



*Pendleton*

E-SYSTEM  
HANDBOOK



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## 1. Introduction

Thank you for choosing your new Somerby-E e-bike. We sincerely hope that you will enjoy your ride. Please read all the safety warnings and instructions carefully, failure to follow the warnings and instructions may result in death or severe injuries.

- This user's manual is primarily intended for the owner to operate the product.
- Save this manual for future reference. A bike manual is also included.

### 1.1. Important notices

- Read and observe the safety warnings and directions contained in all the Voodoo e-bike operating instructions.
- Users who are not professionally trained for bicycle assembly should not attempt to install, disassemble, or modify components themselves.
- If you have any concerns about the operation of the e-bike system or its components, or if you suspect damage to the battery, visit your nearest Halfords store immediately for an inspection.
- The term "battery" is used in these instructions to mean all original batteries.
- Do not throw away this user's manual or remove any safety warning labels or instructions from any e-bike system components.
- Prepare the spare parts before riding or visit Halfords store for the service support. (ex. inner tyre, brake pad..etc)

---The A-weighted emission sound pressure level at the driver ears is less than 70 dB(A).

#### ► About Safety Symbols

- This manual includes many "**WARNING**", "**CAUTION**" and "**NOTE**" labels; these labels refer to the safe methods to use, maintain, store, and check your e-bike.
- When a safety warning symbol is marked with "**WARNING**" text, it means failure to comply with the instructions may result in dangerous situations of death or severe injuries.
- When a safety warning symbol is marked with "**CAUTION**" text, it means failure to comply with the instructions may result in minor, moderate injury, damage to the bicycle, or the voiding of your warranty.

#### ► About Images

- The e-bike shown in this manual may differ visually from your Somerby-E 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 Personal Injury

##### **WARNINGS**

*When using Somerby-E e-bikes, basic precautions should always be followed, including the following:*

- *Read all the instructions before operating the e-bike system.*
- *To reduce the risk of injury, close supervision is necessary when the e-bike is used near children.*
- *Do not put fingers or hands into any e-bike component or touch the cable terminal with bare hands.*

### **⚠ WARNINGS, CONTINUED.**

- *Do not use the e-bike if any flexible power cord or output cable is frayed, has worn insulation, or shows 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 charger supplied by Halfords.*
- *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 charger) near hot, flammable objects or materials.*
- *The e-bike system parts are not intended to be used at ambient temperatures below -10°C (14°F) or above temperatures of 45°C (113°F).*
- *Defective e-bike system parts may only be replaced with identical, original parts supplied by Halfords.*
- *Do not modify your e-bike system or fit any other equipment to increase the power or maximum speed of your e-bike system.*

### **1.3. Riding safety**

- The e-bike system provides electrical riding support. It will help you to cycle easily. Based on your riding speed and the amount of pedaling force the e-bike system will provide proper support in your efforts throughout your journey.
- When riding an e-bike, make sure that you are fully familiar with the starting-off characteristics of the e-bike before riding it on roads with several vehicle lanes and pedestrian footpaths.
- When you start riding, be aware of the riding support that will instantly be provided by the assist system. We advise to drive off in a straight line, using the lowest assist level.
- Do not allow yourself to be distracted by the display while riding, this increases the risk of being involved in an accident.
- When you switch off the riding support, selected level 0 (with the system switched on), or when the battery is empty, the e-bike will ride like a regular, non-electric powered bicycle.
- The e-bike system is designed to provide riding support up to 25 km/h (15.5 mph). Do not modify your e-bike or fit any other equipment to increase the power or maximum speed.
- Maximum Permissible Total Weight: 140kg (Rider+Cycle+Luggage); Mass of the EPAC: 22KG
- If there is any issue occurred, visit our website, [www.halfords.com](http://www.halfords.com), or visit your nearest store for support.

### **WARNINGS**

*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. You should be seated on the e-bike and engage at least one brake before starting to pedal.*

*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.*

## 2. E-bike overview

The Somerby-E-bike includes an electric drive and control unit; it features:

- Silent and powerful electric motor performance.
- Multi-sensor technology providing excellent, precise and natural feeling riding support.
- Easy to operate and ergonomic display providing a visual clarity of the e-bike status.



- A. Battery Charger
- B. Battery
- C. Display

- D. Controller
- E. Motor
- F. Sensor

### 3. Drive unit instructions

Your e-bike is equipped with a 250 Watt front-wheel electric motor, which forms the hub of the front wheel and also provides the electric riding assistance.

#### **⚠ CAUTION**

*Do not dismantle the hub motor, the hub motor should only be repaired or maintained by a certified mechanic, using genuine spare parts from Halfords.*

#### 3.1 Motor safety instructions

- Do not allow the motor to suffer any mechanical or physical impacts or make any internal modifications.
- The motor is built with components that are sealed against dust and splashed water and can safely operate in rain and other adverse weather conditions.  
However, do not deliberately immerse the front wheel in water or clean it with pressured water, also make sure your e-bike will get fully dry after riding in wet weather.

#### **WARNINGS**

*Do not modify any components that are part of the bicycle drivetrain. Changing components could cause damage or overloading of the hub motor, and may lead to serious injury or death.*

*Do not obstruct pedals, cranks, or wheels when the e-bike system is on. Wrong operations could cause damage or overloading of the hub motor, and may lead to serious injury or death.*

*The motor can heat up during long uphill runs. After riding, do not touch the metal housing of the hub motor with your bare hands or legs.*

#### 3.2 Technical data of the motor

| Item              | Parameters |
|-------------------|------------|
| Rated Voltage     | 36V        |
| Rated Power       | 250W       |
| Max. Torque       | 45 N.m     |
| Protection Rating | IPX6       |
| Weight (approx.)  | 3.1 kg     |

### 3.3 Operation

- Environmental conditions for operation:
  - a) Relative humidity: (20~90)%RH;
  - b) Atmospheric pressure: (86~106)kPa;
  - c) No seriously corrosive gas or no medium affecting the electrical insulation around.
- Be sufficiently familiar with how to start the drive unit before riding on busy streets, otherwise the unexpected start may result in an accident.
- Avoid water immersion during operation.
- Avoid violent impact during operation.
- Prohibit overload for a long time.
- Avoid direct touch of hands or legs with products that have been running for a long time without protection to prevent heat burns.
- Observe the appropriate rules and regulations of the country, state or region in which you use the e-bikes.

### 3.4 Maintenance

- Maintenance must be carried out by Halfords store with the correct equipment.
- It is recommended to regularly check whether the end cap nuts on both sides of the product are loose, whether the connector is loose, whether the shape is deformed or whether the power cord is broken.
- The components are designed to be fully waterproofed to withstand wet weather riding conditions. However, do not deliberately place them into water.
- Power off the ebike system before cleaning the product by pressing the On/Off button of HMI.
- Do not clean the product with a high-pressure washer. If water seeps into the electrical components, operating problems or corrosion may result.
- Use a damp, well wrung out cloth, when cleaning the motor housing and cover.
- Please always remove the battery during maintenance

## 4. Battery handling instructions

### CAUTION

*This Assist 20" e-bike is powered by a Lithium-Ion (Li-Ion) battery. Always read and adhere to the instruction manual before handling or charging the battery or when using the e-bike.*

### WARNINGS

- *If your battery or charger exhibits any signs of damage, do not use the bicycle and immediately bring it to your nearest Halfords store for inspection.*
- *Always turn off the e-bike system when not in use and/or when working on it.*
- *Always remove the battery during maintenance.*

### 4.1. Battery safety instructions

- Do not allow the battery to suffer any mechanical or physical impacts or make any internal modifications.
- If the area where the battery is installed (rear carrier) has any visible damage, do not continue using the e-bike; otherwise, there will be a risk of explosion or fire and may result in severe injuries or death.
- If the battery fluid leaked out due to damage or improper usage, avoid touching the leaked battery fluid. If you accidentally touched the battery fluid, please clean with large amounts of water immediately. If the battery fluid came in contact with your eyes, please seek further help from physicians. Leaking battery fluids may cause burns or irritations to the skin.
- Store the e-bike in a dry and well-ventilated environment; keep the e-bike away from humid environments and water sources for battery safety.
- Keep the battery charging socket away from the contact of paper clips, coins, keys, nail clippers, screws, or other objects that can generate metallic attraction, to avoid a short circuit between the poles.

### 4.2. Technical data of the battery

| Item              | Specification  |
|-------------------|----------------|
| Product model     | BT C040.B280.C |
| Nominal capacity  | 7.5 Ah         |
| Energy            | 280 Wh         |
| Rated voltage     | 36 V           |
| Protection rating | IPX5           |
| Weight, approx.   | 1.9 kg         |

### ⚠ CAUTIONS

- *Installing the battery carefully is necessary, do not strike it with any tool such as a hammer or wrenches.*
- *When storing the battery, please make sure to comply with the storage rules. Find further information in chapter 7 "Storage and transportation instruction."*
- *Installation: Insert the battery from the non-discharge end first, then put the other end in. Complete the installation by pushing the battery to the end until you hear the click.*
- *Removal: Insert the key and turn it clockwise to lift the battery from the lock end.*

### 4.3. Battery indicator

Press the indication button to show the LED indicator light. Each LED indicator colour corresponds to a different battery charge level.

**i** Please press the Power /SOC button until all LEDs are flashing. The tricolor LEDs will flash Blue, Green and Red LED sequentially and the color light of the recent SOC status will be displayed.

Press and hold the Power/SOC button for 3 seconds, then the tricolor LEDs keep flashing until releasing the button to turn off.

#### Charge status indication

| LED                                                                                 | SOC      |
|-------------------------------------------------------------------------------------|----------|
|    | <5%      |
|   | 5%~25%   |
|  | 25%~50%  |
|  | 50%~75%  |
|  | 75%~100% |

## 5. E-bike operation

### CAUTIONS

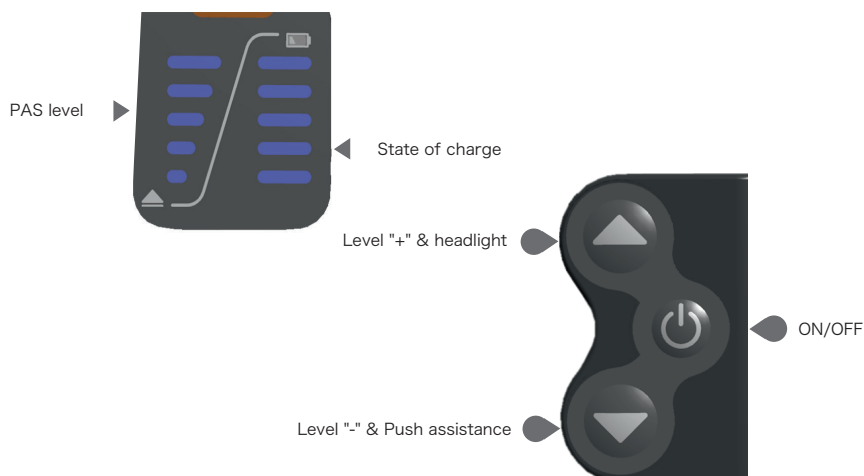
#### *Before you ride:*

- Regardless of your experience level, you should read the introduction chapter of this Owner Manual and carry out all important safety checks.
- The e-bike system can only be activated when the battery is sufficiently charged.
- If the error information from the display cannot be corrected according to the instructions, please contact your retailer.
- The product is designed to be waterproof. It is highly recommended to avoid submerging the display under water.  
Do not clean the display with a steam jet, high-pressure cleaner or water hose.
- Please use this product with care.
- Do not use thinners or other solvents to the display. Such substances can damage the surfaces.
- Warranty is not included due to wear and normal use and aging.

### 5.1 Specifications

- Operating temperature: -10~45 °C (14~113 °F)
- Storage temperature: -20~50 °C (-4~122 °F)
- Charging temperature: 0~45 °C (32~113 °F)
- Waterproof: IP65
- Storage room Humidity: 30%-70% RH

### 5.2 Functional Overview



## 6. Normal operation

### 6.1 Start the display

Press  for 2s, the display will turn ON;

Press  for 2s, the display will turn OFF. It will automatically turn OFF when standby in 5 minutes.

### 6.2 Select power-assisted levels

Press  or  to switch between the different support levels (0 / 1 / 2 / 3 / 4 / 5);

Lowest level and the default level is 1; Highest level is 5; when no LED light, it is level 0 (mean park level).

Indicate current PAS level 0~5; if no LED display, it mean it is level 0; 1~5 is in accordance with the PAS level.

In the mode of Push Assistance, LED loop light one by one from down to up with 0.5s time interval (as shown in the below figure).



### 6.3 Walk assistance

Press  for 2 seconds, the push assistance will be turned ON, and level LED flickers.

If you move your finger away from this button, the push-assistance will be turned OFF.

6.4 Battery capacity indication

5 LED indicate the state of charge, if the lowest LED flickers, it means the time to charge the battery.

| LED indication definition<br>(from down to up) | SOC     |
|------------------------------------------------|---------|
| 5                                              | >75%    |
| 4                                              | 50%-75% |
| 3                                              | 30%-50% |
| 2                                              | 10%-30% |
| 1                                              | <10%    |
| 1 Flickers                                     | ≤5%     |

# 7 INSTRUCTIONS

## 7.1 Battery

 Your pedelec can be equipped with different battery types.

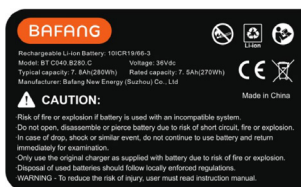
(Depending on the manufacturer's configuration)

Model:

BT C040.B268.C



 Before use, read the information on the label of the battery.



 Please only use the original BAFANG charger to charge the battery. The battery is not fully charged when it is delivered. Please charge the battery completely before its first use and before storage.

- It is recommended to charge the battery after use. Deep discharge is harmful to the battery. Never fully discharge the battery. If the battery remains uncharged for an extended period, this will damage the capacity of the battery. For storage, the recommended capacity of the battery should be between (60-80%).

- Do not charge the battery longer than the charging time specified in the "SPECIFICATION" table.

### 7.1.1 Safety instructions

 It is possible for the battery to cause a fire, explosion or hazard if the battery is connected to an incompatible system. Do not open, disassemble or pierce the battery as this can lead to short circuits, leaks, fires or explosions. If the battery falls to the ground, or exposed to a blow or similar event, do not continue to use the battery, take it to your retailer to examine. Use only the original charger supplied with the battery, otherwise it can lead to an explosion or permanent damage. The disposal of used batteries must be carried out at a suitable disposal point.

 **The battery should always be kept out of reach of children. The use of the charger or the battery is not suitable for children.**

 **Do not touch a leaking battery.**  
Leaking electrolytes can seep into the skin and cause discomfort. If battery acid encounters the eyes, do not rub it! Immediately wash your eyes carefully with clean water and consult a doctor or a hospital.

 **A faulty battery can lead to overheating, smoking or burning.**  
When the battery gets hot keep yourself and others a safe distance away from the battery. In case of damage or heat, you should avoid touching the battery. See chapter ("Environmental tips").

 **Do not disassemble the battery.**  
The battery contains protective components to avoid danger. Incorrect handling, such as improper disassembly, can destroy the protective functions and lead to overheating, smoke and explosion.

**Do not intentionally short-circuit the battery.**

Never allow the plus and minus connectors to come into contact with each other. Do not allow the battery to come into contact with metal objects. It is dangerous if the battery is short-circuited. As it can lead to overheating, smoke, explosion or burning.

**Do not heat or burn the battery.**

An overheated or ignited battery can cause battery cells to explode.

**Do not use the battery near heat sources.**

Do not use the battery near an open flame or at temperatures above 60 °C. High temperatures can cause the battery to burn or explode.

**Do not charge the battery near open fire or in direct sunlight.**

This can cause errors or internal problems inside the battery, also damaging the protective function. It can lead to abnormal chemical reactions or malfunctions that lead to overheating, smoke and explosion.

**Do not damage the battery.**

The battery must not be dropped or damaged. This can lead to overheating, smoke and explosion. Never submerge the battery in water.

**Do not charge the battery directly from the socket or a cigarette lighter in the car.**

High voltage and excessive current will damage the battery and reduce its lifespan. It can lead to overheating, smoke and explosion.

## 7.1.2 Battery Storage



If you do not use your pedelec for a long time, remove the battery, and charge about (60-80%) on. Store the battery separately in a suitable dry place.

- Avoid direct sunlight from the sun, as it may cause it to overheat, and cause internal problems in the battery. It can lead to abnormal chemical reactions or malfunctions that lead to overheating, smoke and explosion.

- To prevent a deep discharge, the battery is put into sleep mode after a certain time.
- Do not extend the battery to temperatures below the permissible storage temperature of -10 °C to 35 °C. Note that temperatures of about 45 °C are common near heaters, in direct sunlight or in overheated vehicle interiors.



Do not continue to use the battery if you notice that it gets hot during operation, charging or storage, develops a strong smell, changes its appearance, or is otherwise unusual. Do not continue to use the battery and have it checked by a retailer before using it again.

## 7.1.3 Battery wear



The battery can be charged 600 times. The battery capacity decreases during this time, thus reducing the range of the pedelec. If the range is not enough depending on the capacity of the battery may need to be replaced.

## 7.1.4 Pedelec riding distance



It is best to charge the battery at room temperatures and insert the battery just before the start of the journey. The discharge cycle of the battery can be affected by:

- Used pedal power
- Total weight (load and driver)
- Tire air pressure
- Headwind
- Ambient temperature
- Road/underground condition
- selected speed level
- Slope
- Battery charge level
- Age
- Remaining capacity of the battery

## 7.2 Charger

### 7.2.1 Battery charger Instructions



To prevent the risk of electric shock, you should never open the charger. Maintenance work may only be carried out by qualified service personnel. Be sure to read the information about your charger before use! Unplug the power plug before connecting the battery to the charger or removing it from the charger.



Keep the charger away from children and animals. In the event of malfunction or damage, it may result in a fire or electric shock.

- The charger must not be operated by children or people with limited sensory or mental disabilities.
- Do not use your charger if it is moist or dusty.
- Avoid direct sunlight.
- Disconnect the charger from the power supply when not in use.
- Use only the original Bafang charger that came with your pedelec.
- Do not cover the charger while in use. There is the possibility of short circuits or fires.
- When cleaning the charger, unplug it from the power outlet first.
- Stop the Charge process if the charging cycle lasts longer than the length listed in the Specifications table.



Before charging, read the instructions on the charger

1. First plug the connector of the charging cable into the charging socket in the battery, then connect the charger into a wall socket.



2. As soon as the charger is connected to the power supply, a red LED will light up.



3. When charging is complete, the LED changes from red to green.



The charging time depends on several factors. It can vary greatly depending on the temperature, age use and capacity of the battery

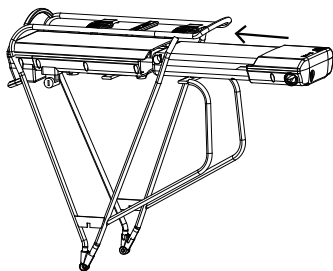
When the battery is fully charged, the charging process stops automatically. Unplug the connector from the battery and then removed from the mains.

## 7.3 Operation

### 7.3.1 Installing the battery

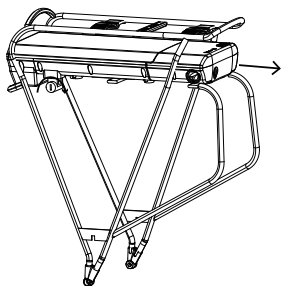
**i** For correct insertion, the battery must be inserted and pushed forward from the back of the pedelec. If the battery is inserted incorrectly, the pedelecs electric drive system cannot be switched on.

1. Slide the battery into the battery holder. Once the battery is inserted, the battery can be locked.

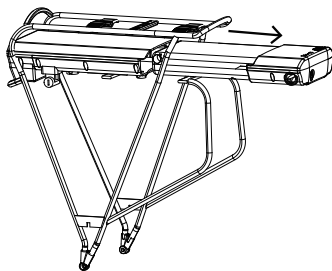


### 7.3.2 Removing the battery

1. Turn off the electrical power supply before removing the battery.
2. Unlock the battery.



3. Remove the battery from the holder.



### 7.3.3 Charging the battery

**i** Use only the original battery charger supplied to you, as there is a risk of fire or explosion if the incorrect charger is used.

**i** You can charge your battery when mounted on the bike or when it is removed.

**i** Lithium-ion batteries are not subject to any memory effect. You can recharge your battery at any time, even after short journeys.

Charge the battery at temperatures between 0°C and 45°C (ideally at room temperature approx. 20 °C). Give your battery enough time to reach this temperature before charging.

**!** The charging time depends on several factors. It can vary greatly depending on the temperature, age, use and capacity of the battery. For information on the charging time of your battery, see "SPECIFICATION"

When the battery is fully charged, the charging process stops automatically. Unplug the connector from the battery and then removed from the mains.

### 7.3.3.1 Safety instructions



Use only the battery charger.

Make sure you are using the correct mains voltage. The required mains voltage is indicated on the charger.

- Do not touch the power plug with wet hands. There is a risk of electric shock.
- Note: A sudden rise in temperature can cause condensation in the battery. To avoid condensation, charge the battery at the same place where it is stored.
- Before using, check that the charger, cable and plug are not damaged. Do not use the charger, if you notice any damage. There is a risk of electric shock.

- Charge the battery only in a well-ventilated room.
- Do not cover the charger/battery during charging. There is a risk of overheating, fire or explosion.
- Charge the battery in a dry place, and on a non-flammable surface.



The battery must be charged at least once every 3 months to avoid damage or destruction of the cells.



If the charging process takes longer than usual, the battery may be damaged. In this case, stop charging immediately. Have the battery and charger checked by your retailer to prevent further damage.

### Errors - Causes and Solutions

| Description                               | Cause                                                     | Solution                                                                              |
|-------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------|
| The operating display does not light up.  | Power plug is not correctly connected to the power supply | Check that all connectors on the charger are correctly connected to the power supply. |
| The charging indicator does not light up. | The battery may be malfunctioning.                        | Contact your retailer.                                                                |

## 7.4 Technical Data

---

|                                     |                                |
|-------------------------------------|--------------------------------|
| Primary Settings                    | BT C040.B280.C                 |
| Nominal Voltage                     | 36 Vdc                         |
| Nominal Capacity                    | 7.5 Ah                         |
| Minimum Capacity                    | 7.2 Ah                         |
| Energy                              | 280 Wh                         |
| Charging Time                       | 6 h with standard charger (2A) |
| Storage (At 35% SOC<br>8-10°~35 °C) | 6 months                       |
| Cycle Life                          | 600 times                      |
| Dimensions (L *W *H)                | 320.6* 147.6* 54.3 mm          |
| Weight                              | 1.9 kg                         |

## 8. Storage and transportation instructions

### 8.1. Storage

- During storage, it is not recommended to have the battery permanently connected to the charger.
- Store the e-bike and the battery in the following locations: in a dry, well-ventilated room with a smoke alarm, away from combustible or easily flammable objects and away from heat sources.
- Store the e-bike and battery on a fireproof surface and without contact to water, heat sources, or sand. Protect the battery against moisture and water.
- Do not store the e-bike and battery at ambient temperatures less than -20°C (-4°F) or above ambient temperatures of 50°C (122°F).
- For a long battery life, however, storing the battery at room temperature of approx. 20°C is of advantage.
- Protect the e-bike for damage by sunlight if you store it at any place for more than a week.
- Do not place any heavy item on the e-bike or any e-bike component.

#### CAUTION

*If the battery is stored lacking charge, the battery may be damaged due to deep-discharge, also the charge capacity itself may be affected significantly.*

### 8.2. Charging the battery before and during storage

- If you will not be using the e-bike for an extended period of time, charge the battery to 80% to meet the optimum storage condition.
- Check the charge status again after six months; if the remaining charge of the battery is less than 30%, charge it to 80%.

### 8.3. E-bike transportation

- Do not place the e-bike in the car boot for more than one day.  
Protect the e-bike from damage by sunlight.
- An e-bike is heavier than a normal bike.  
If transporting on a vehicle, be aware of the maximum load capacity of the vehicle's roof, towing hook and/or of the applied bike carrier.
- Always respect local laws about transportation of an electric bicycle.
- As the size and power of this Li-Ion batteries are considered as 'Dangerous goods, class 9,' you may be restricted in the transport of separate Li-Ion batteries in some places when transporting.

The restrictions apply to most airlines and some courier companies. But, if you intend to ship or travel with your complete e-bike (with installed battery), the regulations are less strict.

Make sure to check ahead with your airline or carrier, before booking your trip to ensure you are allowed to travel with your complete e-bike.

- The e-bike, including batteries, is subject to legislation on the transport of dangerous goods. Private users can only transport undamaged batteries by road without complying with additional requirements.

#### CAUTION

*Shipping of all types of (loose) batteries, including lithium-ion and lithium metal types, may require the use of specialized packaging, specific hazard labeling, and specific documents certifying in compliance with the applicable local regulations.*

## 9. Troubleshooting

When your e-bike has issues, you can check the following instructions for basic troubleshooting. If the problem cannot be identified or solved, please contact your nearest Halfords store.

### 9.1. System issues

- **System cannot be turned on**

- Check the battery charge status: If the battery charge is low or if the battery is even empty, please recharge the battery with a certified charger.
- Check the cable connection: Check that external cable connections are properly connected. If external connections are all properly connected, please contact your nearest Halfords store for further inspection.

- **No assistance power**

- Charge level: check the charge level; at 4% battery charge and below, the riding support will stop. The remaining charge is reserved to power the lights (if equipped and powered by the assist system) for up to two hours.
- Check your riding assist level on the display: You will only feel the riding support from level 1 to level 5.
- Pedal the e-bike: The e-bike only provides riding support power when you keep pedaling. Riding support will be shut down immediately when you stop pedaling.
- System overheat: Are you riding on long slopes in the heat or put an overload weight on your e-bike for a long time? The e-bike assist system may overheat.
- Please turn off the system, then take your 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 to 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.

### 9.2. Battery & charging issues

- **The battery quickly loses energy**

- The battery may be near the end of its service life, contact your nearest Halfords store for further service.
- The battery capacity may be affected by ambient temperature, especially in cold weather.

- **The battery can not be charged**

- 
- Securely connect the charging adapter to the battery charging port and charge again. If the battery still does not charge, consult your nearest Halfords store.

### The LED indicator on the charger does not illuminate.

- Turn on the e-bike system; if the battery charges properly, the charge indicators on the display will flash and show the current charge status.
- 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, contact your nearest Halfords store.

## 9.3 Error code definition

The drive system parts are automatically monitored in real time. If a part is abnormal, the corresponding error or warning code will be displayed on the HMI.



In order to protect the electric parts, before disassembling the parts, please turn the power OFF first and then disconnect the power cable of the disassembled part. When installing the parts, please fix the parts first, then connect the power cable of the parts, and finally turn the power ON.



The display can show the errors of a pedal. When the fault is detected, the error code will be displayed through the level indicator in flashing. Level 1 indicates the tens digit of an error code while level 2 indicates the units digit. For example:



#### 1) Error code 04

The LED indicator for level 1 does not light, and level 2 flickers for 4 times. After 1 second pause, repeat the pattern.

#### 2) Error code 11

The level 1 flickers one time, then level 2 flickers one time. After 1 second pause, repeat the pattern.

**Note:** Please read carefully the description of the error code. When the error code appears, please first restart the system. If the problem is not eliminated, please contact your dealer or technical personnel.

| Error Code                                                                | Measures                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                           | Hub Motor System                                                                                                                                                                                                                                                                                                                      |
| <b>E-05</b><br>Throttle not in position                                   | <ol style="list-style-type: none"> <li>1. Make sure that the throttle returns to position, and restart the system.</li> <li>2. If the problem persists, disconnect the throttle from the system, and restart the system.</li> <li>3. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol> |
| <b>E-06</b><br>Battery voltage lower than the system's operating voltage  | <ol style="list-style-type: none"> <li>1. Connect the charger, and charge battery to full capacity.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                                                                      |
| <b>E-07</b><br>Battery voltage higher than the system's operating voltage | <ol style="list-style-type: none"> <li>1. Make sure that the original battery is used.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                                                                                   |
| <b>E-08</b><br>Motor position signal abnormal                             | <ol style="list-style-type: none"> <li>1. Check the motor for damage (e.g. cables, connectors, pins), and check the motor and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                           |
| <b>E-09</b><br>Motor phase cable abnormal                                 | <ol style="list-style-type: none"> <li>1. Check the motor for damage (e.g. cables, connectors, pins), and check the motor and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                           |

| Error Code                                                               | Measures                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          | Hub Motor System                                                                                                                                                                                                                                                               |
| <b>E-18</b><br>Motor overload                                            | <ol style="list-style-type: none"> <li>1. Restart the system.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                                                     |
| <b>E-21</b><br>Speed signal abnormal                                     | <ol style="list-style-type: none"> <li>1. Check the motor for damage (e.g. cables, connectors, pins), and check the motor and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>    |
| <b>E-30</b><br>Communication abnormal                                    | <ol style="list-style-type: none"> <li>1. Check the HMI for damage (e.g. cables, connectors, pins), and check the HMI and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>        |
| <b>E-42</b><br>Battery voltage lower than the system's operating voltage | <ol style="list-style-type: none"> <li>1. Connect the charger and check whether the charger works properly.</li> <li>2. Charge the battery to 30% or for 2 hours.</li> <li>3. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol> |

| Error Code                                                               | Measures                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          | Hub Motor System                                                                                                                                                                                                                                                               |
| <b>E-45</b><br>Battery temperature too high                              | <ol style="list-style-type: none"> <li>1. Stop use until the battery cools down.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                                  |
| <b>E-46</b><br>Battery temperature too low                               | <ol style="list-style-type: none"> <li>1. Stop use until the temperature returns normal.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                          |
| <b>E-48</b><br>Remaining battery too low                                 | <ol style="list-style-type: none"> <li>1. Connect the charger and check whether the charger works properly.</li> <li>2. Charge the battery to 30% or for 2 hours.</li> <li>3. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol> |
| <b>E-50</b><br>Temperature difference between individual cells too large | <ol style="list-style-type: none"> <li>1. Stop use, park your ebike properly, and let it rest for at least 30 minutes.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                            |
| <b>E-59</b><br>The charger not compatible with the battery.              | <ol style="list-style-type: none"> <li>1. Make sure that the compatible charger is used.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                          |
| <b>E-71</b><br>E-lock abnormal                                           | <ol style="list-style-type: none"> <li>1. Restart the system.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                                                     |

| Error Code                                                       | Measures<br>Hub Motor System                                                                                                                                                                                    |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>E-89</b><br>Communication between IoT and controller abnormal | 1. Check the IoT for damage and correct assembly (e.g. cables, connectors), and restart the system.<br>2. If the problem persists, stop use, and contact your place of purchase for assistance.                 |
| <b>E-90</b><br>ABS communication signal abnormal                 | 1. Check the ABS for damage (e.g. cables, connectors, pins), and check the ABS and controller for correct assembly.<br>2. If the problem persists, stop use, and contact your place of purchase for assistance. |
| <b>E-91</b><br>ABS abnormal                                      | 1. Restart the system.<br>2. If the problem persists, stop use, and contact your place of purchase for assistance.                                                                                              |
| <b>E-92</b><br>ABS abnormal                                      | 1. Restart the system.<br>2. If the problem persists, stop use, and contact your place of purchase for assistance.                                                                                              |
| <b>E-93</b><br>ABS abnormal                                      | 1. Restart the system.<br>2. If the problem persists, stop use, and contact your place of purchase for assistance.                                                                                              |
| <b>E-94</b><br>ABS abnormal                                      | 1. Restart the system.<br>2. If the problem persists, stop use, and contact your place of purchase for assistance.                                                                                              |

| Error Code                                    | Measures                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               | Hub Motor System                                                                                                                                                                                                                                                                                                                                        |
| <b>E-95</b><br>IoT connection abnormal        | <ol style="list-style-type: none"> <li>1. Check the battery for the connection to the system.</li> <li>2. Charge the battery.</li> <li>3. Check the IoT for damage and correct assembly (e.g. cables, connectors), and restart the system.</li> <li>4. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol> |
| <b>E-96</b><br>IoT CAN Communication abnormal | <ol style="list-style-type: none"> <li>1. Check the IoT for damage and correct assembly (e.g. cables, connectors), and restart the system.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                                                                                                 |
| <b>E-97</b><br>Ebike falling down alarm       | <ol style="list-style-type: none"> <li>1. Right your ebike, and the problem will disappear.</li> </ol>                                                                                                                                                                                                                                                  |
| <b>E-98</b><br>Disturbance alarm              | <ol style="list-style-type: none"> <li>1. Stop your ebike, and the problem will disappear.</li> </ol>                                                                                                                                                                                                                                                   |
| <b>E-99</b><br>IoT low battery alarm          | <ol style="list-style-type: none"> <li>1. Charge the battery, and the problem will disappear.</li> </ol>                                                                                                                                                                                                                                                |

| Warning Code                                    | Measures                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                 | Hub Motor System                                                                                                                                                                                                                                                                            |
| <b>W-22</b><br>Battery SOC calculation abnormal | <ol style="list-style-type: none"> <li>1. Check the battery for damage (e.g. cables, connectors, pins), and check the battery and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>             |
| <b>W-25</b><br>Torque sensor signal abnormal    | <ol style="list-style-type: none"> <li>1. Check the torque sensor for damage (e.g. cables, connectors, pins), and check the torque sensor and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol> |
| <b>W-26</b><br>Torque sensor signal abnormal    | <ol style="list-style-type: none"> <li>1. Check the torque sensor for damage (e.g. cables, connectors, pins), and check the torque sensor and controller for correct assembly.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol> |
| <b>W-33</b><br>Brake abnormal                   | <ol style="list-style-type: none"> <li>1. Restart the system.</li> <li>2. If the problem persists, check the brake for damage and correct assembly.</li> <li>3. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                            |
| <b>W-36</b><br>ON/OFF button abnormal           | <ol style="list-style-type: none"> <li>1. Pressing ON/OFF button too long at startup will trigger the problem. It will disappear, if you release the button.</li> <li>2. If the problem persists, stop use, and contact your place of purchase for assistance.</li> </ol>                   |



#### **9.4. Other issues**

If your e-bike does not work properly due to mechanical problems, assist system issues, or any other problem that cannot be identified or solved, contact your nearest Halfords store.

### **10. Cleaning**

- When cleaning, disconnect the power plug from the electrical outlet and the charging plug from the battery. If this is not observed an electric shock may occur.
- Do not immerse the e-bike system or any individual e-bike component in water.
- Do not clean any assist system component with pressured water.
- Only clean the product with a water-dampened soft cloth.
- Do not clean any assist system component with any detergent or organic solvent.
- The system is designed to operate in rain and other adverse weather conditions. Damage due to pressure washing or other heavy cleanings may void the warranty.

## 11. Disposal

- The e-bike assist system drive unit including the motor, controller, battery, speed sensor, display, 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.



### 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 separate 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**





