E-Bike System Troubleshooting Guide

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If you find any problems in the documentation, please report them to us in writing.

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1. Introduction

When diagnosing the e-bike with Hyena Service Tool (HST) or Bike Tool System (BTS), the error code shows on the application when a system error is detected. This guide instructs the solution of different system defeats by error codes.

- This manual is intended primarily for the trained technician to install, disassemble, or maintain the e-bike.
- Users who are not professionally trained for bicycle assembly should not attempt to install, disassemble, or modify the components themselves.
- When maintaining the e-bike and its electronic components, always use this guide with the product manuals or assembly manual, also read and observe the safety warnings and directions contained in all the instructions.
- All Hyena e-system manuals and technical documents are accessible online at "www.hyena-ebike.com".

1.1. Important Notices

- Please carefully read all of the safety warnings and instructions throughout the manual. Failure to follow these warnings and instructions could result in severe injury or death.
- Users not professionally trained in bicycle assembly should not attempt to install, disassemble, or modify components.

► About Warnings Symbols

As you read this manual, you will see gray warning boxes like this:

> ⚠ **WARNING**
> Text in a gray box with the safety alert symbol will warn you about a situation or behavior that could cause severe injury or death.

> ⚠ **CAUTION**
> Text in a gray box with the safety alert symbol and "CAUTION" heading will warn you about a situation or behavior that could cause permanent product damage.

► About Images

The e-bike shown in this manual may differ visually from your Hyena equipped e-bike. All information provided in this manual is still applicable to your e-bike.

1.2. Safety Instructions

Instructions Pertaining To A Risk Of Fire, Electric Shock, Or Injury To Persons

> ⚠ **WARNING**
> When installing, disassembling, maintaining Hyena e-bike system components, basic precautions should always be followed, including the following:
> • Read all the instructions before any operation.
> • Do NOT touch the cable terminal with bare hands.
> • Do NOT turn on the e-bike system if any flexible power cord or output cable is frayed, has worn insulation, or any other signs of damage.

- Always check the charger, cables, and power cord for any damage before charging the battery.
- Only charge the battery using an original Hyena charger.
- Defective e-bike system parts may only be replaced with identical, original Hyena parts.
- Do NOT modify the e-bike system or fit any other equipment to increase the power or maximum speed of your e-bike system.
- Any e-bike system parts are not intended to be operated at ambient temperatures below -10°C (14°F) or above temperatures of 50°C (122°F).
- Do NOT immerse the e-bike or any e-bike component in water.
- Do NOT place the e-bike or any e-bike system component (like the battery) near hot or flammable objects or materials.
- Do NOT charge the battery in places with high humidity or outdoors. Doing so may result in electric shock.

⚠ WARNING

- When the assist system is switched on and an assist level is selected, the riding support is activated as soon as you step onto the pedals or spin the crank. Even in the workshop, you should be seated on the e-bike and engage at least one brake before starting to pedal, or make sure the e-bike is properly secured on a stand and the back wheel is suspended.
- With the e-bike system switched on, do NOT put one foot on a pedal and throw another leg over the bicycle, as it could accelerate unexpectedly. Failure to follow this warning may result in serious personal injury or even death.

1.3. E-Bike Maintenance Precautions

- Strictly follow all troubleshooting procedures in the order given. Done out of order, these procedures can miss critical checks, you can possibly replace the incorrect assembly or cause permanent product damage.
- Use the proper bicycle tools during the installation or removal process.
- Carefully installing and disassembling e-bike parts is necessary, do NOT strike the bike frame or components with any tool, such as a hammer or wrenches.
- Use only genuine Hyena replacement parts. If you use anything other than genuine Hyena replacement parts, you may compromise the safety, performance, or warranty of your e-bike.

1.4. Abbreviations

Term	Definition
HST	Hyena Service Tool
HRA	Hyena Rider Assistant
BTS	Bike Tool System

2. Electrical Components

2.1. Electrical Component Overview

- **E-City Series**

System	Battery	HMI	Motor	Sensor	Charger
E-City	BC-A320	LED Multi	MRT-A250	ST-SQ-1	2A
E-City E	BC-A320	LCD Compact EX	MRT-A250	ST-SQ-1	2A

- **E-Metro Series**

System	Battery	HMI	Motor	Sensor	Charger
E-Metro	BS-A370	LED Multi	MRT-A250	ST-SQ-1	2A/4A
E-Metro E	BS-A370	LCD Compact EX	MRT-A250	ST-SQ-1	2A/4A
E-Metro X	BS-A500	LED Multi	MRT-A250	ST-SQ-1	2A/4A
E-Metro XE	BS-A500	LCD Compact EX	MRT-A250	ST-SQ-1	2A/4A

- **E-Urban Series**

System	Battery	HMI	Motor	Sensor	Charger
E-Urban	BP-B250	LED Multi	MRC-A250	ST-SQ-1	2A
E-Urban E	BP-B250	LCD Compact EX	MRC-A250	ST-SQ-1	2A
E-Urban T	BP-B250	LED Chip	MRC-A250	ST-SQ-1	2A

- **E-Road Series**

System	Battery	HMI	Motor	Sensor	Charger
E-Road	BP-B250	LED Chip	MRC-E250	ST-SQ-2	2A
E-Road G	BP-B250	LED Multi	MRC-E250	ST-SQ-2	2A

- **E-Trekking Series**

System	Battery	HMI	Motor	Sensor	Charger
E-Trekking	BS-A370	LCD Compact EX	MRC-A250	ST-SQ-1	2A
E-Trekking G	BS-A370	LED Multi	MRC-A250	ST-SQ-1	2A
E-Trekking X	BS-A500	LCD Compact EX	MRC-A250	ST-SQ-1	2A
E-Trekking XG	BS-A500	LED Multi	MRC-A250	ST-SQ-1	2A
E-Trekking Classic	BP-A350	LCD Compact EX	MRC-A250	ST-SQ-1	2A
E-Trekking Classic G	BP-A350	LED Multi	MRC-A250	ST-SQ-1	2A

3. E-Bike Maintenance

3.1. General Information

The e-bike should be checked for damage, missing or badly worn parts before each use. If any part of the e-bike does not operate properly – discontinue use.

- Check the tightness of the screws/bolts before each use. Replace screws/bolts that are damaged.
- Inspect the e-bike frequently. Make sure all parts are correctly assembled and adjusted.
- Immediately replace any damaged, missing, or badly worn parts.
- **For the removable battery by turning the key, please remove the battery** when replacing a component or performing maintenance.
- The proper operation of the e-bike depends largely on its proper maintenance. Special attention should be paid to:
  - The correct torque of all screws and pins.
  - Possible oil leaks from the brake system.
  - Possible fluid leaks from the battery.
  - Possible smoke coming from the battery.

3.2. Cleaning

- **For the removable battery by turning the key, please remove the battery when cleaning the e-bike or the components of the e-bike system.**
- Only clean the e-bike with a water-dampened soft cloth.
- Do NOT immerse the e-bike system or any individual e-bike component in water.
- Do NOT use any aggressive cleaning agents when cleaning.
- Do NOT use any sharp, angular, or metallic objects for cleaning.
- Never clean the components of the e-bike system with a hard water jet or a high-pressure cleaner.
- After cleaning, wipe all surfaces and components to dry them.
- The system is designed to operate in rain and other adverse weather conditions. Damage from pressure washing or additional heavy cleanings may void the Hyena system warranty.

4. Frequently Asked Questions

When your e-bike has issues, you can find answers to the following frequently asked questions for basic solutions.

4.1. System Basic FAQs

Q1: Why can the system not be turned on?

Cause / Possibility	Solution approach
Battery charge is low or empty.	If the battery charge is low or if the battery is even empty, please recharge the battery with a certified charger.
Battery is under sleep (shutdown) mode.	The e-bike battery will automatically turn into sleep (shutdown) mode if it has not been used for over 72 hours for battery health and safety reasons. Please charge the battery again to work normally.
The communication between HMI, controller, and battery has not passed through.	- Check all external cable connections are correctly connected. - Replace the worn or damaged cable.
Cable connector pin is damaged.	- Check if any corrosion/bend pin is visible on the connector. - If necessary, replace a cable.

Q2: Why is there an abnormal sound at riding?

Cause / Possibility	Solution approach
The drivetrain or the motor is malfunctioning.	- Check the bicycle drivetrain and wheel to see if the noise comes from them. - Turn off the power for manual pedaling. - The maximum noise of the motor at spinning shall be under 60dB. If the motor produces any higher noise or irregular sound (clicking, vibration, etc.), replace the motor.
The motor is under heavy load.	Are you riding on long slopes in the heat or putting an overload of weight on the e-bike for a long time? The motor can be louder under high load conditions.

4.1. System Basic FAQs (continued)

Q3: Why do the lights do not illuminate?

Cause / Possibility	Solution approach
The charge level of the battery is too low.	Your e-bike battery is low. The drive system ensures the bicycle light remains illuminated for up to 2 hours, even with a low battery. However, at 0% charge, the lights will no longer work.
The connectors of the electric cables are not connected correctly.	Check if all the connectors of the electric cables are correctly connected.
The lights are malfunctioning.	If all the connectors of the electric cables are correctly connected, please replace the lights.

Q4: Why is the system on but without assistance power?

Cause / Possibility	Solution approach
Charge level is low or empty.	Your e-bike battery charge is low. In compliance with global e-bike safety regulations, as the battery charge approaches depletion, the drive system is designed to discontinue support in order to maintain a minimum power supply. This ensures uninterrupted illumination of the bicycle light for a continuous duration of 2 hours.
Riding support is not turned on.	You will only feel the riding support from level 1 to level 3.
You are not pedaling.	The e-bike only provides riding support power when you keep pedaling. Riding support will be shut down immediately when you stop pedaling.
System overheats.	- Are you riding on long slopes in the heat or putting an overload weight on the e-bike for a long time? The e-bike assist system may overheat. - Please Turn OFF system, then take the e-bike to a well-ventilated area and let it cool down for at least 10 minutes.
Speed limitation.	The e-bike drive output only supports a maximum speed as demanded by local regulations; as soon as you have reached this speed limit, the e-bike system suspends the riding support, then automatically reactivates when your speed is below the speed limit.

4.1. System Basic FAQs (continued)

Q4: Why is the system on but without assistance power? (continued**)**

Cause / Possibility	Solution approach
Cables are not connected correctly.	If the system is on but without assistance power, please check if the below two connectors connect properly: - Motor: the motor connector is normally located at the chainstay or seatstay. Check if the connector is plugged in tight (refer to Page EN-20). - Sensor: the sensor connector is normally located under the bottom bracket. Check if the connector is plugged in tight (refer to Page EN-19).
Cable connector pin damaged.	- Check if any corrosion/bend pin is visible on the motor/ sensor connector. - If necessary, replace a cable.
Torque sensor was installed in the wrong direction.	Try to pedal backward and see if there is any assistance power. If there is assistance power, please reinstall the torque sensor in the correct direction.
The torque sensor is malfunctioning.	- Try the walk assist mode and see if the motor will spin. If so, very likely the torque sensor signal cannot be detected. - Ensure the connectors between the torque sensor and controller are correctly connected and run the advanced diagnosis tool on Hyena Service Tool.
The motor is malfunctioning.	Try activate the walk assist function and see if the motor will spin. If not, very likely the motor or controller needs to be fixed. Please take turns crosschecking both parts.

4.1. System Basic FAQs (continued)

Q5: Why the system suddenly stops providing assistance?

Cause / Possibility	Solution approach
Charge level is low or empty.	Your e-bike battery charge is low. In compliance with global e-bike safety regulations, as the battery charge approaches depletion, the drive system is designed to discontinue support in order to maintain a minimum power supply. This ensures uninterrupted illumination of the bicycle light for a continuous duration of 2 hours.
System overheats.	- Are you riding on long slopes in the heat or putting an overload weight on the e-bike for a long time? The e-bike assist system may overheat. - Please Turn OFF system, then take the e-bike to a well-ventilated area and let it cool down for at least 10 minutes.
Speed limitation.	The e-bike drive output only supports a maximum speed as demanded by local regulations; as soon as you have reached this speed limit, the e-bike system suspends the riding support, then automatically reactivates when your speed is below the speed limit.
Cables are not connected correctly.	If the system is on but without assistance power, please check if the below two connectors connect properly: - Motor: the motor connector is normally located at the chainstay or seatstay. Check if the connector is plugged tight (refer to Page EN-20). - Sensor: the sensor connector is normally located under the bottom bracket. Check if the connector is plugged tight (refer to Page EN-19).
The torque sensor is malfunctioning.	- Try the walk assist mode and see if the motor will spin. If so, very likely the torque sensor signal cannot be detected. - Ensure the connectors between the torque sensor and controller are correctly connected and run the advanced diagnosis tool on Hyena Service Tool.
The motor is malfunctioning.	Try activate the walk assist function and see if the motor will spin. If not, very likely the motor or controller needs to be fixed. Please take turns crosschecking both parts.

4.2. Battery & Charging FAQs

⚠ CAUTION

The e-bike battery cannot be used immediately after shipment; in order to ensure that the battery has full and sufficient power, please charge your battery fully before using it for the first time.

Q1: Why the battery quickly loses energy?

Cause / Possibility	Solution approach
The battery may be near the end of its service life.	Connect the e-bike to Hyena Service Tool software to check the battery's health. If the battery health status is below average, it's recommended to replace the battery.
The ambient temperature is too low.	The battery capacity may be affected by ambient temperature, especially in cold weather. The information of the ambient temperature is listed on the user's manual.
High power consumption circumstance.	Riding at a higher assistance level, continuously climbing uphill, or higher carried weight will increase power consumption. Connect the e-bike to Hyena Service Tool software to check the frequency of each used assistance level.

Q2: Why can the battery not be charged?

Cause / Possibility	Solution approach
The connection terminals of the charger plug and charging socket at the charge port are not clean.	Please wipe the charger plug or the charging socket clean with a dry cloth.
Charging adapter is not connected correctly to the battery charging port.	- Securely connect the charging adapter to the battery charging port and charge again. - If the battery still does not charge, please contact the bike manufacturer.
The charger is malfuntion.	Check if the LED indicator on the charger illuminates or not. Green light stays on: Standby mode / Fully charged Red light stays on: Be charging

Q3: Why can the battery not be removed by inserting the key?

Cause / Possibility	Solution approach
The lock is defective.	Replace the battery lock cylinder.

4.2. Battery & Charging FAQs (continued)

Q4: Why does the LED indicator on the charger not illuminate?

Cause / Possibility	Solution approach
The charger's indicator is malfunctioning, but the charging function works normally.	- Turn on the e-bike; if the battery charges correctly, the charge indicators on the HMI will flash and show the current charge status. - If the LED indicator on the charger still does not illuminate, it's recommended to replace the charger.
The power plug of the charger is not connected correctly.	- Disconnect and then reconnect the power plug of the charger, and then repeat the charging operation. - If the LED indicator on the charger still does not illuminate, it's recommended to replace the charger.

4.3. Remove or Change components FAQs

Q1: Can I add or remove the throttle on my e-bike?

The drive system configuration is defined by the bicycle brands. If your system's default setting does not support the throttle function. Any after-market configuration changes are prohibited.

Some bike models have an optional setting for the throttle. You can connect your bike to Hyena Service Tool and check the “Accessories” section to see if you have access to add or remove the throttle.

You can contact your bike brand for more information if needed.

Q2: Can I add or remove the light on my e-bike?

The drive system configuration is defined by the bicycle brands. Any after-market configuration changes are prohibited if the lights are mandatory parts, as this may cause an error alarm.

Some bike models have an optional setting for the lights. You can connect your bike to Hyena Service Tool and check the “Accessories” section to see if you have access to add or remove the light.

You can contact your bike brand for more information if needed.

Q3: Can I change my HMI to another one?

The drive system configuration is defined by the bicycle brands. If your system's default setting does not support multiple types of HMI compatibility. Any after-market configuration changes are prohibited.

You can contact your bike brand for more information if needed.

Q4: Can my battery be changed to a higher capacity?

The drive system configuration is defined by the bicycle brands. If your system's default setting does not support multiple types of battery compatibility. Any after-market configuration changes are prohibited.

You can contact your bike brand for more information if needed.

Q5: Can my bike add a Hyena range extender battery?

The range extenders only work with specific main batteries. If the default settings of your system do not support a range extender, even if you have one, it will not be able to connect and function with your e-bike.

4.4. HST Connection FAQs

Q1: Why my HST keeps showing "Searching the Dongle" and not moving pass that?

Cause / Possibility	Solution approach
Your computer doesn't have the driver to detect the dongle.	Please download the dongle driver, or you can contact Hyena Service Center if you can't find the access. Please download and install the latest version via the link below. https://support.hyena-ebike.com/Dongle driver for Mac.zip https://support.hyena-ebike.com/Dongle driver for Windows.zip
The dongle is malfunctioning.	Please try with another dongle.

Q2: Why can't my e-bike connect to Hyena Service Tool?

Cause / Possibility	Solution approach
The bike was not bundled properly at the assembly factory.	In this case, you will see an “invalid bike id” message on the HST. Please contact the local service center for further assistance.
Bluetooth signal is too weak.	- Make sure you double-click the HMI power button only when the light on dongle turns blue and starts blinking. Once connected, you'll see a steady blue light. - Turn off the other Bluetooth device and place your e-bike closer to the dongle.
Hyena Service Tool is not updated to the latest version.	Update Hyena Service Tool to the latest version. You will see an update notice pop-up when the tool is executed.
Bluetooth module on the HMI might malfunction.	Contact the local service center, and we'll determine if you need to replace it with a new HMI.

Q3: I don't know the meaning of different colors light on dongle.

The dongle indicator will provide the following visual information about the connection:

LED Status	Function
Light stays White	The dongle is powered on but not connected to any device.
Light blinks in Blue (slow)	Searching for Bluetooth connection signal.
Light blinks in Blue (fast)	Pairing to the bike.
Light stays Blue	Successfully connected.
You can also find the instruction video at: https://youtu.be/g-cB_7dFIkE	

4.5. Speed Limit FAQs

Q1: What is the speed limit of Hyena drive system-powered e-bikes?

All Hyena drive systems are programmed to adhere to local regulations. In Europe, standard e-bikes are typically limited to a maximum motor assistance speed of 25 km/h. In North America (USA and Canada), the limit is set at 32 km/h.

Q2: Why does the system stop providing assistance before reaching the regulated speed limit?

Cause / Possibility	Solution approach
Your e-bike is not properly programmed with the correct parameters when it leaves the factory.	Contact the local service center to bundle your e-bike.
After component replacement, the corresponding parameter might not have been written into the system.	When you replace any drive system part on your e-bike, the system needs to be updated via the Hyena Service Tool to update the corresponding parameter.
The system may detect incorrect torque sensor readings due to possible improper operation.	When the drive system is turned on, it automatically detects all the sensor readings. However, if you press the pedal and turn the system on simultaneously, it can cause abnormal initial sensing of the torque sensor, resulting in this error. Please move your feet off the pedal and restart the system.

Q3: Can the speed limit be adjusted?

The programmed speed limit complies with local regulations and cannot be changed. However, you can customize each bike's riding feeling to suit different users' preferences. Please explore more on both Hyena Service Tool and Hyena Rider Assistant.

4.6. Firmware Update FAQs

Q1: Why is my e-bike not working after the update failed on Hyena Service Tool?

Cause / Possibility	Solution approach
Your e-bike might be stuck in the firmware update process (bootloader mode*). The system could go into bootloader mode when the firmware update failed.	Connect your e-bike to Hyena Service Tool (HST) again, and it will automatically execute the rescue process to finish the update process. Bluetooth still works even when the e-bike sticks in bootloader mode.

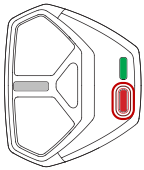
**Bootloader mode is a mode that allows access to the drive system's basic software and hardware information and is used to install and update the OS.*

Q2: Why is my e-bike not working after the update failed on Hyena Rider Assistant?

Cause / Possibility	Solution approach
Your e-bike might stick in the bootloader. The system could go into bootloader mode when the firmware update failed.	Connect your e-bike to Hyena Rider Assistant (HRA) and click the try button to finish the update process. Bluetooth still works even when the e-bike sticks in bootloader mode.

4.6. Firmware Update FAQs (continued)

Q3: How can I tell my system is stuck in the bootloader?

<table>
<tr><th>Cause / Possibility</th><th colspan="2">Solution approach</th></tr>
<tr><td>HMI in bootloader</td><td colspan="2">When the HMI is stuck in bootloader mode, the system loses its functionality and cannot be turned off by pressing the HMI button. Additionally, you may notice the following indications on the HMI:</td></tr>
<tr><td rowspan="2"></td><td>“LCD Compact EX”: The screen will show “UU”.
</td><td>“LED Multi”: The status light will have a continuous white illumination.
</td></tr>
<tr><td>Controller in bootloader</td><td colspan="2">When the controller is stuck in bootloader mode, the system stops providing assistance. Additionally, you may notice the following indications on the HMI:</td></tr>
<tr><td rowspan="2"></td><td>“LCD Compact EX”: The screen will display error code “84”, indicating a communication error.
</td><td>“LED Multi”: The status light will flash in red, indicating a communication error.
</td></tr>
</table>

4.7. Miscellaneous FAQs

Q1: Why do I see the red light or caution icon flash intermittently on the HMI?

Cause / Possibility	Solution approach
A system error occurs, and the bike needs to be checked. Your bike reaches a specific mileage where it should be serviced.	- Connect the bike to HST/ HRA. - Check the error code. - Consult the error code table and troubleshooting steps to solve the issue.
Your bike reaches a specific mileage where it should be serviced.	- Connect the bike to HST. - Reset the next maintenance mileage.

Q2: Blinking numbers appear on my HMI screen. What does it mean?

Cause / Possibility	Solution approach
A system error occurs, and the bike needs to be checked.	- Connect the bike to HST. - Check the error code. - Consult the error code table and troubleshooting steps to solve the issue.

Q3: The light flashes and goes out immediately when I turn on my bike. Is it normal?

Yes, it is normal. This is a default setting that tests the functionality of the light.

Q4: Can I turn off the maintenance reminder (error113) if I don't need it?

Yes. You have the option to disable or adjust the maintenance reminder to a longer interval using the Hyena Service Tool.

Q5: Why did the bike shut down in the middle of the ride?

Cause / Possibility	Solution approach
The HMI, controller, and battery communication are not successfully passing through.	- Check all external cable connections are correctly connected. - Replace the worn or damaged cable.

5. Error Code Overview Table

If your e-bike is equipped with LCD Compact EX or when you use Hyena Rider Assistant app, the error code shows on the screen when a system error is detected.

Code	Category	Error Description	Ref. Page
16	Torque sensor	Torque sensor voltage too high	Page EN-19
17	Torque sensor	Torque sensor voltage too low	Page EN-19
32	Motor	Motor hall all voltage too high	Page EN-20
33	Motor	Motor hall all voltage too low	Page EN-20
34	Motor	Motor signal error (U)	Page EN-20
35	Motor	Motor signal error (V)	Page EN-20
36	Motor	Motor signal error (W)	Page EN-20
37	Motor	Motor malfunction (U)	Page EN-20
38	Motor	Motor malfunction (V)	Page EN-20
39	Motor	Motor malfunction (W)	Page EN-20
40	Motor	Motor overheat	Page EN-21
48	Speed sensor	Speed sensor error	Page EN-22
49	Speed sensor	Cadence sensor error	Page EN-22
50	Chain	Drivetrain error	Page EN-23
64	Battery	Battery overvoltage	Page EN-23
65	Battery	Battery undervoltage	Page EN-23
66	Battery	Low capacity	Page EN-23
67	Battery	Empty capacity	Page EN-23
68	Battery	Charging temperature error	Page EN-24
69	Battery	Battery cell overvoltage	Page EN-24
70	Battery	Battery cell undervoltage	Page EN-24
71	Battery	Battery overcharge	Page EN-25
72	Battery	Battery short circuit	Page EN-25
73	Battery	Battery overdischarge	Page EN-25
74	Battery	Discharging temperature error	Page EN-25
75	Battery	Battery cell balancing error	Page EN-25

5. Error Code Overview Table (continued)

Code	Category	Error Description	Ref. Page
80	Controller	Controller overheat	Page EN-26
81	Controller	Battery communication error	Page EN-26
82	Controller	Locked rotor (pedal assist)	Page EN-26
83	Controller	Locked rotor (walk assist)	Page EN-26
84	Controller	Controller communication error	Page EN-27
85	Controller	Controller FET error (U)	Page EN-27
86	Controller	Controller FET error (U)	Page EN-27
87	Controller	Controller FET error (V)	Page EN-27
88	Controller	Controller FET error (V)	Page EN-27
89	Controller	Controller FET error (W)	Page EN-27
90	Controller	Controller FET error (W)	Page EN-27
91	Controller	Controller FET circuit error	Page EN-28
92	Controller	Controller FET overcurrent (Firmware)	Page EN-28
93	Controller	Controller FET overcurrent (Hareware)	Page EN-28
94	Controller	Controller protection unit error	Page EN-28
95	Controller	Locked rotor (Throttle)	Page EN-30
96	Throttle	Throttle overvoltage	Page EN-30
97	Throttle	Throttle undervoltage	Page EN-30
98	HMI	Button button blocked	Page EN-31
99	HMI	HMI button communication error	Page EN-31
100	HMI	Display panel malfunction	Page EN-31
101	HMI	USB charge port error	Page EN-31
112	Front light	Front light malfunction	Page EN-32
113	Maintenance	Maintenance notification	Page EN-32
116	Rear light	Rear light malfunction	Page EN-33
117	Light	Light short circuit	Page EN-33

6. Troubleshooting

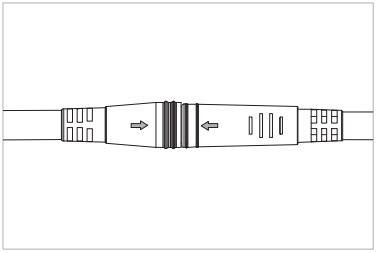
6.1. Code 16-17: Torque Sensor Signal Error

Code 16-17 indicates the error of the torque sensor.

Code/ Fault Type/ Detail	Remedy
16 **Torque Sensor Signal Error** The detected torque sensor output voltage is too high, the sensor may be damaged.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Torque Sensor]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Torque Sensor]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.
17 **Torque Sensor Signal Error** The detected torque sensor output voltage is too low, the connection between sensor and controller may be broken or damaged.	

> ⚠ **CAUTION**
>
> When installing, disassembling, maintaining the torque sensor, do NOT use any tool with strong magnetic during operation, this may lead to permanent damage to the sensor or affect the e-bike sensing signal accuracy.

NOTE: The cable connections of the sensor/ light/ HMI should be aligned with the arrow and plugged in correctly as shown in the illustration.



6.2. Code 32-40: Motor Error

Code 32-40 indicates the error of the Motor.

Code/ Fault Type/ Detail	Remedy
32 **Motor Signal Error** The motor hall signal abnormality is detected (all high).	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Motor]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Motor]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.
33 **Motor Signal Error** The motor hall signal abnormality is detected (all low).	
34 **Motor Signal Error (U)** The motor U phase hall sensor signal abnormality isdetected.	
35 **Motor Signal Error (V)** The motor V phase hall sensor signal abnormality is detected.	
36 **Motor Signal Error (W)** The motor W phase hall sensor signal abnormality is detected.	
37 **Motor Malfunction (U)** The short circuit of the motor U phase.	
38 **Motor Malfunction (V)** The short circuit of the motor V phase.	
39 **Motor Malfunction (W)** The short circuit of the motor W phase.	

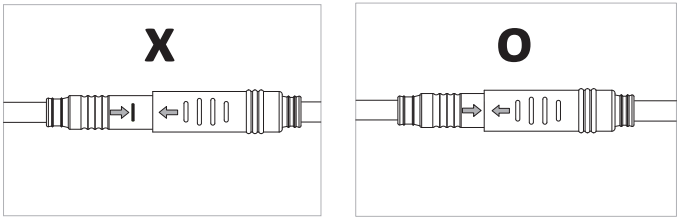
6.2. Code 32-40: Motor Error (continued)

Code/ Fault Type/ Detail	Remedy
40 **Motor Overheat** The detected motor temperature is too high.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Move the e-bike to a well-ventilated area with room temperature to let it recover to the proper system operating temperature for at least 10 minutes. 4. Long press the power button to turn on the e-bike. 5. Check if the error code still exists. 6. If this doesn't fix the issue, please follow the next step. 7. Take turns replacing the **[Motor]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.

⚠ **CAUTION**

When installing, disassembling, maintaining the motor, do not use any tool with strong magnetic during operation, this may lead to permanent damage to the motor and cause future riding hazards.

NOTE: The connectors should be plugged in correctly as shown in the illustration.



Not plugged in **Correctly plugged**

6.3. Code 48-49: Speed Sensor and Cadence Error

Code 48-49 indicates the error of the speed sensor and cadence.

Code/ Fault Type/ Detail	Remedy
48 **Speed Sensor Error** The speed sensor signal missing, the sensor may be damaged or the connection may be broken.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Controller]** and **[Motor]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Motor]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.
49 **Cadence Sensor Error** The cadence sensor signal missing, the sensor may be damaged or the connection may be broken.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Torque Sensor]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Torque Sensor]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.

6.4. Code 50: Drivetrain Error (Chain)

Code 50 indicates the sensing value of the bicycle drivetrain is abnormal.

Code/ Fault Type/ Detail	Remedy
50 **Drivetrain Error** The sensing value of the bicycle drivetrain is abnormal, the chain may have come off the sprockets.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Fix the dropped chain and turn the pedals slowly to check for smooth operation. 4. Long press the power button to turn on the e-bike. 5. Check if the error code still exists. 6. If this doesn't fix the issue, please follow the next step. 7. Take turns replacing the **[Torque Sensor]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.

6.5. Code 64-75: Battery Error

Code 64-75 indicates the error of the battery.

Code/ Fault Type/ Detail	Remedy
64 **Battery Overvoltage** The battery voltage exceeds the normal value.	**Follow below steps for troubleshooting:** 1. Stop charging immediately and turn off the e-bike for at least 30 minutes. 2. Long press the power button to turn on the e-bike. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Long press the power button to turn off the e-bike. 6. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
65 **Battery Undervoltage** The battery voltage drops below the normal value.	**Follow below steps for troubleshooting:** 1. Check the battery level, if the battery is running low, charge the battery for at least 30 minutes. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Long press the power button to turn off the e-bike. 6. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
66 **Low Capacity** The battery voltage drops below the normal value.	
67 **Empty Capacity** The battery voltage drops below the normal value.	

6.5. Code 64-75: Battery Error (continued)

Code/ Fault Type/ Detail	Remedy
68 **Charging Temperature Error** The battery temperature at charging exceeds or drops below the normal value.	**Follow below steps for troubleshooting:** 1. Stop charging immediately and turn off the e-bike for at least 30 minutes. 2. Move the e-bike to a well-ventilated area with room temperature to let it recover to the proper system operating temperature for at least 10 minutes. 3. Put the e-bike back on charging and turn on the power again. 4. Check if the error code still exists. 5. If this doesn't fix the issue, please follow the next step. 6. Long press the power button to turn off the e-bike. 7. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
69 **Battery Cell Overvoltage** The detected battery cell voltage exceeds the normal value.	**Follow below steps for troubleshooting:** 1. Stop charging immediately and turn off the e-bike for at least 30 minutes. 2. Long press the power button to turn on the e-bike. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Long press the power button to turn off the e-bike. 6. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
70 **Battery Cell Undervoltage** The detected battery cell voltage drops below the normal value.	**Follow below steps for troubleshooting:** 1. Check the battery level, if the battery is running low, charge the battery for at least 30 minutes. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Long press the power button to turn off the e-bike. 6. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.

6.5. Code 64-75: Battery Error (continued)

Code/ Fault Type/ Detail	Remedy
71 **Battery Overcharge** The battery is overcharged. **72** **Battery Overdischarge** The battery is short-circuited.	**Follow below steps for troubleshooting:** 1. Long press the power button to turn off the e-bike. 2. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
73 **Battery Overdischarge** The battery is discharged beyond the lower safe voltage limit.	**Follow below steps for troubleshooting:** 1. Check the battery level, if the battery is running low, charge the battery for at least 30 minutes. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Long press the power button to turn off the e-bike. 6. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
74 **Discharging Temperature Error** The battery temperature at discharging exceeds or drops below the normal value.	**Follow below steps for troubleshooting:** 1. Long press the power button to turn off the e-bike. 2. Move the e-bike to a well-ventilated area with room temperature to let it recover to the proper system operating temperature for at least 10 minutes. 3. Long press the power button to turn on the e-bike. 4. Check if the error code still exists. 5. If this doesn't fix the issue, please follow the next step. 6. Long press the power button to turn off the e-bike. 7. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.
75 **Battery Cell Balancing Error** The battery cell voltage imbalance is detected.	**Follow below steps for troubleshooting:** 1. Long press the power button to turn off the e-bike. 2. Replace the **[Battery]** with a new spare, then turn on the e-bike to check if the error code still exists.

6.6. Code 80-95: Controller Error

Code 80-95 indicates the error of the controller.

Code/ Fault Type/ Detail	Remedy
80 **Controller Overheat** The detected controller temperature is too high.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Move the e-bike to a well-ventilated area with room temperature to let it recover to the proper system operating temperature for at least 10 minutes. 4. Long press the power button to turn on the e-bike. 5. Check if the error code still exists. 6. If this doesn't fix the issue, please follow the next step. 7. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
81 **Battery Communication Error** The system communication with the battery is interrupted, the connection between battery and controller may be broken or damaged. Or an invalid battery is used.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Battery]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Battery]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.
82 **Locked Rotor (Pedal Assist)** The locked rotor condition is detected when the pedal-assist is activated.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
83 **Locked Rotor (Walk Assist)** The locked rotor condition is detected when the walk-assist is activated.	

6.6. Code 80-95: Controller Error (continued)

Code/ Fault Type/ Detail	Remedy
84 **Controller Communication Error** The system communication with the controller is interrupted, the controller may be damaged or the connection between HMI and controller may be broken.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
85 **Controller FET Error (U)** The malfunction of the high side FET phase U is detected, the drive components in the controller may be going open circuit or faulty.	
86 **Controller FET Error (U)** The malfunction of the low side FET phase U is detected, the drive components in the controller may be going open circuit or faulty.	
87 **Controller FET Error (V)** The malfunction of the high side FET phase V is detected, the drive components in the controller may be going open circuit or faulty.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
88 **Controller FET Error (V)** The malfunction of the low side FET phase V is detected, the drive components in the controller may be going open circuit or faulty.	
89 **Controller FET Error (W)** The malfunction of the high side FET phase W is detected, the drive components in the controller may be going open circuit or faulty.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
90 **Controller FET Error (W)** The malfunction of the low side FET phase W is detected, the drive components in the controller may be going open circuit or faulty.	

6.6. Code 80-95: Controller Error (continued)

Code/ Fault Type/ Detail	Remedy
91 **Controller FET Circuit Error** The malfunction of the FET detection circuit is detected, the drive components in the controller may be going open circuit or faulty.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
92 **Controller FET Overcurrent (Firmware)** The output power of the controller has exceeded the firmware protection value. **93** **Controller FET Overcurrent (Hardware)** The output power of the controller has exceeded the hardware protection value or the controller is short-circuited.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Replace the **[Controller]** with a new spare, then turn on the e-bike to check if the error code still exists.
94 **Controller Protection Unit Error** The controller protection unit (watchdog) abnormality is detected.	**Follow below steps for troubleshooting:** 1. Long press the power button to turn off the e-bike and turn on the power again. 2. Check if the error code still exists. 3. If this doesn't fix the issue, please follow the next step. 4. Check the battery level, if the battery is running low, charge the battery for at least 30 minutes. 5. Long press the power button to turn off the e-bike and turn on the power again. 6. Check if the error code still exists. 7. If this doesn't fix the issue, please follow the next step. 8. Long press the power button to turn off the e-bike. 9. Replace the [**Controller**] with a new spare, then turn on the e-bike to check if the error code still exists.

6.6. Code 80-95: Controller Error (continued)

Code/ Fault Type/ Detail	Remedy
95 **Locked Rotor (Throttle)** The locked rotor condition is detected when the throttle-assist is activated.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike and turn on the power again. 3. Check if the error code still exists. 4. If this doesn't fix the issue, please follow the next step. 5. Long press the power button to turn on the e-bike. 6. Find the connection cable between **[Throttle]** and **[Controller]**, and check if the cable is damaged. 7. Unplug the cable connector, and check if any connector pin is bent or broken. 8. If the cable or connector of the component is broken or damaged, please replace the component. 9. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 10. If the cable and connector are in good condition, please follow the next step. 11. Take turns replacing the **[Throttle]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.

6.7. Code 96-97: Throttle Error

Code 96-97 indicates the error of the throttle; the throttle error codes only appear when equipped with the throttle.

Code/ Fault Type/ Detail	Remedy
96 **Throttle Overvoltage** The throttle output voltage exceeds the normal value.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Throttle]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Throttle]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.
97 **Throttle Undervoltage** The throttle output voltage drops below the normal value.	

6.8. Code 98-101: HMI Error

Code 98-101 indicates the error of HMI.

Code/ Fault Type/ Detail	Remedy
98 **HMI Button Blocked** The button unit signal is missing, the HMI button may be damaged or the connection may be broken.	**Follow below step for troubleshooting:** 1. Replace with a new **[HMI]**.
99 **HMI Button Communication Error** The button unit signal is missing, the HMI button may be damaged or the connection may be broken.	**Follow below steps for troubleshooting:** 1. Turn OFF system. 2. Unplug connector and check internal pin status. 3. Re-plug connector and turn ON system. 4. Check error code again. 5. Replace **[HMI]** if the error code is remaining. 6. Replace **[Cable]** if the error code is remaining. 7. Replace **[Controller]** if the error code is remaining.
100 **Display Panel Malfunction** The display panel malfunction is detected, the HMI display panel may be damaged or the connection may be broken.	**Follow below step for troubleshooting:** 1. Replace with a new **[HMI]**.
101 **USB Charge Port Error** The USB charging port output current is abnormal.	

6.9. Code 112: Front Light Error

Code 112 indicates the error of the front light; this error code only appears when equipped with the front light.

Code/ Fault Type/ Detail	Remedy
112 **Front Light Malfunction** The front light malfunction is detected, the light may be damaged or the connection may be broken.	**Follow below steps for troubleshooting:** 1. Turn OFF system. 2. Unplug connector and check internal pin status. 3. Re-plug connector and turn ON system. 4. Check error code again. 5. Replace **[Front Light]** if the error code is remaining. 6. Replace **[Cable]** if the error code is remaining. 7. Replace **[Controller]** if the error code is remaining.

6.10. Code 113: System Maintenance

Code 113 indicates the e-bike has reached the preset maintenance miles.

Code/ Fault Type/ Detail	Remedy
113 **Maintenance Notification** The e-bike has reached the preset maintenance miles.	Connect the e-bike to Hyena Service Tool software and reset or turn off the next maintenance notification.

6.11. Code 116: Rear Light Error

Code 116 indicates the error of the rear light; this error code only appears when equipped with the rear light.

Code/ Fault Type/ Detail	Remedy
116 **Rear Light Malfunction** The front or rear light is short-circuited.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Rear Light]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Rear Light]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.

6.12. Code 117: Light Short Circuit Error

Code 117 indicates the error of the front or rear light; this error code only appears when equipped with the front or rear light.

Code/ Fault Type/ Detail	Remedy
117 **Light Short Circuit** The front or rear light is short-circuited.	**Follow below steps for troubleshooting:** 1. Move your feet off the pedal. 2. Long press the power button to turn off the e-bike. 3. Find the connection cable between **[Rear Light]** and **[Controller]**, and check if the cable is damaged. 4. Unplug the cable connector, and check if any connector pin is bent or broken. 5. If the cable or connector of the component is broken or damaged, please replace the component. 6. If the connection is loose, plug the connector back in tight carefully. When plugging the connectors, ensure the arrow symbols on the two connectors must be aligned. 7. If the cable and connector are in good condition, please follow the next step. 8. Take turns replacing the **[Front or Rear Light]** and **[Controller]** with a new spare, after each replacement, turn on the e-bike to check if the error code still exists.

7. Disposal

- The e-bike assist system drive unit including the motor, controller, battery, speed sensor, HMI, wiring, accessories, and packaging should be disposed of in an environmentally correct manner according to local rules.
- Do NOT dispose of e-bikes and their components with household waste.
- About rules in EU: In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/drained batteries must be collected separately and recycled in an environmentally friendly manner.



Information on Waste Disposal for Consumers of Electrical & Electronic Equipment

This mark on a product and/or accompanying documents indicates that when it is to be disposed of, it must be treated as Waste Electrical & Electronic Equipment (WEEE).

Any WEEE marked waste products must not be mixed with general household waste, but kept separating for the treatment, recovery and recycling of the materials used.

For proper treatment, recovery and recycling; please take all WEEE marked waste to your Local Authority Civic waste site, where it will be accepted free of charge.

If all consumers dispose of Waste Electrical & Electronic Equipment correctly, they will be helping to save valuable resources and preventing any potential negative effects upon human health and the environment, of any hazardous materials that the waste may contain.



Please recycle your spent batteries

Batteries should not be disposed of in unsorted municipal waste, but separately collected to facilitate the correct treatment and recycling of the substances they contain. The recycling of batteries ensures the recovery of these valuable materials and prevents any potentially harmful effects upon both the environment and human health.

Please contribute to battery recycling by segregating all spent batteries and actively participating in their collection and recycling. Various battery collection schemes will be in operation in different areas of the country. However, battery collection bins will be available at retail stores that sell batteries as well as at schools, libraries and other public buildings.

⚠ WARNING

Failure to follow the instructions in this section may result in damage to the components on your e-bike and will void your warranty, but most importantly, may result in serious personal injury or death.

SAVE THESE INSTRUCTIONS

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