

USER'S MANUAL

ATV08

Catalog

| Safety instructions and notes | 4 |
|--|----|
| Safety instructions | |
| Notes | 6 |
| Basic structure and name | 7 |
| Assembly method and requirements | 9 |
| Installation of Headlight and front fender | 10 |
| Installation of front wheel | 1 |
| Installation of common front wheel | 1 |
| Assembly requirements | 12 |
| Operation and adjustment | 13 |
| Introduction to speed boosting system | 14 |

| Charging | 14 |
|--|----|
| Installation and charging of battery | 14 |
| Charging steps and method | 15 |
| Reflection and lighting system | 16 |
| Safety height mark | 16 |
| Braking system | 17 |
| Speed control system | 19 |
| Derailleur | 19 |
| Use and maintenance | 22 |
| Routine inspection of electric bike before use | 23 |
| Notes about the battery and charger | 23 |
| Battery | 23 |
| Charger | 24 |
| Everyday use and inspection of electric bike | 25 |
| Bicycle inspection and care | 25 |
| Lubricating the e-bike | 26 |
| Riding technology | 27 |
| 0 0, | 27 |

An electric bicycle is an electrically power - assisted bicycle, equipped with pedals and an auxiliary electric motor, which cannot be propelled exclusively by means of this auxiliary electric motor.

Compared with a bicycle, an electric bicycle adds a motor, controller, charger, and battery. When riding, electric energy will help you to pedal easier and save energy.

Items in carton

When you open the carton, please check if the following items are inside. If they are not, then please contact a service agent.

| Electric Bicycle | 1 pc | |
|------------------|--------|--|
| Battery | 1 set | |
| Charger | 1 pc | |
| Pedal | 1 pair | |
| Manual | 1 pc | |

Accessory

Tools Bag 1 pc

Safety instructions and notes

ICON EV Manual Safety instructions and notes ATV08 5

Safety instructions

- Do not operate this electric bike without carefully reading the Manual and understanding the performance of the electric bike. Do not lend it to someone who can manipulate it.
- Preparations before riding: wear your helmet, gloves and other protective gear 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 increase the distance between yourself and other vehicles.
- Cycling conditions: ambient temperature of 14 to 105F, no wind and flat roads; without frequent startup and brake, the general running distance may be 25 to 50mi (according to the battery capacity).

- Maximum load: the maximum load of the bike is (330lbs); if an accident happens when the load is more than 390lbs, ICON EV does not undertake any responsibility.
- In case of frequent brake, startup, 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. It is recommended that you avoid the above factors when riding.
- The storage battery needs to be charged an additional time if it is stored for more than a month.
- If water enters into the controller and motor wheel, it may cause a short circuit that damages the electrical appliances. Make sure to pay attention!
- Prohibit unauthorized demolition or alteration. ICON EV is not responsible for all resulting losses.
- Scrapped batteries are environmental pollutants and must be properly discarded.

ICON EV Manual Safety instructions and notes

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. Riders must have skilled riding technique before riding on the roads. For correct use and security, please pay attention to the following matters:

- In the process of use, pay attention to checking the fastening status of the motor and rear fork, and if a loose phenomenon is found, it should be tightened timely.
- b. 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.
- c. On rainy days, please pay special attention to water depth. When water depth is more than the wheel center, it is likely for the motor to soak water, thus resulting in failure.
- d. Users must use the charger specified by the manufacturer for charging the storage battery. When charging, ensure that the battery and charger are flush.

- It is prohibited that other items are covered on the battery box and charger to impede heat, where a good ventilation environment should be maintained.
- f. 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.
- Riders should abide by traffic rules, and the riding speed should be controlled below 25mi.
 Goods to be carried should not exceed 55lbs.
- h. 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.

Basic structure and name

ICON EV Manual Basic structure and name ATV08



- 1. Frame
- 2. Seat post
- 3. Saddle
- 4. Vertical handle stems
- 5. Across handle Stems
- 6. Derailleur
- 7. Brake handle
- 8. Front fork
- 9. Headlight
- 10. Disc brake
- 11. Disc brake plate
- 12. Hub
- 13. Rim

- 14. Tyre
- 15. Speed sensor
- 16. Crank
- 17. Pedal
- 18. Chain
- 19. Back fender
- 20. Flywheel
- 21. Motor
- 22. Front fender
- 23. Battery
- 24. Reflector
- 25. Side Stand

Assembly method and requirements

Installation of Headlight and front fender

Installation of Headlight

Close the whole power supply, avoid the positive and negative pole of the lamp wire from shortcircuit, install the headlight, and do not pull the headlight, in order to avoid the lamp wire shedding, causing unnecessary trouble.

- Take out the Headlight and the front fender;
- Align the hanger of the front fender with the hole of the Headlightrack, fix the hexagonal M6 × 16 bolt inside the screw hole of the Front fork with 10mm opening wrench, and tighten the bolt.



Installation of Front fender

- Take out the front fender, and fix the fender hanger and Headlightrack on the Front fork with hexangular M6 × 16 bolts;
- 2. Fix the pan head M5 × 14 screw and the front fender stick on the corresponding positions at both sides of the Front fork with the cross screwdriver, and tighten the bolts, as shown.



When the lifting ear of the front fender is installed, place the fender up as much as possible so as to avoid interfering with the front tire.



- 1 Hook
- (2) Front wheel axis nut M10mm
- (3) Front fork foot contact pin
- (4) Front fender stick

Installation of front wheel

Installation of common front wheel

- Take out the front wheel, and loosen the nut and hook on the front wheel axis;
- Remove the black plastic rack below the Front fork, and place the front wheel axis into the Front fork contact pin;
- 3. Turn the hook and nut (* front fender stick) to the front wheel axis, and tighten the nut with 15mm opening wrench by 18N.m torque and install the protective cap on the nut.

When fastening the front wheel nut axis, press down on the front fork by force so that the front wheel axis can work closely with the front fork.

Assembly requirements

In order to ensure the cycling safety and using performance, the fastening requirements for the standard parts at the key places are as follows:

- a. The tightening torque of the front wheel nut is not less than 18N.m
- b. The tightening torque of the rear motor nut is 35 to 45N.m
- The tightening torque of the middle axis component lock is not less than 50N.m
- d. The tightening torque of the core screw rod in the Vertical handle stems is 15 to 18N.m

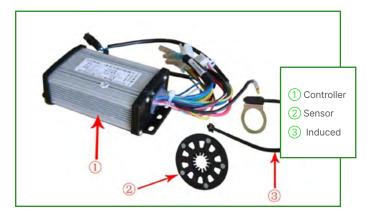
- e. The tightening torque of the Across handle Stems and the Vertical handle stems is 15 to 18N.m
- f. The tightening torque of the saddle pipe ring is 6 to 8N.m
- g. The tightening torque of the saddle and the Seat post ring is 15 to 18N.m
- h. The tightening torque of the Brake handle is not less than 10 to 12N.m
- The tightening torque of the Derailleur is 8 to 10N.m

Operation and adjustment

Introduction to speed boosting system

The speed boosting system is also known as 1:1 boosting system. If you are pedaling with your feet, then the 1:1 boosting system sensor of your bike will automatically sense your riding speed and control the motor to assist you at the same speed so as to make your ride easier and make the help you ride further.

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



Charging

Transportation and storage before purchase will likely result in a loss of power to the battery. The battery should be charged before first use.

The charger configured or designated by ICON EV must be used for charging; use of another charger might damage the battery, and may even lead to fire and other danger. Problems caused by use of an unissued charger are not covered by the warranty.

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





Charging steps and method

- Check carefully whether the rated input voltage of the charger is consistent with the voltage of the power grid.
- The battery can be directly put on the bike for charging and can also be taken down from the bike to be charged indoors and at other appropriate places.
- 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.
- 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, first pull out the AC power plug, and then pull out the plug connected with the battery.

Charging time for a fully discharged battery is 6 to 8 hours. After the charge indicator goes from red to green, the battery has been fully charged.

A new bike had will need to be re-charged for 8 to 9 hours after discharging since charging for the first time. The one-week depth charging and discharging is a cycle to fully activate the active substances inside the battery. Later, it can be recharged 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 ICON EV Manual

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.

Reflection and lighting system

The reflection system includes a reflector on the rim, front and rear passive lamp, backpack, helmet and reflective patch on riding clothes. The lighting system is mainly the battery or the self-powergenerated front and rear lamp. These items help to mark your own position when riding at night, 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).

Safety height mark

Position of Vertical handle stems

The Vertical handle stems can be appropriately adjusted depending on personal preferred riding perspective, but the insertion mark (that is, the safety line) can not be exposed; in case of improper use, it may cause serious injury to the rider).



Adjustment method:

- Loosen the handle core screw rod;
- 2. Move the Vertical handle stems to the appropriate height, and pay attention to not exceeding the safety mark (that is, the safety line);
- 3. Fasten the core screw rod.

Braking system

The braking system is an accessory necessary for each bike and is the key to traffic safety; before riding, 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. It not only is dangerous but the braking distance will be lengthened.

Therefore, the braking system should only be 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.

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.

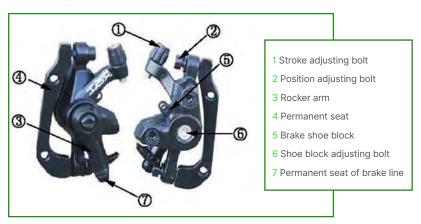
- The adjusting screw is used to adjust the distance between the brake shoe block and the Rim.
- The effective stroke of the brake cable is about a half of the
 distance between the handle of the Brake handle and the
 grip of the Across handle Stems; if the brake is tight when the
 handle of the Brake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



Disk brake type brake

Adjustment method of the brake shoe block:

- Loosen the positioning bolt;
- Adjust the distance of the shoe block through the left and right knob; when the shoe block adjusts the left knob of the bolt, the distance of the brake shoe block is increased, and vice versa it becomes small (as shown in the disk chart).
- 3. Depending on the circumstances, the braking is adjusted.



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.



ICON EV Manual Operation and adjustment ATV08

Common sense use of the braking system:

- When the distance between the brake shoe block 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 shoe block 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 on 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 it timely.

Speed control system

The speed control system is used to cater for various terrain and clockwise and counterclockwise wind conditions, and to mix with physical strength appropriately. The entire speed control system includes a Derailleur, front and Back fender, chain plate, and flywheel and shift cables.

The number of the speed change series is the number of fluted disc × the number of flywheel pieces.

For example: three pieces of chain plate × 6 flywheel pieces = 18 speed change series, and so on.



Derailleur Type of Derailleur (as shown)

19

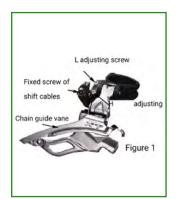
The Derailleur is separately positioned on both sides of the Across handle Stems, and the left controls the forward speed and the right controls the backward speed.

When the forward speed grip rotates to the riding direction, big teeth change to small teeth, and on the contrary small teeth change to big teeth.

When the backward speed grip rotates to the riding direction, big teeth change to small teeth, and on the contrary small teeth change to big teeth.

Derailleur

The derailleur is classified into the front derailleur and Back fender (as shown). When the shift cables are loose or too tight, if the speed controller does not work properly or the chain falls off, the H, L bolt is adjusted.





- H bolt: when the chain speed changes to the biggest fluted disc, the chain will fall off, and the H bolt will be locked. But if it is too tight, the chain can not climb to the biggest fluted disc.
- L bolt: when the chain is toward the inside fluted disc and the chain falls of, the L bolt is locked.
 But if it is too tight, the speed change can not be downward. Therefore it is appropriate to adjust the H, L bolt to a suitable position.



Adjust the chain to the minimum flywheel, adjust the H screw so that the quide pulley with the smallest gear is on a straight line, and then adjust the chain to the largest flywheel, and adjust the L screw so that the quide pulley with the flywheel is on a straight line (as shown at the left).

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.

To determine the length of the chain: adjust the front derailleur to the lowest shift (the smallest tooth of the chain ring) and also adjust the Back fender to the lowest shift (the smallest tooth of the flywheel) to check whether the chain sag is more than 15mm (as shown). If it is more than 15mm, the chain is too long, please go to your supplier to shorten the chain in order to maintain the best cycling performance of your bike.



Common sense use of speed control system:

- Do not tread in reverse while changing speed so as not to lead to failure and the chain falls off.
- As far as possible, do not change the gear-speed ratio substantially and do not change the speed in accordance with the order.
- 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, Derailleur should be always washed, wiped, and lubricated (oiled appropriately).
- The derailleur should avoid the jump-class speed change, which will lead to rapid wear and tear.

Use and maintenance

Routine inspection of electric bike before use

- 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)
- Check whether the governor switch handle rotates and is reset flexibly.
- Check whether the braking power-off function and braking effect are in good condition (dry braking distance 4m, wet braking distance 15m).
- 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 colouring 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.

Notes about the battery and charger

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 charged: 32 ~ 110F.
- Operating temperature range when discharge: 65 ~ 110F.
- Humidity while battery in working state:
 ≤80% 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.

Charger

- a. Charge the battery after you buy this e-bike or the power is low.
- Make sure the charger is as least 3ft away from computers, TVs, fridges, washing machines and other electric machines while charging.
- c. This charger is only used indoors. Please use it in dry and airy conditions, and at an indoor temperature of no more than 110F.
- d. Disconnect the charger if there are strange smells while charging, and take it to a service provider.
- e. Use only the charger supplied by ICON EV.

 Don't use this charger to charge the battery from another company.
- Do not use the charger in a dusty or damp environment.
- g. If the charging finished, disconnect the connection to the wall outlet, and then disconnect it to the battery.
- Avoid children touch it while charging.
- i. Never disassemble or refit the charger.

- j. Never put anything on the charger.
- k. Never put any liquid or metal into the charger.
- I. Never plug or unplug the charger with wet hands.
- m. Do not touch the charger during thunder or lighting.
- Never twiddle the charger or battery while charging.
- Avoid using the charger in direct sunlight.
- Keep the area well ventilated when the charger is operating.
- q. 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.

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 lose 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 downtime.

Bicycle inspection and care

Regular Cleaning

- Remove the battery box from the e-bike before carrying out regular cleaning.
- b. 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.
- c. 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.
- d. Clean the battery contacts with a damp cloth.

e. DO NOT grease or use a greasy cloth to wipe down the electrical connectors, brake pads, wheels, tires or plastic parts.

Regular maintenance (every 1`2 months)

Always carry out the following checks:

- a. Check that the handlebar attachment and saddle post are correctly inserted and tightened.
- b. 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.
- d. Check that the tire s are not worn or cut.
- e. Check that the tire s are correctly inflated.
- Check that the battery contacts on the frame are not dirty or oxidized.

- g. Check that the batteries are sufficiently charged.
- h. Check that the front and rear lights are working correctly.
- i. Check that the front and rear brakes brake effectively.
- j. 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

Lubricating the e-bike

- To maintain your e-bike in proper working order, be sure to carry out regular lubrication,
- 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.

Riding technology

A correct riding posture is necessary for safe riding: the riding posture is determined by the position of your figure and shadow of the contact point (handlebar, seat, Pedal) of the bicyclist and bicycle. However the posture is closely related to the height and size of the bicyclist. 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 important. 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 riding three principles.
- Adjust the position of the seat: tread
 the Pedal downward by heel to enable all
 muscles of the lower extremity joints can
 contract 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 upwarping type handle is about 30 to 50mm higher than the seat, and the flat type handle is the same height 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 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; it will diminish the efficiency of the Pedal if the feet are too open or narrow; the speed should maintain uniform, or else the rider may feel tired; it in particular notes that the hook pulling action of the latter part will hook the pedal up.

ICON EV Manual Riding technology ATV08 29

- 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: uphill, 3: uneven road surface, 4: against the wind and 5: 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.



Troubleshooting

ICON EV Manual

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

