

E-BIKE BATTERY SAFETY GUIDELINES FOR RIDERS

For the purposes of this document, an “e-bike battery” is a lithium-ion rechargeable battery that is greater than 300 watt-hours (WH) and an “e-bike system” is the combination of the electrical drivetrain, battery system, charger system, and bicycle.

Consumers should take care when choosing an e-bike system, as not all e-bike systems are created equal. E-bike systems tested to the ANSI/Canada/UL 2849 Standard for Safety Electrical Systems, and/or other applicable international safety standards for electric bicycles, lithium-ion batteries, and power supplies undergo rigorous testing and examination of the electrical drive train system, battery system, and charger system combinations to obtain electrical and fire safety certification.

Charging E-Bike Batteries



Your e-bike battery should be charged following the manufacturer's instructions. In addition to the manufacturer's instructions, the following guidance can help to alleviate risks associated with handling lithium-ion batteries.

- ✓ Charge your e-bike battery plugged directly into a wall outlet. Never use power strips or extension cords to charge your e-bike battery.
- ✓ Only use original manufacturers' equipment to charge e-bike batteries. Never use third-party or aftermarket equipment.
- ✗ Do not stack or cluster e-bike batteries together while charging or storing.
- ✗ Do not use your home or any residential dwelling to charge commercial batteries (e.g. bike/scooter share batteries). Charging multiple batteries with inadequate electrical support is a major safety hazard.
- ✗ Do not block the exit to your home with a charging e-bike or e-bike battery. Always make sure that there is a safe way to exit your home in the event that there is an issue with an e-bike battery.

Storing E-Bike Batteries



Your e-bike battery should be stored in accordance with the manufacturer's instructions. In addition to the manufacturer's instructions, the following guidance can help to extend the life span of your e-bike battery and alleviate some risk associated with handling lithium-ion batteries.

- ✓ Store your e-bike battery in a well-ventilated area.
- ✓ Store your e-bike battery in an area with a fire detection system.
- ✓ Store your e-bike battery away from entry and exit doors.
- ✗ Avoid storing your e-bike battery in extreme temperatures.
- ✓ For long term storage, where feasible, store your battery at a reduced state of charge.

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Modifying your E-Bike Battery & E-Bike System



- ⊗ Never try to service or modify your e-bike's battery system. Batteries are a part of a larger system within the e-bike that includes not just the battery, but also the battery management system (computer), sensors, motor, throttle and other components.
- The components of the system are designed and tested to work in conjunction with each other.
 - Altering a component of the system can impact the safety of the e-bike.
 - Safety issues from modifications of an e-bike system may not be immediately apparent. Some safety issues from modifications do not present themselves until later when an e-bike battery is being discharged during use.

Handling a Damaged or Recalled Battery



Do not ride with or charge a battery that has been recalled or is damaged. Riders can find information about battery recalls from www.recalls.gov and www.cpsc.gov/Recalls. Riders should contact the original equipment manufacturer for instructions if they have a battery that has been recalled for safety reasons. Recalled batteries may not be recycled as a part of the Call2Recycle program.

Riders should also be familiar with how to identify a battery that has been damaged. Per a May 2022 Safety Advisory Notice from the US DOT, some identifying factors of a damaged battery include:

- Batteries that have leaked or vented:
- Batteries suspected of being damaged but cannot be diagnosed.
- Batteries showing signs of physical or mechanical damage, such as:
 - Swelling, relative to the same battery in its original state.
 - Discoloration of the battery casing.
 - Smell or corrosion.
 - Loose or damaged wires.
 - Known conditions of use or misuse.

Never ride with or charge a battery that has been recalled or damaged. Contact Call2Recycle for instructions on how to recycle a battery that has been damaged.

*REFERENCES

- [ACT Lab](#)
- [FDNY2022](#)
- [2024 International Fire Code](#)
- [Title 49 Code of Federal Regulations](#)

DISCLAIMER

This document is provided for general information purposes only and should not be relied upon as providing any advice or guidance to the recipient, whether as to the practices described in the document or the applicable legal requirements and regulations. Call2Recycle expressly disclaims any responsibility for liability arising from or related to the use or misuse of any information in this document. For safe charging, storing, recycling, and disposal information for particular e-bike batteries, you should follow the manufacturer's recommended procedures and/or contact the manufacturer for more information. For guidance related to the legal requirements and regulations applicable to e-bike batteries, you should consult with an outside legal professional to ensure compliance with all such requirements and regulations.