



E-LEGGERA

# Electric Bicycle Manual

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Electrically power assisted bicycle, equipped with pedals and an auxiliary electric motor, which can not be propelled exclusively by means of this auxiliary electric motor.

Compared with bicycle, Electric bicycle only add motor, controller, charger, battery. When Riding, electric energy will help you to ride easier and save labor.

**Items in carton:**

When you open the carton, please check if the following items are inside.

If not, please contact with your agent.

•	electric bicycle	1pc
•	charger	1pc
•	manual	1pc
•	tools kit	1set
must be in the carton		

# 1. Safety instructions and notes

## 1.1 Safety instructions

- ★ Do not operate this electric bike without carefully reading the manual and understanding the performance of the electric bike, and do not lend it to the persons who can manipulate the electric bike.
- ★ Preparations before riding: wear your helmet, gloves and other protective equipments before riding to protect yourself from damage in case of an accident.
- ★ We highly recommend that you observe traffic rules and regulations when using this electric bike. Passengers can not be carried. When riding in rainy, snowy or slippery conditions reduce your speed and keep the distance between yourself and other vehicles.

- ★ Cycling conditions: ambient temperature of -10 to 40C, no wind and flat roads; without frequently start up and brake, the general running distance may be 40 to 75km (according to the battery capacity).
- ★ Maximum load: the maximum load of the bike is (100Kg); if an accident happens when the load is more than 120Kg, the company does not undertake any responsibilities.
- ★ In case of frequently brake, start up, uphill, headwind running, muddy roads, overload and others, a large quantity of electric power of the storage battery will be consumed, thus affecting the continued mileage, so we recommend that you avoid the above factors when riding.
- ★ If the storage battery is disabled for a long time, make sure to charge it enough, and it need be additionally charged once if its storage is more than a month.
- ★ Make sure to pay attention: the electric bike can not wade for a long time because if water enters into the controller and motor wheel, it may cause short circuit to damage the electrical appliances!
- ★ Prohibit unauthorized demolition or alteration, and the company is not responsible for all losses resulting.
- ★ The scrapped battery can not be discarded randomly, so as to avoid environmental pollution.

## 1.2 Notes

The electric bike is designed based on the original bike in combination with the market demand and is a means of transport with special functions and uses. At the time of purchase, please select and buy a model suitable for your need, and the drivers must have skilled riding technique before riding on the road. In order to your correct use and security, please pay attention to the following matters:

- ◆ In the process of use, pay attention to check the fastening status of the motor and rear fork, and if a loose phenomenon is found, it should be tightened timely.
- ◆ When starting the power supply or meeting a steep slope, use the Pedal to assist as far as possible to reduce the starting current and extend the battery life and continuation line mileage.
- ◆ In rainy days, please pay special attention to: when the water depth is more than the wheel center, it is likely for the motor to soak water, thus resulting in failure.
- ◆ Users must use the charger specified by manufacturer for charging the storage battery. When charging, put the battery and charger smoothly.
- ◆ It is prohibited that other items are covered on the battery box and charger to impede heat, where good ventilation environment should be maintained.
- ◆ Please keep appropriate air pressure inside the tires, so as to avoid increasing the resistance when riding, and easily wearing the tires and deforming the Rim.
- ◆ Drivers should observe the traffic regulations, and the riding speed should be controlled below 25km/h and the goods to be carried shall

not exceed 25Kg.

- ◆ When high-speed running or downhill hard braking, do not use the front brake to avoid the center of gravity from moving ahead, thus resulting in danger.
- ◆ Don't modify the luggage carrier.
- ◆ Don't pull a trailer on the luggage carrier.
- ◆ The bicycle may behave differently (particularly with regard to steering and braking) when the luggage carrier is loaded;
- ◆ Ensure that any luggage or child-seat fitted to the luggage carrier is securely fitted in accordance with the manufacturer's instructions and that there are no loose straps that can get caught in any of the wheels;
- ◆ When luggage is attached to the luggage carrier, don't obscure the reflectors and lamps; distribute luggage evenly between the two sides of the luggage carrier.

## 2. Basic structure and name

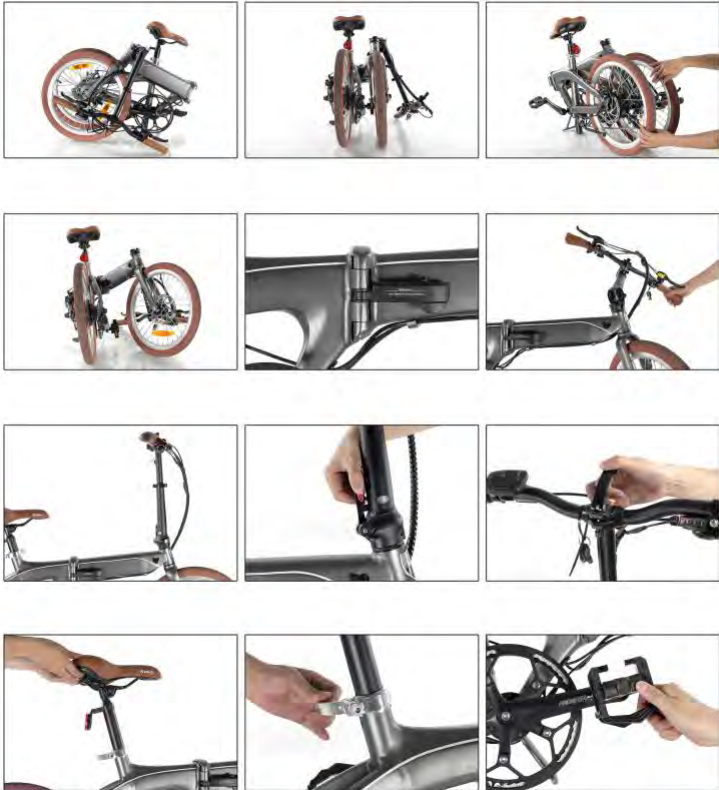
### 2.1.Folding E-bike



1	Frame	2	Controller	3	Battery
4	Seat clamp	5	Seat post	6	Saddle
7	Stem	8	Grip	9	Handle bar
10	Brake lever	11	Shift	12	Harness
13	Disc Brakes	14	Tyre	15	Rim
16	Nipple	17	Spoke	18	Hub
19	Valve	20	Front Fork	21	Pedal
22	Crank	23	Chain	24	Side kick stand
25	Motor				



### 3. Unfolding method





## Pre-ride Checks and Service Interval

Before riding your bicycle you must complete the pre-ride checks. This will ensure your safety and that your bicycle is operating optimally.



### Additional Pre-ride Checks

- Check front and rear tyre pressure and condition
- Check that you do not exceed the rider weight limit. This product has been designed with a maximum recommended weight limit of 100kg (220lbs) for the rider, clothing and all luggage, and is intended for use on paved roads. For rider and luggage weight 100-115kg (220-250lbs); riding style, road condition, tyre pressures and luggage position may reduce product service life. Luggage weight should not exceed 10% of total rider and luggage weight. Never exceed rider and luggage weight of 115kg (250lbs) at any time. Exceeding this limit will void all warranties and may result in the product being unsafe for operation.

**If you have any reason to believe that your bicycle is not functioning properly, or that you are aware that your bicycle has been damaged in any way, do not ride it.**

If you answer "no" to any of the questions, you should not ride your bicycle and should seek advice from an Authorised Reseller.

1. Have you read and understood the bicycle Owner's ?
2. Are you wearing an approved cycle helmet and, if necessary, other appropriate protective clothing such as protective eye glasses and gloves?
3. Are you visible to other road users?
4. Have you fitted the bicycle with approved front and rear reflectors for the country of operation?
5. If it is raining or the roads are wet or icy, are you aware that the risks of injury are greater and that you should adjust your riding style to suit the conditions?
6. Have you properly assembled your as per the recommended Assembly Guide?
7. Have you confirmed that both brakes are functioning properly and you know which lever operates the front and rear brakes?
8. Have you Confirmed that there are no loose connections or missing bolts and your tyres are filled with air to the recommended tyre pressure?

### Apollo Service Interval Guide

Service Interval	Responsible Party	Interval (Miles)	Interval (Kilometers)
Pre-ride checks	Owner	Before each ride	Before each ride
First service	Authorised Reseller	After first 100 miles or 160km	Two months after first ride
Visual inspection	Owner	Every 500 miles or 800km	Every three months
Check and update to latest firmware version	Owner		Every three months
Annual service	Authorised Reseller	Every 2000 miles or 3200km	Annually

Note: Any purchased in a used condition should have a full service completed by an Authorised bicycle Reseller prior to riding and a first Authorised bicycle Reseller Service should follow.

**Have you read and understood the e-bike Owner's manual?**

## 4. Operation and adjustment

### 4.1 Familiarising Display introduction



“3” the shift key “1”the power on key “2” the shift key “4”the display

### 4.2 Ride modes

You can operate your bike in different modes to suit your personal riding style.

#### Display switch on

### 4.3. Introduction to speed boosting system

The speed boosting system is also known as 1:1 boosting system. And the so-called 1:1 automatic power assisting is that when you do not rotate the speed handlebar but ride only by means of feet, the sensor with you bike will automatically sense your riding speed and control the motor to assist you automatically in a driving force with the same speed, so as to let your

ride easier and make the continuation line mileage further.

1:1 boosting system comprises a controller, sensor and induced cartridge.



① Controller

② Sensor

③ Induced cartridge

#### 4.4. Charge

As it will last a certain period of time for the ex-factory, transport and storage of a just purchased new bike, it is likely to result in shortage of the battery power, the battery should be first charged before it is used.

The charger configured or designated by our company must be used for charging; otherwise it might damage the battery, and may even lead to fire and other danger, but no warranty is provided by our company.

**4.4.1. Installation and charging of battery** (as shown in Figure 1 and Figure 2)



#### 4.4.2. Charging steps and method

1. Check carefully whether the rated input voltage of the charger is consistent with the voltage of the power grid.
2. The battery can be directly put on the bike for charging.
3. Connect first the output plug of the charger with the charging jack of the battery properly, and then connect the input plug of the charger to the AC power supply.
4. At this time, the power indicator light and the charge indicator light of the charger are on, indicating that the charging has been connected.
5. After charging, should first pull out the AC power plug, and then pull out the plug connected with the battery.

After the battery is fully discharged, the one-time charging time is 4 to 6 hours, and after the charge indicator light is red from green, the power capacity of the battery has been basically sufficient.

A new bike had best be re-charged for (6 to 7 hours) after depth discharging since charging for the first time, and the one-week depth charging and discharging is a cycle to fully activate the active substances inside the battery. Later, it can be re-charged even if its power is not used

up.

**Common sense of charging and use:**

\* The battery should be charged in a spacious environment, staying away from high temperature, high humidity and close fire, because the battery and the charger are electronic products, high temperature and humidity will corrode electronic components, resulting in some harmful gases and soot, and even a possible explosion to wound.

\* The charging time should not be too long. A long charging will lead to shortened life expectancy of the battery.

\* After the battery is fully charged, the power supply should be pulled out as soon as possible, and at the same time, the battery is taken out of the charger.

\* When the battery is not used for a long term, the battery power should be emptied before the battery is preserved, and it is re-charged once every month or so.

**4.5. Quick release folding system**

**4.5.1. Quick release system of the seat**

1. Move the quick release handle to the OPEN position (OPEN sign faces to the operator).

2. Clockwise rotate the adjusting nut, only until it contacts with the seat connector, and then turn a circle or semi-circle in the opposite direction and push the quick release handle to the CLOSE position (as shown).



3. Push the side position of the seat head and the upper part by force; if the seat rotates upward at the left and right or downward from up to down,

should first check whether the seat bunch is locked, and then check whether the quick release device is locked, and repeat the operations above if necessary.



#### 4.6 Reflection and lighting system

The reflection system includes a reflector on the rim and another one on the hand lebar. These items help to mark your own position when riding, convenient for pedestrians and other vehicles on the roads to avoid (recommendation: purchasers in accordance with local laws and standards use the reflector and lighting system).

#### 4.7 Seat position

When you sit on the seat to tread on the Pedal flatly by heel, when the Pedal is at the lowest position, legs slightly stretch, and at this time it is the most appropriate height; if the rider can tread on the Pedal only by toes or legs can not stretch slightly, fatigue and sports injury will be caused, so there is a careful need for adjustment of the height of the Seat post.



Figure 2

The Seat post has a MAX marked line (that is, the safety line), and the

so-called insertion mark can not be higher than the seat connector. In case of improper use, serious injury may be caused to the rider (as shown in Figure 2).

## 4.8 Braking system

The braking system is an accessory necessary for each bike and is the key to traffic safety; before driving, you must understand your braking system, and do a good job in the inspection and adjustment work.

The general idea is that upon hard braking, the bike will surely stop in a short distance, but that is wrong. Upon hard braking, when the wheels are suddenly jammed by the brake rubber, the bike will glide horizontally, and it not only is dangerous but the braking distance will be lengthened. Therefore, the concept should be established is that the braking system is only used to adjust the speed of the bike.

The braking system typically includes a Brake handle, brake (disk brake, V brake and many other types of brakes) and brake cable.

### 4.8.1 Brake handle

The structure of the Brake handle is as shown (in the left drawing), and the left Brake handle controls the front brake and the right Brake handle controls the rear brake.



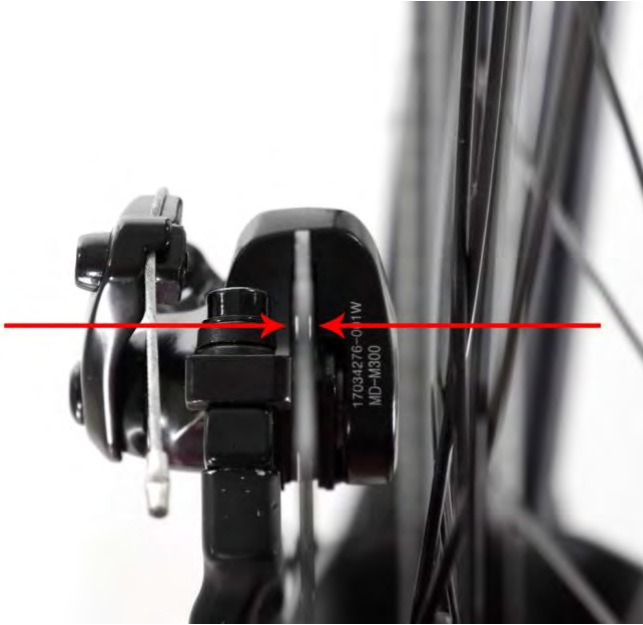
. The adjusting screw is used to

adjust the distance between the brake pads and the Rim.

. The effective stroke of the brake cable is about a half of the distance between the handle of the Brake handle and the grip of the Across handle Stems; if the brake is tight when the handle of the Brake handle is almost approaching to the grip of the Across handle Stems, the distance between the brake pads and the Rim is too large, it needs to be adjusted.



## 4.8.2 Adjust the disc brake



Adjustment method of the brake pads:

- 1 Loosen the fixed screw and see there are three holes in the permanent seat;
- 2 When moving the spring foot to the up hole, the elastic force increases, so that the distance between the brake pads and the Rim is increased, and vice versa it becomes small. Depending on the circumstances, the braking is adjusted accordingly.

## 4.8.3 Brake cable

- . The brake cable of the flat handle
- . The bifurcation situation of the internal



line should be avoided, so a tail sleeve had best be covered on the line end.

. The brake cable should be regularly taken out to be oiled, to avoid too large resistance arisen from rust.

. The brake cable in a linear way has the best function, and if it must be bent, the turning with a small arc should be avoided as far as possible.

. The length of the brake cable is based on the principle that it will not be stuck when the handlebar turns left or right to the limit.

### **Common sense of the use of braking system :**

\* When the distance between the brake pads and the Rim is too large, it is adjusted by the Brake handle or the adjusting screw on the folder gate device.

\* When the lines of the brake pads are worn seriously, replace it timely in order to maintain traffic safety.

\* When not riding for a long time, please loosen the folder device to avoid fatigue of flexibility, but pay attention to recovery of the gate device before riding.

\* When riding in rainy days, the function of any gate device will be weakened, so please keep a longer safe braking distance and reduce the speed.

\* The surface on the brake disc, shoe block may not be oiled, so as to avoid serious injury.

\* If the brake cable is ripped, it may cause the brake cable to be broken and this is very dangerous, please replace timely.

## **4.9 Chain**

Wear the chain and elongate it to a certain extent, it will in the chain will climb to the chain wheel and jump, and at this time the chain has not meshed with the chain wheel correctly, thus affecting the cycling performance; in case of such a situation, the chain should be timely adjusted.



**Common sense of the use of speed control system :**

- \* If the electric bike is idle for a long time, the chain will be changed to the minimum keyboard tooth and the smallest flywheel, so as to avoid fatigue of the mechanical flexibility.
- \* The chain, fluted disc, flywheel, should be always washed, wiped, and lubricated (oiled appropriately).

**4.10 Inflator (option)**

A convenient inflator is hidden inside the seat post for your daily use. Take out the seat post and then the steps to use it as below:



1. turn the cap from right to left
2. pull out the inflator
3. open the plastic cover
4. connect with tire valve, charge the tire as normal

## 5. Use and maintenance

### 5.1. Routine inspection of electric bike before use

- 1 Install the battery box in the slot of the battery box, open the power supply switch and check whether the functions of all the electrical appliances are normal.
- 2 Safety inspection (see the notes to safe use in the Manual)
- 3 Check whether the governor switch handle rotates and is reset flexibly.
- 4 Check whether the braking power-off function and braking effect are in good condition (dry braking distance 4m, wet braking distance 15m).
- 5 We advise against performing maintenance operations that involve removing parts or components. If necessary, please contact your Authorized Dealer's Customer Service.

#### WARNING:

1. As with all mechanical components, the bicycle is subjected to wear and

high stresses. Different materials and components may react to wear or stress fatigue in different ways. If the design life of a component has been exceeded, it may suddenly fail possibly causing injuries to the rider. Any form of crack, scratches or change of coloring in highly stressed areas indicate that the life of the component has been reached and it should be replaced.

2. Danger of wheel failure due to rim Wear Replace wheel when any part of the Rim Wear Groove is not visible.

## **5.2 Attentions about the battery and charger**

### **5.2.1 Battery**

Never short circuit the discharge or charge terminals of the battery.

Never charge the battery by discharge terminals or discharge the battery by charge terminals.

Keep off the battery from fire and excessive heat. Never put the battery into fire.

To avoid damage to the battery, never subject it to intense physical shock or severe vibration or impact.

Protect the battery from water or other moisture. Protect the discharge and charge terminals of the battery from rain or water logging.

Operating temperature range when charge: 0~45°C

Operating temperature range when discharge: -20~45°C;

Humidity while battery in working state: ≤70% RH

Keep the battery away from children.

When the battery is not in use for an extended period of time, remove the battery from the load for storage.

If you have any questions about this battery or its usage, please do not hesitate to contact the Customer Service Department.

Never disassemble the battery without permission.

### 5.2.2 Charger

- Charge the battery after you buy this e-bike or the power is low.
- Make sure the charger is as least 1M away from computer, TV, fridge, washing machine and other electric machine while charging.
- This charge is only used in doors. Please use it on the dry and airy conditions, and the temperature is not more than 45°C.
- Disconnect it when there it smells un-normal while charging, and take it to the after sales.
- Use only the special charger supplied by our company. And don't use this charger to charge the battery from other company.
- Do not use the charger in unstable or having a great lot of lampblack and dust, or excessively damp place.
- If the charging finished, disconnect the connection to the wall outlet, and then disconnect it to the battery.
- Avoid children touch it while charging.
- Never disassemble or refit the charger.
- Never put anything on the charger.
- Never put any liquid or metal into the charger.
- Never plug or unplugs the charger with wet hand
- Do not touch the charger when thunder or lighting.
- Never twiddle the charger or battery while charging.
- Avoid using the charger in direct rays.
- Keep well ventilation when the charger is operating.
- Do not disconnect the battery output while charging.
- Do not connect the charger to the wall outlet if the charger is disconnecting to the battery.
- Do not use the motor; neither maintain the e-bike while charging.

### **5.3 Everyday use and inspection of electric bike**

In everyday use of the electric bike, a number of mechanical, electrical parts will be worn, screws and other fasteners are also easy to loose and the functions of the electrical appliances would be lost. If the occurrence of these phenomena is not noted, it is prone to failure, and it is also prone to the risk when cycling, so drivers must be responsible for inspection and maintenance in peacetime.

### **5.4 Bicycle inspection and care**

#### **5.4.1 Regular Cleaning**

- Remove the battery box from the e-bike before carrying out regular cleaning.
- DO NOT use water to clean the e-bike, as the electrical and electronic systems may get wet, resulting in personal injury or malfunction of the bicycle.
- Delicately wipe any dirty painted or plastic parts with a soft, damp cloth and a neutral cleaning solution. Carefully dry the parts with a soft, dry cloth to finish.
- Clean the battery contacts with a damp cloth.
- **DO NOT** grease or use a greasy cloth to wipe down the electrical connectors, brake pads, wheels, tires or plastic parts.

#### **5.4.2 Regular maintenance (every 1/2 months)**

Always carry out the following checks:

- Check that the handlebar attachment and saddle post are correctly inserted and tightened.
- Check that the wheel hub mounting nuts are correctly tightened.
- Check that the wheel rims are not cracked and that no spokes are loose or broken.
- Check that the tire s are not worn or cut.



- Check that the tires are correctly inflated.
- Check that the battery contacts on the frame are not dirty or oxidized.
- Check that the batteries are sufficiently charged.
- Check that the front and rear lights are working correctly.
- Check that the front and rear brakes brake effectively.
- Check that the cables are sufficiently greased, and that the brake pads are in good condition.
- Check that frame welds are in good condition and are free from corrosion or oxidation

### 5.5 Lubricating the e-bike

To maintain your e-bike in proper working order, be sure to carry out regular lubrication, as indicated in the following illustration:

Use specific transmission lubricants for the chain, free wheel and gears every 1–2 months, or if the driveline is dry.

Grease the brake pins, front wheel hub, saddle post and pedal pins every 1–2 months, or in case of excessive friction.

Do not lubricate or grease the speed controller, brake pads or wheel rims

**OIL** Parts should be lubricated



## 6. Riding technology

A correct cycling posture is the mother to safety: the riding posture is determined by the position of figure and shadow of the contact point (handlebar, seat, Pedal) of the rider and bicycle. However the posture is closely related to the height and size of the rider. So a single-bicycle cycling posture not only determines the efficiency of muscle contraction movement, but at the same time determines whether the bicyclist can manipulate the handlebar and brake safely. Therefore, a correct cycling position is the mother to safety. The safe cycling techniques are described one by one in the following:

◆ Adjust three points to suit your body; bicycling is just like doing the clothes, and it is necessary to measure the figure and make adjustments. The method of adjusting three points is a combination of bicycle sports mechanics, exercise physiology and safety driving three principles.

1) Adjust the position of the seat: tread the Pedal downward by heel to enable all muscle of the lower extremity joints contracts smoothly, and at the same time the principle is the legs can slightly stretch straight.

2) Front and rear position: tread the position of the Pedal to the inclined 45°, and then adjust the seat before and after, to tie in with the greatest position of the Pedal as the principle.

3) Adjust the front and rear and the height of the handlebar: for the height of the handlebar, in general, the up warping type handle is about 30 to 50mm higher than the seat, and the flat type handle is the same high as the seat. The top of the below curved type is the same height as the seat. After adjusting, pay attention to the direction of the handlebar and then lock.

◆ Sitting posture on the seat: similar to the posture on horseback, the

weight is scattered on the handlebar and Pedal, and all the weight must not be placed above to prevent the pain in the hip.

◆ Skills of the Pedal: the position of the foot is one third in the front of the length of shoes, and it is the most appropriate to fall on the middle of the Pedal. Feet must be parallel with the centerline of the bike, and it will diminish the efficiency of the Pedal if the feet are too open or narrow; the speed should maintain uniform, or else the drivers may feel tired; in particular notes that the hook pulling action of the latter part will hook the Pedal up.

◆ Slowdown technology: the speed change gear slows down but does not accelerate, as is to seek for the stability of the number of revolutions of the Pedal, so as to relieve the fatigue arising from uneven force. So, the speed change is used for more labor-saving and comfortable, and the time for speed change is 1: climbing, 2-3: uphill, 4-5: uneven road surface, 6: against the wind and 7: when feeling tired. It can also be said the time is when feeling not comfortable in the process of riding.

◆ Brake technology: as we all know the principle of hard braking is first stopping the brake and then stopping the bike, then stopping the front brake, but in case of an emergency, everyone will stop all together. If the braking distance is appropriate, the bike can stop securely; if the slowdown is too fast, people often would be thrown forward and in order to prevent this danger, the best way is intermittent braking, and meanwhile the hip is pushed backward. In rainy days, increase the braking distance due in safety and reduce the running speed.

## 7. Troubleshoot

S / N	Failure	Cause	Eliminating methods
1	Failed speed change or too low maximum velocity	( I ) Low battery voltage ( II ) Bad governor handle ( III ) Bad controller	( I ) Charge the battery fully ( II ) Replace the governor handle, controller
2	Turn on the power supply, but the motor does not work	( I ) Bad governor handle ( II ) Bad electric door lock and contact point ( III ) Bad controller	( I ) Replace the governor handle, controller ( II ) Re-weld the contact part
3	Inadequate mileage of one-time charging continuation line	( I ) Tire lacks of air pressure ( II ) Inadequate charging or failed charger ( III ) The battery has been damaged or its life has expired ( IV ) Frequent braking startup, overloading	( I ) Tire is full of air ( II ) The battery is adequate or replace the charger ( III ) Replace the battery
4	The charger is not charged	( I ) The charger wiring is loose or damaged ( II ) The battery weld line falls off or is damaged	( I ) Weld the connecting line or replace ( II ) Weld the connecting line or replace
5	The booster has no power assisting	( I ) The induced cartridge has poor contact or is damaged ( II ) The booster wiring is bad or damaged	( I ) Adjust the induced cartridge or replace ( II ) Re-connect or replace

## 8 MAINTENANCE AND ADJUSTMENTS

### 8.1 Maintenance and Service Centre Location

In the event that you require maintenance and service please refer to your nearest authorized bicycle agent.

### 8.2 Service interval

Recommended Service Interval	Performed By	Distance Ridden	Time
Pre-Ride Checklist	Owner	Before eachride	Before eachride
Service	Authorised Gocycle Specialized reseller	After first 100 miles/160 kms	2 months after first ride
Visual Inspection	Owner	Every 500 miles/700 kms	Every 3 months
Visit	Owner		Every 3 months
Check and Update to latest Firmware Version	Owner		Every 3 months
Service	Authorised Gocycle Specialized reseller	Every 2000 miles/3200 kms	Annually

### 8.3 Cleaning and Preventing Corrosion

We do not recommend that you ride your bicycle in heavy rain or store it in damp or wet areas. Please read 2.7 Riding in Wet, Cold or Icy Conditions for safety recommendations for riding in wet conditions.

If you do find yourself riding while it is raining, we recommend that you use the motor when safe to do so. Using the motor will allow heat to build up in the motor and the electronics, which will evaporate the water from these moisture-sensitive components. Use caution when you use the motor on wet roads, as the roads will be slippery and the motor may cause the front wheel to spin.

Water and moisture (especially spray from roads that are salted to reduce the formation of ice) can accelerate corrosion (rust) of the various metallic components on the bike, and this will reduce the life of product. Leaving water and moisture on the bike could also result in premature failure of the electronics, battery or motor system. The warranty will not cover premature failure as a result of corrosion through neglect.

#### Here are some best practice recommendations:

- If your bike has water on it, we recommend that you wipe it dry as soon as possible with a towel or dry cloth.

- The less you expose your bike to moisture or water, the longer it will last.
- Keep your bike inside your house, flat or garage.
- If you wish to clean the bike, we recommend that you use a damp towel or cloth and mild liquid soap. First wipe down all areas with a damp towel, then wipe dry with a dry towel.
- To clean the rim and tyre, remove the wheel, soak the rim and tyre in a bucket of soapy water and then dry with a towel.

**WARNING!** Keep your bike clean and dry at all times, where possible. Never spray the bike with a hose or high-pressure cleaning system. Never use polishes, waxes or solvents to clean your bike.

### 8.4 Lubrication

There is no need to regularly inspect, clean and lubricate the internal components of the chain drive system



### 8.5 Checking for Cracking and Fatigue Failures

As with a conventional bicycle, your bike will not last forever. It is a mechanical item that under normal riding will be stressed, and eventually the parts will fatigue, cracks will develop and it will become unsafe to ride. The number of miles of riding a bicycle will endure cannot be predicted since there are many variables that affect product life including:

- Rider weight
- Riding style
- Tyre pressure and type
- Roughness of the road
- Whether or not the bicycle has been crashed or damaged in transit
- Whether or not the bicycle has been ridden over large bumps such as potholes or curbs
- The amount and weight of luggage carried
- The speed at which it has travelled
- Whether it has been subject to abuse or vandalism

- Time of exposure to ultraviolet radiation from the sun
- Storage conditions, such as ambient temperature and moisture levels

Responsible, safe riding and regular maintenance, such as within the guidelines of this manual, should afford many thousands of miles of operation of your bike. Nevertheless, you must inspect the bike every 500 miles to see if any of the components have cracks and need replacing. To do this, clean the bike thoroughly with a damp cloth. Wipe away all dust or dirt. Look carefully at all the components under good lighting.

Important sites where cracking may initiate are shown in the images below. If a crack is more than 3mm long, do not ride the bike and immediately contact. Under normal conditions, items under warranty will be replaced.

**WARNING! Failure to inspect the bike thoroughly may have serious consequences and could result in serious bodily injury or even death.**



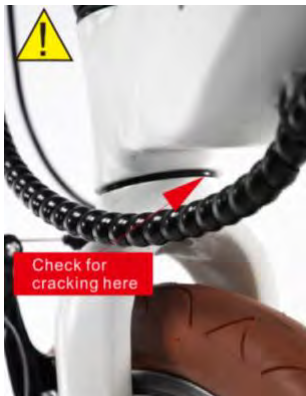
Check for fatigue cracking around the seat tube frame joint.





Check the head tube junction for fatigue cracking

Check the head tube junction for fatigue cracking



Check under the head tube junction for fatigue cracking

**WARNING!** Should you discover a fatigue crack more than 3mm long, or should you suspect that a component may have received an impact in an unusual way—such as if the product has been dropped—do not ride your bicycle and immediately contact.

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## 8.6 Tyres

Bicycle comes fitted as standard with specialised, high-performance tyres designed to give the best combination of low rolling resistance, light weight and puncture resistance. To maximise performance, we do not recommend that you use lower quality tyres than those supplied with bicycle.

We recommend that you operate bicycle with tyre pressures of 25–30 psi on the front and 40–50 psi on the rear. This will give the best balance of low rolling resistance and comfort. Running a relatively softer front acts as a “cushioning effect”, reducing shock loads to the motor fork components—specifically the clutch and gearbox.

We do not recommend that you inflate the tyres to more than 60 psi. Inflation pressures greater than 60 psi will reduce comfort and the service life of the product.

**WARNING!** Inflating the front tyre to more than 30 psi places high shock loads into the motor drive system (motor, gearbox and clutch) whilst using the power on acceleration or over rough roads. Just like in a car as you would not accelerate rapidly on very rough roads, do not use motor power when going over potholes or speed bumps or similar obstructions in the road.

Operating the bicycle with a front tyre pressure greater than 30psi and/or using the motor assistance on rough terrain, against these recommendations, will invalidate the warranty.

When changing a tyre, always use plastic tyre levers. Never use a metal tyre lever as you will damage the wheel rim.

**WARNING!** Bicycle tyres do not last forever. When the tread depth is critically low and the centreline grooves in the tyre have worn down in any part of the tyre, it may be dangerous to continue to ride on the tyre, and in this event, we recommend that you replace the tyre.