



**VOGE**

Far & Beyond Quality

# MOTORCYCLE OPERATION MANUAL 300RALLY



## Preface

Thanks for purchasing VOGELX300GY-GI(DS2)

This user manual introduces the main specification, basic structure, adjustment method and maintenance skill of this motorcycle. This user manual will make you know well about the basic operation, and how to eliminate common malfunctions, so to make the motorcycle play its best performance, decrease malfunctions, and prolong its service life.

Please wear the helmet when driving the motorcycle for ensuring safety, also the passenger.

### Warning/Caution

Read this book and keep firmly in mind the essentials. We use words such as “Warning” or “Caution” for differentiating the importance of issues need be paid attention to, please carefully comprehend their exact definition.

**Warning** — This word indicates the issues involved personal safety of the driver, and neglect of this issue may lead to injury.

**Caution** — This word indicates issues need to be paid attention to, which are relative to motorcycle operation and its maintenance.

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## **Matters need pay attention to**

Matters need pay attention to for smooth driving within long term:

- (1) Use and drive as this user manual says to ensure safe driving.
- (2) No refit at will is allowed for accessories and circuits.
- (3) Do the routine maintenance as this manual book shows.
- (4) Check before every driving to ensure the bolt fastening, tire pressure, oil and coolant are normal.
- (5) Maintain the motorcycle as this user manual says during parking to ensure the use after it.

# 1.Safe Driving

## Regulation of Safe Driving

- 1.Check motorcycle before starting engine to avoid damaged parts and possible accidents.
- 2.Motorcycle driver mustn't drive before passing the examination and getting driver's license of Traffic Management Department, and lending motorcycle to a user without driver's license is not allowed.
- 3.For avoiding injury, give your whole attention on operation when in driving. Please pay attention to:
  - ★ Please do not get too close to other motor vehicle;
  - ★ Please do not compete for road;
- 4.Strictly adhere to local traffic regulations.
  - ★Over-speed driving caused many accidents, so speed exceeding permission scope is not allowed.
  - ★Turn on the turning signal lamp when changing lanes to inform other drivers.
- 5.Pay a special attention to driving when at crossroad, driveway, or the doorway of parking lot.
- 6.Firmly grasp on the grips with both of your hands, and step on footrests when it is in running.
- 7.The storage rack is designed to store light-weight goods. To avoid unexpected movements that cause danger, please firmly fix the goods to the rack.
- 8.It is forbidden to shift gears from neutral to a low level (gear 1) in high speed running.

## Protective devices

- 1.For ensuring your personal safety, please wear protection equipment such as safety helmet, face shield, dust spectacles, and gloves during driving.
- 2.The muffler is very hot in driving, so for avoiding scald, it is strongly recommended to wear boots or other wearing that can cover the driver's leg.
- 3.It is not allowed to wear loose wearing in driving, or it may grasp the operation arm, starting pedal, footrests or wheels and endanger the driver

## ★Motorcycle refit

### Caution:

Motorcycle refit and original devices replacement are illegal, for those measures can't guarantee the safety in driving. Our company will take no responsibility of those unauthorized refit motorcycles.

### ▲Warning:

It is not allowed to add or change the wiring system (or the alarm component) without authorization. When fuse is cut off, it is not allowed to replace it with copper wire or the fuse with different capacity. The motorcycle close to fire is not allowed to avoid be burned. The motorcycle is burned or damaged due to reasons above, our company take no responsibility.

## Checks before driving

Carefully check the motorcycle before driving according to the table below.

Checking items	Contents
Handle bar	Flexible in turning, no clearance and looseness
Brake	Brake lever and brake pedal should have correct clearance, and brake lamp should light on when it is at braking.
Fuel storage	Enough for the traveling plan
Gear box	Check oil level, and supply if needed
Throttle	The throttle handle and the throttle cable should have suitable clearance. The throttle should perform smoothly in acceleration and firmly in choking.
Clutch	Cables with suitable clearance and no stagnation
Tyres	Correct air pressure, no crack on the surface
Transmission chain	Suitable tightness and with proper lubrication oil
Lights and horn	Check the performance of lights and horn
Oil Coolant	Check the oil gauge of engine and confirm the correct oil position Check the overflow pot to confirm its normal level, and fill up when it is necessary

## Essentials of driving

### **Warning:**

1. In case this is your initial driving of this model, it is suggested that you find a road of nonpublic use for practice until you know well about the control and operation of this model.
2. Driving with single hand is dangerous, please firmly hold the motorcycle with both hands, and make sure your feet step on the pedals. In any case, it is not allowed that driving without a single hand.
3. Before turning, please decrease speed to safe level. Please don't shift gear or decelerate in turning.
4. Tires are weak in frictional force when driving on a wet and smooth road, and that may weaken the braking and turning ability of the motorcycle. In this case, please decelerate in advance.
5. Crosswind usually occurs at the exit of tunnel, in valley or when an oversize vehicle is overtaking. You must be careful and stay calm in these cases, and, please decelerate.
6. Follow the traffic regulation and limit your speed.

## 2.Main technological parameter

Name	Parameters	Name	Parameters
Length	2150mm	Braking deceleration	GB20073
Width	875mm	Max grade-ability	17°(≥30%)
Height	1405mm	Bore × Stroke	78×61.2
Wheelbase	1430mm	Compression ratio	11:1
Curb weight	≤158kg	Max net power/Rotational speed	21kw/9000r/min
Loading	190kg (including driver)	Max torque/Rotational speed	25N.m/6500r/min
Max. allowed weight	348kg	Rotational speed under low idling status	(1500±150)r/min
Front axle loading	78.5kg	Engine type	Water-cooling, single cylinder, 4-stroke
Rear axle loading	79.5kg	Working volume of cylinder	292ml
Front tire size	3.00-21 or 80/100-21	Spark plug	B8RC
Rear tire size	5.10-18 or 120/90-18	Spark plug gap	(0.7~0.8)mm
Max. speed	≥125km/h	Valve clearance	Inlet: (0.10~0.19)mm
Min. ground clearance	≥310mm		Exhaust:(0.15~0.24)mm

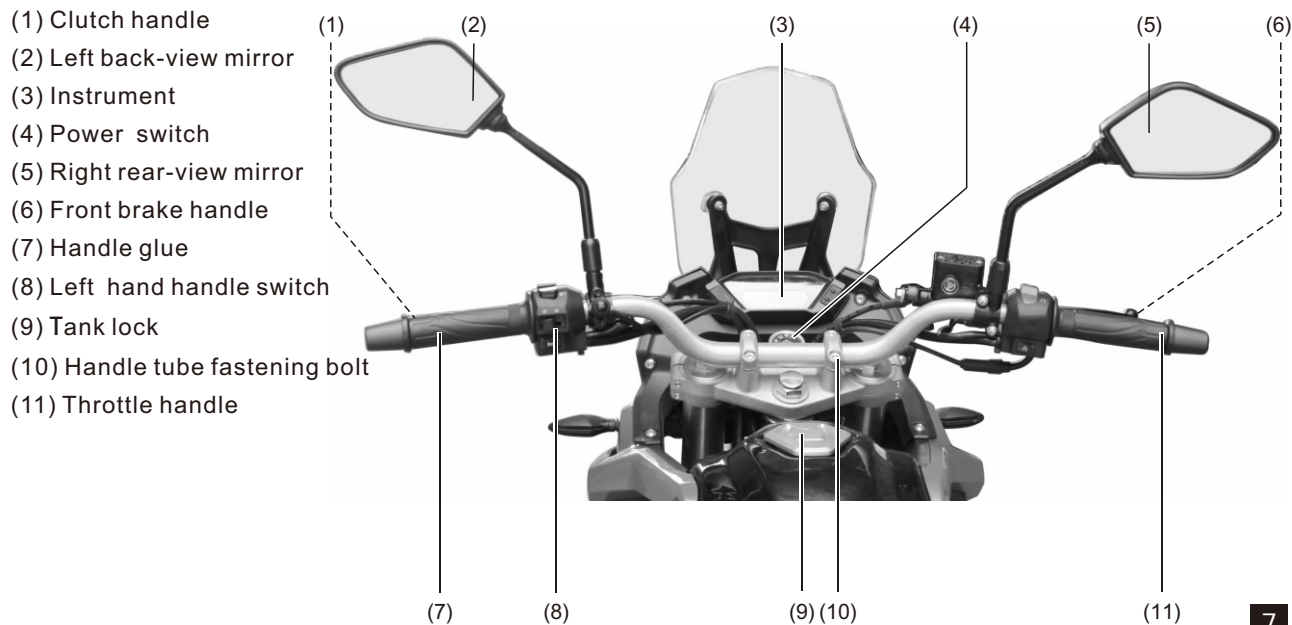


## Main technological parameter(Additional)

Name	Parameters	Name	Parameters
Fuel consumption	≤3.4L/100km according to GB15744-2008	Piece fuse	25A、15A、10A
Lubricant capacity	1.5L	Headlight	12V-35W/35W or 12V-19W/19W
Fuel tank capacity	11L	Brake light	12V-1.2W(LED)
Transmission box ratio		Front turning signal light	12V-1.8W(LED)×2
1 <sup>st</sup> gear	3.000	Front position light	12V-0.84W(LED)×2
2 <sup>nd</sup> gear	2.000	Rear turning signal light	12V-1.8W(LED)×2
3 <sup>rd</sup> gear	1.500	Rear position light(With registration light)	12V-0.5W(LED)
4 <sup>th</sup> gear	1.250	Battery	12V7Ah
5 <sup>th</sup> gear	1.050	Ignition method	ECU control
6 <sup>th</sup> gear	0.905	Meters	Liquid screen
Terminal transmission ratio	3.428		
Primary transmission ratio	2.8		

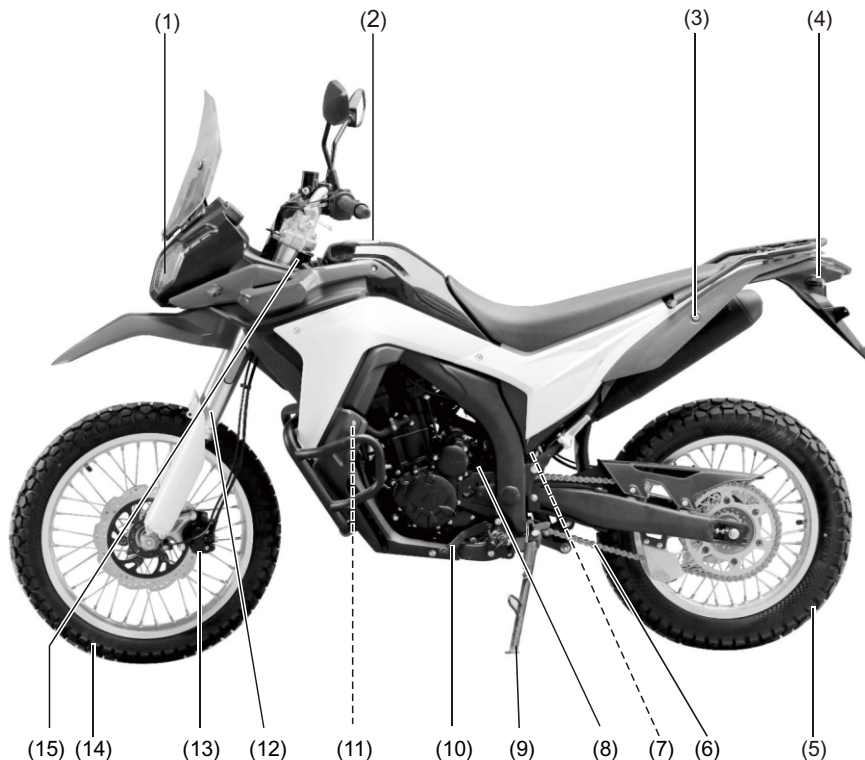
### 3.The motorcycle structure

#### Parts name (The head parts)



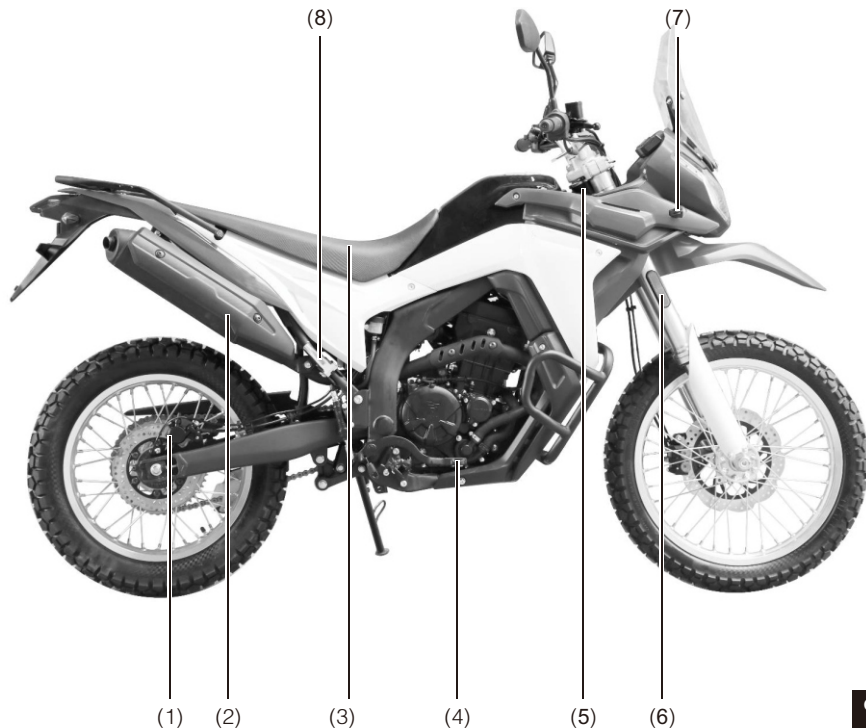
## Parts name (Body parts 1<sup>st</sup>)

- (1) Headlamp
- (2) Fuel tank
- (3) Seat cushion lock
- (4) Rear turn signal lamp
- (5) Rear wheel
- (6) Chain
- (7) Rear shock absorber
- (8) Engine model and factory number
- (9) Side support
- (10) Shift pedal
- (11) Electric horn
- (12) Front shock absorber
- (13) Front disc brake
- (14) Front wheel
- (15) Motorcycle product label location  
(frame nameplate, upper left tube of frame)



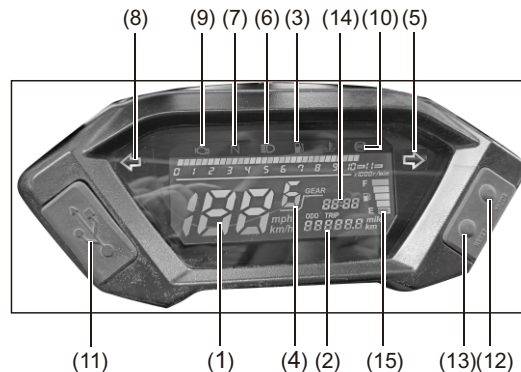
## Parts name (Body parts 2<sup>nd</sup>)

- (1) Rear disc brake
- (2) Silencer
- (3) Seat cushion
- (4) Rear brake pedal
- (5) Vehicle identification number (VIN)  
Engraving position (right side of riser)
- (6) Side light sheet
- (7) Front turn signal lamp
- (8) Auxiliary pedal



## Instrument indicator light

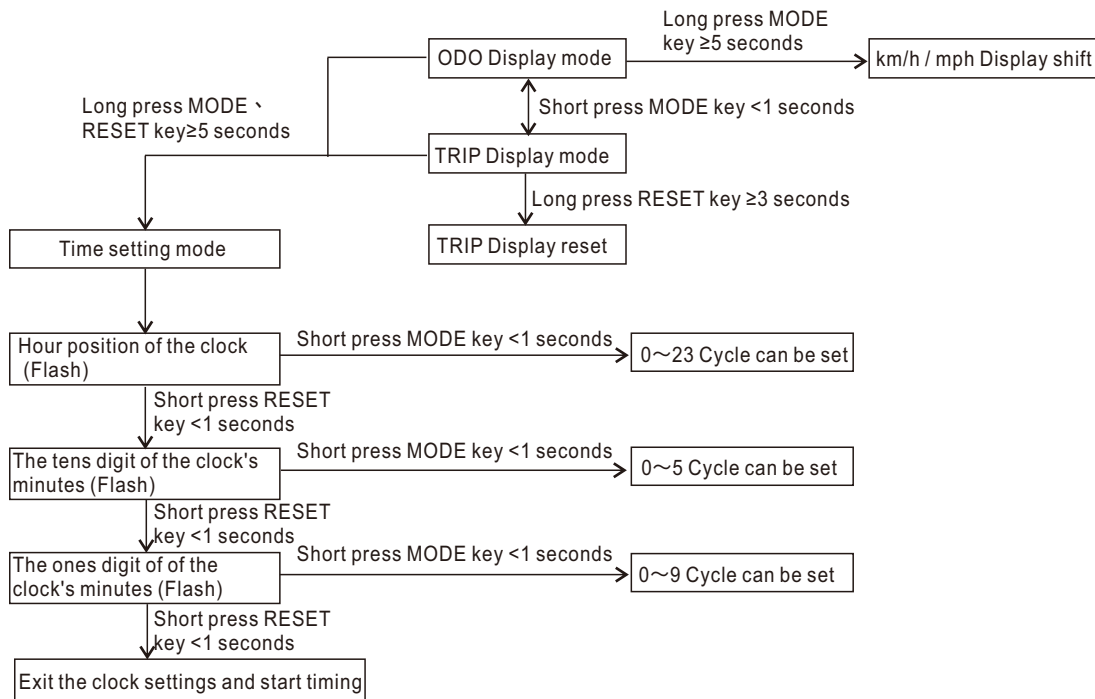
Ref.No.	Part name	Note
(1)	Speed meter	It displays speed by km/h
(2)	Odometer	It displays the motor's vehicle's mileage
(3)	Fuel meter	This light on means fuel supplement is needed; Fuel overloading is not allowed for avoiding leakage during driving
(4)	Gear indicator	It displays the current gear position
(5)	Right turning signal	It flashes when turning right
(6)	High beam indicator	It turns on when high beam is on
(7)	Neutral gear indicator	It is on when at the neutral gear
(8)	Left turning signal	It flashes when turning left
(9)	OBD malfunction indicator	It flashes when occurs OBD malfunction
(10)	ABS malfunction indicator	It is on when the engine is starting, and turns off after the speed is over 5km/h; And if ABS malfunction occurs it will be constantly on
(11)	USB interface	It is power chargeable
(12)	Button MODE	Shift the display of instrument
(13)	Button RESET	Clear the single mileage to 0
(14)	Clock display	time display
(15)	Fuel meter	"F" means fuel is sufficient; Red zone means fuel supplement is needed; Fuel overloading is not allowed for avoiding leakage when at driving;



### ▲ Warning:

It is important to form a habit of turning on signal before lane shifting or turning, and turn off the signal after that.

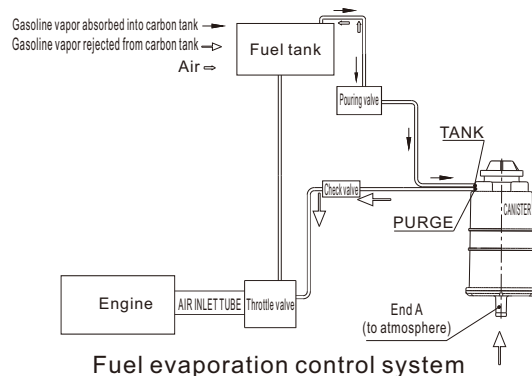
## Operating Instructions for Instrument Buttons:



## Fuel evaporation set

The fuel evaporation control system works as below:

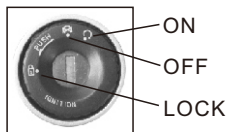
1. When the gasoline in the fuel tank is heated, the gasoline vapor evaporates and gets to the TANK end through the dumping valve of carbon canister, and then absorbed by the port.
2. In case the motorcycle tilts over 60 degrees, the dumping valve will be closed to seal gasoline from the carbon canister.
3. Fresh air comes through the A end of the carbon tank to its PURGE port, carrying the gasoline vapor into throttle body. And then the mixed gas gets into the engine through the gas inlet for combustion.



## 4.Operation

### Power switch

Position	Usage	Note
OFF	For parking (All power off)	Key can be removed
ON	For starting or driving (Main power on)	Key can't be removed
LOCK	For locking steering stem	Key can be removed



### Fuel filling-up

For the fuel tank capacity, please refer to the main parameter. When filling-up, support the cycle by its side stand first, and then open the fuel tank cap. After injected, tightly press the fuel tank cap, remove the key after it returned back.

#### Caution:

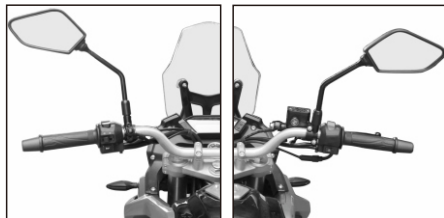
1. Please use lead-free or low-lead gasoline above 90#.
2. The filling fuel mixed with water or other impurities in are not allowed.

#### Warning:

When steering lock is locked, pushing motorcycle is not allowed, or it may lead to imbalance.

## Adjustment for back-view mirror

1. Adjust the mirror surface parallel to the handle bar;
2. Loosen the nut by wrench(14), leave gap between locking nut and screw rod of back-view mirror.
3. Sit on the motorcycle, because this motorcycle has side stand only, so in case there is no assistance from others, make the motorcycle upright rely on the wall, then begin the adjustment, under common situation, one of the back-view mirrors can let you watch the situation behind you, another side makes 3/4 area behind you in sight. (The suitable positions may be different among every driver).
4. After finished, fasten the locking nut of back-view mirror again.

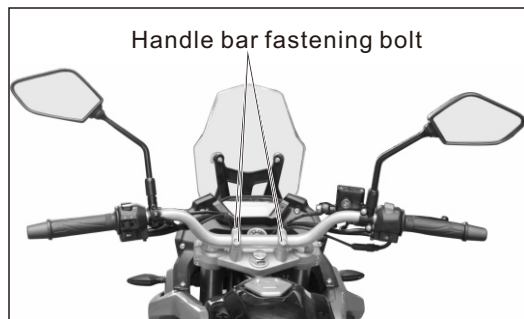


## Adjustment for handle bar

The comfortable angle for every driver may be different.



1. Loosen the 4 pcs of bolts on handle bar by 90~180°, too flexible the bolts are difficult for adjusting, so to the position which the handle bar removeable by hands is enough;
2. Sit on the motorcycle, move forward or backward, then turn left and right the handle bar for a trial to find out the suitable angle for driving, then screw up the loosened bolts.

**Caution:** When screwing up the bolts, the two in front first, then the rear two.



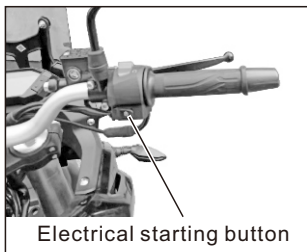


## Engine starting

1. Put the ignition key on the position of “”.
2. Put the emergency choke switch on the position of “”.
3. Confirm the neutral gear indicator is on.
4. Confirm fuel amount.

### Engine's cold starting

1. Press the electrical starting button.
2. Slightly turn the fuel grip to speed up engine for pre-heating when engine started.



### Caution:

Do not start before neutral gear confirmed, or it may lead to accident. Idle running is unnecessary and bad for engine (especially in high speed).

### ▲ Warning:

It is forbidden to start the engine in a room with poor ventilation due to the exhausted CO gas is poisonous! And do not leave alone a cycle with its engine in running!

### ★Engine turning off

1. Release the greaser grip, and slow down the engine.
2. Put on neutral position.
3. Put the ignition switch at the position OFF.


## Engine's running-in

The first 1000km is the running-in period for motorcycles. In running-in period, please pay attention to issues below:



1. In the first 500km please don't drive faster than 40km/h, and in the second 500km it is recommended to keep the max speed lower than 55km/h.
2. Don't carry any heavy load or climb a steep slope. Carry out acceleration in slow way, and do not drive continuously more than 50 km.
3. Pre-heating for 3~5 minutes before start is necessary for sufficient lubrication of the working parts.

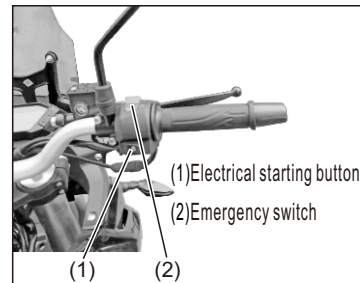
## Right switch assembly

### 1. Electrical starting button

The electrical starting button is under emergency switch. When the emergency switch is put to “” and the engine is under neutral gear, press this button to start.

### 2. Emergency switch

When engine is running, the emergency switch is put to “”. Under emergency situation, put the switch to “” to directly cut down the power and the engine goes off.



## Warning:

Under continuous starting of engine, each starting should not last for more than 5 seconds, because large scale of discharges may make the wire system and starting motor abnormally hot. In case failed starting for several times, please check the fuel supplying and the starting circuit.

## Left switch assembly

### 1. Dimmer switch

 Headlight is working at High beam;

 Headlight is working at Low beam;

### 2. Turning signal light switch

← Left turning signal is on;

→ Right turning signal is on;

### 3. Horn switch

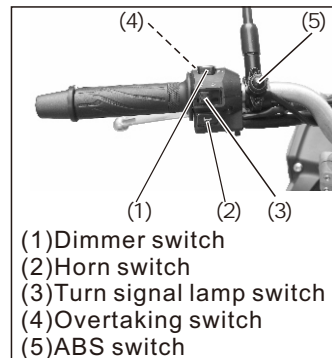
Press this button to ring the horn;

### 4. Overtaking switch

Turn it on while overtaking.

## Caution:

Take care when you are overtaking.



## 5. The ABS switch

(1) Turn off the ABS system: When the motorcycle is parking, press the ABS switch for 3-5 seconds and then release, then the ABS system goes off, meanwhile, the warning alarm of ABS flashes in frequency of 1.2 seconds/each.

(2) Turn on the ABS system: When the motorcycle is parking, press the ABS switch for 3-5 seconds and then release, then the ABS system goes on. At this moment, the ABS warning alarm is permanently on. In case there is no malfunction when driving started, the ABS warning alarm goes off.

(3) Other situations: Press the ABS switch less than 3 seconds or more than 5, the operation goes failed; In case long press over 30 seconds, the ABS switch is regarded as malfunction, which falls short of turning off any more, turn on by key again, the ABS function is going on.

### **Warning:**

It is important to form a habit of turning on signal before lane shifting or turning, and turn off the signal after that.

The ABS is a device for safety, take cautiously when shifting mode or turning off.

## Gear shifting

Pre-heat the engine for normal working.

(1)When the engine is in idling running, please detach the clutch (tightly grasp the clutch lever), and step on the gear-shift pedal to make the speed transmission enter the low speed (the 1st) gear;

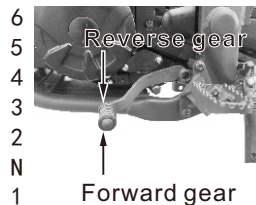
(2)Gradually accelerate the engine and slowly release the clutch lever coordinately for ensuring natural starting.

(3)When got balance driving, decelerate the engine and detach the clutch, draw up the gearshift pedal to enter the 2nd gear,

and this method could be applied for other gear's shifting. The gear returning could follow the sequence above, the only difference is stepping the pedal down.

(4)The different gear positions have influence not only on speed but also fuel consumption, the higher gear uses less fuel, which is important to select gears under different road conditions.

Figure for International 6 gears



## 5.Matters need to pay attention during driving

- 1)Please avoid idling running especially in high speed, or the engine may be seriously damaged.
- 2)Clutch working in semi-separation status may wear-out the friction plates.
- 3)Please shift to low speed gear if the motorcycle performs insufficient power during climbing, pay attention to safety when climbing, in case bad road was met, choose other roads, the forced climbing is not allowed.
- 4)Using front brake only or coasting in neutral is not allowed when running during declining or in high speed.
- 5)Watch the back-view mirrors, take care other vehicles in front or behind, slowly take your motorcycle to opening place right side, then throttle down and meanwhile detach the clutch before braking.

### Warning:

Climbing with passenger or heavy loading is not allowed

- 1.High speed corresponds to long braking distance. Please correctly estimate the distance for braking.
- 2.Singly use the rear brake makes the faster wearing of brake system and the longer of braking distance.
- 3.Singly operate the front or rear brake is dangerous, which leads to motorcycle skidding or out of control. On wet, smooth road or at turning place, please carefully and slightly use the brake system. Sudden braking on smooth or rough road may make the motorcycle out of control.

## Safe driving

### 1. Before driving

- (1). After took medicine or with inattention, the driving is not allowed.
- (2). Check the motorcycle carefully without driving the one with malfunctions.
- (3). Before driving, wear the helmet, in tight cloths with light color and other protective device for body.
- (4). Don't drive when you are feeling bad.
- (5). Drunk driving or without license are not allowed.

### 2. During driving

- (1). Keep smooth mood, fine mentality, and pay your whole attention to when you are driving.
- (2). Keep even speed if possible and drive on the right.
- (3). Please pay a special attention to driving when at the crossroads, get through after confirmed safe.
- (4). Turn on the turning signal light before overtaking or shifting lane, moving on after confirmed safe and pay attention to distance among vehicles and pedestrians.
- (5). Drive slowly at night due to short visual range, open the headlight to attract attention from vehicles and pedestrians.
- (6). Frequent sudden braking or lane shifting during driving is not allowed.
- (7). Sudden braking or acceleration shall be avoided for avoiding accident.
- (8). Decelerate before turning to avoid side skidding (The front brake under this situation is forbidden to avoid bringing motorcycle out of control).
- (9). The wet road or rainy days the braking distance goes longer due to weak resistance, drive slowly and brake softly to avoid locking-up or accident.
- (10). In case feel abnormally during driving, stop the motorcycle and check.

### 3. In packing

- (1). Turn off the power supply and lock up the motorcycle.
- (2). Stably park by side stand.
- (3). Lift the rear wheel by holding rack to reduce tire loading and increase its working life.
- (4). Check the fuel, oil, and water leakage for engine.
- (5). Keep far away from fire, smoking near to motorcycle is not allowed.

## 6. Checking, adjusting and maintenance

### Oil checking

★ It is necessary to check oil before driving. Keep the motorcycle upright on a flat ground and pick up side stand, check through the oil-view window, the level of oil should be between the upper and lower scale line at this moment.

In case the engine is running, turn it off and wait for minutes to let the oil reach the bottom of crankcase. Put the engine vertical to the ground and check through oil-view window 3, whose level should be between the upper and lower scale line.

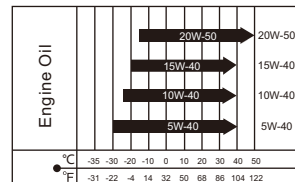
In case the level is higher than scale line 1, outlet the extra oil.

In case the level is lower than scale line 2, the filling-up is necessary.

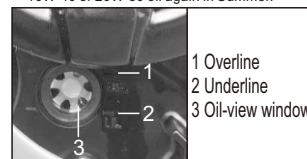
### Oil replacement

The complete synthetic oil for motorcycle only above APISNMA2 must be adopted.

Pre-heat the engine and then turn off when oil replacing is needed, the replacement shall be done when the engine is warm without completely cooled down, screw off the oil drainage plug at the bottom of engine to swiftly and totally drain off the oil in crankcase.



If you need to use them in winter, please exchange 5W-40 or 0W-40 low temperature resistant oil and you need to exchange 10W-40 or 20W-50 oil again in Summer.

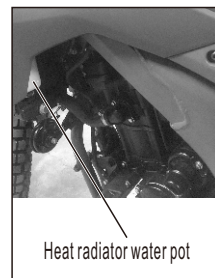
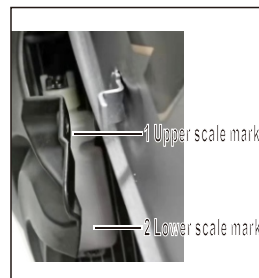


## Coolant checking

It is necessary to check coolant before driving. Keep the motorcycle upright on a flat ground and pick up side stand, check through the water pot on heat radiator, the level of coolant should be between the upper and lower scale line at this moment.

In case the level is higher than scale line 1, outlet the extra coolant.

In case the level is lower than scale line 2, the filling-up is necessary.



## Coolant replacement

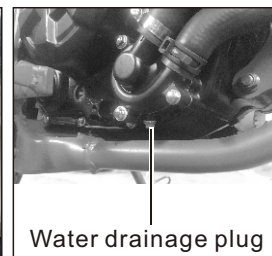
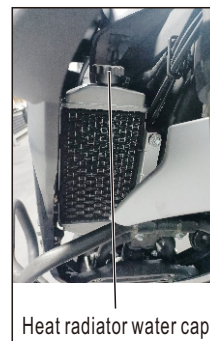
The coolant with specification of G40 for engine must be adopted.

Coolant is important for engine, so, periodic checking is necessary.

When replacing, remove the cap of heat radiator first, then the water drainage plug at the bottom of engine to make sure swiftly and totally drain off the coolant in engine.

### Caution:

The checking could not be done when the coolant is hot, whose cap could not be removed also.



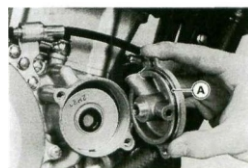


Replace the secondary oil filter: Replace the secondary oil filter when replacing oil. Remove the cap of the secondary filter, then take out the filter A. Assemble the new oil filter and then the cap.

Wash the filtering screen of oil filter, after that, assemble, the fill-up the new oil by 1.4L and start engine to idly run for 2~3 minutes.

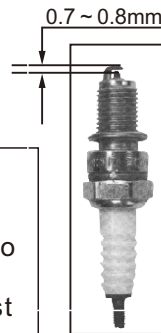
Stop the engine for 1~2 minutes then check and confirm the oil level is between the upper and lower scale marks, in addition, at this moment the motorcycle must be upright.

The oil falls short of meeting the requirement or unqualified is not allowed to avoid malfunction.



### Spark plug checking

1. Open the cap of spark plug and screw off spark plug by the spanner.
2. Wash surroundings of the spark plug. If it is corroded or with too much sediment, please replace a new one.
3. Adjust the clearance of spark plug to 0.7~0.8mm.
4. Please adopt specified spark plug with specification of B8RC.



### Caution:

1. Do not screw up the spark plug too tight or in wrong threaded connection, otherwise it may damage the threads on cylinder cover. Do not let impurity get into the engine through the spark plug hole when disassembling it.
2. The spark plug for this model of motorcycle is carefully selected, which fits most of the working circumstance. Please discuss with Loncin's distributor first if you hope to adopt another type of spark plug with different thermal resistance, because unsuitable spark plug may seriously damage the engine.

## Checking and replacement of air filter

Draw out the element of air filter to check if it is dirty.

(Disassemble) Remove the right side cover of air filter, draw out the screw, then remove the element.

(Replace) The air filter element must be replaced if it is found dust or greasy dirt.

Steps:

1. Remove the seat and right side cover.
2. Remove the right side cover of air filter.
3. Remove the element and replace for the one with same specification.
4. Do oppositely to assemble on the motorcycle.

Caution:

Please properly assemble the element of the air filter, otherwise dust or dirt may get into the engine to shorten its service life. Please don't let water get in the air filter when washing.

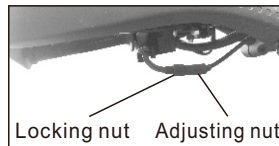


### Caution:

1. Driving in a dusty circumstance, it is necessary to replace the filter element frequently, and merely relying on the periodic maintenance is not enough.
2. Check if there are any cracks on the filter element, and in case that any cracks are found, replace it immediately.
3. The waste gas nozzle is for storing the water and oil from air filter failed return to engine, so the periodic drainage and exhausting is necessary.

## Throttle cable adjustment

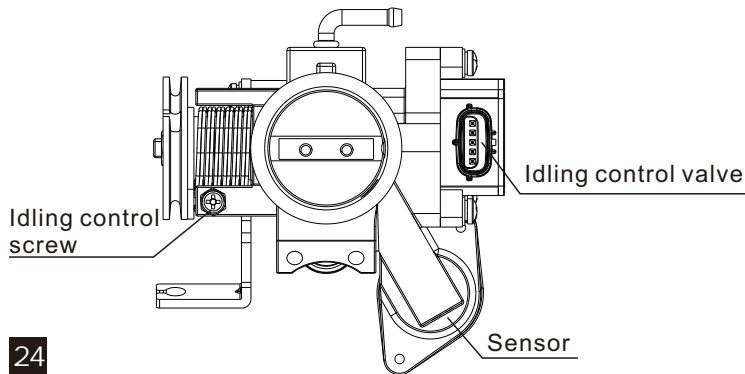
1. Confirm if the throttle cable's adjustment nut works normally.
2. Check if the free travel of throttle turning grip is within the normal range.
3. The specified free travel is 2~6mm, please adjust it through the adjustment nut if not matched.



### ▲Warning:

Check the turning performance of the throttle turning grip after the adjustment of the throttle cable. And make sure the engine's idling speed is not higher than before due to the adjustment. The grip should return to 'off' automatically.

## Throttle valve body



1. The throttle valve;
2. The EFI system implements the auto-adjustment function on idling speed control, that locks the idling position. So it is not allowed to do any manual adjustment on the idling screw.

## Checking and adjustment of throttle valve clearance

Wide valve clearance may produce noise. Narrow valve clearance or no valve clearance may obstruct the valve's choke so lead to valve ablation and low power efficiency, in this case, periodic checking for valve clearance is necessary. The engine which meets the State-IV standard has a precisely polished throttle valve, and that ensures a suitable valve clearance.

Checking and adjustment of valve clearance should be under the status of cold engine. Please follow the measures below:

- 1.Remove the seat, left & right side cover, then the fuel tank.
  - 2.Remove the center hole cap and top cap (Ignition observation hole) on the left engine case cover;
  - 3.Remove the valve cap or cylinder cover on the cylinder head (Only when the fuel tank is removed) .
  - 4.Insert T typed spanner into the center hole and seize-up it on the nut of fly-wheel, turn the fly-wheel clockwise, until the "T" on the fly wheel aligns with scale line on the top of the case. Slightly shake the swing arm, if it is flexible (with clearance), that indicates the piston is at the upper stopping point of the compression stroke; or if the swing arm is tight, that means the piston is at the lower stopping point of the exhaust stroke, in this case, continue to turn T spanner for 360 degrees clockwise until it aligns with the scale line. And then the valve is adjustable. Insert the feeler gauge between the valve end and its adjustment nut to check the clearance of valve.
- As for the standard valve clearance: Inlet: (0.10~0.190mm Exhaust: (0.15~0.24)mm
- 5.In case adjustment is needed, loosen the valve fastening nut, adjust the screw until the feeler gauge meets slight resistance when it is inserted in.
  - 6.Waste gas from the crankcase enter the air filter through the waste gas circulation without directly entering the atmosphere.
  - 7.Motorcycle with negative pressure tube, whose oil returning cuts off air supplying to prevent the reverse flow of air.

After adjustment, screw up the fastening nut to avoid looseness. Check again the valve clearance, and install the valve cap (or cylinder cover) and the 2 holes' cap on the left engine case.

Cylinder cover

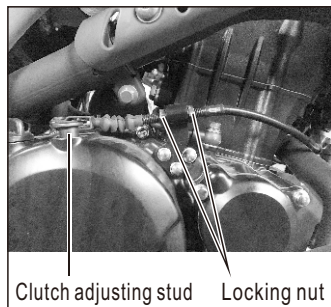


## Clutch lever adjustment

★ Clutch lever adjustment should take place after the engine has stopped. The free travel of the clutch lever's end is within 10~20mm. In case adjustment is needed, loosen the locking nut on the clutch operation cable, and adjust the free travel to the stipulated range.

If the adjustment scope needs to be extended, adjust the clutch adjustment stud on the right engine case cover.

★ After the engine started, confirm the normal work of clutch, in case the clutch goes skidding or difficult in gear changing, adjust again is needed.



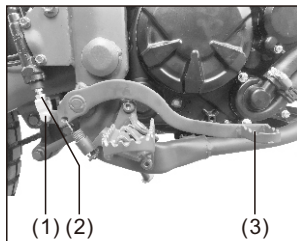
## Brake pedal adjustment

★ Well uphold the motorcycle by side stand when checking the disc brake.

1. The free travel of the rear brake pedal should be within 15~25mm.

2. Please fasten the adjusting nut after adjusted.

Caution: After adjustment, it is expected that the brake light will on while testing brake.



- (1) Pedal limit pin shaft
- (2) Adjusting nut
- (3) Rear brake pedal

## Parking stand

This model is equipped side stand only.



- (1) Side stand
- (2) Side bracket  
flameout switch
- (3) Rear rack (Rear armrest)

## Front & rear disc brake maintenance

### 1.Brake oil (brake liquid)

Observe if the oil level is lower than scale line “LOWER” (2) through the oil level view window (1). If lower, please add some brake oil in. It is best to add the brake oil until its surface higher than the LOWER mark by 3~5mm. When oil level falls down and close to the scale line (2), please check the wear situation of the brake lining (friction pad). And if the wear situation is within acceptable limit, check the leakage of brake system, and then please consult local service stations of our company.

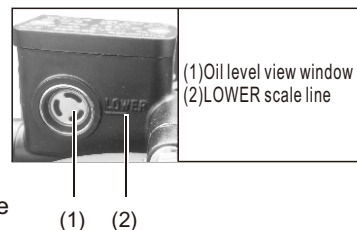
### 2.Brake oil replacement

Drain off the oil brake oil first as the measures below:

- ① Horizontally lay the master cylinder (no need to remove from the handle bar), and then open the oil pool cap and its gasket;
- ② Remove the brake caliper and put the deflating valve to the lowest position;
- ③ Screw off deflating valve and make fluid freely flow out;
- ④ When the brake liquid is unable to flow out any more, add new brake liquid by 30~50ml, and let it drain off;
- ⑤ Screw up the deflating valve, wipe up the liquid on caliper, and then install the caliper on the motorcycle.

And then add again the new specialized brake liquid into the oil cylinder as the measures below:

- ① Put a transparent tube onto the deflating valve (tightly matched), screw off the valve by 90 degree;
  - ② Add new brake liquid into master cylinder and outlet liquid from the deflating valve (without turning the lever) until no bubbles come out with the flowing out liquid, and then screw up the valve;
  - ③ Turn the lever, and repeat the step ② until the lever performs sound hand-feel in turning.
- Finally, properly install the oil pool cap and its gasket, and screw up its screw.



### Caution:

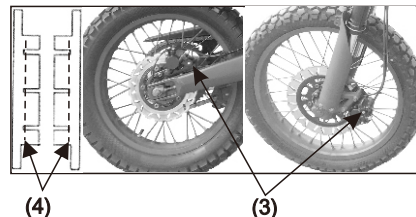
1. Please use DOT4 specialized brake oil for replacement. 2. Don't mix up different types of brake oil. 3. Don't use the contaminated brake oil.

### **Warning:**

Accidental drinking of brake liquid or splashing it in eyes or on skin is harmful. It is strongly recommended to seek doctor for help. If you have drunk it, please spit it out immediately. And in the case of splashing into eyes or onto skin, please wash it with pure water.

### 3. Brake lining (Friction pad)

Wear situation could be observed by eyes directly during the stipulated maintenance period. When checking, follow the direction of double arrow (3). In the case that the wear situation of any lining reaches scale line (4), replace the pads of both sides. Leakage of brake liquid is not allowed, check if there is any crack or distortion on the connective parts and the brake liquid tube.



### **Caution:**

1. Only our company original packed products from service stations are allowed when replacement is needed. As for any repair or maintenance of the brake system, please contact our local service station.
2. Don't drive immediately right after the brake lining replacement. First, grasp and loosen the brake level and step the rear brake pedal for several times, to make complete plying-up of braking pads and recover the holding force to normal, and to build a stable circulation of the brake liquid.
3. Make grinding-in after new brake pads replaced, accelerate to 50km/h, then slightly brake till the speed slow down to 5-10km/h. The accelerate to initial speed again and keep, then slightly brake again. During the repeated slight braking, the brake device shall not be hot while braking temperature should not be higher than 100℃.

### 4. Deflating for the brake system

- (1) Master cylinder deflating: It needs to turn the front wheel to left in the case of the master cylinder installed on right side (on left turn oppositely), open the oil cup cap and the oil pool gasket, repeatedly operate the front brake lever and observe until no more bubble appears. If the hand-feel is still powerless, try deflating by brake caliper.
- (2) Caliper deflating: Put a transparent tube onto the deflating valve (tightly matches the valve), tightly hold the front brake lever, and screw off the valve by 90 degrees. Flow the liquid out for 1~2 seconds. Screw up the deflating valve, and release the front brake lever, repeat steps above until good hand-feel set.

Caution: Add some brake liquid into master cylinder while doing caliper deflating to keep the liquid level height. The tiny hole of the master cylinder of 0.5 size (supplement hole) is not allowed to be exposed in the air.

**▲Warning:**

Disc brake system is with high pressure braking. To ensure safety, timely replacement of oil tube and brake oil is necessary.

## Driving chain adjustment

Check the chain's wear, tightness and lubrication situation.

- 1.Uphold the motorcycle, and pull the chain up and down to check whether its flexibility is within 30~40mm;
- 2.When adjustment is needed, screw off rear axle nut and locking nut on chain adjuster, make the chain's tightness meet the requirement of stipulation.
- 3.Add some lubrication oil on the chain.

After adjustment, the left and right marks on the chain adjuster should be at the same position with scale mark on the rear fork.

**▲Warning:**

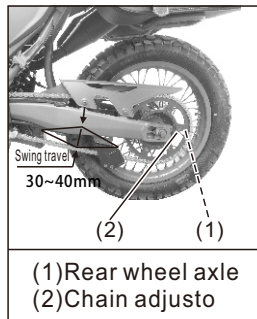
Excessive flexibility of chain may lead to chain's detachment and accident and also damage the engine. Immediate replacement is necessary in case that chain is corroded by electrolyte or other corrosive liquid.

## Brake switch adjustment

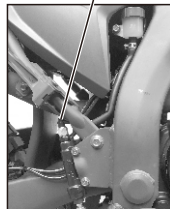
- ★ After the rear wheel braked, check the braking light. If it is off, adjust the nut.
- ★ Turn on the brake light switch. If the bulb is off, check braking light, circuit, and switch, replace it if needed.

**Caution:**

Before adjusting the brake light switch, check if the free travel of the brake is within the defined limits.



Brake switch





## Battery checking

1. Open the seat and remove the left side cover.
2. Clean up dust and corrosive impurity on the surface of battery.
3. Check the joint of conductive wire, please replace it if corroded.

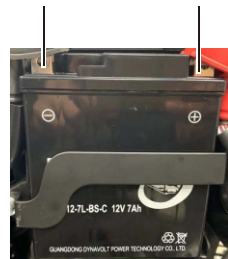
### Caution

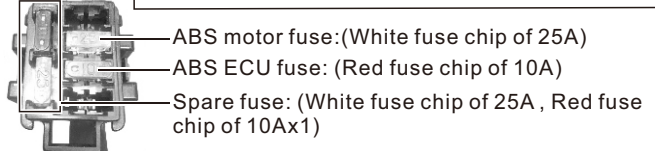
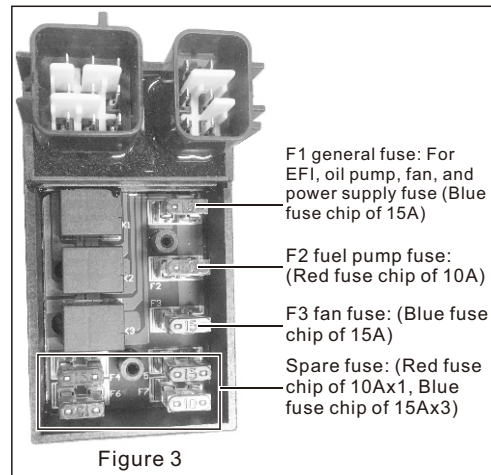
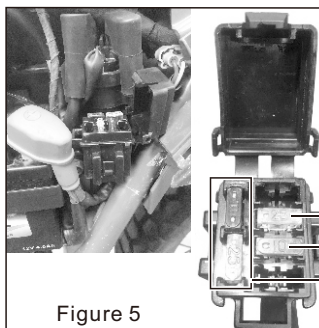
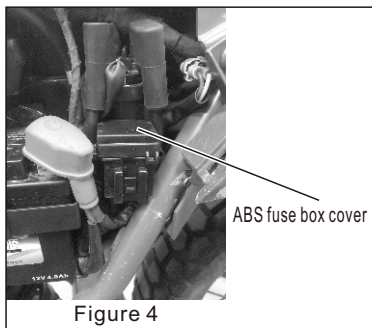
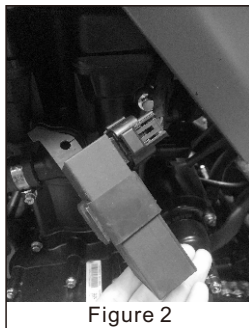
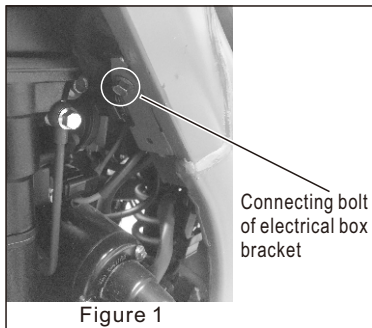
- (1) When disassembling or re-assembling the battery, turn off the ignition switch first, then the seat and left side cover, remove the (-) pole first, and then the (+) pole; When installing, install the (+) pole first, and then the (-) pole; And during the installing, keep the (+) pole off the other motorcycle parts. The opposite connection is not allowed.
- (2) The battery need to be charged separately when its power exhausted.
- (3) It is not allowed that any impurity gets into the battery when in installation or disassembling.

## The fuse tube/piece replacement

- (1) Replacement for electrical box: Put the ignition switch to the position “OFF”, loosen the connective bolt (Figure 1) between frame and electrical box bracket, then remove the electrical box with its bracket (Figure 2), then loosen the self-tapping screw by cross-head screwdriver, open the electrical box cover and replace the fuse chip, with specified specification of: 25A, 15A, 10A.
- (2) Replacement for ABS fuse: Open the seat, remove the left side cover, then open the fuse box cover of ABS ( Figure 4), take out the fuse chip and replace (Figure 5).
- (3) Immediate burnout after replacement indicates faults existing in other electrical equipment.

Negative terminal    Positive terminal





### ⚠ Warning:

Don't wash the battery with water! It is not allowed to adopt fuse with different specification, otherwise it may make the engine lose power, or seriously damage the electrical system even burn the motorcycle down. Extremely dangerous!

## Bulb replacement

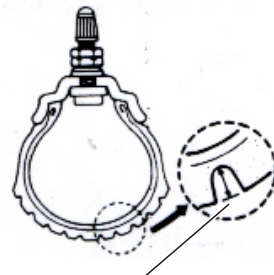
Power rating of each bulb shows as the table blow. The power rating of replacement bulb must be the same with the replaced one. If the new bulb with different power rating is adopted, that may lead overloading of the electrical system and damage the new bulb.

Headlight	12V	35W
Front position light	12V	5W

## Muffler

The muffler contains catalytic device. It is not allowed that any foreign matter such as lubricating oil, gasoline, acid, alkali or salt get into the muffler, because they may make the catalytic become invalid.

**Caution:** The muffler is with high temperature during running, at this moment, touch the surface of muffler is not allowed to avoid scald.



Scale mark for tire wear-out

## Tires

It is necessary to check the air pressure and the depth of the tyre tread in periodic maintenance. For ensuring safety and the longest service life, usual checking is highly needed besides the periodic maintenance.

## Air pressure of tyres

Insufficient pressure in tyre may not only accelerate its abrasion but also seriously affect stable driving and make it hard in turning. But high air pressure decreases tyre's grounding area which leads to skidding and makes motorcycle out of control. So it is necessary to keep the tyre pressure within the defined limits. Front tyre pressure: 225kPa; Rear tyre pressure: 225kPa. In case the serious abrasion is met, please contact our service station.

## Specification table of fastening parts' torque

Ref No.	Position	Torque(N*m)	Ref No.	Position	Torque(N*m)
1	Hanging and fastening of the engine	M8×1.25: (18±2.7) M10×1.25: (45±4.5)	6	Connecting and fastening of the handle bar and steering stem	M8×1.25: (18±2.7)
2	Front shock absorber fastening	M8×1.25: (18±2.7) M14×1.5: (75±7.5)	7	Upper fastening of the rear shock absorber	M12×1.25: (60±6)
3	Front disc brake plate fastening	M8×1.25: (28±3.5)	8	Lower fastening of the rear shock absorber	M12×1.25: (60±6)
4	Rear wheel axle fastening	M16× 1.5: ( 75±7.5 )	9	Rear braking disc fastening	M8×1.25: (35±3.5)
5	Steering stem fastening	M22×1: (50±5) M25× 1: (60±6)	10	Rear fork fastening	M14×1.25: (75±7.5)

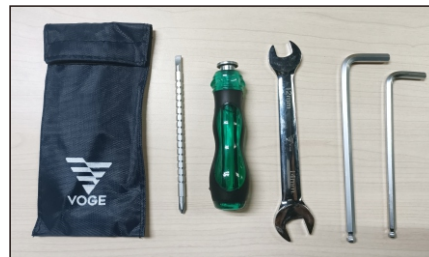
**Caution:** The fastening bolts or nuts are specially marked when made out, in case these marks show miss-threaded or flexible, please fasten timely.

## Periodic maintenance plan

The maintenance shall be done according to the Maintenance Table below (As below shows)

Note:

1. Driving in dusty region, usual washing is needed.
2. When the mileage data surpass the highest limit, repeat maintenance according to the table below.



Periodic maintenance table									
	Items	Interval	km×1000						
			1	7	13	19	25	31	37
Power transmission system	Lubricant		R	R	R	R	R	R	R
	Lubrication element		R	R	R	R	R	R	R
	Check lubricant level		I	I	I	I	I	I	I
	Check seal performance for fuel tube		I	I	I	I	I	I	I
	Check the fuel pump element		\	\	I	\	I	\	I
	Fuel filter		\	R	R	R	R	R	R
	Throttle valve body/Carburetor		\	\	\	C	\	\	C
	Check coolant level		I	I	I	I	I	I	I
	Coolant	2 years	\	\	\	\	\	\	R
	Check seal performance of air inlet system		I	I	I	I	I	I	I
	Valve clearance		\	\	\	I	\	\	I
	Spark plug clearance		\	I	I	R	I	I	R
	Air filter element		I	C	R	C	R	C	R
	Throttle operation system		A	A	A	A	A	A	R
	Clutch operation system		A	A	A	A	A	R	A
Lubrication system	Torque value of lock nut of countershaft driving wheel	every time	I	I	I	I	I	I	I
	Check lubrication and tightness for steering bearing		I	\	L	I	L	I	L
	Check lubrication for Fr. & Rr. Wheel and sprocket base bearing		\	L	L	L	L	L	L
	Check lubrication for tuning shaft of main and pillow steps		\	L	L	L	L	L	L
	Check lubrication for side stand shaft		\	L	L	L	L	L	L
	Check lubricant for brake and clutch lever shaft		\	L	L	L	L	L	L
	Check lubrication for bearing on rocker rack of rear shock absorber		\	L	L	L	L	L	L
	Check lubrication for bearing of rear fork shaft		\	L	L	L	L	L	L
Others	Check lubrication for driving chain		A	A	A	R	A	A	R
	Battery voltage		\	I	I	I	I	I	I
	Seal performance for brake oil tube		I	I	I	I	I	I	I
	Brake liquid	2 years	I	I	I	I	I	I	I
	Brake liquid level		I	I	I	I	I	I	I
	Fr. & Rr. Brake pads		I	I	I	R	I	I	R
	Fr. & Rr. Brake switch		I	I	I	I	I	I	I
	Check fuel evaporation system		I	I	I	I	I	I	I
	Check tightness of fastening parts on body		I	I	I	I	I	I	I
	Check leakage for Fr. & Rr. shock absorbers		I	I	I	I	I	I	I
	Aluminium alloy wheel/Spoke wheel		I	I	I	I	I	I	I

Meaning of symbols: I: Inspection, adjust if necessary C: Clean R: Replacement A: Adjustment L: Lubrication

## 7.Motorcycle washing

Periodic washing can prevent color fading, and also is convenient for checking vehicle damage or oil leakage.

Caution: Water flow with strong pressure may damage some parts. So do not spray the high pressure water directly on the parts below:

- Wheel hub;
- Exhausting pipe;
- Fuel tank and lower part of seat;
- Head lock and ignition switch;
- Odometer;

(1) Motorcycle should be washed with pure water after scrubbing to clean up remaining dirt and prevent from rust. Plastic parts should be wiped up by cloth or sponge with neutral cleaning fluid and then wash by pure water.

(2) Dry the motorcycle in the air, and lubricate the chain, and then turn it run for even spread

(3) Check brake system before driving to prevent braking performance fall.

**Caution:** Wash the motorcycle when engine in hot is not allowed, do the work when it cooled down.

## 8.Maintenance for long-term storage

### Maintenance and storage

In the case of long-term storage, pay attention to damp-proof, sun-block, and rain-proof to avoid damage. Make special inspection on important parts before storage.

1. Replace lubrication oil.
2. Lubricate the chain.
3. Drain off the fuel in fuel injector's pipe and fuel tank, and then fill up anti-rust liquid in fuel tank and cover up the fuel cap.
4. For motorcycles parking more than 2 months, it is necessary to drain off the fuel from the fuel injector's pipe. For keeping the motorcycle normally work, start the motorcycle per month, make idling for 10 minutes (With the rotation speed within 2000r/min) and run out the residual fuel in its tank.

#### Caution:

Fuel is combustible, so turn off engine before adding or draining off the fuel. Smoking is not allowed in the place adding or storing fuel.

5. Remove the spark plug and add 15~20mL of pure lubrication oil into the cylinder, and then install the spark plug.
6. Remove battery and put it in a cool and ventilated place, charge per month as suggestion.
7. Scrub motorcycle and spray dye-fixing agent on those colored parts, and spread anti-rust oil on the parts may rust.
8. Cover the motorcycle.

## **Recovery of using**

- 1.Remove the covering cloth, and wipe up the motorcycle.
- 2.Charge the battery and then install it on the motorcycle.
- 3.Drain off the anti-rust liquid in fuel tank and then fully add fuel in it.
- 4.Checking before driving is necessary, and it is recommended to do some low-speed test driving at some safe place.

### **Caution:**

- 1.After long term parking, heat the tire before driving without high speed.
- 2.Heavy collision shall be avoided during driving.
- 3.The air pressure in tires are both around 225ka, too high or low are both bad.

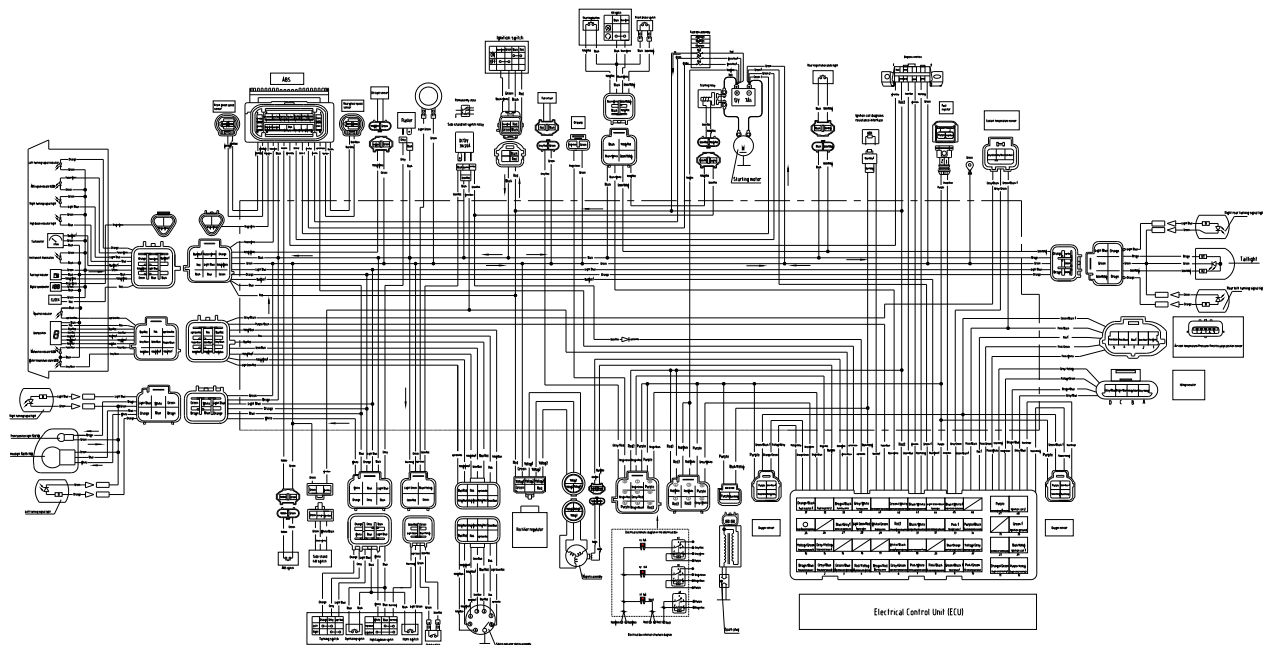
## **9.Electrical starting**

This model is for electrical starting only with battery specification of “12V7Ah”. Clutch lever switch for starting is installed on the left switch assembly, and the engine could be started only when clutch is separated. Electrical starting button is equipped on the right switch assembly for starting the engine. When starting, put the key of master switch on position “ON”, tightly hold the clutch grip, and then press down the electrical starting button. In case that starting failed in 5 seconds, release the switch, and re-start it after a few seconds.

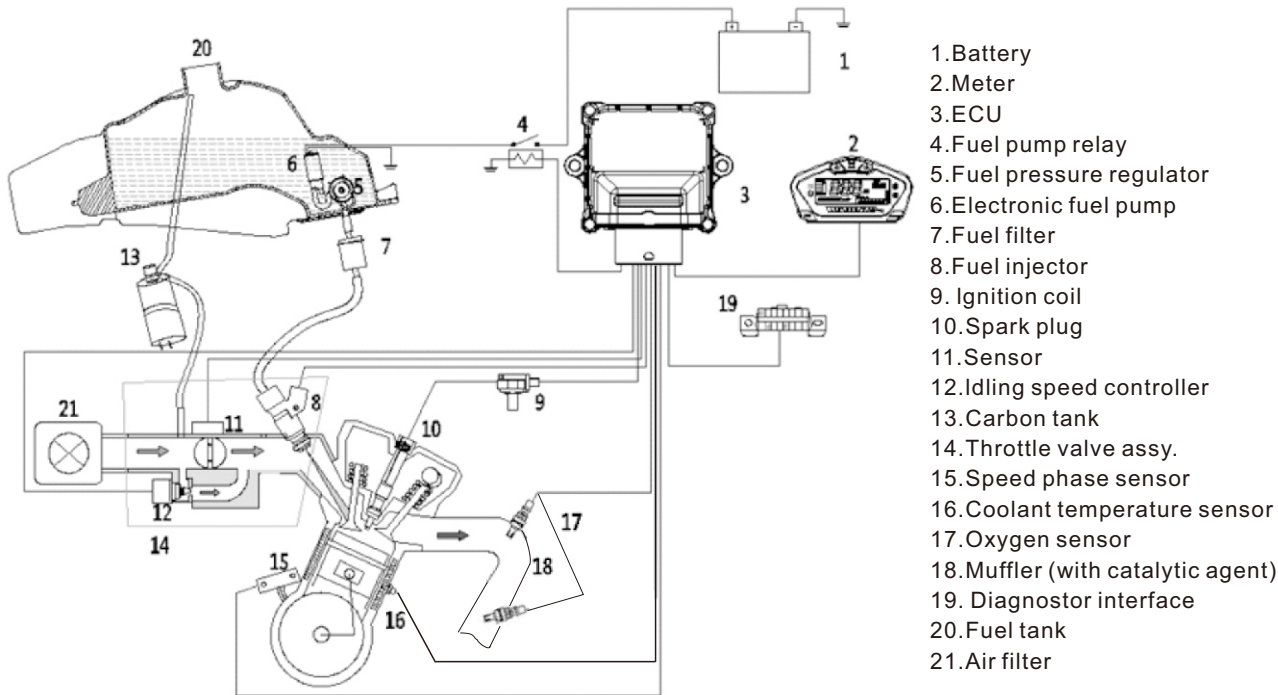
For your convenience of using and maintenance, please read the schematic diagram for electrical starting in the next page:



## 10. Electrical schematic diagram



## 11.EFI System schematic Diagram



## **12.Operation and maintenance of the EFI System**

\* For the first drive of a new motorcycle, add the fuel more than 5L, it is recommended to continuously turn the key on and off with a 5-second interval for 3 times before ignition. This measure is about to exhaust the remaining gas in the fuel supply system and build sufficient fuel pressure.

\*\* In the normal service after its first drive, it is recommended to ignite after the fuel pump has finished its work (or 5 seconds after turning on the key). This measure is about to build sufficient fuel pressure for starting.

## **13.Special reminder for battery charging**

- 1.Check the voltage on both terminals of battery, whose voltage above 5V is chargeable;
- 2.Charge by adjustable charger, which directly change the charging voltage to 16V-17V, activate the battery under high voltage by 40 minutes;
- 3.In case there is still no charging current after 40 minutes activation, which indicates this battery failed, in case there is current found (Without using high voltage), adjust the voltage to 14V-14.5 constant current for charging;
- 4.When the charging current rises up around 2A, keep it constant: Use 14V-14.5V, with constant current: 2A, till it decrease to 0.2A, stop the charging and the battery is full power.
- 5.Lay the battery by 1 hour, check the voltage on both terminals, in case whose voltage above 12V, indicates normal, otherwise the battery goes failed.

## 14.Special reminder for ABS

- 1.Braking or deceleration under normal situations, release the throttle first, then brake. When the motorcycle slowed down, grasp the clutch and engage into low gear for avoiding engine off.
- 2.Deceleration in advance is needed before turning. When passing the turning, try to keep even speed, and light braking is allowed when it is necessary, while sudden braking is forbidden.
- 3.When met the ice, snow or wet road, decelerate in advance and be careful.
- 4.Pre-judge the road condition if possible to avoid sudden braking.
- 5.When the emergency is met, release the throttle swiftly, tightly hold the steering bar and powerfully brake.

### ▲Caution:

When fully braked the motorcycle with ABS, there is active bounce on brake lever and pedal, Which is normal, no hurry, firmly hold the steering bar.

### ▲Danger:

Singly use front or rear brake under high speed or during deceleration, which may lead to skidding or bring motorcycle out of control.

### ▲Warning:

- 1.When parking after long time driving, the engine is hot, please keep far way from kids to avoid touching and scald.
- 2.Parking on soft ground is not allowed to avoid overturning. In case parking on the gentle slope, engage to low gear and let vehicle head forward uphill to avoid the side stand turning and motorcycle falling.
- 3.Parking on combustibles such as dried grass is not allowed due to the three-way catalyst in muffler works under high temperature which easily catch fire.



Maintenance download



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