# INFORMATION FOR FIRST AND SECOND RESPONDERS

# **EMERGENCY RESPONSE GUIDE FOR VEHICLE**

# OUTLANDER



for PHEV

2023 - Model year





Version:1.0

# Introduction

This manual provides safety instructions that need to be followed when rescuing the passengers from the vehicle after an accident and describes how to handle the damaged vehicle.

Failure to follow these instructions and especially the warnings and cautions may result in serious injury such as an electrical shock due to the high voltage battery installed on OUTLANDER PHEV.

Please read and understand this manual carefully for your and the passengers safety.

Throughout this manual the words **WARNING** AND **CAUTION** appear.

These serve as reminders to be especially careful. Failure to follow instructions could result in personal injury or damage to your vehicle.



#### WARNING

Indicates a strong possibility of severe personal injury or death if instructions are not followed.



#### CAUTION

Means hazards or unsafe practices that could cause minor personal injury or damage to the vehicle.



#### NOTE

Gives helpful information.

\*: indicates optional equipment.

It may differ according to the sales classification; refer to the sales catalog.

Mitsubishi Motors reserves the right to make changes in design and specification and/or to make additions to or improvements in this product without obligation to install them on products previously manufactured.

 Please note that the contents of this manual may differ with the actual vehicle due to vehicle specification changes.

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# 0. Rescue sheet(s)



#### **OUTLANDER PHEV**

Body type: Station Wagon / Crossover Utility Vehicle

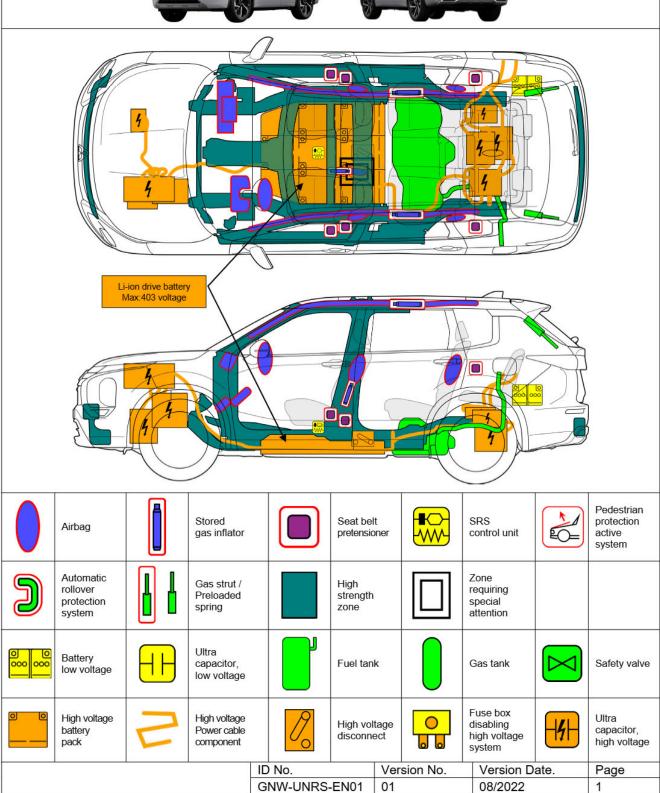
Type: GN0W Model year: 2022 -











# 1. Identification / recognition

#### 1. Features on vehicle exterior

If you find any of the following features which can identify OUTLANDER PHEV, always wear appropriate Personal Protective Equipment (PPE).

### $\triangle$

#### WARNING:

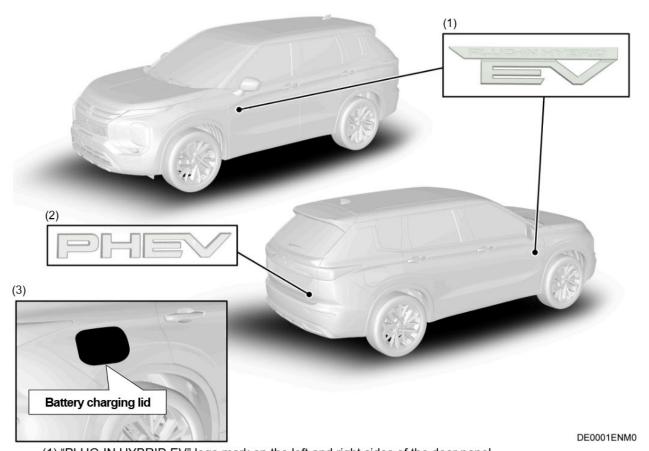
Use insulating Personal Protective Equipment (PPE) (Rubber insulating gloves, Rubber soled insulating shoes: rated to a minimum of 650 V voltage resistance), when contact with the vehicle body is possible.

#### (1) Feature list

OUTLANDER PHEV can be identified by the "PLUG-IN HYBRID EV" logo, battery charging lid, chassis number (model code) and the power drive unit (PDU) cover.

The "PHEV (PLUG-IN HYBRID EV)" logo is installed on the left and right sides of the door panel and on the liftgate.

#### (2) Features on exterior



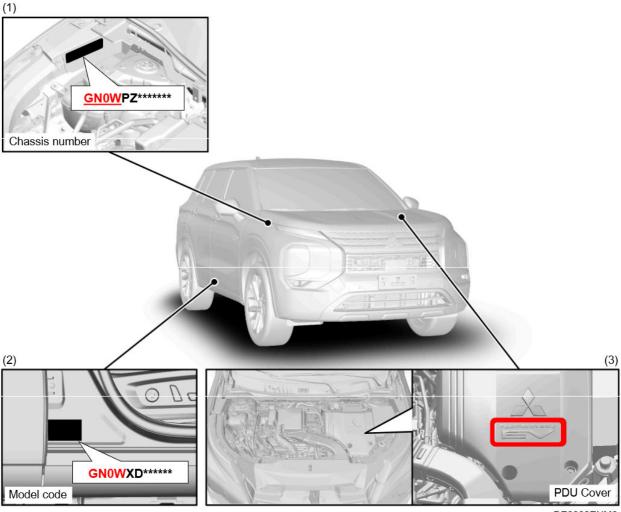
- (1) "PLUG-IN HYBRID EV" logo mark on the left and right sides of the door panel
- (2) "PHEV" logo mark on the liftgate
- (3) "Battery charging lid" on the right rear panel



#### NOTE:

The left rear panel is the "Fuel filler lid".

# (3) Features on other areas

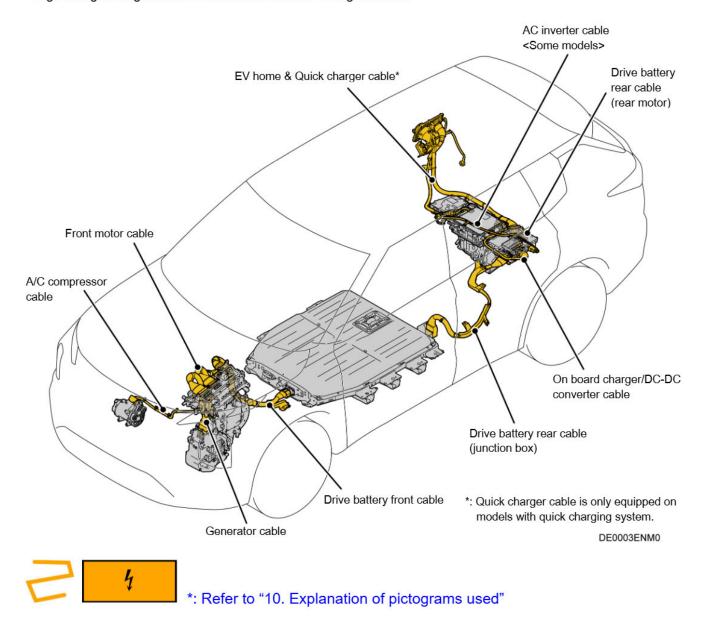


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- (1) "Chassis number" shown in the engine compartment(2) "Model code" shown in the Vehicle information code plate(3) "PLUG-IN HYBRID EV" logo mark on the "PDU cover" in the engine compartment

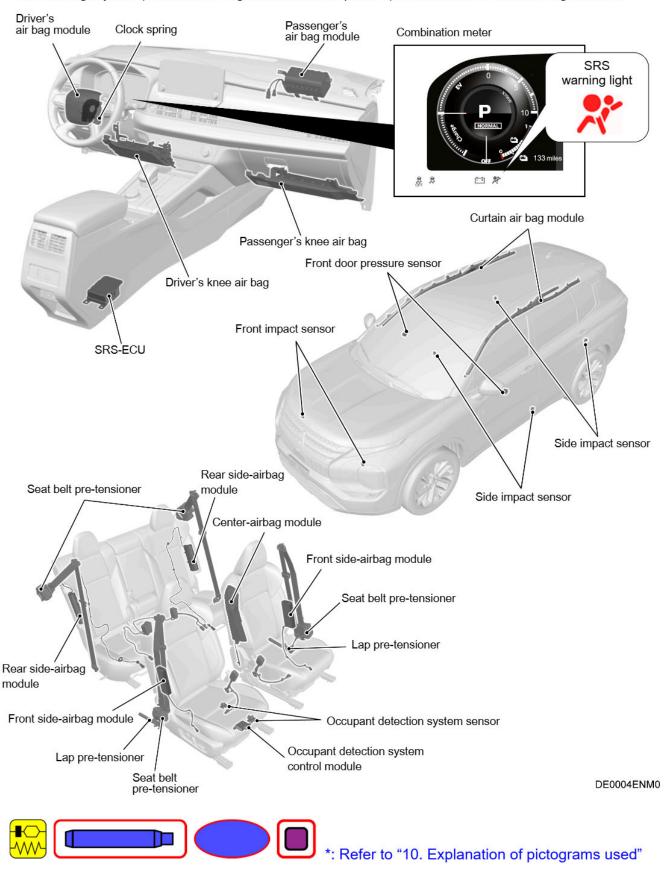
# 2. High voltage wiring cable location

High voltage wiring cables are located as shown in the figure below.

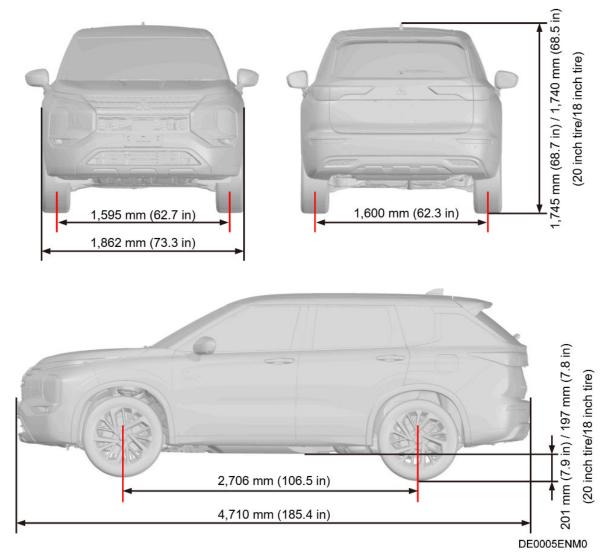


### 3. SRS air bag component location

SRS air bags system (location of air bags and related components) are located as shown in the figure below.



# 4. Vehicle dimensions



Vehicle weight: 4,607–4,751lbs.\* 2,090 – 2,155kg\*

\* : Differs on the model, the vehicle weight will change.

### 2. Immobilization / stabilization / lifting

#### 1. How to determine if vehicle is ON / OFF

The operating range of the keyless operation key is limited to the interior of the vehicle.



#### OFF

The speedometer and READY indicator turn off.

This vehicle is equipped with auto ACC function, so some electrical equipment (stereo system, door mirror, etc.) can be operated for a specified time while the power is off.

#### ON

All the electrical equipment can be operated.

When starting the Plug-in Hybrid EV System by pressing the electric motor switch with the brake pedal depressed, READY indicator turns on.

When pressing the electric motor switch with the brake pedal not depressed, the power mode changes to "OFF"

#### **READY** Indicator

The READY indicator keeps flashing until Plug-in Hybrid EV System is activated.

When the Plug-in Hybrid EV System has activated normally and the vehicle is ready, the light stops flashing and stays lit. The driver can start driving when the READY indicator is lit.

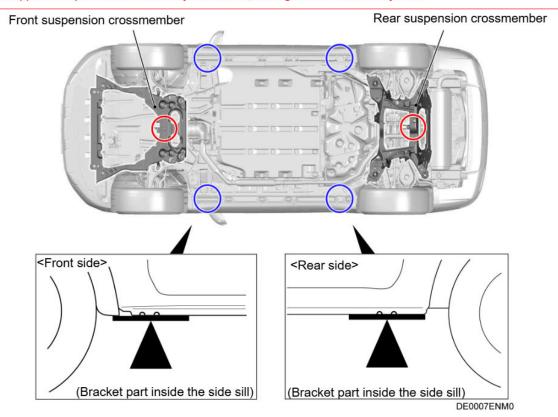


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#### 2. Support positions for Jack and Lift



Be sure to support the specified locations only. Otherwise, damage to the vehicle may occur.



o:Support position for Garage Jack o:Support position for Jack or Axle stands or Lift

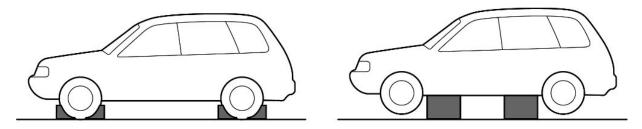
#### 3. Vehicle Immobilization and Stabilization

#### ▲ WARNING:

- To apply the electric parking brake, press the brake pedal firmly to completely stop the vehicle and pull up the switch.
- When installing a "block" or "lift air bag device", avoid high voltage parts, exhaust systems and fuel systems, etc. If high voltage components or high voltage wiring cables are exposed, do not place any support on them. It may cause damage or fire for vehicle.

#### W NOTE:

When the 12V starter battery is weak or dead, or the battery terminal is disconnected, the electric parking brake cannot be applied or released.



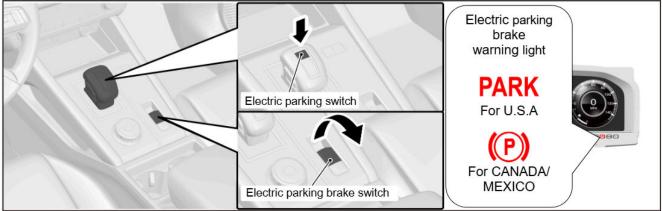
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#### ·Immobilization with wheel chocks

Park the vehicle and press the electric parking switch.

Pull up the electric parking brake switch while depressing the brake pedal, check for the indicator light on the electric parking brake switch will come on.

Once the wheels are locked, lock the vehicle with the wheel chocks.



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#### Stabilize with block

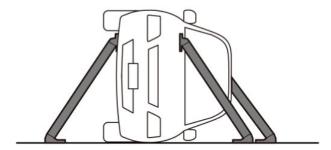
To stabilize the vehicle, place a support such as a block for under the vehicle and release air from tires to stabilize the vehicle.

When fixing the vehicle to the foundation, use the designated position of the jack.

#### Stabilization method for a rollover or overturned vehicle

#### WARNING:

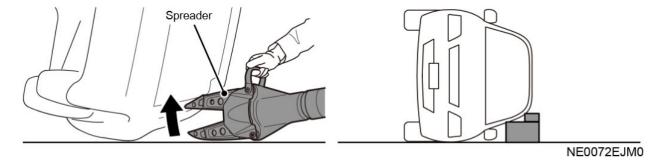
- · Use supports with enough strength.
- · When installing prop tools, avoid exhaust systems, fuel systems, high voltage parts, high voltage wiring cables, etc.
- If the inside of the high voltage components or the high voltage wiring cable is exposed, avoid the exposed parts when installing.
  - ·Stabilization method for prop tools of rollover vehicle



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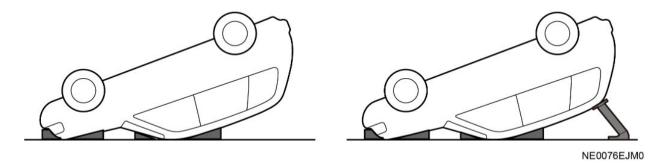
Please support the prop tools on the vehicle roof or the vehicle bottom. Depending on the situation, support the prop tools with 2, 3, or 4 to stabilize it.

#### Stabilization method using blocks, etc. of rollover vehicle



To upright the vehicle, use a spreader or jack, etc., and place supports such as blocks in the gap to stabilize it.

#### ·Stabilization method using wheel stoppers, blocks, props, etc. of overturned vehicle



Blocks or wheel stoppers are set up in the gap between the hood and pillars to stabilize the vehicle. To increase the stability, place a column at the rear of the vehicle (a strong place) to stabilize it.

# 3. Disable direct hazards / safety regulations

#### W NOTE:

Disconnecting the 12V starter battery may make it impossible to perform operations related to electrical components. Perform the necessary operations before removing the 12V starter battery terminal.

OUTLANDER PHEV is equipped with a lithium-ion battery of max. voltage 403 V. This is used to activate the electric motor unit and some components such as air conditioning. Also, Voltages up to 650 V may be applied on this vehicle. Before rescue work can begin, it is necessary to ensure "isolation" and "cut off" from the high voltage circuit in order to prevent the risk of electric shock before handling the vehicle.

Drive battery specification is "20 kWh lithium-ion, 350 V". Drive battery's maximum voltage capacity is 403 V when the Drive battery is being charged.



#### CAUTION:

Silence does not always mean that the hybrid system is turned off.

Ensure that the high voltage circuit is "isolated" or "cut off".

#### (1) Isolation from the high voltage circuit

- 1) The high voltage circuit is insulated from the vehicle body.
- 2) All of high voltage components are covered up by cases and covers. Note that high voltage wiring cables can be distinguished from normal wiring harness by their orange colored insulation.
- 3) The cases and covers are insulated from the high voltage circuit inside.

#### (2) Disconnection of the high voltage circuit

The high voltage circuit will be isolated by removing the service plug.

(3) Precautions when rescuing passengers

#### WARNING:

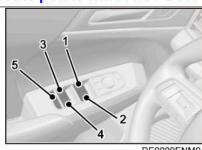
Failure to follow these instructions may result in serious injury such as electric shock:

- (1) This vehicle is equipped with a high voltage system of max operation voltage 650 V.
- (2) The possibility of a high volume electrolyte leak as a result of the drive battery damage is reduced by the design inside the drive battery.
- (3) Drive battery uses an electrolyte made of flammable "Carbonate ester solution of lithium salts". When reacting with moisture in the air, this electrolyte generates acidic organic vapor which is harmful to human body. Therefore, when handling this, please use appropriate Personal Protective Equipment (PPE) including mask for organic gas, solvent resistance gloves and eye protector and use appropriate caution.
- (4) The high voltage circuit is always active regardless of the power supply mode of the electric motor switch.

#### W NOTE:

Disconnecting the 12V starter battery may make it impossible to perform operations related to electrical components. Perform the necessary operations before removing the 12V starter battery terminal.

#### 1. Electric power windows / Door lock



### Power windows

- 1: Front left door window
- 2: Front right door window
- 3: Rear left door window
- 4: Rear right door window
- 5: Window lock switch

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#### Door lock

1 - Lock

2 - Unlock

#### NOTE:

When operating the switch on the armrest, all the doors are locked/unlocked together. Pull the handle twice when unlocking the door using the handle other than driver's side one. When opening the driver's side door, all the doors are unlocked.

#### 2. How to apply and release the parking brake

#### · To apply

- 1) Stop the vehicle completely.
- 2) Pull up the electric parking brake switch while depressing the brake pedal.
- 3) When the parking brake is applied, the electric parking brake warning light (red) in the instrument cluster will come on.



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Make sure that the electric parking brake warning light (red) in the combination meter and the indicator light in the switch are lit.



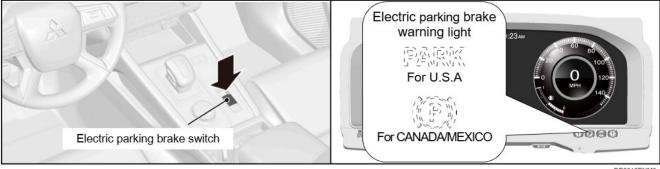
#### CAUTION:

When applying the electric parking brake, stepping on the brake pedal firmly, stop completely the vehicle, and then pull up the switch.

#### · To release

Manual operation

- 1) Make sure that the power supply mode of the electric motor switch is ON.
- Press down the electric parking brake switch while depressing the brake pedal.
   When the parking brake is released, the electric parking brake warning light (red) go off.



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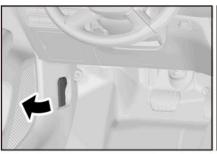
#### Automatic operation

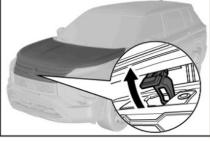
When the accelerator pedal is depressed slowly while all of the following conditions are met, the electric parking brake is automatically released.

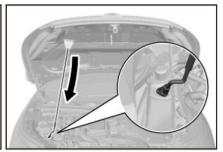
- The Plug-in Hybrid EV System is operating.
- The select position is in the "D" (DRIVE) or the "R" (REVERSE) position.
- The driver's door is closed.

#### 3. How to open hood

- 1) Pull the release lever towards you to unlock the hood.
- 2) Raise the hood while pressing the safety lock.
- 3) Support the hood by inserting the support bar in its slot.



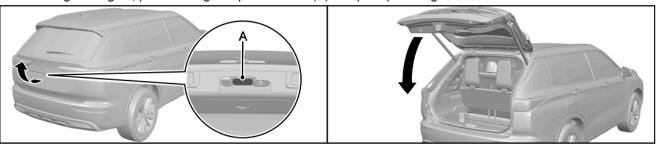




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### 4. How to open liftgate <Manual liftgate>

Unlocking the liftgate, push the liftgate opener switch (A) and pull up the liftgate.



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#### <Power liftgate>

#### Operating the power liftgate using the inside power liftgate switch

Pushing the power liftgate switch (A) on more than 1 second.

If the switch is pushed while the power liftgate is being opened or closed, the power liftgate will stop.

Pressing the power liftgate switch (A) again to open or closed.

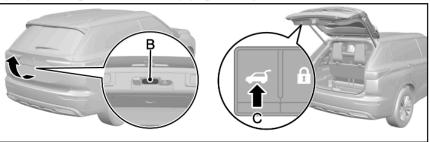
#### Opening the power liftgate using the liftgate opener switch

Power liftgate can be auto opened by pressing the liftgate opener switch (B).

The power liftgate can be closed by pressing the power liftgate close switch (C) on the inside of the power liftgate. If the switch is pushed while the liftgate is being opened or closed, the liftgate will stop.

Pressing the liftgate opener switch (B) or power liftgate close switch (C) again to open or close.





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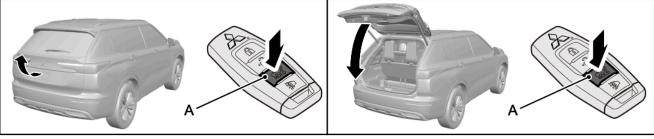
#### Operating the power liftgate using the keyless operation key

Pushing the power liftgate button (A) on more than 1 second.

- ·While closed: The liftgate completely opens.
- ·While open: The liftgate completely closes.

If the button is pushed while the liftgate is being opened or closed, the liftgate will stop.

Pressing the button (A) again to open or close.



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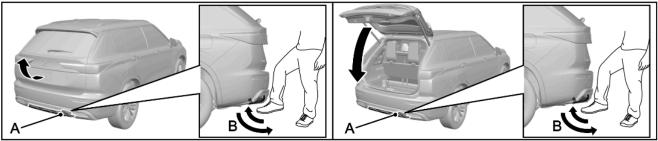
#### Operating the power liftgate using the hands-free access

#### ₩ NOTE:

The kick motion sensor will not respond unless you carry a keyless operation key.

The kick motion sensor (A), located on the back of the rear bumper, enables you to open or close the liftgate in hands-free.

When you move your foot under and away from the operating range (B) similarly to a kicking motion, the liftgate will open or close automatically.



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#### Operating the power liftgate using the hands-free access

The power liftgate will fully open automatically using the kick motion sensor (A).

- 1) Carry the keyless operation key.
- 2) Move your foot under and away from the rear bumper similarly to a kicking motion within the operation range of the kick motion sensor.
- 3) The liftgate will automatically open or close.
  - ·While closed: The liftgate completely opens.
  - ·While open: The liftgate completely closes.

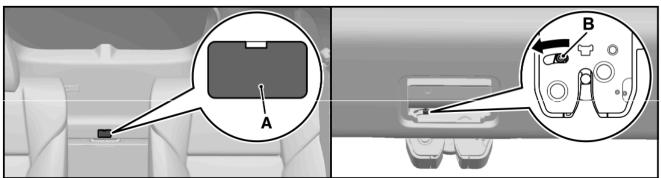
If the kick motion while the liftgate is being opened or closed, the liftgate will stop.

It can be opened and closed again with kick motion.

#### To open from inside

The inside liftgate release is designed to provide a way to open the liftgate in the case of a discharged 12V starter battery.

- 1) Open the lid (A) inside of the liftgate.
- 2) Using a tool, move the lever (B) to open the liftgate.



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#### 5. How to disconnect the 12V starter battery negative terminal

#### <Use an open end wrench>

Use an open end wrench [10 mm (0.4 in)] to disconnect the negative terminal of the 12V starter battery according to the procedure below, and then wrap a plastic tape around the disconnected negative terminal.

Shut down the SRS air bag system circuit by disconnecting the negative terminal of the 12V starter battery.

- 1) If charging, disconnect the charging connector.
- 2) Turn off the power mode of the electric motor switch. After that, do not set it to READY (runnable) state or charge it.
- 3) Open both the engine hood and the liftgate. After that, keep it open.
- 4) Press the electric motor switch once to turn on the power mode, and then press and hold the electric motor switch again for 5 seconds or longer.

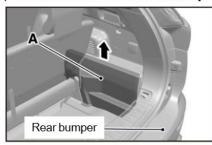
### **(**

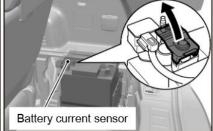
#### CAUTION:

 After closing the driver's door, do not disconnect the negative terminal of the 12V starter battery for 5 minutes.



- · While waiting, never operate the vehicle such as locking, opening, and closing doors.
  - 5) Close the driver's door and wait at least 5 minutes.
  - 6) Check that the P indicator in the combination meter and the electric parking switch is off.
  - 7) Remove the trim cover (A).
  - 8) Pull up the lid cover of the battery current sensor.
  - 9) Disconnect the 12V starter battery negative terminal.







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#### <us>Use a ratchet handle>

Use a ratchets wrench [10 mm (0.4 in)] to disconnect the negative terminal of the 12V starter battery according to the procedure below, and then wrap a plastic tape around the disconnected negative terminal.

Shut down the SRS air bag system circuit by disconnecting the negative terminal of the 12V starter battery.

- 1) If charging, disconnect the charging connector.
- 2) Turn off the power mode of the electric motor switch. After that, do not set it to READY (runnable) state or charge it.
- 3) Open both the engine hood and the liftgate. After that, keep it open.
- 4) Press the electric motor switch once to turn on the power mode, and then press and hold the electric motor switch again for 5 seconds or longer.

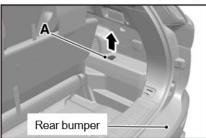
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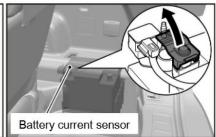
#### CAUTION:

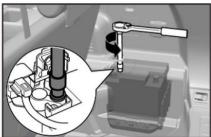
 After closing the driver's door, do not disconnect the negative terminal of the 12V starter battery for 5 minutes.



- · While waiting, never operate the vehicle such as locking, opening, and closing doors.
  - 5) Close the driver's door and wait at least 5 minutes.
  - 6) Check that the P indicator in the combination meter and the electric parking switch is off.
  - 7) Remove the 12V starter battery negative terminal lid (A).
  - 8) Pull up the lid cover of the battery current sensor.
  - 9) Remove the nut [10 mm (0.4 in)] of the battery current sensor.
  - 10)Disconnect the 12V starter battery negative terminal.



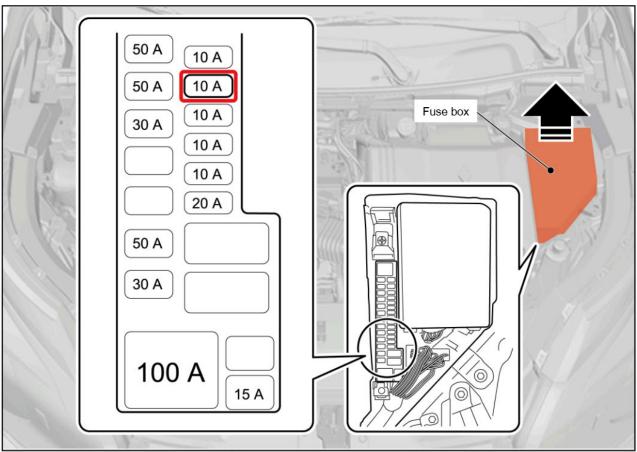




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# 6. How to disconnect the "Power unit control" fuse

Remove "Power unit control" fuses (10 A in the Picture below) from the engine compartment fuse box. If you cannot locate this fuse, remove all fuses and relays in the fuse box.



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\*: Refer to "10. Explanation of pictograms used"

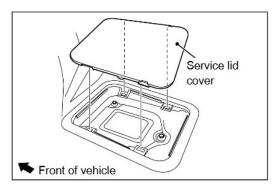
### 7. How to shut down high voltage (pull out the service plug)

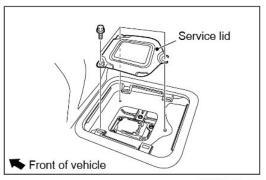


Do not remove the service plug for 5 minutes later disconnecting the 12V starter battery negative terminal.



- 1) Wear Personal Protective Equipment (PPE) and observe the procedure below to remove the service plug. Pulling out the service plug will shut down the high voltage circuit in the drive battery.
- 2) Remove the service lid cover on the lower place of the middle of the second seat. (four clips) Use a socket wrench [10 mm (0.4 in)] to remove the service lid. (three bolts)





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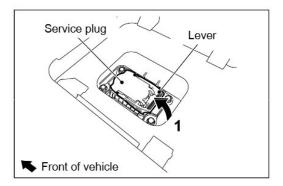
### WARNING:

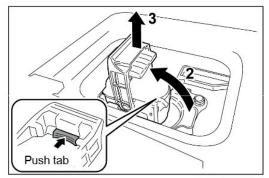
Always wear Personal Protective Equipment (PPE) when pulling out the service plug.





- 3) Wear Personal Protective Equipment (PPE) and remove the service plug.
  - 1. Raise the lever of the service plug until it stops.
  - 2. Raise the lever of the service plug more while pushing the tab of the lever shown in the figure.
  - 3. Pull the service plug upward to remove it.





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\*: Refer to "10. Explanation of pictograms used"

### 4. Access to the occupants

Failure to follow these instructions when performing a rescue may result in serious injury such as electric shock. Do not touch high voltage wiring cable or components. Isolate high voltage circuits as necessary.

#### W NOTE:

Disconnecting the 12V starter battery may make it impossible to perform operations related to power seat. Perform the necessary operations before removing the 12V starter battery terminal.

#### WARNING:



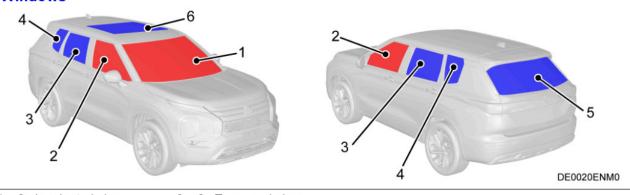
Use insulating Personal Protective Equipment (PPE) (Rubber insulating gloves, Rubber soled insulating shoes: rated to a minimum of 650 V voltage resistance) when you may touch the vehicle body directly or indirectly.



#### **CAUTION:**

- · When the 12V starter battery is disconnected or removed, do not close the liftgate. If you close it once, you cannot open it again.
- The power liftgate system will also be inoperative when the 12V starter battery is disconnected.
- · The electric parking brake system will also be inoperative when the 12V starter battery is disconnected.

#### 1. Windows



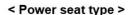
1 - 2: Laminated glass

3-6: Tempered glass

#### 2. Adjustment seat and steering wheel

Seat

#### < Manual seat type >





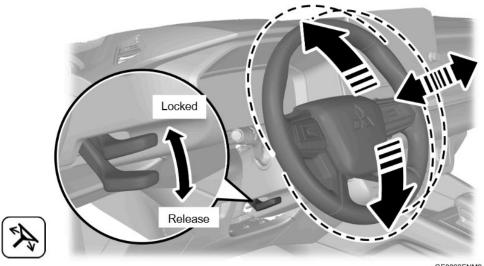
- 1: To adjust forward or backward
- 2: To recline the seatback
- 3: To adjust seat height (driver's side only)
- 1: To adjust forward or backward
- 2: To recline the seatback
- 3: To adjust seat cushion angle
- 4: To adjust seat height
- 5: To adjust lumbar support





\*: Refer to "10. Explanation of pictograms used"

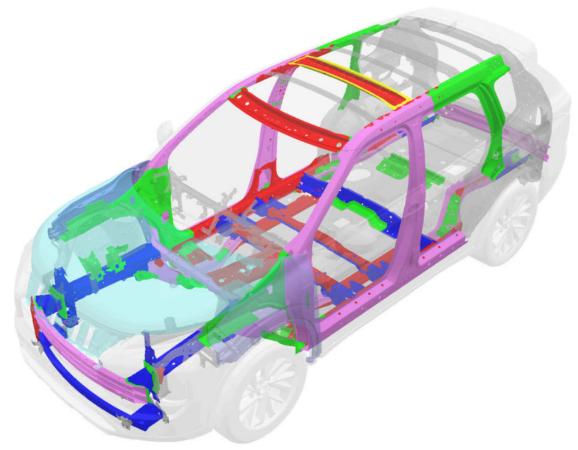
# ·Steering wheel



\*: Refer to "10. Explanation of pictograms used"

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# 3. High-tensile and Ultra-high-tensile steel panels location



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: - 440 MPa	: 590 MPa	: 780 MPa	: 980 MPa
: 1180 MPa	: 1470 MPa	: Plastic	: Aluminum
		·Used in front fender	·Used in hood

#### 4. Vehicle CUT Zones

If you need to cut the vehicle body, cut the vehicle body and perform rescue work.

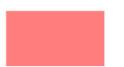
· Preliminary confirmation

Read this page and refer to "1-2. High voltage wiring cable location" before cutting the vehicle body.

#### WARNING:

- Use a hydraulic cutter or a suitable tool which does not generate sparks to cut the vehicle body. If you fail to do this, you or the passengers may be seriously injured.
- Never touch any exposed orange-color high voltage wiring cables (cutoff or break a plastic jacket), or the portions shown in the figure.
- · NEVER cut the drive battery.

#### Risk of high voltage shock



Never cut this area in vicinity of the high voltage components and cables as an electric shock may occur.

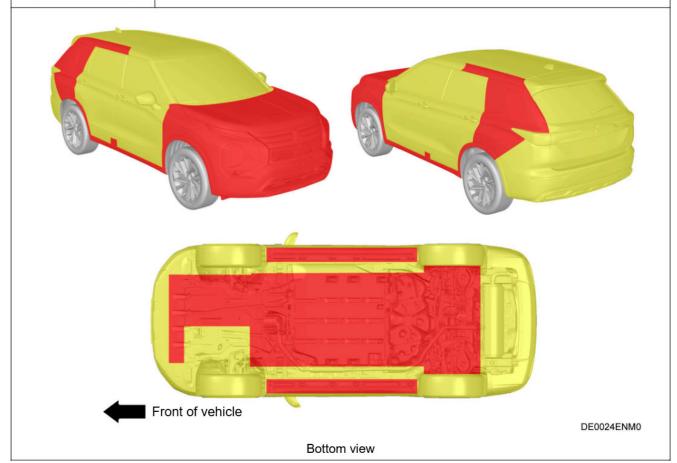
#### Risk of air bag deployment

Do not cut this area because there is risk that an air bag may be deployed due to a short circuit or an impact caused by the accident.

If an air bag has already been deployed, this area can be cut. If at least one minute has elapsed after disconnecting the negative terminal of 12V starter battery or changing the power supply mode of the electric motor switch to OFF, this area can be also cut.



# **CUT ZONE**



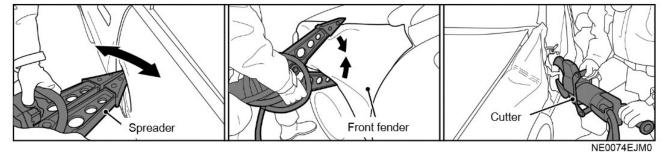
### 5. Opening the door with a spreader or cutter

#### WARNING:

- Use a hydraulic cutter or a suitable tool which does not generate sparks to cut the vehicle body. If you fail to do this, you or the passengers may be seriously injured.
- Never touch any exposed orange-color high voltage wiring cables. (cutoff or break a plastic jacket)
- NEVER cut the drive battery.

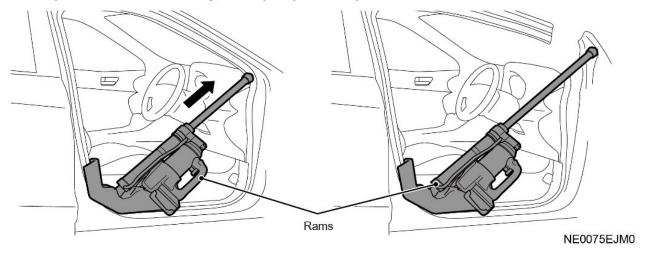
If you cannot open the door from the outside, use a spreader, cutter, etc. to rescue the door if necessary.

- 1) Insert the tip of the spreader into the door latch and open the spreader to make a gap.
- 2) If necessary, compress the front fender with a spreader to make a gap in the door hinge part.
- 3) Insert the cutter into the gap between the door hinges created, to break it hinges and open the door.



#### 6. Securing space by rams

If the body is crushed and you cannot rescue the occupant, use a rams on the crushed part to push the body wide and secure a space for rescue. If necessary, cut the pillar part and expand it.



# 5. Stored energy / liquids / gases / solids

# Fluids / gases used in this vehicle

	-
Capacity & Type	Color
56 liters (14.8 gallons)	Greenish (87 Octane rating)
Total voltage: 350 V Total electric energy: 20 kWh	Clear & colorless
12V – L1 CONV (50 Ah / 420 A)	Clear & colorless
4.7 liters (5.0 quarts)	Dark brown
8.3 – 8.8 liters (7.3 – 7.7 quarts)	Blue-green
4.7 liters (5.0 quarts)	Blue-green
As required	Clear or yellow or brown
2.4 liters (2.5 quarts)	Blue-green
3.32 liters (3.5 quarts)	Red
•Front: 2.47 liters (2.6 quarts)	
·Rear: 0.85 liters (0.90 quarts)	
HFO-1234yf: 1,110 - 1,150 g (39.15 - 40.57 oz) *1 HFC-134a: 1,110 - 1,150 g (39.15 - 40.57 oz) *2	Non color
	Total voltage: 350 V Total electric energy: 20 kWh  12V – L1 CONV (50 Ah / 420 A)  4.7 liters (5.0 quarts)  8.3 – 8.8 liters (7.3 – 7.7 quarts)  4.7 liters (5.0 quarts)  As required  2.4 liters (2.5 quarts)  3.32 liters (3.5 quarts)  •Front: 2.47 liters (2.6 quarts)  •Rear: 0.85 liters (0.90 quarts)  HFO-1234yf: 1,110 – 1,150 g (39.15 – 40.57 oz) *1

<sup>\*1:</sup> For USA/CANADA

<sup>\*2:</sup> For MEXICO



### **WARNING:**

A flammable "carbonic acid ester solution containing lithium salt" is used as the electrolyte for the drive battery.









\*: Refer to "10. Explanation of pictograms used"

#### About flammable substances

Flammable substances	Flame-retardant substance
•Plastic	·Carbon fiber
•Electrolyte substance	•Refrigerant gas: HFC-134a (R-134a)
·Oil / Gasoline	
•Flammable gas *	
·Refrigerant gas: HFO-1234yf (R-1234yf)	
•Others	

<sup>\*:</sup> Combustible gas generated when the drive battery is deformed or damaged.

#### **Drive Battery information**

#### **Drive battery**

- The battery operates the motor and air conditioning. In addition to the drive battery, OUTLANDER PHEV has a 12V starter battery which operates lights, wipers, etc.
- The compact, light-weight lithium-ion battery with high energy density is used for the drive battery.

#### The risk in normally use

- The Plug-in Hybrid EV System uses high voltage up to DC 650 V. The system can be hot during and after starting
  and when the vehicle is turned off. Be careful of both the high voltage and the high temperature. Follow the warning
  labels that are attached to the vehicle.
- Always assume the high voltage battery and associated components are energized and fully charged.
- Never perform servicing and rescue when READY indicator is illuminating or when the charging indicator is illuminating or flashing because the high voltage system is operating.

#### In case of a collision

- If you detect leaking fluids, sparks, smoke, flames, gurgling, popping or hissing noises originating from the high voltage battery component, contact emergency services immediately. This may result in a fire.
- Physical damage to the vehicle or high voltage battery may result in immediate or delayed release of toxic and/or flammable gases and fire.

### 6. In case of fire

#### 1. Vehicle fire

In case of vehicle fire, contact the fire department immediately and follow the steps below to start extinguishing the fire. In the event of a vehicle fire or a drive battery fire, use a large amount of water or an ABC powder fire extinguisher to extinguish and cool the fire.

In the case of a fire from the drive battery part, fire or smoke is emitted from the center of the vehicle.

#### **WARNING:**

Failure to follow these instructions may result in serious injury such as electric shock:

- 1) The drive battery is designed to prevent a substantial amount of electrolyte from leaking from the drive battery just in case it is broken.
- 2) The drive battery uses an electrolyte made of flammable "Carbonate ester solution of lithium salts". When reacting with moisture in the air, this electrolyte generates acidic organic vapor which is harmful to human body.
- 3) Therefore, when handling this, please use appropriate Personal Protective Equipment (PPE) including mask for organic gas, solvent resistance gloves and eye protector and use appropriate caution.









\*: Refer to "10. Explanation of pictograms used"

#### 2. Fire-extinguishing





# Use ABC powder fire extinguisher or large quantity water to extinguish the fire

\*: Refer to "10. Explanation of pictograms used"

#### WARNING:

- Never use seawater or any water containing salt.
- · Please note the following safety distances when extinguishing a fire.

When extinguishing a fire by spraying with water: Keep a distance of 1 m (3.3 ft) or more and extinguish the fire. When the fire is extinguished when it is fully opened by discharging water (straight): Keep a distance of 5 m (16.4 ft) or more and extinguish the fire.

#### 1) By using fire extinguisher

Use a fire extinguisher which is suitable for flammable liquid and electrical equipment fires.

#### By using water

Use water not containing salt, such as tap water, well water or pond water.

DO NOT attempt to extinguish the fire with a small amount of water as it is dangerous.

Use large quantity of water.

A large volume of water, such as from a fire hydrant must be used. Unless a large volume of salt-free water is available, keep away from the vehicle fire and wait for fire department to arrive.

#### CAUTION:

When there is a possibility that the water has gotten inside the drive battery, treat the vehicle as a submerged vehicle. (Refer to "7. In case of submersion")

#### 3) Disconnection of the high voltage circuit



#### WARNING:

After a vehicle fire, electrical hazards may remain potentially. Insulation of high voltage wiring may be damaged or burned out by high temperature, and in such a case, be sure to wear insulating personal protective equipment and approach the vehicle.





Disconnect the high voltage circuit by the following procedures.

- 1) Change the power supply mode of the electric motor switch to OFF. (Refer to 2-1.)
- 2) Disconnect the 12V starter battery negative terminal. (Refer to 3-5.) NOTE: How to open liftgate (Refer to 3-4.)
- 3) Disconnect the power unit control fuse. (Refer to 3-6.)
- 4) Remove the service plug (Refer to 3-7.)
- 4) Checking the disconnection status of the high voltage circuit



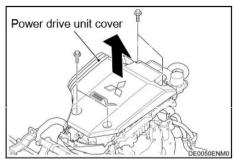
#### WARNING:

Be sure to wear insulating personal protective equipment and check the disconnection status of the high voltage circuit.

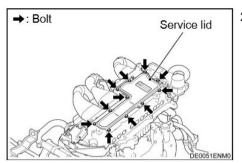




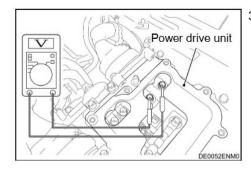
Measure the voltage at the high voltage wiring cable connected to the Power Drive Unit (PDU) by the following procedures.



1) Remove the power drive unit cover.



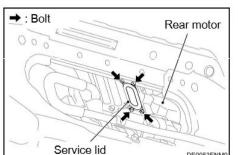
2) Remove the power drive unit service lid.



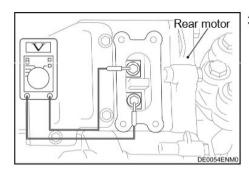
Measure the voltage as shown in the figure using a high voltage multimeter.

Normal voltage: Approximately 0 Volt

Measure the voltage at the high voltage wiring cable connected to the rear motor by the following procedures.



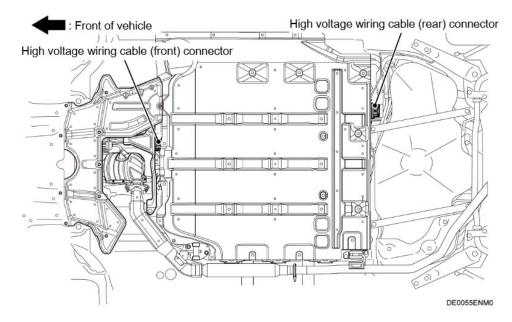
- 1) Lift the vehicle.
- 2) Remove the rear motor service lid.



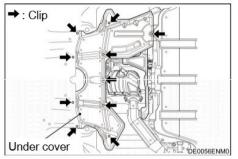
3) Measure the voltage as shown in the figure using a high voltage multimeter.

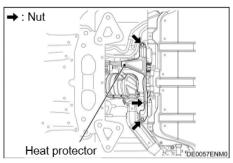
Normal voltage: Approximately 0 Volt

If the voltage still exists at the power drive unit or rear motor, disconnect the high voltage wiring cable (front, rear) connector from the drive battery by the following procedures.

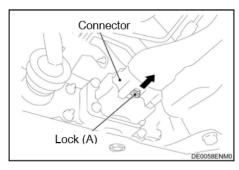


- 1) Lift the vehicle.
- 2) Remove the under cover.



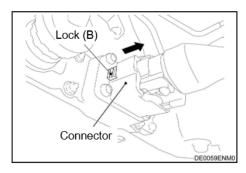


3) Remove the heat protector.

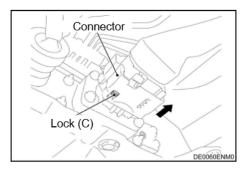


4) Disconnect the high voltage wiring cable (front) connector from the drive battery by the following procedures.

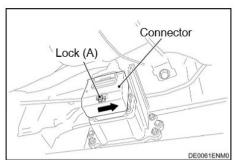
a) Move the lock (A) of the connector to the direction of the arrow.



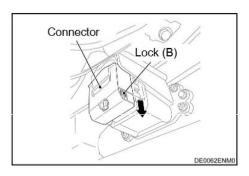
b) Pull the connector to the direction of the arrow until it stops while pushing the lock (B).



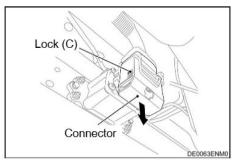
c) Pull out the connector to the direction of the arrow while pushing the lock (C).



- 5) Disconnect the high voltage wiring cable (rear) connector from the drive battery by the following procedures.
  - a) Move the lock (A) of the connector to the direction of the arrow.



b) Pull down the connector to the direction of the arrow until it stops while pushing the lock (B).



c) Pull out the connector to the direction of the arrow while pushing the lock (C).

#### 5) Vehicle procedure after extinguishing a fire

Be sure to wear insulating protective equipment and dispose of it.

When lifting a vehicle with a crane or lift, lift the vehicle body, not the wheels.

Use an insulating sheet between the crane or lift and the car body to lift it.

When mounting the vehicle on the loading surface of a truck, lay an insulating sheet and place it on the insulating sheet.

When transporting only the drive battery, lay an insulating sheet on the loading surface, place it on the insulating sheet, and cover it with a non-energized cover.

Attach the high voltage identification label to the vehicle and drive battery.







\*: Refer to "10. Explanation of pictograms used"

### 7. In case of submersion

#### 1. Submerged Vehicle

#### A CAUTION:

If the drive battery and high voltage system are immersed in water, they will be treated as submerged.

If the vehicle is submerged or partially submerged, remove occupants from the vehicle and water.

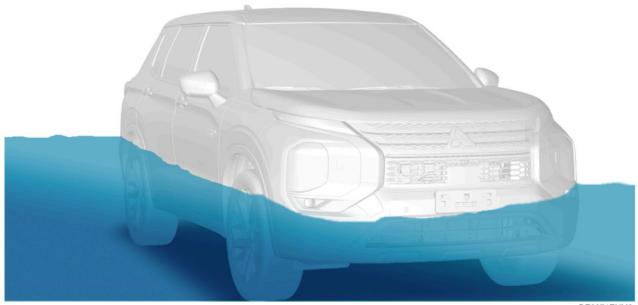
Then shut down the 12V starter battery and high voltage system.

If the vehicle is submerged, water may enter the drive battery.

If the vehicle is submerged, the drive battery may generate flammable hydrogen gas.

#### WARNING:

- · If water enters the driving battery, hydrogen gas may be generated.
- When seawater enters, a large amount of hydrogen gas is generated by rapid electrolysis due to salinity, which may
- After the vehicle is pulled out of the water, open the windows and doors as there may be hydrogen gas in the vehicle.



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#### Rescue operation

If the vehicle is submerged or partially submerged, take the following rescue operation steps:

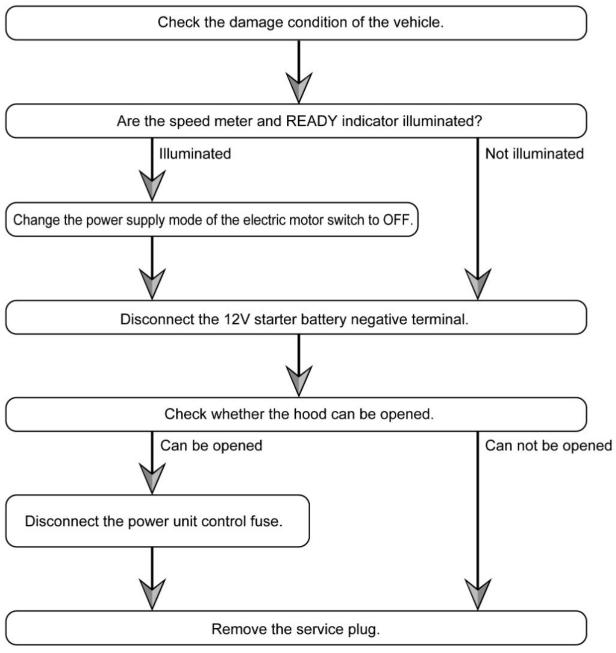
- 1) Rescue the occupants and pull the vehicle out of the water.
- 2) Inspect the vehicle for damage. In the following cases, wear insulated Personal Protective Equipment (PPE) and carry out the rescue operation while taking care not to touch the drive battery and orange-color high voltage wiring cables.
  - When the vehicle is severely damaged.
  - When the drive battery is deformed or damaged, and internal parts are exposed.
  - When the damage condition of the drive battery cannot be determined.



#### A CAUTION:

If the drive battery is damaged, consult the nearest certified Mitsubishi EV Dealer how to handle the drive battery.

3) Disconnect the high voltage circuit by following the flowchart below. Depending on the vehicle conditions, the high voltage circuit may not be disconnected, so wear insulated Personal Protective Equipment (PPE) and carefully carry out the procedures.



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#### High voltage circuit disconnection procedures

- How to change the power supply mode of the electric motor switch to OFF (Refer to 2-1.)
- How to open the liftgate (Refer to 3-4.)
- How to disconnect the 12V starter battery negative terminal (Refer to 3-5.)
- How to disconnect the power unit control fuse (Refer to 3-6.)
- How to disconnect the service plug (Refer to 3-7.)







### 8. Towing / transportation / storage

#### 1. How to Transport

Transport the vehicle on a flatbed truck or tow the vehicle with all wheels off ground

Vehicle dimensions. (Refer to 1-4.)

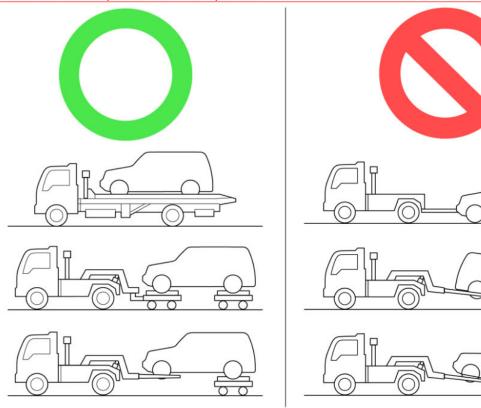
#### WARNING:

- Never tow the vehicle with front wheels and/or rear wheels on the ground. This may cause damage to the electric motors and transaxle.
- When the high voltage leakage is concerned, load the vehicle so that only the tires are in contact with the loading surface.
   If the metal part of the vehicle, such as body panel, is in contact with the loading surface due to the condition of the vehicle, insert an insulating sheet between the vehicle and loading surface.

## $\triangle$

#### CAUTION:

If the 12V starter battery charging level is too low or the 12V starter battery negative terminal is disconnected, you cannot move the selector position from the P position.



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- The figure shows examples only.
- · When loading the vehicle on the truck, handle carefully to prevent further damage.

#### 2. How to Tow (only in emergency)

- 1) Cover your fine-tipped tool with a cloth, insert it into the groove of the front bumper cover, and remove the cover.
- 2) Attach the tow hook using a hard metal rod or the like.
- 3) Hook a towrope to the tow hook of the vehicle body.
- 4) Start the Plug-in Hybrid EV System.
  - If the Plug-in Hybrid EV System cannot be started, put the operation mode of the electric motor switch in "ON".
- 5) Move the select position in "N" (Neutral) position.
- 6) Press down the electric parking brake switch while depressing the brake pedal. The indicator in the combination meter will turn off.

#### W NOTE:

When you can not release the electric parking brake by operating the switch due to malfunction of the vehicle, release the electric parking brake manually. (Refer to 8-3.)

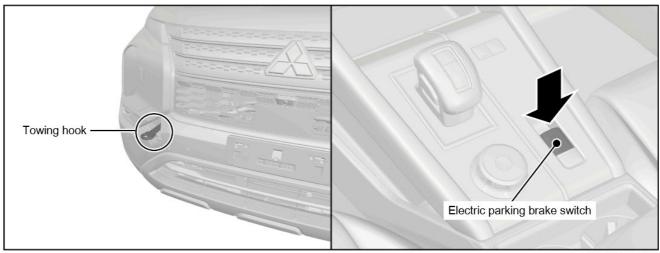
- 7) Turn on the hazard warning lights if required by law. (Follow the local driving laws and regulations.)
- 8) During towing make sure that close contact is maintained between the drivers of both vehicles, and that the vehicles travel at low speed.

#### WARNING:

If the vehicle is towed with the operation mode in "ON" without starting the Plug-in Hybrid EV System, the 12V starter battery may be fully discharged during towing. In this case, the brake performance becomes very poor and the steering wheel becomes very heavy.

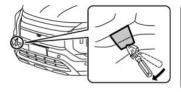
### **CAUTION:**

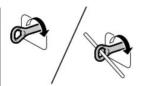
- The following driver assistance systems should be stopped to prevent unexpected accidents and unexpected operations during towing.
  - •Turn off Adaptive Cruise Control system (ACC) (Refer to "To turn off ACC / MI-PILOT Assist system")
  - •Turn off Forward Collision Mitigation system (FCM) and Predictive Forward Collision Warning (PFCW) -(Refer to "To turn off FCM / PFCW")
  - •Turn off Rear Automatic Emergency Braking (Rear AEB) system (Refer to "To turn off Rear AEB")
  - •Turn off brake auto hold function (Refer to "To turn off brake auto hold function")
  - •Turn off innovative pedal operation mode (Refer to "To turn off innovative pedal operation mode")
- When the vehicle is to be towed by another vehicle with all the wheels on the ground, make sure that the towing speed and distance given below are never exceeded, avoiding damage to the transaxle.
  - Towing distance: 30 km (18.6 miles) ·Towing speed: 30 km/h (18.6mph)



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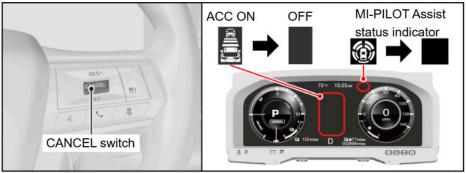




- DE0069ENM0
- Cover the end of a suitable tool with cloth and use it to remove the hook cover from the bumper. Securely install the recovery hook as illustrated.
- · The hook is stored in the storage area of the luggage compartment.

#### To turn off ACC/MI-PILOT Assist system

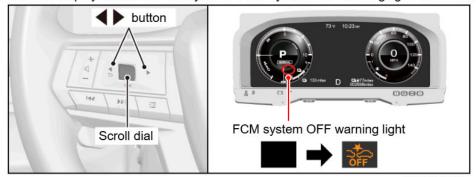
Push the "CANCEL" switch to turn ACC and/or MI-PILOT off.



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#### To turn off FCM / PFCW

Select "Settings" - "Driver Assistance" - "Emergency Brake" (select "Front" if with Rear AEB) in the multi-information display to turn off FCM system. "FCM system OFF warning light" will illuminate.



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#### To turn off Rear AEB

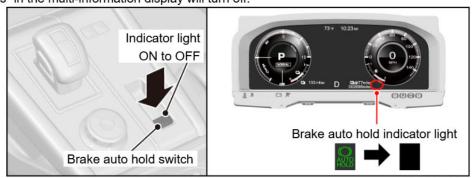
Select "Setting" - "Driver Assistance" - "Emergency Brake" (select "Rear" if with FCM) in the multi-information display to turn off Rear AEB function. "Rear AEB system OFF warning light" will illuminate.



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#### To turn off brake auto hold function

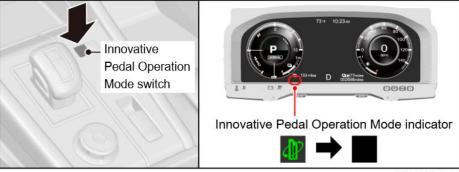
While the Brake auto hold function is activated, depress the brake pedal and push the "Brake auto hold switch" to deactivate the Brake auto hold function. "Indicator light" on the "Brake auto hold switch" and "brake auto hold indicator lights" in the multi-information display will turn off.



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#### To turn off innovative pedal operation mode

Push the "Innovative Pedal Operation Mode switch" to turn off "innovative pedal operation mode" function. "Innovative Pedal Operation Mode indicator" in the multi-information display will turn off.



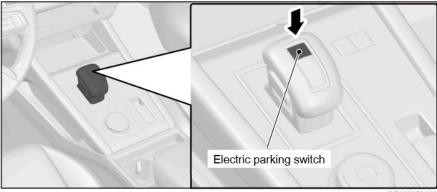
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#### 3. How to release the electric parking brake manually

#### WARNING:

Releasing the electric parking brake manually should only be done in an emergency.

1) With the vehicle parked, push the electric parking switch, then chock the wheels.

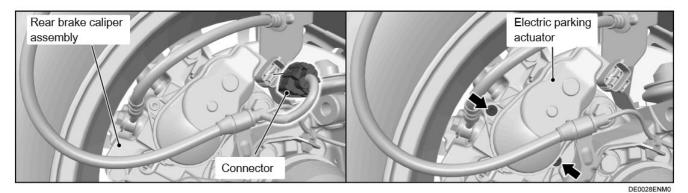


2) Disconnect the 12V starter battery negative terminal. (Refer to 3-5.)

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#### **CAUTION:**

- · If signs of dirt or water are found around the connector, clean it thoroughly.
- Ensure that no foreign materials intrude into the connector.
  - 3) Disconnect the wiring harness connector from the electric parking actuator.
  - 4) Remove the two bolts to remove the electric parking actuator from the rear brake caliper assembly.



5) Insert a hexagonal wrench [6 mm (0.2 in)] to the rear brake caliper assembly, and then turn the wrench clockwise 2 turns



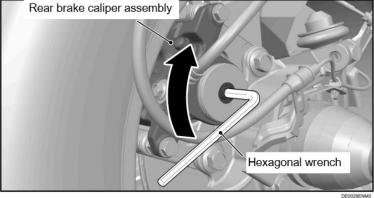
#### **WARNING:**

Depress the brake pedal before releasing the parking brake. If not, the vehicle will start to move as soon as you release the parking brake.



#### **CAUTION:**

The brake fluid may overflow.



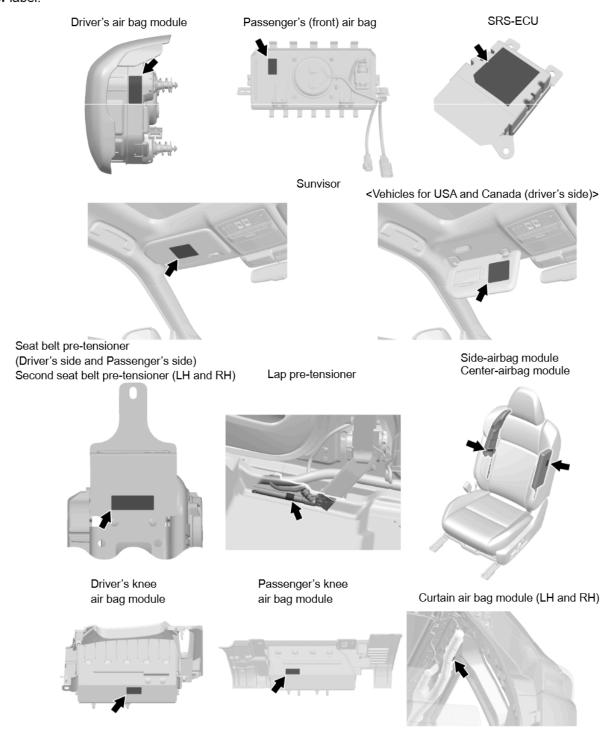
### 9.Important additional information

### 1. Supplemental Restraint System (SRS)

Supplemental Restraint System (SRS) air bag component location (Refer to 1-3.)

### **Caution Labels**

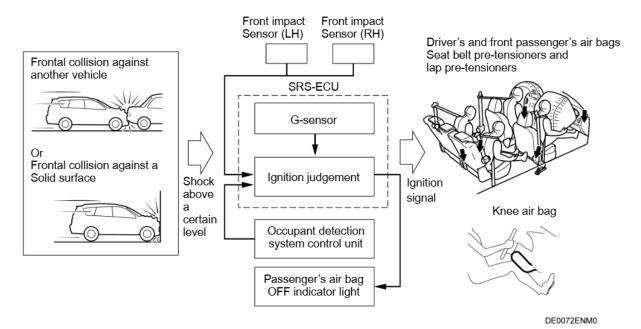
The labels indicating the precautions for handling and maintenance of SRS air bags and seat belt with pretensioner are attached to the locations shown in the figure. If the label is damaged or is dirty, replace with the new label.



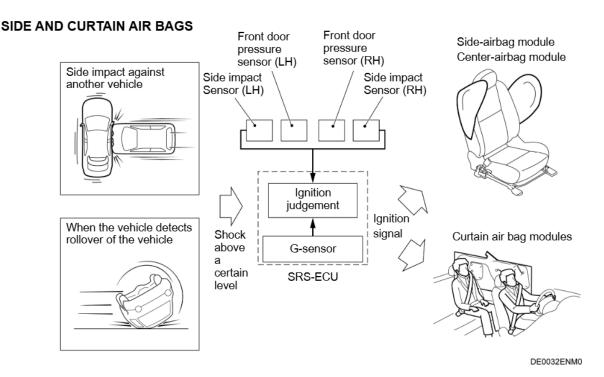
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### System Operation

### AIR BAGS, SEAT BELT PRE-TENSIONERS AND LAP PRE-TENSIONER

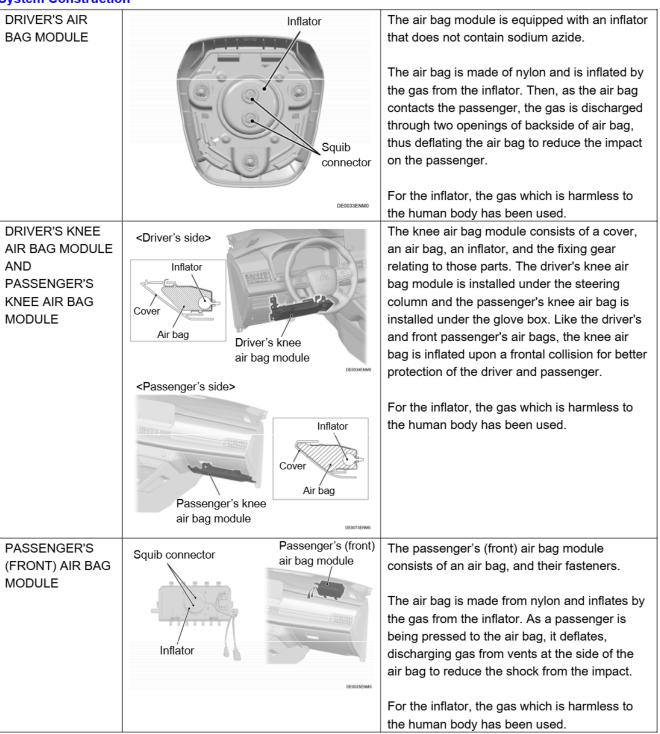


SRS-ECU uses data of the front impact sensor (in engine compartment) and G-sensor (in SRS-ECU) to calculate collision severity during frontal collision. SRS-ECU judges necessity of air bag based on the calculated collision severity. In addition, the SRS-ECU also judges the operation of knee air bag, seat belt pre-tensioners and lap pre-tensioner after calculating collision severity. The occupant detection system control module recognizes the passenger's seat occupant. The occupant detection system control module identifies the occupant class based on the signals from occupant detection system sensor, and sends the signal to SRS-ECU.



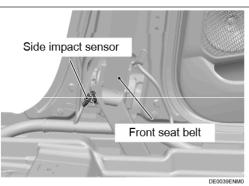
SRS-ECU uses data of the side impact sensor, front door pressure sensor, G-sensor (in SRS-ECU) and rollover sensor (in SRS-ECU) to calculate collision or rollover severity, during side collision or rollover. SRS-ECU judges necessity of side-airbag, center-airbag, curtain air bag, seat belt pre-tensioners and lap pre-tensioner based on the calculated collision or rollover severity.

### **System Construction**



SIDE-AIRBAG	Side-airbag module	The side-airbag module and center-airbag
MODULE AND	Side-all bay Module	module consists of an air bag, air bag cover,
CENTER-AIRBAG		inflator and their fasteners. The front side-
MODULE		airbag modules are installed in the outer side
		supports of the driver's and front passenger's
		seatbacks and the rear side-airbag modules
		are installed in the outer side of the second
		seat back assembly (LH and RH). Also, the
		center-airbag module is installed in the inner
		_
		side support of the driver's seatback.
		The side-airbag module and the center-airbag
	Center-airbag module	module help protect the occupants regardless
	<only driver's="" for="" side=""></only>	of the seat position and seatback angle.
		The air bags are compactly folded and stored
	DE0036ENM0	under the cover. On the side of the air bag,
		there are holes through which gas is partially
		released to alleviate shock to the occupant
		when the air bag is deployed.
		For the inflator, the gas which is harmless to
		the human body has been used.
CURTAIN AIR BAG		The curtain air bag module consists of an air
MODULE	Curtain air bag module	bag, an inflator, and the fixing gear relating to
		those parts, and is installed in the roof side
		sections (from the driver's and the passenger's
		front pillars to the quarter trim uppers).
		,
		An inflator that does not contain sodium azide
		is used.
		10 4004.
	(33)	
	DE0037ENM0	
FRONT IMPACT	Front impact sensor	The front impact sensor is installed on the front
SENSOR		end upper bar in the engine room, and the
		analogue G-sensor is housed in the front
		impact sensor.
		The front impact sensor transmits the coded
		acceleration data to SRS-ECU. Based on the
		data, SRS-ECU determines the deployment
		stage of the front air bag, then energizes
	Front end upper bar	1 0
		appropriate squib.
		SRS-ECU performs the diagnostics of the front
		impact sensor internal components. If a
		malfunction occurs, it sets the diagnosis
		trouble code.

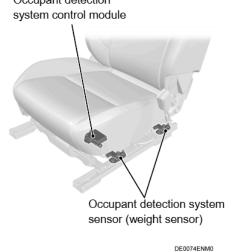
# SIDE IMPACT SENSOR Side impact sensor OCCUPANT DETECTION SYSTEM CONTROL MODULE AND OCCUPANT DETECTION SYSTEM SENSOR Occupant detection system control mode system control mode system sensor



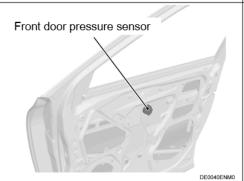
The side impact sensors are installed to the lower part of the center pillars on both sides and lower part of quarter panel, and the analogue G-sensor is housed in the side impact sensor.

The side impact sensor transmits the coded acceleration data to SRS-ECU. Based on the data, SRS-ECU determines the deployment of the side-airbags, center-airbag and curtain air bags, then energizes appropriate squib(s). SRS-ECU performs the diagnostics of the side impact sensor internal components. If a malfunction occurs, it sets the diagnosis trouble code.

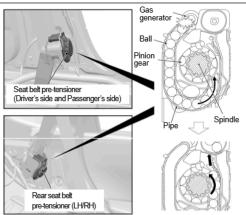
The occupant detection system sensor (weight sensor) is attached to the passenger's seat cushion frame. When the front passenger's seat is not occupied or the child is occupied, the passenger's airbag off indicator will stay on to show that the passenger's (front) air bag is not operational.



FRONT DOOR PRESSURE SENSOR



SEAT BELT PRE-TENSIONER

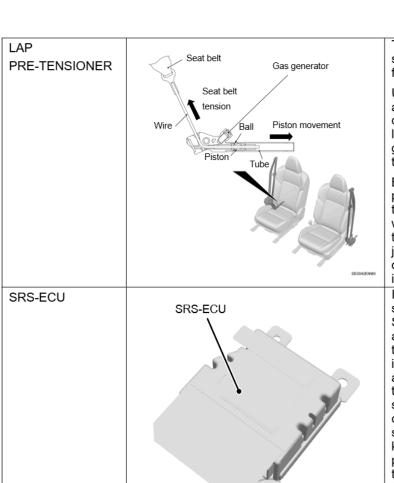


The door pressure sensors are installed inside of the front door panels and the front door pressure sensor has a sensor that detects the internal pressure of the door in the event of a side collision

The door pressure sensor transmits the coded acceleration data to SRS-ECU. Based on the data, SRS-ECU determines the deployment of the side-airbags, center-airbag and curtain air bags, then energizes appropriate squib(s).

The seat belt incorporating the pre-tensioner automatically winds the seat belt upon front impact to reduce forward shifting of the passenger.

The seat belt pre-tensioners of the driver's seat, front passenger's seat, and rear seat (LH, RH) ignite the gas generator and emit gas with the electric current supplied from the SRS-ECU. The gas pressure moves the ball in the pipe and the ball comes into contact with the recessed section of the pinion gear and the spindle connected to the pinion gear rotates. The belt is wound onto the rotating spindle.



The lap pre-tensioner automatically pulls in the seat belt upon a frontal collision to reduce the forward travel distance of occupants.

Upon a collision, when the front impact sensor, attached to the front of the vehicle body, detects an impact that exceeds the permissible limit, the lap pre-tensioner ignites the gas generator with the signal from SRS-ECU, and the alternator emits the gas.

By the gas pressure, the wire linked to the piston travels in the direction of movement, then the seat belt is pulled in. Subsequently, when a tension is applied to the seat belt by the forward travel of an occupant, balls are jammed between the piston and tube because of the wedge action, and the drawing position is maintained due to the locking.

In addition to the analogue G-sensor and safing G-sensor for the frontal collision, the SRS-ECU incorporates the analogue G-sensor and safing G-sensor for the side collision. In the event of a frontal collision, when the front impact sensor in the engine room and the analogue G-sensor for the frontal collision in the SRS-ECU detect the collision G at the same time, the SRS-ECU applies electrical current to the driver's seat/front passenger's seat air bag module, the driver's/passenger's knee air bag module, the front/rear seat belt pre-tensioner (squib) and the lap pertensioners.

Upon a side collision, when the lateral impact G is simultaneously detected by the analogue G-sensor of side impact sensor and the safing G-sensor for side collision in SRS-ECU, the SRS-ECU outputs the ignition signal to the side-airbag module (squib), center-airbag (squib), the curtain air bag module (squib), the front/rear seat belt pre-tensioner (squib) and the lap per-tensioners of the relevant side that is subjected to the impact.

If a rollover occurs, the rollover sensor in the SRS-ECU detects it and the SRS-ECU energizes the curtain air bag module (squib), the front/rear seat belt pre-tensioner (squib) and the lap pre-tensioner.

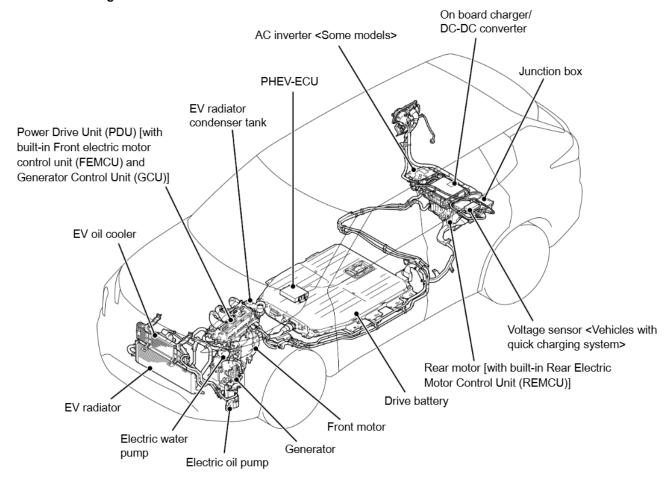
Also, SRS-ECU has the following functions that improve the system reliability.

- Power supply back-up function (back-up condenser) in preparation for the power supply malfunction upon a collision
- Booster function (DC-DC converter) in preparation for the battery voltage drop
- Diagnosis function that performs a system check

DE0043ENM0

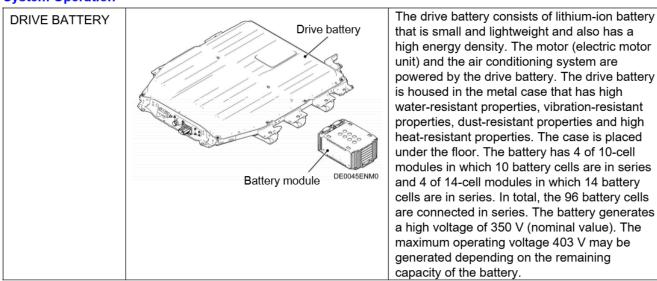
### 2. High voltage component location

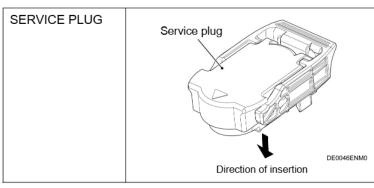
### Construction diagram



DE0044ENM0

### **System Operation**





The service plug is installed to the lower place of the middle of the second seat. Remove the service plug before performing the check and the maintenance work on the high voltage components to ensure the job safety, shutting off the high voltage circuit. The service plug switch can detect whether the service plug is connected.

### <Characteristics>

- The drive battery, which is based on lithium-ion battery, can be charged before the stored energy is used up.
- The drive battery performance gradually decreases due to the duration of use or due to the use conditions.
- The drive battery performance may vary with ambient temperature. Especially in the lower temperature, the cruising range may become shorter and the required time for charging may also become longer.
- When the vehicle is stored at the extremely high temperature or extremely low temperature, the battery performance can decrease.
- Even if the vehicle is not in use, the drive battery may be gradually discharged and the energy stored in the drive battery will be reduced.

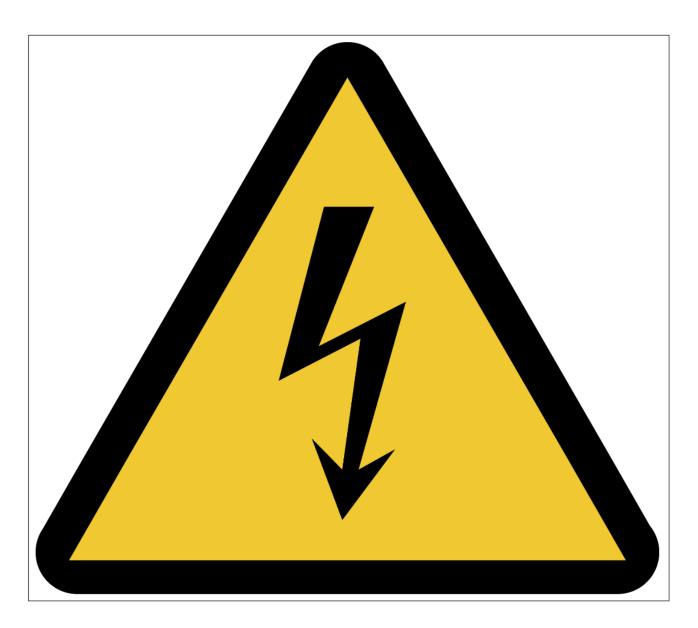
### <Pre><Pre>cautions in use>

- If the vehicle is not used for a long time, check the drive battery meter reading every three months. If the reading is zero, charge the battery until the reading is shown. Or put the electric motor switch in the READY to automatically start the engine. Wait until the engine stops, then turn off the electric motor switch.
- The drive battery is retrieved. When the vehicle is discarded, always contact certified Mitsubishi EV Dealer.

## DANGER! DO NOT TOUCH! IN PROGRESS!! DANGER! DO NOT TOUCH!

### HIGH VOLTAGE WORK IN PROGRESS!! DANGER! DO NOT TOUCH!

\*Before any high voltage work commences, place this signboard on the roof of vehicle after folding on the dotted line.



It is recommended that a warning sign (example provided above) is fixed to or on the vehicle during any emergency work on the vehicle. A sign that complies with local regulation should be used.

10. Explanation of pictograms used						
000 000	12V starter battery		SRS unit		Keyless operation key distance	
2	Electric motor switch		Air bag inflator	4	Warning, Electricity	
	Fuse box disabling high voltage		Airbag		Seat belt pretensioner	
7	High voltage wiring cable		Adjustment seat forward or backward	*	Warning, low temperature	
4	High voltage component	<b></b> ;	Adjustment seat height	*	Air-conditioning component	
	Service plug	<b>A</b>	Steering wheel height adjustment		Lifting point	
	Fuel tank	ABC	Use ABC powder to extinguish the fire	(Astronomy)	Use water to extinguish the fire	
	Risk of damaging human health		Risk of flammability		Risk of an explosion	
	Risk of corrosive material / substances					

