



Operational Manual

of


Auto balancing two wheels vehicle

(Model RM7016D)

Dear customers, for the safety of you and others, for the high performance and reliability of this product, please read this operational manual carefully before attempting to drive this vehicle.

This manual provides daily operation and maintenance knowledge, which is helpful for your operations of this product; any improper operation would damage your vehicle.

Due to update of product, if any technical description in this manual is inconsistent from the real product, the real product will prevail.

Any content marked with  should be read carefully and abided by strictly.

Content

1 important statement to users.....	3
2 structure diagram of electrical vehicle...4	
3 installation instructions of electrical vehicle4	
4 main technical specification of electrical vehicle.....	6
5 operation instruction of electrical vehicle.....	6
6 battery and charging.....	10
7 maintenance.....	12
8 notices and warning.....	13
9 troubleshooting.....	14
10 RM7016D service instructions.....	15
11 warranty card.....	
12 Sales service policy	

I Important statement to users

1. During driving this product, you shall strictly abide by the relevant traffic regulations, control the driving speed and pay attention to yield to pedestrians.
2. Similar as other manned vehicle, this product has safety risk during operation, you shall take proper safety measures to prevent dangers from happening.
3. While the battery voltage is low, you shall get off and walk the vehicle.
4. This vehicle cannot be driven in rain and snow conditions or wades into water. If the water level is higher than battery box, it would cause a short circuit to the vehicle electrical system.
5. For the safety of others, please do not lend your vehicle to the persons without license in case of unnecessary damage.
6. The vehicle battery is a safe power, but the battery interface cannot be touched in wet hands or connected by metal, otherwise a big short circuit current may be arisen to cause accident. Be sure to pay attentions!
7. Do not dismantle the vehicle by yourself, please buy standard parts from our authorized agency for any replacement.
8. Unauthorized modifications are not recommended, otherwise your vehicle will lose warranty policy and the factory will not provide after sale services or bear any vehicle damage or other loss.

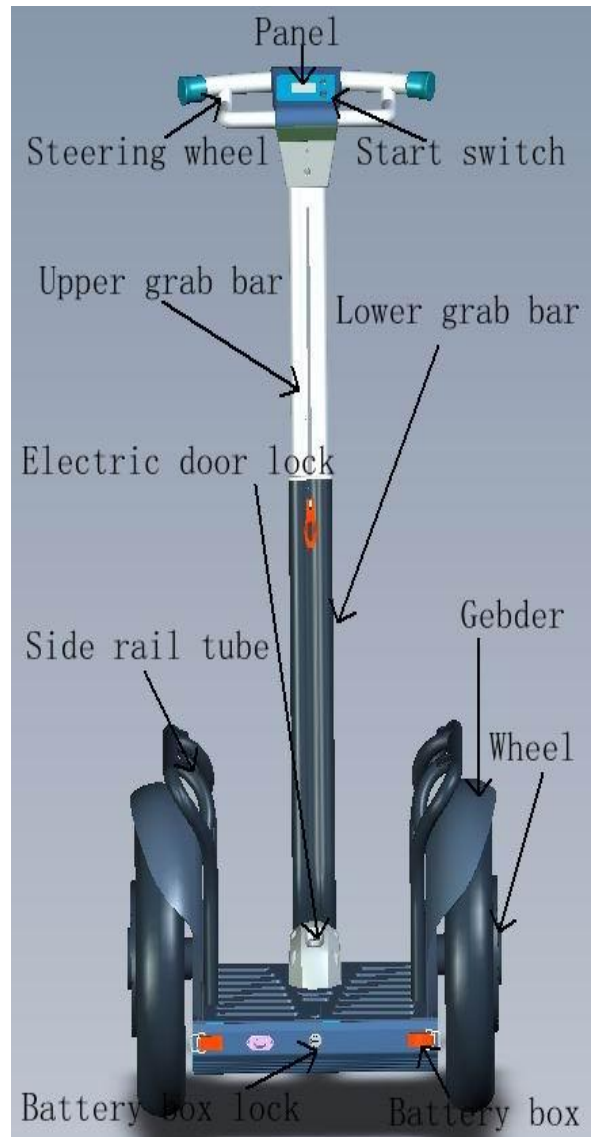
Please abide by above statement, for any accident happened while driving

vehicle, the company only ensure the after-sales service of the product itself, any other loss or damage shall be the responsibility of the user.

II structure diagram of electrical vehicle



picture 1

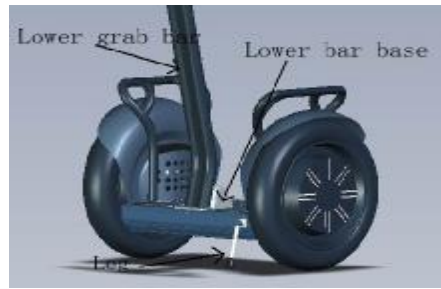


picture 2

III installation instructions of electrical vehicle

1. Connect the lower grab bar to lower bar base by bolts, and lock the bolts.

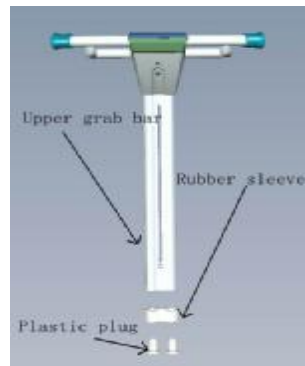
(picture 3)



picture 3

2. Put the rubber sleeve on the upper grab bar and plug the plastic insert

(picture 4)



Picture 4

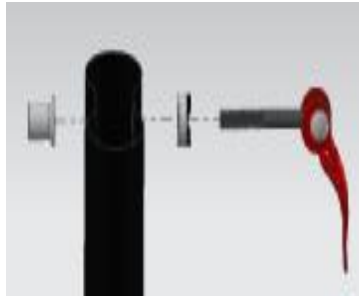
3. Put the upper grab bar inside the lower grab bar, ensure the hole on the lower bar aligning with the groove of upper grab bar. (picture 5)



Picture 5

4. Install the position and lock device as per picture 6, tighten the nut to adjust the lever of grab bar, the nut tightness can adjust the hand feeling of lock

device.



Picture 6

5. Installation and dismantle of battery box (picture 2)

Put the key in the switch on the middle of battery box, turn to ON position(open), open the right and left lock of battery box and then take off the box by pulling two sides of box.

IV main technical specifications of electrical vehicle

1. main specification parameters:

Load: 120KG

weight: 38KG

Max. Speed: 20KM/H

Mileage after single charging: 30KM

Gradeability: $\leq 30^\circ$

Length:46cm; Width:63cm; Height:93cm(in withdraw condition)

Tire: 16*3.5 inch、300KPA vacuum tire

Battery: 33V/10AH

2. Main technical parameters of the lithium-ion battery:

SN \ Description	lithium-ion battery (without maintenance)
capacity	10Ah/330wh
Rated working voltage	33v
Working voltage	37.8v-27v
Charging voltage	37.8v
Charging current	1.8A
Charging temperature	10-45°C
Charging time	4-6h

V driving instruction of electrical vehicle:

1. Withdraw vehicle support, turn on electrical switch; the power switch shall be off during storage, transportation or while not in use;



2. Uphold the vehicle, put single foot on chassis base, turn on electrical switch, observe the indicating light flashing on display panel without any shaking on the vehicle; after indicating light stopping flashing, pull back the grab bar slightly, if you feel the resistance preventing vehicle collapse, that means the vehicle is started properly and you can drive it.



3. Driving: the vehicle will be driven forward while you slightly tilt your body forward, the vehicle will be stopped or driven backward while you slightly tilt your body backward. Be gentle and avoid fierce shaking; steer the steering wheel right, the vehicle will turn right, steer the steering wheel left, the vehicle will turn left.



4. Braking: If you need brake the vehicle while driving forward, you shall move

your weight center of your body backward immediately and yank the grab bar.



5. Steer turning: steer the steering wheel for turning after reducing the speed.

Cautions! The speed shall be lower than 8KM/H during wide angle turning.



6. High speed turning: while steer the vehicle right or left in high speed, please lean your body right or left accordingly!



7. Stop; reduce the speed until stopping the vehicle, keep hands on the grab bar, leave one foot off vehicle, and after touching the ground firmly then take another foot off the vehicle, then turn off electrical switch. Do not power off the vehicle while the person is on the vehicle!



8. Downhill deceleration: Please keep in mind that leaning your body backward while on downhill lane, and put your hands on the steering wheel to control the speed.



9. While meeting obstacles, please lower down the speed to 5-8KM/H first, and then pass in a constant speed.



10. While meeting impassable obstacles, please get off and walk the vehicle; there is no necessary to turn off the power in this condition.



11. While the vehicle get stuck by difficult road conditions, do not try to get through again and again at same place. You shall drive back and then try again, or get off the vehicle and walk through; if you hear abnormal noise in the wheel, that means the electrical motor is in heavy duty load outputting condition, the motor and control unit will get heated soon and may be burnt if this condition lasts longer; if the vehicle wheels got stuck for a certain time, a continuous alarming sound such as DiDi will arise from the control panel . You may remove the alarming by driving back or getting off and walking the vehicle, otherwise the protection system will be activated in seconds, the vehicle will get collapsed for

losing of power.



12. Speed limit: Do not drive this vehicle over **15KM/H**, while the driving speed is over maximum speed limit, the continuous alarming sound will arise from control panel, and speed display light will flash to alarm that it is over speed, simultaneously the vehicle will automatically lean backward to reduce speed, the driver shall do deceleration action and do not force to accelerate the vehicle under this condition.

13. Lower voltage of battery: while the battery voltage is lower, there is DIDI sound arising from control panel, voltage display is flashing, and the system will control the speed lower than 2KM/H, the vehicle will automatically lean backward to reduce speed, you must get off and walk with the vehicle.

Cautious! The battery voltage may still not be enough, even the displayed total voltage is higher than 30V, especially when the battery was used for long time and the capacity was reduced.

VI battery and battery charging

Battery Characters:

1. This vehicle uses lithium battery as power. This lithium battery, without

memory effect, can be charged and discharged at any time without pollution to environment. This battery is real green power free from cadmium, lead, mercury and other harmful substances.

2. This lithium battery is safe and reliable. It will not burn or explode while meeting Impact, crush, acupuncture, short circuit, high voltage charging, high temperature and other destructive conditions.

3. Fast charging: with the dedicated charger, the battery will be charged to full condition in 4-5 hours at 25°C ambient temperature, it can be charged two times one day.

4. Intelligent charging system: this system can detect each cell voltage at any time and can realize overcharge protection, automatic equalizing charging on each single cell battery.

5. The control panel can display the battery voltage, the battery shall be charged while the voltage is lower than 30V.

Charging Instruction

1. Connect the charger and the red indicating light is on.

2. Standard charging time: with attached standard charger, the charging time is

4-5 hours at 25°C ambient temperature.

3. The charging has over current protection function and permit long time charging, charging time less than 18 hours will not affect the lives of battery and charger.

Charging Precautions

1. Please keep the charging process on safe place where the children cannot reach.
2. It is not recommended to drive vehicle while the battery is not full.
3. Do not use other brand charger and do not use other brand battery.
4. There is high voltage inside of charger and do not attempt to dismantle it.
5. Prevent the liquid and metal from coming inside of charger during usage and storage, avoid falling or impact for any damage.
6. Do not cover the charger during charging process.
7. This charger is indoor model, please use it in dry and ventilated environment.
8. If you find bad smell or high temperature during charging process, please stop charging and send the charger for repair.

Battery Maintenance

1. Please charge the battery in time after daily driving, otherwise the battery life will decrease.
2. If the vehicle will not be used for long time, please charge the battery before driving. The lithium battery shall be fully charged and discharged every half year.

Little knowledge for battery: it is normal that the battery capacity will decrease slowly during usage, the battery cannot be recovered after it wore out.

VII vehicle maintenance

- 1.check the bolts of left and right wheels for any loosing.
- 2.check the tire tread for worn out or broken, and check the tire pressure.
- 3.check each connection parts and control panel displays.
- 4.if you do not drive this vehicle for long time, please charge the battery periodically for better performance, normally once every one or two months.
- 5.for the safety of your driving, also keep your vehicle in best condition, please periodically maintain and clean your vehicle.
- 6.it is forbidden to wash or spay the vehicle by water in case of wetting the electrical parts and wire lines inside or causing potential accident.
7. Please use a mild detergent to clean the surface of vehicle.

VIII Important tips and advice

1. Develop a good habit of charging vehicle in time every day. For every driving, you shall fully charge the battery in time before it reaches the minimum permit of voltage.
2. Almost all batteries will be affected by environment. Normally the battery has better performance at high temperature environment, and the battery capacity will reduce more than one-third when the temperature is lower than 0°C. So in

winter or cold area, it is normal that the driving mileage will decrease after each charging and it will get recovery when the temperature returns.

3.when you lift or pull battery box, please be cautious of avoiding dropping metal materials such as wire line or key into the charging hole of battery or connecting to Battery positive and negative posts for circuit shortcut.

4.it is forbidden to use other company's charger or other parts, and the company shall not be responsible to any loss caused by using other company's charger and parts.

6.it is forbidden to allow battery close to fire or other flammable and explosive corrosive gases.

7.please do not attempt to dismantle battery ,battery box in case of the damage of internal parts. Do not damage the sticker on the battery and the battery cover, otherwise you would lose warranty service.

8.it is forbidden to connect the positive and negative posts of battery by wire line or other conductors in case of damaging the battery or other dangers.

9.the battery shall be taken up and put down slightly, in case of falling, collisions.

IV normal problems and troubleshooting

While driving, if alarming sound is arisen from control panel and battery capacity display is flashing at same time, you shall stop driving and check the vehicle immediately. After checking and turning on the power switch, you can

continue to drive only if the display is normal, but you are only allowed to drive under the speed of 3-5KM/H. If you find the battery voltage is lower again, please get off and walk the vehicle.

If some problems happened during usage, please refer to the followings:

1. one side wheel can not rotate, that means that side motor control unit may be broken or the motor may be broken or the connection may be dropped off.
2. lift one side wheel and rotate the wheel by hand. If the wheel can not rotate smoothly, that means the side control unit is broken and it shall be replaced.
3. there is no response while turning on power switch:
 - a. battery or battery protection plate is broken, please replace battery or battery protection plate;
 - b. vehicle control governor is broken, please replace it;
 - c. connection terminals are dropped, please check and re-connect them;
 - d. PCB is broken, replace and test new PCB;
4. power switch is broken, replace power switch;
5. plug the charger, if the charging light is not on, please check the battery and battery plate and replace it if necessary;
6. battery capacity is lower, or the display indicates the battery voltage is lower after charging, replace the battery;
7. pull the grab bar backward slightly, if you cannot feel any resistance, and the vehicle is moving forward, that means the gyroscope is broken, please replace

it.

Troubleshooting

problem	reason	troubleshooting
The indicating light on panel is off	The battery voltage is lower	Charge battery
	The battery life is off	Change battery
	The power switch is broken	Change switch
Short driving mileage after one time charging	Battery life is off	Change battery
	Battery voltage do not match	Maintain or change battery
Battery cannot be charged or fully charged	Battery life is off	Change battery
	No output for the charger	Change charger
	Charger cannot be connected well with outlet	Change charging outlet
The control unit was burnt	water enters inside the control unit and cause shortcut circuit and components damage	Change control unit

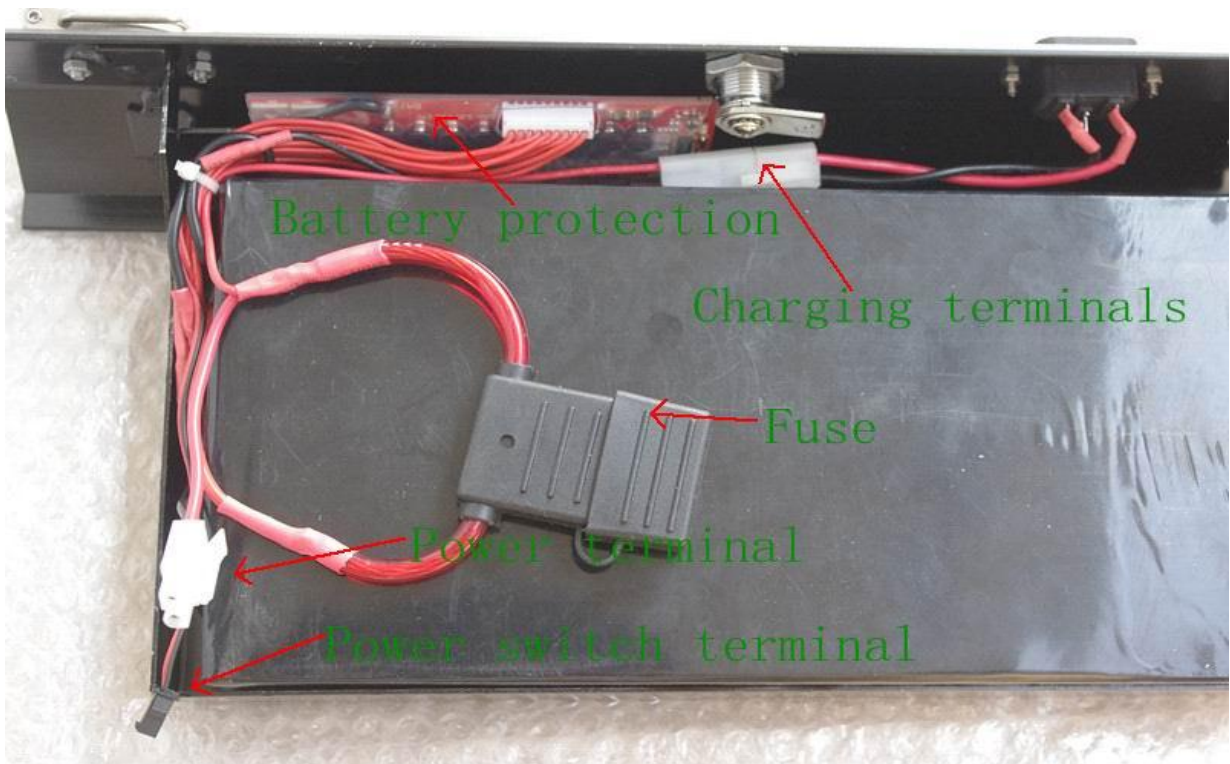
九、RM7016 Maintenance Instruction

1. First power off electrical switch;
2. Open battery box and take off battery connection plug ,ensure to disconnect

battery and control unit. (picture 7、 8)

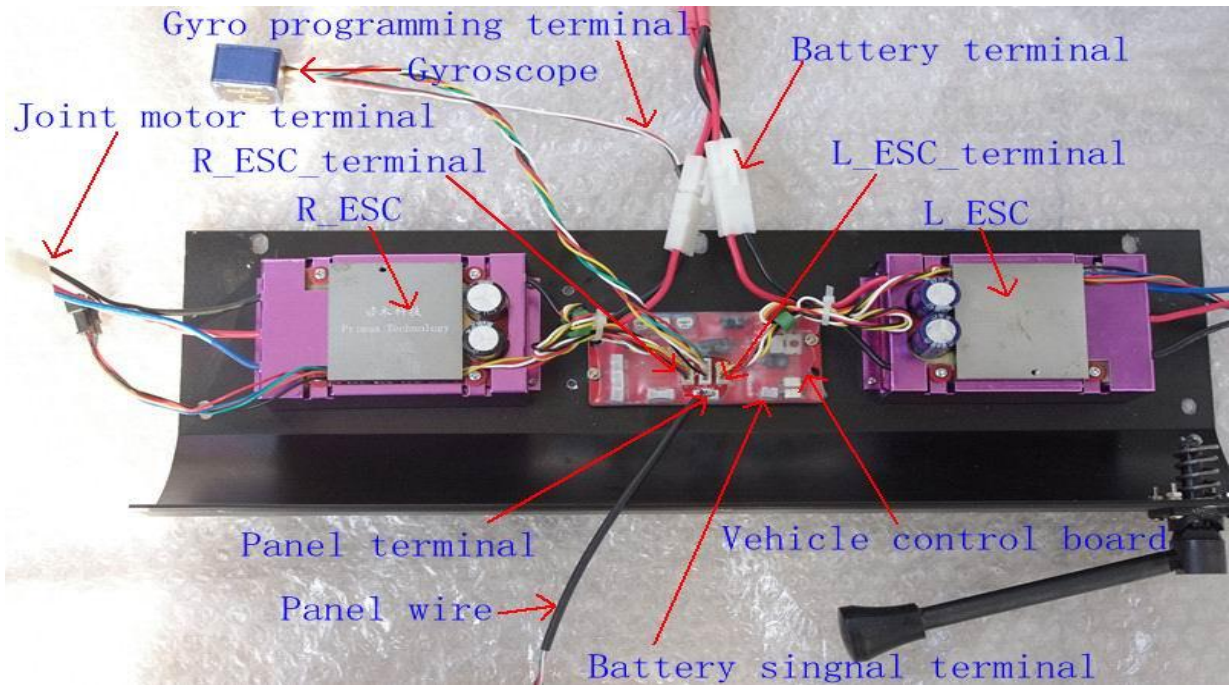


Picture 7



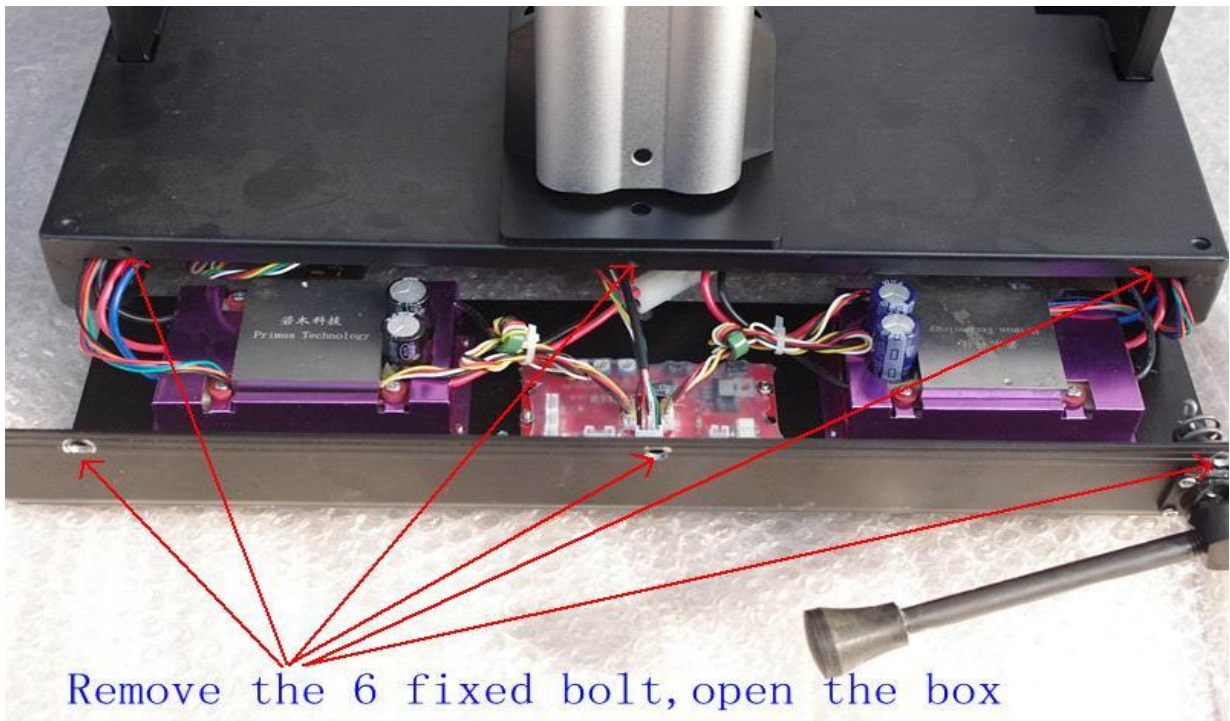
Picture 8

3. Open electrical control cab(electrical components as picture 10), change damaged parts.



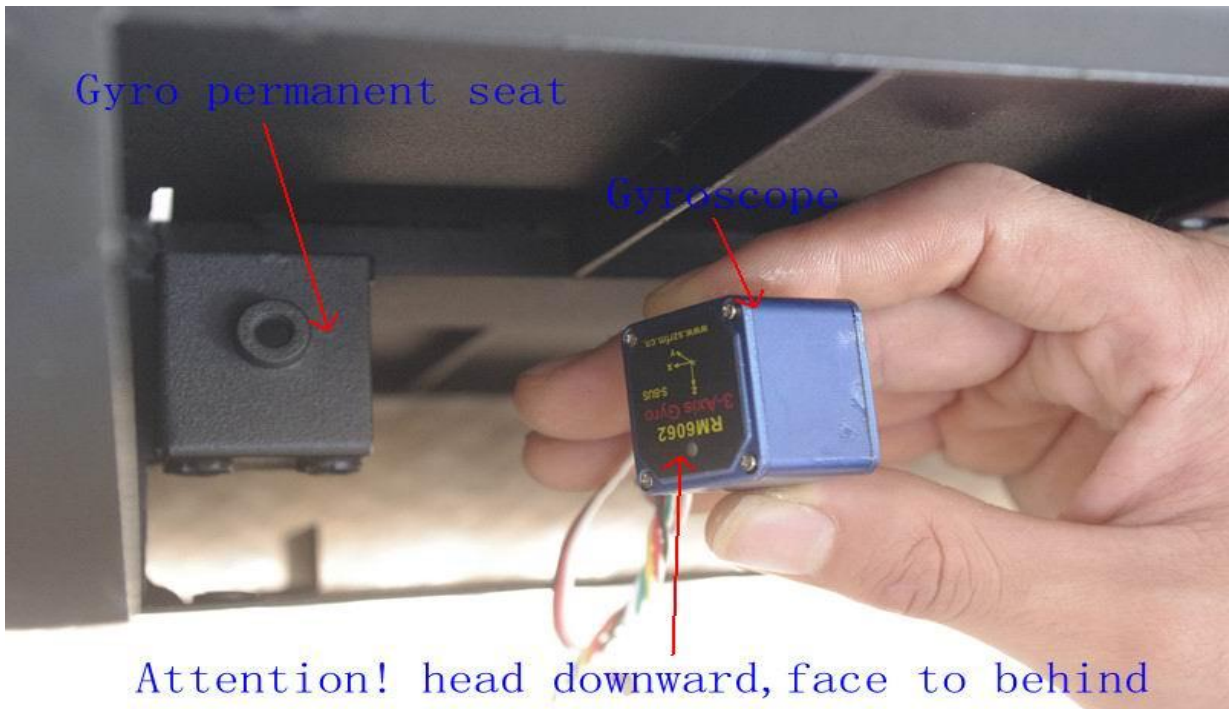
Picture 10

a. (change governor and control board,picture11)

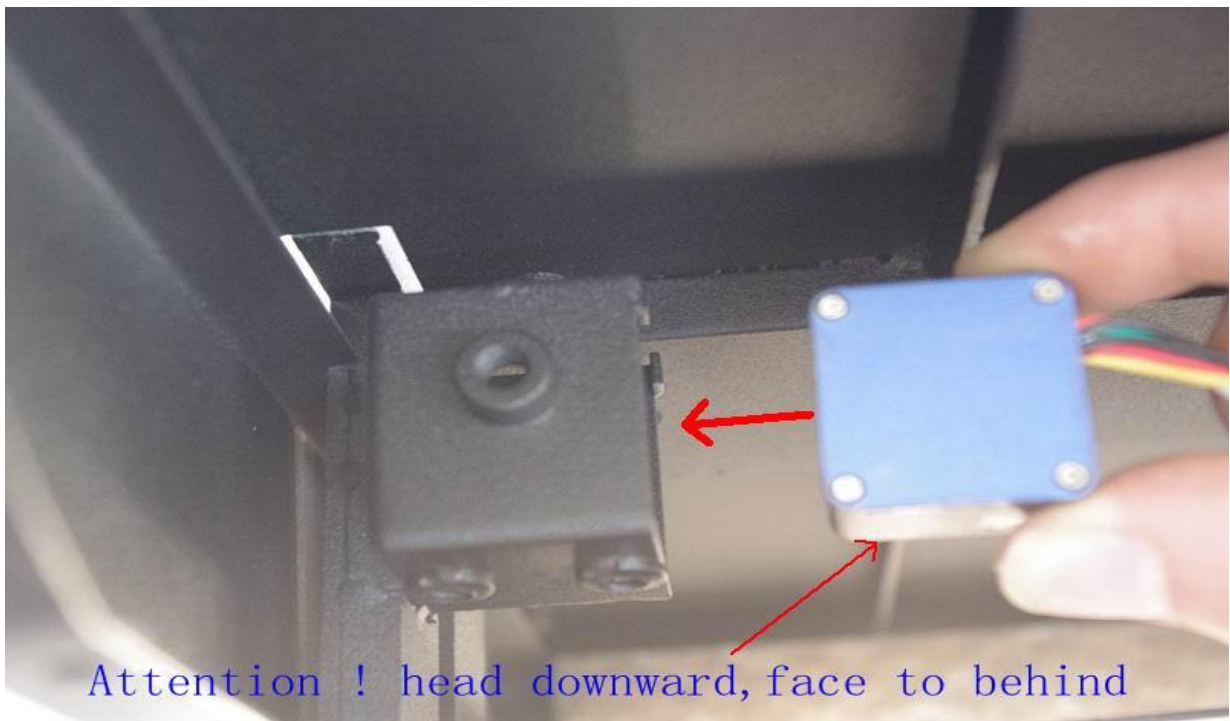


Picture 11

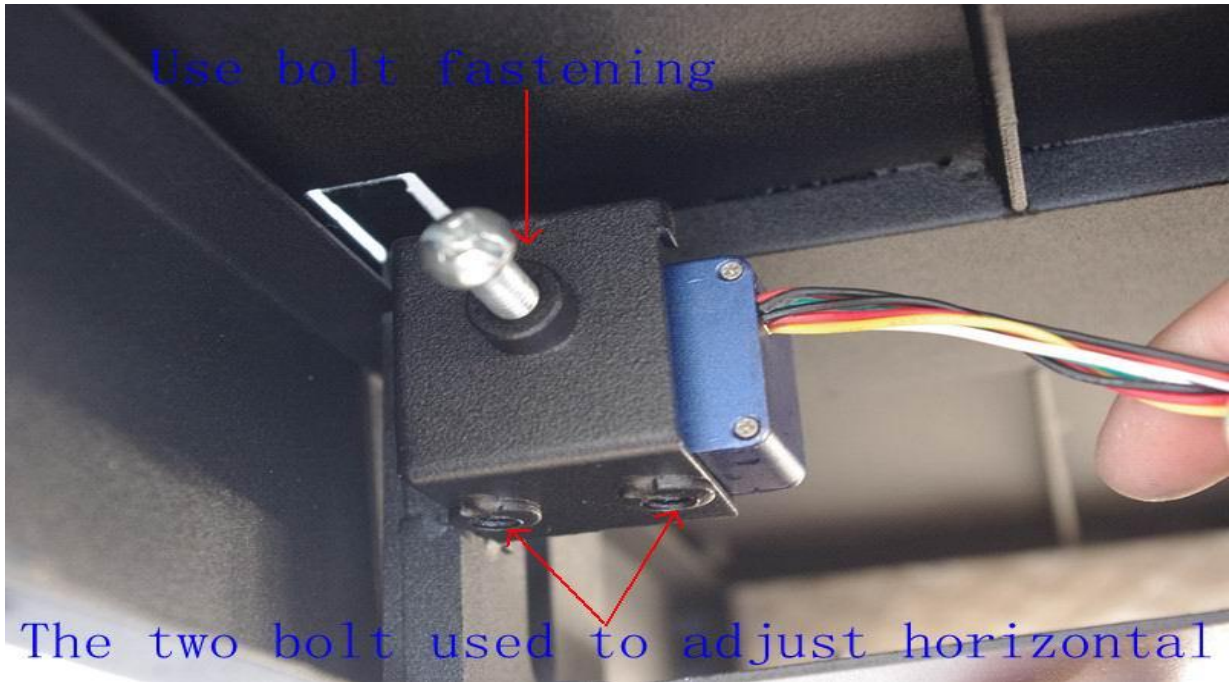
b. (change Gyroscope picture 12、 13、 14、 15)



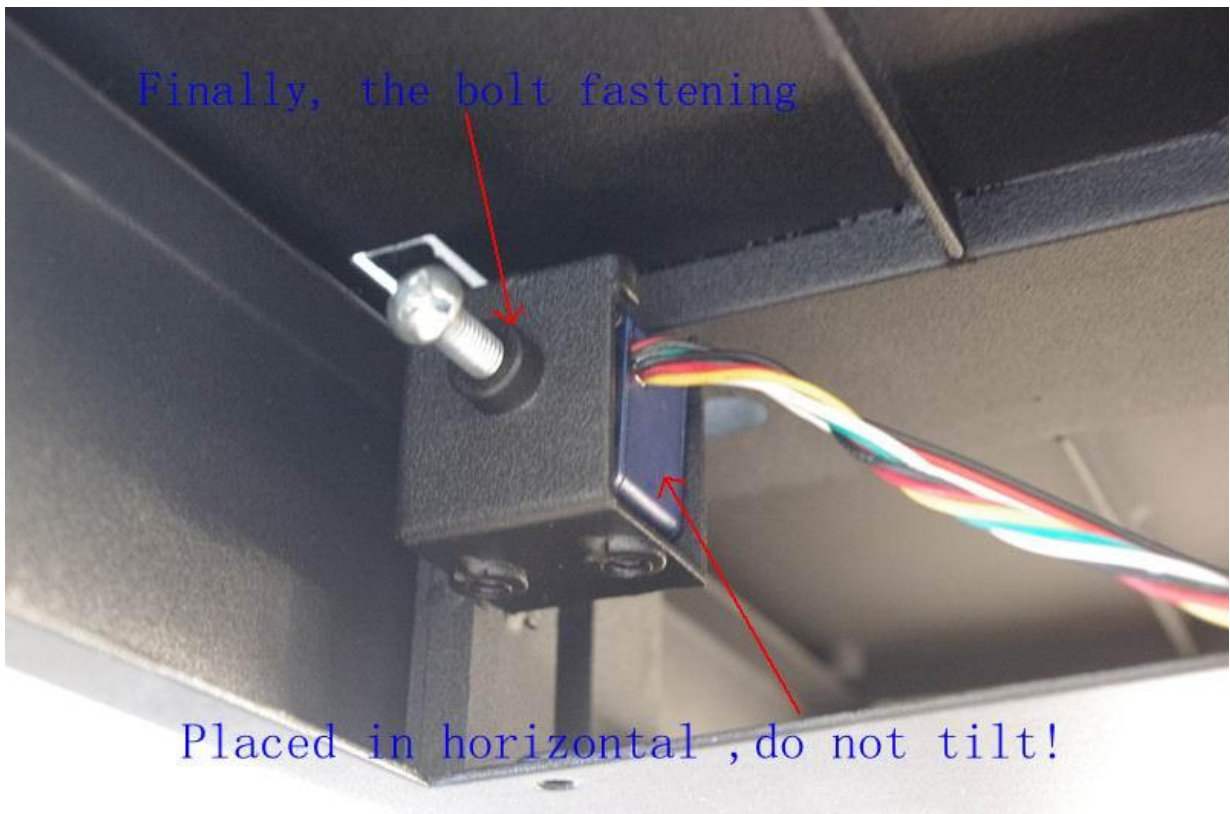
picture 12



Picture 13



Picture 14



Picture 15

4. Check the whole wire line carefully for any default.
5. Plug the electrical outlet;
6. Turn on the electrical switch;
7. Put one foot on pedal , two hands control steering wheel firmly, start the vehicle and observe the control panel;
8. Put one finger on power switch, pull back grab bar slightly, watch the wheels rotation direction, feel the resistance coming from grab bar. If the rotation direction is wrong, turn off the power immediately; turn the steering wheel right and left and check the steering direction.
9. Close the electrical control cab and tighten all bolts;
10. Close and lock the battery box.