



Used Li-ion battery pack Handling & Storage Information at MSIL

Strong Hybrid Li-ion Battery: 177.6V-4.3Ah (Wt. - 20kgs)



CAUTION

Wrong handling of Li-ion battery pack such as physical damage, short circuits, exposures to elevated temperature, etc. can cause a thermal runaway which may lead to smoke, fire and/or explosion resulting in personal injury and/or environment damage.

Do not attempt to clean the Li-ion battery pack with water, sanitizer, or any other cleaning agent in order to avoid short-circuit or any kind of physical damage to the Li-ion battery pack.

Please adhere to the following points to safely handle & store the Li-ion battery pack.

Note: The Li-ion battery pack weighs 20kg and, if required, should be carried by at least 2 people.

(1) Storage of Li-ion battery pack

Until the Li-ion battery pack is properly disposed or recycled, store the Li-ion battery pack in accordance with the following instructions:

a) Optimum Storage Conditions

- Store Li-ion battery pack in a dry and well-ventilated place with ambient temperature range of -40°C to 65°C at all times.
- Do not place Li-ion battery pack in direct sunlight, on hot surfaces or in hot locations.
- Store the Li-ion battery pack away from water sources, conducting materials, any sources of fire, explosives, etc. Do not allow Li-ion battery pack to become wet with water or sea water or rain.

b) Li-ion battery pack Parameters

- Keep the terminals and Li-ion battery pack connector insulated with insulating tape (vinyl tape; refer section 2b).
- Store the Li-ion battery pack at a state-of-charge (SOC) above 30%.

c) Stacking of Li-ion battery packs

- Do not stack strong hybrid Li-ion battery pack



CAUTION

The Li-ion battery pack contains about 2000ml electrolyte (accommodated in the cells) which falls under the category of hazardous material as per the Petroleum Act, 1934 Class B (Diesel). Any kind of impact on the Li-ion battery pack may lead to electrolyte spillage.

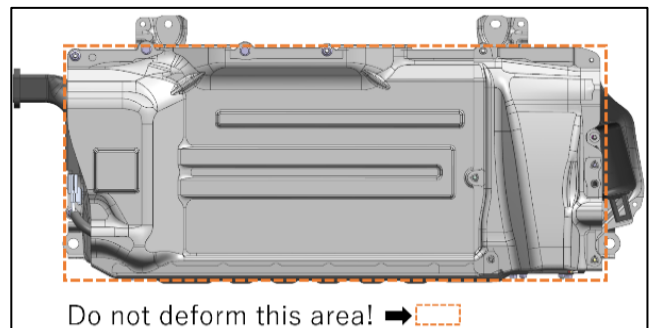
This electrolyte is highly flammable & exposure to environment may lead to safety hazard, fire, or explosion.

(2) Safe Handling of Li-ion battery pack

Handle Li-ion batteries cautiously, to not damage the casing or connections, in accordance with the following instructions:

a) Prohibit Impact

- Do not pierce with a sharp object, tap with a hammer, step on, throw, and press the Li-ion battery pack. Do not deform the strong hybrid Li-ion battery pack as shown in the figure.
- Do not remove the Li-ion battery pack from vehicle fitted condition with sharp or heavy equipment such as nibbles etc. or lift it by forklift directly.

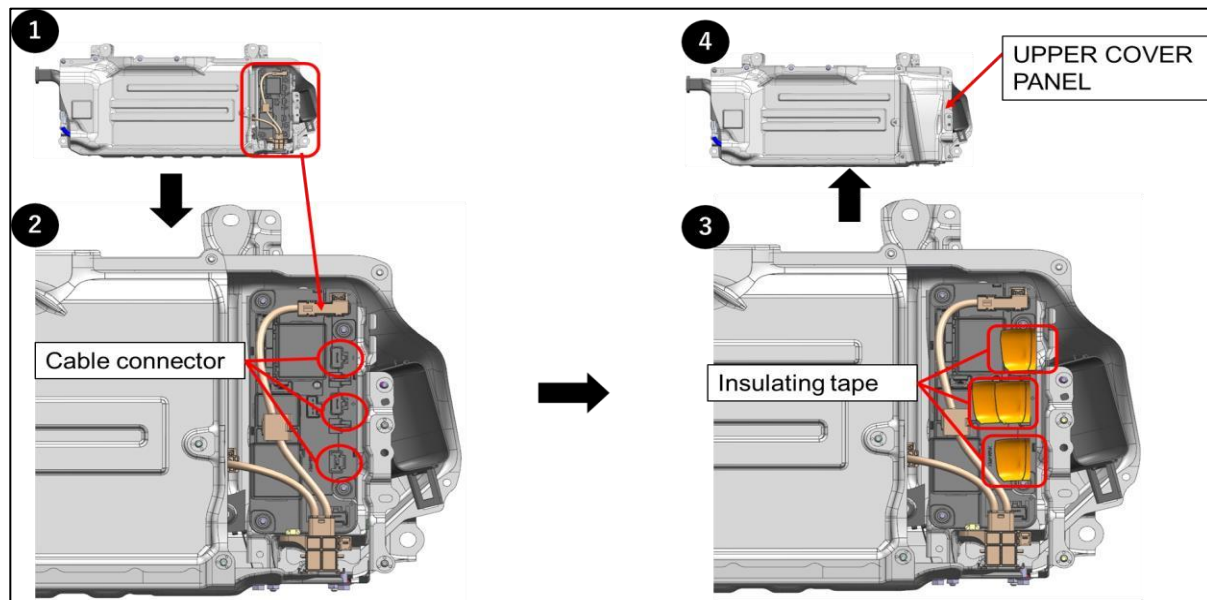


- Keep the Li-ion battery pack away from sharp objects. Do not place any sharp or heavy weighted material over the Li-ion battery pack to avoid any damage.
- Under no circumstances should the Li-ion battery pack be dropped from high altitudes. There is a possibility of deformation or breakage of the Li-ion battery pack leading to electrolyte leakage.
- Ensure soft cushioned flooring on the floor, to ensure minimum damage to the Li-ion battery pack in case it is dropped while fitting.
- If there is electrolyte seepage from the Li-ion battery pack, it is to be isolated in separate container/drum (refer section 3).

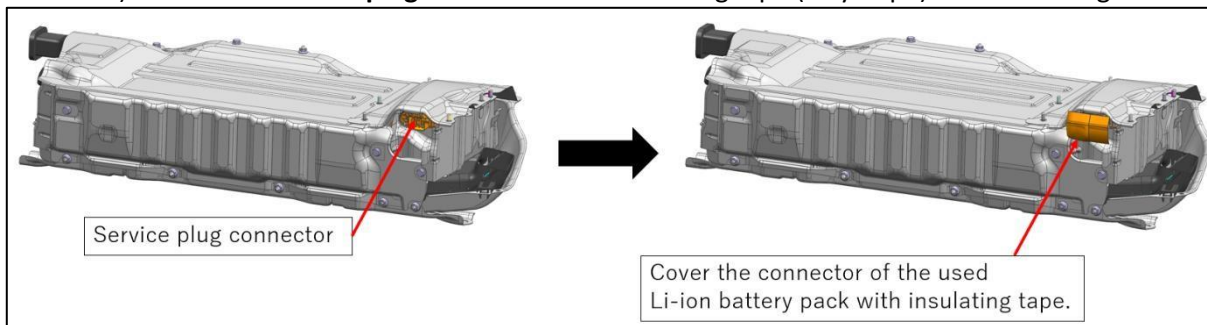
b) Caution for Short Circuit

- Remove metal items such as watch and necklaces and wear protective gloves.
- Do not generate short circuits by bringing any conducting material in contact with Li-ion battery pack terminals & connectors.
- In order to prevent short-circuit, cover the Li-ion battery pack connectors as explained below:

- 1) After removing the high voltage cable, cover the **high-voltage connectors** of the Li-ion battery pack with insulating tape securely and attach the Upper Cover Panel as shown in figure below.



- 2) Cover the **service plug connector** with insulating tape (vinyl tape) as shown in figure below.



c) Do Not Dismantle

- Do not dismantle/disassemble the Li-ion battery pack.
- Do not modify the Li-ion battery pack.

(3) Emergency Handling

Note: In case of any abnormality in the Li-ion battery pack or in case of any doubt, immediately inform your Suzuki dealer in your country.

a) In Case of Damaged Li-ion battery pack

- A Li-ion battery pack must be considered damaged if the plastic casing is damaged, electrical components are exposed or there are signs of swelling, heating, or irregular odors from the Li-ion battery pack.
- A Li-ion battery pack must be considered severely damaged if the Li-ion battery pack is wholly/ partially burnt, if there are signs of smoke/fire, or if the electrolyte is visibly leaking.
- In case of any physical damage - DO NOT REUSE or attempt to dismantle the Li-ion battery pack. A damaged Li-ion battery pack may have visible cracks, etc. due to force impact, water logging, etc. OR the electrolyte may be leaking in worse cases.

b) In Case of Burnt Li-ion battery pack

- Burnt Li-ion battery pack must be isolated from other batteries immediately and any kind of fire shall be extinguished (Refer Section 3d).
- Store & transport such Li-ion battery pack in UN approved Steel/ Aluminum/ Other Metal Cases (Spec: 50A, 50B, 50N, 50H & 50D) after fire is extinguished completely.

c) In Case of Electrolyte Spillage

If the electrolyte is leaking: -

- Electrolyte leakage can be detected through the 'Strong Fruity Smell' that is emitted.
- Isolate and ventilate the area.
- Wear proper PPE (Personal Protective Equipment): goggles, insulating gloves, apron, etc.
- Keep an appropriate fire extinguisher within reach.

To clean the electrolyte spillage: -

- Use inert, non-cellulose absorbents to clean up spilled electrolyte.
- Place used absorbents and PPE in a sealed bag and contact your environmental or shipping officer for proper disposal of the Li-ion battery pack and absorbents.
- Do not place Li-ion battery pack or spent absorbents in the regular trash or recycling containers.
- Store the Li-ion battery pack in a Polymer Bag and seal it with heat to create vacuum. This will prevent the electrolyte from coming in contact with air. If needed, use 2 layers of Polymer Bag (made of PE or PP).

d) Fire Extinguishing Measures

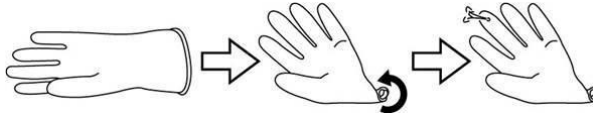
- In case of fire, immediately inform Fire Department.
- When extinguishing fire, wear breathing protection equipment so as not to inhale toxic gas and do the firefighting from top of the wind.
- Do not extinguish the Li-ion battery pack body with water. Use an effective fire extinguisher.
- If a Li-ion battery pack fire occurs, use a CO₂ (Class BC) or dry chemical (Class ABC) fire extinguisher. These are common to campus buildings. Li-ion batteries do not have actual lithium metal so do not use a Class D fire extinguisher.
- If it is not possible to extinguish fire by above methods, submerge the Li-ion battery pack in water to extinguish fire.

(4) Necessary PPE (Personal Protective Equipment) while handling High Voltage Li-ion battery pack.**a) Hand Protection**

- Certified Hi-Voltage Insulated gloves for electrical safety (Inspect insulating gloves for damage such as cracks, tears, and moisture before using as shown below. Do not use insulating gloves with these abnormalities.)

Note: For damage such as cracks and tears, check as follows:

1. Place the thumb side down to maintain the shape of the insulated glove.
2. roll the insulated gloves to wrist keeping the air inside the gloves from leakage.
3. Check for air leaks from the inflated insulated gloves.

**b) General Skin/ Body Protection**

- Safety Shoes for electrical safety
- Long sleeved shirts and full-length trousers for skin safety

c) Eye Protection

- Safety goggles, preferably with side shields, to reduce risks against loose parts/materials.

(5) First Aid Measures

- In case of inhaling volatile components of electrolyte, immediately get enough ventilation and fresh air and if feeling unwell, get medical examination as soon as possible.
- If the electrolyte comes into contact with the skin, immediately wipe it off with a cloth, rinse with water and soap or wash off thoroughly with detergent. If there is a change in the skin such as itching or inflammation, or there is irritation pain, immediately get the medical examination done.
- If electrolyte comes into your eyes, immediately wash with a large amount of running water without rubbing your eyes, promptly. Take a doctor's diagnosis. When you cannot reach the water by yourself, loudly ask for help.
- If electrolyte comes into your mouth, wash the inside of the mouth thoroughly with water, do not throw out forcefully and immediately go to the doctor for diagnosis.

Version	Date of Revision	Reason for Revision
Current Version	February 2023	-