



**EN**

## **Information on the Management of Waste Batteries**

- I. Valve Regulated Lead Acid Battery**
- II. Button battery**
- III. Lithium-ion starter battery**
- IV. Lithium-ion battery for EV models**

## **I. VRLA (Valve Regulated Lead Acid) Battery**

### **⚠ WARNING**

Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.

- **EXTERNAL:** Flush with plenty of water.
- **INTERNAL:** Drink large quantities of water or milk and immediately call a physician.
- **EYES:** Flush with water for 15 minutes and seek prompt medical attention.
- **Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.**
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

### **To charge the battery**

Have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the battery tends to discharge more quickly if the vehicle is equipped with optional electrical accessories.

### **NOTICE**

**To charge a VRLA (Valve Regulated Lead Acid) battery, a special (constant-voltage) battery charger is required. Using a conventional battery charger will damage the battery.**

### **To store the battery**

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.

### **NOTICE**

**When removing the battery, be sure to turn the main switch off, then disconnect the negative lead before disconnecting the positive lead.**

2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation.

### **NOTICE**

**When installing the battery, be sure to turn the main switch off, then connect the positive lead before connecting the negative lead.**

### **NOTICE**

**Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.**

### **Disposal**

Have a Yamaha dealer dispose of waste batteries, or dispose of them in accordance with local regulations.

For more information on VRLA batteries, please refer to **"Safety Instructions for automotive and motorcycle lead-acid batteries"**.

## II. Button battery

### TPMS (Tire pressure monitoring system)

#### NOTICE

- Use only the specified tires. Use of other tires may affect the accuracy of the TPMS and cause damage to the sensors and/or batteries.
- Tire replacement should only be done by a Yamaha dealer; otherwise, it may affect the accuracy of the TPMS and cause damage to the sensors and/or batteries.
  - Do not charge or reuse the TPMS batteries.
  - Do not disassemble and/or burn the batteries.
  - Dispose of the batteries properly according to local law/regulation.

#### Disposal

Have a Yamaha dealer dispose of waste batteries, or dispose of them in accordance with local regulations.



The symbol indicates a separate collection for used batteries.

For more information about button batteries, please refer to the following website.

<https://www2.maxell.co.jp/>

#### Smart key

##### ▲ WARNING

This battery contains combustible materials such as lithium metal and organic electrolyte. The following cautions should be followed in order to use this battery safely:

- Do not short circuit the battery
- Do not charge the battery
- Do not soak the battery in water
- Do not deform or damage the battery
- Do not modify the battery in any way

#### Disposal

Have a Yamaha dealer dispose of waste batteries, or dispose of them in accordance with local regulations.



The symbol indicates a separate collection for used batteries.

#### **⚠ WARNING**

**Danger of explosion if battery is incorrectly replaced**

- Replace only with the same or equivalent type.
- Please check and obey all local laws and regulations for the disposal of batteries or accumulations.
- Never dispose of battery in fire or mechanical crushing or cutting.
- If battery is incorrectly discarded or heated to high temperature (100 °C (212 °F) or higher), gas may be generated inside battery, causing electrolyte leak, internal short circuit, heat generation, explosion and violent flaring.

**Do not expose Hand Unit to excessive heat such as sunshine, fire or the like.**

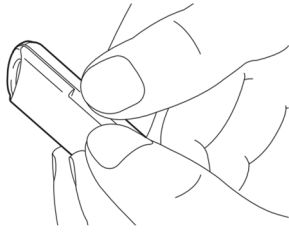
**Do not ingest the battery, Chemical Burn Hazard**

- This product contains a coin/button cell battery. If the coin/button cell battery is swallowed or placed inside any part of the body, it can cause severe internal burns in just 2 hours and can lead to death. Keep new and used batteries away from children.
- If the battery compartment does not close securely, stop using the product and keep it away from children.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical action.

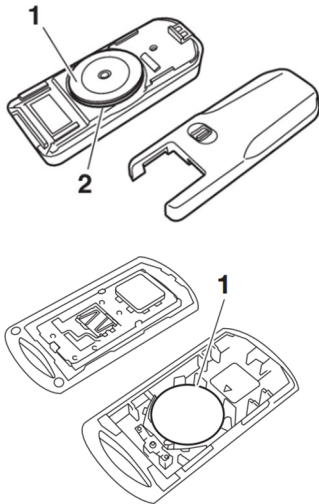
#### **To replace the smart key battery**

1. Gently pry open the smart key case as shown. Otherwise, have a Yamaha dealer replace the battery.





2. Remove the battery cover and O-ring.



1. Battery

2. O-ring (if equipped)"

3. Remove the battery.

#### **TIP**

Dispose of the removed battery in accordance with local regulations.

#### **NOTICE**

- Do not apply excessive force to the smart key when replacing the battery.
- Do not use a screwdriver or other hard object to force open the key.
- Take precautions to prevent the waterproof seal from being damaged or contaminated by dirt.
- Do not touch the internal circuits and terminals. This may cause malfunctions.
- Make sure the battery is installed correctly. Confirm the direction of the positive "+" side of the battery.

For more information about button batteries, please refer to the following website.

<https://www2.maxell.co.jp/>

<https://energy.panasonic.com/eu/business>

### III. Lithium-ion starter battery

#### **Battery safety instructions and warnings.**

- Only use the designated charger and follow the specified charging conditions when charging the battery.
- Otherwise it may cause overheating, bursting, or ignition of the battery.
- Do not leave the battery near sources of heat such as heaters, vehicle or any dangerous place.
- Do not heat the battery or throw it into fire.
- Do not deform, modify, disassemble or apply solder directly to the battery.
- Do not connect the (+) and (-) terminals and other terminals with metallic objects. Do not carry or store the battery together with metallic objects such as necklaces or hairpins. Because it could cause short-circuits, overheating, burns or other injury.
- Do not place the battery into the water, and do not allow the battery terminals to get wet. Otherwise it may cause overheating, bursting, or ignition of the battery.
- Do not puncture, crush or will damage the battery.
- If any liquid leaking from the battery gets into your eyes, skin or clothes, immediately wash the affected area thoroughly with clean water, and seek medical advice immediately. The battery liquid would damage your eyes and body.
- If the battery does not charge by the charger in 1 minute, please unplug the charger cable and plug again, if still not working please contact the place of purchase immediately.
- Do not use the battery if it has any external damage.
- Do not use the battery if leakages, discoloration, deformation or any other abnormalities occur.
- Do not recharge the battery in wet or very humid places, or outdoors.
- Do not insert or remove the plug while it is wet. Otherwise it may cause electric shocks. If there is water leaking out of the plug, dry it thoroughly before inserting it.
- Do not store in direct sunlight or in places (such as inside cars) where the heat can become excessive. Keep away from heat and open flames. This may result in battery leakage.
- Use both hands when handling the product to avoid the dangerous and injury.
- If an error occurs during discharge or charging, stop using the battery immediately and refer to the user's manual. If you are not sure, consult the place of purchase.
- Do not clean the battery with high pressure water spray.
- Do not use alcohol, solvents or abrasive cleaner to clean the battery or charger. Please use a dry or slightly damp cloth.
- This battery is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the battery system by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the battery & charger.
- If the battery exploded, please contact firefighters immediately, and please cautiously remove other batteries if possible, evacuate all persons from immediate area of fire, and use plenty of cold water

(min. 10 times pack weight) to put out the fire before the rescue.

- Do not expose battery systems to strong mechanical impacts.
- Products with broken seals shall not be used and shall be immediately forwarded for appropriate recycling.

#### **⚠ Charging condition and safety instructions.**

- The battery is not fully charged at the time you purchase. Before riding, be sure to charge the battery until it is fully charged.
- Please only use YAMAHA charger to charge the battery pack.
- Be sure the charge port and plugs are always clean and dry before connecting the charger.
- Never use the charger which you suspect is damaged or know to be broken.
- Do not disassemble or modify the battery charger.
- Do not use any non-approval male connector insert the battery connector and charger, especially with metal or conductive materials.
- Do not allow the battery charger to get wet, and using it while it is wet, don't touch or hold it with wet hand to avoid an electric shock.
- Do not use the charger when it is covered with a cloth or other material.
- Do not touch the metallic parts of the device or the power plug on the AC adapter or other parts if there is a lightning storm.
- Do not use the charger to charge the battery outdoor or in the environments with high humidity, and please avoid exposure to rain or wind.
- In order to prevent the cable from being damaged, please do not hold the charger cable only when carrying it and avoid wrapping cable around the main body during storage.
- Please always remove the battery from vehicle before washing the vehicle with water or any kinds of liquid material.
- Please wait for an hour if you would like to charge the battery after riding, due to the battery temperature might be too high.
- Recommend to charge the battery in an area with a smoke detector.
- It is not recommended to have the battery pack connected permanently to the charger.

#### **⚠ Recycle**

- Battery packs, accessories and packaging should be sorted for environmental friendly recycling.
- Lithium ion batteries are recyclable, valuable resources. For information on used batteries, follow the rules in your area. If you are not sure, consult the place of purchase.
- Electronic devices that are no longer usable and defective/drain batteries must be collected separately and recycled in an environmentally friendly manner.





- Do not touch severely damaged batteries with your bare hands – electrolyte may escape and cause skin irritation. Store the defective battery in a safe location outdoors. Cover the terminals if necessary and inform your dealer. They will help you to dispose of it properly.

**⚠ Pack storage condition.**

- Store the battery in a safe place away from reach of infants and pets.
- If the battery is stored in temperatures which are outside these ranges, then it may cause fire, injury.
- Do not store battery at below temperatures below  $-10\text{ }^{\circ}\text{C}$  or above  $60\text{ }^{\circ}\text{C}$ .
- Store the battery in cool indoor places where they do not become exposed to direct sunlight or rain. If the storage temperature is low or high, the performance of the battery is reduced, and its available time will be shorter. When you use the battery after a long storage period, be sure to charge it before use.
- Temperature above  $70\text{ }^{\circ}\text{C}$  may result in battery leakage and rupture.

**⚠ Assembly battery condition.**

- Please do not use the battery immediately after shipment. The battery can be used after charging it with the designated charger. Be sure to charge it before use.
- Please always switch off the battery and the system when you insert or remove the battery from system.

**⚠ Pack operation condition.**

- The operating temperature ranges for the battery are given below. Do not use the battery in temperatures outside these ranges. If the battery is used in temperatures which are outside these ranges, then it may cause fire, injury.
- Only use the battery during discharge temperature range:  $-10\text{ }^{\circ}\text{C}$ – $65\text{ }^{\circ}\text{C}$
- Only charge the battery it during charging temperature range:  $-10\text{ }^{\circ}\text{C}$ – $60\text{ }^{\circ}\text{C}$
- The battery must be charged in an ambient temperature, on a non-flammable and dry surface, away from any sources of heat, humidity or flammable materials.
- If the battery has been charged in a low temperature environment ( $0\text{ }^{\circ}\text{C}$  or below), the maximum riding distance per full charge becomes shorter. This is due to a characteristic of the battery. If the battery is charged at room temperature, the battery becomes normal again.

**⚠ Warranty void condition.**

- Charge the battery at least every 3 months to approximately 70 % capacity, even when the battery is not in use.
- For replacement information, please contact the place of purchase.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.
- The life of the battery will vary depending on factors such as the storage method, the usage conditions, the surrounding environment and the characteristics of the individual battery pack.
- If the battery has become completely empty, charge it as soon as possible. If the battery is left uncharged, it may cause the battery to deteriorate and become unusable.
- Please do not disassemble the battery or other related parts, including label, or improper human operation, it may cause the battery to lose warranty.

**⚠ Disposal**

Have a Yamaha dealer dispose of waste batteries, or dispose of them in accordance with local regulations.










The symbol indicates a separate collection for used batteries.







**The electrolyte contained within the battery is hazardous. Electrolyte vapors have anesthetic effects and can also irritate the eyes, respiratory tract, and skin. Contact may cause irritation and corrosion to the eyes and skin. As it contains substances that can cause severe inflammation in the eyes, please follow the emergency procedures below in case of contact:**

- **If inhaled: Blow nose immediately, gargle thoroughly, and seek medical attention if necessary.**
- **If it comes into contact with the skin: Immediately wash thoroughly with water and soap.**
- **If it gets into the eyes: Do not rub. Immediately rinse with clean running water for at least 15 minutes, and seek medical attention without delay.**
- **If swallowed: Rinse mouth thoroughly with water. Do not induce vomiting unless instructed to do so by medical personnel. Seek medical attention immediately.**

#### IV. Lithium-ion battery for EV models

Familiarize yourself with the following pictograms and read the explanatory text.

	Read the Owner's manual.
	High voltage.
	Electrical shock hazard.
	Do not disassemble.
	No open flame.
	No wet hands.
	Hot surface.

	Improper handling may lead to death or serious injury.
	The battery charger should be sorted for environmental-friendly recycling. Do not dispose as household waste.
	Class II equipment
	Time-lag fuse-link
	Do not shock lithium-ion battery.
	No wet lithium-ion battery.

## Safety information

For safety reasons, waste batteries must also be handled as described in these instructions.

### Avoiding electric shock or fire while handling the lithium-ion battery

#### ▲ WARNING

- Do not sprinkle water onto the lithium-ion battery or drop it in water.  
Exposing the lithium-ion battery to water could cause an electrical shock. If it is dropped in water, it will become permanently useless.

- Do not dispose of the lithium-ion battery in a fire.  
If the lithium-ion battery is thrown in a fire, it could explode. Return used batteries to a Yamaha dealer for proper recycling.
- Do not disassemble the lithium-ion battery.  
Disassembling batteries is likely to cause electric shock or fire.
- Do not drop the lithium-ion battery or expose it to strong shocks.  
The lithium-ion battery could be damaged or break. Avoid subjecting the lithium-ion battery to strong impacts or repetitive shocks during transport. This could lead to an electric shock or fire.
- Do not use a damaged lithium-ion battery.  
If a lithium-ion battery has been dropped or damaged due to impact, do NOT use it as there is a risk of electric shock or fire. Have a Yamaha dealer check the lithium-ion battery before using it again.

#### Charging the lithium-ion battery

##### **⚠ WARNING**

- Before plugging anything in, check all of the plugs and cables. Failure to check may result in electric shock or short circuit.
- Check that there is no damage to the plugs and cables. If a problem is detected, have a Yamaha dealer check the battery charger.
- Check that there is no dirt or foreign material on the plugs and cables. Wipe off any dirt with a dry cloth.
- When installing the lithium-ion battery, make sure that dust or dirt does not build up around the terminals on the vehicle side.

##### **NOTICE**

- To prevent an electric shock or short circuit, be sure to close the cap of the charging connector when the battery is not charged. Otherwise, dust or water could build up on the connector, leading to a malfunction.
- Make sure that the charging plug and charging connector are not wet before connecting, as it could cause damage.
- Never apply excessive stress to the charging plug or pull the plug while it is locked with the connector.
- Never move the vehicle and battery while the charging plug is connected, as it could cause damage.
- Wire the cable through the guide. If the cable is not passed correctly, the cable may be damaged.
- To prevent theft, be sure to lock and carry the key when you leave the vehicle.

**⚠ WARNING**

If the battery charger emits abnormal noises, foul odors or smoke, immediately unplug the power plug, remove the battery, and have it inspected at your dealer.

**NOTICE**

- When charging with the main switch of the vehicle on, it will not be fully charged.
- When unplugging the charging plug, make sure to pull straight out.
- When plugging/unplugging the charging plug, keep your hand away from the charging connector cap to avoid damaging the cap.

**Removing lithium-ion batteries**

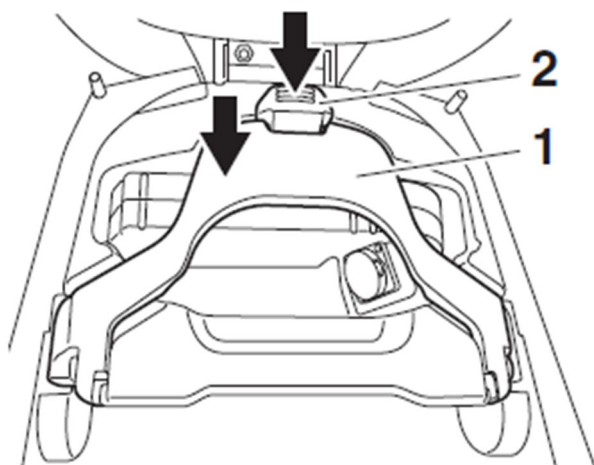
**⚠ WARNING**

For built-in lithium-ion batteries, have a Yamaha dealer perform the removal.

1. Turn off the main switch of the vehicle.
2. Place the vehicle on the centerstand.
3. Open the seat.
4. Press the button to open the arm.

**TIP**

While pressing down on the arm, press the button.



1. Arm
2. Button

5. Remove the lithium-ion battery from the vehicle.

**⚠ WARNING**

**Make sure that the main switch is turned off before removing the lithium-ion battery.**

#### **NOTICE**

**Make sure that the charging plug and charging connector are not wet before connecting, as it could cause damage.**

**Never apply excessive stress to the charging plug or pull the plug while it is locked with the connector.**

#### **⚠ WARNING**

**If the battery charger emits abnormal noises, foul odors or smoke, immediately unplug the power plug and have it inspected at your dealer.**

#### **NOTICE**

- **When unplugging the charging plug, make sure to hold the circled-part of the left figure and pull straight out.**
- **When plugging/unplugging the charging plug, keep your hand away from the charging connector cap to avoid damaging the cap.**
- **Hold the grip of the lithium-ion battery firmly, and then slowly lower the battery.**
- **Remove any obstacles around the terminals on the vehicle side. Otherwise, this will prevent connection of the lithium-ion battery or closing of the lid.**

#### **About the battery**

##### **Lithium-ion battery**

The lithium-ion battery used in the vehicle features high energy density and has a high voltage (approximately three times that of nickel-cadmium (Ni-Cd) or nickel-hydrogen (Ni-MH) batteries), meaning it can be made both compact and lightweight.

Nickel-cadmium and nickel-hydrogen batteries have a memory effect that causes their capacity to degrade quickly as a result of repeated partial discharging and charging, so that they need to be completely discharged periodically. Lithium-ion batteries can be repeatedly partially charged without needing to be fully discharged.

#### **⚠ WARNING**

**The electrolyte contained within the battery is hazardous. Electrolyte vapors have anesthetic effects and can also irritate the eyes, respiratory tract, and skin. Contact may cause irritation and corrosion to the eyes and skin. As it contains substances that can cause severe inflammation in the eyes, please follow the emergency procedures below in case of contact:**

- **If inhaled: Blow nose immediately, gargle thoroughly, and seek medical attention if necessary.**

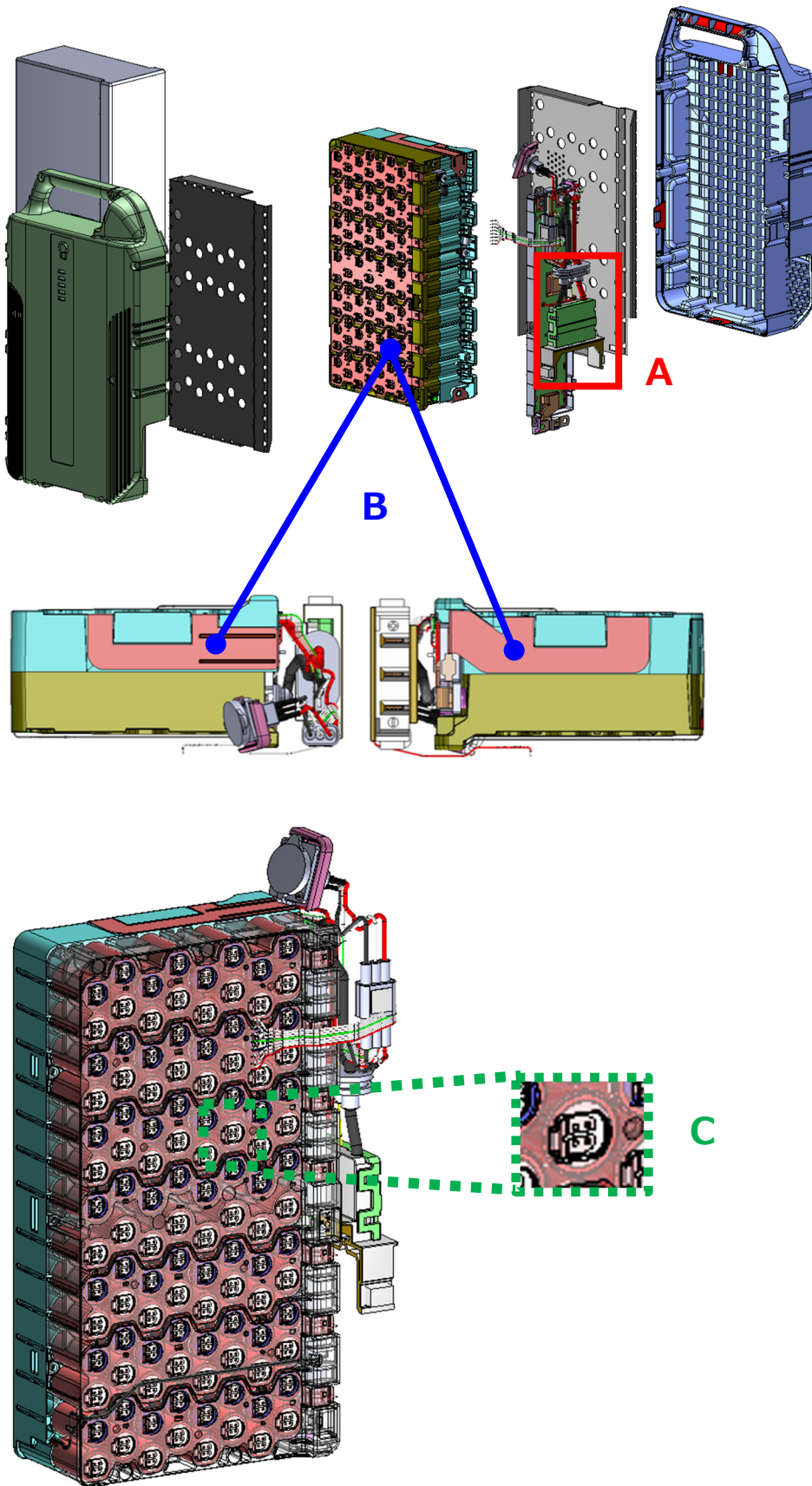
- **If it comes into contact with the skin: Immediately wash thoroughly with water and soap.**
- **If it gets into the eyes: Do not rub. Immediately rinse with clean running water for at least 15 minutes, and seek medical attention without delay.**
- **If swallowed: Rinse mouth thoroughly with water. Do not induce vomiting unless instructed to do so by medical personnel. Seek medical attention immediately.**

The following diagrams indicate the hazardous points of lithium-ion batteries.

- A) Discharging connector: Cover the connector with masking tape to prevent a short circuit caused by moisture.
- B) Live terminal plate: Keep dry. Do not touch with wet hands.
- C) Lithium-ion cell: Lithium-ion cells contain electrolyte internally. Keep lithium-ion cells away from high temperatures and open flames.



[Diagram]



## Lithium-ion battery degradation

The charge capacity of the lithium-ion battery gradually decreases over time and usage. The rate of capacity degradation varies based on the usage conditions.

### TIP

- It is not necessary to use up the battery before charging.
- Storing the vehicle in an extremely hot or cold place could degrade the lithium-ion battery capacity more quickly.
- Even if the lithium-ion battery is not used, it discharges and degrades gradually over time.

## Recycling the battery

Lithium-ion batteries can be recycled. If the capacity decreases excessively due to degradation, have a Yamaha dealer replace the battery. Always follow local regulations regarding the disposal of batteries.



## Disposal

The battery charger and packaging should be stored for environmental-friendly recycling.

Do not dispose of the charger as household waste.

According to the European Guideline 2012/19/EU, electrical devices/tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

Have a Yamaha dealer dispose of waste batteries, or dispose of them in accordance with local regulations.



The symbols indicate a separate collection for used batteries.

## Storage

### TIP

- If the remaining lithium-ion battery capacity is low, charge the battery. To extend the battery life, it is recommended to store the battery with the lithium-ion battery level meter showing 2-3 segments.

- Do not store the battery with the battery charge indicator below the last segment (i.e. with a remaining battery capacity of less than 20%).
- If the vehicle or the batteries are stored in a place where it is excessively hot or cold, the electric output capacity may decrease.
- If the vehicle will not be used for a long time (one month or more), remove the lithium-ion battery and store it. Store the battery with the lithium-ion battery level meter on the battery showing 2-3 segments in a place with low humidity.
- If the vehicle will not be used for a long time (two months or more), check the remaining lithium-ion battery capacity every month. When using the vehicle again, make sure to charge the battery.

### **Transporting**

Transport Lithium-ion batteries in accordance with all relevant regulations.

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