CHANGJIANG CJ650B

OWNERS MANUAL

Important Precautions

The following warning signs arise in the operating manual. Please take note as these highlight essential information for safe riding and maintenance procedures.

 Danger. The safety warning indicates potential hazard likely resulting in grievous injury or death.

 Warning. This sign indicates the damage likely incurred to the motorcycle.

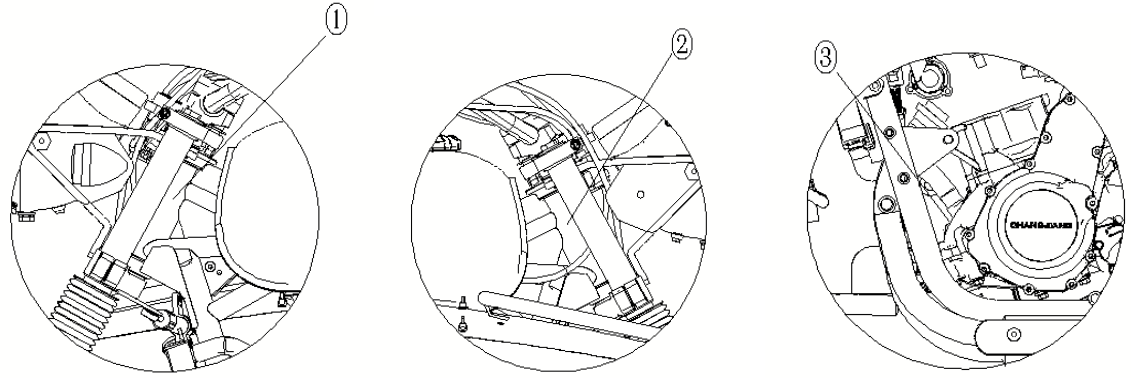
 Caution. This sign indicates more effective and convenient main points for riding.

 **Caution**
The product should only be ridden by people competent in riding sidecar motorcycles. If the rider is not competent we recommend using the running in period on quiet roads using lower speeds until confidence is established. Retrofitting of aftermarket parts to the vehicle by the user may affect safety and the warranty of the motorcycle. Always obey local laws and regulations.

Contents

Frame Name and Engine Number

Please record the various motorcycle numbers indicated below, and store spare keys in a safe place. Please note that you can only use an existing key to make spare keys. If all three keys supplied are lost, the whole lockset will need to be replaced.



1.Vehicle nameplate _____

2.Frame No. _____

3. Engine No._____

Specifications

Performance

Item	Parameters		Item	Parameters

Maximum power (kW)/corresponding rotation speed (r/min)	41/8000		Maximum torque (N·m)/corresponding rotation speed (r/min)	62/7000

Dimensions

Item	Parameters		Item	Parameters
Length (mm) X Width (mm) X Height (mm)	2235×1655×1070		Axle base (mm)	1475
Height of seat: （mm）	810		Ground clearance (mm)	140
Weight of entire vehicle (KG)	365			

Engine

Item	Parameters		Item	Parameters
Type	Twin cylinder, four-stroke, water-cooling, parallel vertical twin		Displacement (mL)	650
Cylinder diameter (mm) x Stroke (mm)	83×60		Compression ratio	11.3: 1
Starting system	Electric starter		Ignition order	From left to right, 1－2
Fuel system	Electronic fuel injection system		Ignition system	ECU controlled inductance discharge ignition
Spark advance angle (before compression of top dead center)	10BTDC@1450r/min		Max electronic spark advance angle	33BTDC@6000r/min
Spark plug	CR8EI		Lubrication system:	Pressure splash lubrication (semi-dry oil pan)
Engine oil type	Grade 10W-40/SJ JASO MA2 certified engine oil		Capacity (L)	2.6
Coolant capacity (mL)	900		Capacity of auxiliary radiator (mL)	400

Transmission

Item	Parameters		Item	Parameters
Gearshift method	4 forward and 1 reverse		Type of clutches *	Wet multiple-piece manual clutch
Drive system	Chain drive		Primary reduction ratio	2.095
1st gear ratio	2		2nd gear ratio	1.435
3rd gear ratio	1.154		4th gear ratio	0.960
Reverse gear ratio	1.667		Final drive ratio	3.6

Chassis

Item	Parameters		Item	Parameters
Top rake (°)	29		Tire specification	4.10-18 59P
Rim specification	2.50-18		Main vehicle outer camber (°)	2
Sidecar toe-in (mm)	10-15			

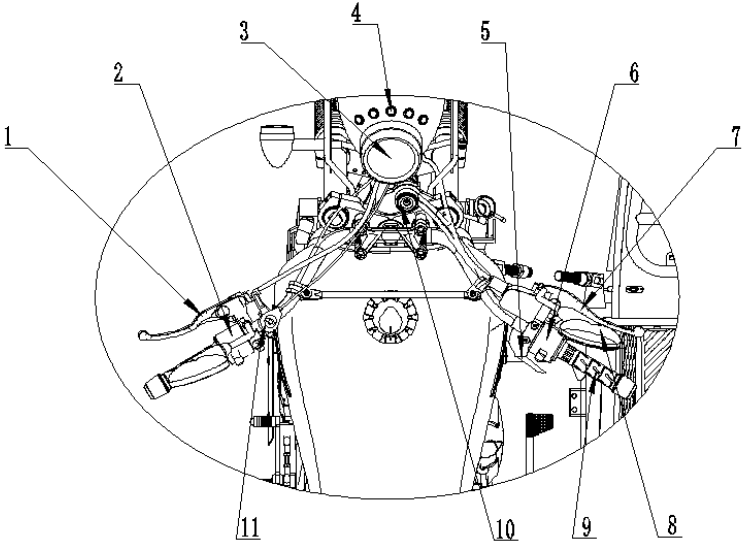
Fuel tank capacity.

Item	Parameters		Item	Parameters
Main Fuel tank (L)	16		Auxiliary Fuel tank (L)	4

Electrical

Item	Parameters		Item	Parameters
Battery	12V20Ah		Lamplight type	LED
Nominal power of head light (W)	12			

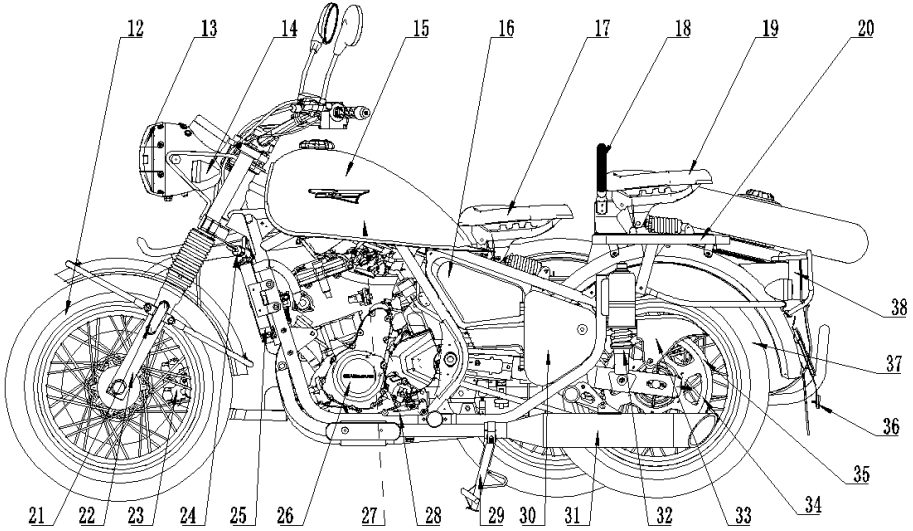
Controls & Instruments



1. Clutch handle 2. Left handlebar switch 3. Instrument 4. Indicator light

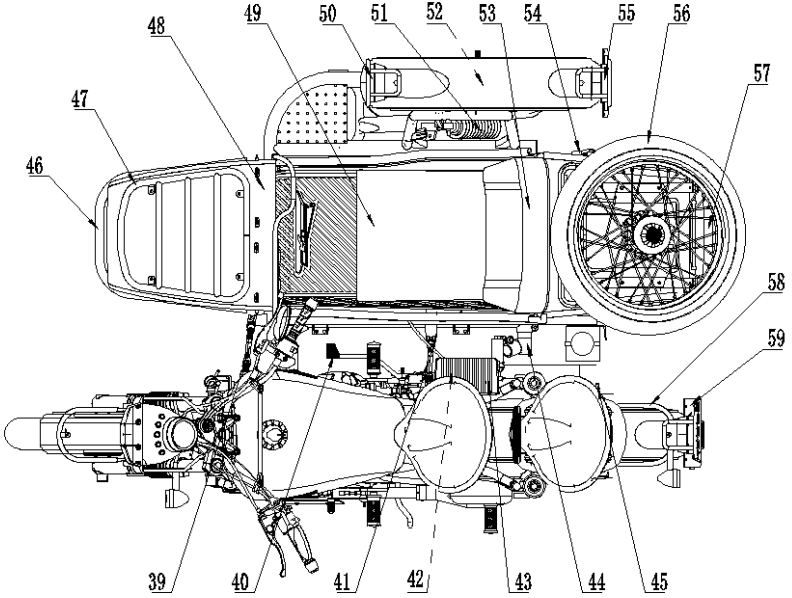
5. Parking lever 6. Right handlebar switch 7. Right brake lever 8. Rear mirror

9. Heated grip 10.Ignition switch lock 11Reverse lock lever



12.Front wheel assembly 13. Headlight 14. Left front indicator light 15. Main fuel tank 16. Auxiliary fuel tank
17. Main seat 18. Passenger handrail 19.Passenger seat 20. Rear rack 21. Front reflector
22. Front shock absorber 23. Front brake 24. Damper 25. Water tank 26. Engine 27. Air cleaner 28. Gear shift pedal.

29.Main support 30. Electrical box 31. Exhaust muffler assembly 32. Rear cushion 33. Chain guard 34. Rear chain disk 35. Transmission chain 36. Reflector 37. Rear wheel assembly 38. Rear position lamp



39.Front pull rod 40. Brake pedal 41. Rear pull rod 42. Battery 43. Battery box

44. Gripper tube connector 45. Rear brake 46. Front bumper 47. Front rack 48. Sidecar weld assembly sidecar seat pad 49. Sidecar cushion 50. Sidecar head light 51. Side shock absorber 52. Spate wheel assembly 53. Sidecar cushion backrest 54. Sidecar trunk latch 55. Sidecar rear right indicator light 56. Spare wheel 57. Rear bumper 58.Rear license plate

Information on Loading and Accessories

Danger

Incorrect loading or improper retrofitting of accessories or improper maintenance may lead to potential safety hazards when riding; Always confirm the motorcycle is not overloaded before riding.

Always use approved Changjiang original parts and accessories. In the event of using non-original parts or improper installation parts and loading, vehicle performance and warranty will be affected.

Caution

Parts and accessories approved for the motorcycle have been subject to special design verification, and we strongly recommend that you use original parts from Changjiang and install accessories recognized by us.

Increases in the weight of the motorcycle greatly influences the performance of the motorcycle, always adhering to the cargo weight, passenger quantity and installation accessories specified by us.

Before riding, it's necessary to note the following basic matters.

1. Any passenger should be familiar with motorcycles with sidecar riding. Improper riding techniques during cornering can lead to roll over, and speed must always be adjusted to riding conditions.
2. When riding, the passenger must be instructed to be seated on the passenger seat steadily as possible and not influence the stability of the motorcycle.
3. To reduce the influence on the center of gravity of the motorcycle, all the luggage on the motorcycle must be as kept low as possible. It's also necessary to avoid the luggage extending too much from the rear part of the motorcycle.
4. The luggage must be safely fixed on the motorcycle. Confirm the luggage is secure before riding. When the motorcycle is felt to be unstable when riding stop, and check luggage is secured and adjust when necessary.
5. Don't carry too heavy or too bulky luggage. Overload will certainly affect handling and performance.

6. Don't install parts that lower the ride height of the motorcycle. Always confirm that luggage attached to the motorcycle does not affect any lighting system, ground clearance, braking performance, angle of roll, handling performance, front fork operating stroke or any other factor which might affect motorcycle drivability.
7. With excessive loading the steering effort at the handlebar and front fork increases, cornering ability will be affected, and unsafe riding factors can arise.
8. Wind deflector, wind shield, backrest and other large parts will affect the stability and handling performance of the motorcycle which increase weight whose area will also lower power performance when the motorcycle is driven.

Maximum loading capacity: No more than 225kg (including driver, luggage, and accessory).

Instrument combination:

① Engine tachometer ②. Fuel gauge ③. Display of vehicle speed ④. Total mileage/mileage subtotal ⑤.Gear Display and Reverse R Display ⑥. Indicator light for left turn ⑦. High beam indicator light ⑧. Neutral gear indicator light. ⑨.diagnostic fault indicator light ⑩. Indicator light for right turn ⑪ Reset/ODO button.

Engine tachometer ①

The Engine tachometer shows rotation speed of the engine (r/min). "Red zone" is on the right of the tachometer and indicates the maximum rotation speed of the engine recommended by us is being exceeded.

When the ignition switch is switched to " instrument tachometer pointer and liquid crystal display will carry out self-diagnosis. In the event that the position of the tachometer pointer is incorrect, or any fault is indicated contact your dealer for inspection and maintenance.

⚠ Warning
The rotation speed of the engine is forbidden to enter the red zone. In case of operation in the red zone, ultimate load of the engine will be exceeded, and the engine may be seriously damaged.

Fuel level indication ②.

Display remaining fuel in the fuel tank. "F" shows total fuel oil is 20L. When E position is indicated, it means the remaining fuel is only about 4L in the fuel tank and it's necessary to add fuel as soon as possible.

Warning
When "  " sign flickers, it's necessary to add fuel to protect fuel pump.

Speed display ③.

Display the current road speed.

Total mileage/subtotal mileage④

After adjustment as per subtotal key on the headlamp shell, total mileage or subtotal mileage of the vehicle can be displayed.

Gear Display and Reverse R Display ⑤.

Display the current vehicle gear position and display reverse gear R on the left side of gear position when hanging reverse gear.

Left turn indicator light ⑥.

When direction switch is set to " ⇦ " position, turn indicator light will be on.

High beam indicator light ⑦

When right handlebar switch is set to "  " position and dip switch is set to "  " position, the high beam indicator light will be on

Neutral gear indicator light ⑧

When the engine is under the state of neutral gear, neutral gear indicator light will be on.

Fault indicator light ⑨

When ignition switch is switched to " ◠ " position and the kill switch is transferred to " ◠ " with the light on, the fault lamp will be off after being on for 4S. This is normal and no maintenance is necessary. In the event of a system fault the fault lamp will remain on.

Danger
When " " light is on, it's necessary to contact your dealer for inspection and maintenance

Right turn indicator light ⑩

When direction switch is set to " " position, turn indicator light will be on.

Subtotal key ⑪

To switch between the total mileage reading and sub-total reading short-press button located under the headlamp. To change the display readings from Metric to Imperial long-press the button under the headlamp when in the total mileage mode.

Key set

When the key is used to turn on ignition switch/steering lock, fuel tank cover, tool box cover and sidecar lock, you must keep the key in good condition and store standby key in a safe place so that new key can be prepared with standby key when the key is lost, or the whole lockset shall be replaced.

Ignition switch/directional lock

Ignition switch is set with " " " " " positions.

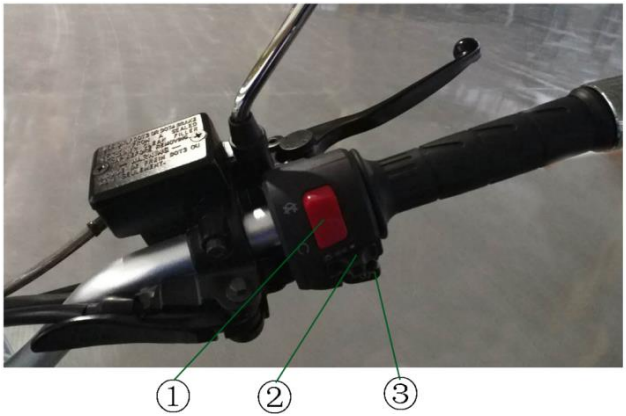
: The engine can work, and all the circuits of the whole vehicle are switched on.

: The engine is immobilized, and all the circuits of the whole vehicle are disconnected. : Steering is locked, and all the circuits of the whole vehicle are disconnected to prevent the vehicle being stolen.

Warning

Signal light, taillight and license plate lamp can be turned on only when the key is switched to " ". When the headlight is turned on, it's the best to run the engine to avoid running the battery voltage low. If the engine is switched off do not allow lights to be left on or else the battery might run flat.

Right handlebar switch



① Engine Kill switch ② Lighting switch ③ Start button

Engine kill switch. ①

If you want to start the engine when the key is at " " position, it is necessary to also set the engine kill switch to the " " position.

⚠ Caution
Although the engine kill switch can be used to stop the engine working, all the circuits fail to be disconnected. Generally, it's necessary to use the key to stop the engine working.

Lighting switch ②

Lighting switch includes: "  ", "  "," ● ".

 : At this setting the headlight, position light, license plate lamp and instrument light can be turned on.

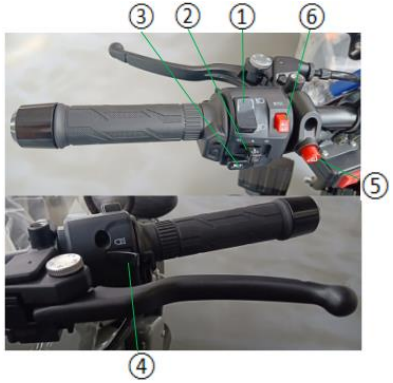
 : At this setting the position light, license plate lamp and instrument light can be turned on.

● : At this setting head light, position light, license plate lamp and instrument light can be turned off.

Start button ③.

When the key is in " ◯ position and flameout switch is in " ◯ ' position, neutral gear will arise with clutch pulled in and the. The start button can be pressed to start the engine.

Left handlebar switch.



① Dimmer switch ② Steering light switch ③ Horn button ④ Passing light switch
⑤Warning switch

Dimmer switch ①

Dimmer switch includes "  " and "  ".:

 : At this setting and the lighting switch set at "  ", high beam of head light and high beam indicator light on will be illumed.

 : At this setting "  ", low beam of head light will be illuminated.

Steering light switch ②

Direction indicator switch includes: "  " ● ", " and "  ".

 In this position left direction indicator and left turn indicator light will be on.

● : After pressing the button, the turn signal lamp will be turned off.

 : In this position right steering light and right turn indicator light on the instrument will be on.

Horn button ③

After pressing the "  " button, the trumpet will sound.

Passing light switch ④

When the driver needs to overtake, pressing the button switches on the headlamp high beam to send an overtaking signal. When pressed the high beam indicator light on the instrument will be on.

⚠ **Warning**
With the engine switched off and lights and/or indicator lights operating for more than 30 minutes the battery can become discharged

Hazard Warning switch⑤

In case of an accident or other emergencies, pressing the hazard warning switch will make all the direction indicator lights flicker as a caution warning.

①Left hot handle sleeve ②Heating control switch ③Heating indicator

Heated Grips: Heated grips can only be switched on with the engine running. When the power is on, the indicator light on the left heating handle will turn green and flicker three times, indicating that function is normal.. In standby state, press the button on the handle. If the supply voltage is below 12.9V, the red indicator flashes several times and returns to standby state. If the supply voltage is higher than 12.9V at this time,

the system will commence fast heating. With each push of the button, the electric heating power will increase by 20%. There are five settings in total. The color of the indicator is blue-blue-green-purple-red sequentially. If the power supply voltage is lower than the electrothermal start voltage, the corresponding setting indicator light flashes. If the voltage is lower than this voltage for 7 seconds, the controller cuts off the electrothermal output and enters standby state. If normal voltage is restored within 7 seconds, the indicator lights on and goes into normal operation.

Brake/clutch handle adjustment

Regulators are installed both on brake handle and clutch handle. The position of handle adjustment adjusts to suit different riders by rotating the regulator. Adjustable distance scope from handle to handlebar: 85mm～100mm

regulator

Braking handle

Parking brake handle includes such information as "ON Parking" and "OFF Parking".

ON Parking: When the handle is rotated to the position, the whole vehicle will be under the state of parking brake.

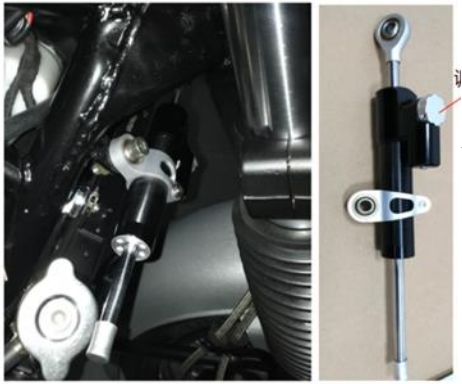
OFF Parking: When the handle is rotated to the position, the whole vehicle will be under the state of non-parking brake.

Braking handle

⚠ **Warning**
After starting the engine and before riding, it's necessary to switch the parking brake handle to "OFF Parking" position. Before the shutdown of the engine and after braking, it's necessary to switch parking brake handle to "ON Parking" position.

Steering damper

The motorcycle is equipped with steering damper. The steering damper greatly increases stability and safety of the motorcycle at high speeds if set correctly. Damping force is adjustable to adapt to different riding demands. When rotating the adjustment clockwise damping force will increase. When rotating the knob anti-clockwise the damping will decrease.

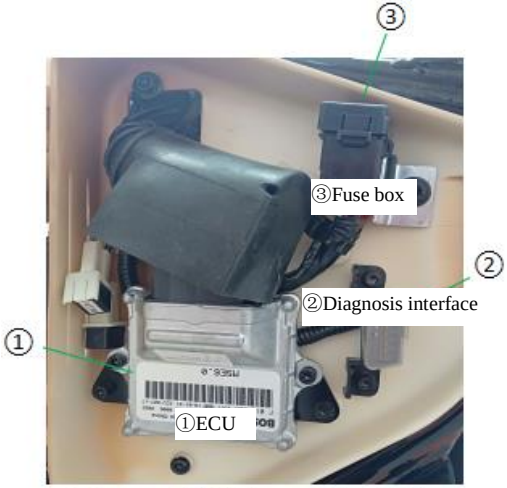


Warning

In case of damping force being adjusted too high, the increased steering effort may result in cornering danger possibly resulting in vehicle damage and personnel injury.

Electric console

The electrical box can be opened after inserting the key and rotating the key counterclockwise.



①ECU ②诊断接口 ③保险丝盒

ECU ①

ECU: The Bosch Motronic MSE 6.0 ECU is an integrated system that controls both fuel and ignition parameters. The manufacturer has set the control parameters and data for the ECU to optimize fuel injection and ignition. The ECU detects signals from various sensors and adjusts fuel injection timing and quantity and ignition timing under various working conditions to meet requirements for engine torque and power, as well as emissions. The ECU also complies with the international requirements for On Board Diagnostic fault finding (OBD2). Once a fault is discovered or one signal value is unbelievable, the ECU will immediately set a fault information record in the fault memory of RAM. Fault information records are stored in the form of DTC codes and displayed as per sequential order of the fault. Faults are divided into "current fault" and "historic fault". Faults are read and cleared using a standard OBD2 scan tool. To provide rapid diagnosis and maintenance.

Warning

It's forbidden to modify the ECU as this will affect motorcycle performance and can cause faults and damage.

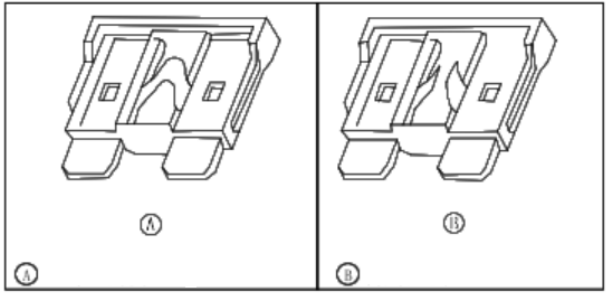
Diagnosis interface ②

Remove the plastic cap of the diagnose interface and connect a scan tool to the diagnostic port.

The scan tool will show the fault diagnosis by displaying the relevant fault code. (refer to the table for fault codes for repair.

Warning

Do not cancel a fault code without first determining the reason for the fault. Continued operation of the motorcycle with a critical fault can result to further damage to the engine and emissions systems.



Fuse box ③.

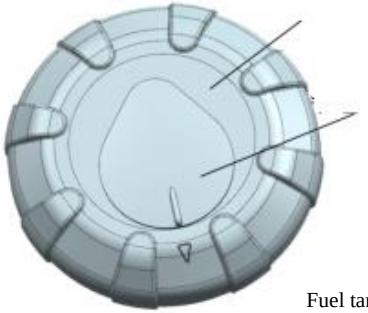
In case of a blown fuse blown, it's necessary to determine the reason for the fault. After the fault has been corrected the fuse must be replaced with a new similar ampere fuse.

Normal fuse Blown fuse

⚠ **Danger**
It's forbidden to use any non-fusible bridging device to replace a fuse. Only fuses with the same amperage can be used.

Fuel tank cap.

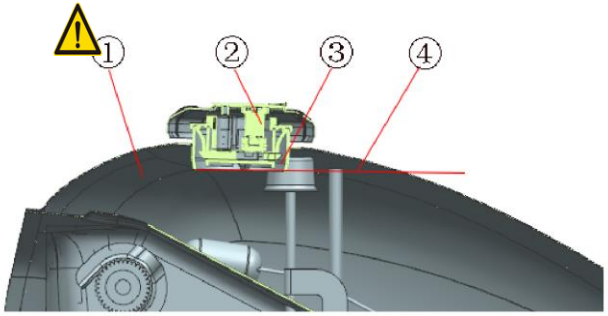
Open the fuel tank cover and slide the keyhole cover sideways. Then insert the key and rotate to release the fuel cap. To lock the fuel tank cover, place the fuel cap with the arrow pointed forwards, insert, and rotate the key. Press fuel tank cap down into the fuel tank aperture. Once engaged the key will self-return and the key can beremoved.



Fuel tank cap

Keyhole cover

The fuel cap can only d or fuel tank cover fails to be locked do not force the



Fuel tank

When the fuel is added to the fuel tank, do not overfill, and avoid fuel spillage.

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Fuel requirements.

Use only unleaded fuel with a RON of 95 or greater. **Do not** use fuel additives as these can cause damage to the emissions system

Adjustment of rear mirrors

The angle of view can be adjusted by rotating rear mirror. Left and right rear mirrors share the same adjustment method.

Warning
When the rear mirror is being installed or adjusted do not exert too much force or the mirror support can be damaged.

Front pull rod/rear pull rod

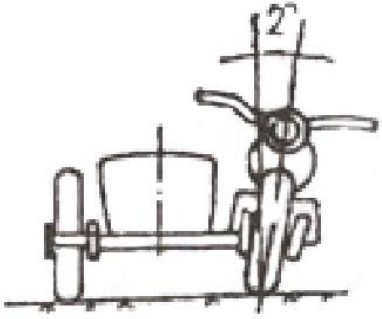
The length of front and rear pull rods (and the main vehicle outer camber)r can be adjusted by rotating the lead screw.

Front regulating pull rod

In case of rotating pull rod clockwise, the length and outer camber will decrease; in case of rotating pull rod anticlockwise, the length and outer camber will increase.

Outer camber of the motorcycle with sidecar is 1-2°.

Rear regulating pull rod

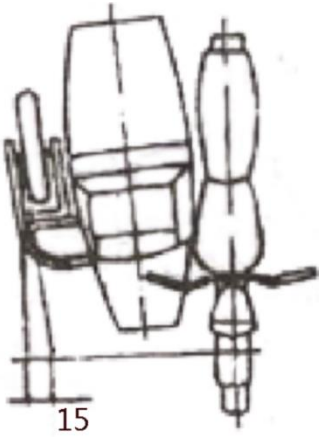


Warning

For the purpose of riding safety, a motorcycle with sidecar needs positive camber. Incorrect setting of the sidecar can lead to roll over accidents..

Gripper tube connector

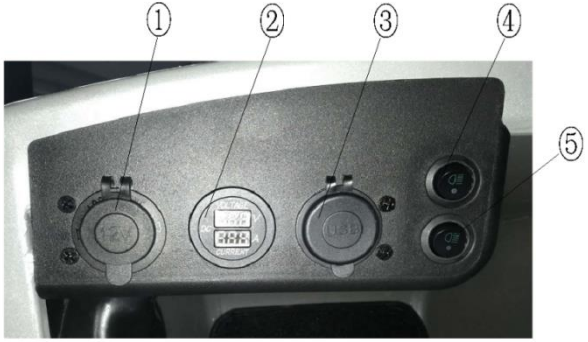
The length of the of gripper tube connector can be adjusted toe-n. The recomm Gripper tube connector cycle with sidecar is 15mm +- 5mm.



Warning

For the purpose of riding safety, a motorcycle with sidecar needs a certain toe in to avoid rollover accident.

Sidecar console switch combination



①Cigar lighter/12V vehicle-mounted power interface ② Voltmeter/ampere meter ③USB interface
④ Spotlight switch ⑤ Fog lamp switch

Cigar lighter/12V vehicle-mounted power interface ①

Open the cover to access a 12V DC source.

Caution
After usage, it's necessary to close the cover to avoid short circuit due to water inflow, resulting in power failure.

Voltmeter/ammeter ②

Shows current battery voltage and cigar lighter of the vehicle or the current passing through the 12V power interface.

Caution
When displayed voltage of the voltmeter is lower than 12.8V, it's necessary to charge the battery with charger.

USB connection-peg ③

To use lift the cover. There are two USB interfaces (5V 1A and 5V 2.1A).

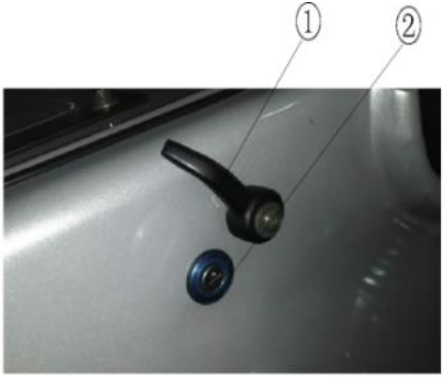
⚠ **Warning**
Before using check whether the rated voltage of the device is consistent with connector voltage avoid electrical apparatus damaged.

Spotlight switch④

Some versions of the motorcycle are equipped with spotlights. These are available for aftermarket installation from your dealer. After pressing switch "●" point, the spotlight will be on.

Fog lamp switch ⑤

Some versions of the motorcycle are equipped with foglamps. These are available for installation from your Dealer. Pressing switch "●" will switch the foglamp on.



Sidecar rear cover lock

To close the sidecar rear cover, Press sidecar lock handle downwards until the sidecar cover is closed and then rotate the key to lock. The cover will be locked in place after the handle is released.

Opening of sidecar rear cover: Slightly press the sidecar lock handle downwards, rotate the lock with key until unlocked position and then open the rear cover after the handle is released.

①Sidecar lock handle ②Sidecar lock

Spare tire

The vehicle is equipped with full-size spare tire. To remove the spare tire, unscrew the spare tyre locking cover.

Caution
It's necessary to ensure spare tire is in good condition with sufficient air pressure for unexpected needs.

Tools on vehicle

Tool bag on the vehicle shall be put into the sidecar trunk. Tools can be used for simple maintenance and adjustment of the vehicle.

Tools on vehicle:

Name	Quantity	Name	Quantity	Name	Quantity
Open end wrench 8-10	1 set	Allen wrench 6	1 set	Crossed screwdriver 6*100	1 set
Open-end wrench 12-14	1 set	Allen wrench 10	1 set	Spark plug sleeve 16#	1 set
Open-end wrench	1 set	Open-end wrench 26	1 set	Long nose pliers (6 cun)	1 set

13-15					
Allen wrench 5	1 set	Slotted screwdriver 6*100	1 set	Spare tire cover wrench	1 piece

Running-in

Run-in period of the vehicle is 1500km of riding. Regular maintenance should be conducted as specified. Within the run-in period, observe the following :

- During the run-in period, the highest rotation speed of the engine recommended by us is as follows:

Total travelled distance of the vehicle	The highest rotation speed of the engine
0km～800km	4000r/min
800km～1500km	6000r/min

● Do not press the start button and then immediately rev the engine high,. even with a warm engine. After starting allow it to idle for 2-3 minutes to allow lubricating oil is distributed to all lubrication components of the engine.

● Do not rev in neutral gear..

Danger

New tire tread is relatively slippery and may lead to loss of control and damage. Within the run-in period of 1500km, it's necessary to tire pressure are as specified. During the run-in period, avoid panic stop or excessive force, abrupt acceleration or sharp cornering while braking.

For further recommendations for maintenance service within the run-in period, consult your dealer.

How to drive the motorcycle

Starting engine

- Inspect whether parking handle is in the position of OFF Parking.
- Inspect whether flameout switch of the engine is set to " ".
- Rotate the key to " ".
- Confirm the gear is neutral gear before starting.

Warning

Do not continuously press the start button for no more than 5s, or engine overloading or flat battery can occur. Press start button again after 15s.

Caution

The vehicle is installed with a clutch switch. When the engine needs to be started, it's necessary to pull the clutch handle in to start the engine.

Warning

Avoid the engine under the state of idling for above 5 minutes in situ, or

overheating will happen to the engine or other parts will be damaged.

Jump starting the engine

In case that battery is flat, it is necessary to charge the battery. If you need an emergency start you can use 12v jumper cables to start the engine.

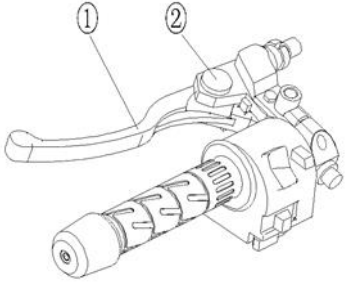
Danger

Under certain conditions, hydrogen generated from electrolyte solution of battery is easy to can burn and explode. Confirm the workplace has good ventilation.

● **Standard procedure to start the engine**

①Clutch handle

②Clutch switch



⚠ Warning

When operating the electrical starter do not press the start button for not more than 5s, or the starter motor can overheat, and the battery can be run flat. Wait 15 seconds before attempting to start engine again. If engine does not start within 2 or three attempts check the motorcycle for faults.

Ready to drive

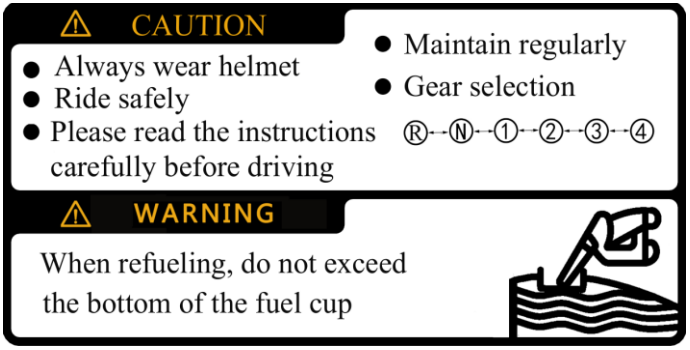
- Pull in the clutch handle.
- Switch to 1st gear. Slightly open accelerator and slowly release clutch handle.
- When the clutch is completely released increase the accelerator slightly.
- Ensure sufficient fuel for journey..

Shifting gear

- Release the accelerator before the handle clutch is pulled in.
- Use gear shift foot bar to select necessary gear.

⚠ Danger

When gear shifting it is necessary to reduce engine RPM, or the engine will be damaged, and it is also possible to cause slipping of rear wheel or other accidents. At the time of shifting gear, rotation speed of the engine must be controlled to be lower than 5000r/min.



- When the clutch handle is released, the accelerator can be slowly increased.

⚠ Caution

When parking, it is necessary to select neutral position. At the moment of shifting to neutral position from one gear, uplift gear shift lever upwards.

Reverse

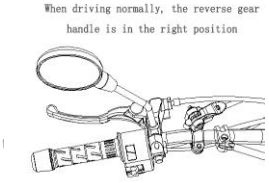
●Use shift pedal to select neutral gear.

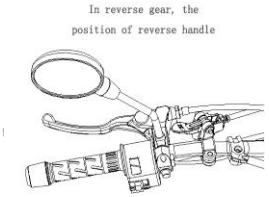
●Pull the reverse shift handle backwards with the left hand, so that the handle is in the reverse position.

●Push the shift pedal counterclockwise, so that the engine gear is in reverse position.

●Observe the road conditions and reverse/forward operation.

●After reversing, move the reverse shift handle forward, so that the handle is in the normal riding position. The shift pedal is pressed clockwise, so that the engine gear is in the forward gear position and can move forward normally.





Braking

- Completely release the accelerator and disengage the clutch to slow down the vehicle.
- When stopping it is necessary to ensure front and rear brakes are used at the same time. To avoid engine stalling shift down or completely disengage the clutch.
- Emergency braking, deceleration due to carelessness and excessive braking force will result wheel slip.
- When cornering, slightly press the brake and slow down before cornering.

Engine Stop

- Completely release the accelerator.
- Switch to neutral position.
- Rotate the key to "  ".
- Lock directional lock.

Parking

- Switch to neutral position and switch off ignition key.
- Switch parking brake handle to "ON Parking" position.

Caution

When the vehicle is parked at the roadside at night, it's necessary to turn on position light. The position light shall not be turned on for too long time to avoid lack of electricity of battery.

- In the event that the vehicle is parked in the maintenance room or other building, it's necessary to ensure good ventilation with no flame or spark nearby.

Caution

When the engine operates or stops, the silencer and exhaust tube will be very hot. For the purpose of avoiding fire or personal injury, avoid inflammable materials such as grass or dried firewood getting close to silencer and exhaust tube.

- Lock directional lock to prevent being stolen.

Catalyst

The catalyst is installed in the exhaust system of the vehicle. Platinum and rhodium in the catalyst will react with carbon monoxide and the hydrocarbons will be converted into carbon dioxide and water and discharged into atmosphere.

To correctly use the catalyst, the following cautions have to be complied with:

- Only the unleaded gasoline can be used, **DO NOT USE LEADED FUEL**. The leaded gasoline will greatly shorten the service life of the catalyst.

● Do not let the engine rotate when the ignition switch or the Engine kill switch is in the OFF position. If battery voltage is too low to start the engine, unburned the fuel-air mixture will flow into the engine and enter the exhaust system, This will cause a rapid reaction and overheating of the catalyst and it will be damaged and require replacement of the entire exhaust system.

⚠ Caution

Please comply with the following instructions to protect your motorcycle catalytic converter.

1. Always use unleaded gasoline, even if a small amount of lead will pollute the noble metal of the catalytic converter.
2. Do not add anti-rust oil or engine oil into the silencer, or the conversion of the catalytic

reaction will fail.

EVAP evaporative system

If there's any fault of the EVAP evaporative system, please contact your dealer for advice. Do not change the EVAP evaporative system, or the evaporative emission may fail to comply with the legal regulations. After disassembly for maintenance, the connection of the pipes should be in good condition, the connector of the pipes should be free of air leakage and blockage, etc.; The rubber pipes should be without cracks or damage, etc. The fuel vapor in the fuel tank is released to the carbon canister by the absorption pipe, when the engine is switched off the activated carbon in the carbon tank will absorb the fuel vapor; When the engine starts works, the fuel vapor in the carbon tank is released to the combustion chamber of the engine by the absorption pipe be combusted. The absorption tube is able to balance the air pressure of the fuel tank. When the pressure of the fuel tank is lower than the pressure of the outer environment, the pressure of the fuel tank can be supplemented by the carbon tank air pipe and the adsorption tube; Therefore, it is required to keep the pipelines clear, avoid blocking and squeezing, ensure the installation of the anti-incline valve is correct.

Safe riding

Safe riding skills

The following are precautions for daily riding, please carefully read to ensure safe and correct riding before riding.
To ensure safety, we strongly recommend to wear safety goggle and helmet. You have to know the traffic laws for the safe riding of motorcycle, and you have to wear the protective clothing such as gloves, suitable shoes and socks, etc.
Before changing lanes, please firstly look at the vehicles on the left, right and rear side to change the lane safely. Do not only depend on the rear mirror to determine the distance and speed of other vehicles..
When riding on steep slopes, use low speed and the correct gear. When braking, the front, rear and side wheel brakes should be used simultaneously. If only one brake is used, the sudden braking may cause sideslip (sliding) or loss of control..
When riding down long slopes, release the accelerator to control the vehicle speed, and use front and rear brakes for assistance. When riding in the wet the accelerator should be used to control the vehicle speed as much as possible, the brake force of the front and rear wheels should be reduced..

Daily safety inspection

Before daily riding, the following items should be inspected. The building of such habit will guarantee the safety of riding and the reliability of this vehicle. In case of any abnormality, please look through the whole chapter or contact your dealer for repair.

Danger
The vehicle may be seriously damaged or the traffic accident may occur if the vehicle is still being driven after finding there's any abnormality.

- Fuel: Check you have sufficient fuel.

- Engine oil: The level of the engine oil should be between the upper and lower scale line of the engine oil observation window as much as possible.

- Tire: Tire pressure (cold state)

Front wheel	Load: 243 kg	Air pressure:220kPa
Rear wheel	Load: 243 kg	Air pressure:240kPa
Cincture	Load: 243 kg	Air pressure:220kPa

- Drive chain: Tightness: 15-30mm. When dry lubricate.

- Check Nuts, bolts, fasteners: Inspect tightness and operation of all suspension parts, shafts and controls..
- Braking: The brake linings are worn, the minimum effective thickness should be larger than 1mm. The brake liquid should not leak.
- Accelerator: Clearance: 2mm～3mm.
- Clutch; Clutch handle clearance: 2mm~3mm, the operation of the clutch handle should be flexible.
- Coolant: Check there are no coolant leaks. The coolant level should be between the minimum and maximum marks on the coolant reservoir level.
- Electrical devices: All the lights (head light, tail light/brake lamp, steering light, warning/signal indicator light) and horns, etc. should be able to work normally.

Maintenance and adjustment

This chapter lists the maintenance and adjustment chart. To maintain the vehicle in good condition maintenance as specified in the chart must be carried out as indicated. It is very important that the first service is carried out as specified.

Table for regular maintenance:

■: The maintenance has to be carried out by the professional person assigned by the dealer.

*: The maintenance and service interval and cycle can be determined by the figure of the total mileage.

#: When riding under bad conditions (such as dust, wet, slurry, high speed riding or frequent start/stop riding etc), the service cycle will be shortened.

1、Regular inspection (engine)

Item (engine) \ Cycle	Service when whichever event occurs first ⇩	* Total mileage km×1000							Page
	Every	1	6	12	18	24	30	36	
■ Air filter element - cleaning				●		●		●	57
■ Valve clearance---check	42000km								56
Accelerator system (clearance, smooth return) check		●		●		●		●	57
Idle speed---check		●		●		●		●	58
■Fuel system check (leaks/damage)	1 year	●		●		●		●	

■Throttle body ---cleaning				●	●	●	●	●	59
Coolant leak---check	1 year	●		●		●		●	54
Coolant level - check	1 year	●		●		●		●	
Radiator and water pipe damage----check	1 year	●		●		●		●	21
■Intake system damage-----check		●		●		●		●	

2、Regular inspection (related terms of chassis)

Item (chassis) / Cycle	Service when whichever event occurs first ⇩ / Every	* Total mileage shows km×1000							Page
		1	6	12	18	24	30	36	
Clutch and drive chain									
Clutch operation (clearance, joint, disengagement)----check		●		●		●		●	59
Drive chain lubrication --- check #	600km								60
Drive chain tightness --- check #	1000km								61
Drive chain wear - - check #				●		●		●	63
■Drive chain sleeve wear----check				●		●		●	
Rim and tire									
Tire pressure----check		●		●		●		●	71
Rim/tire damage---check				●		●		●	71
Wear and abnormal wear of tire tread				●		●		●	71

----check									
■Rim bearing damage----check				●		●		●	
Pedal----lubrication		●		●		●		●	
Sprocket bearing----check				●		●		●	

Item (engine) \ Cycle	Service when whichever event occurs first ⇨ ⇩	* Total mileage shows km×1000							Page
	Every	1	6	12	18	24	30	36	
Braking system									
Brake fluid leak---check	1 year	●	●	●	●	●	●	●	
Brake fluid pipeline damage - check	1 year	●	●	●	●	●	●	●	
Brake block wear- check#			●	●	●	●	●	●	65
Brake fluid pipeline installation - check	1 year	●	●	●	●	●	●	●	
Brake fluid level - check	6 months	●	●	●	●	●	●	●	66
Brake operation (brake force, clearance, flexible movement)---check	1 year	●	●	●	●	●	●	●	68
Brake light switch operation --- check		●	●	●	●	●	●	●	

Suspension									
Front fork / rear shock absorber / side shock absorption action (smooth buffer) --- check				●		●		●	69
Check all shock absorbers for leaks.	1 year			●		●		●	

Item (engine) \ Cycle	Service when whichever event occurs first ⇨ ⇩ Every	* Total mileage shows km×1000							Page
		1	6	12	18	24	30	36	
Operation system									
■Steering clearance----check	1 year	●		●		●		●	
■Steering bearing----lubrication	2 years			●		●		●	
Electrical system									
Light and switch operation----check	1 year			●		●		●	
Head light axis - check	1 year			●		●		●	
Engine flameout switch operation ----check	1 year			●		●		●	
Alarm system----check	1 year			●		●		●	
Chassis									
■Chassis parts---lubrication	1 year			●		●		●	

■Bolt and nut torque----check	1 year	●		●		●		●	
■EVAP evaporative system----check			●						

Regular replacement

Cycle / Items to be replaced	Service when whichever event occurs first ⇨ ⇩ Every	* Total mileage shows km×1000 1	12	24	36	48	Page
■ Air filter element #	2 years						58
Engine oil #	6 months	Every 3000km (the first 500km)					49
Engine oil filter	6 months	every 6000km					50
■ Fuel pipe	4 years					●	
■ Coolant	2 years				●		56
■ Radiator and water pipe	2 years				●		
■Brake fluid pipeline	4 years					●	
■Brake fluid (before/after)	2 years		●			●	67

■ Fuel pump rubber seal	4 years					●	
■ Spark plug			●	●	●	●	56
Sprocket cush drive buffer block			●	●	●	●	

Engine oil

For the normal operation of the engine, transmission mechanism, clutch and other moving parts, it must be ensured that the level of the engine oil in the engine is between the upper and lower limit scale lines of the engine oil observation window, and the inspection and replacement are carried out regularly in accordance with the regular repair and maintenance chart. During operation dirt and metallic contamination is generated, and there will be oil consumption.

⚠ Danger

If the vehicle is driven with a low engine oil level, poor quality engine oil or dirty oil engine life will be reduced.

Inspection of the engine oil level

After engine oil replacement, the engine should operate under idling state for several minutes to ensure the oil filter is full of engine oil.

Warning
If the engine operates under high speed while the parts have not been lubricated with engine oil, damage to engine moving parts may occur.

● Warm the engine up before draining the engine oil.

● Check the engine oil observation window to inspect engine oil level. Park the vehicle in the level ground, the level of the engine oil must be between the upper and lower scale line of the engine oil observation window.

● If the level of the engine oil is too high, the excess engine oil should be discharged.

● If the level of the engine oil is too low, engine oil should be added until the level of the engine oil is between the upper and lower scale line of the engine oil observation window.

Replace the engine oil and engine oil filter

- Park the vehicle on the level ground.
- Warm up the engine.
- Place an oil drain basin under the engine.
- Remove the sump oil drain bolt.
- Empty the engine oil.

> **Danger**
>
> The engine oil is toxic, it should be placed in a safe place after using.

- Remove the engine oil filter, replace it with a new one.
- Paint a thin oil film on the sealing ring, and tighten the oil filter by hand.
- Use new sealing washer before installing oil discharging bolt.

● Use the high quality engine oil listed below, and add the engine oil to the center of the upper and lower scale line of the engine oil observation window.

● Start the engine.

● Check the engine oil level and for leaks.

Fastening torque

Oil drainage bolt: 30N·m. Engine oil filter: 17.2N·m

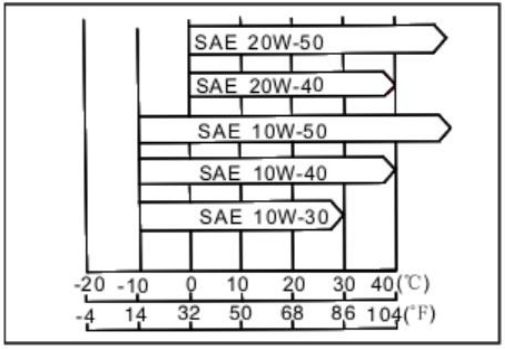
Recommended engine oil:

Type: The viscosity of the SJ level JASO MA2 certificated engine oil: 10W-40.

Engine oil capacity:

- When the engine oil filter has not been replaced: 2.0L.
- When the engine oil filter is replaced: 2.2L.
- When the oil has been totally discharged the total capacity is 2.6L

10W-40 is one of the recommended engine oils which can satisfy most of the environmental temperature conditions, but the viscosity of the engine oil will change with the change of the environmental temperature conditions of the riding area. Please choose the engine oil according to the table below.



Cooling system

Radiator and cooling fan

Inspect that the cooling fins of the radiator are not deformed or blocked by sand, use the fresh tap water to clean the heat sink.

Danger

When the fan is rotating, it should be avoided that the hands and clothes are involved in the fan.

Warning

When using a high-pressure water gun to clean the vehicle, the radiator fins may be damaged and radiator efficiency affected. Installing accessories in front or rear of the radiator may make engine overheat and damage the engine by impeding or changing the air flow passing the radiator.

Radiator pipeline

Before the daily operation radiator pipes should be visually checked for leakage, cracking, aging, corrosion, and that connectors are tight. Regular inspection should be carried out in accordance with the chart of maintenance and service.

Coolant

The coolant absorbs the heat of the engine, and the radiator discharges the heat into the air. If the level of the coolant is too low, the engine may be overheated, and seriously damaged. Before daily operation inspect the level of the coolant and carry out inspection in accordance with the chart of maintenance and service. If the level of the coolant is too low, coolant should be added in accordance with the chart of maintenance and service.

To avoid the rust and corrosion of the cooling system (the engine and radiator are composed of aluminum), it is necessary to add chemical inhibitor for the rust and corrosion. If the coolant contains the chemical inhibitor for the

rust and corrosion, extra addition is unnecessary. If corrosion inhibitor is not used rust and corrosion substances generated by the cooling system will accumulate in the water jacket and radiator, which will block the pipeline of the coolant, and seriously affect the cooling system.

Danger

Rust and corrosion residue in the engine and radiator has to be processed in accordance with your local regulations, the chemical substances in the rust inhibitor can cause harm to human bodies.

.

Warning

The bottled freeze proof agent sold in the market has added with anti-rust and anti-corrosion agent. When the freeze proof agent has been diluted, it loses the anti-rust and anti-corrosion ability. The diluted concentration of the freeze proof agent has to be the same as the description of the manufacturers.

Inspection of coolant level

- Ensure the motorcycle is on level ground.
- Check that the level of the coolant is between the uppera nd lower marks on the coolant reservoir bottle.
- If the amount of the coolant is lower than the minimum level new coolant should be added.

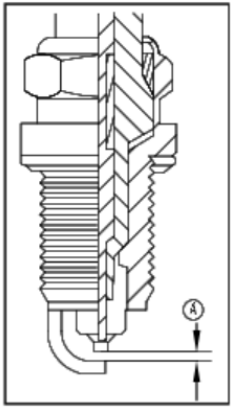
Adding coolant

- Open the cover of the radiator reservoir bottle, and add new coolant until the correct level is reached.
- Close the reservoir cap.

Caution
Under emergency conditions, the distilled water can be added into the auxiliary radiator, however, the mixing proration concentration of the freeze proof agent has to be adjusted as soon as possible.

Spark plug

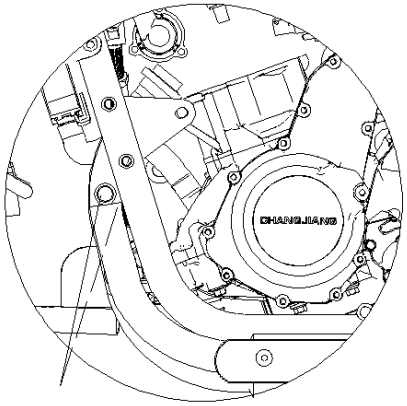
The replacement of the spark plug is specified in the repair and maintenance chart. Consult with your delare on procedures to remove sparkplugs if you intend to carry out this work yourself.



Spark plug model: CR8EI.

Spark plug clearance: 0.7mm～0.9mm.
Fastening torque: 15N·m.

A Spark plug clearance



Air intake and exhaust systems

The emission oil-gas monitoring system is monitored by the oxygen sensor. The oxygen sensor is installed in the exhaust pipe and monitors the degree of combustion in the exhaust gas through the oxygen content in the exhaust pipe.. The ECU detects the signal from the O2 sensor and adjusts the fuel injection quantity and timing with reference to the throttle body position sensor, and the inlet temperature signal provided by the inlet temperature signal sensor to effectively adjust the fuel ratio to ensure the complete burning of the oil and gas.

Intake valve

Oxygen sensor

Check according to the regular repair and maintenance chart. Check the inlet valve when engine idle speed is unstable, engine power is reduced, or the engine has abnormal noise. The disassembly and inspection of the intake valve must be completed by your dealer.

Valve clearance

The valve and valve seat will wear out during use and need to be adjusted after a period of use as indicated in the maintenance chart.

⚠ **Warning**
If the valve clearance is not adjusted after the valve and valve seat tappet are worn out, the valve may loosen or have no clearance and engine performance may be reduced. The clearance for each valve must be checked and adjusted according to the regular repair and maintenance chart. The inspection and adjustment of the valve clearance must be done by your dealer.

Air filter

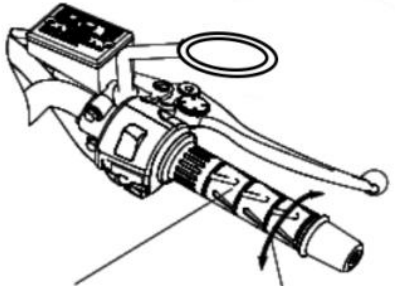
Blocked air filters will reduce the engine air intake, increase the fuel mixture richness, reduce engine efficiency and foul spark plugs.
The air filter element must be cleaned as specified in the regular repair and maintenance chart. When riding in environmental conditions with dust, moisture and mud, the air filter element must be maintained at a frequency higher than the recommended one.

Accelerator control system

Check the clearance of the accelerator handlebar as specified in the regular repair and maintenance chart, and adjust it if necessary.

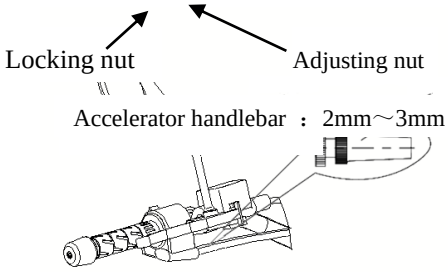
Accelerator handlebar

The accelerator handlebar throttle controls the throttle body. If the clearance of accelerator cable is too large, the accelerator action will not be coordinated, causing the slow accelerator response, especially when the engine is at a low rotation speed, and when the throttle grip is opened to maximum full throttle will not be achieved.



Check

- Check the clearance of accelerator handlebar and the accelerator handlebar..
- Adjust it if the clearance of accelerator handlebar if necessary.



Adjustment

●Loosen the lock nut of the pull accelerator cable on the right handlebar switch, and turn the adjusting nut of the accelerator cable to achieve the correct clearance .

- Adjust the clearance of push accelerator cable until the accelerator handlebar is fully returned
- The lock nut should be tightened.

●Loosen the lock nut of pull cable and rotate it and adjust the nut until the clearance of accelerator handlebar is between 2mm and 3mm.

- The lock nut should be tightened.

Danger
Improper adjustment of the accelerator and incorrect accelerator

routing can damage the cable and cause unsafe riding.

Idling speed

The idling speed of the car has been adjusted at the factory. The idle speed has been set to obtain correct functioning of the emission control system under all conditions and cannot be adjusted otherwise performance will be affected. When it is necessary to replace parts that affect the idle speed, you must contact your dealer for replacement, and ECU must be recalibrated.

Danger

Improper adjustment of the idle speed will result in unsafe riding.
Idling speed: 1400r/min±50r/min

Throttle body

The stop screw on the throttle valve body has been precisely set and cannot be adjusted. Check if the vehicle's idle speed is stable. If the idle speed is unstable, please consult the professional service personnel of the maintenance unit designated by the company for inspection and maintenance.

Clutch

During use, the clutch friction disc will wear out and the clutch cable will also stretch. Therefore, before daily operation the performance of the clutch must be checked and regular repair and maintenance must be observed.

Danger

Do not touch the high temperature engine and exhaust pipe when adjusting the clutch in order to avoid burns.

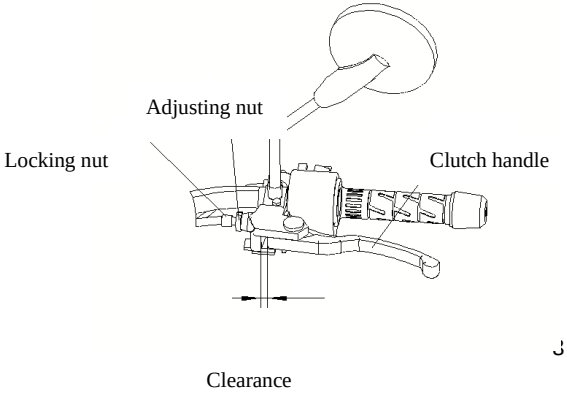
● Check the handling performance of the clutch handle, and the inhaul cable should be flexible.

If the clutch operation is abnormal, contact your dealer for inspection. ● Check the clearance of the clutch handle.

Clearance: 2mm~3mm If the clearance is not correct, adjust the clearance of the clutch handle.

Adjustment

●Loosen the lock nut and turn the adjusting nut until the clutch handle clearance is appropriate.



Danger

Make sure that the clutch cable adjuster is installed and fixed, and the lock nut is tightened, otherwise the cable may slip out, causing the clutch to not be disengaged and resulting in unsafe riding.

● If the requirements for the handle clearance are still not met when the clutch inhaul cable has been adjusted to the limit position of the handle, adjust the adjusting nut at the cable at the engine end.

Caution

Start the engine after the adjustment and check that whether the clutch work smoothly and flexibly.

Drive chain

Before daily riding, the drive chain must be checked for tightness and lubrication, and the safety requirements of regular maintenance and repair regulations must be observed to prevent excessive wear of the drive chain. If the chain

is too loose or too tight due to excessive wear or improper adjustment of the drive chain, the chain may fall off or create resistance.

Danger

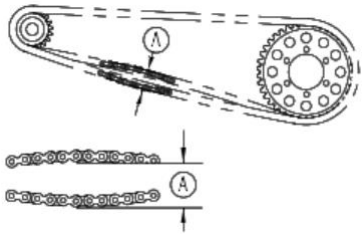
The resistance or shedding of the chain can reduce the engine efficiency or lock the rear wheel, which may seriously damage the vehicle and cause loss of control.

Chain tension check

● Support the vehicle with the main bracket.

● Rotate the rear wheel to check if the chain is too tight, and measure the distance between the upward and downward tightness at the middle of the chain.

● If the chain is too loose or too tight, adjust it to the standard value.



Standard value: 15mm-30mm

Tightness clearance

Adjustment

● Loosen the lock nut of chain adjuster.

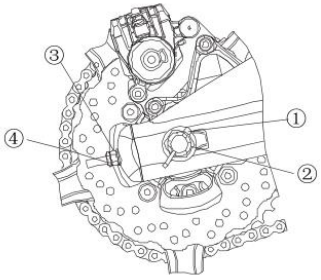
●Remove the split pin of the lock nut on the right axle and loosen the lock nut on the rear axle.

● If the chain is too loose, turn the left and right adjusting nuts clockwise, and the left and right adjustment degree should be equal.

● If the chain is too tight, turn the left and right adjusting nuts counterclockwise, and the left and right adjustment degree should be equal.

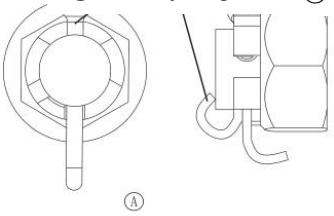
●Turn the adjusting nut until the chain tension is proper.

●Ensure that the left and right displacements of the rear axle on the rear fork are the same.



①Split pin ②Chain shaft lock

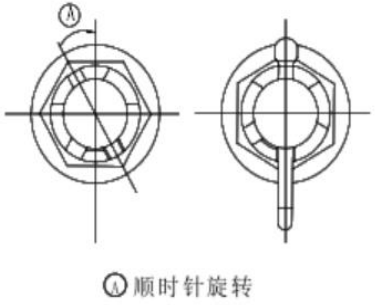
③Chain adjusting nut ④Chain lock nut



Caution

The left and right scale lines of the rear axle installed the rear fork are identical.

Split pin



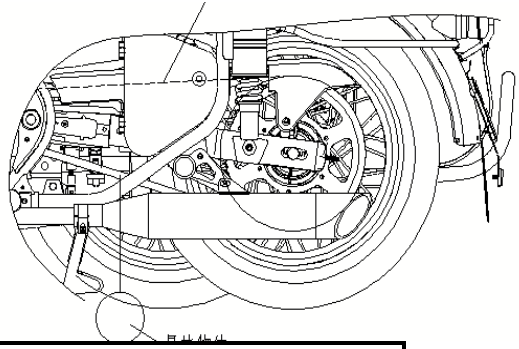
Clockwise rotation

- Lock the lock nuts of the left and right chain adjusters.
- Lock the rear axle nut to the specified torque.
- Torque of rear axle nut: 120N·m
- Rotate the rear wheel to measure the tightness of the chain again. Re-adjust it if necessary.
- Install a new cotter pin and separate the split pin.

Caution

When inserting the split pin, if the groove of the nut is not aligned with the pin hole of the axle, turn the nut clockwise to the next angle.

The angle between the split pin and the vertical horizontal ground should be controlled within 30°. If the groove of the nut is not aligned with the nearest shaft hole, adjust the angle of the nut.



Danger

If the rear axle nut is not locked to the specified torque or the split pin is not installed, it may cause unsafe riding.

Measurement

Wear check

●Tension the chain or hang a 10kg mass object on the chain.

● Measure the stretched length between centers of 20 chain links.

● If the length of the stretched length exceeds the standard limit used, it must be replaced with a new one. Length limit of the length between centers of 20 drive chain links: 323mm

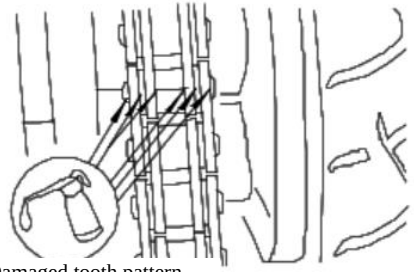
Hanging objects

Danger

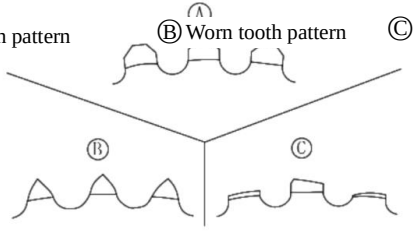
For your safety, please use the standard chain. When the chain is stretched, the chain cannot be cut short and then installed back into the car for use. It is necessary to contact the dealer to replace it with a new chain.

Rotate the rear wheel to check the wear of the chain roller and the looseness of links.

● Check the sprocket tooth surface for wear and damage.



Ⓐ Standard tooth pattern Ⓑ Worn tooth pattern Ⓒ Damaged tooth pattern



● In case of the above situations, contact your dealer to replace it with a new chain or sprocket.

Lubricating

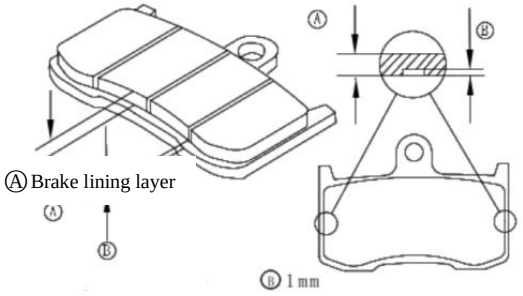
It is also necessary to lubricate the sprocket and chain when riding on rainy or wet roads,or lubricate them when they are dry. Use engine oil with high viscosity. For example, the recommended SAE90 can leave longer on the sprocket and chain than the low viscosity engine oil, which can reduce the frequency of lubrication.

- Add lubricant to both sides of the chain roller to facilitate penetration of the lubricant into the roller.
- If the chain is particularly dry, clean it before lubricating.

Braking

Brake wear inspection

Check the brake wear and check the brake calipers on the front, rear and side brake discs. If the thickness of the brake lining is less than 1mm, replace the new brake lining. The replacement of the brake lining must be done by your dealer.



Brake Fluid resevoir

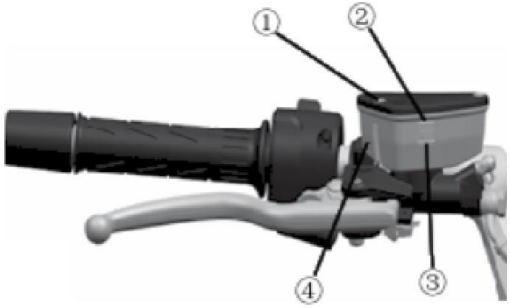
Check the level of the front and rear brake oil resevoirs as per the regular repair and maintenance char.

Brake fluid requirements

Use only the DOT4 brake fluid type indicated on the oil reservoir cap.

Warning

Brake fluid must not spill onto the surface of the plastic or painted parts. Do not expose brake fluid to air for a long time or leave it unsealed. Check for brake fluid leaks.



① Front brake oil cup cover ② Upper limit scale line

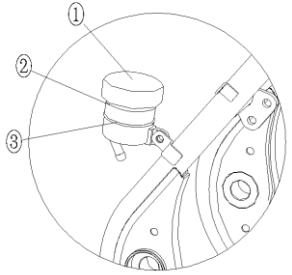
Inspection of brake fluid level

Check whether the brake fluid level in the front and rear brake oil cups is between the upper and lower limit scale lines.

③ Lower limit scale line ④ Front brake oil cup

● If the brake fluid level is below the lower limit scale line, check the brake fluid pipes for leakage, and add brake fluid to the upper limit scale line of the oil cup. The upper limit scale line of the front brake oil cup is on the inside, which is visible only when the oil cup cover is opened.

Danger
Do not mix brake fluids from different brands. If you are unsure of the brake fluid type and brand in the brake oil cup, the brake fluid must be completely emptied before re-filling the brake fluid.



① Rear brake oil cup ② Upper limit scale line ③ Lower limit scale line ① Rear brake oil cup ② Upper limit scale line ③ Lower limit scale line

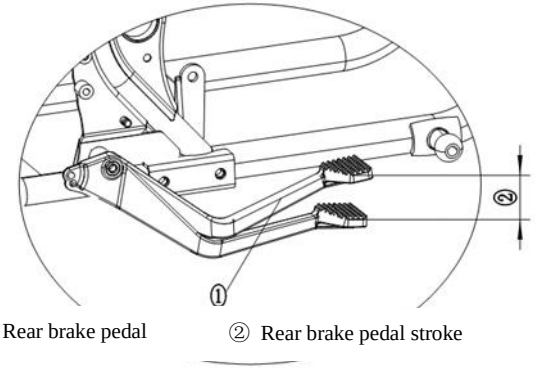
Replace brake fluid

The front, rear and side brake discs and brake linings will wear out during the long-term use, so they must be inspected or replaced according to maintenance regulations.

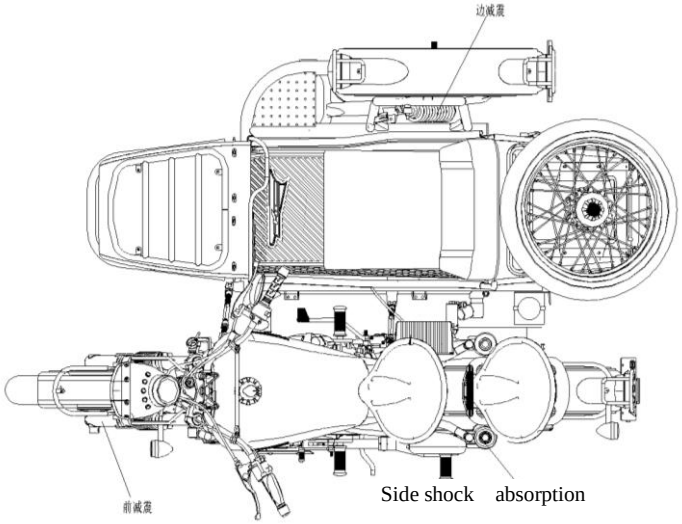
Brake light check

- Set the ignition switch at " ".
- The brake light must be turned on when using the front brake,.
- Check the rear brake switch. The brake light must also be turned on when the brake pedal is pressed down.
- If the brake light is not turned on, check cable connectors of the front and rear brake switches.

Rear brake pedal stroke: 10mm.



① Rear brake pedal ② Rear brake pedal stroke



Side shock absorption

Front fork

The handling performance of the front fork and the leakage of the damping oil must be checked according to the regular repair and maintenance chart.

Checking the front shock absorber

- Hold the front brake handle and compress the front fork for several times to check whether it works smoothly or not.

● Observe whether the damping oil leaks and whether the working part of the front fork pipe has scratches and abnormal noises.
● If any problems are found with the front shock absorber, you must contact your dealer.

Front shock absorption

Rear shock absorption

Rear shock absorption/side shock absorption

The handling performance of the rear shock absorber/side shock absorber and the leakage of the damping oil must be checked according to the regular repair and maintenance chart.

Checking the shock absorber

● Compress the shock absorber several times to check whether the rear/side shock absorber works smoothly.
● Check whether the shock absorber leaks
● If any problems are found with the shock absorber, you must contact your dealer.

Adjustment of preloading loads of rear shock absorber spring/side shock absorbing spring

The preloading loads are adjustable within 5 gears.

Gear	1	2	3	4	5
Spring force	Add spring force →				

Danger

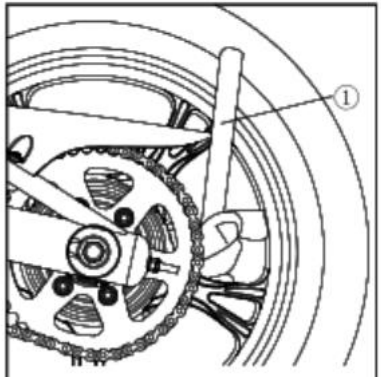
This part contains high pressure nitrogen gas, which may explode if not handled properly. Read the relevant instructions. Do not throw it into a fire, drill holes on it or open it.

Tire

Load and tire pressure

Inappropriate tire pressure or exceeding the load limit of the tire may affect the handling and vehicle performances and cause loss of control. The recommended maximum load capacity is 225 kg, including driver, luggage, and accessories.

- Remove the valve cover.
- Frequently measure tire pressure using a barometer.

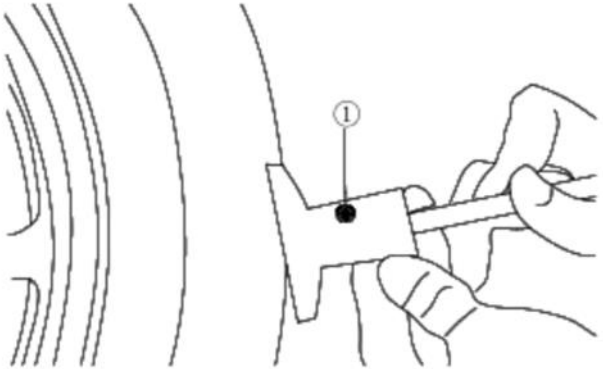


● Make sure the valve cap is installed reliably.

Tire pressure (cold state)

Front wheel	200Kpa
Rear wheel	225Kpa
Cincture	210Kpa

①Barometer



Tire wear and damage

When the tire surface is worn beyond the limit of use, puncture resistance is reduced. 90% of tire failures occur during the last 10% of tire life. Therefore, when the surface of the tire is worn continued use of the tire will cause unsafe factors.

The specified depth of the tire tread is measured according to the regular maintenance and repair chart, and the tire should be replaced when the minimum service limit is reached.

Minimum service depth of tire tread

Front wheel	0.8mm~1mm
Rear wheel	0.8mm~1mm
Sidecar	0.8mm~1mm

①Measuring the tread depth

●Visually inspect the surface cracks and cuts of the tires and replace them with new ones if they are seriously damaged.

Caution

Most countries have their own minimum depth of tire tread, which must be complied with. Check the wheel balance when installing new rims and tires.

Danger

To ensure safe and stable operation, please use only our recommended tires and air pressure. If tires are repaired, speed cannot exceed 100km/h within 24 hours, and the speed cannot exceed 109km/h at any time in the future.

Ensure that the maximum speed of the vehicle is below the regulatory limit when riding on the road.

Tire specification

Front wheel	4.10-18 59P
Rear wheel	4.10-18 59P
Sidecar	4.10-18 59P

Danger

The front, rear, and side wheels use the tires from the same supplier.

Danger

New tire surfaces are smooth and may cause loss of control and damage. The tire surface can form a normal friction surface after a 160 km run-in period. Avoid sudden and extreme braking, extreme acceleration, and sharp turns during the running-in period.

Battery

The motorcycle is equipped with a maintenance-free battery, saving the need to check the battery electrolyte or add distilled water. Once the electrolyte is poured into the battery, the seal does not have to be removed. However, in

order to optimize the battery life, you must properly charge the battery to ensure the power required to supply the starter motor. When the motorcycle is frequently used, the motorcycle charging system will automatically charge the battery. If you only use the motorcycle occasionally or use the motorcycle for a short period of time, the battery may be out of power. The battery is subject to self-discharge. The self-discharge rate varies depending on the type of battery and the ambient temperature. For example, when the ambient temperature rises, the self-discharge rate doubles for the increase of every 15℃ of ambient temperature.

In very cold winters, improper battery charging can easily cause the electrolyte to freeze, which may cause the battery to rupture and/or deform the metal plates. Fully charging the battery can improve the resistance to freezing.

A common battery failure is sulfation. When the battery is discharged for a long time, the electrolyte may be sulfated. Sulfation is a product of an abnormal chemical reaction inside the battery. If the battery is sulphated the battery plate will be permanently damaged, and the battery cannot be charged anymore. When the fault happens to battery, I is necessary to replace with a new battery.

Battery maintenance

The user must ensure the battery is fully charged, or the battery will be damaged. In case your vehicle is seldom ridden, it is necessary to use a voltmeter to check the voltage of the battery weekly. If the battery voltage is lower

than 12.8V, it is necessary to charge the battery. Do not use an automatic quick charger to charge the battery, or overloading will occur, and the battery will be damaged.

Charging of battery

- Removee battery from the vehicle
- Connect charger and ensure charging current is 1/10A of battery capacity, for example, if the battery capacity is 20Ah, charging current should be 2 amperes.
- When you reinstall the battery to the vehicle, it's necessary to ensure the battery is fully charged.

Warning

Do not remove the sealing strips on the battery as the battery will be damaged. Do nott install the incorrect type of battery on the vehicle, or electrical system may work abnormally.

When charging a maintenance-free battery, read the description on the battery.

Remove the battery

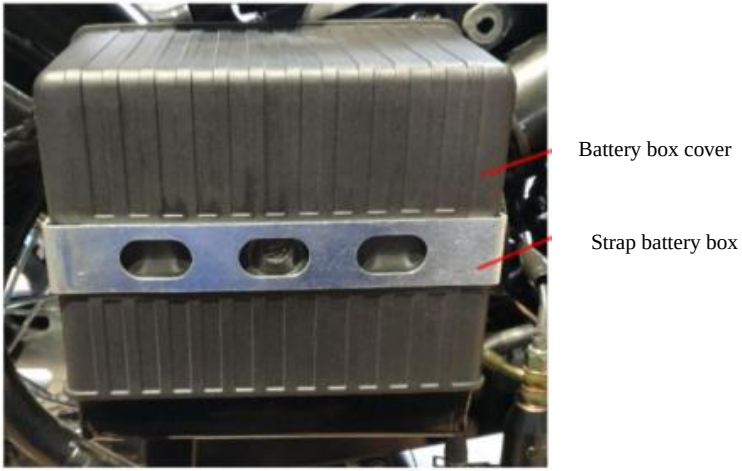
- Dismantle strap bolt of the battery box and take down the battery box cover.
- Take apart positive and negative cable from the battery and take out the battery.

● Soda and water can be used to clean binding post of battery and the positive and negative cable wiring terminals.

Installation of battery

● Install the battery into battery box.

● Connect positive electrode of battery and then connect negative electrode of battery.



Caution

When the battery is installed, order of connection is positive electrode and negative electrode. Reverse sequence when removing battery.

● After connecting the positive electrode and the negative electrode, it is necessary to smear die-electric grease on the binding post and the terminal to prevent corrosion.

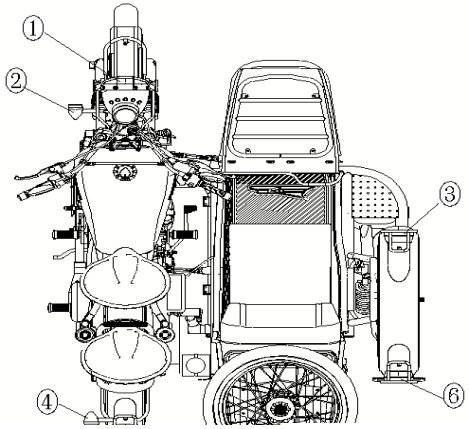
● Cover positive and negative sheaths.

● Reinstall disassembly parts.

Light signal system

Head light/high beam/low beam can be switched by the right handlebar switch.

Stoplight is integrated with left rear position light.



①High beam/low beam/position light ②Front left steering light

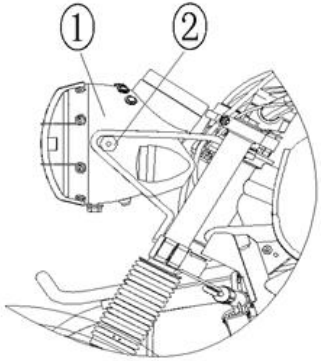
③Front right steering light/position light ④Rear left steering light

⑤Brake light/position light ⑥Rear right steering light/position

Head light adjustment

Height of low beam/high beam is adjustable.

- Loosen fastening bolts on both sides of the headlamp. ②
- Rotate lamp holder until appropriate light beam arises ①.
- Fasten fastening bolts on both sides of the headlamp. ②



Caution
Front and rear wheels are on the ground and the driver sits on the vehicle to adjust the optic axis of high beam/low beam. Adjust the optic axis of high beam/low beam to comply with local regulations.

Vehicle cleaning

General precautions

Keeping appearance of your vehicle clean and ensures service life of the vehicle can be lengthened.

● Confirm engine and exhaust tube are cool before cleaning.

● Avoid the usage of the chemical products, solvents, liquid, detergent, and household cleaner for cleaning your vehicle.

● Gasoline, brake fluid and coolant may damage the surface of paint parts. In case of gasoline, brake fluid or coolant on the surface of painted parts, it's necessary to use soapy water for cleaning.

● Avoid usage of metallic brush, wire cleaning ball or other article which is too rough for scrubbing the vehicle.

● Windshield, lamps and all the plastic parts are easily scratched. When cleaning special care is necessary.

● Avoid usage of high pressure water which may cause water to enter electric parts and cause damage.

● Avoid water spray in areas such as the intake port, fuel oil system, electric parts, silencer exhaust port and fuel tank lock.

Vehicle cleaning

● Use cold water to flush soil on the motorcycle.

● Appropriately mix one bottle of detergent (detergent special for cleaning motorcycle or vehicle) and one bottle of clean water. Use soft cloth or sponge to clean your vehicle. If needed, mix one bottle of thin degreaser to clean engine oil or grease dirt.

● After completion of cleaning, use clean water to flush the residue on the vehicle (cleaner remnant may damage parts of your motorcycle).

● Use soft cloth to dry your motorcycle.

● Start the engine and make it work for several minutes under idling state. The heat generated from the engine makes for drying the vehicle in the wet environment zone.

● Carefully drive your vehicle and use the brake for several times at low speed, which contributes to drying the brake and recover it to normal operating performance.

● Lubricate drive chain to prevent rust.

Warning

Cold water shall be used to clean your vehicle immediately after riding on the road with high salt fog or near seaside, it's necessary to use cold water to clean your vehicle. Don't use warm water accelerating salt chemical reaction for cleaning. After drying, metal non-coating surface shall be smeared with anti-rust and anti-corrosion oil for protection. In case of riding on rainy days or after cleaning of the vehicle, water mist may happen to internal surface of lamp shade of the head light and it's necessary to start the engine and turn on the head light to remove vapor.

Cosmetic surface

After cleaning of the vehicle, special wax for motorcycle or automobile can be used to protect coating surfaces of metal piece and plastic parts. It is necessary to apply wax once every three months to prevent coatng deterioration. Ensure the wax used is not abrasive.

Wind shield and other plastic parts

After cleaning, use a soft cloth to lightly dry the surface of plastic parts

.

Warning

In case of plastic parts, contact with chemical substances or household cleaning product (such as gasoline, brake fluid, window cleaning liquid, thread tightening adhesive or other chemical products), aging and fracture may happen. In case of plastic parts touching any chemical product it is necessary to use water for cleaning and check whether damage arises or not. Avoid usage of grinding disc or brush for cleaning the surface of plastic parts because they may damage surface gloss of plastic parts.

Chromium alloy and aluminum

Chromium alloy and aluminum parts will become oxidized by contact with air over the long term. It is necessary to use detergent for cleaning and use a glazing agent for polishing. Coatings on aluminum wheels and uncoated aluminum wheel must be cleaned with a specialist detergent.

Leatherware, vinyl product and rubber product

In case of your motorcycle equipped with leatherware, special cleaner for leatherware must be used. In case that detergent and water shall be used to clean leatherware, leatherware may be damaged and its service life may be shortened. Special rubber protective agent must be used for tire and other rubber parts to lengthen their service life.

Storage

Preparation before storage

- Thorough cleaning of vehicle
- Use new engine oil.
- Drain all the fuel in the fuel tank (note: when fuel pump almost fails to pump fuel, it's necessary to dismantle plug-in connector of fuel pump, use the pipe to take out fuel from the fuel tank, or the fuel pump will be damaged).
- Allow the engine to run to empty fuel from the fuel system until the engine cuts out from lack of fuel.
- During the period when the motorcycle is stored, about 20% of standard pressure of the tire will be decreased.
- The motorcycle should be jacked up to lift the wheels off the ground.
- Non-coating metallic surface shall be sprayed with a protectant film to prevent rust. Avoid spraying oil onto rubber or brake parts.

● Lubricate drive chain and cables.

● Remove battery and put it in a cool and ventilated place. During the period of storage, it's a must to charge the battery pursuant to provisions of regular repair and maintenance chart and maintain sufficient electric quantity for the battery.

● Exhaust outlet of the silencer shall be bound up with plastic bag to prevent moist air entering.

● Cover motorcycle with cover to prevent dust.

Fault code of electronic fuel injection system

Overview of self diagnosis

The ECU continuously monitors sensors, actuators and relevant circuits, fault indicator light and battery voltage and controls itself as well as carrying out reliability testing of sensor output signal, actuator drive signal and internal signal (such as closed-loop control, coolant temperature, idling rotation speed control and battery voltage control). Once a fault occurring to one link is discovered or one signal value is unbelievable, the ECU will immediately set fault information record in the fault memory of RAM. Fault information records are stored in the form of fault code

and displayed as per sequential order of the fault. Faults are divided into "current fault" and "historic fault". At the time of maintenance, it's allowed to quickly find the parts with fault occurring by diagnosis instrument and fault indicator light to improve maintenance efficiency and quality.

Fault indicator light

Diagnosis process of Check light

When EFI system and ignition system experience a fault, the fault indicator light will flicker.

Strategy of malfunction lamp being on

● During engine operation, if a fault of one component is diagnosed by the system, the malfunction lamp will be illuminated and the malfunction lamp will continuously flicker based on the frequency of 2Hz.

.

In case that the fault has been repaired and fault diagnosis instrument is used to eliminate the fault code, malfunction lamp will go out after being on for 4 seconds when the ignition switch is turned on.

LIST OF FAULT CODES

No	Pcode	Descriptions (UAES)

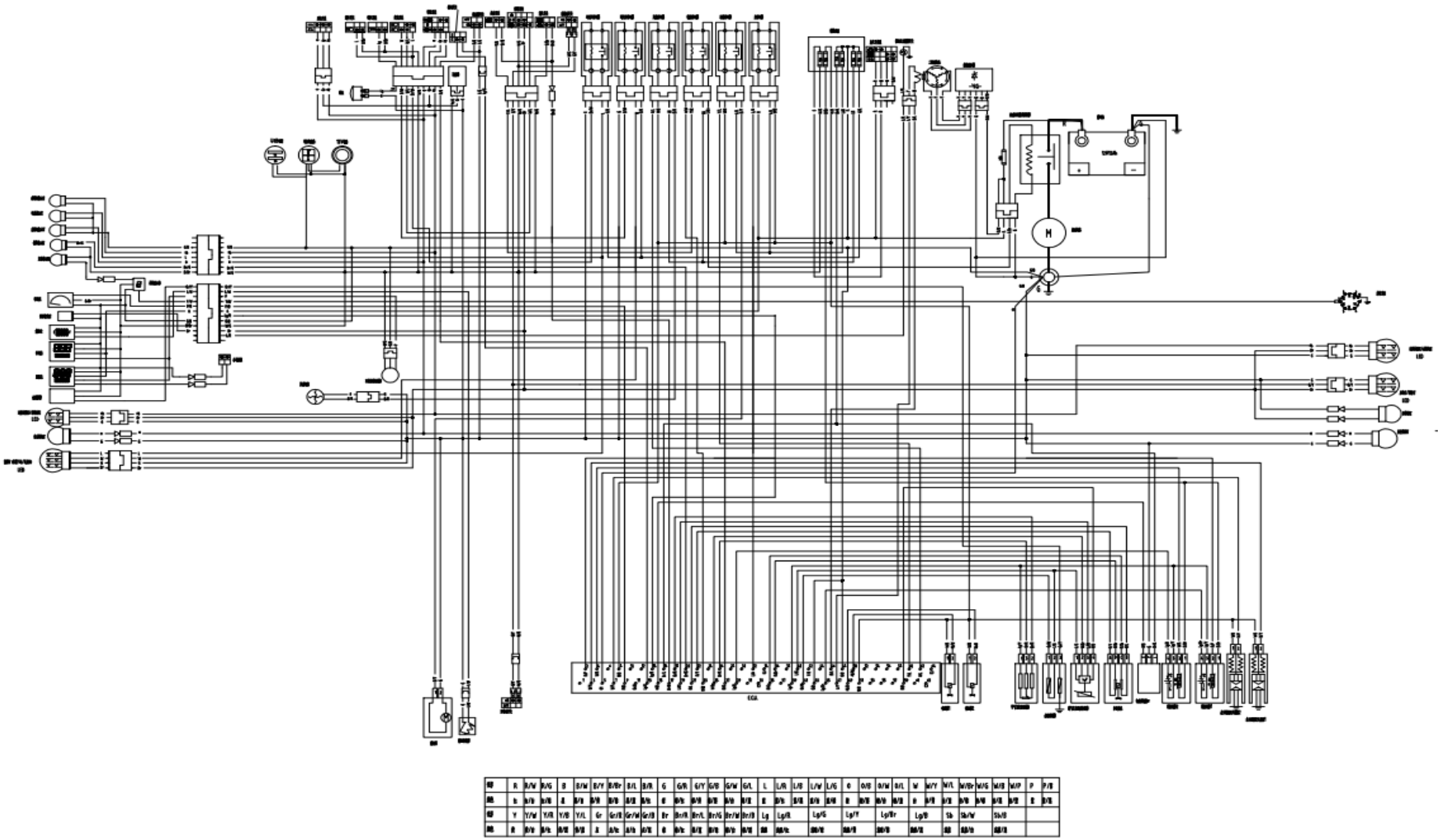
1	P0030	Open circuit occurs to upstream 1 cylinder oxygen sensor heating control circuit
2	P0031	Voltage below level occurs to upstream 1 cylinder oxygen sensor heating control circuit
3	P0032	Overhigh voltage occurs to upstream 1 cylinder oxygen sensor heating control circuit
4	P0036	Open circuit occurs to upstream 2 cylinder oxygen sensor heating control circuit
5	P0037	Too low voltage happens to upstream 2 cylinder oxygen sensor heating control circuit
6	P0038	Overhigh voltage happens to upstream 2 cylinder oxygen sensor heating control circuit
7	P0107	Short circuit to ground occurs to the intake pressure sensor
8	P0108	Short circuit to power supply occurs to the intake pressure sensor
9	P0112	Intake temperature sensor signal voltage is too low
10	P0113	Intake temperature sensor signal voltage is too high
11	P0117	Too low voltage happens to engine coolant temperature sensor circuit
12	P0118	Overhigh voltage happens to engine coolant temperature sensor circuit
13	P0122	Throttle position sensor circuit voltage is ultra-low with limiting value arising.
14	P0123	Throttle position sensor circuit voltage is ultra-high with limiting value arising.
No	**Pcode**	**Descriptions (UAES)**

15	P0130	Upstream 1 cylinder oxygen sensor signal is unreasonable
16	P0131	Upstream 1 cylinder oxygen sensor signal is too low
17	P0132	Too high voltage occurs to upstream 1 cylinder oxygen sensor signal circuit
18	P0134	Fault occurs to upstream 1 cylinder oxygen sensor circuit signal
19	P0136	Upstream 2 cylinder oxygen sensor signal is unreasonable
20	P0137	Upstream 2 cylinder oxygen sensor signal is too low
21	P0138	Too high voltage occurs to upstream 2 cylinder oxygen sensor signal circuit
22	P0140	Fault occurs to upstream 2 cylinder oxygen sensor circuit signal
23	P0201	Open circuit happens to 1 cylinder fuel injector control circuit
24	P0261	Short circuit to ground happens to 1 cylinder fuel injector control circuit
25	P0262	Power short circuit happens to 1 cylinder fuel injector control circuit
26	P0202	Open circuit happens to 2 cylinder fuel injector control circuit
27	P0264	Ground short circuit happens to 2 cylinder fuel injector control circuit
28	P0265	Power short circuit happens to 2 cylinder fuel injector control circuit

No	Pcode	Descriptions (UAES)
29	P0321	Rotation speed reference point fault
30	P0322	No rotation speed sensor pulse signal (open circuit or short circuit)
31	P0480	Open circuit occurs to fan control circuit
32	P0480	Open circuit occurs to fan control circuit
33	P0508	Short circuit to ground occurs to idle speed actuator control circuit
34	P0509	Short circuit to power supply occurs to idle speed actuator control circuit
35	P0511	Open circuit occurs to idle speed actuator control circuit
36	P0560	The system battery voltage signal is unreasonable
37	P0562	The system battery voltage is too low
38	P0563	The system battery voltage is too high
39	P0627	Open circuit occurs to oil pump relay control circuit
40	P0628	Short to ground occurs to oil pump relay control circuit
41	P0629	Power short circuit occurs to oil pump relay control circuit
42	P0650	Fault happens to MIL light drive-level circuit

No	Pcode	Descriptions (UAES)
43	P0691	Ground short circuit happens to fan control circuit
44	P0692	Power short circuit happens to fan control circuit
45	P1116	Engine temperature exceeds the limit

Electrical Schematic Diagram



Motorcycle common faults and causes

Phenomenon	Component part	Fault cause	Disposal method
Fail to startup	Fuel system	No fuel in the oil tank	Fill fuel
		Fuel pump is blocked or damaged; The quality of fuel is poor	Clean or replace
	Ignition system	Spark plug fault: Excessive carbon deposit or long service time	Inspect or replace
		Spark plug cap. Bad contact or burnt	Inspect or replace
		Ignition coil Bad contact or insulator damage.	Inspect or replace
		ECU failure: Bad contact or electrical short circuit.	Inspect or replace
		Trigger coil: Bad contact or short circuit	Inspect or replace
		Stator.Bad contact or short circuit.	Inspect or replace
		Faulty connections in wiring harness.	Inspection or adjustment

Fail to startup	Cylinder compression	Worn or damaged cylinders.	Inspect or replace
		Faulty inlet and/or exhaust valve and valve seat.	Inspect or replace
			Inspect or replace
		Air leakage happens to the inlet pipe: The operation time is too long	Inspect or replace
		Valve timing fault	Inspect or replace
Low power	Intake valve piston	Too many carbon deposits in to intake and exhaust valve and piston Fuel is bad quality and engine oil is with bad quality	Repair or replace
	Clutch	The clutch is slipping Engine oil is with bad oil quality, long service time and overload	Adjustment or replacement
	Cylinder and piston ring	Abrasion occurs to cylinder and piston ring: Engine oil is with bad quality and long service time	Replace the engine oil
	Brake	Brake pad damaged. Too tight brake	Adjustment
	Loose chain	Too tight drive chain: Improper adjustment	Adjustment
	Engine	Overheating engine: Mixture too rich or lean. Poor quality fuel.	Adjustment or replacement
	Spark plug	Spark plug clearance is improper and normal spark plug clearance is 0.8-0.9 mm	Adjustment or replacement

	Air inlet pipe	Air leakage happens to the inlet pipe: The operation time is too long	Adjustment or replacement
	Cylinder head	Air leakage occurs to the cylinder head or air valve	Inspect or replace
	Electrical system	The fault happens to the electrical system	Inspection or repair
	Air cleaner	Air filter is blocked	Cleaning or adjustment
Head lamp or tail light Fail to light	Cable	Bad line connection	Adjustment
	Left and right switches	Poor contact or damage of the switch	Adjustment or replacement
	Head lamps	Inspect bulb and lamp seat	Adjustment or replacement
	Voltage regulator	Inspection of voltage regulator; Bad contact or burnt	Inspect or replace
	Magneto	Inspect magneto coil; Bad contact or burnt	Inspect or replace
Horn fails	Battery	Battery is flat	Charging or replacement
	Left switch	Inspect of horn and button	Adjustment or replacement
	Cable	Poor contact of wires	Adjust or repair
	Horn	The horn is damaged	Adjustment or

			replacement
Riding deviation	Adjusting lever	Deformation of the support. Loosening of nut	Adjustment or replacement
	Gripper tube connector	Loosing and displacement	Adjustment

Above-mentioned content involves common fault of the motorcycle. In case of the fault happening to your motorcycle (especially the fault happens to electronic fuel injection system, EVAP evaporative system and detector system), contact your dealer..