

# PRODUCT MANUAL

## FATBIKE EKOE



MODEL:SMD-EEC 05

Please read this owner's manual  
carefully before operating this vehicle

# CHAPTER 1 Introduction

## **Main features are as follows:**

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### **1. Lithium battery:**

Products by UL and CE certification and registrations of the safety inspection, safe and reliable.

### **2. Battery:**

Hidden in the center of the foot plate beneath the surface, small, light, safe.

### **3. Motor:**

It is made of high-quality magnetic steel with added silicon steel sheet, with thick coils, a precise bearing and a thick motor shaft. It has strong power and capacity and it is durable.

### **4. Tire:**

Tires adopted are extra wide vacuum tires used by ATV, such tires are thick and firm with better stability, strong holding capacity. This will bring you a safe, comfortable and smooth ride.

### **5. Frame:**

From three-dimensional virtual design and assembling to technology-advanced numerical control pipe bending and argon arc welding, all these operations are accomplished without stopping.

### **6. Disc brake:**

A compact and fine oiled disc brake is adopted. The pump house adopts a aluminum alloy technology and advanced CNC processing technic which makes the brake very flexible.

### **7. Handlebar:**

It is of streamline ergonomic leisure design, it is firm and easy to grip.

### **8. Turning bar:**

Injection molding by soft rubber materials is adopted for the turning bar, so it will bring you comfortable holding.

### **9. Seat cushion:**

highly flexible foam and high level of anti-slip leather with well-designed exterior, perfect manufacturing and suitable saddle height, which makes your ride comfortable.

### **10. Smart charger:**

it is fully-automatic and portable design. When charging, no care is needed, wherever there is 220V AC power supply, charging can be done.

### **11. Controller:**

it has been calibrated precise and starts up without pause, which makes the ride more safe.

## **Chapter 2 Overall view of the scooter**



## CHAPTER 3 Main Technical Parameters

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1.Product Size:	2010*380*985mm
2.Wheel base:	1400mm
3. High:	985mm
4. Net Weight:	65kgs
5. Tire specifications:	18*9.5
6. Maximum load:	180 kg
7. Design top speed:	≤45km/h
8. Range:	40~60km
9.Maximum torque:	95N/M
10.Maximum climbing:	≤18
11.Braking performance(20 km/h):	Dry:≤1m;Wet:≤3m.

### Main technical parameters of battery

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1. Battery type:	big polymer block battery
2. Capacity:	10,4 Ah
3. Nominal voltage:	60V

### Main technical parameters of motor

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1.Motor models:	brushless dc motor hub
2. Rated power:	1500W

### Main technical parameters of controller

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1. Current limiting protection value:	25 + 1A
2. Under-voltage protection value:	52 ± 0.5V

### Charger main parameters:

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1.The input voltage(ac):	100-240V AC50/60HZ
2.The output voltage(dc):	7.2~2.0A
3. Charging time:	5-7 h

# CHAPTER 4 Operation method and considerations

## Considerations for safe driving

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1. Please observe traffic regulations and drive safely. Please control the speed within safe speed range.
2. Before driving, read these instructions first, and then perform exercise at an open site, make sure you are fully mastering the driving and get familiar with the structure and performance of this vehicle.
3. Do not lend the vehicle to a person who is not familiar with or unable to drive the vehicle.
4. Take more care when driving in rain or snow, danger may occur due to wet ground. Then you should drive at a lower speed and take more care when turning. You must remember that you do have to brake earlier in rain or snow do to longer braking distance to prevent accidents!
5. Wear a helmet and fasten it correctly.
6. Wear suitable clothing: do not wear tights so that your whole body can move freely; you should wear clothing with sleeves unopened and low-heel shoes, as practical as possible.

**Note:** in order to facilitate maintenance, repair and service, every fatbike has a frame size and motor number, to help sales units to provide you with better service. Inscribed on the base plate of the fatbike you will find chassis number, machine number is engraved on the motor shell cover.

7. Do not overload: the max is 180kg. The handling feeling of handlebar with load is different from that without load. When many articles are loaded, the handlebar will vibrate, resulting in danger. The stable load of the vehicle is one or two persons, it is very dangerous to load articles or person at the front of foot plate.

# The correct method of use

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## 1. The driving method

- ① Keep natural posture, and free driving can be good.
- ② Driving in sitting posture: please always keep your body at the center of the cushion to prevent load reduction of the front tire and danger caused by handlebar vibration.
- ③ Driving in standing posture: when speed up, you should turn the turning handles

slowly, danger caused by instability due to sudden speeding-up should be avoided.

④ Drive the vehicle slowly on roads with surface damage or paved with gravels.

⑤ In rain or snow, wet ground will easily cause sideslip, so you should drive slowly with much attention. When water accumulated on roads becomes above the cell box located underneath the foot plate, do not drive in it, so as to prevent electrical parts damage caused by short circuit. Meanwhile braking performance will decrease, which will cause accidents easily.

## 2. The way of parking

- ① When parking, please pay attention to those vehicles and pedestrians around, park it to the right side of a flat road slowly, do not park it on a slope.
- ② After parking it stable, turn the power supply lock rightwards to

pull the key out and take it down, and then lock the scooter with a lock.

## 3. The power indicator method of use

Turning on the power supply voltage indicator, you see 3 Led-lights, HIGH light, you have up to 75% of the rated capacity, HALF light charge is 25% of the rated capacity, LOW light flashing indicates that power is less than 10%, so when you find LOW lights flashing charge immediately.

## 4. The use of the power lock

After the key of the power supply lock is turning by a shift in clockwise direction for connection, the motor can be started up. During driving, you do not remove the key and switch off power supply, nor can you turn the key in counter clockwise direction to close the power supply lock. Once you switch off the power supply, the motor will stop running, after parking, you should turn the power supply lock in counter clockwise direction to switch off the power supply, and then pull the key out.

## 5. Turning handle (speed)

If the turning handle is turned towards the driver, the scooter will be speeded up, and if it is released to turn back the speed will be reduced, after reset, cut off the power supply of motor.

## **6. The use of the disc brake method and considerations:**

### **(1) The use of the disc brake**

- ① Brake clearance adjustment, turning the adjusting screw which is located between the braking handle and the handlebar tube using a 2mm Allen wrench, adjust the clearance between braking pads and the braking disc until your hands are comfortable.
- ② Replace the braking pad when braking pads are worn out by more than 1mm or the adjusting screw of braking pads are adjusted to the end position or every 6 months. When replacing braking pads, press in one of the braking pads using a clean slotted screwdriver to vacate space for taking out the other braking pad. After replacement is complete, it is needed to return the adjusted screw of braking pads to a suitable position.
- ③ Run-in period: the run-in of disc brake surface needs a certain time, after complete run-in, braking force will increase significantly, the first week in which you use a new disc brake is the run-in period, do not brake with too great a force, otherwise unrecoverable damage will be caused to braking pads and braking body, the correct operation method is to brake slightly during driving, so that there is appropriate friction kept between braking pads and the disc brake.
- ④ Oil replacement: this disc brake adopts mineral oil, which should be replaced every (2-3) years in general when the braking handle feels weak, replace oil using an injector.

### **(2) The matters needing attention**

- ① Do not use lubricating oils around the disc brake and braking pads, as well as the calliper, do not touch the surface of disc brake and braking pads with hands, otherwise braking performance will be reduced significantly.
- ② Do not shower a new brake, this to prevent a small quantity of lubrication grease in the assembling clearance that can contaminate the braking pads.
- ③ Oil hydraulic disc brake has a strong braking force, you need to do much exercise at a safe place, so as to adapt to the difference from a common brake to avoid braking with too great a force, resulting in injury due to wheel lock up.

## 7. The use of the charger

### (1) Method of use

- ① When charging, plug in the cell box first, then that of electric supply AC 220V, when charging is complete, take the counter procedures, that is , unplug the plug of electric supply AC220C, then that of cell box.
- ② During normal charging , the indicator light of the charger shows red, when fully charged, it will show green.
- ③ When charging in ambient temperature that is too high, the red light will flash, which indicates that the charger is in the temperature protection state, please take the charger to a cool or well-ventilated place. When the inside temperature of the charger is lower than  $60^{\circ}\text{C}$ , normal charging occurs.
- ④ If there is no cell connected during usage and the chargers output has a pulse voltage less than 42V, when testing, place a  $1\text{ K}\Omega$  ohmic load between the positive and negative output terminal, then actual charging voltage of the charge can be obtained.

### (2) The matters needing attention

- ① The charger can only be used indoor.
- ② Charging in a closed space or under scorching sun or at a high temperature environment is strictly prohibited, do not put the charger on the seat or inside the rear compartment of the vehicle when charging.
- ③ Do not connect the charger to a AC power supply without charging for a long time.
- ④ During charging, if the indicator light is abnormal, there is abnormal smell or the house of the charger is too hot, please stop charging immediately, and repair or replace the charger.
- ⑤ Do not disassemble or replace the devices inside the charger by yourself.
- ⑥ Do not charge a battery that has been fully charged.
- ⑦ Do not use charger in an environment with flammable gas, otherwise fire explosion will be caused.
- ⑧ Do not place the charger near water source or wet it, otherwise fire or electric shock may occur.
- ⑨ In the event that inside parts are exposed due to charger damage caused by collision etc. Do not touch them with hands, otherwise you may be injured due to electric shock.



## **8. Use method and matters needing attention of the battery**

### **(1) Charging**

- ① Make sure to charge using the charger specifically equipped by our company, irregular or non-conforming chargers may reduce life of the cell or invalid the cell!
- ② The cell that has been fully discharged (the vehicle stops running) can be charged with more than 95% of electricity within 5h, and can be fully charged within 8h.
- ③ During charging, neither the positive end nor the negative end is allowed to be in contact with metal.
- ④ When leaving factory, the cell's electricity is about 80%, prior to driving the new vehicle, charge it for 3~10h.
- ⑤ If the vehicle is left for more than one month, cell's electricity will reduce by about 5%. It is recommended to charge it before use.
- ⑥ Please charge the cell timely to ensure driving mileage.
- ⑦ During charging, the charger may become hot. As long as the temperature does not exceed 60°C, it is normal.
- ⑧ When charging, please put the charger and the whole vehicle at a stable and dry place which is free of flammable and explosive goods and is out of reach from children.
- ⑨ You should charge the cell within 24h after it is fully discharged, and charging time should not be less than 3h.
- ⑩ Make sure that there is no short-circuit at the charging port.

### **(2) The discharge (use)**

- ① Do not use a cell other than the one that is made for this model, otherwise warranty will not be provided.
- ② Once short-circuit occurs, the cell management system will provide automatic protection, and the fuse piece connected in series with power lines will fuse, giving dual protection for you cell. At about 2 min after the short circuit is released and the fuse piece is replaced, the cell will work normally.
- ③ Damage or unreasonable configuration of the controller, motor, horn, lighting facility, etc. of electrical vehicle, all will cause the cell to discharge at high current. At this time, the cell will stop output for protection, but will recover within 10s, which will not have any effect on your driving.
- ④ Working temperature range of the cell: -10°C~55°C. Like other cells, its available energy will reduce with the rise of temperature, which is a normal phenomenon.

### **(3) Storage**

- ① If long-time storage (more than one month) is needed, it is recommended to charge the cell to 60%~80% of electricity. During storage, it is needed to charge the cell every 3 months, and charging is also needed before using.
- ② The cell should be stored in a cool and dry environment.
- ③ During storage, prevent conductive objects from connecting the positive pole with the negative one.
- ④ Do not use the cell near a fire source.
- ⑤ Do not disassemble the cell.
- ⑥ Do not refit the cell.

### **(4) Note**

- ① If the cell is found to deform or becomes hot, you should stop using and seek help from our company or repair department.
- ② In case of fire, do not quench the fire directly using water. It is recommended to quench it using sand, foam, extinguisher or thick clothing soaked with water.
- ③ For the cell fault caused by delayed charging of a fully-discharged cell, warranty will not be provided.
- ④ Do not discharge the cell haphazardly.

## **Inspection, cleaning and maintenance**

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### **1. Regular basis or daily check**

- ① Check the whole vehicle at a safe place.
- ② Abnormal position the day before, to see whether it affects operation.
- ③ Check whether there are chaps, damage or abnormal wear on tires or whether there are such sharp objects as metal, pebbles, glass embedded in tires. If the lug on a tyre has been worn off by 2/3, replace the tyre. Check tyre air pressure according to the sunken condition of the part of the tyre that is contacted to the ground. The normal air pressure of front and rear tyre is 1.5kg/cm<sup>2</sup>.
- ④ Check whether the power supply's voltage indicates full capacity (according to Chapter 4).

- ⑥ Steering system: swing the handle and front fork upwards, downwards, forwards, backwards, leftwards and rightwards to check whether tightness is suitable and steering is flexible, and whether there are such problems as abnormal sounds caused by collision, steering system loosening. If there are, please contact the distributor, so as to provide perfect after-sale service for you.
- ⑦ Check whether the front and rear wheel shaft has become loose.

## Common faults and elimination method

No	Performance	Reason	Solution
1	Speed regulation failure or maximum speed reduced	<ul style="list-style-type: none"> <li>①The battery voltage is too low;</li> <li>②Speed control to turn the failure.</li> <li>③Transfer speed in the spring stuck or failure.</li> </ul>	<ul style="list-style-type: none"> <li>①Full of battery;</li> <li>②Looking for distributors to replace.</li> </ul>
2	The motor power does not work	<ul style="list-style-type: none"> <li>①The battery's connection is loose;</li> <li>②Speed control to turn the failure;</li> <li>③The motor output line is loose or damage.</li> </ul>	<ul style="list-style-type: none"> <li>①Re-connection;</li> <li>②Looking for distributors to replace;</li> <li>③Maintenance.</li> </ul>
3	Lock of mileage range	<ul style="list-style-type: none"> <li>①Tire pressure is to low;</li> <li>②Under charge or charger malfunction;</li> <li>③The battery aging or damaged;</li> <li>④Complex road conditions.</li> </ul>	<ul style="list-style-type: none"> <li>①Make sure of tire pressure;</li> <li>②Full of charge or replace the charger;</li> <li>③Replace the battery ;</li> <li>④Cycling conditions change is back to normal.</li> </ul>
4	The charger is not working	<ul style="list-style-type: none"> <li>①Socket and plug connection is loose;</li> <li>②Battery compartment within the fuse blew out;</li> <li>③Cannot determine the fault.</li> </ul>	<ul style="list-style-type: none"> <li>①Make sure of socket and plug;</li> <li>②Replace the fuse;</li> <li>③Welding the cable.</li> </ul>
5	Other	Cannot determine the fault	Looking for distributors or professional maintenance depot

# CHAPTER 5

## Electrical Principle

