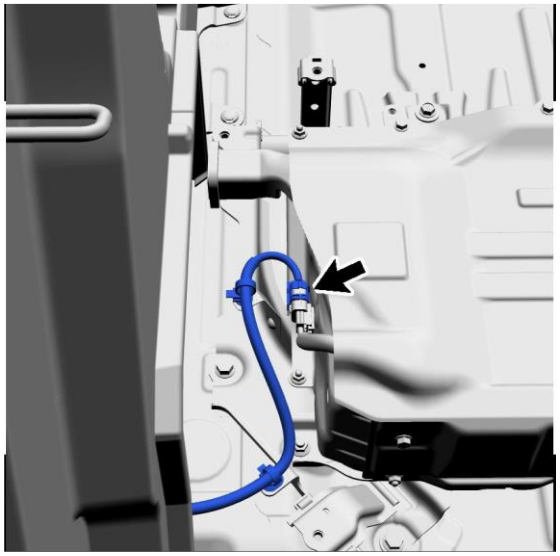


22. DISCONNECT FLOOR HARNESS

CAUTION:

Wear insulated gloves.

a. Disconnect the HV battery connector.



23. REMOVE HV BATTERY

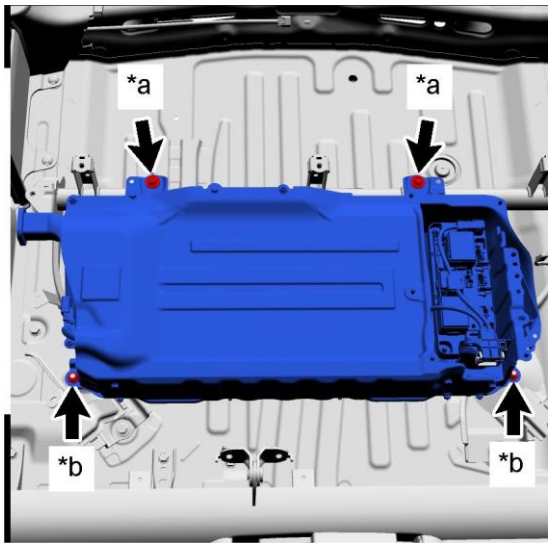
CAUTION:

Wear insulated gloves.

a. Remove the 2 bolts, 2 nuts and HV battery from the HV battery pack bracket.

NOTICE:

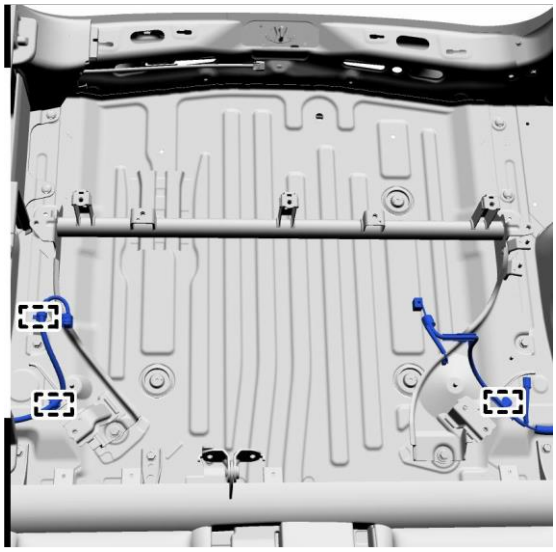
- Do not allow foreign matter, such as grease or oil, to adhere to the bolts of the HV battery.
- To prevent the wire harness from being caught, make sure to bundle the wire harness using insulating tape or equivalent.
- Use cardboard or another similar material to protect the HV battery and vehicle body from damage.
- Since the HV battery is very heavy, 2 people are needed to remove it. When removing the HV battery, be careful not to damage the parts around it.
- When removing the HV battery from the vehicle, do not allow it to contact the vehicle.
- When removing/installing/moving the HV battery, make sure not to tilt it more than 80°.
- Insulate the disconnected terminals or connectors with insulating tape.
- If the HV battery has been struck or dropped, replace it.



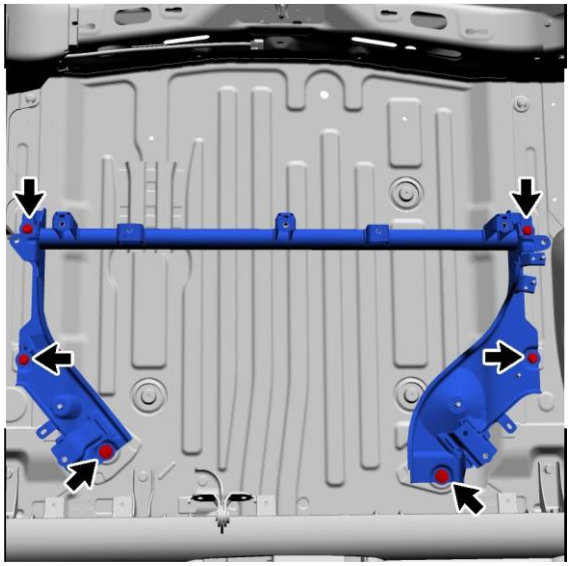
*a	Bolt
*b	Nut

24. REMOVE HV BATTERY PACK BRACKET

a. Disengage the 3 floor harness clamps.

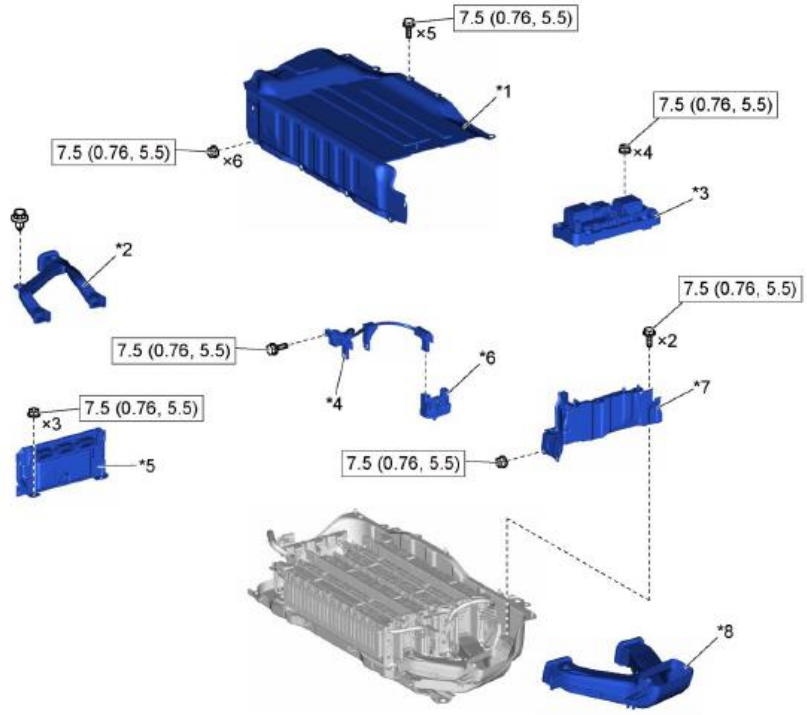


b. Remove 6 bolts and HV battery pack bracket.

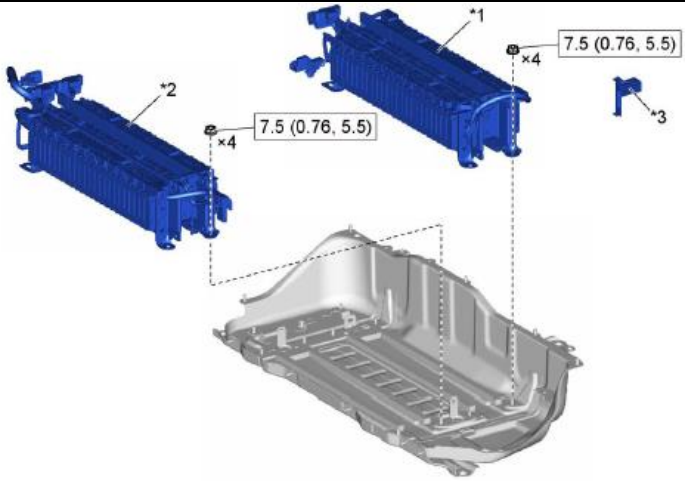


HV BATTERY STACK

COMPONENTS



*1	UPPER HV BATTERY COVER SUB-ASSEMBLY	*2	NO. 1 HV BATTERY HOSE
*3	NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY	*4	ELECTRIC VEHICLE BATTERY PLUG ASSEMBLY
*5	BATTERY ECU ASSEMBLY	*6	HYBRID BATTERY TERMINAL BLOCK
*7	NO. 1 HYBRID BATTERY SHIELD SUB-ASSEMBLY	*8	NO. 1 HYBRID BATTERY INTAKE DUCT LH
▭	N·m (kgf-m, lbf-ft): Specified torque	-	-



*1	NO. 1 HV SUPPLY STACK SUB-ASSEMBLY	*2	NO. 2 HV SUPPLY STACK SUB-ASSEMBLY
*3	NO. 1 HV BATTERY PROTECTOR	-	-
▭	N·m (kgf-m, lbf-ft): Specified torque	-	-

REMOVAL

・ Before performing electrical work (connector disconnecting and reconnecting etc.), refer to "Precautions for Electrical System Work" in Section 00 of Related Manuals mentioned in FOREWORD of this manual.

・ The necessary procedures (adjustment, calibration, initialization, or registration) that must be performed after parts are removed and installed, or replaced during HV supply stack sub-assembly removal/installation are shown below.

Necessary Procedures After Parts Removed/Installed/Replaced

Replaced Part or Performed Procedure	Necessary Procedures	Effect/Inoperative Function when Necessary Procedure not Performed
・ Replacement of No. 1 HV supply stack sub-assembly ・ Replacement of No. 2 HV supply stack sub-assembly	1. Prediagnostic Battery Charge 2. Battery Diagnosis 3. Battery Status Info Update	HV battery status information cannot be updated
・ Replacement of battery ECU assembly ・ Replacement of HV battery junction block assembly	Current sensor offset learning	DTCs are stored
Replacement of hybrid battery terminal block	Perform high voltage fuse accumulated load history reset	

1. PRECAUTION

NOTICE:

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the negative (-) battery (lead-acid battery) terminal. Refer to "Precautions for Electrical System Work" in Section 00 of Related Manuals mentioned in FOREWORD of this manual.

2. READ VALUE USING SUZUKI SCAN TOOL

a. Connect the SUZUKI scan tool (Suzuki SDT-II) to the DLC.

b. Turn the ignition switch on (IG).

c. Enter the following menus: Data List / HV Battery / Hybrid/EV Battery Temperature 1 to 6.

Display
Hybrid/EV Battery Temperature 1
Hybrid/EV Battery Temperature 2
Hybrid/EV Battery Temperature 3
Hybrid/EV Battery Temperature 4
Hybrid/EV Battery Temperature 5
Hybrid/EV Battery Temperature 6

d. Read the Data List.

NOTICE:

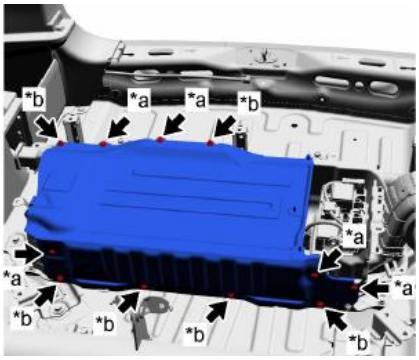
If any of the temperatures listed in "Hybrid/EV Battery Temperature 1 to 6" are 50°C or more, leave the vehicle until the temperature drops to less than 50°C.

3. REMOVE UPPER HV BATTERY COVER SUB-ASSEMBLY

CAUTION:

Be sure to wear insulated gloves and protective goggles.

a. Remove the 5 bolts, 6 nuts and upper HV battery cover sub-assembly from the HV battery.



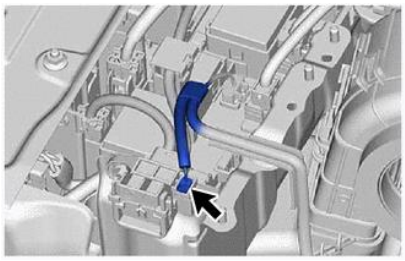
*a	Bolt
*b	Nut

4. REMOVE ELECTRIC VEHICLE BATTERY PLUG ASSEMBLY

CAUTION:

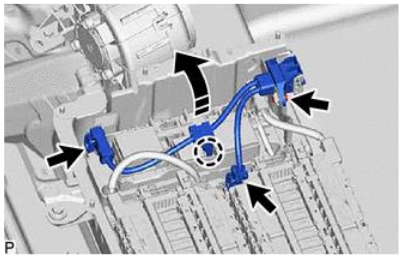
Be sure to wear insulated gloves and protective goggles.

a. Disconnect the electric vehicle battery plug assembly connector.



5. REMOVE NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY

a. Disengage the claw and open the wiring harness protector.



b. Disconnect the No. 1 traction battery device box assembly connector.

NOTICE:

Insulate the disconnected high-voltage connector with insulating tape.

c. Disconnect the hybrid battery terminal block connector.

NOTICE:

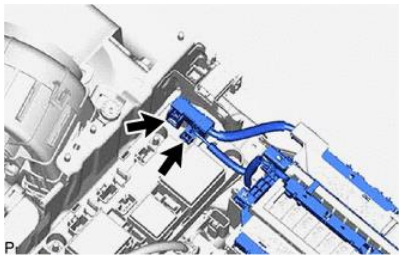
Insulate the disconnected high-voltage connector with insulating tape.

d. Remove the bolt and electric vehicle battery plug assembly from the HV battery

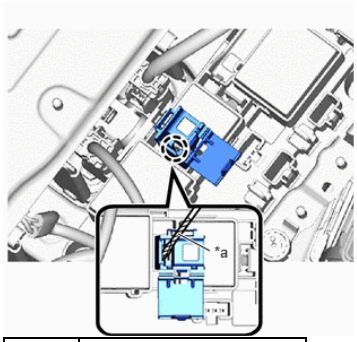
e. Disconnect the 2 No. 1 traction battery device box assembly connectors.

NOTICE:

Insulate the disconnected high-voltage connectors with insulating tape.



f. Using a screwdriver with its tip wrapped with protective tape, disengage the claw and remove the wiring harness protector.

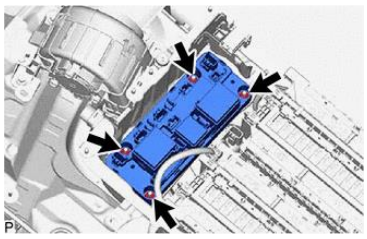


*a	ProtectiveTape

g. Remove the 4 nuts and No. 1 traction battery device box assembly from the No. 1 hybrid battery shield sub-assembly.

NOTICE:

If the No. 1 traction battery device box assembly has been struck or dropped, replace it with a new one.



6. REMOVE HYBRID BATTERY TERMINAL BLOCK

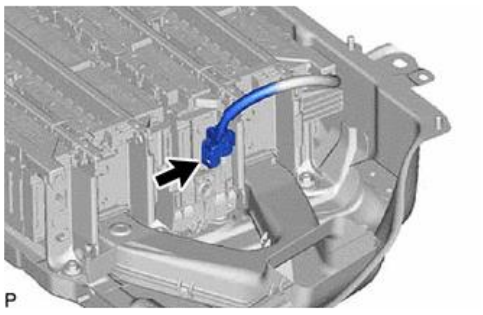
CAUTION:

Be sure to wear insulated gloves and protective goggles.

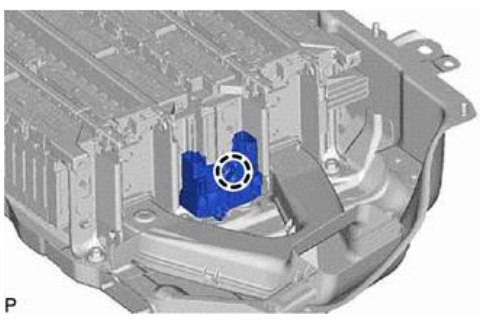
a. Disconnect the hybrid battery terminal block connector.

NOTICE:

Insulate the disconnected high-voltage connector with insulating tape.



b. Disengage the claw to remove the hybrid battery terminal block from the HV battery.

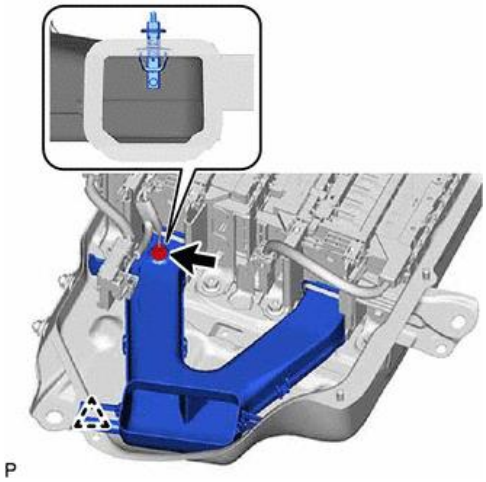


7. REMOVE NO. 1 HYBRID BATTERY INTAKE DUCT LH

CAUTION:

Be sure to wear insulated gloves and protective goggles.

a. Disengage the claw of hybrid battery thermistor (sensor portion) and disconnect the hybrid battery thermistor from the No. 1 hybrid battery intake duct LH.



P

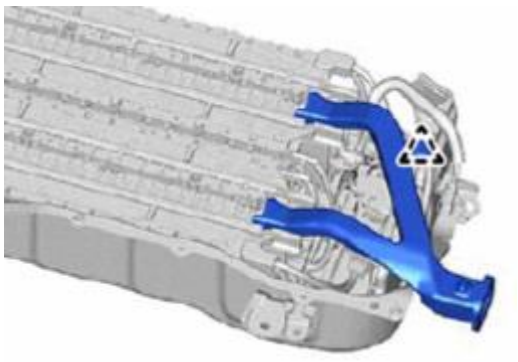
b. Remove the clip and No. 1 hybrid battery intake duct LH from the HV battery.

8. REMOVE NO. 1 HV BATTERY HOSE

CAUTION:

Be sure to wear insulated gloves and protective goggles.

a. Remove the clip and No. 1 HV battery hose from the HV battery.

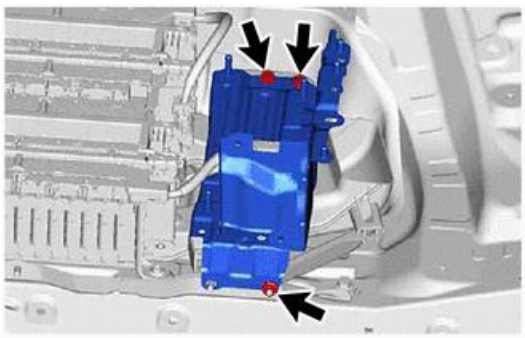


9. REMOVE NO. 1 HYBRID BATTERY SHIELD SUB-ASSEMBLY

CAUTION:

Be sure to wear insulated gloves and protective goggles.

a. Remove the nut, 2 bolts and No. 1 hybrid battery shield sub-assembly from the HV battery.



10. REMOVE BATTERY ECU ASSEMBLY

CAUTION:

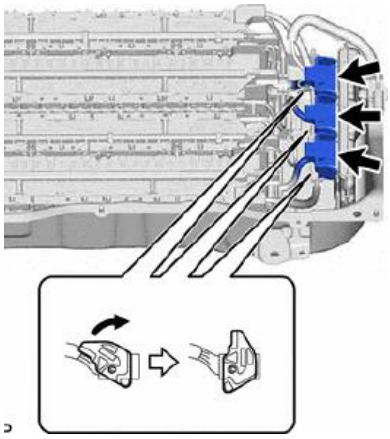
Be sure to wear insulated gloves and protective goggles.

a. Move the lock lever while pushing the lock on the connector, and disconnect the 3 battery ECU assembly connectors.

NOTICE:

Insulate each disconnected high-voltage connector with insulating tape.

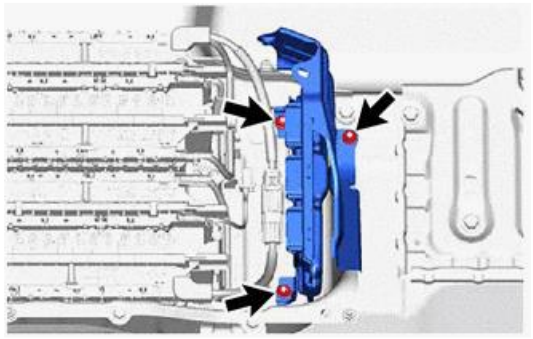
Wrap the connector from the wire harness side to the end of the connector.



b. Remove the 3 nuts and battery ECU assembly from the HV battery.

NOTICE:

If the battery ECU assembly has been struck or dropped, replace it.

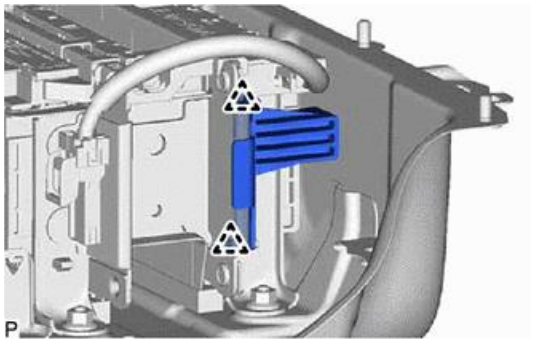


11. REMOVE NO. 1 HV BATTERY PROTECTOR

CAUTION:

Be sure to wear insulated gloves and protective goggles.

a. Remove the 2 claws and No. 1 hybrid battery protector from the No. 1 HV supply stack sub-assembly.



12. REMOVE NO. 2 HV SUPPLY STACK SUB-ASSEMBLY

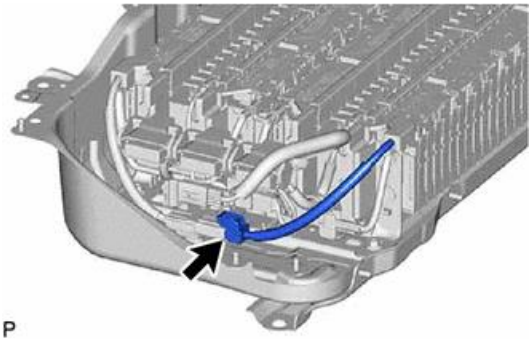
CAUTION:

Be sure to wear insulated gloves and protective goggles.

NOTICE:

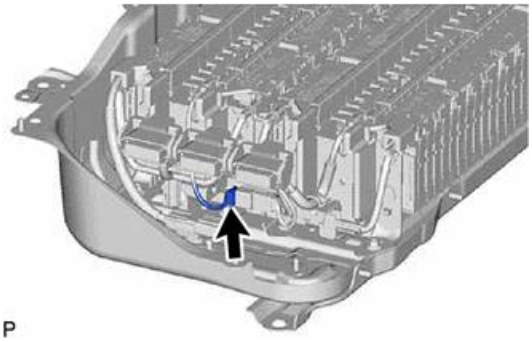
Insulate each disconnected high-voltage connector with insulating tape. Wrap the connector from the wire harness side to the end of the connector.

a. Disconnect the connector.



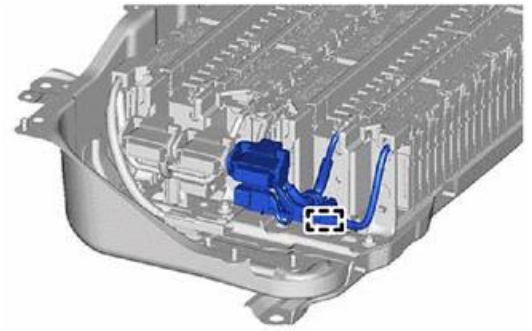
P

b. Disconnect the connector.

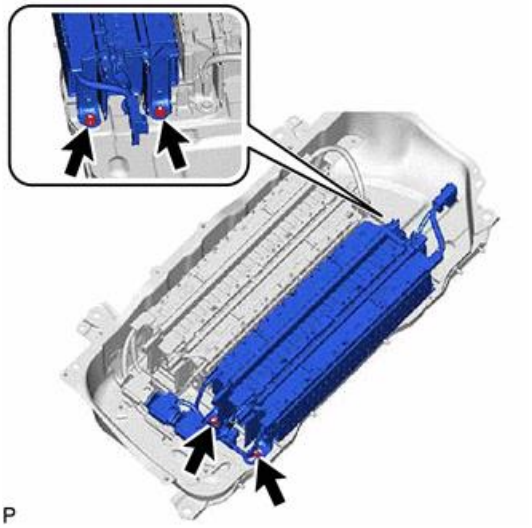


P

c. Disengage the claw.



d. Remove the 4 nuts and No. 2 HV supply stack sub-assembly.



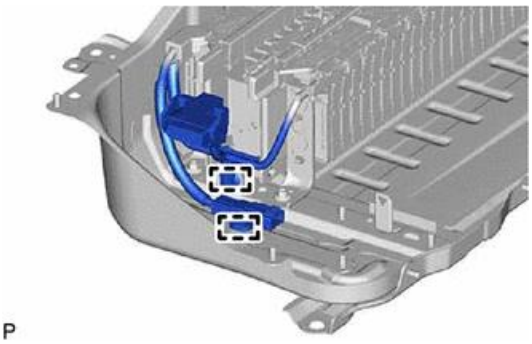
P

13. REMOVE NO. 1 HV SUPPLY STACK SUB-ASSEMBLY

CAUTION:

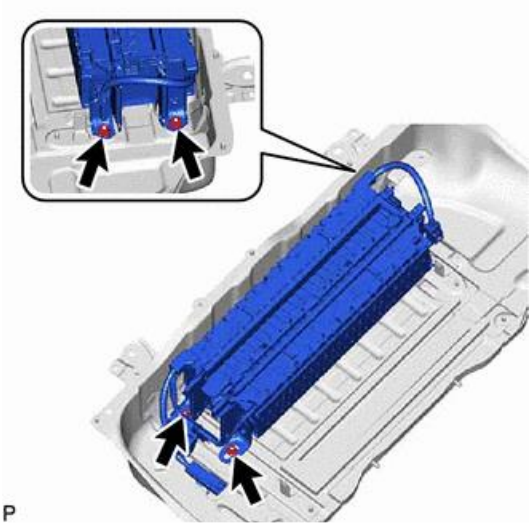
Be sure to wear insulated gloves and protective goggles.

a. Disengage the 2 clamps.



P

b. Remove the 4 nuts and No. 1 HV supply stack sub-assembly.



P