



For Dismantler

M Hybrid Battery Disposal Manual

Target Model

MAZDA 3

MAZDA CX-30

MAZDA MX-30

MAZDA CX-5

Mazda Motor Corporation

Customer Service Div, Recycle Promotion Gr.

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Information in this manual is subject to change without notice.

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1. Introduction

Some vehicles manufactured by Mazda Motor Corporation is mounted an M Hybrid Battery. This manual describes how to remove the battery from the End-of Life Vehicle(ELV). Read this manual carefully and observe the precautions before handling the battery.

<Warning>

Pressing and shredding the vehicle with M Hybrid Battery attached will generate such as heat, fire, smoke, and rupture from the M Hybrid Battery.

2. Overview for M Hybrid Battery

● Purpose/Operation

- M Hybrid Battery is large-capacity storage batteries that store energy and can be used when needed.

● Structure/Operation

- M Hybrid Battery is installed under the floor outside the cabin in front of the vehicle.
- The battery has a ground plate to separate it from the vehicle ground.
Removing the ground plate cuts off 24V electricity, preventing short circuits.

● Specification

| Item | Specification |
|---------------------|---|
| Pack composition | Direct series,9 cells |
| Nominal capacity | 10[Ah] |
| Nominal voltage | 21.6[V] |
| Mass | 9.5[kg] |
| External dimensions | W799×D177×H55[mm] (Excluding external circuit and bracket) |
| Electrolyte volume | 720[ml] or less |

● Appearance



3. Handling for M Hybrid Battery

● Introduction

- There is no danger if the battery is not deformed, leaking or generating heat.
- The electrolyte for the battery is strongly acidic.
If the electrolyte leaks out and breathes vapor, or gets into your eyes, skin, etc, take the following first aid measures.
 - If electrolyte's vapor or mist is inhaled
Inhalation of electrolyte's vapor or mist may cause nausea and difficulty with breathing. Promptly move the affected person to an area with fresh air and seek medical attention if they feel sick.
 - If electrolyte contacts the skin
Wash off with large amounts of water and soap. If there are symptoms such as irritation or inflammation, promptly seek medical attention.
 - If electrolyte gets in your eyes
After washing the eyes under running water for at least 15 minutes, promptly seek medical treatment.
 - If electrolyte is swallowed
After flushing the inside of your mouth with water, promptly seek medical attention.

● Prohibited articles

- Before you start, remove the following metal products.
Short circuiting of the battery related components may cause sparks/fires and damage to components.
 - Metal scale, mechanical pencil, etc.
 - Accessories (necklaces, rings, earrings, earrings, etc.)

● M Hybrid Battery Handling

- The battery in an End of Life Vehicle(ELV) is essentially in a charged state.
Do not remove the battery from the vehicle in a way that would damage it, such as with a nibbler (vehicle dismantling machine) and heavy machinery. Otherwise, the battery may be damaged, causing sparks/fire, and a liquid-spill accident.
- Do not apply any force or impact that would cause any damage to the lithium-ion battery. (ex: Vehicle crush in a junkyard car crusher, puncture by a forklift, and fall from a high place, etc.)
- Do not charge/discharge the lithium-ion battery using an external power supply.
- Insulate the terminal of the lithium-ion battery with insulation tape.
If there is a terminal cover, secure it with insulation tape so that it does not detach.
- Never disassemble the lithium-ion battery using a method other than the removal method in this manual.
- When removing, wear rubber shoes and rubber gloves.
There is a risk of electric shock.

4. Recommendation for safe collection of M Hybrid Battery

- In an accident car, submersible car, etc., there is a possibility that the battery pack for may be deformed , cracked, short circuit, leaked, etc, and a short circuit may cause accidents such as smoking, ignition, or electric shock.
- Always disconnect the lead battery before removing M Hybrid Battery.
 - If you work without disconnecting the lead battery, short circuit may cause smoke, fire, electric shock, etc.
- Do not leave / discard / divert / modify / disassemble / resell / transfer M Hybrid Battery.
 - Touching of the battery that has been Improperly left or discarded, or diverting, remodeling, or disassembling it for purposes other than its intended use may cause accidents such as electric shock, emitting smoke, firing, heat generation, explosion, or electrolyte leakage.

Mazda cannot be held liable for any accidents / damages caused by diversion / modification / disassembly of them hybrid batteries, or any accidents / damages caused after neglect / discard / resale / transfer. The responsibilities of the business operator who performed these actions may be held.

5. Removed M Hybrid Battery

- Be careful not to hold the following locations when removing the battery. Otherwise, it could be damaged.

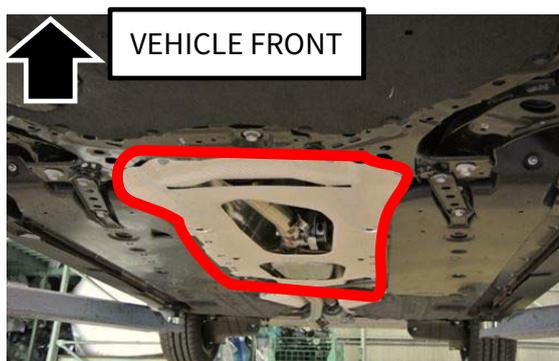


- 1) Switch the ignition OFF.
- 2) Disconnect the negative battery terminal and wait for **1 min or more**.
- 3) Lift up the vehicle.
- 4) Disconnect the ground plate.

(1) Remove the following parts ①, ② and ③.

*For MAZDA CX-5, remove a part ③ only, as ① and ② are not installed on the model.

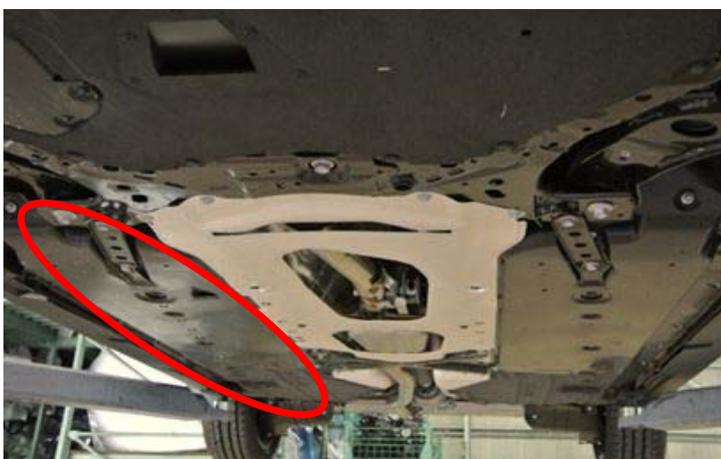
① Tunnel cover



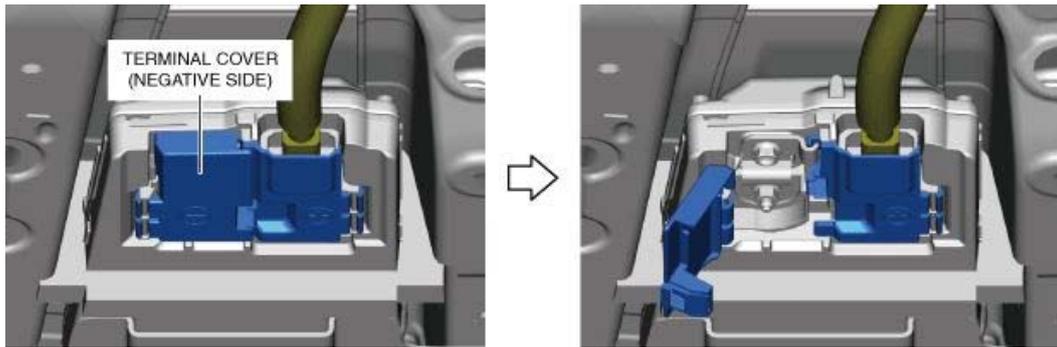
② Gusset



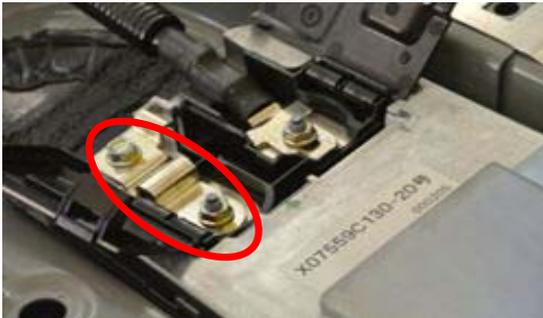
③ Floor under cover No.1(RH)



(2) Open the terminal cover(negative side)



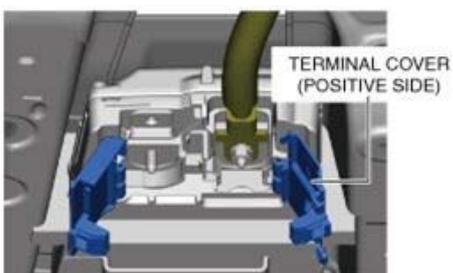
(3) Remove the nut and bolt shown in the figure and remove the ground plate.



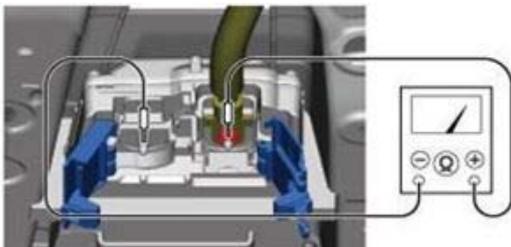
- Installing a ground plate with a failed battery (stuck internal relay) can cause a short circuit.
Remove and store the ground plate from the battery.



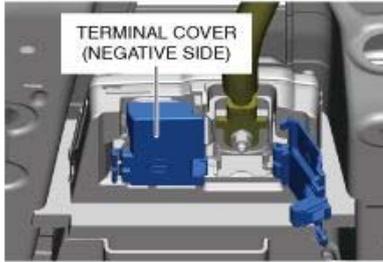
(4) Open the terminal cover (positive side)



(5) Verify that the generation of voltage does not occur using a tester.



(6) Close the terminal cover (negative side).

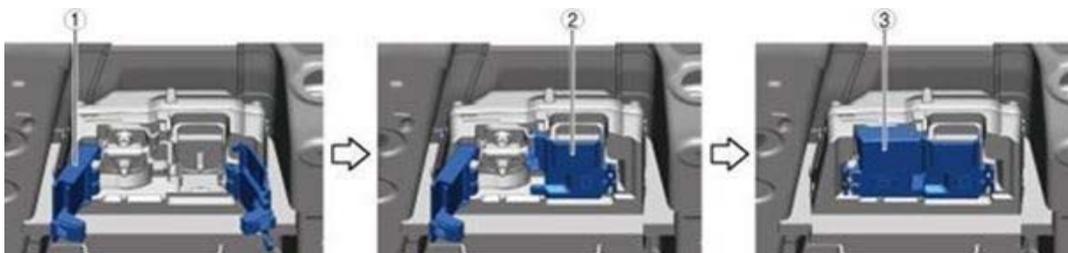


(7) Remove the nut shown in the figure and disconnect the positive terminal.



(8) Close the terminal cover using the following procedure.

- ① Open the terminal cover (negative side).
- ② Close the terminal cover (positive side).
- ③ Close the terminal cover (negative side).



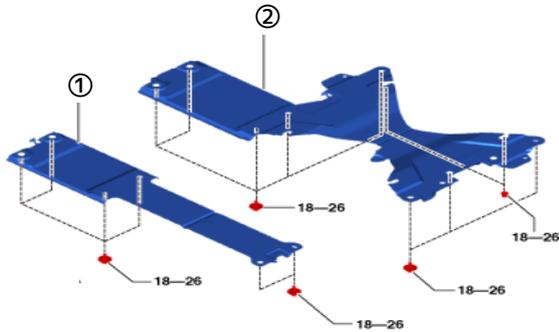
(9) Apply an insulating tape as shown below to prevent short circuit.



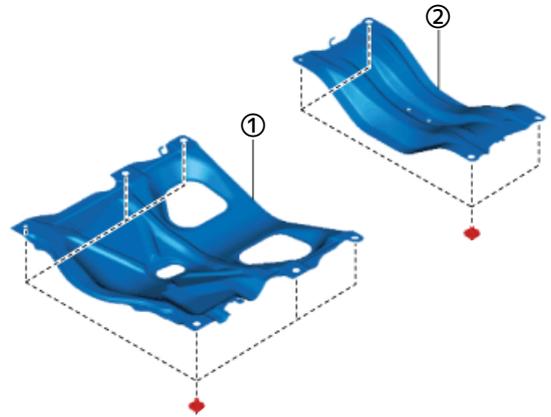
5) Remove the following parts.

- ① Brace bar
- ② Tunnel member

● MAZDA3, MAZDA CX-30, MAZDA MX-30



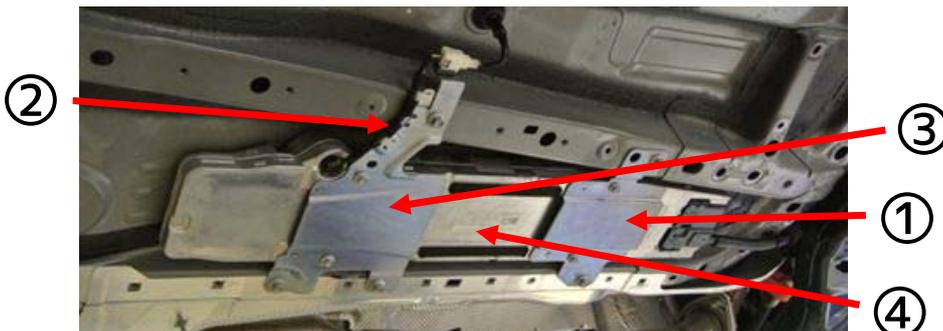
● MAZDA CX-5



6) Disconnect the connector.



7) Remove in the order shown in the figure.



- ① Bracket No.1
- ② Short-cord
- ③ Bracket No.2
- ④ M Hybrid Battery

***When removing, be careful attention to the weight of M Hybrid Battery**

6. Storage for removed M Hybrid Battery

- 1) To ensure the safety of the storage and transportation of the removed M Hybrid Battery, be sure to take measures to prevent short circuits.
 - Protect the terminal cover(positive side and negative side) with insulating tape (such as vinyl tape).
 - Short-circuiting without insulation may cause electric shock, emitting smoke, firing, heat generation, or rupture.
- 2) The removed M Hybrid Battery should be stored with the following conditions in mind. Safety may be impaired, causing accidents due to electric shock, emitting smoke, firing, heat generation, malfunction or failure of equipment.
 - (1) Storage of safe the battery

In addition to the following, verify the laws and regulations of each country.
It is necessary to store the batteries in accordance with the laws and regulations.

 - Store in a dark place below 35 ° C, away from direct sunlight.
 - Avoid storing in humid or hot areas, and store in places where rain and seawater will not come into contact.
 - Avoid sudden temperature changes and avoid condensation.
 - Do not place anything on the battery. Do not stack battery packs.
 - (2) Storage of unsafe the battery

<Warning>

If the battery generates heat, begins smoking or it catches on fire while it is left for a period of time, extinguish any fires and cool the battery.

- Fire extinguishing agent
A powder base fire extinguisher and CO2 type fire extinguisher are recommended by as a fire extinguishing agent. In addition, cooling the surrounding area of the fire pouring large amounts of water is an effective measure to prevent the fire from spreading.
- Fire extinguishing
Extinguish the fire from upwind and wear respiratory protective gear to protect yourself against harmful gases.

Always comply with laws in each country for disposal of water used to cool the battery.

In addition to the following, verify the laws and regulations of each country.

It is necessary to store the batteries in accordance with the laws and regulations.

- ① After removal from the vehicle, put the battery in a plastic bag used as the packaging material for shipment.
- ② Place vermiculite or sand to a 10 cm depth in a drum can corresponding to UN standards and place the battery in the drum can with the terminals upward.
- ③ Fill up the drum can with the vermiculite or sand until the battery is covered about halfway and secure the battery.
- ④ Putting a lid on the drum can to prevent from foreign matter getting inside is recommended. However, in case of gas generation do not seal the drum can.
- ⑤ Place the drum can in the following type of environment.

To the extent possible, putting drum cans in an inside environment at a temperature of 35 degrees C or less is desirable.

 - A place where there is no direct sunlight.
 - Ambient temperature is 50 degrees C or less.
 - A place where the lithium-ion battery cannot get wet.
 - A place with good ventilation.
- ⑥ Do not place the drum can in a place where things around it can catch on fire easily.