

**BIOTI**  
MOTORCYCLE MANUAL

<https://www.motorcycle-manual.com/>

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Preface

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Thank you for using ZONTES brand motorcycles. We use most advanced technology to design, test and produce the type of motorcycle, to provide you with joy, fun and safe driving. When you are fully familiar with all the essentials in this manual, you will feel riding a motorcycle is one of the most exciting sports, at the same time, can feel the real pleasure of driving.

This manual summarizes the right repair and maintenance methods of motorcycle. As long as in accordance with the provisions to do, your motorcycle will be durable. ZONTES distribution unit has trained technical personnel, with the complete tools and equipment, to provide you with high quality and service at any time.

The PDF version of the manual can be downloaded from the official website.



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— User instruction —

There are all kinds of accessories on the market can be assembled on your motorcycle, and we cannot directly control the market quality and applicability of attachment. The inapplicable attachments will endanger the safety of the riding personnel. The selection of accessories and installation, therefore, must be especially careful. Though we can't examine the applicability of accessories for sell on the market, but your distribution unit can help you to choose high quality accessories on the market, and can be installed correctly.

**⚠ DANGER**

Attachment installed incorrectly or modified motorcycles will change handling of the motorcycle, this will cause an accident. Never use inappropriate attachments, to ensure that attachments are installed correctly. All accessories and parts should use pure part of the company.

You should be properly installed accessories and spare parts, if you have any questions, please relate this company designated shop of distribute of engage by special arrangement or special repair shop.s company shop of distribute of engage by special arrangement or special repair shop.

Wind deflector, chair back, saddle bags, luggage, etc., are all laid attachments, easy to cause the instability of driving. Especially in the side wind or with large vehicles encountered. If the attachment installed wrong or poorly designed attachments, would endanger the safety.

Additional electrical accessories can make the electrical system overload, serious overload may damage the wiring, make the engine stalling when driving, and even destroy vehicles.

When transporting goods, they should be fixed in the low position as far as possible close to the motorcycle. Fixed goods incorrectly can lift the center of gravity which is very dangerous. It can make the motorcycle hard to control. The size of the goods will affect the air drag and motorcycle maneuverability. Please balance the left sides of the motorcycle, and fixed the goods.

**Modification**

Motorcycle modification or removal device cannot guarantee the original motorcycle driving safety, and it is illegal. The user will lose the rights of quality guarantee if they modify the motorcycles..

**Safe driving instruction**

Driving a motorcycle is a very interesting and exciting sport activity. It also requires special precautions to ensure the safety of drivers and motorists. Preventive measures are as follows:

**Examination before driving**

Read carefully "before they check" section of the instruction, and check item by item according to the instructions, we must never forget that it can guarantee the safety of drivers and train personnel.

**Familiar with your motorcycle**

Your driving skill and mechanical knowledge, is the foundation of safe driving. First practice at where there are fewer cars, until you can fully familiar with the mechanical performance and operation method of motorcycle. Remember that! Practice makes perfect.

**Realize your own driving skills**

At any time drive within the scope of your own skilled. Know your skills limit and not to be reluctant so as to avoid accidents.

**Rainy day traffic alert**

Rainy day driving should be paid attention to, keep in mind the braking distance is twice as many as sunny days. Drive away from the road marking paint, manhole covers, and oil on the road to avoid slippage. When you drive on the railway crossing, bars and Bridges, you have to be careful. In the case of a negative judgment road, you should slow down.

**Speed limit**

Any time don't let the speed to be too high, and don't let the noise of engine speed is too high, from the outside.

**Strategy during driving**

Most of the motorcycle accident are turning cars bumped into people who driving a motorcycle in front. Wise driving strategy is to make the other driver seeing you; even in the broad road you also should pay attention to during the day. Wear smart clothing with safety reflective materials. Don't get in the other driver's blind spot.

— Special warning —

**⚠ WARNING**

If the weight distribution of accessories or goods attached on vehicle changes, the stability and operability of the vehicle may be adversely affected. In order to eliminate the possibility of an accident caused by it, the weight of the rear rack should be limited to be less than 10kg, and the weight of the side box should be limited to be less than 10kg. Please do not overload and modify the rear rack without permission.



### Code positing



Vehicle identification code and engine number is for the registration of motorcycles, when ordering parts or entrust the special service, this number can make distribution unit provide a better service for you.

① Identity code will be carved on the turning vertical pipe, ② 3C nameplate card will be fixed in the bottom of the frame, ③ Engine code will be printed on the left side of the crankcase. Please write down the number in the space below for your reference.

Vehicle identification number:

Engine number:

### Maintenance of muffler

This motorcycle muffler with catalyst can effectively reduce the operation process of motorcycle emissions of harmful substances into the atmosphere. To make the device work effectively, please refer to "maintain" the preventive maintenance in the section table.

In order to improve the service life of the muffler, and avoid faults caused by not-normal-use and maintenance of the mufflers rust, catalytic conversion efficiency decrease, please be sure to comply with the following items:

- Long time in high speed boom throttle is prohibited
- Long great load and low gear driving is prohibited
- Add muffler rust-proof oil or oil is prohibited
- Hot state muffler is washed with cold water directly is prohibited
- Slide when shut down is prohibited
- Use inferior oil is prohibited
- Use unleaded gasoline
- Keep clear the dirt of muffler to the rear and the surface
- Keep the engines running on good condition, regular maintenance and inspection. Avoid failure Leads to engine combustion exhaust gas in the exhaust pipe to cause secondary combustion catalyst sintering failure.
- Installing a muffler, be sure to properly installed muffler gasket.
- If you need to dismantle oxygen sensor, be sure to use the right tools, and be sure to stay muffler outfit after cooling to room temperature.

**⚠ DANGER**

Driving must pack up side racks, so as not to turn to when overturned vehicles, riding personnel casualties. Rear brake system must be checked to see if it is working correctly before driving. If there is problem, please repair immediately

Driving is not allow to tie the helmet on the helmet pothook, to avoid helmets be involved in the wheel to make the vehicle turned over to cause casualties.

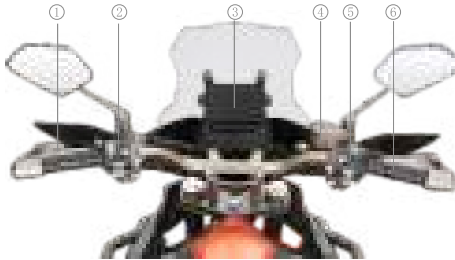
**⚠ DANGER**

Non-professional personnel do not pull the fuel pipe to discharge fuel, to avoid meeting flame and damaged vehicles; don't let the motorcycle muffler to touch other matter to avoid fire: motorcycle usage and storage environment cannot have fire hazard.

Vehicle maintenance need to replacement parts, - have to use the pure part of the company, the use of pure components, electrical components in particular, it might damage the motorcycle, and even destroyed vehicles.

Please don't add attachments at your will, especially the electrical components, if improper wiring or electrical load is too large, it could destroy vehicles.

Installation of component parts



- ① Clutch handle
- ② Switch on left handle
- ③ Meter
- ④ Front brake liquid cylinder
- ⑤ Switch on right handle
- ⑥ Accelerator control handle



- ⑦ Rear disk brake
- ⑧ Muffler
- ⑨ Rear brake pedal
- ⑩ Front disk brake
- ⑪ Ignition coil
- ⑫ Side stand
- ⑬ Gearshift pole
- ⑭ Clutch handle

PKE user manual

picture 1



picture 2



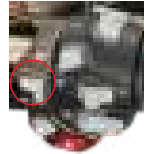
picture 3



picture 4



picture 5



picture 6

PKE (Keyless start system) user manual:

There are two parts in PKE system,controller host (picture 3) and transponder (picture 4), activates them,the PKE system can work.

1. PKE the activation of transponder

The motorcycle is equipped with two transponders, one of it should be kept for backup.

The transponder has a number that corresponds to the PKE controller host. The PKE controller host only recognizes one transponder at a time. When replacing the transponder, activate as follows:

a. Short press on the red power-on button "🔒" on the handlebar (picture 1).

b. Within 5 seconds,press the activation button on the transponder (as shown in Figure 4 to identify the location). After the tone is heard, the pairing is successful.

**⚠ ATTENTION**

The PKE controller host only recognizes one of the transponders, one of them is activated and the other is disconnected.

2. PKE turning on:

Short press red power-on button "🔒" on right handle bar (picture 1), turning lights flash twice, the handle bar lock automatically unlocked, then the buzzer "di" 1 sound prompts, the circuit is connected.

**⚠ ATTENTION**

If the head lock is not unlocked successfully, the vehicle will not be powered on and the vehicle will "di" 5 sounds. AT this point, it may be the handle pinning the handle bar lock's lock shaft, light swing the handlebar, so that the lock shaft is free.If the vehicle still can not be powered on, then short press the red power-on button to restart.

**⚠ ATTENTION**

If with wake-up switch, you press the red power-on button shortly and the vehicle does not respond, the battery may already be sleeping. Short press the battery wake-up switch (picture 2) to wake the battery. (After pressing the wake-up switch, the indicator light on the switch will be on for 5 seconds. The indicator light is on, which means the battery is fully charged; the indicator light is slow flashing, indicating that the battery is half-powered; the indicator light is fast flashing, indicating that the battery is about to run out).

If the battery wakes up, short press the red power-on button, the vehicle has not responded, please check whether the button battery of the transponder has electricity and check the PKE insurance. (see picture 3 for the insurance location)

If there is no wake-up switch, the battery is dead, please charge it.

PKE user manual

After start the PKE :

When the motorcycle is on or in riding condition, the red power-on button, the fuel tank lock button (as shown in Picture 5), the seat lock open button (picture 6) are invalid. When the vehicle is parked, the tank lock and seat lock can only be opened while the vehicle is off .

**⚠ DANGER**

During driving, if you find that the double flash signal is on along with some special noise, it means that there is an abnormal condition for the head lock, please turn off the motorcycle immediately and shut down the power. After several seconds, the head lock will be reset. After that, restart the system again, you can drive again only when the double flash signal is gone.

3.PKE shut down

After you stop the motorcycle and turn off the engine, put the handle bar to the left for the most extent, long press the red power-on button on the right side of handle bar of (2-3 seconds ).the turning light will flash for 2 times,the head lock will be locked,the buzzer will tweet "di" for a time ,vehicle is off

**⚠ ATTENTION**

The handlebar is not turned to the left and shuts down. After the vehicle shuts down, the vehicle will "di" 5 sounds to indicate that the head lock has not been locked successfully, but at this time, the lock shaft of the head lock has been extended, and the handle bar is set to the leftmost position. Automatically locked.

If the handle bar is not set to leftmost position has been turned off, the vehicle is not allowed to slide, and the entire vehicle is prevented from sliding to prevent the handle from being placed on the leftmost faucet,.This is dangerous.

When you move the motorcycle forward or moving downhill, please make sure PKE system is started (head lock is opened at this time).

Controller host TEST button (picture3)

The function is the same as the red power-on button switch on the handlebar. Short press or long press can be used to switch on and off. The purpose is to detect if the PKE has a problem, and to eliminate the abnormal start caused by the handle switch.

Emergency mode

Emergency mode can be used when the motorcycle is unable to start normally. Press the red power-on button switch or the host TEST button, and then press the activation button on the transponder 8 times, after hearing the 8 sound the PKE system enters into the emergency mode, the motorcycle can be energized, press the activation button on the chip transponder again, the motorcycle is off, and the emergency mode is removed.

**⚠ ATTENTION**

Be sure to purchase genuine KST (15A) insurance for replacement insurance!

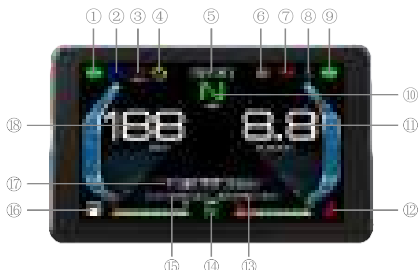
**⚠ ATTENTION**

There is a battery inside the transponder. It is normally used for 1-2 years. If your transponder is not sensitive and the transponder indicator is dark, please consider replacing the battery (the transponder has a pry opening and can be replaced after opening. The battery is 2450 button battery).





— Instrument —



The meter consists of four different interfaces which are leisure, racing, street and simplicity version, respectively. The interface can be switched and selected according to personal preference. A brief description of the meter is made with the leisure interface shown in the picture below.

Front view figure arrow: 1 left turn lights, 2 distance light lamp; 3 battery fuel gauge of voltage prompt table; 4 emergency light; 5 clock; 6 ABS anti-lock braking system light; 7 Change the oil indicator light; 8 bluetooth; 9 right turn signals light; 10 gear display; 11 engine speed record; 12 water temperature; 13 short trip odometer; 14 E/S model; 15 long tern odometer; 16 fuel oil level gage; 17 Driving information; 18 speedometer.

**⚠ WARNING**

Do not use high pressure water washing instrument directly.

Do not use with gasoline, kerosene, alcohol, brake fluid and organic solvent such as dishcloth instrument, otherwise the instrument can produce local crack due to exposure to organic solvents or discoloration.

Short press the "🔴" button of meter, then the meter will perform the process of self-test.

**1 Left turn signal light**

When the turn signal switch to the left, the left turn signal light will be flashing.

**2 Distance light lamp**

When using the high beam headlights, indicator light will be lighter.

**3. Battery voltage prompt**

When the engine is off, if the detection voltage is less than 12.1V, the display symbol will alarm in the way of flashing this flashing frequency is 1Hz. When the detection voltage is greater than 12.5V, the alarm will be canceled automatically.

When the engine is on, if the detection voltage is less than 12.9V, the display symbol will alarm in the way of flashing this flashing frequency is 1Hz. When the detection voltage is greater than 13.1V, the alarm will be canceled automatically.

When the low voltage indicator of the battery flashes, it means the voltage of the vehicle is lower than the set value. If the indicator is continuously on for a long time, it means that it is an abnormal phenomenon. Please contact our company for after-sales inspection. After the inspection, if the battery is dead, charging the battery will make it back to normal. If the battery is damaged, the battery needs to be replaced.

**4 Fuel injection error signal light**

When the vehicle turns on the electric door lock switch and the flameout switch, it is normal for the electronic injection fault signal light to be on when it is not started, if the electronic injection signal light is not on, please do not start the vehicle. When the engine starts successfully, if the yellow electrojet fault signal lights up and the electrojet fault is reported, it indicates that the system is abnormal.

**⚠ WARNING**

When the fuel injection system is showing error, it will break the fuel injection system when you still drive the motorcycle. Please contact the after-sales dealership shop to check the fuel injection system.

**5 Clock**

The clock display in the 12 hours system.

**⚠ ATTENTION**

If the battery is removed or battery lost electricity, it will be shown from "00:00" clock.

Instrument

6 ABS anti-lock braking system singal light

ABS working situation

7 Change the oil indicator light

The red indicator light will be on at the first time when the mileage is up to 1000km, then it will be on again when the cumulative mileage is up to 3000km per time. The indicator will be off by long pressing the MODE button.

**WARNING**

When the oil indicator light is on, it means that the motorcycle has already traveled to a certain mileage. Therefore, it is necessary to change the oil to maintain the engine. Otherwise, if you continue to drive the motorcycle without maintenance, the engine and the transmission system will be damaged.

When the oil indicator light is on, please turn off the engine firstly, and then check the oil level to confirm whether the oil capacity is correct or not, and whether the oil needs to be replaced or not.

8 Bluetooth

The indicator light will be on when the phone is connected to Bluetooth, and will be off when disconnected.

9 Right turn signal light

When press the right turn signal right to the right, it will be flashing.

10 Gear display

The motorcycle is using international gear, and there are six gear display which is 1,N,2,3,4,5,6 shown on the instrument.

11 Engine speed recorder

It shows the speed of the engine, indicating the number of revolutions per minute of engine crankshaft. 10000-12000rpm is red alert zone for engine speed (red printing section).

12 Water temperature

When the water temperature reaches to 110 degree, it will start to flash. It might be that the cooling liquid is too hot or cold or the surface level of liquid is too low.

13 TRIP short distance odometer & 15 ODO Long distance odometer

There are two functions in the display area of the screen, which are the TRIP MODE and the ODO MODE.

The ODO MODE records the driving mileage in total from the beginning to the present. The recorded information cannot be cleared, and the maximum recorded value is up to 999999.

**WARNING**

When driving a motorcycle, instrument operation is very dangerous. Leave handlebar will reduce the performance control of the motorcycle. Always put the hand on the handlebars while driving.

14 E/S model

"E" is for fuel economy, "S" is for motion pattern.

16 Fuel oil level gage

Fuel oil level gauge shows the fuel capacity of the fuel tank. When it shows 8 sections indicating that the fuel tank is full. When the fuel capacity is reduced to 1 grid or flicker, please refuel as soon as possible.

**WARNING**

When the motorcycle is parked by using side stand, fuel 1g1auge can't accurately show. Put the motorcycle into normal driving status, after we turn on the electrical door lock, we don't need to start the engine, and we have to wait about half minute to let it accurately show; or shut down the electrical door lock, turn it on again, the fuel level gage will demonstrate correct oil level information immediately.

17 Driving information

The record shows fuel consumption, average speed, cruising mileage, average fuel consumption when the vehicle is stationary, and instantaneous fuel consumption after the vehicle starts. You can switch circularly the driving information by pressing the MODE button.

18 Speedometer & Voltmeter

Speedometer shows the speed is how many kilometers per hour (/miles).

Voltmeter: Press the MODE button to turn on the speedometer, it enters the diagnosis mode, and

Instrument



picture 1



picture 2

As shown in picture 1:Main menu

Menu operation: Short Press the SET button on the main interface to enter the main menu. Long Press the SET button at any time to return to the main interface, or the screen can automatically return to the main interface without any operation for 8 seconds. Short press the MOD button, then the cursor will moves downwards, short Press SET button to enter the secondary menu or set options.

As shown in picture 2:①Interface style

The four interface styles are leisure, racing, street, and simplicity, respectively .

Short press MOD button to move the cursor to select the option, short press SET button to confirm the option, then it will automatically return to the previous level.

②Clock Setting

When entering the clock setting, the clock will start to flash.Short pressing MODE button will make the hour increase, PS: 0-12 loop; Short press the SET button to confirm the clock setting, the minute starts to flash, short pressing the MODE button will make the minute increase , PS: 0- 60 loops, then short press the SET button to complete the time setting.



picture 3



picture 4

As shown in picture 3:③Meter backlight brightness adjustment

Short press the MOD button to switch circularly the backlight brightness position (auto, 1, 2, 3, 4, 5), short press the SET button to confirm the selection. .

Auto: When the headlight switch is turned on, the backlight is the darkest. When the headlight switch is off, the backlight is the brightest, and the two brightness can be automatically switched.

④Unit setting

Short press the SET button to alternately switch the unit display, and the speed unit can be switched between mph and km/h. Correspondingly, the mileage unit can be switched between mile and km.

⑤Language setting

Short press the SET button to switch language between Simplified Chinese and English

⑥Bluetooth connection

Short press SET button to turn on and off Bluetooth

As shown in picture 4:⑦Malfunction information

Current fault code, historical fault code, software version number

## The instructions of the usage of Zontes intelligent App

Landing:

Log in with your Zontes intelligent App account.



Picture 1



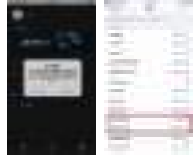
Picture 2



Picture 3



Picture 4



Picture 5

Apple system mobile operation:

As show in picture 1, When log in successfully, go to My Page. When the Bluetooth is not open, it will remind you to open it in your phone. If it is not open, when use Bluetooth related functions such as navigation in the future, the user need to open the Bluetooth in the mobile phone system settings.

As show in picture 2, After opening the mobile phone system Bluetooth, it will remind you of opening APP Bluetooth service.

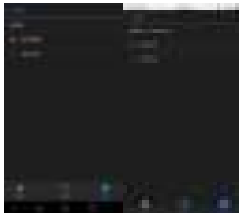
As show in picture 3, When open the Bluetooth, it will jump to the Bluetooth search page. The Bluetooth name will not show up, because it is the first time to search for Bluetooth. Then the Bluetooth name will appear as an unknown device, connect the Bluetooth by choosing the unknown device. If it is the motorcycle's speedometer bluetooth, it will the prompt the connection is successful, or it will disconnected automatically. (If the connection is not successful, please select another item to connect, until the connection is successful).

As show in picture 4, When the connection is successfully, it will prompt to connect motorcycle speedometer's Bluetooth again. At this time, you need to go to the mobile setting system Bluetooth interface to connect to speedometer's bluetooth. After successfully connecting the motorcycle speedometer Bluetooth, you can use navigation and other functions. Attention: When entering the system Bluetooth interface and selecting the motorcycle speedometer Bluetooth, two Bluetooth device names with the same name will appear, as show in picture below, one displays is connected, the other is unconnected. Then choose the the unconnected Bluetooth device and connect it.

As show in picture 5, When it is successfully to connect the motorcycle speedometer Bluetooth, enter APP again, the APP will connect the motorcycle meter Bluetooth which is connected last time automatically. After the connection is successful, the prompt of the Bluetooth connected to the mobile phone system interface will be popped up. When entering the system Bluetooth interface and selecting the motorcycle speedometer Bluetooth, two Bluetooth device names with the same name will appear, as show in picture follow, one displays is connected, the other is unconnected. Then choose the the unconnected Bluetooth device and connect it.



Picture 1



Picture 2



Picture 3

Android phone operation:

As show picture 1, When log in successfully, go to My Page. If cancel to open Bluetooth at first, it needs the open the Bluetooth with hands.

As show in picture 2, Click on Bluetooth configuration, go to My Page, and click the Bluetooth connection again. If it is the first time connection, it will display unconnected on the top. If it connected before, then the speedometer will display. Modify the Bluetooth name: If the Bluetooth is connected, it will pop up a dialog with a name, then modify the Bluetooth name.

## The instructions of the usage of Zontes intelligent App

As show in picture 3,Click and connect the Bluetooth,enter the Bluetooth search connection interface.Click the Bluetooth you need to connect, there will be questions and tips. If you need to ask the questions, please click the Ok, or allow Bluetooth to get phone alert.



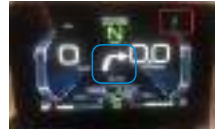
Picture 1



Picture 2



Picture 3



Picture 4

Speedometer's navigation function:

It can be used normally when the APP connects with speedometer Bluetooth successfully. The navigation function usage process is as follows:

①APP operating procedures:

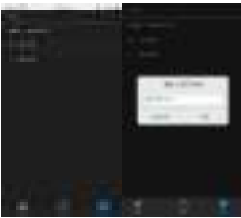
1. As show in picture 1, Search for the destination.
- 2.As show in picture 2,Click the blue road sign in picture 2 and open the navigation.
- 3.As show in picture 3,Choose the road line, click and open the navigation.

Motorcycle speedometer connection Bluetooth success tag:

Mobile phone APP connects with motorcycle speedometer Bluetooth successfully, there is a blue icon appearing on the upper right corner of the speedometer(as show in picture 4).After connection is successfully, Bluetooth-related functions such as navigation can be used.

②Interpretation of speedometer interface:

- The number circled in blue in the picture 4 is 0.1km: the distance from the next intersection.  
Navigation icon:Indicates the navigation direction of the next intersection.



Picture 1



Picture 2



Picture 3



Picture 4

Modify the Bluetooth name:

Enter the Bluetooth settings interface(As show in picture 1),there are functions of the modify motorcycle speedometer Bluetooth name, it will be used until the APP connects with motorcycle speedometer Bluetooth successfully.

APP meter interface

①APP meter interface(As show in picture 2):

- 1To exit the meter interface, it needs to click for a long time.

2If the slide switch style is turned on in the meter style setting interface, you can slide the left and right to switch the meter display style.

3As long as the mobile APP bluetooth is connected to the car's instrument,the APP's instrument interface will display the data of the car's instrument.

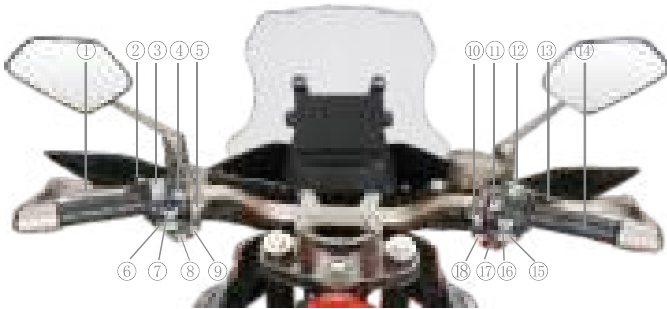
②APP speedometer interface style setting

Click to enter the speedometer style interface (Picture 3), as shown in the picture , you can select the speedometer display style.

My vehicle(As show in picture 4):

My vehicle page is mainly used to display customer's motorcycle information.

Left/Right handle control system



1. Clutch controller

Hold the handle when start the engine or shift the clutch friction plate separation, to cut off the power.

2. Overtaking warning lights

When speeding up, press the button warning the cars in front or behind.

3. Dimmer switch

Distance light operation

When the dimmer switch on position, the distance light is flashing. At the same time on the surface of the dashboard in light is lit will switch to dipped headlight will be turn on and distance light is turn off.

4. Danger warning button

Press the button, the four lights are flashing, and warned nearby vehicles to pay attention to the safety.

5. Horn button

Press the button, the horn will ring.

6. wind block switch

Every time press the bottom, there will be one complete shift from the windshield open to closed.

7. Turn signal operation

When turn the switch to the left the left turn light is flashing. When turn the switch to the right , the right turn light is flashing.

**WARNING**

Whenever the road before changing lanes or turning, we must get into the habit of starting turn signals first. When gear changing lanes or turning is finished, they must be turn off.

8. MOD: Select the next (Move the cursor to select the option).

9. SET: Enter the main menu/confirm the option.

10. Seat lock switch

Under the condition of seat lock tied up, you can open the seat lock by pressing the switch.

**ATTENTION**

If the seat is not installed into position, the seat will glide which will lead to the driver to lose control of the motorcycle. Please make sure the correct positioning of the seat safety lock.

11. ECO button

Before start the engine, please press ECO button. Instrument E indication light will be on, ECO button will eject and the indication light S will be on. E stand for simple economic mode, and S stand for sport mode.

12. Engine stop switch

This switch is installed on the right hand switch assembly, is a kind of wave plate card, shaft in wave plate center. Dial in position, the circuit connected, the motor can start.

If the switch in position, starting circuit completely cut off, the motor can't start. It's an emergency way to shut down the switch.

## Left/Right handle control system


### 13. Front brake controller

When braking the front wheel, we must grip on the right side of the front wheel brake. Because using the vehicle hydraulic brake disc, the brake holding force doesn't need to be large. When you hold front brake handle, brake lights will light up automatically.

### 14. Throttle control handle

Throttle control handle is used to control the engine speed. To his own side is accelerated; On the other hand, turn from his own side is slowing down.

### 15. Electrical starting

The start-up circuit, press this button to connect at startup must set the gear in neutral position, to confirm whether the engine flame out switch in  the location, and hold the clutch handle, in order to protect security.

#### WARNING

When continue starting the engine, consecutive start time not more than five seconds at a time. Because a large number of start can make some abnormal heating to circuit and start motor. If you still can't start it a few time, you should stop and check the oil supply system and start the circuit system. (please refer to "troubleshooting" section.)

### 16. Lamplight switch

 position: front light, front position light, rear position light, and nameplate light are all on together.

- Position: front position light, rear position light and nameplate light are all on together.

### 17. Red power-on button

Press "" button, the ignition circuit will be connected. The instrument will be on and we can start at any time.

### 18. Fuel tank switch

Under the situation of the fuel tank cover shutting down, press "" button, the fuel tank cover will be automatically open.

For details of the operation of MOD button and SET button, please refer to the main menu of the meter.

Fuel tank



Fuel oil tank is located inside the fuel tank cover in the front part of seat. When open the fuel tank cover, please make sure the engine turn off switch is off, and press the fuel tank switch button 1, cover board 2 will automatically open, rotate the fuel tank cover 3 anticlockwise. When you install the cover, please follow the opposite order to do that.

**⚠ DANGER**

Not excessively fill in oil, so as to avoid overflow of fuel flow to the high temperature engine. Fuel oil level height shall not exceed the fuel tank as shown at the bottom of the mouth, or fuel will overflow after the heat expansion, and will damage the motorcycle parts.

To turn off the engine when refueling, make sure the turn off switch is shut down. Do not close to fireworks.

Oil gun against excessive stretch into the fuel tank, so as not to damage the fuel sensor.

When you fill in the fuel, you should have some prevention measures, otherwise it will cause fire or fuel vapor into the eye. When you fill in the gas, go to the open air. Make sure the engine has been closed to avoid oil spills. No smoking, make sure no heat or fire source around. Avoid fuel vapor into the eye. When Refueling, keep children and pets away.

**⚠ ATTENTION**

Do not use high pressure water to rinse when washing the car fuel tank cover to avoid water to get in the fuel tank.



Shift lever

The motorcycle is equipped with six gear transmission, its operation as shown. Pick on, or change the gear shift lever (1), the shift lever will recover to the original position, so as for subsequent shift. Before in low position, please reduce the speed or increase the engine speed; Before in high-grade place, please raise the speed or lower engine speed. After this will prevent transmission system components and unnecessary tire wear.

**⚠ ATTENTION**

When the gear is in the neutral position, the neutral position indicator light is lit, please slowly release the clutch handle, to confirm whether really is in the neutral position.

Rear brake pedal

Press on the rear brake pedal, rear wheel brakes, brake lights up at the same time.

Rear shock absorber spring

The rear shock absorber spring is adjustable according to the will of the driver, the loading condition and road condition. The adjusting method is non-polar adjustment. You only need to stop the motorcycle with the side stand. And then you turn the spring adjustment to the needed position. The rigidity will decrease when we adjust it down; the rigidity will increase when we adjust it up.

Push the key in the lock hole and rotate clockwise, seat cushion lock switch will be opened, seat cushion can be removed. When you put the seat cushion, insert the front seat cushion, press the cushion tail down. When you hear "click" sound, it means the seat cushion is locked.

Side stand

When you are using the side stand, the side stand turn off switch will cut off the power if you don't hold the clutch handle and the shift level is on idle condition.



## Notes for fuel, engine oil and cooling liquid

### Fuel oil

The pure 95 # or more unleaded gasoline must be used. The pure 92 # unleaded gasoline can only be used in a short time in case of emergency, otherwise the engine lifetime will be shortened.

If there are tapping based on experience, you can use level higher gasoline or use other sellers of gasoline. Because there are differences between different brands.

### Engine oil

Use high quality SM or above level four-stroke engine oil can prolong engine life. Please choose API SJ level or higher level of "four stroke motorcycle engine oil", It is on sale on all franchise repair shops.

#### WARNING

The unleaded gasoline, poor quality fuel oil and engine oil can damage the system components, and it will shorten the service life of catalyst in spark plugs and muffler. Unclean fuel oil can block the oil-way, resulting in abnormal engine working, don't use that kind of oil.

#### WARNING

Please properly deal with waste engine oil, do not prevent the environment. We suggest that you will put waste oil into a sealed container to a local recycling center. Don't put them into the dustbin or directly into the ground.

### Engine cooling liquid

The cooling liquid we use is suitable for the aluminum radiator. The cooling liquid is a mixture of cooling liquid concentrate and water. If the outdoor temperature is higher than the freezing point of the cooling liquid, it can be used. When you add or cool the cooling liquid, please use alcohol as the foundation.

#### DANGER

It is bad for health if you swallow or absorb the cooling liquid. Therefore, when you use it, please don't eat and drink. After every work, please clean your hands, face or any skin parts demonstrated. If you swallow it mistakenly, please go to the hospital immediately. If you absorb it mistakenly, please breathe more fresh air in the environmental in where there is full of fresh air. If the cooling liquid runs into your eyes mistakenly, please watch your eyes with large amount of water at once. Also, keep the liquid away from kids and pets.

#### WARNING

The cooling liquid which splash out is possibly do harm to the surface of the motorcycle. Please be careful when you refill the cooling liquid. If it splash out, please clean it immediately.

### Distill water for cooling liquid

If you need to add water, please use the distill water. If you use other kinds of water, it would probably do harm to the cooling system.

### Anti-cooling liquid

Cooling liquid and anti-cooling liquid can prevent routing and lubricate the cooling liquid pump. Therefore, if the outdoor temperature is higher than the freezing point of the cooling liquid, it can be used.

#### ATTENTION

Please refer to the instruction of anti-cooling liquid product when you use it.

### The volume of cooling liquid

Cooling liquid volume (total volume): 1670 ml.

#### ATTENTION

Please choose the suitable anti-cooling liquid according to the driving air environment.

## Running-in of new motorcycle

The correct new running-in can prolong the service life of the motorcycle, it can also give full play to the performance of the new motorcycle. Below is a list of running in right way.  
recommended maximum engine speed

First 500 kilometers	below 5500 turns/minute
Up to 1500 kilometers	below 8250 turns/minute
Over 1500 kilometers	below 11000 turns/minute

### Gear and speed of engine

Gear and speed of the engine often change, not to run in a gear and speed. During the running-in, it can be appropriately step on the gas, make it completely running-in.

### Running-in of tires

Like engine running-in, the adaptation of the new tires need to be correct to ensure the best performance. In use within the first 160 km new tires, we should gradually increase the turning Angle to connect the ground surface in order to achieve the best performance of the tire. In the use of new tires within the first 160 km, we should avoid nasty acceleration, a sharp turn, and emergency braking.

### DANGER

**If a tire is in bad adaptation, it will cause the skid, or out of control. After replacement of tires, do be careful with driving. In accordance with this section in tires, in the first 160 km, we should use wheel tires to avoid nasty acceleration, a sharp turn, and emergency braking.**

### Avoid operation under fixed low speed

In fixed (light load) under operation at low speed, it will make the parts wear and bad matching. As long as no more than recommended throttle opening (i.e., no more than 3/4 of the opening of the throttle), it can make the engine speed under various rotational speed. However, during the period of the first 500 km, it should not be more than three quarters of the throttle opening.

### Let the engine oil cycling

No matter in hot or cold machine status, before starting, you should let the engine had good idle running time in order to make the oil flow to all lubrication part.

### Routine first time examination

The initial 1000 kilometers of maintenance is one of the most important work. During this period, all engine parts should have good running-in. In the case, maintenance and repair should put all the parts to readjust, tighten all fasteners, replace parts abrasive dust pollution of the oil. Repair, about 1000 kilometers seriously for the first time, will guarantee your motorcycle to play the best performance and prolong its service life.

### WARNING

**According to the instruction for use in the inspection and maintenance of an execution section for 1000 kilometers Maintenance and repair. Please pay special attention to the danger and warning content of this section.**

## Inspection before driving

If it's not well check before driving the motorcycle, and there is no proper maintenance, it will increase the risk of accidents and the risk of motorcycle damage. Always check the motorcycle during daily usage, make sure it is safe to run. Refer to the instruction manual inspection and maintenance of the chapters.

If the motorcycle use inappropriate tires, or operating motorcycle not correctly, or tire pressure is not correct, you will lose control of the motorcycle. have to use in this instruction manual provisions size and specifications of the tires. Always in accordance with the requirements of the inspection and maintenance section to keep proper tire pressure.

Keep proper wheel pressure

Inspection content	Key points for inspection
Steering system	Active steering, no block for moving, no working loose
Accelerator	Correct accelerator inhaul space, smooth operation; smooth holding for accelerator
Clutch	Correct controller free stroke and smooth operation
Brake	Normal operation on braking controller and braking pedal; braking liquid above The LOWER line of the braking liquid cylinder; no feeling of inactive braking; no brake drag and brake liquid leak; braking plate wear within range
Shock absorber	Smooth and active controlling
Fuel oil	Enough planning distance oil level
Transmission chain	No wear; clean and lubricate from time to time; correct looseness
Tires	Correct air pressure; proper depth of tread; no wear
Engine oil	Correct oil level
Cooling system	No oil leaking
Lamplight	Normal working for all kinds of light in the motorcycle
Indicator light	Distance light, neutral position light, turn signal right working normally
Horn	Working normally
Brake switch	Working normally
Shut down switch	Working normally
Side stand/ignition interlock switch	Normal controlling

The importance of these tests can never be neglected. Complete all of the inspection before driving and necessary repairs.

**⚠ DANGER**

When you do the inspection, engine running status is more dangerous for you to inspect. If your hand or clothes are moving parts involved in the motorcycle, it will cause serious damage to you. In addition to check the engine flame out switch and power to run the engine, shut down the engine when you perform other checks.

Driving essentials

**⚠ DANGER**

As you drive the motorcycle for the first time, we suggest you had better look for practice on the un-public road, until you are familiar with this motorcycle control method.

Driving with only one hand is the most dangerous, we should driving in both hands firmly in the grip and both feet on the foot. No matter any situation, no hands are allow to be away from the line.


When turning, try to lower the speed to safe speed.

Road surface is moist and smooth, tire friction will be small, braking ability and the ability to turn the naturally decrease, so you must lift the speed.

Horizontal wind is usually the most likely to happen in the tunnel, valleys or large vehicles from behind when overtaking. You must be calm and lower your speed.

Obey the traffic rules and speed limits

Starting of the engine

When you start the system without key, all the motorcycle will be connected automatically. Check whether the engine turn off switch is in the position of . At this moment your motorcycle is in the neutral position, the neutral light will light up on the dashboard.

**⚠ WARNING**

This motorcycle equipped with ignition circuit and the starter circuit interlock switch. Only under the condition of the following the engine will start:


1. Transmission is under neutral gear, hold the clutch handle, or
2. Transmission is not under neutral gear, side stand is packed up and you hold the clutch handle.

Dumping of sensor when the motorcycle is overturned, will cut off the power and stop the oil supply, and make the motorcycle stall, and fault indicator will light up. Motorcycle starting again, you need to turn off the ignition switch, after waiting for 1 minute, reopen the ignition switch, and starting the engine.

When the engine is in cold machine status:

1. Pack up the side stand.
2. throttle control handle is on idling position.
3. Start according to the electric starting button "electric starting icon.

When the engine is in cool machine status and hard to start:

1. Pack up the side stand.
2. Turn the throttle to open in 1/8 extent, at the same time start according to the electric starting button. " " electric starting icon
3. After starting the engine, keep the engine turning to fully preheated.

4. When after several times that the engine is hard to start, it is most likely that the cylinder submerged. In the case, you have to do the clear cylinder process: open the acceleration entirely, press the starting button for 3 seconds.


**⚠ WARNING**

The colder is the weather, the longer time the engine needs to preheat. After fully preheat, you can reduce the engine wear and tear.

When the engine is in hot machine status

1. Pack up the side stand.
2. throttle control handle is on idling position.
3. Start according to the electric starting button " " electric starting icon. After the engine is starting, keep on letting the engine work to fully preheat.

When the engine is in hot machine status and hard to start

1. Pack up the side stand.
2. Turn the throttle to open in 1/8 extent, at the same time start according to the electric starting button " " electric starting icon.
3. When after several times that the engine is hard to start, it is most likely that the cylinder submerged. In that case, you have to do the clear cylinder process: open the acceleration entirely, press the starting button for 3 seconds.

**⚠ DANGER**

When starting the hang gear in neutral, throttle back to bottom, form a habit of holding the clutch handle before starting. Avoid - error, when it is starting, moving forward immediately.

When the motorcycle is starting, you must hold the clutch handle, or make the engine in the neutral condition, otherwise it can't start, don't forget to pack up side racks at the same time.

Dumping of sensor when the motorcycle is overturned, will cut off the power and stop the oil supply, and make the motorcycle stall, and FI indicator will light up. Motorcycle starting again, you need to turn off the ignition switch, after waiting for 1 minute, reopen the ignition switch, and starting the engine.

## Driving

Pack up the main stand, hold the clutch handle, just wait a moment, hit the hang first gear shift lever: step on the gas and slowly release the clutch handle gently, the motorcycle will start.

If you want to get to the next higher gear, speed up first, and then close the throttle, hold the clutch handle at the same time, the shift lever stepped down, hanging in the second gear. And then loose the clutch handle gently, gently step on the gas. In accordance with the main point to gradually shift can reach a top speed of gear.

### WARNING

This motorcycle is configured with side racks and ignition interlock switch. When we set up side racks, it will range from neutral to other gears, the engine will stop running.

### DANGER

When going downhill, we will not closed the ignition switch or engine flameout switch. Otherwise, it will reduce the life of the catalyst in the muffler.

Use the transmission system

The transmission system can make the engine running smoothly in the normal speed range. Variable speed ratio is carefully selected for the engine performance. Drivers shall select the most appropriate gear according to driving conditions, and never use low-grade in high speed driving. In any time, don't use the method of half clutch to control speed. Before changing in low level gear, lower the speed or increase the speed of the engine. before hanging into the high-end gear, improve the speed or reduce the engine speed.

Climbing driving


When climbing steep hills, motorcycles will have the phenomenon of underpowered slowdown. You should put the low gear, let the engine operates within the scope of normal power. Then shift should be quickly, to avoid the motorcycle to slow down too much.

When going downhill, we can use the engine to assist braking resistance, as long as the gear into a lower gear. If the brake to be continuous using, it will overheat, and reduce the braking ability.

### WARNING

When going downhill, you will not close the ignition switch or engine flameout switch, so as not to reduce the service life of catalyst in the muffler.

Brake and park

- (1) Turn the throttle control handle forward, and make the throttle fully return.
- (2) Brake by using the front brake controller and rear brake pedal at the same time.
- (3) When the speed is low enough, you can change it to low level gear so as to reduce the speed.
- (4) Hold the clutch handle (to clutch off), put the gear into a gap position and then stopped completely. After having into the gap position, the gap indication light is lit.
- (5) If a motorcycle with a side stand is going to park in gentle slope road, you should hang gear into the low level, as far as possible to get the car started up hill side, to avoid overturned because of side racks rotation. However, when restart, you must hang the files back to the neutral position.
- (6) turn the turn off switch on the right handle bar to the turn off gear position, the engine will stop.
- (7) turn the handle bar to the left for most extent, press the  button for 2-3 seconds, the handle bar will be locked and the electricity will cut off completely.
- (8) swing the handle bar to make sure the handle bar is locked.

### DANGER

High speed will extend the braking distance accordingly. Make sure the front vehicle or object to have proper distance with you to make your motorcycle braking. Otherwise it may cause collision.

Use only front and rear brake is very dangerous, the braking method causes skid and out-of- control. In the wet pavement as well as turn place, be careful gently use the braking system. In the uneven road surface or smooth roads, to have emergency braking, you can make the motorcycle out of control.

Emergency braking when the motorcycle is turning can make the motorcycle out of control. In this case, brake before the turning to reduce speed.

When the engine is working or just stalling soon, the temperature of the muffler is high, please do not touch to prevent burns.

Only use rear brake to brake will make brake system accelerated wear and tear so that the braking distance is longer and longer.

### WARNING

If you use other anti-theft lock, such as u-lock, brake disc, chain lock anti-theft lock; you have to remove the anti-theft lock before driving.

## Inspection and maintenance

### Maintenance schedule

The table below is the inspection for each regular maintenance should be done, the interval period should be used in months or mileage depending on which one reached first. Each check should be carried out in accordance with the project in the table below.

If your motorcycle has been used in harsh conditions, namely the continuous driving in large throttle or worked in wind sand, it should have special maintenance to keep the reliability of the motorcycle after driving. The repair units can provide you with further advice. Especially, shock absorber and wheel steering system are key parts, and they require specialized technology and careful maintenance. To be safe, we recommend the work best done by a qualified repair units.

#### **⚠ DANGER**

Initial 1000 km maintenance is the must-follow project, it can make your motorcycle always reliable and have superior performance.

When the engine is working and just stalling, the temperature of the muffler is high, please do not touch to prevent burns.

Improper maintenance or problems after maintenance will cause an accident. To keep your motorcycle in good condition, it request the company qualified maintenance unit complete with \* mark project. Refer to this section, if you have any mechanical maintenance experience, you can maintain the unmarked items; if you are not sure how to deal with the work, let your repair units to complete the maintenance.

#### **⚠ WARNING**

Pay attention to the maintenance regularly to see whether full compliance with the prompt or not carefully. The initial 1000 km maintenance, shall be carried out according to the method described in this section. "Dangerous" and "Warned," in this section should pay special attention to. Replacing the wrong parts can lead to motorcycle accelerated wear and tear, and shorten the service life of the motorcycle. When the motorcycle needs to replace

Waste in the maintenance process, such as cleaning agents and waste engine oil should be properly handled so as not to damage to the environment.

### Regular maintenance table

Inspection cycle	kilometer	First 1000	Each3000	Each6000	Each6000
Inspection item	months	First 3	Each15	Each30	Each45
Air filter (filter)		_____	Check	_____	Change
Muffler bolt, nut		Fastening	_____	Fastening	_____
Check valve clearance (cold) In 0.10-0.20 mm / 0.14-0.28 mm		_____	_____	_____	Check
ignition plug		_____	_____	_____	Check
Engine oil		Change	Change	_____	_____
Engine oil filter		Change	_____	Change	_____
Clutch controller free stroke		Check	Check	_____	_____
throttle body		Check	_____	Check	_____
Throttle digging line gap		Check	Check	_____	_____
Idling		Check	Check	_____	_____
Fuel evaporative pollutants control system		_____	_____	Check	_____
Radiator rubber hose		_____	Check	_____	_____
Fuel pipe		_____	Check	_____	_____
Transmission chain		_____	Check	_____	_____
		First 1000kilometercheckor15monthscheck			
brake		Check	Check	_____	_____
brake liquid pipe		_____	Check	_____	_____
		Change once every four years			
brake liquid pipe		_____	Check	_____	_____
		Change once every two years			
tires		_____	Check	_____	_____
knuckle mechanic		Check	_____	Check	_____
front fork		_____	_____	Check	_____
rear shock absorption		_____	_____	Check	_____
Body and the engine installation of bolts and nuts		Fastening	Fastening	_____	_____
Cooling liquid		_____	Check	_____	_____
		Change once every two years			

The first maintenance is carried out for the first 1000 km or 3 months, and regular maintenance is performed every 3000 km or 15 months.

— Inspection and maintenance —

**⚠ ATTENTION**

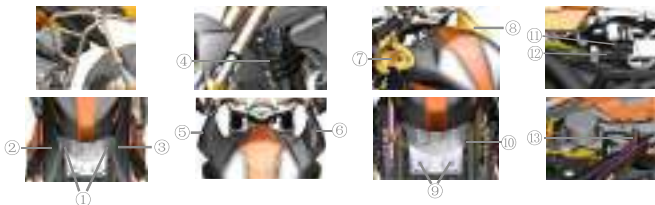
According to the project inspection table, if necessary, to further cleaning, lubrication, adjustment or replacement operations.

In poor road conditions and high power conditions for a long time, you should increase the inspection frequency.

**Toolkit**

Toolkit is put into the spare part case.

Fuel tank disassembly instruction



The steps for removing the fuel tank:

1. Remove the seat, remove the fixed expanding nails from the fuel tank outer cover and both the left and the right side covers 1 . Then remove the left and right side covers 2 , 3 .
2. Remove the front radiator rack 4 .
3. Remove the left and right decoration cover 5 , 6 .
4. Remove the rear part of left and right decoration cover 7 , 8 .
5. Remove the two bolts 9 , remove the fuel tank lock main cable port 10.
6. Remove oil pump port 11 , high pressure oil pipe 12 , fuel oil air absorption pipe 13.
7. Remove the fuel tank from backward.

**⚠ WARNING**

Before installing the fuel tank, check the fuel tank leaking pipe and ventilation tube without bending.

Fuel tank location is correct.

The pipe connection is correct.

Adsorption pipe connection, to the end of the pipe clamp towards the outside.

When installing the fuel pipe, prevent foreign body to get into the fuel pipe.

**Lubricating point**

For safe driving, you have to keep good lubrication which can maintain the smooth operation, and prolong service life. After using in harsh conditions, after the vehicle is wet by the rain, or after washing the car, it should be lubricated. Lubrication points are as follows:



**⚠ WARNING**

Lubrication might damage the switch. Don't use grease or oil to lubricate the switch.

D chain oil G grease

① clutch controller

② Side parking axle and spring hook

③ left shift lever shaft axis and put feet

④ Transmission chain

⑤ The brake handle shaft

⑥ right shift lever shaft axis and put feet

Storage battery



The battery is located below the driver's seat . It is a lithium battery. For the first use, please connect the positive and negative poles and install the battery strap.

Disassemble the battery in the following steps:

- Turn off the motorcycle power switch.
- Remove the cushion.
- Poke black protective cap, remove the negative (-), push aside red protective cap, remove the positive.
- Gently take the storage battery out, before installing the battery please install the positive extreme ( + ) first, then install negative extreme ( - ) .

**⚠ WARNING**

When reinstalling the battery, starting or when the whole vehicle has power failure, battery dormancy restarting, abnormal idle speed, plug and unplug insurance and other similar situations, please pay attention to reset individual hardware of the electronic injection. Steps: Turn on the electric door lock switch and the engine flameout switch, start the engine with the clutch of neutral gear. Turn off the engine flameout switch after 10 seconds and turn on the engine flameout switch after 10 seconds. Repeat 2 more times.

Replace the battery, please note the following:

When you replace battery, you shall confirm the battery type and verify the models are consistent with the original battery. the specification of the battery in motorcycle design is considered as the relative match. if switch to a different type of battery, it could affect the performance and life of the motorcycle, and is likely to trigger circuit fault.

If you don't drive your motorcycle for a long time, please remove the battery and charge it per month.

**⚠ WARNING**

Battery should be checked regularly, if the voltage is lower than 12.8V, we suggest for battery charging. Battery charging will shorten the life of the battery. Don't let the battery over charge.

Please charge the battery when you use the professional lithium battery. The charging voltage should not be over 15V.

Please properly deal with waste battery and waste electrolyte, don't damage to the environment.

We suggest that you will recycle waste battery and waste electrolyte to a local recycling center.

Don't discard it in the dustbin or discarded directly on the ground.

**⚠ WARNING**

It means the battery volume is enough when the wake up light is on; it means that the battery volume is almost gone when the light is slowly flash. It will be recharged into full volume when it idling speed or driving for at least half an hour, quick charge stand for manual charge needed (we have to wake up the battery when it is manual charge mode).

When the battery is fed, it is forbidden to directly connect other batteries to charge or ignite. It is recommended to use the original or qualified lithium battery smart charger to charge.



parallel connection is forbidden



## Charger Manual

When the battery feed cannot be started due to the long time of not cycling or other reasons, please recharge the battery as the following steps:

- Open the PKE fuse box (As Picture 1 shown).
- Take the DC Adapter plug out and open dust cover (As Picture 2 shown).
- Please plug well the plugs of the DC output wire and the DC transfer wire of the adapter.
- The charger input AC socket can be plugged into 220V power.

LED indicator

Green light	Standby Mode
Red light	Charging Mode
Red light becomes Green light	Full Charging



Picture1



Picture2



Picture3

**⚠ ATTENTION**

The car is labeled with a special charger for lithium-ion batteries, and it is prohibited to use other unqualified chargers to charge the original lithium-ion batteries.

## Air filter

The air filter is located below the seat. If the air filter is dirt jam, it can make the air intake resistance increases, the output power down, and fuel consumption increases. If driving in dusty conditions, you should increase air cleaner filter cleaning or replacement frequency. Complete the following steps to check clean air filter.

**⚠ WARNING**

If under the condition of dusty drive, you should increase the frequency of clean or replace filter.

It is dangerous to run the engine without air filter. If there is no air filter inside the filter block, engine flame from the engine will jet to air filter inlet chamber. Dirt will enter inside of the engine, to cause harm to the engine. If there is no air filter cartridge, do not run the engine.



- 1.Remove the right side cover, you will see the air filter.
- 2.Remove two bolts of the air filter as shown in the graph.
- 3.Pull out the filter element.
- 4.Change new filter element.
- 5.If there is no new filter element; we can also remove the dirty element. Firstly clean it with high pressure air, and then put back to the original position.

**⚠ ATTENTION**

When you do the cleaning, always start from the clean side to the dirty side. If you do it the opposite way, the dust will stay in the gaps between the elements.

In addition, the broken filter can make the wastes get into the engine, and damage the engine. If you find that filter is broken, be sure to change a new filter.

- 6.Follow the steps in contrast to install cleaned filter, or install a new filter, confirm the filter installed to the correct position and properly sealed.

**⚠ ATTENTION**

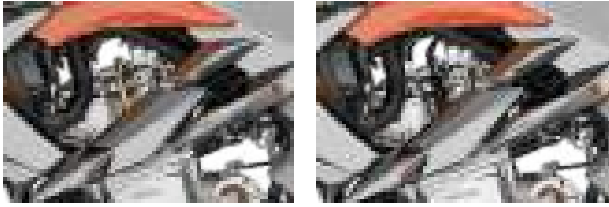
If the air cleaner filter installation position is not correct, the dust will bypass the filter into the engine which can damage the engine. Make sure the filter installed in the correct position. In addition, when you flush the motorcycle, don't let the water into inside the air filter; if there is water into the air filter, you can pull the release the product oil pipeline, and make sure there was no swelling in the empty filter before using the motorcycle.

Product oil pipeline

Get rid of the clamp with long flat nose pliers. After that you can get rid of the used oil. When you finish the process, you can install it parts with opposite order.

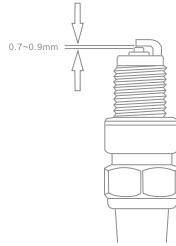


Spark plug



Disassembly the spark plug  
Follow the steps below:

1. Disassembly the spark plug cap ,be careful not to use strong force, or you may break the spark plug.
2. To remove the spark plug with the spark plug wrench.
3. Check the spark plug.



The spark plug replacement guide

Use a hard wire or steel adhesion of carbon on the spark plug for removal of dirt, and then to use with a feeler gauge to adjust the spark plug gap between 0.7 ~ 0.9mm.

When remove adherent carbon deposition, you need to observe the spark plug tip of the porcelain two kinds of color at the same time. The color will tell you whether standard spark plug is fitted. If the spark plug is wet black, turned to high-pressure hot plug may be more appropriate. Normal working condition spark plug should be light brown. If it appears as white and light, the spark plug under the condition of overheating, then you should change it into cold type spark plugs.

Torch	Annotation
LDK8RTIP	Standard spark plug
LDK9RTIP	If the spark plug is overheating, switch to the spark plugs LDK9RTIP .

Install spark plug  
Torque:20 N.M

**⚠ WARNING**

The incorrect installation of the spark plug will damage the engine. If the torque of the spark plug is too large, it will also do harm to the engine. When changing a new spark plug, We should use our fingers to install it in advance, then use the tool to move it for 1/2 round. However when using the old spark plug, we should use our fingers to install it in advance, then use the tool to move it for 1/4 round.

The unclean material will go through the spark plug and go into the engine to do harm to it. Therefore, when we dismantle the spark plug, we have to use something to cover the installation hole of spark plug.

## Engine Oil



Top oil level line  
Lowest oil level line

Whether the engine can be durable, it is very important to select the high quality oil and regular replacement of new oil. Check the oil level and oil change on a regular basis is two important tasks of maintenance project.

Check the oil level, according to the following steps to check oil level.

1. Use the side stand to park the motorcycle on flat ground, and then turn the handle bar to the left.
2. Start the engine and put it into idling mode for 10 minutes (if the temperature is under 10C, the idling mode should be 15 minutes).
3. Turn off the engine and wait for 3 minutes.
4. Rotate out the engine oil ruler, use dry thing to clean and after that, rotate back to the original position. And then rotate out the engine oil ruler to look at engine oil position. The oil level should be between two lines.

### **⚠ WARNING**

When the engine oil is too much or too little, running the engine can damage the engine. Stop the motorcycle on the flat ground and check the engine oil level gauge. The oil level must be between the lowest and the highest lines. When checking the oil level, make sure that the motorcycle is standing upright and slightly incline to either side may cause the inspection error.

### Engine oil replacement

At each maintenance cycle, we should replace the engine oil. Oil change should be performed under the condition of the engine, so the old engine oil can discharge more thoroughly. Steps are as follows:

1. Park the motorcycle with the side stand.
2. Remove the fuel tank cover, unscrew the oil feet counterclockwise.
3. Tear down the low cover.
4. To put oil bolt in the frame and engine oil drain bolt placed under the drainage plate.
5. Disassemble oil bolt with tools and pull out the old oil.

### **⚠ WARNING**

Please replace the oil in the franchised dealer or repair shop. Unauthorized replacement is not allowed. Please consult the professional staff to ensure correct disassembly when the lower fairing cover is removed. Please dispose the disused engine oil properly and don't pollute the environment. We recommend that you put the disused oil into a sealed container and send it to the local recycling center. Don't put it in the dustbin or pour it directly onto the ground.



6. Reinstall the drain bolt and washer. Use a wrench to screw down the drain bolt. (tightening torque would be  $24 \pm 4\text{NM}$ )

7. From the oil filler added about 1600ml ( if changed engine oil filter, add 1700ml ) of new SAE 10W-40/10W-50 API SM level or a higher four stroke motorcycle engine oil-added by two times ( first half, then tighten oil ruler, start the engine for 2 minutes, then fill out the rest).

### **⚠ WARNING**

If you doesn't use the prescriptive engine oil, it might damage the engine.

8. With different speeds launch machine for 2 minutes. When engine is running, check leakage situation with dismantling parts.

9. Engine turns off for 5 minutes. Turn off the engine for 3 minutes, check oil level through oil foot calibration. If the oil level is lower than the oil feet minimum scale line, you should add new oil to the highest scale line. Once again, check for leaks.

## Engine oil filter

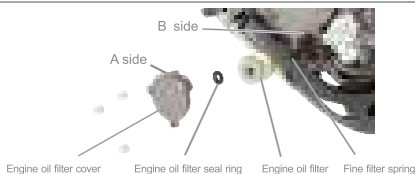
Please properly recycle and handle the used oil and oil filter.

1. Place the oil unloading tray under the right crankcase cover.
2. Remove 3 cap nuts on the oil filter cover with the special tool. Loosen the oil filter cover by the rotating softly from left and right, and disassemble the oil filter cover. It is strictly forbidden to pick up the oil filter cover with a hard object, otherwise it will lead to oil seepage.
3. Disassemble the oil filter cover, and disassemble the old oil filter, the seal ring of oil filter will be stuck to the old oil filter. If don't replace the seal ring, please remove it and use again, but must not forget this seal ring.
4. Wipe off residual oil and impurities with a clean paper towel, check and install the filter spring and replace a new oil filter.

### ⚠ ATTENTION

It is very important to install the oil filter properly. Don't install the oil filter on anti-loaded and don't miss the spring and filter seals.

Please be sure to confirm carefully. Improper installation may result in serious engine damage due to oil contamination or missing



5. Before re-install the oil filter cover: If necessary please replace the oil filter seal ring and O-ring on the oil filter cover, align the filter cover with the screw hole and press it in parallel with the mounting hole, the end face (A side) of the filter cover is attached to the end face (B side) of the mounting hole. Before tightening the cap nut, make sure that the filter cover is completely installed in the mounting hole and tighten the three cap nuts evenly. The standard torque is  $12N \pm 1.5Nm$ .

### ⚠ ATTENTION

Before installing the oil filter cover, please check if the O-ring on it is damaged. If it is damaged, please promptly replace it, otherwise it will cause oil seepage. It is recommended to purchase the oil filter seal and the filter cover O-ring together when purchasing the filter.

Be sure to follow the correct procedure to install the filter cover, otherwise it will cause oil seepage.

The clutch controller free stroke

Measuring the clutch controller end free stroke, it should be between 10 ~ 15 mm. If free stroke is not correct, accord with the following method to adjust.

Micro adjustment

1. Loose clutch digging line nut ①.
2. Rotate clutch digging line adjustor ② to get proper free stroke
3. Screw down the clutch digging line nut ①.



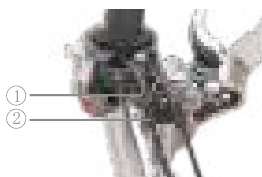
Large adjustment

1. Loose clutch digging line nut ④、⑤.
2. Rotate clutch digging line adjustor ③ to get proper free stroke.
3. Screw down the clutch digging line nut ④⑤.

### ⚠ WARNING

If the clutch controller free stroke is too large, it is easy to cause clutch and shift institutions wear and failure. Maintain and adjust the clutch should be performed by the designated company service units.

## Throttle cable clearance



Adjustment progress:

- (1) Loose locknut ①.
- (2) Turn the adjusting screw (2) to adjust the clearance lasso, within the range of 2.0 ~ 4.0 mm.
- (3) After completion of clearance adjustment, tighten the lock nut.

**⚠ WARNING**

After completing the clearance adjusting throttle cable, ensure the throttle hand turn automatically back to the closed position, do not make the engine idle speed by adjusting cable. It cannot appear the situation that the idling level is up when you turn the head of the motorcycle at the same time.

Idling

When you check the engine idle speed, it should be performed under the hot condition of the engine. engine idle speed range should be between 1500 to 1700 RPM.

**⚠ WARNING**

If the idle speed of engine is beyond the scope of regulation, please let the designated company service units to check the motorcycle.

Fuel evaporative pollutants control system

The motorcycle has a control system which can prevent fuel evaporation to the atmosphere. It should be regularly (every 6000 km or every 30 months) do the following.

- (1) Check whether every connection is reliable .
- (2) Check each line and the activated carbon tank(1) crack or damage, please replace the damage.
- (3) Confirm every line and activated carbon tank(1) whether blocking, clear or replace if necessary.

**⚠ DANGER**

If the fuel evaporative pollutants control system need to check and maintain, we strongly advise you to give this work to a qualified repair units to do it.

Cooling liquid

The cooling liquid surface level in the main water tank should be kept between the F line and L line at any time. If the surface level drops to below the L line, please add the cooling liquid according to the following steps:

1. Park the motorcycle with side stand.
2. Open the cover of the main water tank, add proper cooling liquid(when the motorcycle is in normal condition, the cooling liquid surface level can reach to F line) .

**⚠ ATTENTION**

In order to correctly check the surface level of the cooling liquid, we should put the motorcycle into the cooling engine condition.

If the main water tank is empty, please check and repair the cooling system immediately. After you finish fixing the cooling system, add some cooling liquid inside.

**⚠ DANGER**

It is bad for health if you swallow or absorb the cooling liquid. Therefore, when you use it, please don't eat and drink. After every work, please clean your hands, face or any skin parts demonstrated. If you swallow it mistakenly, please go to the hospital immediately. If you absorb it mistakenly, please breathe more fresh air in the environmental in where there is full of fresh air. If the cooling liquid runs into your eyes mistakenly, please watch your eyes with large amount of water at once. Also, keep the liquid away from kids and pets.

Change the cooling liquid

It is suggest that you change the cooling liquid completely every 4 years or 80000 kilometers.

## Fuel pipe

### Fuel pipe

Check the fuel pipe for damage or leakage. If there is a problem, it is necessary to replace the fuel pipe.

**ATTENTION**

**Don't rise the fuel pipe by your means**

## Transmission chain

### Transmission chain

This transmission chain is made of special material. The drive chain has a special x-ring, x-ring, seal the grease. When you need to replace the drive chain, please leave this work to the designated company service units. Keep daily check, and adjust the drive chain of the motorcycle before driving. Accord with the following method to check maintenance.

**DANGER**

**In order to ensure safety, check and adjustment of transmission chain should be before driving.**

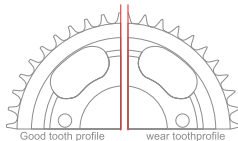
### Inspection of transmission chain

When check the drive chain, please check the following questions:

- ① loose chain pin
- ② damage roller
- ③ tears or rusty link
- ④ bad rotation link
- ⑤ undue wear
- ⑥ improper adjustment of chain

**WARNING**

**If it is found that there is something wrong with the drive chain or improper adjustment, please , relate this designated company repair shop for repair.**



Drive chain wear often means that the chain has also wear. Please check whether the sprocket exist the following problems:

- ① if the sprocket is excessive wear
- ② Tooth is broken or damaged
- ③ Sprocket fixed nut is loose or not

If you find any questions about the sprocket, please let the designated company repair shop to repair.

**WARNING**

**When replacing the drive chain , you should check the wear condition of master-slave two drive sprocket; the chain should be replaced at the same time if necessary.**

### Cleaning and lubrication of the transmission chain

Regular cleaning and lubricating transmission according to the following method

#### Chain:

- 1.Remove dirt and dust from the chain, be careful not to damage the sealing ring.
- 2.Clean the chain with seal chain cleaner or neutral detergent and water.
- 3.Use a soft brush cleaning chain. even if use a soft brush, be careful not to damage sealing ring.
- 4.Wipe off water and neutral detergent, and dry the chain.
- 5.Sealed with motorcycle chain special chain oil, lubricating the chain .
- 6.After comprehensive lubricating chains, wipe away excess oil.
- 7.We suggest that the user to clean the chain every 1000km drive to prevent dust to break the sealing ring.

## Transmission chain

**⚠ WARNING**

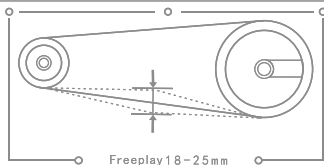
Some chain lubricant containing might damage the sealing ring of solvents and additives, so please use the special chain oil. If there is no chain oil for the seal chain, you can use high viscosity gear oil SAE90 instead.

**Adjustment of transmission chain**

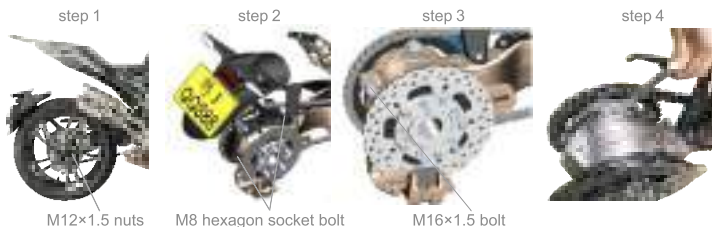
Adjust the drive chain sags to the appropriate range. The drive chain adjustment frequency should accord with the driving conditions.

**⚠ WARNING**

If drive chain relaxation degree is too big, drive chain sprocket will drop out, and it will be an accident or severe damage to the engine. Before using the motorcycle, please check and adjust the transmission chain sags.



Follow the steps below to adjust the drive chain:



Step 1: Use the 110N torque wrench and the outer hex 19# to loosen the 5 pcs M12×1.5 nuts shown in the picture (note that the nuts should be loosened diagonally), and then directly pull out the wheels.

Step 2: Use the 6# Allen wrench to remove the M8 hexagon socket bolt shown in the picture, then carefully remove the vice rear fender, taking care not to pull the wire.

Step 3: Loosen the M16×1.5 bolt shown in the picture with a torque wrench of 140N and the outer hex 21#. Note that it does not need to be completely unscrewed.

Step 4: Use the special chain adjustment tool to clamp the teeth of the eccentric chain adjuster as shown in the picture, and then turn the eccentric chain adjuster with force (note: if you feel that the adjuster is very tight, then loosen the M16 bolt until it can Turn the eccentric chain adjuster) and turn the chain adjuster to adjust it to fit the tightness.

Step 5: After adjusting the chain, use the 140N torque wrench and the outer hex 21# to tighten the loose bolts in step 3.

Step 6: Use the 6# Allen wrench to install the vice rear fender removed in step 2.

Step 7: Put the rear wheel on the rear axle (note the five bolt holes to avoid scratching the rim), then use the 110N torque wrench and the outer hex 19# to tighten the 5 pcs M12×1.5 nuts (note that you need to make diagonally when you tighten it).

**⚠ WARNING**

The drive chain is made of special raw materials. If you replace the drive chain - need to choose the company integrity part (520 uo, 520). Use other drive chain may lead to early damage.

Do not use a wire brush to clean the chain.



## Braking system

This motorcycle front and rear wheel assembly of the disc brake. The right brake operation is very important for safe driving. Remember to regularly check the braking system, and the inspection qualified maintenance unit to complete.

### **⚠ DANGER**

Brake is highly significant components of personal safety; you should regularly check and adjust the brake, and regular cleaning the sediment on the brake caliper, etc., to prevent obstacles to the movement of the piston.

If the brake system needs maintenance, we strongly advise you to give this work to a qualified maintenance unit. They have complete tools and skilled technology, and it is also the safest and most economical way to do the job.

No regular inspection and maintenance of motorcycle brake system will increase the risk of accidents. Confirmed before each use of motorcycle according to the brake system content. In accordance with the requirements of the regular maintenance table to maintain the braking system.

According to the following to check the braking system:

1. Check the brake cylinder liquid level position.
2. Check for leaks the front and rear brake system.
3. Check whether the brake fluid hose leakage or rupture.
4. Check the brake disc and brake wear condition.
5. Operate the front and rear brake system to check whether is flexible and effective or not.

### **⚠ WARNING**

The disc brake system is using high pressure brake. To ensure safety, the brake fluid hose and brake fluid replacement, shall not exceed this manual inspection and maintenance " - the rules of the verse.



Front braking fluid



Rear braking fluid

Check the brake fluid level position in front and rear brake fluid cylinder. If the liquid level in the LOWER (low) below the mark, check the brake wear and brake fluid leakage.

### **⚠ DANGER**

Don't wash brake cylinder directly with high pressure water.

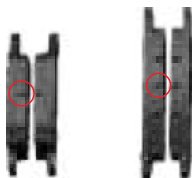
If swallowed into the brake fluid, it will cause harm to people, and even deadly. The brake fluid is harmful to both skin and eye contact. Brake fluid is toxic for animals. Don't puke if swallowed into the brake fluid. Immediately contact the poison control center or hospital. If the brake fluid gets into eyes, wash your eyes, and look for a doctor for help. Wash your hands thoroughly. Keep children and pets away from the brake fluid.

### **⚠ WARNING**

The use of the brake fluid is mixed with water, dust and impurities, and silicate liquid or oil, or else they could seriously damage the braking system. Do not use the brake fluid in the open container. You can't use the brake fluid from the last maintenance either. You can only use DOT3 brake fluid. When brake fluid splashed paint surface or plastic surface, it will corrode the surface of the material.

### Brake pad

Check that the front and rear wheel brake pads are worn to the extreme position. The extreme position refers to the bottom of the friction material groove. If it is worn to the limit position, please go to the maintenance shops and replace the front or rear brake pads in pairs.



Rear wheel brake piece front wheel brake piece

## Braking system

### **⚠ DANGER**

If fail to brake piece inspection and maintenance, don't change in time or in the recommended replacement, it will increase the risk of accidents. If brake piece need to be replaced, please let the designated company service units to complete the job. It must accord with the method recommended by brake piece inspection maintenance.

If driving after the maintenance of the brake system or replace the motorcycle brake, operate only a few with the brake lever or brake pedal, braking effect will be worse, and the accident will happen. Maintenance of the brake system or replace the brake after operating brake handle, or the brake pedal several times, until the brake disc can be normal pressure brake disc, brake lever and brake pedal back to normal hydraulic resistance.

### **⚠ WARNING**

If you just change one pair of brake piece, it can cause the brake to not be smooth. You should replace a pair of brake at the same time.

If the location of the brake piece is wrong, please do not operate the brake handle or the brake pedal. If you operate on brake lever or the brake pedal, piston is hard to reset, and it can lead to the brake fluid leakage.

Brake disc

Front wheel

The main point to check the front brake disc is: to see if the thickness of the brake disc ① is less than 4.5 mm. If the thickness is less than 4.5 mm, you should change new brake disc.

Rear wheel

The main point to check the front brake disc is: to see if the thickness of the brake disc ① is less than 4.0 mm. If the thickness is less than 4.0 mm, you should change new brake disc.

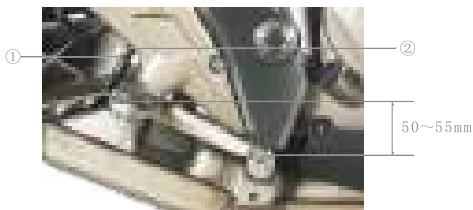
### **⚠ DANGER**

When you have just replaced a new brake disc pad, do not drive immediately. Grab the brake handle several times or pedal the brake pedal several times to make the brake disc and the brake pad fit together to restore the normal grip and stabilize the brake fluid circulation.

After replacing the new brake disc or brake pad, the braking distance may be longer than the original braking distance. After 300 km or so, the brake disc and the brake disc can be fully meshed to achieve better. Braking effect, before this, pay attention to leave enough braking distance when driving.

Adjustment of rear brake pedal

The rear brake pedal position shall be maintained properly. Or braking and brake disc will always friction which will damage the brake and the brake disc. Adjust the position of the brake pedal According to the following method.



1. Loosen the lock nut ①, the rotation of the screw ②, the brake pedal position at the top of the foot below 50 to 55 mm.

2. Lock nut ① to ensure that the screw ② in the right place

### **⚠ WARNING**

If the adjustment is not correct, brake piece and brake disc will be forced all the time which can damage the brake and the brake disc, when it is severe it will lead to high temperature for the rear brake, produce gas resistance, the rear wheels lose braking force. Please adjusted brake pedal according to the content of this section correctly.

— Tires —

**⚠ DANGER**

Do not pay attention to the following matters may be accident caused by the failure of the tire. Tires connect the motorcycle and ground, so it is very important. Observe the following rule:

Check the tires and tire pressure condition, adjust the tire pressure before each use.

Avoid the motorcycle overload.

Replace tires when tire wear to limit or tire surface has crack and wounds.

Always use specifications and regulations provided in the instruction manual for the size of the tires.

After installing tires, you should balance the wheels.

Read carefully the content of the instruction.

If tire running-in is not good, it will affect the occurrence of tire slip and lose of control. When motorcycle is using new tires, you must be driving carefully. According to the running-in - section in tires, avoid braking in the situation of nasty accelerated, a sharp turn, and emergency within 150 kilometers after the replacement of tires.

**Tire pressure and load**

The right tire pressure and the right tire load is an important factor. Overload can lead to tire faulty and motorcycle will be out of control.

Check the tire pressure, payload in accordance with the contents of the table below before using the motorcycle. You should check and adjust tire air pressure before driving. During driving, rear tires will fever, and tire pressure will rise.

If tire pressure is too low will cause the difficulty of turning, it will also accelerates the tire wear. If the tire pressure is too high, the tire and ground contact area is reduced, it is easy to slip out of control.

Recommended tire pressure under the normal temperature condition: 250 kPa .

**⚠ WARNING**

Regularly check the tire pressure, tire pressure is not allowed to be less than 250 kpa.

When feeling tire pressure drops, check whether there is a nail in the tire, small hole, round circle round (copper) profile is damaged. Tubeless tire is gradually deflated when small hole.

**Storage of Tires**

When the motorcycle is not in use for a period of time, it is necessary to adjust the tire pressure to the specified pressure.

The tire is rubber product of semi-hot melt formula, which is not suitable for outdoor weather in extremely cold, otherwise it will cause frost crack of the product. Please store it in a place with higher temperature or indoor.

**Tire status and specifications**

Incorrect tire status and incorrect tire size affect the performance of the motorcycle. If there is any breakage in the tire scratches, it can lead to faulty tires and make the vehicle out of control. Excessive wear of tires can make tires perforation and the vehicle out of control. Tire wear is also affect the appearance of the tire, and change the operating performance of the tire.

Check the state of tire and air pressure before each use. If there is much obvious damage on the tires, such as: damaged, scratched, or tire wear to limit position, you must replace tires.



**⚠ ATTENTION**

The triangle labels the wear strip position. If the wear strip touches the ground, it shows that the tires have been wear to pass the limit. You have to change the tires. When you change the tires, make sure that the size and type of the tires is accorded with the list content below. If you change it to different sizes or type, it will influence the performance of the motorcycle and may even lead to the loss of control for the motorcycle.

Specification	front wheel	rear wheel
	110/70R17 (CM509)	160/60R17 (CM509P)

**⚠ DANGER**

It will cause problems if you use the tires which are out of the range of the standard. We really suggest you use the standard tires.

Disassembly of tires



Front axle tightening torque: 65N.m

Front axle lock bolt tightening torque: 23N.m

Brake pliers before installation bolt tightening torque: 26 N.m

1. Use special support frame to support the motorcycle.
2. Loosen the connected front brake caliper two bolts on the shock absorber (1), remove the front brake pliers.

**WARNING**

When you remove the front brake pliers, do not operate the brake controller. Operating the brake controller leads to brake caliper piston ejector, difficult to return; if forced to return, it can make the brake fluid leakage.

3. Loosen lock bolt shaft (2).
4. The special equipment is placed under the engine, jacking the front of the motorcycle, until the front wheel had just left the ground.
5. The wheel axle (3) rotated counterclockwise and pull out.
6. Move the front wheel forward.
7. Install the front wheels in the operation contrary to the above.
8. After installing the front wheel, operate a few times for front brake controller in order to make its restore to normal grip force.

**DANGER**

After installing the front wheel brake, if the brake block position is not correct, it will affect the braking effect and may cause an accident. Before driving, operating brake controller for several times, until there is certain pressure to the brake disc when you grip it. Also, you can feel the handle grip force back to normal. Also check the wheel to see whether the rotation is flexible.

Disassembly of tires



M12×1.5 nuts  
Rear wheel nut tightening torque: 110N.m

Rear wheel disassembly

1. Use a special support stand to prop up the motorcycle.
2. Use the 110N torque wrench and the outer hex 19# to loosen the 5 pcs M12×1.5 nuts shown in the picture (note that the nuts should be loosened diagonally).
3. Then pull the wheel straight out.
4. Install the tires and replace the rear wheels in the opposite order.
5. After installation, operate the brake pedal several times to check if the rear wheel is flexible.

**WARNING**

Remove the rear wheel, don't hit the brake pedal. Stamping on the rear brake pedal brake piece will make it difficult to return.

**DANGER**

If the drive chain adjustment is incorrect, or shaft didn't tighten correctly, it can cause accident. After installation of the rear wheel, adjust the drive chain according to the transmission chain adjustment section for drive chain. Make sure the torque tighten the wheel nuts in accordance with the relevant provisions. If you don't know how to operate, please let the designated company service units to complete the work.

After installation of the rear wheel, brake position is not correct will affect the braking effect and may cause an accident.

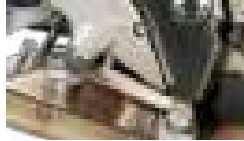
Before use, operating the brake pedal repeatedly, until the brake piece has certain pressure to the brake disc, you can feel the drag brake pedal returned to normal. Also check whether rear wheel rotation is flexible.

## — Illumination and signal —

Please refer to the instruction of the front part "check before driving" for the illumination and signal inspection.



Front brake switch



Rear brake switch

### Front brake switch

The front brake switch, housed in a former brake controller. When you slightly feel pressure before holding brake controller, the brake light is up.

### Rear brake switch

The rear brake switch located in the bolt of brake hose. When you feel the pressure on the rear brake pedal slightly, the brake lights up.

### Lamp bulb change

We use imported LED light product for the front light. In that case, we don't need to change the lamp bulb during the usage life of the motorcycle since it is very durable.

### Headlamps beam height adjustment

Use a Ph2 Phillips screwdriver (6mm diameter) to insert the hole in the bottom of the headlight (as shown) until you feel the end of the screwdriver can not move, prove that the screwdriver has been inserted into the correct position, turn the beam down clockwise, turn the high beam counterclockwise.



Headlamps beam height adjustment

### Fuse wire

Main fuse wire, light fuse wire, ECM fuse wire and ABS fuse wire are located in the fuse wire box under the seat. Also, the liquid control motor fuse wire, liquid control ECU fuse wire are located in the electric parts box under the seat.

1. Main fuse wire protect all the electric circuit.
2. Light fuse wire protect front light, position light, tall light and brake light.
3. ECU fuse wire protect ECU, relay and fuel oil pump relay.
4. ABS fuse wire protect ABS system.
5. Liquid control motor fuse wire protect liquid control motor.
6. Liquid control ECU fuse wire protect liquid control ECU.

### **⚠ DANGER**

Don't use not-in-specification fuse wire or other direct lap. Otherwise it will have serious absence made of circuit system, or even cause fire or burning vehicles, loss of engine power, it is very dangerous.

### **⚠ WARNING**

Pay attention to the selection rules of the rated current of fuse. Do not use a substitute, such as aluminium or iron wire, etc. If the fuse wire frequently fuse in a short time, it shows the electrical system has fault. You should immediately make maintenance unit overhaul.

### Accelerant

Catalyst can effectively cut your vehicle exhaust pollutant, the protection and preservation of our environment: Due to the life of the catalyst is under the precondition of normal use unleaded gasoline vehicle design, banned the use of leaded gasoline in the love of your car, because lead can make a reduction of the catalyst is also very important, if the engine is not effective when the ignition or without adequate cooling, will cause the exhaust gas gathered in catalytic combustion, catalytic overheating caused permanent damage to the catalytic conversion ability, banned in situ long maintain high engine speed.

## Trouble shooting

The content of the troubleshooting can help you to find the cause of the general issues.

### **⚠ WARNING**

Improper maintenance and adjustment can damage the motorcycle and cannot determine the cause of the problem. We can't guarantee such damage. If you are not sure how to correct operation, consult the designated company service units.

Before the troubleshooting, best to consult the company repair units. Repair units will try to solve for you.

#### Fuel system inspection

If instrument engine fault indicator light is on, there is something wrong with the fuel injection system. You should send the motorcycle to the designated company service units. Refer to instrument a section of the content of the engine failure indicator, it shows the interpretation.

#### Ignition system inspection

1.Remove the spark plug, and connect to the spark plug cap.

2.paste spark plug on the engine, turn on the red power-on button, engine shut down switch is on "Q" position, put the gear in neutral, cut off the clutch (hold the clutch handle). According to the electric start button, if ignition system works properly, the spark plug electrodes have a blue spark. If there is no spark, contact with your designated company maintenance unit to maintain the motorcycle.



### **⚠ DANGER**

Do not put the spark plug fixed near the spark plug hole to make the inspection. Because of the combustible mixture in the cylinder may be ignited by a spark and fire.

In order to reduce the possibility of electric shock, and spark plug shell metal parts, with best posted near to the parts without painting.

To avoid the possibility of electric shock lead to disaster, people who have heart disease or wear heart pacemaker should avoid doing this job.

#### Engine inoperation

1.Make sure the fuel tank has enough fuel.

2.When you successfully start the engine, in the process of engine running, it shous abnormal situation when the yellow fuel injection signal light is on. In that case, please contact after-sales dealership to check your fuel injection system.

3.Check whether the ignition system is normal.

4.Check the idle. The correct idle speed of 1500-1700 revolutions per minute.

### **⚠ DANGER**

Don't make the fuel flow everywhere, the container should be income. Don't let the fuel close to high temperature of the engine and the muffler. When doing the inspection, it should be far away from the fireworks, also don't close to fire and heat source.

#### Engine short of power

When engine power significantly decreased or a larger decline on original top speed, it may be the blocking of the engine fuel system make the work of engine is not normal, please immediately go to the company dealers maintenance unit for inspection.

### **⚠ WARNING**

Fuel system block is probably because of the not clean gasoline.

## Fuel injection attention

### Fuel injection attention:

1. Before the installation of battery for new motorcycle, we should inspect that whether the connection for the fuel injection spare parts is fixed and reliable including the installation of oxygen sensor. Moreover, make sure to fill in the gas.

2. When you install the battery, you should use tools to fix the positive and negative anodes according to the positive and negative anodes of battery. Do not tie it up by hand.

3. Please keep the gas level to not less than 3 liter in the fuel tank; otherwise it will influence the normal working of fuel injection system. In that case, please refill the gas when the gas level is lower than or equal to level 1.

4. When reinstalling the battery, starting or when the whole vehicle has power failure, battery dormancy restarting, abnormal idle speed, plug and unplug insurance and other similar situations, please pay attention to reset individual hardware of the electronic injection. Steps: Turn on the electric door lock switch and the engine flameout switch, start the engine with the clutch of neutral gear. Turn off the engine flameout switch after 10 seconds and turn on the engine flameout switch after 10 seconds. Repeat 2 more times.

5. When you don't use the motorcycle for a long time, it is hard to restart it for the first time. We can turn the throttle line to 1/8 level to start.

6. If after several tries, you cannot still start, it might be the situation that the cylinder occupied by water. We should take the clear cylinder process. Turn the throttle line all the way down to full open, and then turn on the switch for 3 seconds.

7. If the battery voltage is flashing on the instrument, it indicates that the voltage level is too low, please recharge the battery at once; low voltage will lead to the abnormal working condition of the fuel injection spare parts so that the motorcycle won't start or the power is not enough.

**⚠ WARNING**

For new motorcycles or motorcycles which have no fuel inside the fuel tank, please don't turn off the switch. It got to refuel some level of fuel before you turn off the switch. Otherwise, the fuel pump will rotate without fuel so as to lower the service life for the fuel pump.

**⚠ WARNING**

Please do not unplug the cable port of all different spare parts and do not clean it with water.

When the engine is working, if the yellow error signal light is on, it shows there is error for the spare of fuel injection system.

1. Short press the "E" button, after the motorcycle is electrified, turn on the shut-off switch, turn on and off for several times in 2 seconds.

2. The error code would be 4 digits, read the code according to the flashing times of the error signal light. The "0" code will be shown by flashing 10 times, the other number would be the same as the flashing times.

3. After getting rid of the error, and you start the engine again, the yellow error signal light will be off.

4. If the spare parts are broken, please select the original spare parts again from the same factory, otherwise, it might lead to the abnormal working condition of the system.

Code	Error description	Code	Error description
0107	Intake pressure sensor short connect to ground or cut off	0201	Oil injector broken
0108	Intake pressure sensor short connect to power	0336	Camshaft position sensor signal disturb
0112	Intake temperature sensor short connect to ground	0337	Camshaft position sensor no signal
0113	Intake temperature sensor short connect to power	0351	High pressure package broken
0117	Cylinder temperature sensor short connect to ground	0505	Idling control valve broken
0118	Cylinder temperature sensor short connect to power or cut off	0562	Low System voltage
0122	Restrictor position sensor short connect to ground or cut off	0563	High system voltage
0123	Restrictor position sensor short connect to power	0032	Oxygen sensor heater end short connect to power
0131	Oxygen sensor short connect to ground	0031	Oxygen sensor heater end short connect to ground
0132	Oxygen sensor short connect to power	0850	Side stand turn off switch broken



### Fuel injection attention

Example: 0103 Oxygen sensor short connect to ground.

Broken light first flash for 10 times, and then 1 time, and then 3 times, and then 1 time.

**⚠ ATTENTION**

When the engine is running, broken light is not on. When you turn off, the signal light is flashing. It means that is historical error and it has nothing to do with the whole motorcycle. After that it will disappear forever.

### USB Port

Charge USB port data:

Input voltage:12V-24V; output voltage:5V; output voltage:2A

Characteristic:

1. Waterproof cover can prevent water and dust from getting inside to extend the usage life of the charger

2. Intelligent IC design. It will automatically adjust the charging speed according to the battery volume and type

3. With the protection of over voltage and current, we can make sure the safety of charging.

**⚠ ATTENTION**

USB must be covered with waterproof cover, when not in use, during raining time or washing of the bike. water is likely to cause damage to the internal components, if water enter the USB, dry before use by using a hair dryer to blow the USB port.

Please don't use when there is not enough battery volume.



### Adding electrical parts

The original motorcycle has been equipped with a modified port: as is shown, the modified port is located on the lower left side of the oil tank and above the guard bar. The modified port is a waterproof plug, which supplies power only when the engine is started, and can be installed the spotlight without destroying the original circuits.



## Storage methods

### Storage method

If you are not using motorcycle for a while, the motorcycle needs special maintenance, this requires some special materials, equipment and technology. For this reason, it is recommended that you choose the company service units to complete the maintenance work. If you want to complete the work, please click the following method:

#### Fuel

Thoroughly clean the motorcycle. Use the main parking stand to park the motorcycle on a flat ground. The handlebars to the left, long press the bottom of electrical door lock, the motorcycle will be electrically cut off, the head lock will be also locked automatically.

#### Fuel

With the method of the siphon or other appropriate approach to pull out the fuel from the fuel tank into the appropriate containers.

#### Engine

- 1.Remove the spark plug, put a tablespoon of oil into each of the spark plug hole, reinstall the spark plug, and let the engine crankshaft rotate for several rounds.
- 2.Through dry the oil, and add new oil again.
3. With cloth containing new oil to cover the new oil filter of the air inlet and exhaust muffler to avoid Storage battery.

#### Storage battery.

- 1.Remove the battery refer to the content in battery section.
- 2.Use neutral soap water to clean surface of the battery, remove rust from the terminals and wiring connector.
- 3.Storage the battery indoor where the temperature is over 0 C.

#### Tires

Adjust the tire pressure to the regulated pressure.

#### The surface of motorcycle

Put rubber protective coating on the surface of resin and rubber parts.

The antirust paint spraying on the surface of the parts that have no surface treatment.

Use the car wax coating paint the surface.

#### Maintenance during storage period

Storage battery has to be charged each month. Standard:

Charging method:  $0.6A \times 5-10$  hours.

#### Restart method

- 1.Clean the motorcycle completely.
- 2.Remove dishcloth for air filter and the intake muffler exhaust.
3. Pull off all the engine oil. According to this instruction manual related content, replace the oil filter and add new engine oil.
- 4.Remove the spark plug. Let the engine turned several rounds. Reinstall the spark plug.
- 5.Reinstall the battery referring to battery content section.
- 6.Make sure motorcycle lubrication is normal.
7. Inspect the motorcycle in accordance with the content of instruction for use in the inspection section before driving.
- 8.Restart the motorcycle in accord with the instruction.

#### Corrosion prevention

Maintain the motorcycle carefully. Corrosion prevention is very important. In doing this, your motorcycle will look like new even after many years.

#### Key points to prevent corrosion

##### Factors that lead to corrosion:

Salt road salt, the accumulation of dirt, moisture and chemicals.

Small stones or gravel damage on the surface of the painting, or by knock against scratches.

Salt road, wind, industrial pollution and high humidity environment will lead to rust.

#### How to prevent corrosion

Clean the motorcycle at least once a month. Try to keep the motorcycle clean and dry at your best.

Remove dirt on the surface of the motorcycle. Salt road salt, chemicals, asphalt and materials such as SAP, bird droppings, and industrial emissions will damage your motorcycle. Remove the dirt as soon as possible. If it is hard to clean with water, use detergent to clean. When using the cleaning agent, you must comply with cleaner product requirements.

Clean up the damage as soon as possible. A careful examination of the motorcycle on the surface of the paint damage is a must. If you find any burr or scratches, immediately repair it, avoid damage more. If the burr and scratch is throughout the surface of parts, please let the designated company maintenance unit to maintain it.

Put the motorcycle in dry and ventilated place. If you often wash the motorcycle in the garage, and parked inside, the garage will become very wet. High humidity can increase the corrosion. If air does not flow, even in high temperature environment, damp motorcycle will rust.

Cover the motorcycle. Avoid the sun at noon to shine upon the motorcycle, it would lead to paint, plastic color changed or fade. Using high quality and breathable cover can avoid the sun ultraviolet radiation hit on the motorcycle, and reduce air pollution and dirt deposition on the motorcycle. Distribution unit of the company can help you choose your motorcycle cover.

## Motorcycle cleaning

Clean the motorcycle

Clean the motorcycle accord with the following:

1. Use cold water to wash away dirt and mud on the surface of the motorcycle. You can use the soft sponge or soft brush to clean. You could scratch appearance parts with hard materials to clean.
2. Use neutral detergent or a car wash soap, thoroughly clean sponge or soft cloth motorcycle. Sponge or soft cloth should be frequent infiltrate cleaning agent.

If you use the motorcycle in salt road surface or the beach, after use, you should wash it in cold water immediately. You must use cold water. Hot water will accelerate corrosion.

Avoid spray cleaning, avoid water flow to the following location:

- Ignition lock
- Ignition plug
- Fuel tank lock
- Fuel injection system
- Braking fluid tank

**⚠ WARNING**

**Don't use high-pressure water to clean the motorcycle, throttle body and oil injector.**

3. After cleaning the surface dirt, use water to rush residual cleaning agents.
4. After rinse, wipe the motorcycle with wet soft leather or cloth, and dry in the shade.
5. Carefully check the paint surface. If it has any damage, follow these steps, use repair material to repair the damage surface.
  - a. Clean and dry the area of damage.
  - b. Stir repair material and use small brush to smear lightly at the site of the injury.
  - c. Thoroughly dry the patch.

**⚠ WARNING**

After cleaning motorcycle or rain when you drive, there will be water mist in headlamps. Open the front light, water mist will gradually dissipate. Start the engine to power the headlamps; clear water to avoid the battery discharge.

**⚠ WARNING**

When you cleaning the motorcycle, don't use cleaner containing alkaline and acidic detergent, do not use gasoline, brake fluid, or other solvents which can damage the motorcycle. You can only use soft cloth with neutral detergent with warm water.

Motorcycle waxing

After cleaning, it is recommended that the waxing polishing, which not only it can protect the parts, but also it makes the parts more beautiful.

Use high quality wax and polish

When using wax and polish wax and polish matters, you need to pay attention on the use instruction of the products.

## Inspection after cleaning

In order to prolong the service life of the motorcycle, lubricate the motorcycle according to the instruction.

**⚠ DANGER**

**It is very dangerous to drive a motorcycle when the brake is wet. Wet brake is unable to provide braking force such as dry brake. This can cause an accident. After cleaning the motorcycle, you can test the brake system with low speed. If needed, operate brake for several times to make brake dry.**

Inspect the problem after the use of the motorcycle accord with the instruction.

Transportation

Motorcycle fuel must be discharged before transport. Fuel is easy to combust and under certain conditions it can cause explosion. When drain the fuel, storage fuel or injected fuel, it is forbidden to open fire, be sure to stop the engine, to operate in a well-ventilated place. Drain fuel as follows.

- (1) Stop engine rotation, and shut down the electrical door lock switch.
- (2) With the method of the siphon or other appropriate approach to pull out fuel from the fuel tank and put into the appropriate containers.

**⚠ WARNING**

When shipping the motorcycles, the fuel in the fuel tank must be discharged clean to prevent fuel leakage and explosion. The vehicle should be shipped in a normal riding posture to prevent oil leakage from the outlet of the reducer box during shipping.



The use instruction of storage battery

1 The start of the new storage battery

Installation

- a. Connect first positive (+) polar (red wire), followed by the negative (-), note: don't connect the reverse way, Otherwise it will damage voltage rectifier electric parts, etc.
- b. After tightening bolts on the bolt, nut, terminal butter or vaseline, to avoid poor contact rust.

2 Use and maintenance

- 2.1 Each electric start-up time not more than 5 seconds, if you continue trying a few times and it can't start, you should check the oil supply system and starting, ignition system.
- 2.2 The following situation will cause the battery discharge or charge, shorten service life.
  - a. Frequent electric starting and short distance driving.
  - b. Low speed driving for a long time.
  - c. Hold the brake controller when driving to make the brake light on usually.
  - d. Install additional electrical accessories or change with high-power light bulb
- 2.3 When starting, the motor rotation is weak, lights not bright, horn not loud, you should immediately added electricity.
- 2.4 when you did not use the motorcycle for a long time, please charge the battery before use, and charge electricity once a month.
- 2.5 charging
  - a. Please charge the battery with the special charger. Cut off all the connection with the motorcycle when you charge, or you can do damage to the motorcycle or battery.
  - b. The charging voltage will be not over 15V.
  - c. There are two ways of charging: standard charging and quick charging. If there is no emergency, try to use the standard charging for better battery life.

3. Attention

- 3.1 It is not allowed to open or modify the battery secretly. It is not allowed to put the battery to the high temperature place or places with fire.
- 3.2 When you charge or use the battery, please don't put it near fire, or the battery and motorcycle will be broke.
- 3.3 If there is special smell, serious heat, color change, form change or any strange situation happen for the battery, remove the battery immediately from the motorcycle and stop using it.
- 3.4 The battery is only matched with the motorcycle, so it is not allow to use that for other functions.
- 3.5 Equipped with anti-theft alarm, the battery has a certain influence. It is recommended to use the burglar alarm recommended by the company. If use other anti-theft alarm, it may cause abnormal circuit system, and even damage the battery, voltage regulator rectifier electric parts, etc.

Fuel consumption

"Consumption " of powered by fuel motorcycle, refers to the vehicle with the fuel consumption at least one driving speed constant speed.

**Each vehicle will be equipped with "vehicle parts list" and it is also avialable for you to get the electronic version from our official website.**



Specification table

Length.....	2037mm
Width.....	830mm
Height.....	1342/1360mm
Wheel base .....	1400mm
Ground clearness .....	167/186mm
Seat height.....	795/830mm
Net weight.....	155kg
Full load weight.....	165kg

Engine	Single cylinder ,upright, four-strokes, wind and oil cooling
Type .....	1
Cylinder number .....	80mm
Cylinder bore .....	62mm
Stroke .....	312ml
Displacement .....	12.5:1
Compression ratio .....	Electric starting
Start-up mode .....	Pressure splash-type
Lubricating system .....	26kW
Power.....	

Transmission system	
Clutch .....	wet-type multiple-piece
Transmission .....	6 gears tooth transmission
Forward gear .....	3.1
Gear ratio 1 gear .....	2.909
2 gear .....	1.933
3 gear .....	1.4
4 gear .....	1.182
5 gear .....	1
6 gear .....	0.846
Transmission chain .....	Oil-seal chain

Main performance index	
Fuel consumption .....	3.2L/100km
Maximum speed .....	150km/h
Braking system .....	7m

Travel system	
Turning circle diameter.....	5m
Front wheel specification .....	110/70R17 (CM509) tires
Rear wheel specification .....	160/60R17 (CM509P) tires
Electric System ignition method .....	Inductance discharge type
Spark plug type .....	LDK8RTIP
Storage battery specification .....	12.8V,4.4Ah
Fuse wire specification .....	10A/15A/25A
Headlight specification .....	12V,30W/15W
Front position light specification .....	12V,0.2W
Turn signal light specification.....	12V,2.16W
Tail lights/brake lamp specifications.....	12V,1.68/3.36W
Rear license plate lamp specifications .....	12V,0.4W

Volume	
Effective Fuel tank volume .....	19L
Engine oil volume.....	1900mL
Engine oil, replace the oil filter at the same time.....	1700mL
Engine oil, don't change the oil filter .....	1600mL

# Circuit diagram

