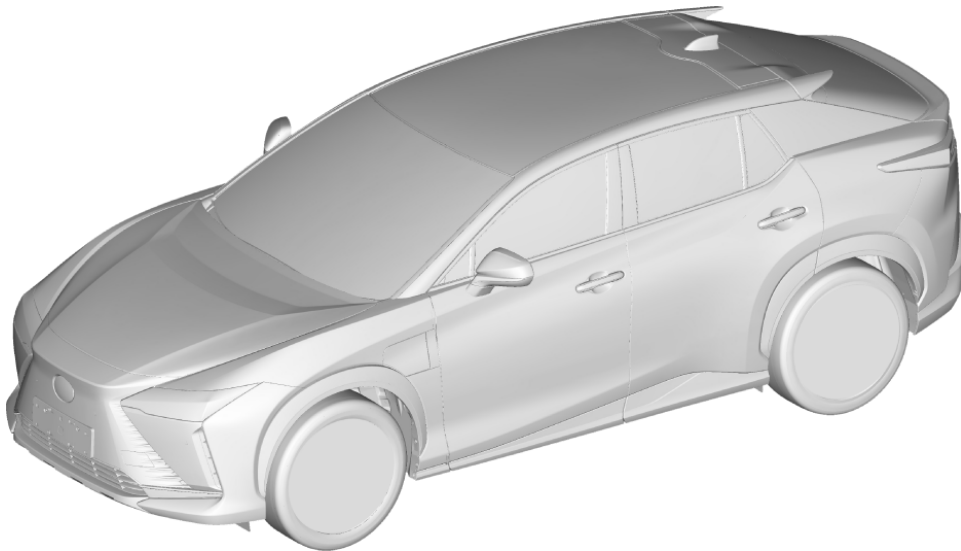




# **RZ450e**

## *ELECTRIC VEHICLE DISMANTLING MANUAL*



**XEBM15 Series**

## Foreword

This guide was developed to educate and assist dismantlers in the safe handling of Lexus RZ450e electric vehicles. RZ450e dismantling procedures are similar to other non-electric Lexus vehicles with the exception of the high voltage electrical system. It is important to recognize and understand the high voltage electrical system features and specifications of the Lexus RZ450e electric vehicle, as they may not be familiar to dismantlers.

High voltage electricity powers the ESU (electric converter unit with cap assembly), front eAxle, rear eAxle, compressor with motor assembly and high voltage coolant heater (electric heater sub-assembly). All other conventional automotive electrical devices such as the head lights, radio, and gauges are powered from a separate 12 V auxiliary battery. Numerous safeguards have been designed into the RZ450e to help ensure the high voltage, approximately 355.2 V, Lithium-ion (Li-ion) EV supply battery assembly is kept safe and secure in an accident.

The Lithium-ion (Li-ion) EV supply battery assembly contains sealed batteries that are similar to rechargeable batteries used in some battery operated power tools and other consumer products. The electrolyte is absorbed in the cell plates and will not normally leak out even if the battery is cracked. If the electrolyte is leaking, do not touch any leaked liquid because it could be the organic electrolyte that contains carbonate ester-based. To avoid injury by coming in contact with the electrolyte or vapor, wear appropriate protective equipment such as rubber gloves, safety goggles, protective mask or SCBA when there is a risk of touching electrolyte. In the unlikely event that it comes into contact with the eyes or skin, wash it off immediately with a large amount of water, and seek immediate medical attention.

High voltage cables, identifiable by orange insulation and connectors, are isolated from the metal chassis of the vehicle.

Additional topics contained in the guide include:

- Lexus RZ450e identification.
- Major electric vehicle component locations and descriptions.

By following the information in this guide, dismantlers will be able to handle RZ450e electric vehicles as safely as the dismantling of a conventional non-electric automobile.

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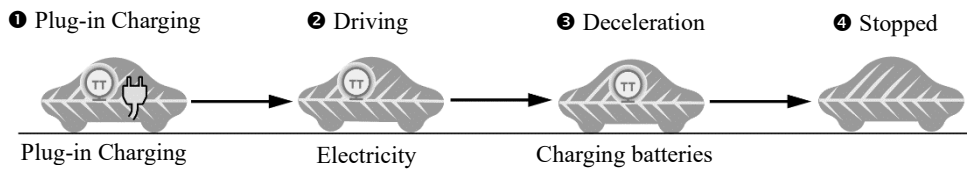


## About the RZ450e

The RZ450e 5-door wagon joins the electric vehicle model for Lexus. Electric Vehicle means that the vehicle contains only an electric motor and does not have a gasoline engine for power. Electricity is stored in a high voltage EV supply battery assembly for the electric motor.

The following illustration demonstrates how the RZ450e operates in various driving modes.

- ❶ A plug-in charge control system has been adopted, which allows electrical power to be supplied to the high-capacity EV supply battery from external power source such as an electrical socket or charger. The plug-in charge control system supports 2-types of charging, AC charging and DC charging.
- ❷ During driving, the vehicle will drive using electric power.
- ❸ During deceleration, such as when braking, the vehicle regenerates the kinetic energy from the front and rear wheel to produce electricity that recharges the EV supply battery assembly.
- ❹ While the vehicle is stopped, the electric motor is off, however the vehicle remains on and operational.



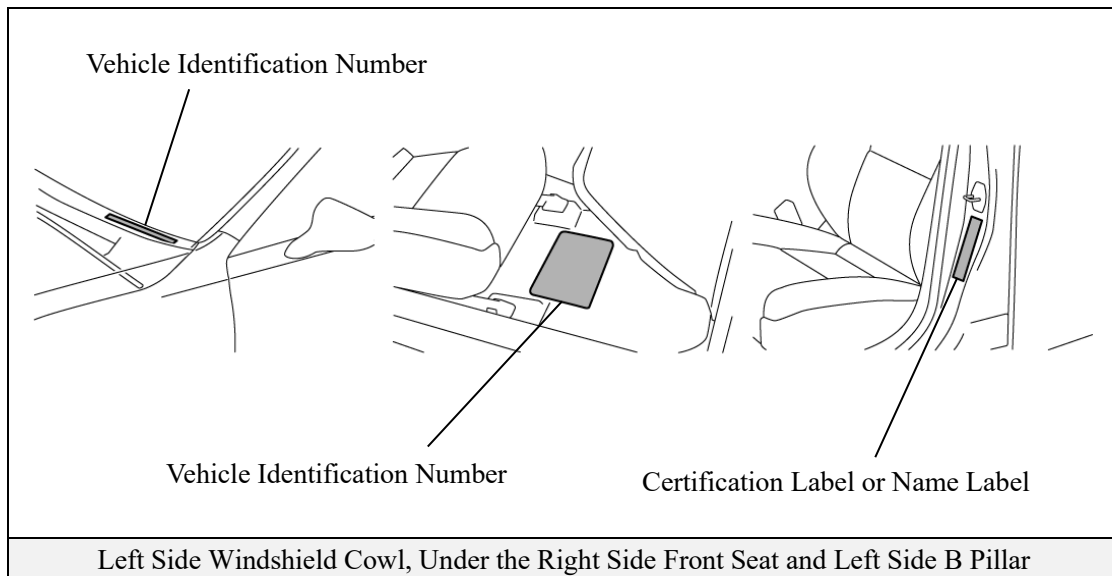
## RZ450e Identification

The RZ450e is a 5-door wagon. Exterior, interior, and motor compartment illustrations are provided to assist in identification.

The alphanumeric 15 character Vehicle Identification Number (VIN) is provided on the left side windshield cowl, floor under the right side front seat and left side B pillar.

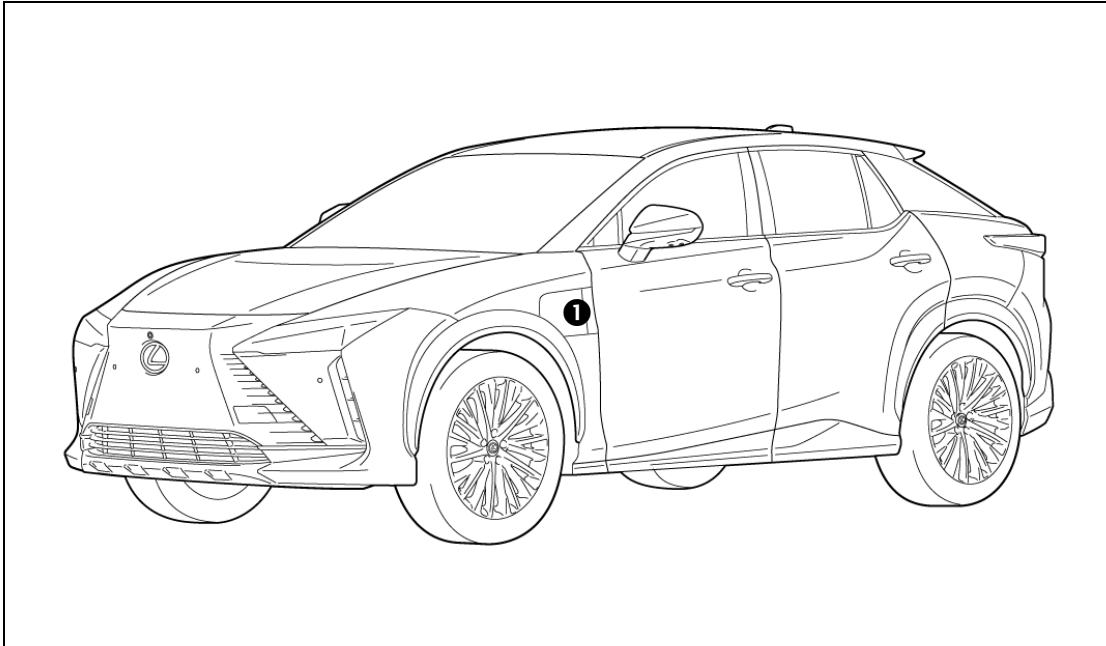
Example VIN:

JTJAAAAB 0000000

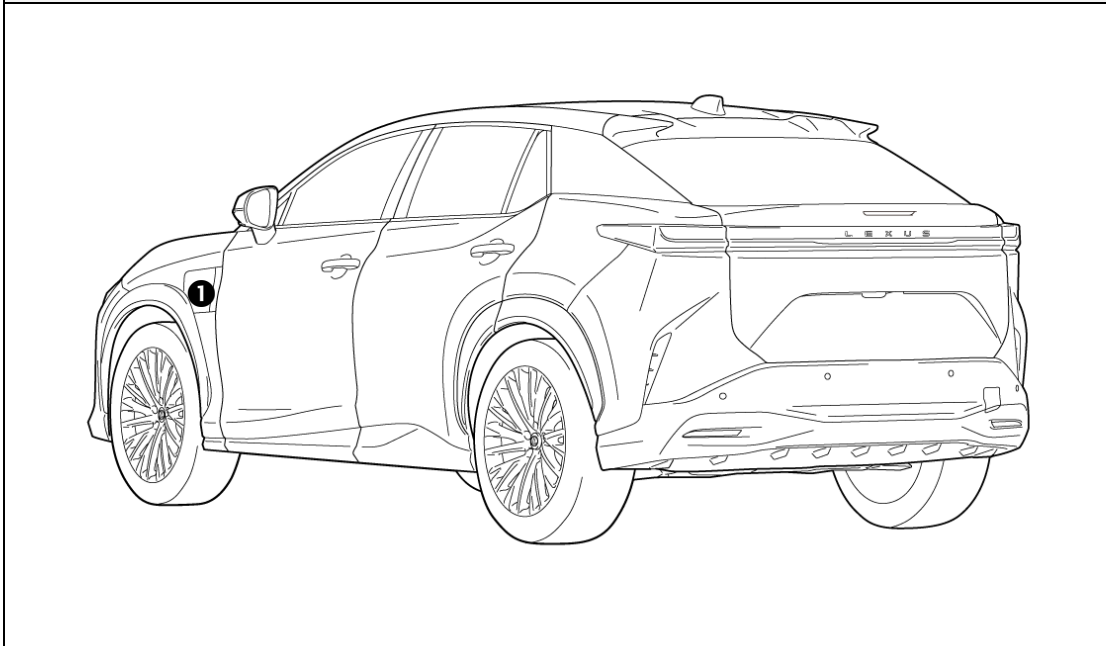


Exterior

- ❶ Charge inlet door located on left side front fender.



Exterior Front and Left Side View



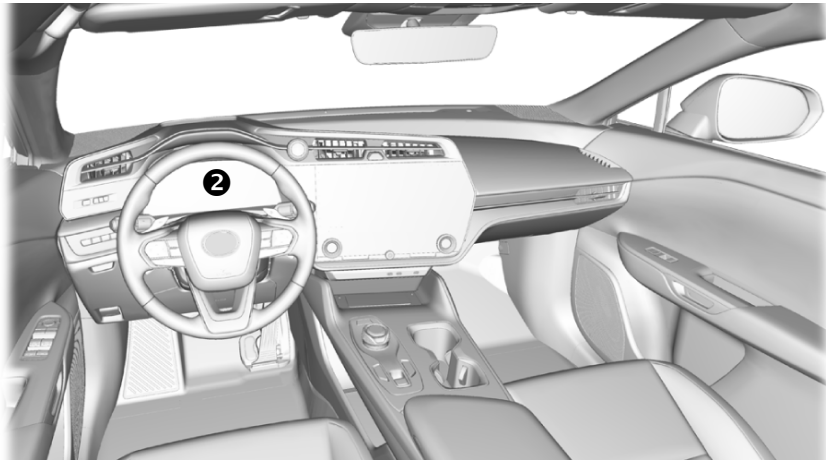
Exterior Rear and Left Side View

Interior

- ② The instrument cluster (BEV system indicator, **READY** indicator, plug-in indicator and battery gauge) is located in the dash behind the steering wheel.
- ③ A BEV system indicator is used to show power output.

**NOTICE:**

If the vehicle is shut off, the instrument cluster gauges will be “blacked out”, not illuminated.



This illustration is for an LHD model

Interior View

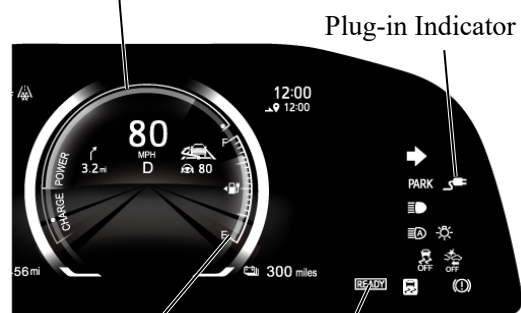
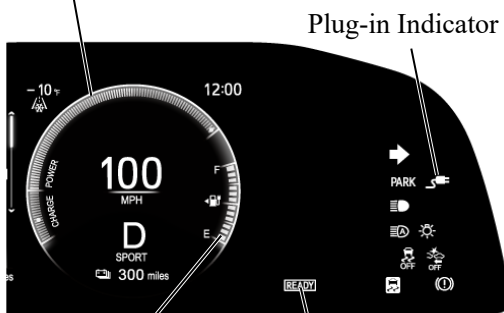
②

< Models without headup display >

< Models with headup display >

③ BEV System Indicator\*

③ BEV System Indicator\*



Battery Gauge

READY Indicator

Battery Gauge\*

READY Indicator

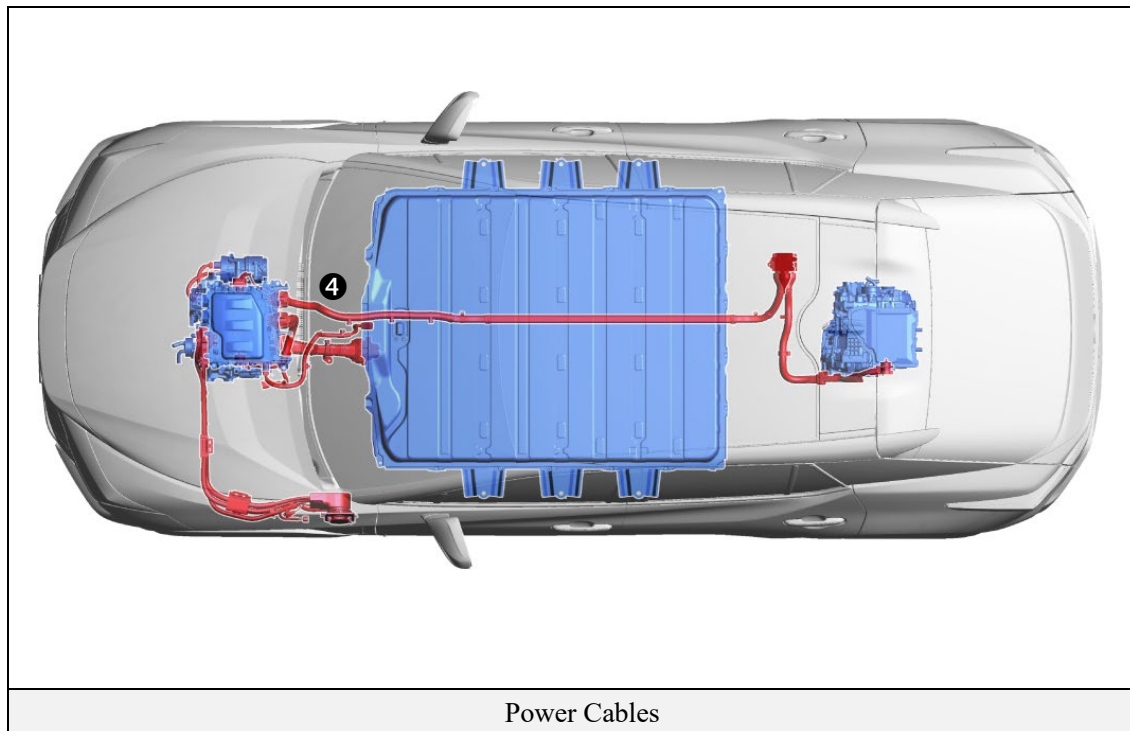
\*The display may vary depending on the meter layout.

Combination Meter View



## Motor Compartment

- ④ Orange colored high voltage power cables.



## Electric Vehicle Component Locations & Descriptions

Component		Location	Description
12 Volt Auxiliary Battery ❶		Motor Compartment	A lead-acid battery that supplies power to the low voltage devices.
EV Supply Battery Assembly ❷		Undercarriage	<ul style="list-style-type: none"> <li>•Supplies electrical power to EV motor control inverter assembly in accordance with the driving conditions of the vehicle.</li> <li>•Recharged by electric motor in accordance with the SOC and the driving conditions of the vehicle.</li> <li>•Accumulates power from the external power source supplied by charging.</li> </ul>
Power Cables ❸		Undercarriage and Motor Compartment	Connects the EV supply battery assembly, front eAxle, rear eAxle, ESU (electric converter unit with cap assembly), compressor with motor assembly and high voltage coolant heater (electric heater sub-assembly).
ESU (Electric Converter Unit with Cap Assembly) ❹	DC-DC Converter	Motor Compartment	Steps down the EV supply battery nominal voltage in order to supply electricity to the electrical components, as well as to recharge the auxiliary battery.
Front eAxle ❺	Electric Motor	Motor Compartment	<ul style="list-style-type: none"> <li>•Drives by electrical power from the EV supply battery assembly, generates motive force for the drive wheels.</li> <li>•Generates high-voltage electricity to recharge the EV supply battery, during braking, or when the accelerator pedal is released.</li> </ul>
	Front EV Motor Control Inverter Assembly	Motor Compartment	Converts the direct current from the EV supply battery assembly into alternating current for electric motor, and vice versa (from AC to DC).

Component		Location	Description
Rear eAxle ⑥	Electric Motor	Undercarriage	<ul style="list-style-type: none"> <li>•Drives by electrical power from the EV supply battery assembly, generates motive force for the drive wheels.</li> <li>•Generates high-voltage electricity to recharge the EV supply battery, during braking, or when the accelerator pedal is released.</li> </ul>
	Rear EV Motor Control Inverter Assembly	Undercarriage	Converts the direct current from the EV supply battery assembly into alternating current for electric motor, and vice versa (from AC to DC).
Compressor with Motor Assembly ⑦		Motor Compartment	Driven by the EV control ECU using power from the EV supply battery to intake, compress and discharge refrigerant at a speed calculated by the air conditioning amplifier assembly.
High Voltage Coolant Heater (Electric Heater Sub-assembly) ⑧		Motor Compartment	Quickly raises the temperature of the EV supply battery using the high voltage coolant heater (electric heater sub-assembly) when temperature of the EV supply battery is low during charging, achieving shortened charging time.

\*Numbers in the component column apply to the illustrations on the following page.

## Specifications

### Electric Motors

Front: 150 kW, AC Permanent Magnet Motor

Rear: 80 kW, AC Permanent Magnet Motor

Transmission: Automatic Only

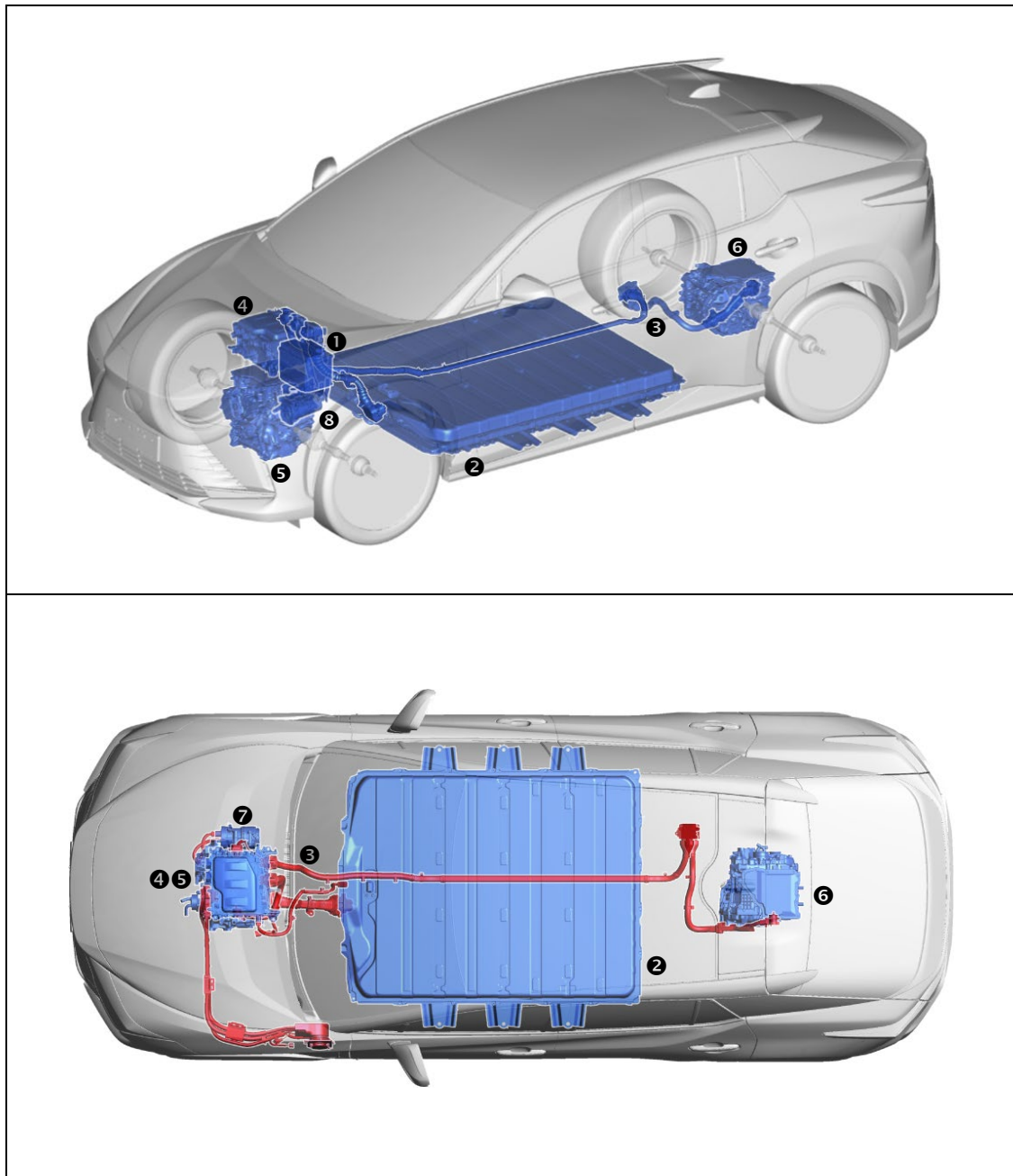
EV Supply Battery Assembly: 355.2 Volt Sealed Li-ion Battery

Curb Weight: 4,519 lbs/2,050 kg - 4,718 lbs/2,140 kg

Frame Material: Steel Unibody

Body Material: Steel Panels except for Aluminum Engine Hood

Seating Capacity: 5 passenger

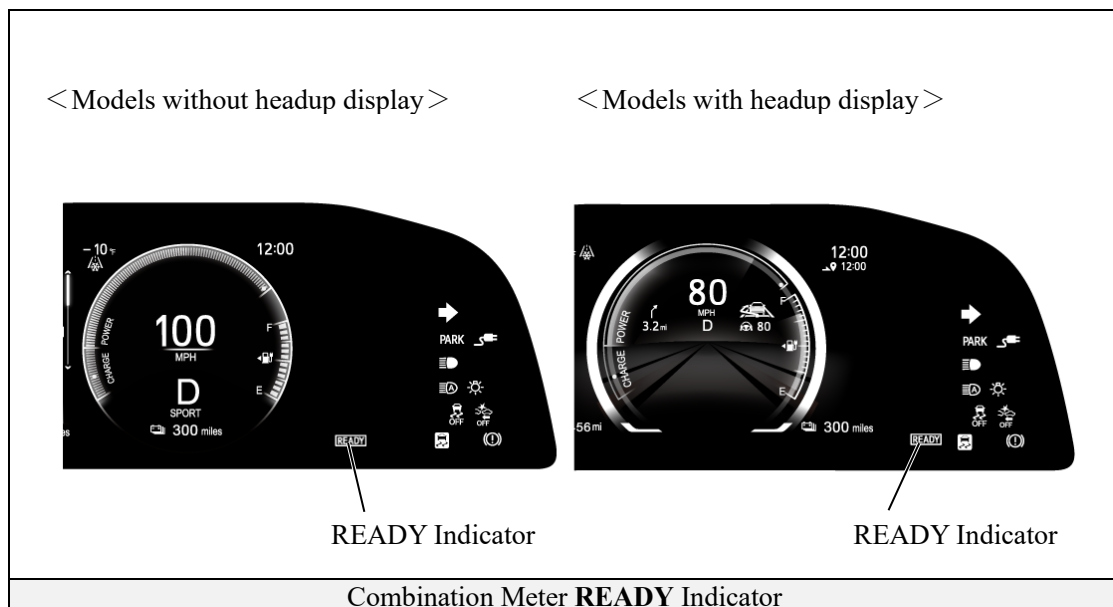


## Electric Vehicle Operation

Once the **READY** indicator is illuminated in the instrument cluster, the vehicle may be driven. However, as there is no gasoline engine, no sound will be produced from the vehicle. It is important to recognize and understand the **READY** indicator provided in the instrument cluster. When lit, it informs the driver that the vehicle is on and operational even though the motor compartment is silent.

### Vehicle Operation

- With the RZ450e, the system is operational while the **READY** indicator is on.
- Never assume that the vehicle is shut off just because the motor compartment is silent. Always look for the **READY** indicator status. The vehicle is shut off when the **READY** indicator is off.



## EV Supply Battery Assembly and Auxiliary Battery

The RZ450e features a high voltage EV supply battery assembly that contains sealed Lithium-ion (Li-ion) battery cells.

### EV Supply Battery Assembly

- The EV supply battery assembly is enclosed in a case and is rigidly mounted under the floor. The case is isolated from high voltage.
- The EV supply battery assembly consists of 96 low voltage (3.7 Volt) Li-ion battery cells connected in series-parallel to produce approximately 355.2 Volts. Each Li-ion battery cell is non-spillable and sealed in a case.
- The electrolyte used in the Li-ion battery cells is a flammable organic electrolyte. The electrolyte is absorbed into the battery cell separator and will not normally leak, even in a collision.

EV Supply Battery Assembly	
Battery assembly voltage	355.2 V
Number of Li-ion battery cells in the battery	96
Li-ion battery cell voltage	3.7 V

### Components Powered by the EV Supply Battery Assembly

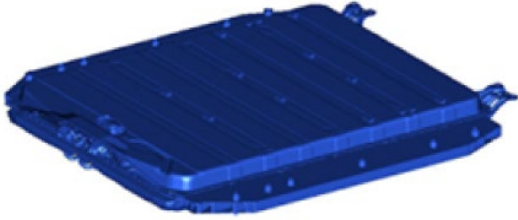
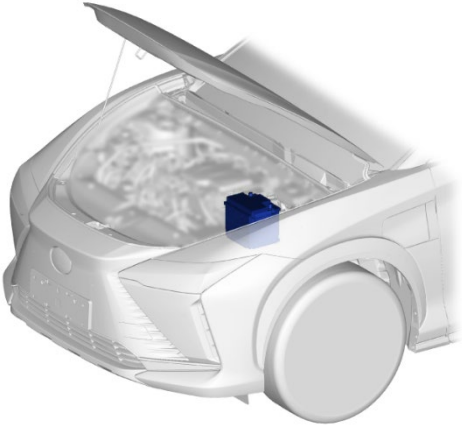
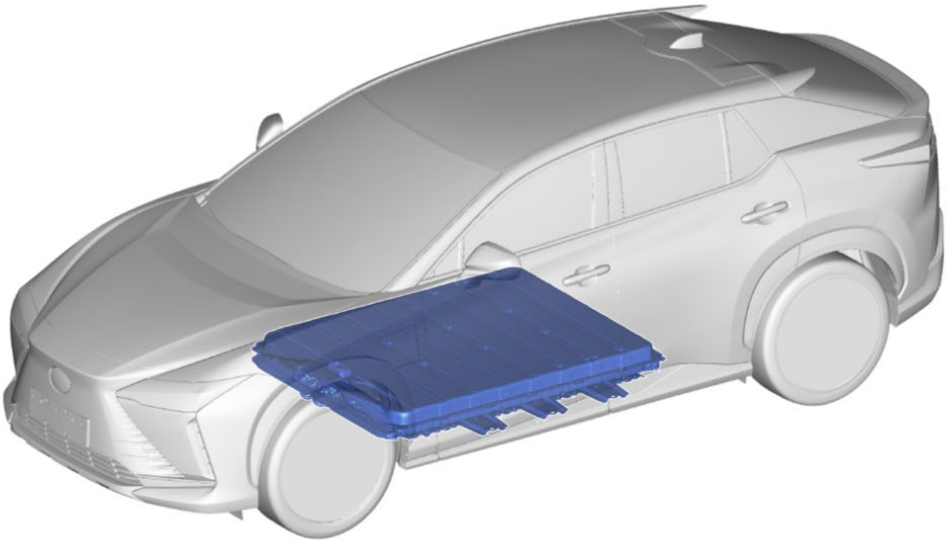
- Front eAxle
  - Electric Motor
  - Front EV Motor Control Inverter Assembly
- Rear eAxle
  - Electric Motor
  - Rear EV Motor Control Inverter Assembly
- ESU (Electric Converter Unit with Cap Assembly)
- Compressor with Motor Assembly
- High Voltage Coolant Heater (Electric Heater Sub-assembly)

### EV Supply Battery Assembly Recovery

- Contact either your Lexus Distributor or the nearest Lexus dealer.

### Auxiliary Battery

- The RZ450e contains a sealed lead-acid 12 Volts battery. This 12 Volts auxiliary battery powers the vehicle electrical system similar to a conventional vehicle. As with other conventional vehicles, the negative terminal of the auxiliary battery is grounded to the metal chassis of the vehicle.
- The auxiliary battery is located in the motor compartment.

	
355.2 Volt EV Supply Battery Assembly	12 Volt Auxiliary Battery Mounted in Motor Compartment
	
EV Supply Battery Assembly Mounted in Under the Floor	

## High Voltage Safety

The EV supply battery assembly powers the high voltage electrical system with DC electricity. Positive and negative orange colored high voltage power cables are wired from the EV supply battery assembly and pass under the vehicle floor to the ESU (electric converter unit with cap assembly), and from ESU (electric converter unit with cap assembly) to the front eAxle and rear eAxle with inverters installed.

The inverter contains a circuit that boosts the DC 355.2 V from the EV supply battery assembly and converts it to AC 500 V to supply power to the electric motor.

Power cables are wired from the ESU (electric converter unit with cap assembly) to each high voltage motor (front eAxle, rear eAxle, compressor with motor assembly, and high voltage coolant heater (electric heater sub-assembly)). The following systems are intended to help keep occupants in the vehicle and emergency responders safe from high voltage electricity:


### High Voltage Safety System

- Positive and negative high voltage power cables ❶\* connected to the EV supply battery assembly are controlled by 12 Volt normally open relays (system main relays ❷\*). When the vehicle is shut off, the relays stop electrical flow from leaving the EV supply battery assembly.



#### **WARNING:**

***The high voltage system may remain powered for up to 10 minutes after the vehicle is shut off or disabled. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or opening any orange high voltage power cable or high voltage component.***

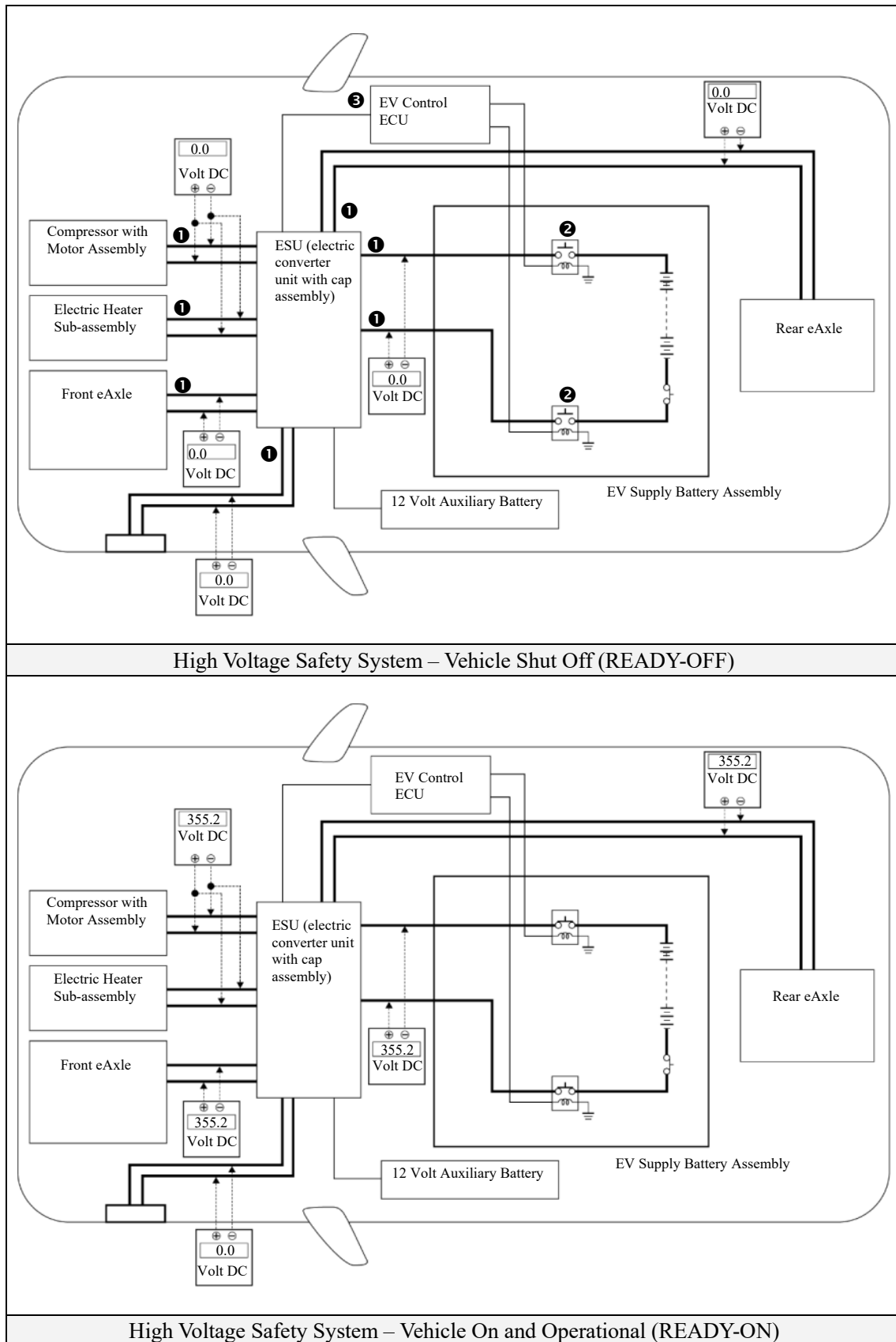
- Both positive and negative power cables ❶\* are insulated from the metal body. High voltage electricity flows through these cables and not through the metal vehicle body. The metal vehicle body is safe to touch because it is insulated from the high voltage components.
- A ground fault monitor in the EV control ECU ❸\* continuously monitors for high voltage leakage to the metal chassis while the vehicle is running. If a malfunction is detected, the EV control ECU ❸\* will illuminate the master warning light  in the instrument cluster and a message indicating that the EV system is malfunctioning will be displayed on the multi-information display.
- The EV supply battery assembly contactors will automatically open to stop electricity flow in a collision sufficient to activate the SRS.

\*Numbers apply to the illustration on the following page.



### Service Plug Grip

- The high voltage circuit is cut by removing the service plug grip (see page 16).



## Precaution to be observed when dismantling the vehicle

- To prevent electric shock, wear insulated gloves when working on wire harnesses and components of the high voltage system.  
Before using insulated gloves, be sure to check them for cracks, tears and other types of damage.
- When servicing the vehicle, do not carry metal objects like mechanical pencils or rulers that can be dropped accidentally and cause a short circuit.
- 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 electric converter unit assembly.
- Do not touch any high voltage wire harnesses, connectors or parts with bare hands.
- Do not touch the terminals of the service plug grip.
- Make sure to insulate the high-voltage connectors and terminals of the EV supply battery assembly with insulating tape after removing them.
- After removing the service plug grip, put it in your pocket to prevent other technicians from accidentally reconnecting it while you are working on the high-voltage system.
- Before touching a bare high-voltage terminal, wear insulated gloves and use a tester to make sure that the terminal voltage is 0 V.
- Electrolyte leaks may cause acute poisoning if a high concentration of the vapor from the electrolyte is inhaled. In case of inhalation, move the affected person to a place with ample fresh air and let them lie quietly. Seek medical care.
- If the electrolyte comes in contact with your skin, wash the area thoroughly with soap and plenty of water, and seek medical care. If the electrolyte comes in contact with an article of clothing, take it off immediately. Prolonged contact with the electrolyte may cause skin irritation.
- If the electrolyte comes in contact with your eyes, call out loudly for help. Do not rub your eyes. Immediately flush them with a large amount of water for at least 15 minutes and seek medical care.
- If electrolyte is swallowed, seek medical care immediately. Do not induce vomiting, unless instructed by the doctor.
- If the vehicle catches on fire, use an ABC fire extinguisher to extinguish the fire.  
Trying to extinguish a fire using only a small amount of water can be more dangerous than effective. Use a substantial amount of water or wait for firefighters.
- Do not allow any foreign matter or water to enter the EV supply battery assembly.

### Necessary Items

- Protective clothing such as insulated gloves (electrically insulated), rubber gloves, helmet, safety goggles, safety shoes and SCBA or protective mask.
- Insulating tape such as electrical tape that has a suitable electrical insulation rating and insulation tool set.
- An electrical tester that is capable of measuring DC 750 Volts or more.

## Spills

The RZ450e contains some of the same common automotive fluids used in other non-electric Lexus vehicles, with the exception of the Li-ion electrolyte used in the EV supply battery assembly. The electrolyte used in the Li-ion battery cells is a flammable organic electrolyte. The electrolyte is absorbed into the battery cell separators, even if the battery cells are crushed or cracked, it is unlikely that liquid electrolyte will leak. Any liquid electrolyte that leaks from a Li-ion battery cell quickly evaporates.



### **WARNING:**

- ***The Li-ion battery contains organic electrolyte. Only a small amount may leak from the batteries which may irritate the eyes, nose, throat, and skin.***
- ***Contact with the vapor produced by the electrolyte may irritate the nose and throat.***
- ***To avoid injury by coming in contact with the electrolyte or vapor, wear personal protective equipment for organic electrolyte including SCBA or protective mask for organic gases.***

Handle Li-ion electrolyte spills using the following Personal Protective Equipment (PPE):

- Splash shield or safety goggles. Fold down helmet shields are not acceptable for electrolyte spills.
- Butyl rubber or suitable organic solvent gloves.
- Apron or protective clothing suitable for organic solvents.
- Rubber overboots or boots suitable for organic solvents.
- Full face respirator suitable for organic solvents or SCBA.

## Dismantling the vehicle

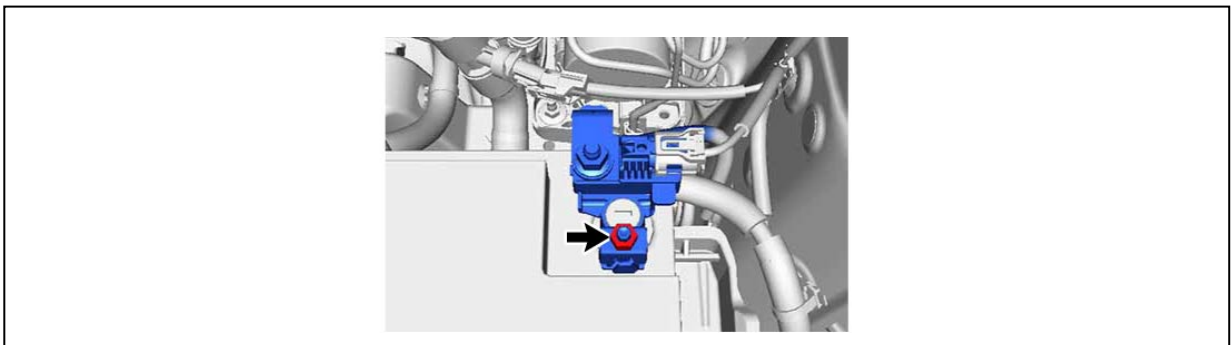
The following 5 pages contain general instructions for use when working on a RZ450e. Read these instructions before proceeding to the EV supply battery assembly removal instructions on page 21.



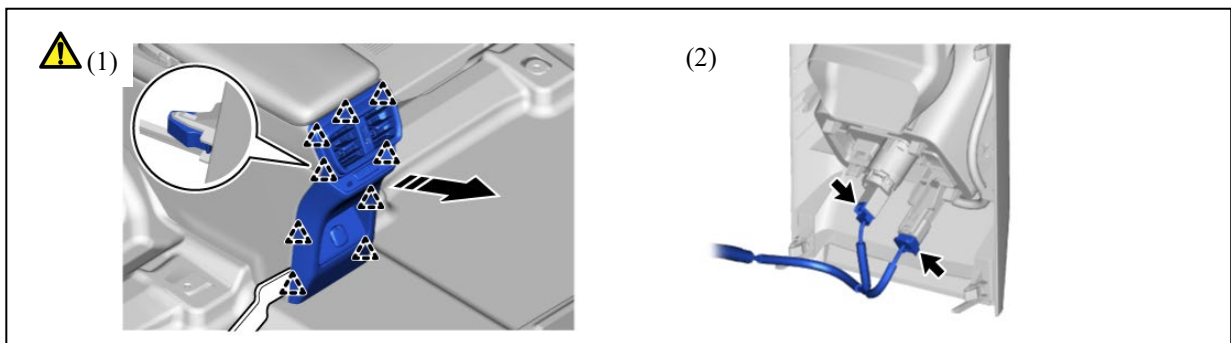
### **WARNING:**

***The high voltage system may remain powered for up to 10 minutes after the vehicle is shut off or disabled. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or opening any orange high voltage power cable or any high voltage component.***

1. Shut off the ignition (**READY** indicator is off).
2. Disconnect cable from negative auxiliary battery terminal.
  - a.



3. Remove console rear end panel sub-assembly.
  - a.



	Remove in this Direction	-	-
--	--------------------------	---	---

- (1) Using a moulding remover B, disengage the clips to remove the console rear end panel sub-assembly as shown in the illustration.
- (2) Disconnect the 2 connectors.

#### 4. 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.**
- **Keep the removed service plug grip in your pocket to prevent other technicians from accidentally installing it while you are servicing the vehicle.**



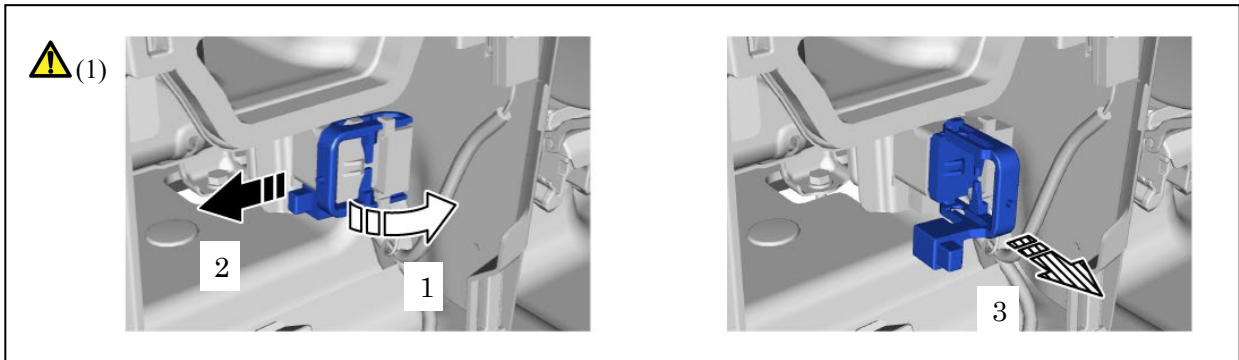
##### **NOTICE:**

- After removing the service plug grip, turning the ignition switch to ON (READY) may cause a malfunction. Do not turn the ignition switch to ON (READY) unless instructed by the repair manual.
- Do not touch the terminals of the service plug grip.

##### **HINT:**

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

a.



(1) 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.

5. Carry the removed service plug grip in your pocket to prevent other staff from accidentally reinstalling it while you are dismantling the vehicle.

6. Make other staff aware that a high-voltage system is being dismantled by using the following sign: CAUTION: HIGH-VOLTAGE. DO NOT TOUCH (see page 20).

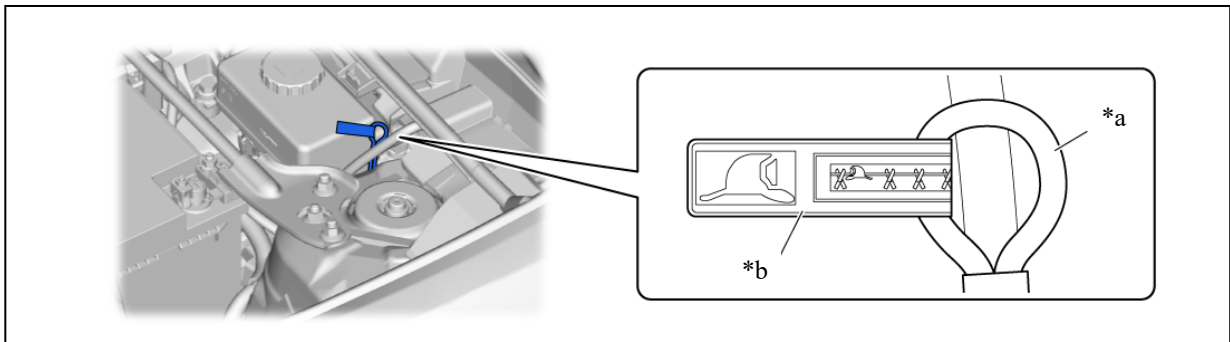
7. A harness loop is installed in consideration of when the ignition switch cannot be operated when performing rescue due to damage to the vehicle. When the harness loop is disconnected, the vehicle is stopped and operations such as disconnecting the negative terminal of the auxiliary battery, removing the service plug grip for the EV supply battery, etc., can be performed safely.

**CAUTION:**

**This operation shuts off the EV system. Be sure to wear insulated gloves because high voltage is not shut off inside the EV supply battery assembly. When it is possible to remove the service plug grip, remove it and continue the procedure.**

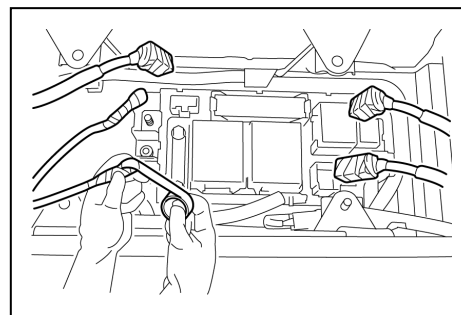
**HINT:**

A sticker is attached to the harness loop to make visual identification easy.



*a	Harness Loop	*b	Sticker
----	--------------	----	---------

8. After disconnecting or exposing a high-voltage connector or terminal, insulate it immediately using insulating tape. Before disconnecting or touching a bare high-voltage terminal, wear insulated gloves.



9. Check the EV battery and nearby area for leakage. If you find any liquid, wear rubber gloves and goggles, and wipe up the liquid using waste rags etc.

10. If the electrolyte comes into contact with your skin, wash the skin immediately using a saturated boric acid solution or a large amount of water. If the electrolyte adheres to any article of clothing, take the clothing off immediately.

11. If the electrolyte comes into contact with your eye(s), call out loudly for help. Do not rub your eye(s). Instead, wash the eye(s) with a dilute boric acid solution or a large amount of water and seek medical care.

12. With the exception of the EV supply battery assembly, remove parts by following procedures which are similar to conventional Lexus vehicles. For the removal of the EV supply battery assembly, refer to the following pages.

Person in charge: \_\_\_\_\_

**CAUTION:**  
**HIGH-VOLTAGE.**  
**DO NOT TOUCH.**

**CAUTION:**  
**HIGH-VOLTAGE.**  
**DO NOT TOUCH.**

Person in charge: \_\_\_\_\_

When performing work on the EV system, fold this sign and  
put it on the roof of the vehicle.



## Removal of EV Supply Battery Assembly

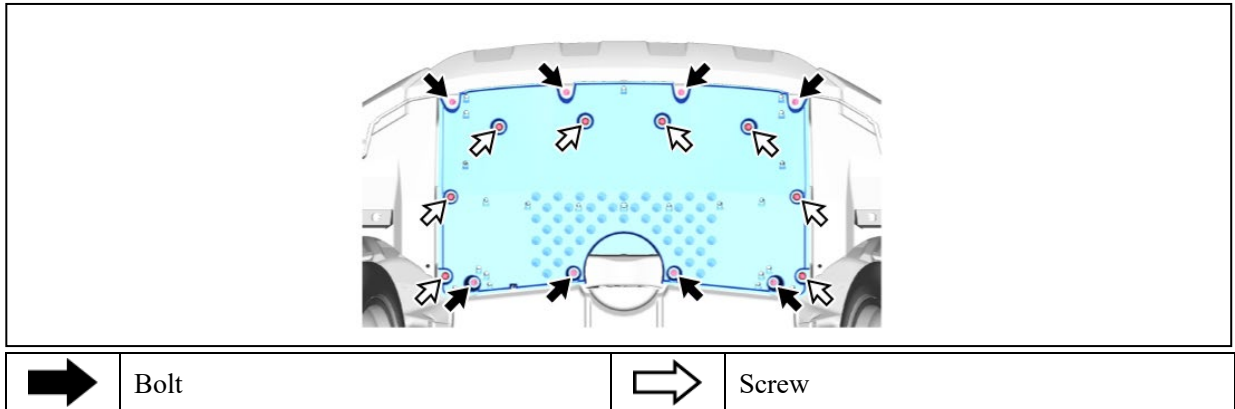


### **WARNING:**

- *Be sure to wear insulated gloves when handling high-voltage parts.*
- *Even if the vehicle is shut off and the relays are off, be sure to remove the service plug grip before performing any further work.*
- *Power remains in the high voltage electrical system for 10 minutes even after the EV supply battery assembly is shut off because the circuit has a condenser that stores power.*
- *Make sure that the tester reading is 0 V before touching any high-voltage terminals which are not insulated.*
- *The SRS may remain powered for up to 90 seconds after the vehicle is shut off or disabled. To prevent serious injury or death from unintentional SRS deployment, avoid cutting the SRS components.*

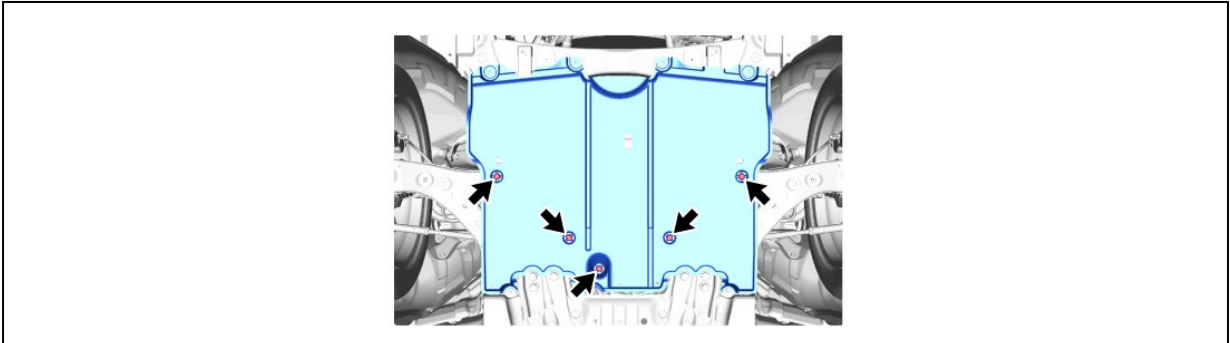
### 1. REMOVE FRONT COMPARTMENT UNDER COVER

a.



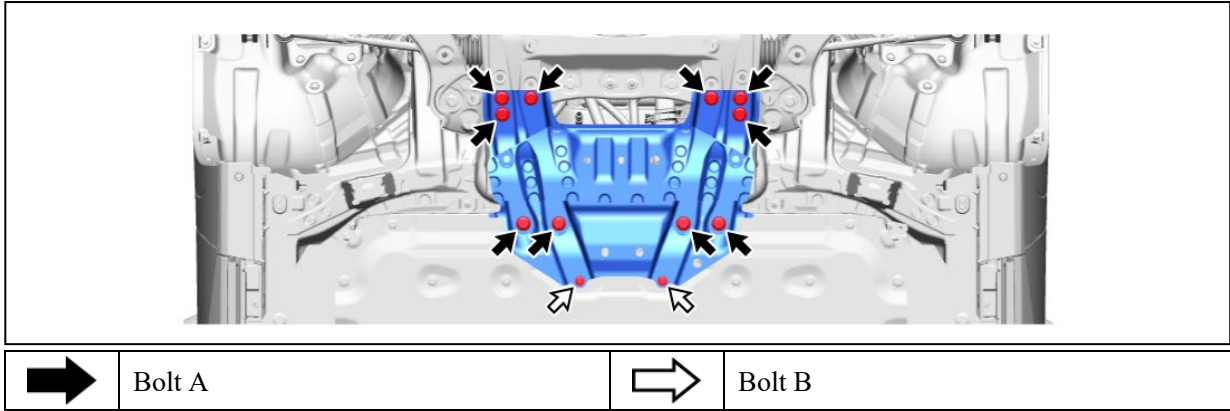
2. REMOVE NO. 2 MOTOR UNDER COVER

a.



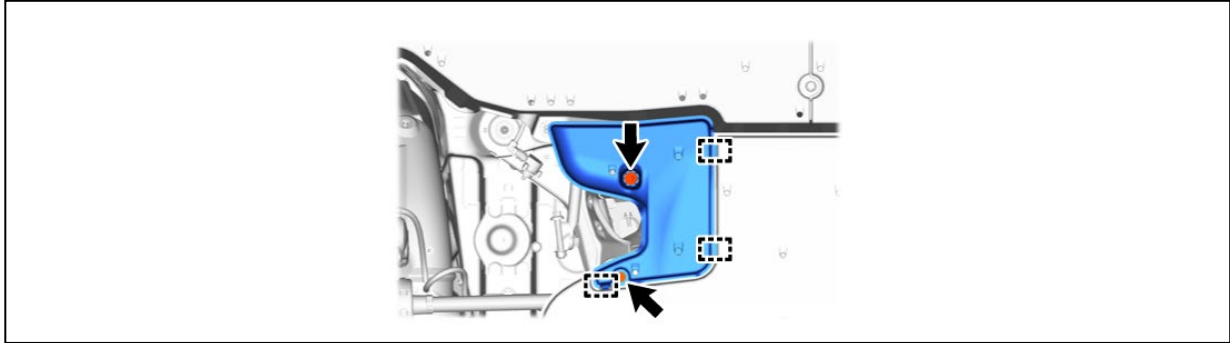
3. REMOVE FRONT SUSPENSION MEMBER BRACE SUB-ASSEMBLY

a.



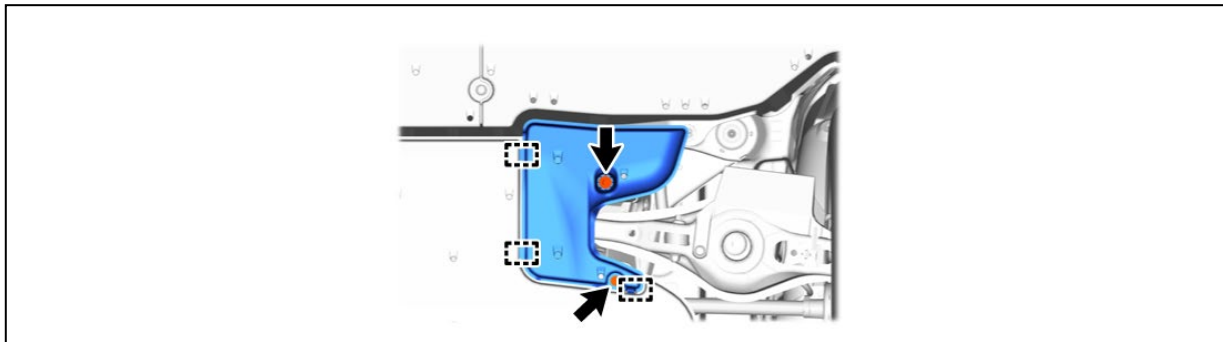
4. REMOVE NO. 2 DIFFERENTIAL SUPPORT PROTECTOR

a.



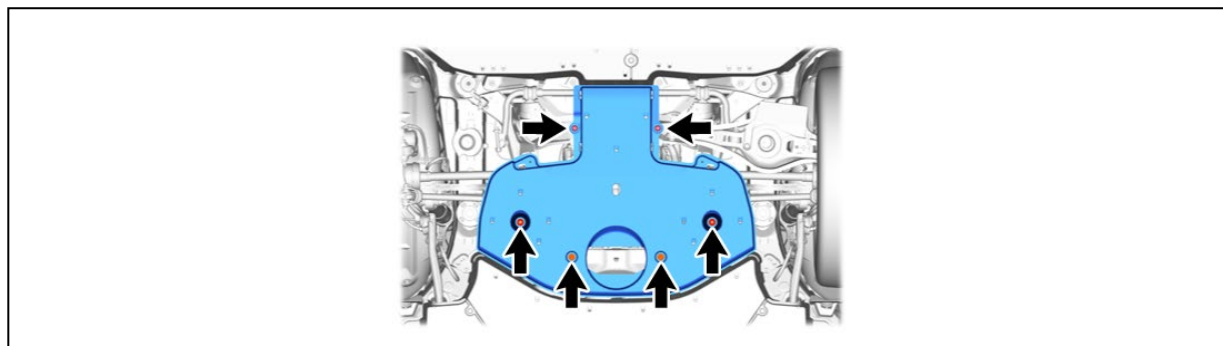
## 5. REMOVE NO. 1 DIFFERENTIAL SUPPORT PROTECTOR

a.



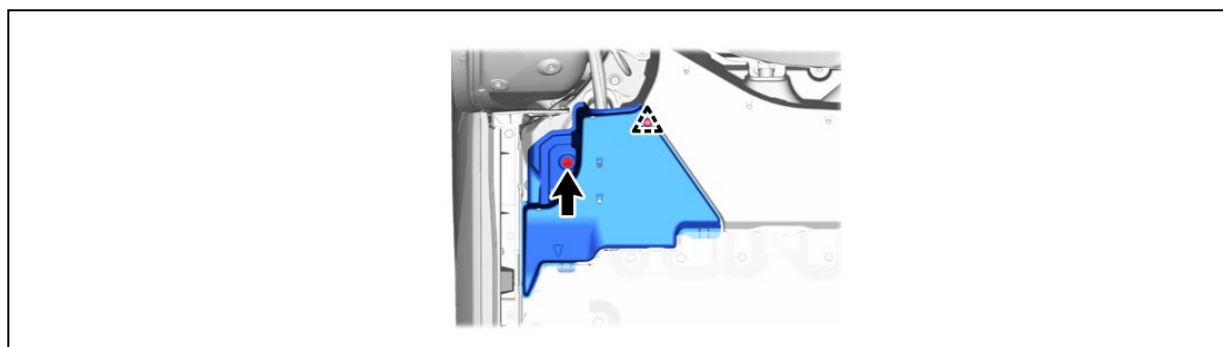
## 6. REMOVE REAR SUSPENSION BRACE COVER

a.



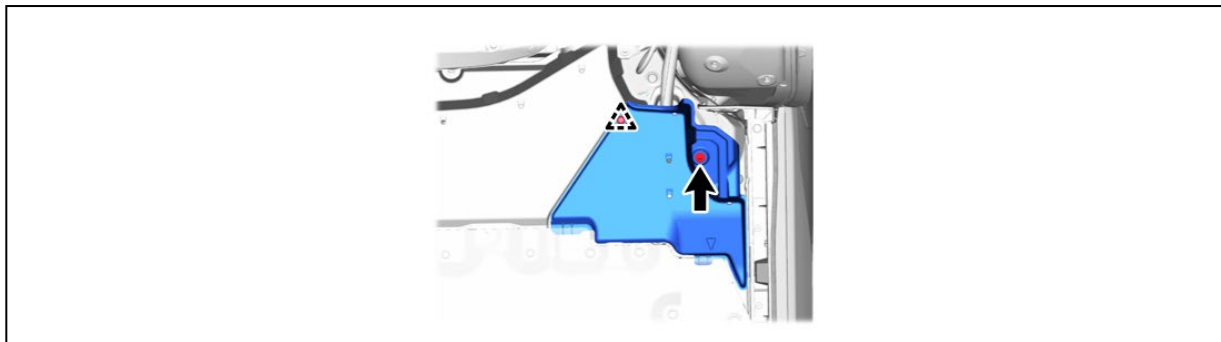
## 7. REMOVE REAR FLOOR SIDE MEMBER COVER LH

a.



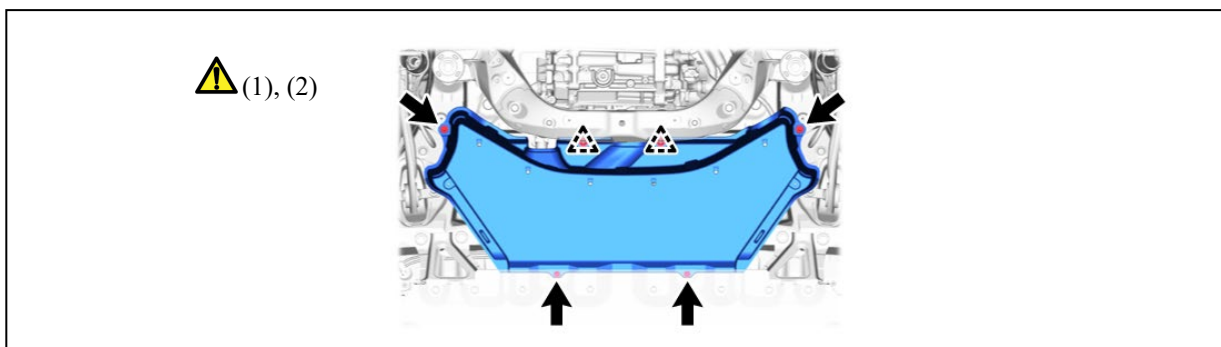
## 8. REMOVE REAR FLOOR SIDE MEMBER COVER RH

a.



## 9. REMOVE NO. 3 FLOOR UNDER COVER

a.



(1) Remove the 2 bolts and 2 screws.

(2) Loosen the clip to remove the No. 3 floor under cover.

### **HINT:**

Clip cannot be removed.

## 10. DRAIN COOLANT (for Inverter)

### **CAUTION:**

**To avoid the danger of being burned, do not remove the reserve tank cap while the coolant (for inverter) is still hot. Pressurized, hot coolant (for inverter) and steam may be released and cause serious burns.**

### **NOTICE:**

- The procedure can only be performed with the ignition switch ON and READY OFF.
- Do not perform this procedure when there are malfunctions in related components.
- Perform the procedure within 20 minutes of turning the ignition switch ON.

(1) Turn the power switch on (IG).

(2) On the air conditioning control panel, press the OFF switch 6 times, then press the air outlet mode switching switch 6 times.

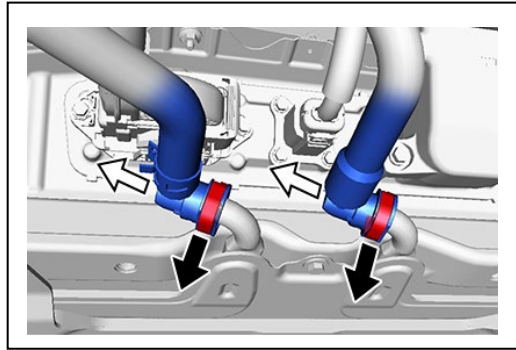
### **NOTICE:**

Perform the procedure within 40 seconds of turning the ignition switch ON.

(3) Press and hold the air conditioning control panel fresh/recirculation switch for 5 seconds.

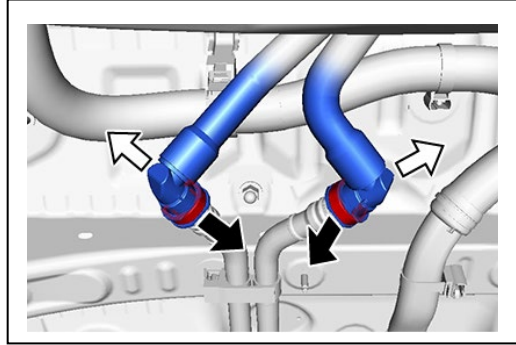
(4) Disconnect the No. 3 EV water by-pass hose and drain the coolant.

(5) Disconnect the EV water by-pass hose assembly and drain the coolant.



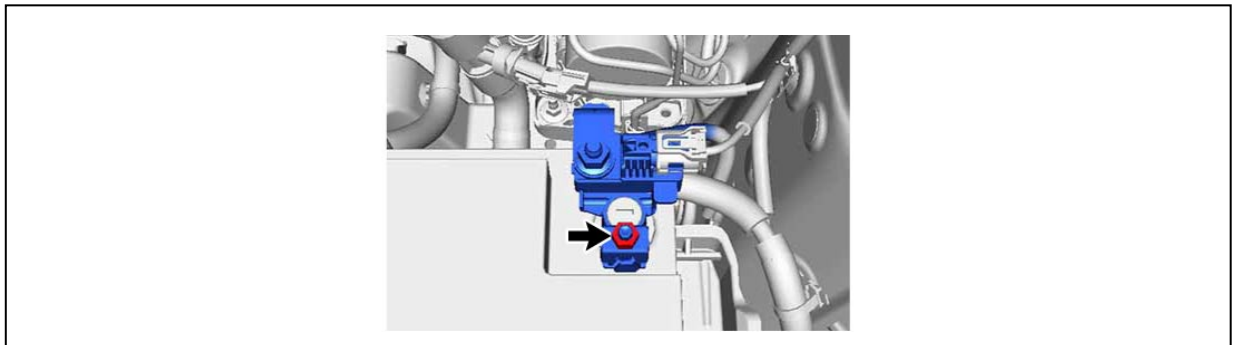
(6) Disconnect the No. 8 inverter cooling hose sub-assembly and drain the coolant.

(7) Disconnect the No. 9 inverter cooling hose sub-assembly and drain the coolant.



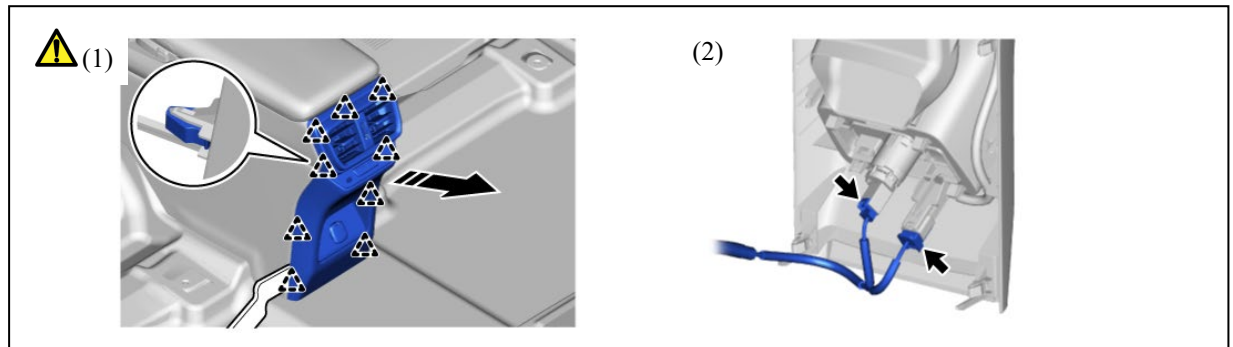
## 11. DISCONNECT CABLE FROM NEGATIVE AUXILIARY BATTERY TERMINAL

a.



## 12. REMOVE CONSOLE REAR END PANEL SUB-ASSEMBLY

a.



	Remove in this Direction	-	-
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(1) Using a moulding remover B, disengage the clips to remove the console rear end panel sub-assembly as shown in the illustration.

(2) Disconnect the 2 connectors.

### 13. 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.
- Keep the removed service plug grip in your pocket to prevent other technicians from accidentally installing it while you are servicing the vehicle.



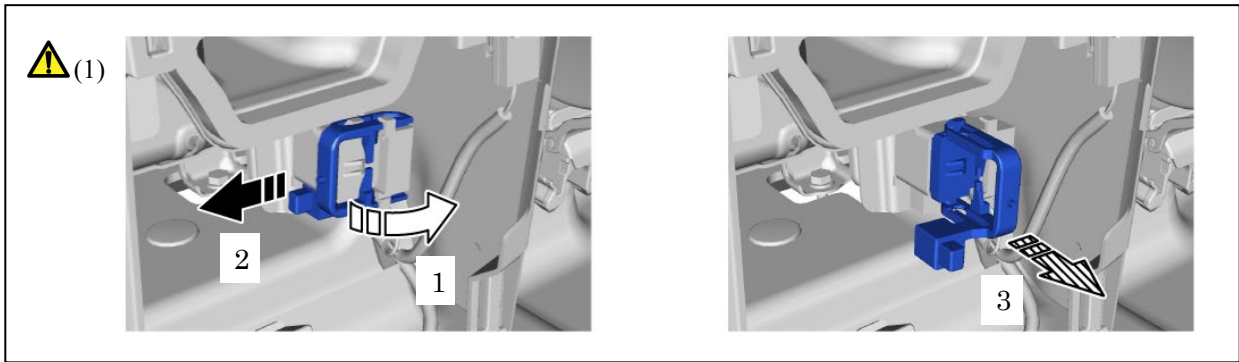
#### NOTICE:

- After removing the service plug grip, turning the ignition switch to ON (READY) may cause a malfunction. Do not turn the ignition switch to ON (READY) unless instructed by the repair manual.
- Do not touch the terminals of the service plug grip.

#### HINT:

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

a.

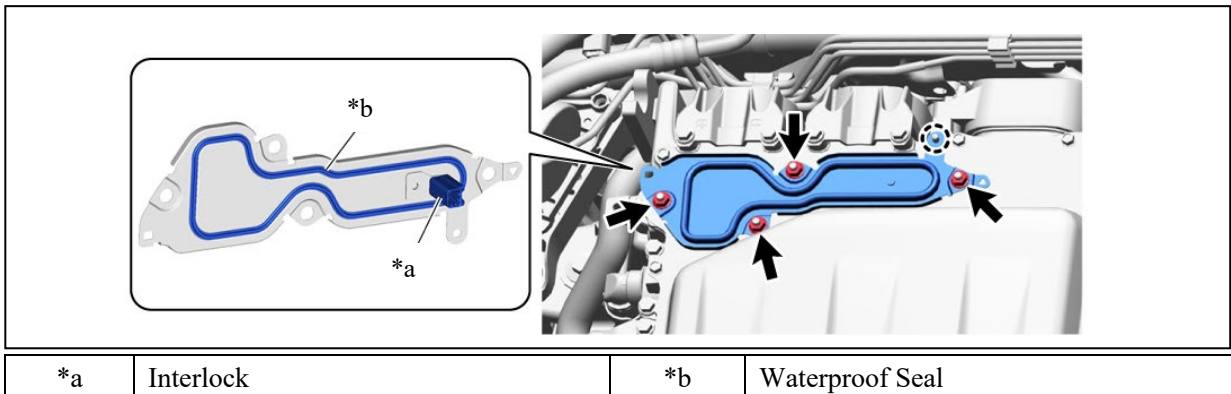


- (1) While wearing insulated gloves, rotate the handle of the service plug grip and remove the service plug grip as indicated by the arrows, in the order shown in the illustration.


#### 14. REMOVE NO. 2 TERMINAL COVER

	<p><b>CAUTION:</b>  <b>Wear insulated gloves.</b></p>
	<p><b>NOTICE:</b></p> <ul style="list-style-type: none"> <li>• Do not touch the No. 2 terminal cover waterproof seal.</li> <li>• Do not allow any foreign matter or water to enter the electric converter unit assembly.</li> <li>• Make sure that the interlock is installed to the No. 2 terminal cover.</li> </ul>

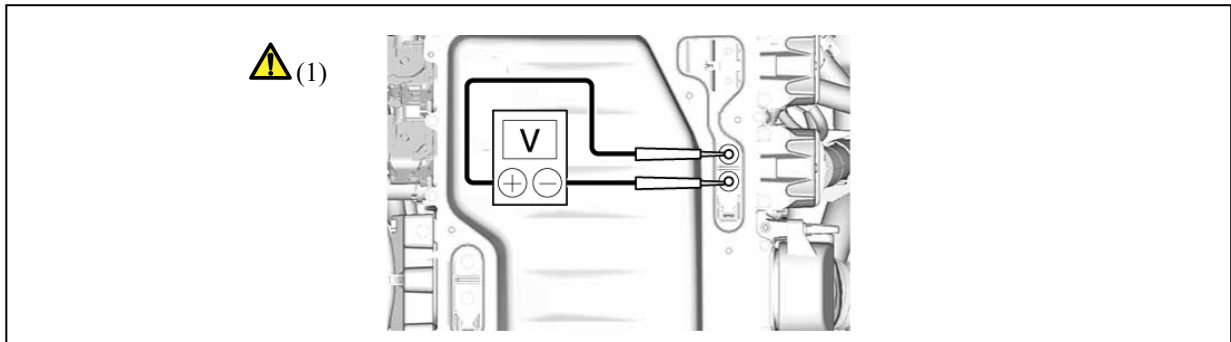
a.



## 15. CHECK TERMINAL VOLTAGE

	<p><b>CAUTION:</b> <b>Wear insulated gloves.</b></p> <p><b>NOTICE:</b> Do not allow any foreign matter or water to enter the electric converter unit assembly.</p>
---	--

a.



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

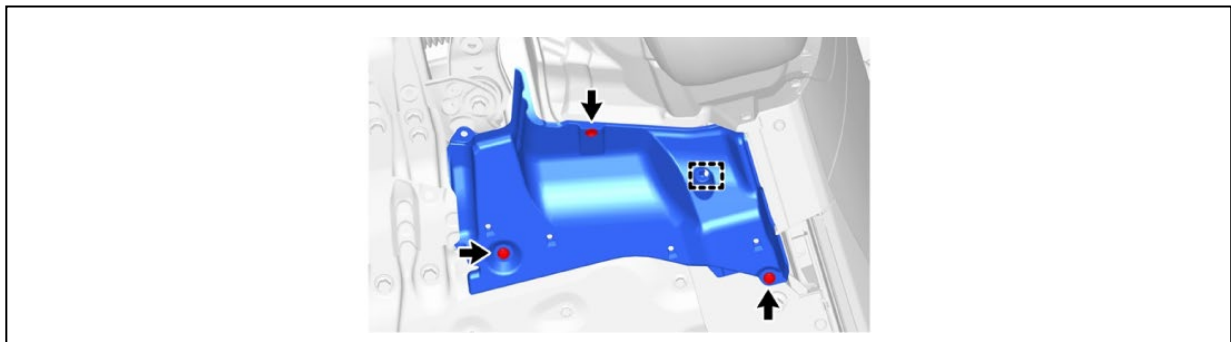
**Standard voltage: 0 V**

**HINT:**

Use a measuring range of DC 750 V or more on the voltmeter.

## 16. REMOVE FRONT FLOOR COVER LH

a.



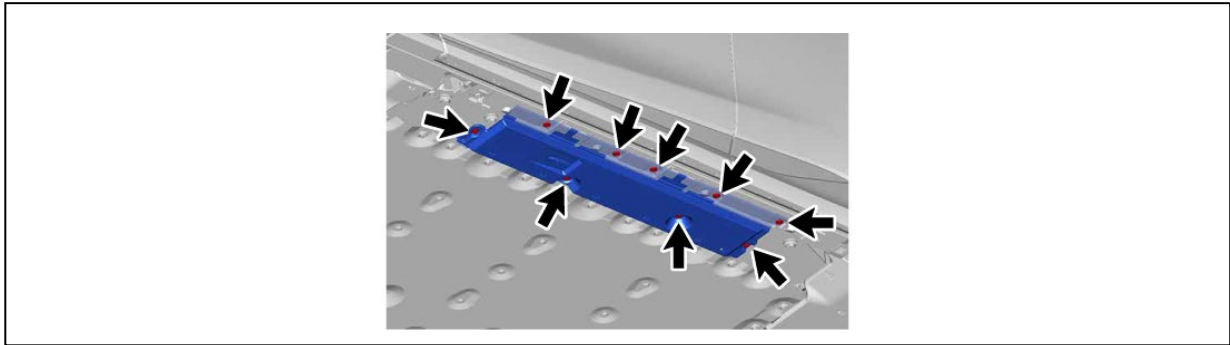
## 17. REMOVE FRONT FLOOR COVER RH

a. Perform the same procedure as for the LH side.



18. REMOVE REAR FLOOR BOARD FRONT LH

a.

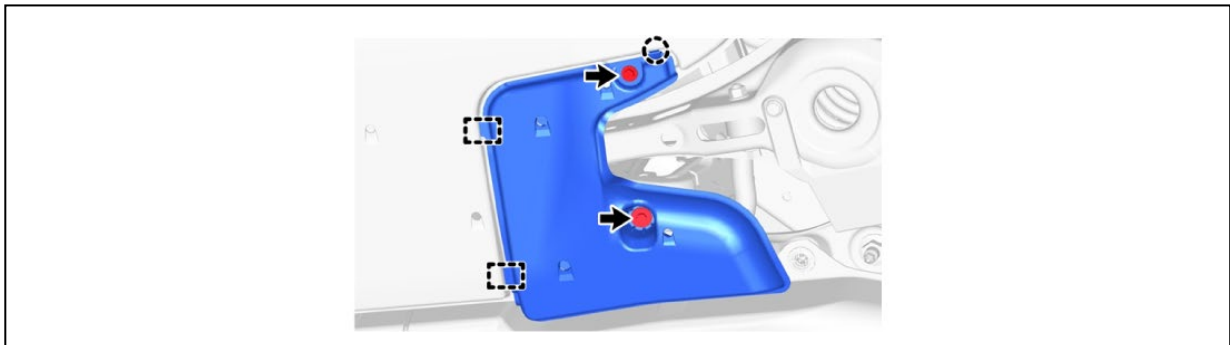


19. REMOVE REAR FLOOR BOARD FRONT RH

a. Perform the same procedure as for the LH side.

20. REMOVE NO. 2 DIFFERENTIAL SUPPORT PROTECTOR


a.



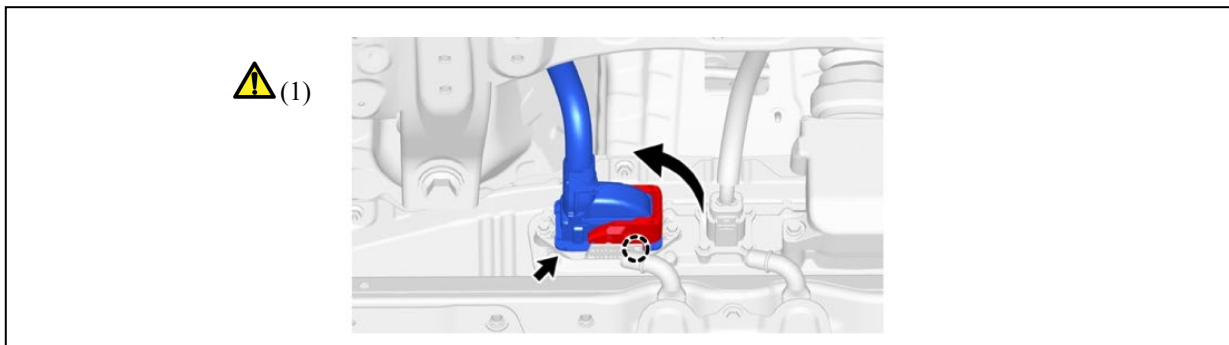
21. REMOVE NO. 1 DIFFERENTIAL SUPPORT PROTECTOR

a. Remove in the same way as the No. 2 differential support protector.

## 22. REMOVE MOTOR COMPARTMENT MAIN WIRE

	<p><b>CAUTION:</b> <b>Wear insulated gloves.</b></p> <p><b>NOTICE:</b></p> <ul style="list-style-type: none"> <li>Do not allow any foreign matter or water to enter the EV supply battery assembly.</li> <li>Do not touch the waterproof seal or terminals of the connector.</li> <li>Do not damage the terminals, connector housing or EV supply battery assembly during disconnection.</li> <li>Cover the hole where the cable was connected with tape (non-residue type) or equivalent to prevent entry of foreign matter.</li> <li>Insulate the disconnected terminals with insulating tape.</li> </ul>
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a.

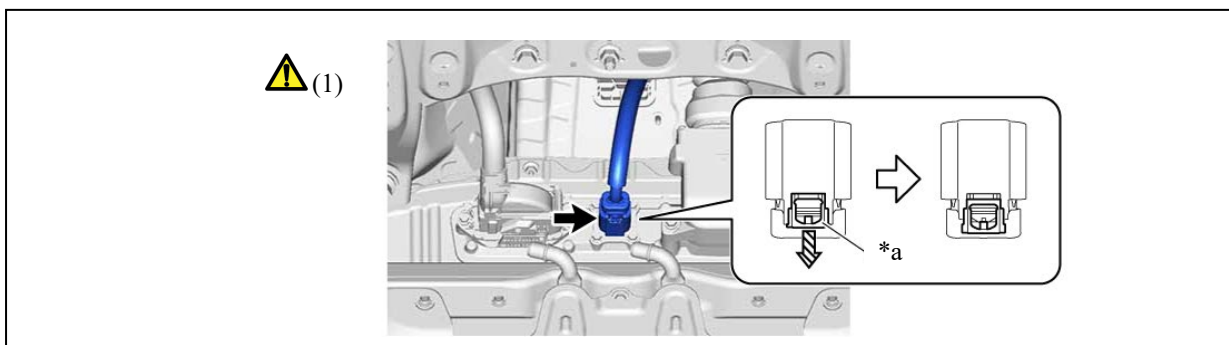



(1) Move the lock lever while pushing the lock on the connector, and disconnect the motor compartment main wire connector.

## 23. DISCONNECT SOCKET INVERTER WIRE

	<p><b>CAUTION:</b> <b>Wear insulated gloves.</b></p>
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a.



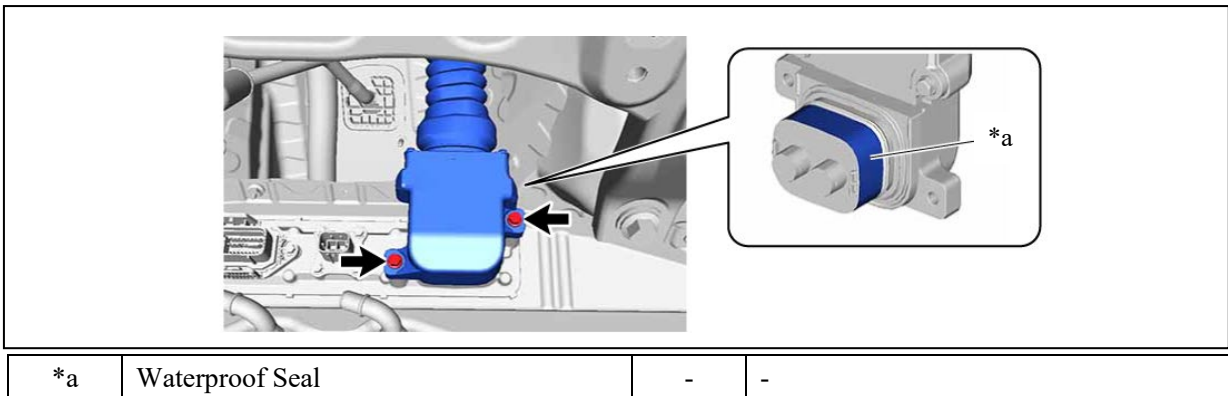
*a	Green-colored Lock	-	-
	Slide	-	-

(1) Using a screwdriver, slide the green-colored lock of the connector as shown in the illustration to release it and disconnect the socket inverter wire.

## 24. DISCONNECT FLOOR UNDER WIRE

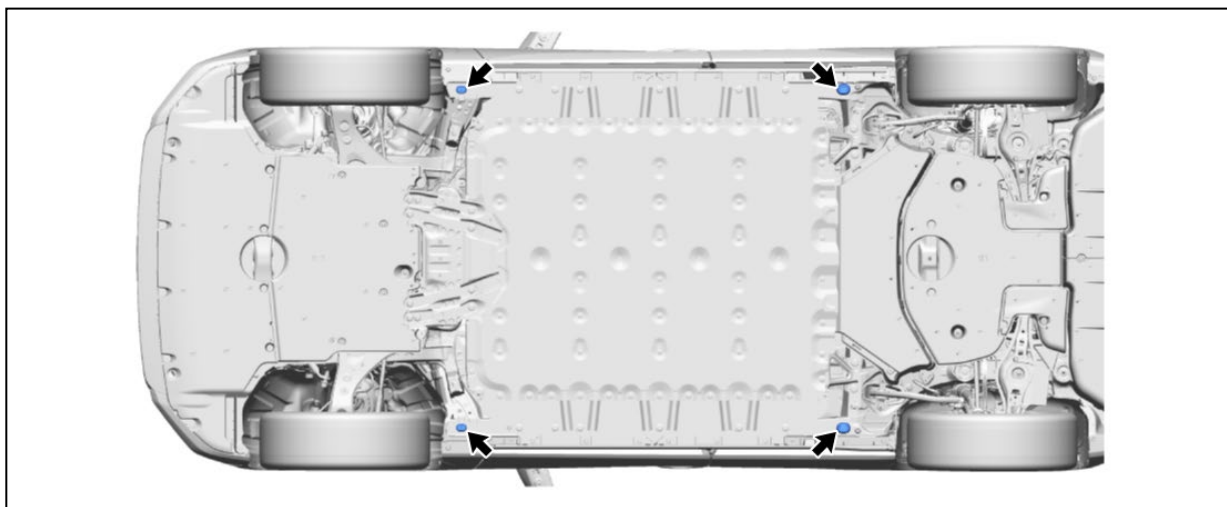
	<p><b>CAUTION:</b>  <b>Wear insulated gloves.</b></p> <p><b>NOTICE:</b></p> <ul style="list-style-type: none"> <li>Do not allow any foreign matter or water to enter the EV supply battery assembly.</li> <li>Do not touch the waterproof seal or terminals of the connector.</li> <li>Do not damage the terminals, connector housing or EV supply battery assembly during disconnection.</li> <li>Cover the hole where the cable was connected with tape (non-residue type) or equivalent to prevent entry of foreign matter.</li> <li>Insulate the disconnected terminals with insulating tape.</li> </ul>
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a.


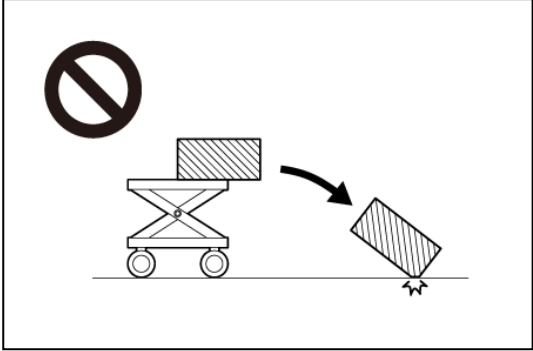


## 25. REMOVE HOLE PLUG

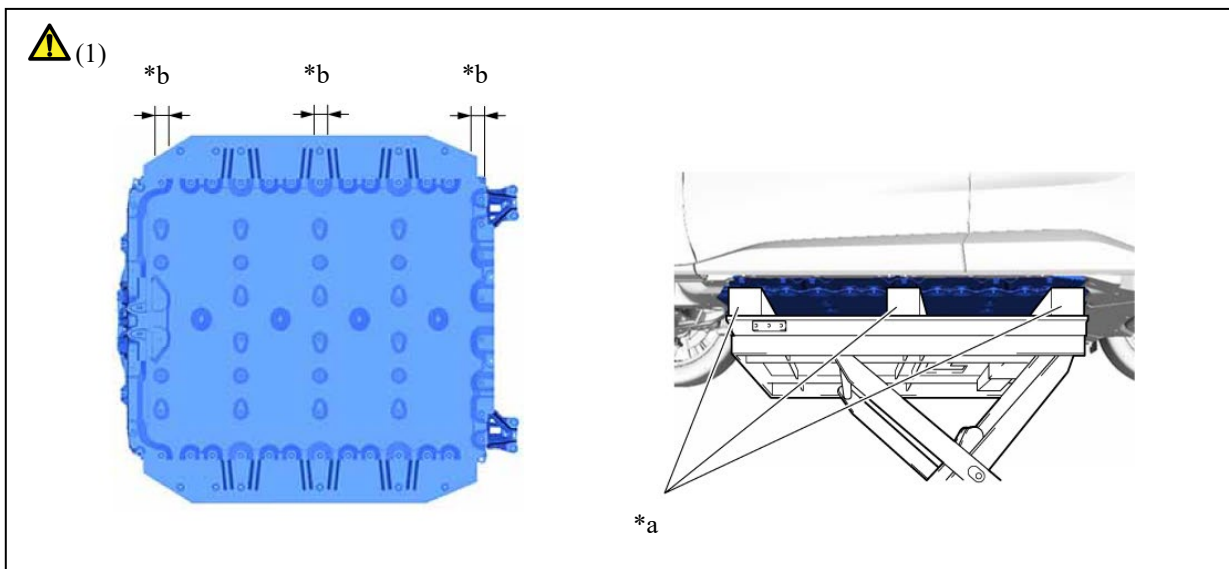
a.



## 26. REMOVE EV SUPPLY BATTERY ASSEMBLY

	<p><b>CAUTION:</b></p> <ul style="list-style-type: none"> <li>• Because the weight of the EV supply battery assembly is extremely heavy, make sure to follow the work procedures described in the repair manual.</li> <li>• If work is not performed according to the procedures described in the repair manual, there is a danger that the components could fall down.</li> <li>• Do not damage the EV supply battery assembly with the fork etc.</li> <li>• Be sure to wear insulated gloves and protective goggles.</li> </ul>	
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a.



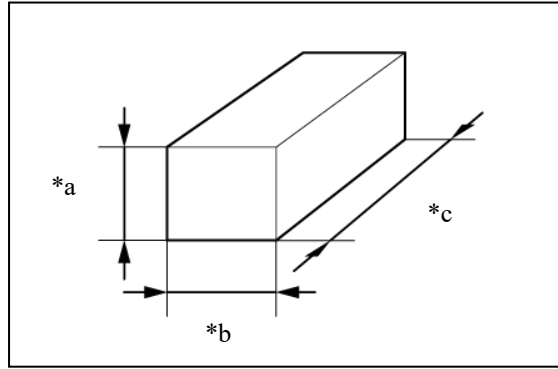
*a	Wooden Block	*b	Supporting Area
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(1) Using an engine lifter support the EV supply battery assembly as shown in the illustration.

**HINT:**

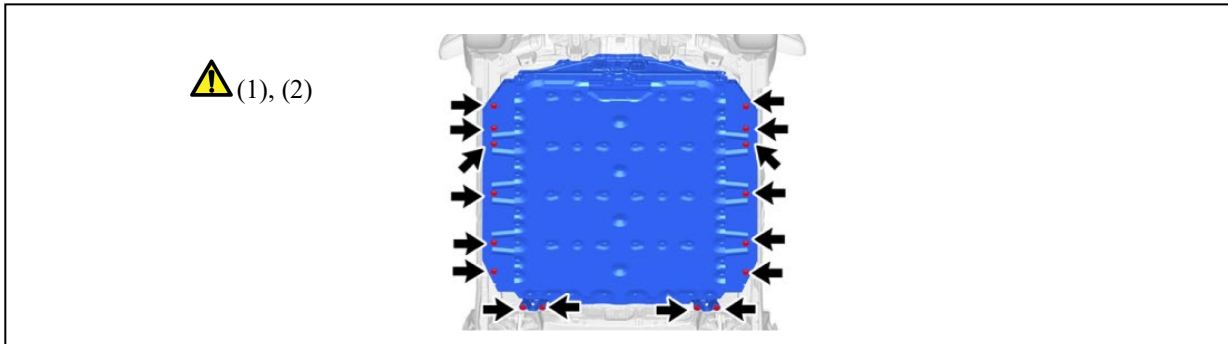
- As a total of 6 wooden blocks will be needed (3 wooden blocks when removing the EV supply battery assembly, and 3 wooden blocks when taking the EV supply battery assembly off of the engine lifter), prepare them in advance.

- The height of the wooden blocks will differ depending on the size of the forklift claws. As a guide, the prepared wooden blocks should be approximately 1000 mm (39.37 in.) in length, approximately 100 mm (3.937 in.) in width, and approximately 100 mm (3.937 in.) in height.



*a	Height 100 mm (3.937 in.)
*b	Width 100 mm (3.937 in.)
*c	Length 1000 mm (39.37 in.)

b.

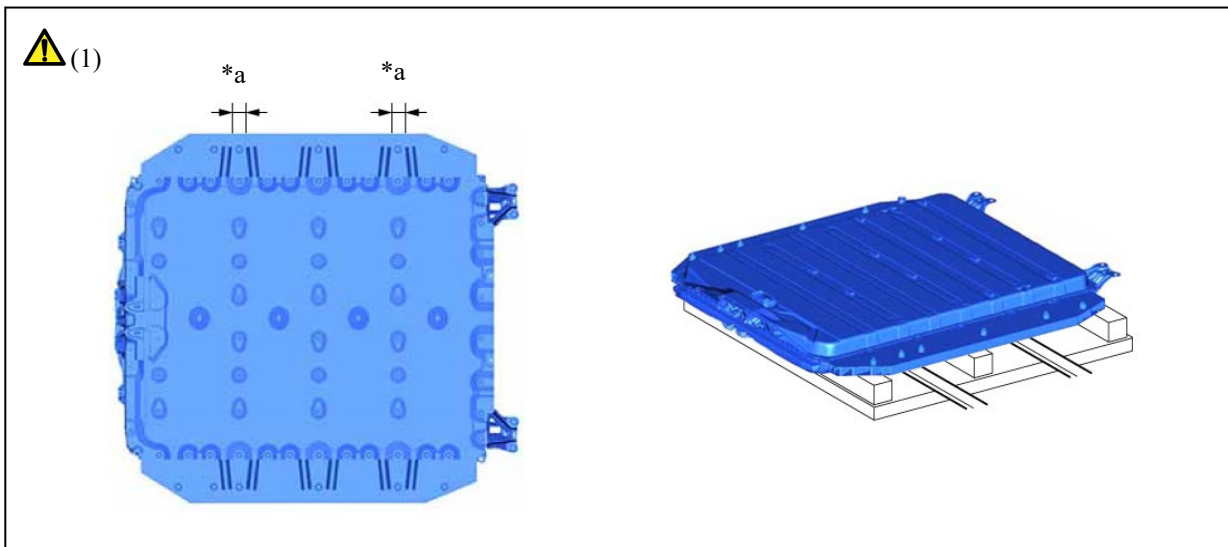


- Remove the 16 bolts.
- Slowly lower the engine lifter to remove the EV supply battery assembly.

**NOTICE:**

Be careful not to drop the EV supply battery assembly.

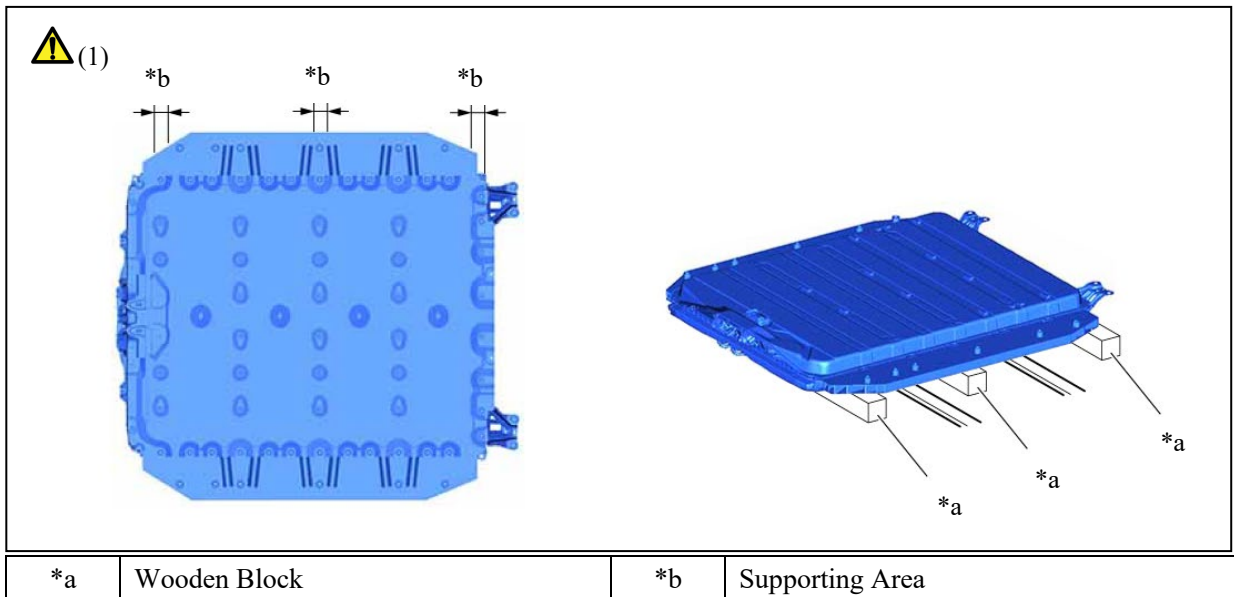
c.



*a	Supporting Area	-	-
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- Support the position with the forklift etc., lower the EV supply battery assembly from the engine lifter.

d.



(1) Support the position with the wooden block, lower the EV supply battery assembly.

**NOTICE:**

- Store in an area where it will not get wet by rainwater or be in direct sunlight.
- Do not bring the removed battery near an open flame or a heat source.