



AOMADA
Electric tricycle

Dear users:

Thank you for your love and trust in our products. Thank you buying the electric tricycle produced by our company.

Tianjin Aomada Electric Tricycle Co., Ltd. is a domestic professional manufacturer dedicated to the research and development of electric tricycles. The company has complete electric tricycle production equipment, it produces various models of electric tricycles. The company establishes the corporate image with honesty, strives for survival with strict quality management, strives for development with continuous innovation, and has established a perfect product design, development, production, sales and service system.

Electric tricycle is a new type of transportation means which has developed after electric bicycle. Because of its advantages of simple operation, saving physical strength and environmental protection, it is favored by the majority of users.

Please read the manual carefully before use, and use and maintain it according to the instructions and requirements of the manual, so that you can get the best driving and use experience.

Preface

Wanjia Changsheng (Tianjin) Technology Co., Ltd.

Contents

I. Contents	1
II. To users	2
III. The precautions for safe driving	3
IV. Structure of whole tricycle	4
V. Introduction to product performance	7
VI. Endurance mileage	8
VII. Inspection before driving	9
VIII. Maintenance and charging of the whole tricycle	10
IX. "Three Guarantees" service	12
X. Troubleshooting methods of common faults	13
XI. After-sales service card and repair record	15

To users

Thank you for choosing our luxury series electric tricycles. Our company's luxury series electric tricycles are the green traffic products developed meticulously. With advanced and reliable design and technology, and after-sales service focusing on customers, our products have established the good image in domestic and foreign markets. The unique tricycle design and matching is the unique advantages of the electric tricycles. Users' demand is our pursuit.

From the first day you use our electric tricycle, we will wholeheartedly provide you with timely, high-quality and perfect after-sales service. At the same time, we also hope that you can tell us your feelings, thoughts and opinions without reservation after driving, so that we can continuously improve our work and make our electric tricycles more perfect.

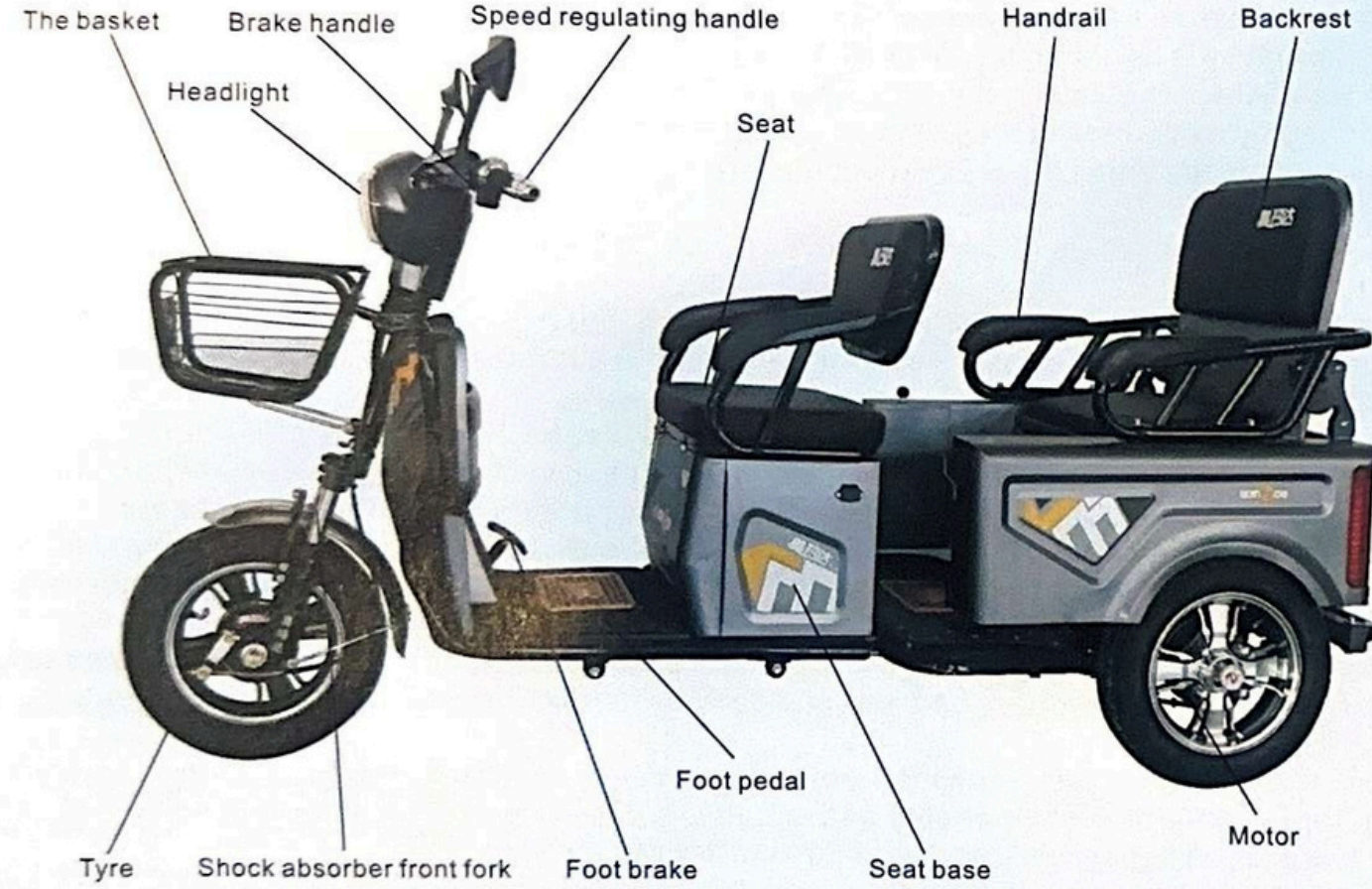
The manual will give you a detailed introduction to the general knowledge for use and maintenance methods of the electric tricycle. Please read it carefully before using the electric tricycle. At the same time, for the safety of you and others, you should pay attention to the following matters when using the electric tricycle:

- Please abide by the traffic law. Slow down in rainy and snowy days and in slippery areas. When braking, increase the braking distance to guarantee safety.
- Please do not disassemble and disassemble the parts at will. If you need to replace them, please buy standard parts from our electric tricycle dealers.
- Generally speaking, almost all kinds of batteries are affected by ambient temperature. When the temperature is high, the battery's electrical performance is excellent. When the temperature drops to 0°C, the battery's electricity difference is about one-third. Therefore, when winter comes or in cold areas, the decrease of endurance mileage after once charge is normal. When the temperature rises above 20°C, its function will naturally recover.

The precautions for safe driving

- ★ Before driving, please read the manual carefully, carefully check all parts to ensure the safety of driving, and contact the dealer in time if you find any problem.
- ★ The tricycle use DC 48V power supply. The positive and negative metal contacts of the battery box can't be touched by wet hands at the same time, and don't make any metal contact with positive and negative contacts at the same time. Otherwise, a large short-circuit current will be generated, which will cause an accident.
- ★ Please don't lend the tricycle to others who can't operate it, so as to protect your electric tricycle from unnecessary damage.
- ★ This tricycle has basic rainproof and waterproof functions, but it can't wade in water. When the rear wheel motor soaks in water, the control system will be short-circuited and the electrical parts and circuits will be damaged.
- ★ Please charge it in time after driving, and it is forbidden to disassemble the control system at will.
- ★ Turning on the headlight at night will consume the electricity, which will lead to a corresponding reduction in endurance mileage. Please properly control the lighting time of the headlights.
- ★ When driving, avoid tightening of the speed control handle after braking, so as to avoid excessive overload of the motor and damage to other parts. The rated load of this tricycle is 150kg, don't overload for driving.
- ★ The controller of this tricycle is equipped with overload protection function, which will automatically cut off the power supply when overload, and automatically switch on the power supply when it returns to normal.
- ★ It is forbidden to wash the tricycle with high-pressure water, to avoid potential accidents caused by soaking of internal electronic components and circuits. Please use neutral detergent, wipe the surface of paint or plastic parts lightly with rag, and then use dry rag for wipe.

Structure diagram of whole tricycle





Introduction to product performance

This tricycle adopts lead-acid maintenance-free battery, the normal endurance mileage is 25-35km; the tricycle body with three-dimensional design uses scientific design according to the principles of ergonomics and aesthetics to achieve the best driving effect for you. The three-stage charging equipment has the advantages of high charging speed, full charging, no fire, no overcharge and undercharge, etc. The capacity and life of the battery are fully utilized. To ensure the safety during driving, and the power safety system will automatically cut off the power supply when braking; the speed limit design based on the national standard is scientific, and the rated speed is 20km/h. See the following table for specific technical parameters.

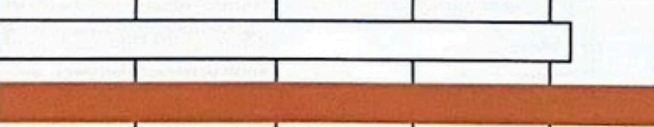
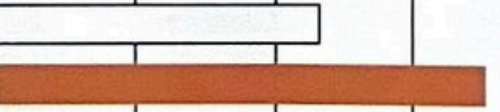
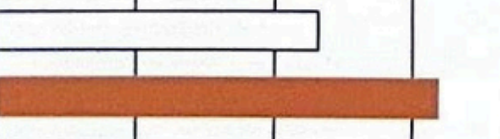
Overall dimension(length, width and height (mm))		2000×740×1000
Net weight of whole tricycle (kg)		<60
Rated load (kg)		150
The rated speed (kg/h)		20
Endurance mileage after once charge (km)		25-30
Electricity consumption every 100 kilometers (kWh)		<1.2
Grade ability		≤4°
Charging power supply		22V/50Hz
Battery (Lead acid maintenance -free)	Form voltage(V)	12V×3=36V/12V×4=48V
	Capacity (Ah)	17AH/20AH/30AH
Motor	Name	Permanent-magnet DC motor /brushless motor
	Rated power (W)	350/500/650
	Rated voltage (V)	48/60
Controller	Voltage protection (V)	42.5/54.5
	Overcurrent protection (A)	18

Endurance mileage

Endurance mileage under normal use: 25-35km (working condition) Normal load: 150kg

Electricity consumption after once charge: $\leq 0.5\text{km}\cdot\text{h}$

Dead weight: $\leq 60\text{kg}$ Economic speed: 18km/h Maximum speed: 20km/h

	Mileage Road surface	15 km	20 km	25 km	30 km	35 km	Driving conditions
	Flat road						Wind speed 2-3 level, normal temperature 25 °C, normal load
	Flat road						Windward; wind speed 3-4 level, normal temperature 25 °C, normal load
	Uphill and downhill						Slope $\geq 2^\circ$, wind speed 3-4 level, normal temperature 25 °C, normal load.

☐ Driving mileage at rated speed (20km/h)

☒ Driving mileage at economic speed (18km/h)

The driving mileage is related to the load, road condition, starting times, braking times, wind direction, air temperature, tire pressure and correct charging method. Please pay attention to them during driving, and the mileage will be shortened correspondingly with the consumption of battery life.

Inspection before driving

In order to ensure your driving safety, we hope you can conduct inspection before driving:

•Inspection of tire pressure

Before driving, check and adjust the tires, make tires meet the standard.

•Cold tire pressure

Front: 45-65sl, rear: 45-65sl

•Check for cracks, damages, foreign bodies and abnormal shapes.

Before driving the tricycle, check the condition of the tire. If the tire is excessively worn or there are nails, stones, iron pieces, glass scraps or cracks on the tire surface, please go to the dealer point of our company for inspection immediately, and if necessary, replace the tire with the same specification.

•Inspection of tire groove depth

Observe Figure A. If tire grooves are excessively worn, it is easy to slip on wet road or smooth road. Therefore, if the depth of the central groove has reached the limit shown in the figure, you shall immediately go to the dealer point to change the tire.

In order to reach your comfort during driving, you can make the following adjustments:

Observe Figure B, as shown in the figure. Loosen the fastening nut of saddle tube to adjust the height of saddle, but the insertion depth shall not be less than 60mm. Loosen the fastening nut of the saddle, so that the saddle can rotate, and you can adjust its inclination as you want.

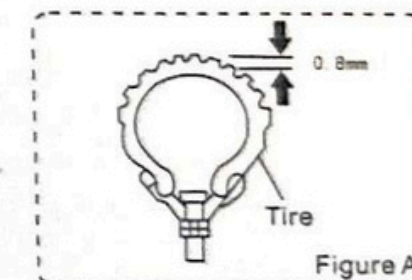


Figure A

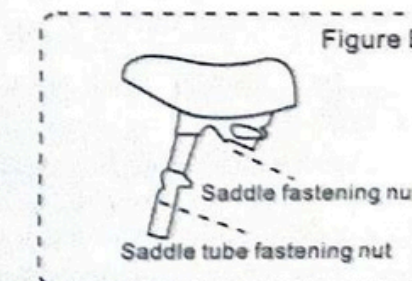


Figure B

Adjustment of handlebar

Fasten the ball screw of handlebar core, the recommended torque is 19.6N.m, and the insertion depth of the riser is not less than the minimum depth line, so as to ensure safety. Observe Figure C. Stand at the front of the handlebar, clamp the front wheel with both legs, hold the handlebar with both hands, and adjust the horizontal tube of the handlebar, to make it form 90° angle with the tricycle body. Refer to Figure D. Adjustment of front brake. Observe Figure E, adjust the front brake: Loosen the screw on the brake wire fixing base, then tighten or loosen the brake wire so that the average distance between the brake blocks on both sides and the rim is 1.5-2mm, and then tighten the screw. If the distances between the brake blocks and both sides of the rim are not equal, adjust the spring adjustment screws on the two brake arms until the two distances are equal, and make adjustment repeatedly to achieve complete braking. When the brake block is seriously worn, it shall be replaced in time to ensure the effectiveness of the brake.

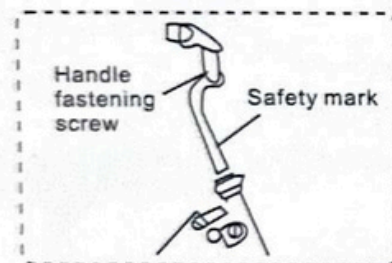


Figure C

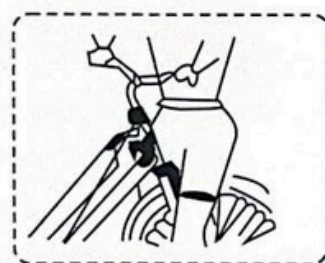


Figure D

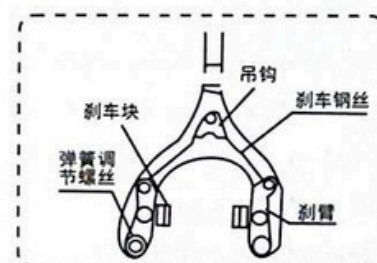


Figure E

Maintenance and charging of the whole tricycle

1. Always keep the surface of the tricycle clean, and avoid long-term parking in direct sunlight, high temperature, rainy days and humid environment.
2. When this tricycle is used for about 3 months, it shall be checked and adjusted comprehensively. Add lubrication to the rotating parts such as front axle, middle axle, front fork, chain and motor which need lubrication.
3. Every time you drive the tricycle, you shall not recharge it when the electricity is used to the minimum. You shall recharge in time after driving every day. It is strictly forbidden to start use of the tricycle when it is not fully charged, so as to avoid floating charge.

4. If you brake and start the tricycle in situ frequently, it consume a lot of electric energy when driving uphill against the wind, so you shall start the tricycle through the foot pedal first; on the premise of ensuring safety, reduce braking to start the tricycle; when driving in a bad road environment, use the foot pedal to help the driving.
5. Overcapacity is not allowed during driving. And you shall make overload driving for a long time, otherwise it will affect the battery life, motor life, damage the controller, and overload will also reduce the endurance mileage.
6. This tricycle adopts high-quality maintenance-free battery. The service life of the battery can be prolonged greatly if the discharge is not large and it can be charged fully in time. Therefore, the electric tricycle shall be charged in time after use. Even if the electric energy in the battery has not been used up, it is better to charge it fully, especially for lead-acid battery. Therefore, it is very important to develop the habit of charging the battery in time every day.
7. When charging the battery, the charging time shall be 3-6 hours in summer and 4-8 hours in winter. There are two charging methods: one is to remove the battery and charge it; the other is charging the battery directly on the tricycle. (In Figure H and Figure I, in summer, because of the high battery temperature after driving, electric tricycles shall not be charged immediately; in winter, below 0°C, the battery is in a low temperature state, so it shall be moved indoors or moved to a place with higher temperature for charging).
8. When charging, please place the battery in the position where children can't easily reach it; connect the output end of charger to the battery first, and then connect the input end to the 220V power supply, unplug after the battery is charged fully. The unplugging steps are opposite to the charging steps. When the battery is removed for charging, during the charging, the front battery shall be laid flat, while the rear battery shall be placed upright.
9. The charger used for the tricycle is matched with the battery. Please don't use batteries or chargers of other brands.

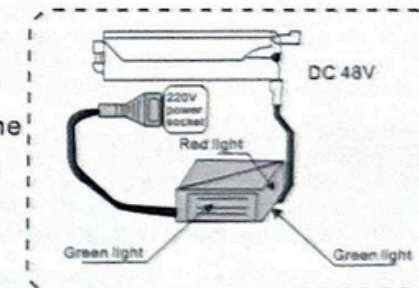


Figure H

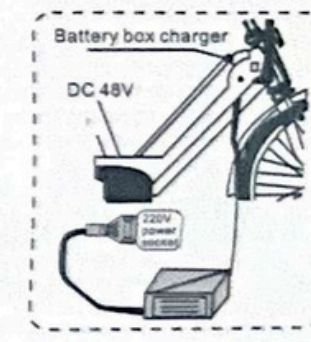


Figure I

"Three Guarantees" service

When you buy the tricycle, you shall inspect it on the spot and debug it correctly. And you have the right to ask the sales staff to provide correct usage and maintenance methods and matters, and provide valid invoices and warranty card, the addresses and contact telephone of repair unit, and the sales staff shall fill in the after-sales service card correctly.

I. Our company reminds again users to pay special attention to the following matters during use:

1. Overload driving is strictly prohibited;
2. It is strictly forbidden to overdischarge the battery. It is recommended to charge the tricycle every day.
3. It is strictly forbidden to disassemble the main parts at will. Our company will not implement Three Guarantees for the users who violate the above items.

II. Content of free service within the three guarantees period

1. If it is found that a flood of paint on tricycle body, front fork, battery box and battery guard, etc. falls off, it will be repaired free of charge within half a year (man-made damage and scratch are not included in this scope).
2. If the tricycle frame, front fork, fork handle and other parts have natural open welding, sealing off, breaking and so on, they can be replaced free of charge within one year. If the rims appear above phenomenons, the rims can be replaced free of charge within half a year. For the aluminum rim of casting wheel, it can be replaced free of charge within half a year.
3. If on the plated parts such as rim wheel chain crank and front axle pipe, it is found that the coating blisters or falls off, they can be replaced free of charge within three months.
4. The shaft, shock absorber, pedal, flywheel and other moving parts are damaged or broken, and they can be replaced free of charge within half a year.
5. If the speed-regulating handle, display and brake power-off handle have fault and can't be repaired after being confirmed by the repair department, they can be replaced free of charge within half a year.
6. The warranty period of the motor is one year. The differential motor shall be maintained once every six months, and the oil shall be changed, and in cold weather, the gear lubricant or oil shall also be changed.
7. The warranty period of controller and charger is one year.
8. If it is found that the battery has cracked shell, liquid leakage, open circuit, etc., and the capacity attenuation is >40%, the battery can be replaced or repaired free of charge within 10 months.
9. Flashlight, electric horn, power lock, band-type brake, hand brake, foot brake, electric tricycle seat, etc., and other items affecting the driving due to parts damage can be repaired or replaced free of charge within three months. If it exceeds three months, the fees for cost will be charged for the repair or replacement. The above-mentioned free service period is subject to the date on the tricycle purchase invoice.

III. The scope and content which are not within "Three Guarantees" service

1. Fault caused by the user's failure to use, maintain and adjust product according to the provisions of the manual.
2. Fault caused by user's own repair and modification, which destroys the original state of the fault and makes execution of technical appraisal and analysis impossible.
3. Fault caused by improper storage by users or caused by accidents.
4. The user has no warranty card, invoice or there is discrepancy between items and the content on the warranty card.
5. The wearing parts and consumables are not within "Three Guarantees" service (wearing parts and consumables include fuse tube, shock absorber front fork bushing, brake pad, fuse holder, charging jack, contact assembly, brake steel wire, spoke, front fork, bulb, pedal pad, saddle surface, battery lock, front basket, basket fork, basket frame, saddle tube, saddle tube screws, bearings and bearing frame, rear reflector, shock absorber saddle tube, etc.).
6. The expenses of own repair which has no the consent of the special repair unit.

IV. Repair principle: For the services "beyond the scope of Three Guarantees" and after the three guarantees period expires, the company is responsible for the repair, and will charge the repair and replacement fees according to the specific circumstances.

Troubleshooting methods of common faults

Fault	Possible cause	Disposal method
The indicator light of the power supply is not on	Poor contact of battery contacts	Reinstall the battery
	Fuse is burned out	Replace fuse
	Power supply switch is damaged	Replace the power supply switch
The power indicator is on, the motor does not work	The motor is not connected.	The motor lead wire is in poor contact with the controller contacts or it falls off
	Left and right brake handles are not reset	Reset the brake handles
	Poor contact or damage of left and right brake handle microswitches.	Repair or replace the microswitches.
	Circuit failure of controller	Send to repair point for inspection and repair
Insufficient endurance ability	There are many slopes and windward situations.	Assist with manpower when driving
	Tire pressure is insufficient or it is overloaded	Inflation for tire
	The charging time is too short and the power is insufficient.	Charge according to specified method.
Slow speed, weak drive	There are many slopes and windward situations.	Assist with manpower when driving
	Failure of electrical components	Send to repair point for inspection and repair
Unable to charge	Charger failure	Send to repair point for inspection and repair
	Battery failure	Send to repair point for repair, or conduct replacement

Fault	Possible cause	Disposal method
The charger is abnormal	Circuit failure causes abnormal sound, odor or heating.	Stop charging immediately and send to the repair point for repair
There is no charging indication on charger	The power plug is not plugged in properly	Plug in the power plug again
	Indicator light is damaged	Replace indicator light
Other faults	When you encounter a fault that can't be eliminated with the above conditions or other failures which can't be eliminated	In case of such situation, please contact the supplier or repair station, and do not open the above parts at will, otherwise, you may loss the warranty promise of our company
	When the inside of motor, controller, charger and battery pack are damaged	

After-sales service card and repair record

Dealers shall carefully fill in the following contents and affix seal:

The after-sales service card of electric tricycle

Customer's name	
Address	
Date of purchase	
Product model	
Motor No.	
Inspector No.	
Contact Tel	
Postal code	
Production date	
Tricycle frame	
No. Battery	
No. Remark	

Repair record of electric tricycle

Time of sending for repair	Driving time	Fault phenomenon	Troubleshooting	Repair personnel	Time of accepting for repair

Dealers shall fill in the following contents carefully and affix seal.

Electric tricycle file card			
Customer's name		Contact Tel	
Address			
Customer's postcode		Product model	
Date of purchase		Tricycle frame	
Delivery invoice		No.Motor	
No.Controller		No.Battery No.	
No.Sales unit			

Note: If the dealer does not send the product back to the manufacture factory, the warranty of this product will not be carried out.