

# Service and Maintenance

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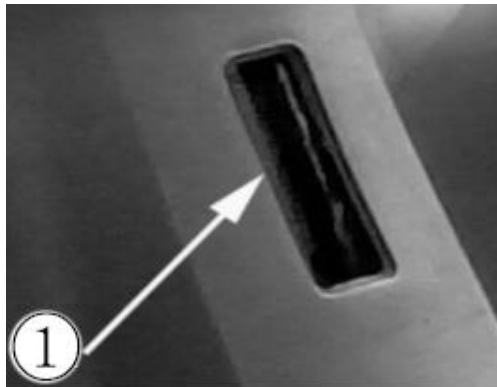
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# **1. Operating Instructions**

### 1.1. Motorcycle Vehicle Identification Number (VIN) and Engine Number

Motorcycle Vehicle Identification Number (VIN), Engine Number and Quality Certificate, used for obtaining the motorcycle driving license and motorcycle registry



① The motorcycle Vehicle Identification Number (VIN) is printed on the vertical tube of the frame.



② The product nameplate is riveted on the right lower part of the frame.

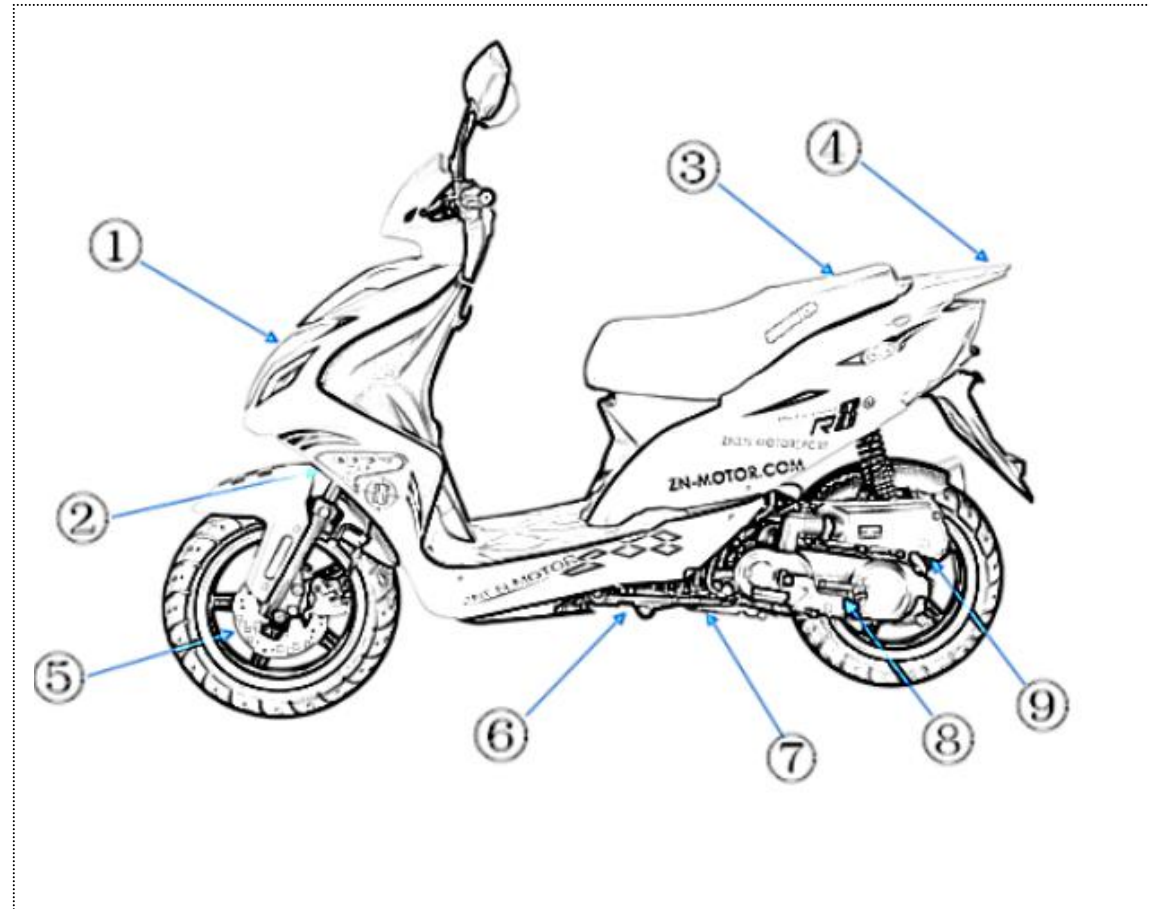


③ The Engine Number is printed on the left lower part of the crankcase.

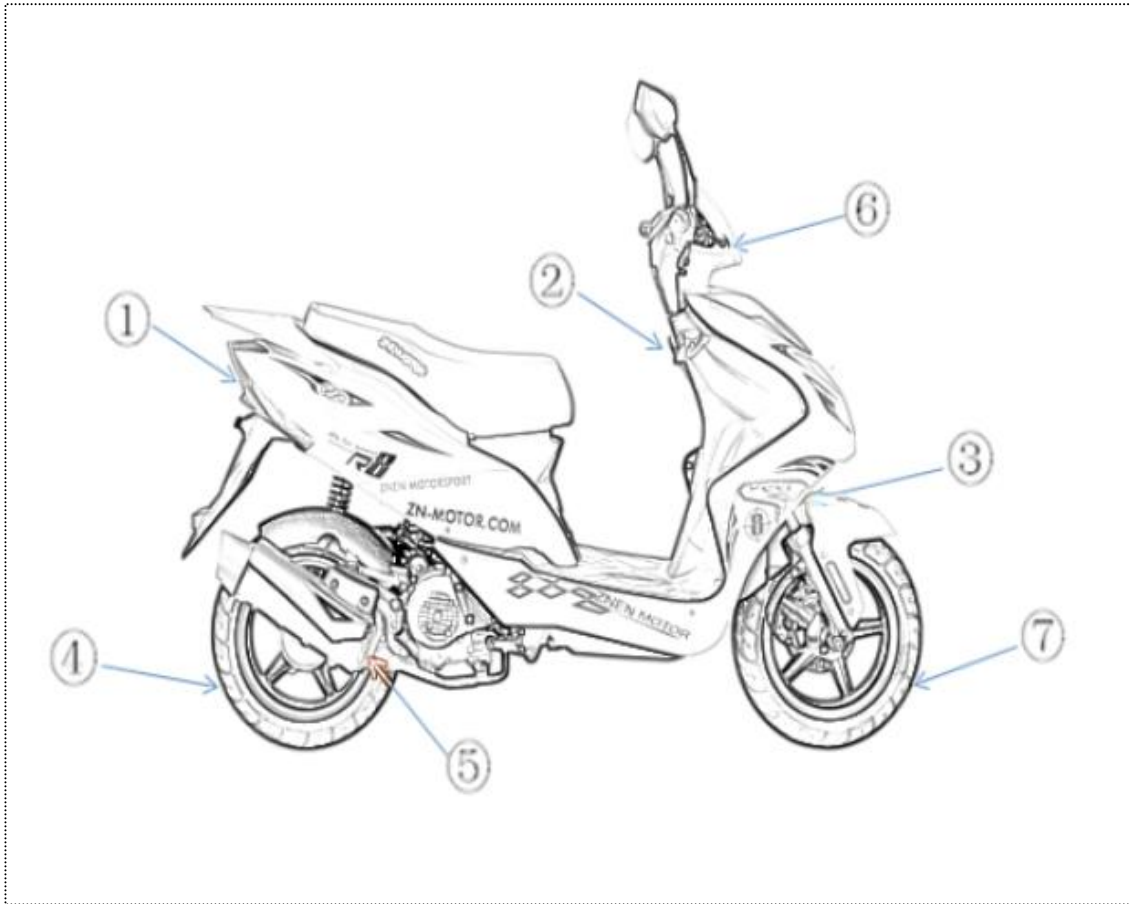


### 1.2. Brief Introduction to the Whole Motorcycle

- ①. Head Light
- ②. Left front turn light
- ③. Seat cushion
- ④. Rear carrier
- ⑤. Disc brake
- ⑥. Side support
- ⑦. Main support
- ⑧. Starting arm
- ⑨. Air filter



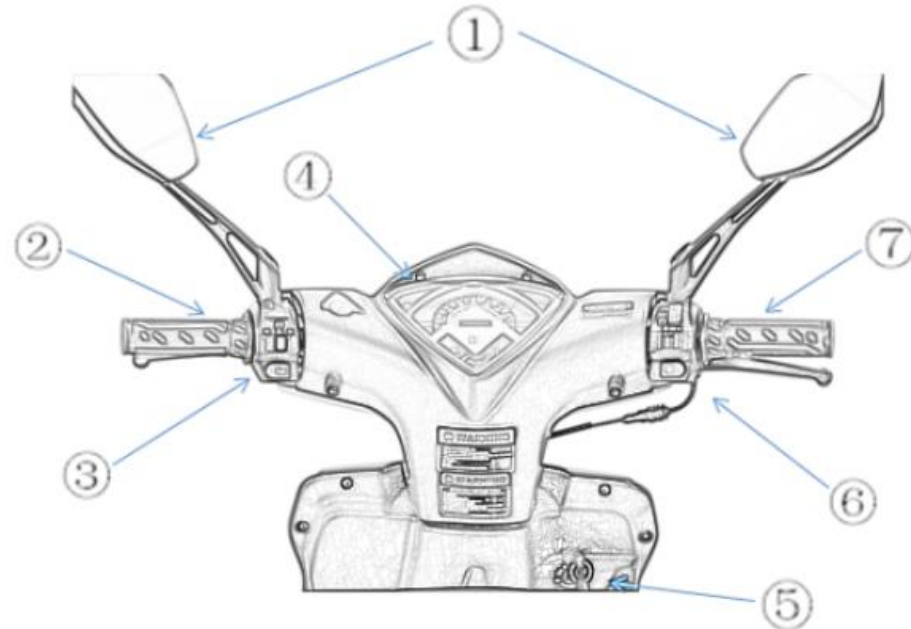
### 1.3. Brief Introduction to the Whole Motorcycle



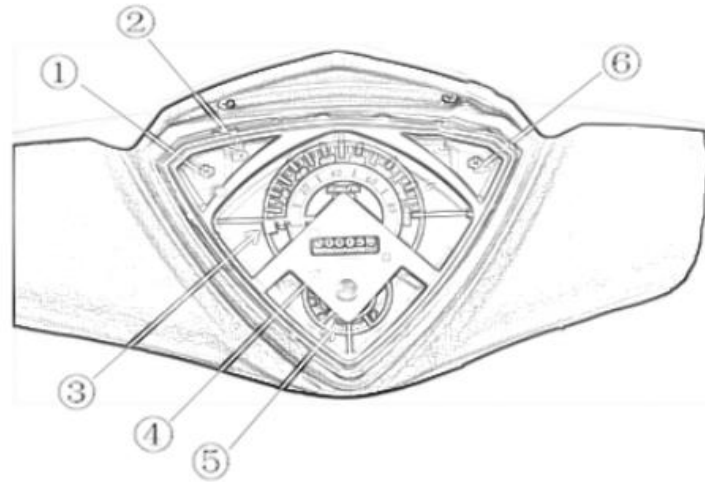
- ①. Tail light
- ②. Helmet hook
- ③. Right front turn light
- ④. Rear wheel
- ⑤. Silencer
- ⑥. Front braking handgrip
- ⑦. Front wheel





### 1.4. Brief Introduction to the Whole Motorcycle

- ①. Rearview mirror
- ②. Left handgrip
- ③. Left combination switch
- ④. Instrument combination
- ⑤. Ignition lock switch
- ⑥. Right combination switch
- ⑦. Accelerator handgrip

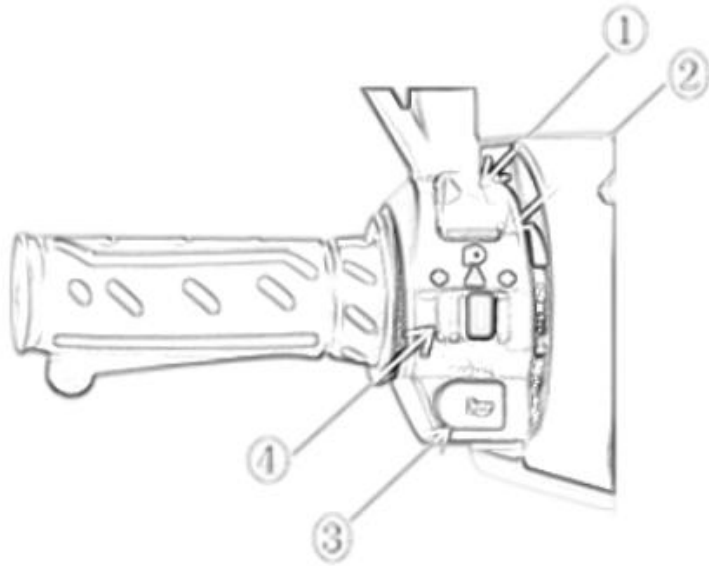


### 1.5. Instrument combination




- ① **Left turning indicator lamp:**  
When the turning indicator lamp “” flashes, it indicates that “Turning signal light” is open.
- ② **High beam indicator lamp:**  
When the high beam indicator lamp “” is on, it indicates that the “High beam lamp” is on.
- ③ **Speedometer**  
It indicates the current driving speed of the motorcycle.
- ④ **Odometer:**  
It records the accumulative travel miles of the motorcycle.
- ⑤ **Fuel gauge **  
It indicates how much fuel is left in the fuel tank of the motorcycle
- ⑥ **Right turning indicator lamp**  
When the right turning indicator lamp “” flashes, it indicates that the “Right turning signal light” is on.


### 1.6. Left combination switch




① **High beam lamp switch:**

When the motorcycle needs to use the “High beam lamp”, turn the lighting switch to the status “”.



② **Low beam lamp switch:**

When the motorcycle needs to use the “Low beam lamp”, turn the lighting switch to the position “”.

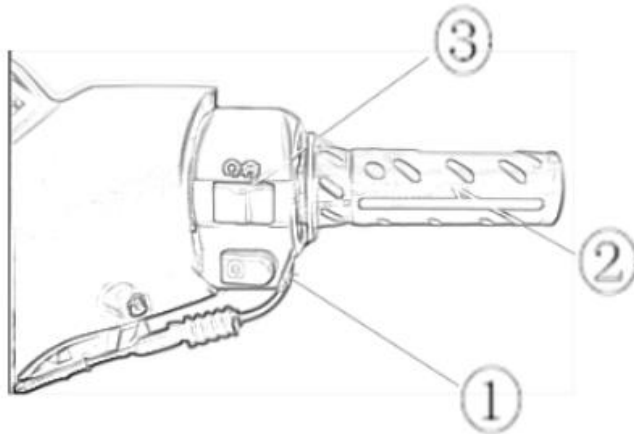
③ **Horn button:**

When the motorcycle needs to horn, press the button “”.


④ **Turning signal light switch:**

When the motorcycle needs to change its travelling direction, switch to “” or “” to turn left r right. When the motorcycle needs to stop turning, simply switch the turning button to the middle.

### 1.7. Right combination switch



① **Electric start button:**

When the motorcycle needs electric start, press the button “”.

② **Accelerator handgrip:**

It is mainly use to control the fuel flow rate of the carburetor.

③ **Engine is on“ ”**



**Engine is off“ ”**

### 1.8. Ignition lock switch

#### ⚠ Caution

- \* When the motorcycle is parked, please turn the Ignition lock switch to “” to lock the direction lock, so as to prevent the motorcycle from being stolen.



- ① Ignition Lock Off: When the key turns to the signal , the scooter was turned off.
- ② Ignition lock On: When the key turns to the signal , the scooter was opened up.
- ③ Turn the handlebar to the left, push the key and turn it to ③, you can lock the handlebar and the scooter is now in burglarproof station.

### 1.9. Fuel tank

The capacity of the fuel tank is 5.5L.



Insert the key into the side lock and rotate the key clockwise to open the cushion.



Open the fuel tank cover: To open the fuel tank cover, turn the fuel tank cover 90° anticlockwise to remove the fuel tank cover.

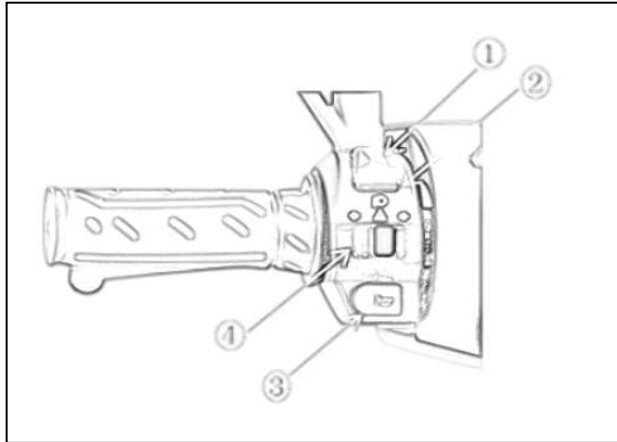
Close the fuel tank cover: Align the convex on the fuel tank cover with the concave for fuel filling, and turn it clockwise.





 \* Note


**Please keep away from the fire when opening the fuel tank cover..**



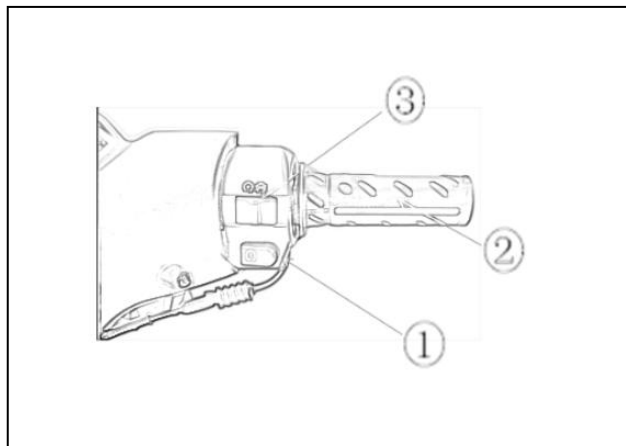
### 1.10. Operation of Left Combination Switch



- ① When the motorcycle runs at night and needs to see clearly a target in the distance, turn the lighting switch to the position “”, and the High beam lamp begins to work.
- ② When the motorcycle runs at night and meets another vehicle, in order to ensure the safety of both parties, turn the lighting switch to the position “”, and the low beam lamp begins to work.
- ③ When the motorcycle needs to overtake another vehicle or warn pedestrians, push down the Horn button “” to warn them.
- ④ When the motorcycle needs to turn left, turn the turning light switch to the position “”, and the left turning light begins to work.

When the motorcycle needs to turn right, turn the turning light switch to the position “”, and the right turning light begins to work.

### 1.11. Operation of Right Combination Switch





- ① Electric start button:

When the motorcycle needs electric start, press the button “”.

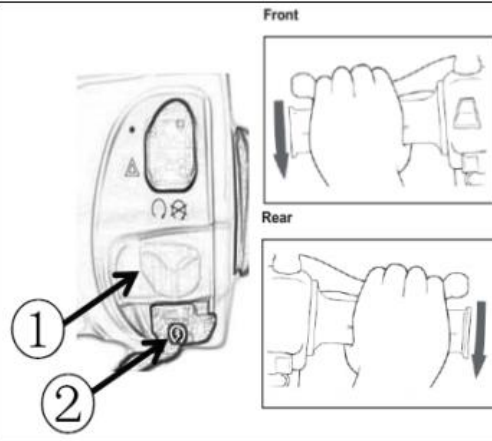
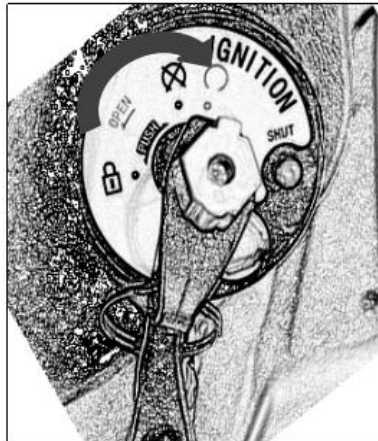
- ② Accelerator handgrip:

It is mainly use to control the fuel flow rate of the carburetor.

- ③ Engine is on “”

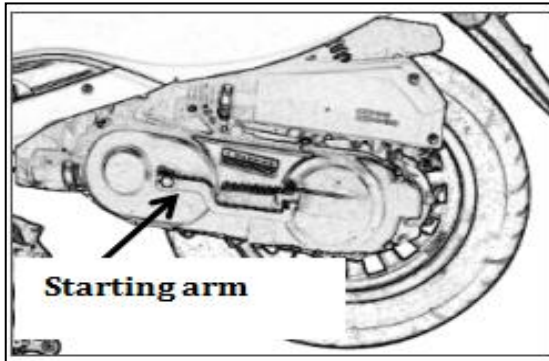
Engine is off “”

### 1.12. peration of Electric Startup/Operation of foot-stepped startup



#### Operation of Electric Startup

- 1、 First, insert the key into the ignition switch, and turn it to the position "ON".
- 2、 Engine is on "ON".
- 3、 Hold the front braking handgrip Or hold the rear braking, turn on the electric startup switch and perform electric startup. Push the electric startup button ② with your right thumb, and meanwhile turn the acceleration handgrip slightly with your right hand to add an appropriate amount of fuel.



#### The foot-stepped startup of the motorcycle is done in the following steps:

- 1、 Start the ignition lock to check whether indicator lamps of instruments of the motorcycle work properly .
- Open ① Engine is on "ON".
- 2、 Hold the front braking handgrip to prevent the slipping of the motorcycle.
- 3、 Step down the starting arm to its limit, and then reset the starting arm in time. The starting arm must be reset in time after the startup of the motorcycle.
- 4、 Turn the acceleration handgrip slightly with your right hand to add an appropriate amount of fuel to start up the motorcycle. The motorcycle can be run only after it is pre-heated.

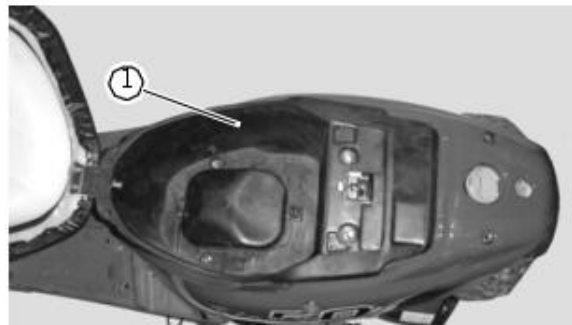
#### \* Note

The duration of each electric startup should not exceed 5s, and each interval between two electric startups should not be shorter than 10s. If 3 startup attempts fail consecutively, the motorcycle must be checked.

### 1.13. OPEN SEAT ASSY

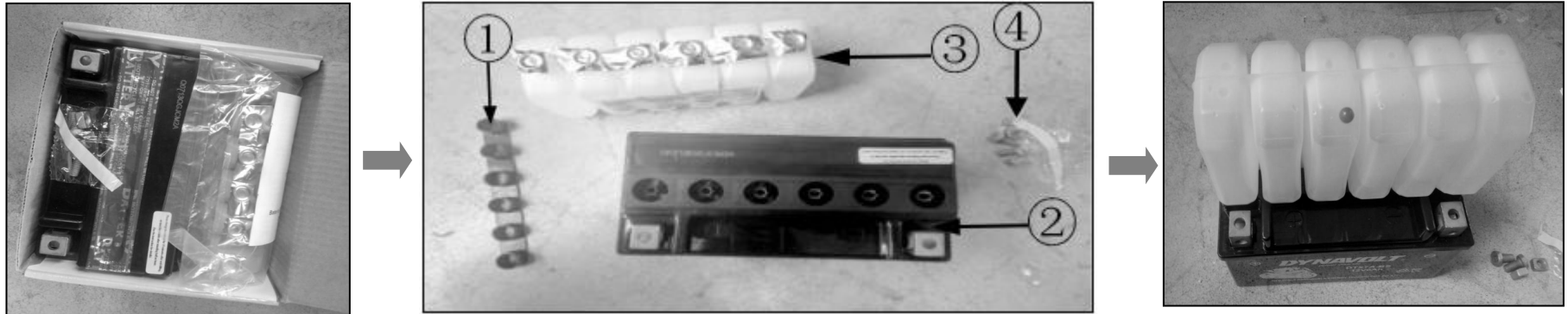


Insert the key into the side lock and rotate the key clockwise to open the cushion.



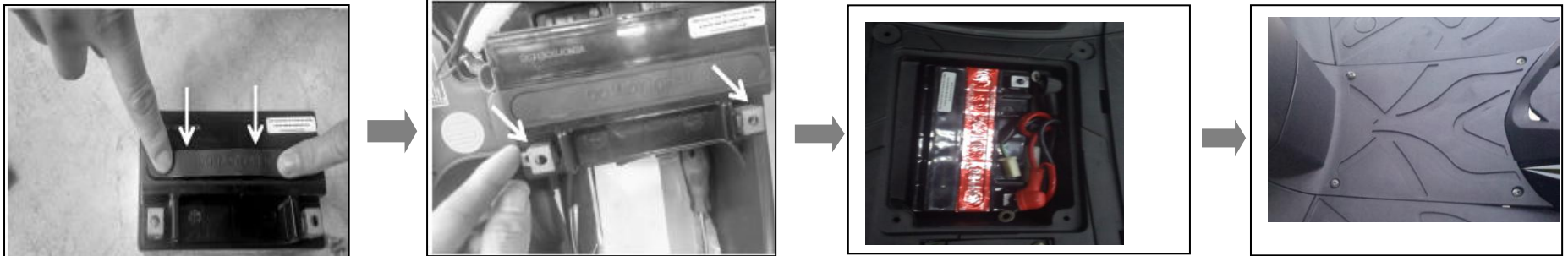
Remove luggage box①。

### 1.14. Installation of storage battery



1、 Take out the battery and open the battery package.

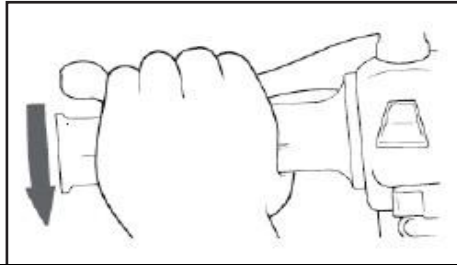
2、 The electrolyte 3 is stuck into the tank of battery 2 to add liquid to the battery.



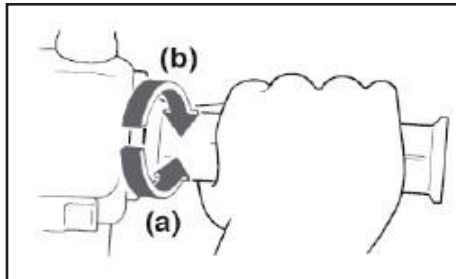
3、 Insert the sealing cover of the battery jar ① into the battery ja. 4 、 Put the mounting nuts into the battery terminals , and fix the positive and negative wires with the bolts . ( Note that the red positive electrode line is to be installed first , and then the black negative electrode wire is installed ) ..

5. Screw the lid of battery box after installation of positive and negative electrode wire.

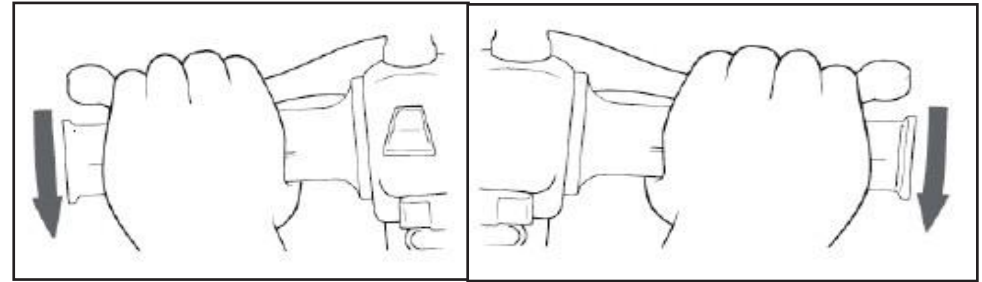
### 1.15. STARTING OFF/ACCELERATION / DECELERATION/BRAKING



1. While pulling the rear brake lever with your left hand and holding the carrier with your right hand, push the vehicle off the main stand.
2. Sit astride the seat, and then adjust the rear view mirrors.
3. Switch the turn signal on to the direction you wish to turn.
4. Check for oncoming traffic, and then slowly turn the throttle grip (on the right) in order to take off.



The speed can be adjusted by opening and closing the throttle. To increase the speed, turn the throttle grip in direction (a). To reduce the speed, turn the throttle grip in direction (b).



1. Close the throttle completely.
2. Apply both front and rear brakes simultaneously while gradually increasing the pressure.

#### ENGINE BREAK IN

Since the engine is brand new, do not put an excessive load on it for the first 1000 km. The various parts in the engine wear and polish themselves to the correct operating clearances.

During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.

## **2. Periodic Maintenance**

## Service and Maintenance

### 2.1. Periodic Maintenance & Inspection List

	Mileage between services and time Inspection item	Per 300K M	Per 1000K M	Per 3000K M	Per 6000K M	Per 12000KM	Per 14500KM	Applicable tools
		New	1 M	3 M	6 M	12 M	15 M	
*	Air filter	I		C	C	R	C	Ordinary tools
*	Petrol filter	I			I	R		Ordinary tools
*	Oil filter	C			C	C		Ordinary tools
	Replacement of engine oil	R			Replacement every 1000KM			Ordinary tools
	Tyre pressure	I	I	I	I	I	I	Tyre pressure gauge, inflator
	Battery inspection	I	I	I	I	I	I	Densimeter, multimeter
	Actuation gap inspection	I	I	I	I	I	I	Ordinary tools
	Inspection of steering handle fastening	I			I	I		Ordinary tools
	Absorber working inspection	I			I	I		Ordinary tools
	Screw fastening inspection	I	I	I	I	I	I	Torque spanner
	Oil leakage inspection for gearbox	I	I	I	I	I	I	Ordinary tools
*	Inspection or replacement of spark plug	I		I	R	R	I	Ordinary tools
*	Replacement of gearbox oil	I			Replacement every 5000KM			Ordinary tools
	Lubrication of each part				L	L		Lubricator

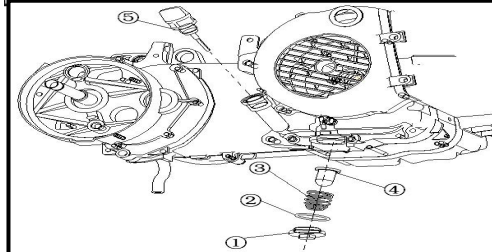
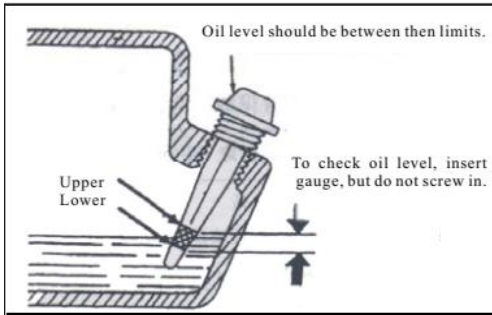
## Service and Maintenance

	Muffler	I	I	I	I	I	I	Ordinary tools
*	Ignition timing	I	I	I	I	I	I	Timing lamp
*	Carburetor	A	I	A	A	A	A	Tachometer, CO HC analyzer
*	Exhaust gas inspection at idle speed	A	I	A	A	A	A	
*	Accelerator inspection	I		I	I	I	I	Ordinary tools
	Fuel pipeline inspection	I		I	I	I	I	Ordinary tools
	Lighting/metering/electric devices	I	I	I	I	I	I	Visual multimeter
	Main stand bracket	I			I	I		Ordinary tools
	Absorber			I	I	I	I	Ordinary tools
*	Torque force of engine bolt	I		I	I	I	I	Torque spanner



## 2.2. Check and Replacement of Lubricating Oil

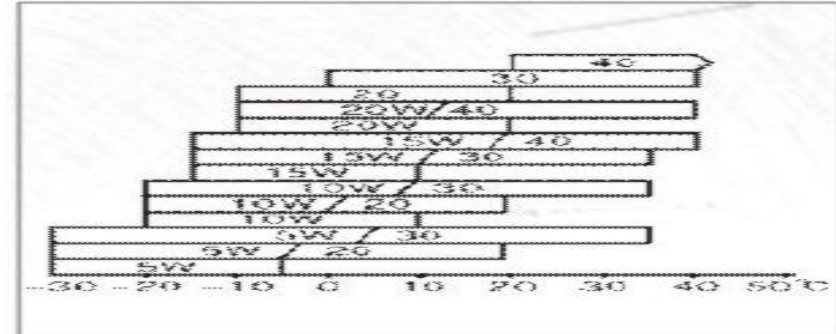
### Check of Lubricating Oil



Inspection steps:  
 1、 First, twist off the oil gauge① and check whether the lubricating oil becomes black or deteriorated. If the

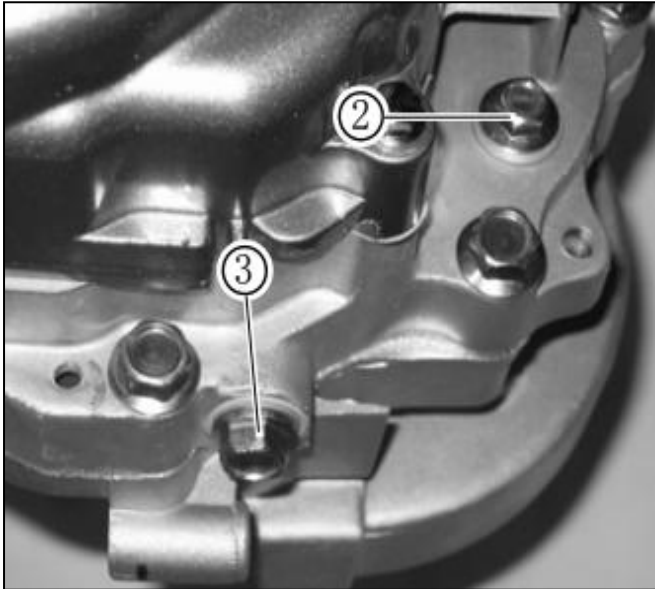
lubricating oil becomes black or deteriorated Please replace it.  
 2、 The motorcycle should be parked on a flat ground when checking its oil level. minutes after the engine running, stop for about minutes and then check the oil level. If the oil position is below the horizontal level, please add oil in time.

### ⚠ Caution



- \* Replace the lubricating oil when the engine is in the hot state.
- \* When the lubricating oil is basically drained off, turn the engine for several times to completely discharge residual lubricating oil.
- \* Before filling in new lubricating oil, remove the residual dirt from the crankcase with 0.5L gasoline, and then drain the gasoline.
- \* New lubricating oil must be filtered in the replacement of oil.
- \* The specification and grade of lubricating oil may be selected from the figure below based on actual local temperature. SF15W/40 gasoline engine oil is recommended.
- \* Check whether the filter screen, sealing gasket, spring, O-ring and oil drain plug are in good conditions. If not, replace them.
- \* After replacing the lubricating oil, tighten the oil drain plug and oil fill plug, and check whether there is any oil leakage.
- \* After replacing the lubricating oil, the idle speed of the engine must be re-adjusted to be within the range of standard values.

### 2.3. Check and Replacement of Gear oil



Remove oil level bolt② for checking. Refill oil till overflowing.  
Drain gear oil out throttle drain plug③ and refill with fresh one.  
Grade: SGL-4 85W-90 110mL~120mL.  
Drain plug tighten torque: 12N.m.

#### **▲ Caution**

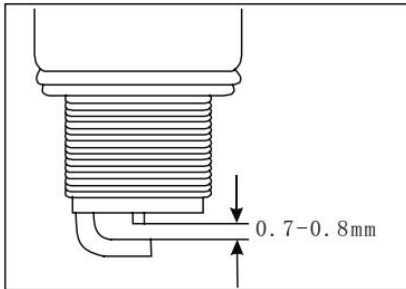
**Confirm whether the bolts wear or not. Supplement gear oil, Check if there is leaking oil. Install gear oil to check bolt.**

## 2.4. Service and Maintenance of the Spark Plug

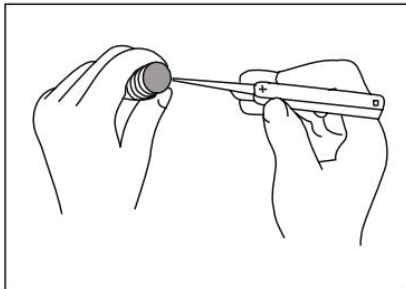
Remove helmet seat, front connection boards on right and left protection boards, take out the spark plug cap and then the spark plug.

Check the burning, pollution and carbon deposition situation of the spark plug.

If there is the situation above, please clean with the spark plug scavenger or steel brush



Check the electrode gap of the spark plug with a plug gauge, and adjust the gap to 0.6mm -0.7mm.



First, soak it with spark plug detergent or gasoline for about half an hour and then use a non-metal blade to remove the carbon deposit surrounding the spark plug, and finally clean the spark plug with gasoline.



Carefully screw spark plug into its hole by hand to avoid damaging the thread on cylinder head, then tighten it to specified torque by wrench.

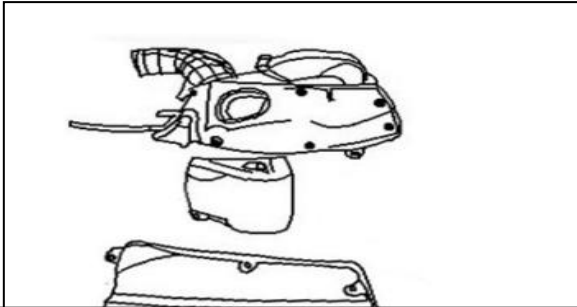
**1**

### Caution

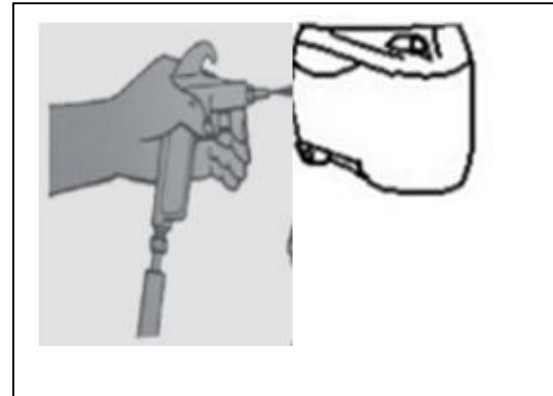
In cleaning the spark plug, make sure not to damage the insulator. It is forbidden to remove the carbon deposit or filth by burning with fire or scrubbing with metal wires.

### 2.5. Service and Maintenance for the Air Filter

When the filter element of the air filter is blocked by dust, it may result in increased resistance of the air intake system, overrich gas mixture, reduced power and greater fuel consumption. Therefore, the filter element of the air filter should be cleaned on a regular basis.



Take off the fastening screws of the air filter cover, and remove the air filter cover. Check whether there is too much dust on the of the filter element.  
Wipe off the dust inside the air filter with clean and dry cloth.



Remove the filter and gently tap the filter, dust through vibration, use the air gun to clean the dust from the inside out.

#### **⚠ Caution**

It is forbidden to use the following cleaning agents to clean paper filter elements, such as gasoline, low ignition-point solvent, acid, alkaline or organic volatile oil.

### 2.6. Brake system

Inspect brake system after initial 1000km (3 month) and every 4000km (20 month). Check brake hose and fluid after every 4000km (20 month). Replace the brake hose after every 4 years and replace brake fluid after every 2 years.

#### 2.6.1. Brake fluid level inspection

Stand the vehicle vertically and keep handlebar forward. Compare the level of brake fluid in reservoir with the mark on screen.



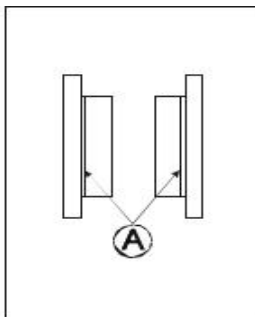
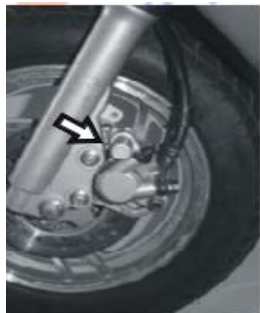
 Caution

Only glycol based hydraulic brake fluid is equipped in brake system of this vehicle. Don't use or mix with silicon or fossil oil based fluid when refilling, otherwise the brake system will be damaged.

Don't use long-stocking or unsealed brake fluid. Caution

Any brake fluid leakage will be dangerous in running. Ensure hose and sealing not damaged or leaked.

## 2.6.2. Caliper pad wearing



Check the wearing terrain on caliper pad, and replace the pad if friction surface reach the sign "A" of wear.

## 2.6.3. Caliper pad replacement



Remove brake caliper① ASSY.



Remove brake pad② from caliper ASSY.

### 2.6.4. Brake fluid replacement



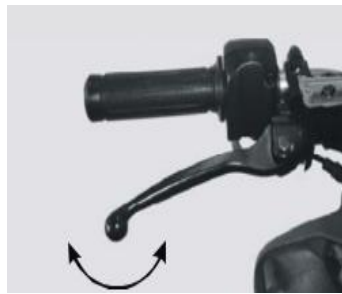
Stand the vehicle on horizontal ground with handlebar in verticality.  
Remove handlebar front cover.  
Remove the cap and diaphragm of fluid reservoir. Pump out previous brake fluid  
Refill with fresh brake fluid.



Connect the bleed valve and other container by sufficient hose. Loosen the bleed valve and pump out all previous brake fluid by forcing brake lever. After closing bleed valve and disconnecting drain hose, refill with fresh brake fluid till its level reach the upper limit on inspection screen.

Specified torque for bleeding valve: 7.5N.m

### 2.6.5. Bleeding out air from brake system



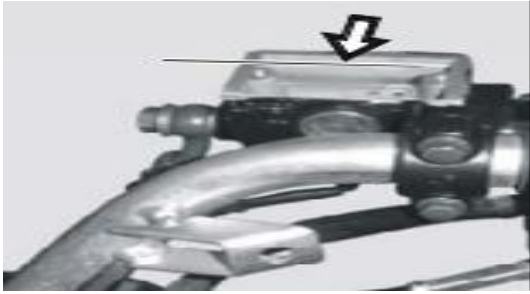
Connect the bleed valve and other container by transparent hose.

Rapidly press and release the brake lever several times, then press the lever firmly. Loosen the bleed valve for 1/4 turn to allow brake fluid drain out. Due to this operation the brake lever will release and touch with handlebar, then close the bleed valve.

Close bleeding valve and tighten to specified torque, then remove the drain hose.

Specified torque: 7.5N.m

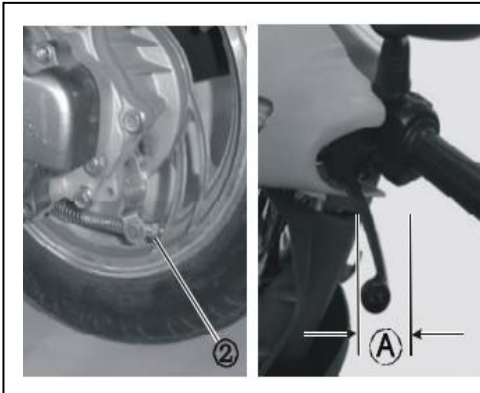
## Service and Maintenance



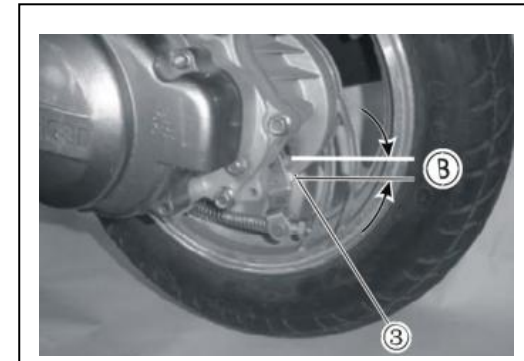
Refill brake fluid again to its reservoir to ensure fluid level above “UPPER” mark.

⚠ Caution: Take care to deal with brake fluid because it can damage the parts of plastic, paint and rubber due to chemistry.

### 2.6.6. Rear brake system



Adjust the brake panel free play to 15 — 25mm by turning adjusting nut ②.



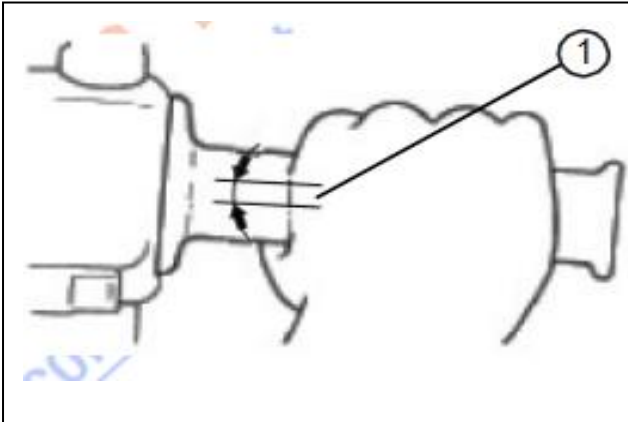
#### Brake shoes

Brake indicator ③ is installed on brake lever. During brake operation ensure the indicator turning within the limit B.

⚠ Replace the brake shoes set if the indicator goes above the limit during brake operation.

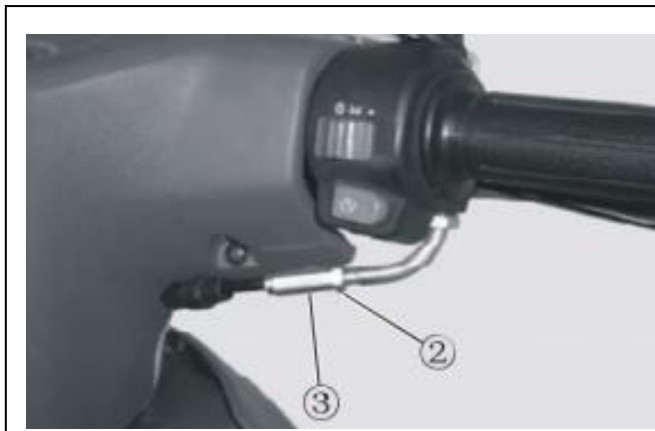


### 2.7. Throttle cable free play



The throttle cable free play ① should measure 1.5 ~ 3.5 mm at the throttle grip.

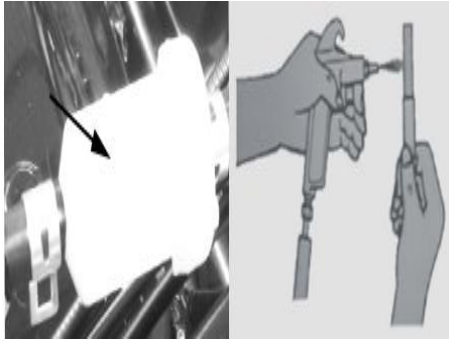
Periodically check the throttle cable free play and, if necessary, have a dealer adjust it.



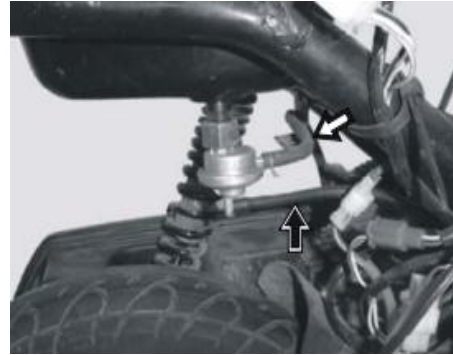
Turn the adjuster ③ to get the specified free play, then tighten the lock nut ②.

Specified value A: 2.0—4.0mm

### 2.8. Fuel filter/ Fuel hose



Clean the filter after every 8000km (or 40 month). Clean it by compressed air if clogged.



Inspect after every 4000km (or 20 month), and replace after every 4 years.

Check fuel hose for crack or leakage, and replace the fault one.

### 2.9. Muffler mounting Bolts & nuts



Tighten the exhaust nuts and mounting bolts after initial 1000 km (3 month) and every 4000km (20 month).

Tighten the exhaust nuts and mounting bolts to specified torque by torque wrench. Specified torque: 24N·m

### 2.10. Steering

Inspect steering system after initial 1000km (3 month) and every 12000km (24 month).



Steering system must be properly adjusted to ensure handlebar turning smoothly and safety riding. Too tight steering will affect handlebar balance, and too loose steering will affect riding stability. Stand the vehicle and keep front wheel forward and away from ground, hold the lower end of front fork and pull forward to check the clearance between the parts of front fork. Adjust the steering race if gap is found.

### 2.11. Front fork/Rear shock absorber



Inspect front fork for every 8000km (40month). Check the damper tub for leakage or scratch, replace the damaged parts if necessary.



Inspect rear shock absorber for every 8000km (40month). Check rear shock absorber for oil leakage, and check engine mounting bracket for cushion wear. Replace the damaged parts if necessary.

### 2.12. Tire

To maximize the performance, durability, and safe operation of your vehicle, note the following points regarding the specified tires.

#### 2.12.1. Tire air pressure

Tire air pressure:

Front: 2.2 bar - 2.3 bar

Rear: 2.2 bar - 2.3 bar

Total weight of rider, passenger, cargo and accessories!

Maximum load\*:

50 cm<sup>3</sup>: 150kg

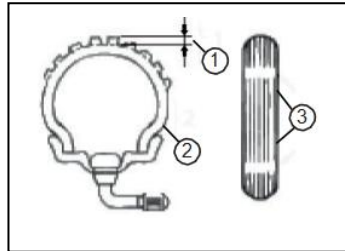
125 cm<sup>3</sup>: 160kg

\*Total weight of rider, passenger, cargo and accessories!

#### Caution

The tire air pressure must be checked and adjusted on cold tires (i.e., when the temperature of the tires equals the ambient temperature). The tire air pressure must be adjusted in accordance with the riding condition. If you are not familiar to this, please have dealer for help.

### 2.13. Tire inspection



1. Tire tread depth.
2. Tire sidewall.
3. Tire wear indicator.



Inspect tires for every 4000km (20month).

Worn tires will affect ridding stability and cause accident. Check the tire surface by depth gauge, and replace with new tires if its groove depth is less than specified value.

Specified depth:Front and rear: > 1.6 mm

**To maximize the performance, durability, and safe operation of your motor-cycle, note the following points regarding the specified wheels.**

1. The wheel rims should be checked for cracks, bends or warpage before each ride. If any damage is found, have a dealer

2.replace the wheel. Do not attempt even the smallest repair to the wheel. A deformed or cracked

The wheel should be balanced whenever either the tire or wheel has been changed or replaced. An un- balanced wheel can

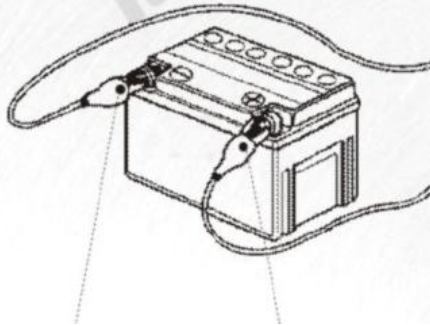
3.result in poor performance, adverse handling characteristics, and a shortened tire life.

Ride at moderate speeds after changing a tire since the tire surface must first be “broken in” for it to develop its optimal characteristics.

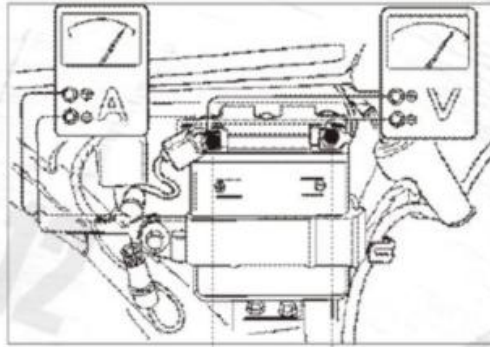
### 2.14. Service and Maintenance for the Accumulator Cell

In this model, the accumulator cell is mounted below the seat cushion. DC power supply is used for the electric system of the model. For the first 1000km~3000km of the motorcycle, the accumulator cell should be serviced and maintained as follows:

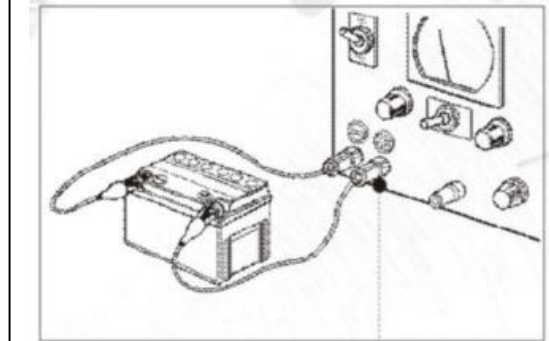
1. Check whether the accumulator cell can work properly.
2. Check whether the positive and negative electrode connection is loose.
3. When the accumulator cell is not used for a long time, the accumulator cell must be charged once a month.
4. Check whether the electrolyte level of the accumulator cell is between the upper and lower markings. When the level is below the lower marking, add some distilled water.



Check whether the connection of the accumulator cell is loose. If it is loose, tighten it.



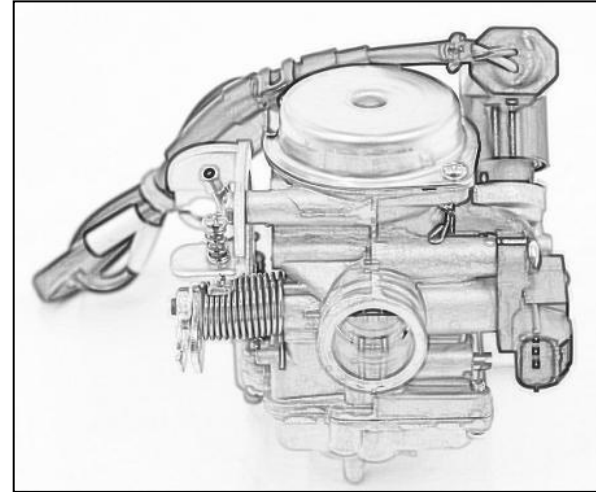
Check whether the voltage of the accumulator cell is within the range of " 12V ". When the voltage of the accumulator cell is not enough, charge the accumulator cell.



When the accumulator cell of the motorcycle is not used for a long time, it will self-discharge, and the accumulator cell must be charged once a month.

### 2.15. Carburetor

**Carburetor functions:** Carburetor is a critical component in the fuel supply system of the engine; its work condition directly affects the stability as well as the dynamic and economic indicators of the engine. It atomizes certain amount of gasoline into small oil drops, and evenly mixes it with different quantities of air to form combustible vaporific mixed gas of different concentration upon different working conditions of the engine. The mixed gas will be supplied to the engine to ensure continuous and normal operation.

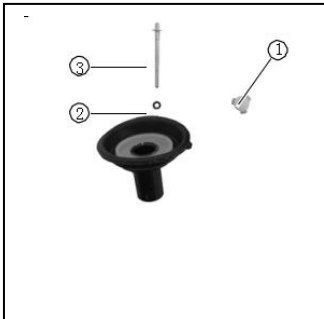


### Work instructions

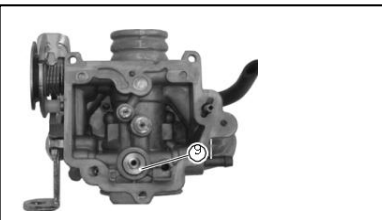
Gasoline is very dangerous, fireworks is strictly prohibited in workplace.

- Pay special attention to sparks.
- Forcibly pulling and bending of wires is not allowed. Distortion and damage will affect the wires.
- After disassembling of the carburetor, block the intake manifold with cloth in case of the entering of foreign matter.
- Unused for more than a month, the gas in carburetors of displacer type should be let out, as the gas in the displacer type may go bad, blocking the idling jet to make idle speed not safe.

## 2.15.1. Carburetor disassembly



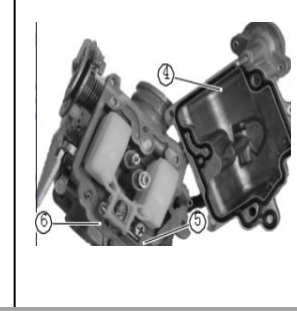
Remove jet needle holder①O-ring②and jet needle③from vacuum piston. Check needle for step wear. Check vacuum piston for wear and damage. Check diaphragm for pinhole, deform and damage.



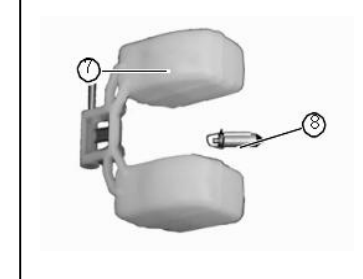
Check needle jet seat⑨ for scratch, clog and damage. Check needle jet for step wear. Replace it if it is worn.



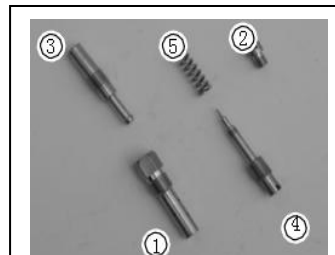
Disassembling float chamber  
Remove screws



Remove screw⑤ , float pin⑥ , float⑦and needle valve⑧. Check float for damage and leakage.



Remove screw⑤ , float pin⑥ , float⑦and needle valve⑧. Check float for damage and leakage.

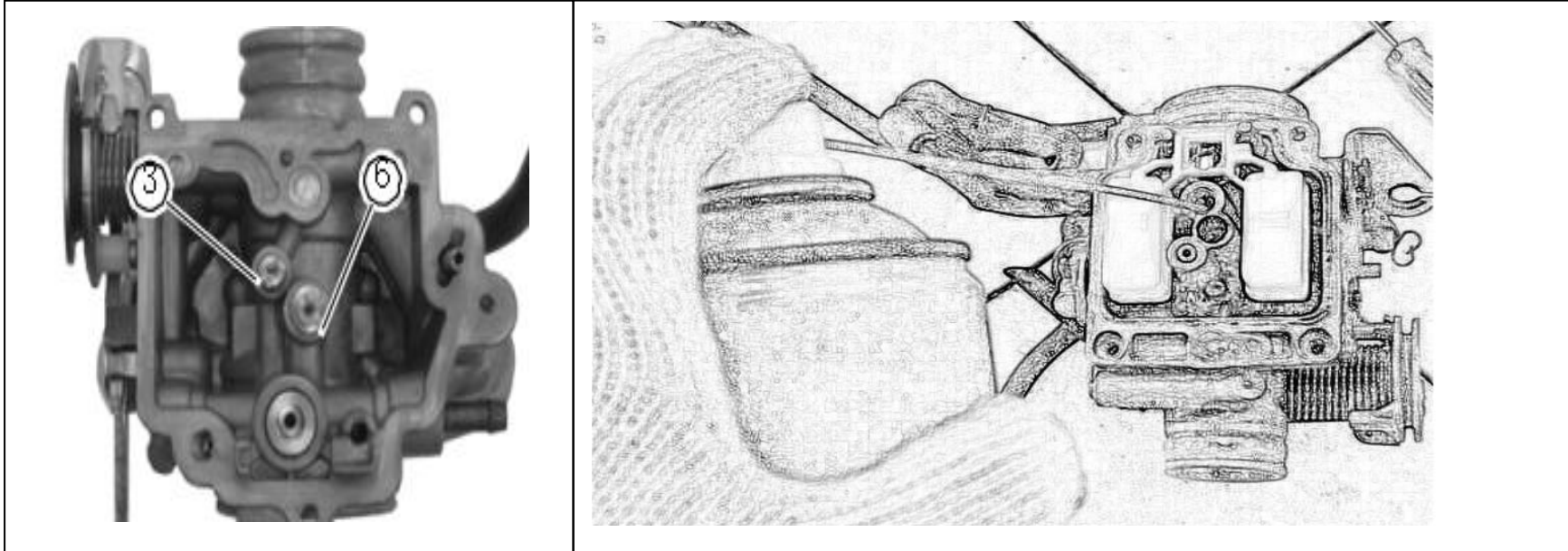


Remove the parts in following order: Main jet①/main jet holder②/pilot jet③  
Turn in pilot air adjusting screw slightly tight, and mark down total turns.  
Remove pilot air adjusting screw ④ and spring⑤.  
Check and replace it if worn.

**Reinstall in the reverse order of disassembly.**

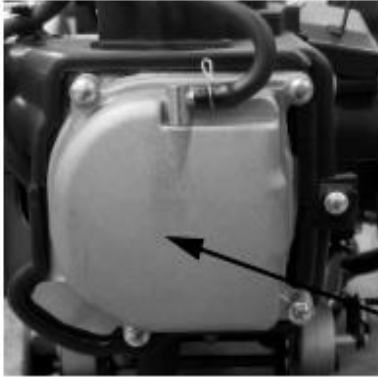


### 2.15.2. Cleaning carburetor



Blow compressed air through all jets(main jet①/main jet holder②/ pilot jet③), air passage and fuel passage.

### 2.16. Tappet clearance(Inspect and adjust for every 4000km or 20 month.)



#### Disassembly

Remove the inspection cap from the bottom of luggage box Remove the lower shroud of cylinder head Remove cylinder head cover①。

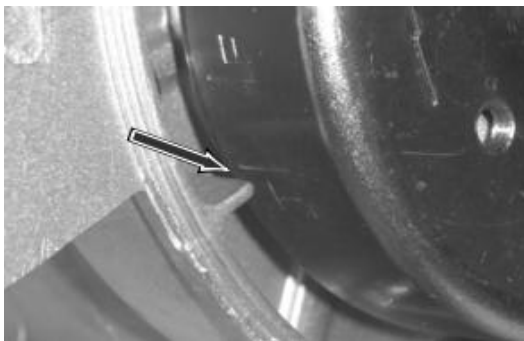
#### Inspection

It will be necessary to inspect and adjust the tappet clearance, when

- 1.periodical maintenance
  - 2.replace or repair cam shaft
  - 3.cam shaft was disturbed when replacing other parts
- Tappet clearance (cold engine)

Intake valve: 0.06~0.09mm

Exhaust valve: 0.07~0.10mm



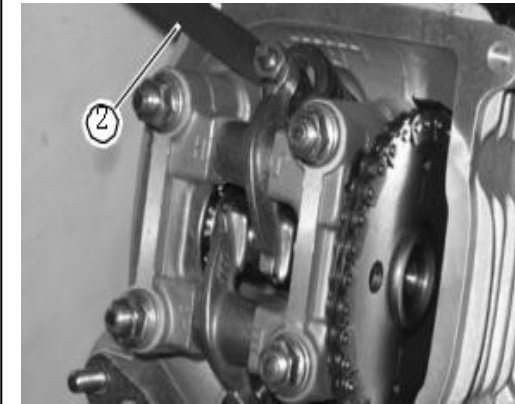
When inspecting or adjusting tappet clearance, firstly ensure the piston stopped at TOP DEAD PIONT.

Above limit is specified for cold engine.

To get correct reading of clearance, crankshaft should be turned by hand in working direction more than 2 circle and spark plug should be removed.

Turn crankshaft till the mark on rotor aligns to the mark on crankcase.

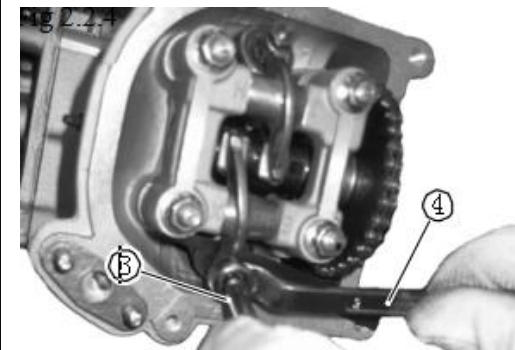
### 2.16.1. Tappet clearance



Loosen tappet adjusting nut.

Insert the thickness gauge between the adjusting screw and top end of valve stem②.

Specified toque: 10N.m.



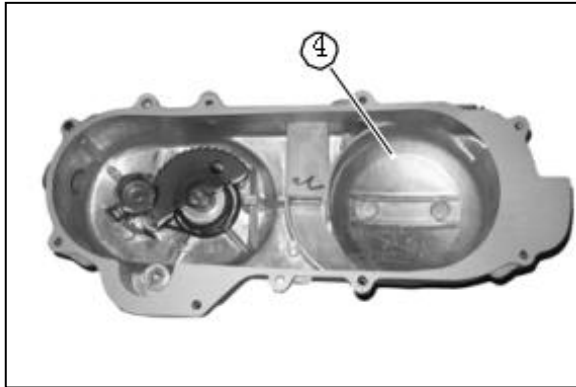
Adjust valve clearance to specification, and fasten the lock nut③④.

Tools:

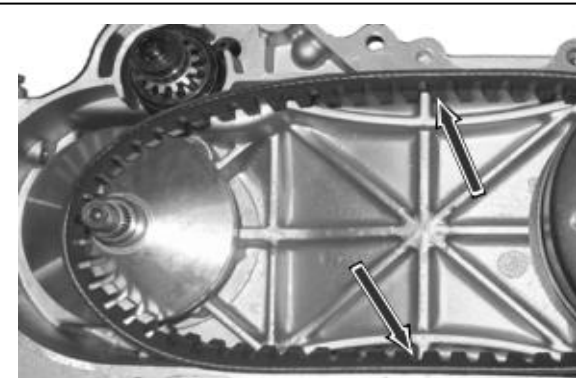
Thickness gauge Tappet screw driver Wrench.

Specified toque: 10N.m.

### 2.16.2. Drive belt



Stand the vehicle vertically. Remove crankcase cover LH ④.  
Inspect for every 4000km (20 month)



Check the working surface for crack, and replace if damaged.  
Note:  
Remove oil and grease from working surface of belt.

#### Caution;

Before checking cylinder compression, ensure that cylinder head nut and bolt has been tighten to specified toque, valve clearance has been adjusted, engine has been warmed up and battery has been fully charged.

### 2.16.3. Cylinder pressure



Operate when the engine warm up.

Remove the cushion and body shield.

Remove the spark plug.

Install the cylinder pressure gauge.

At full throttle, measure the cylinder pressure by starting the engine.

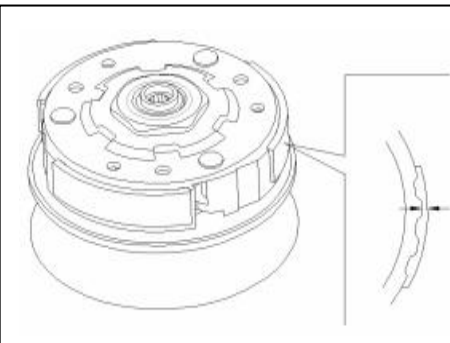
The following items shall be check in case of a low pressure:

- Whether the gasket of cylinder cover is damaged;
- whether piston ring is damaged;
- whether the air inlet and piston ring is worn;
- whether the piston and cylinder is worn

When compression pressure is too high, please check the combustion chamber and carbon distribution at piston head.

Tools: Compression gauge Compression gauge adopter

### 2.16.4. Clutch



Start the engine and increase its speed gradually to check the working condition of the clutch.

If the motorcycle fails to go and the engine stops, you should

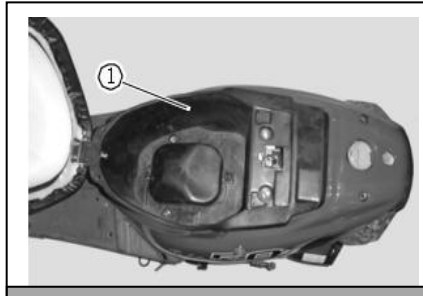
Check the clutch block. If necessary, change a new one.

### **3. Engine Disassembly**

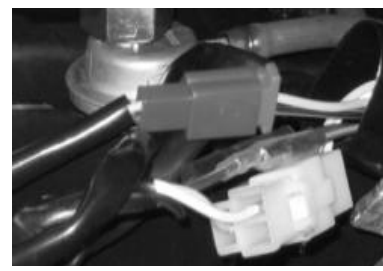
## 3.1. Engine removal/disassembly



Insert the key into the side lock and rotate the key clockwise to open the cushion.



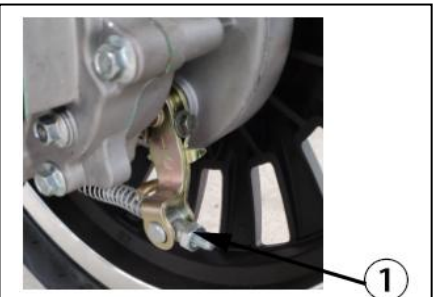
Remove luggage box ①.



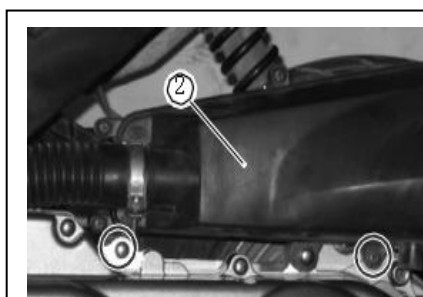
Disconnect carburetor starting cable and magneto wires from main wire harness.



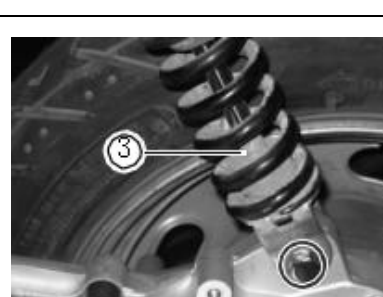
Disconnect throttle cable, fuel hose and vacuum pipe. Loosen clamping screw of air cleaner.



Remove the adjusting nut ① of rear brake cable.



Remove air cleaner assy ②.



Remove rear shock absorber assy ③.



Remove spark plug adapter.

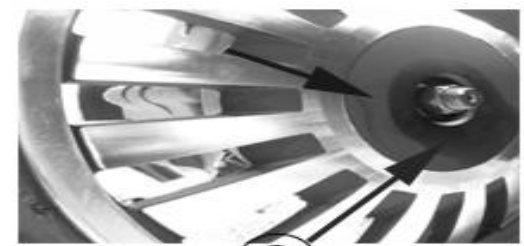


⑤

Remove the engine assy from frame body by removing the bolt⑤ of engine mounting bracket set.



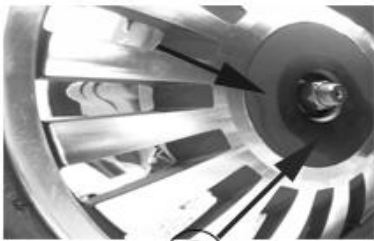
Remove muffler①.



②

Remove rear wheel by loosening its nut ②.

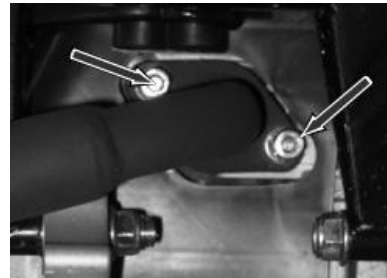
### 3.2. Reinstallation ( Reinstall the engine in the reverse order of removal. )



②

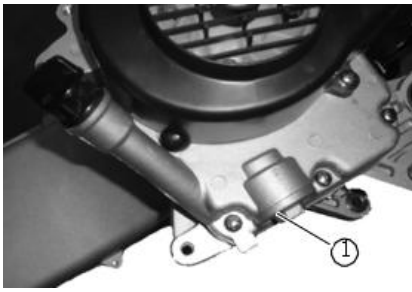


①

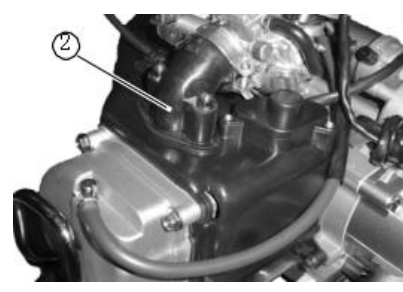




## 3.3. Cylinder & cylinder head Disassembly



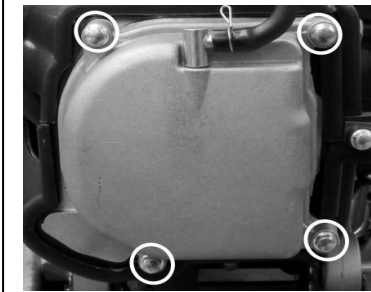
Remove the drain plug① to drain out engine oil from crankcase.



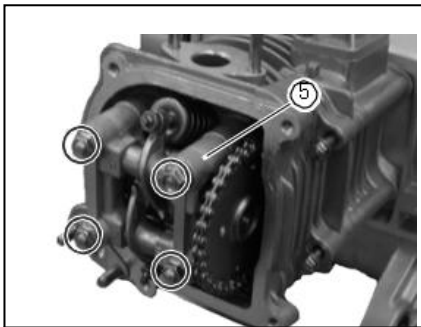
Remove air cleaner, carburetor, intake pipe, fan cover and shroud A and B.



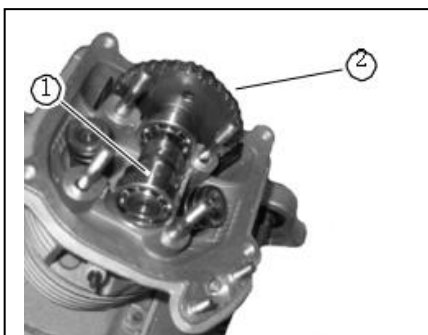
Remove cylinder head cover bolts.



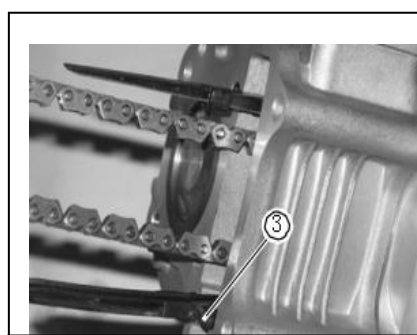
Remove cylinder head cover bolts.



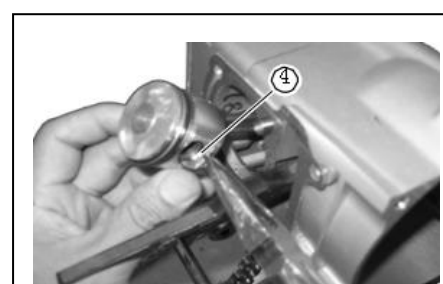
Loosen the nuts over cam shaft holder⑤ diagonally and remove the mounting nuts beside timing chain chamber.



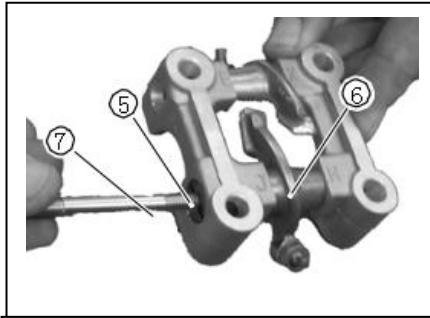
Remove cam shaft holder, then remove timing chain② from cam shaft①.



Remove cylinder head gasket, timing chain guide③ and cylinder.



Cover the crankcase opening with clean rags to prevent clip from entering into the crank chamber, and remove piston pin clip④.



Screw one M5 bolt (7) into rocker arm shaft (5), then remove it and rocker arm (6) from cam shaft holder..



Press the spring by valve spring compressor (8), then remove cotteners by forceps. Remove spring seats, inner and outer springs.



Drive out valve and remove valve boot.

### 3.4. Inspection of Cylinder & Cylinder Head

Explanation of specification I and specification II

- This chapter instructs the inspection and maintenance for cylinder head and accessories, cylinder and piston.
- During inspection, the removed parts should be marked and packed properly to ensure reinstallation.
- Cam shafts and rocker arms are lubricated by the oil coming from the oil channel inside the cylinder head. Take care to clean these oil channel before assemble cylinder head.
- When inspect cylinder head, valves and cylinder, take care not to damage the sealing surface.
- Take care nor to damage the combustion chamber of piston and cylinder head.
- All the removed parts should be cleaned by solvent and dried by compressed air before inspection.
- Remove carbon deposits before inspecting piston and cylinder head.

## Specification I

Unit: mm

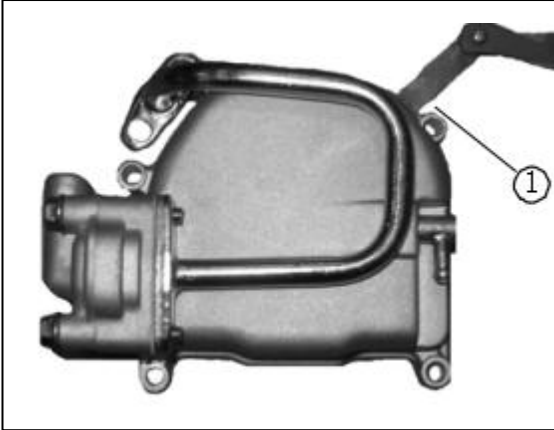
Item			Standard	Service limit
----			---	---
Cylinder head warpage			---	0.05
Rocker arm	Rocker arm I.D.	IN/EX	10.00—10.015	10.10
	Rocker arm shaft O.D.	IN/EX	9.972—10.00	9.91
	Shaft-to-arm clearance	IN/EX	0—0.043	0.08
Cam	Cam lobe height	IN	25.51—25.61	25.50
		EX	25.11--25.21	25.10
Valve Valve guide	Valve clearance	IN	0.06—0.08	---
		EX	0.06—0.08	---
	Valve stem O.D.	IN	4.975—4.990	4.90
		EX	4.955—4.970	4.90
	Valve guide I.D.	IN/EX	5.000--5.012	5.03
	Stem-to-guide clearance	IN	0.010—0.037	0.08
		EX	0.030—0.057	0.10
	---	---	---	---
---	---	---	---	
Valve spring free length		inner	35.5±0.2	34.9
		outer	32.78±0.2	31.2

### Specification II

**Unit: mm**

Item		Standard	Service limit	
Cylinder	I.D.	52.400—52.419	52.428	
	Out of round	---	0.05	
	Taper	---	0.05	
	Warpage	---	0.05	
Piston, Piston ring, Piston pin	Piston O.D.	52.370-52.390	52.380	
	Piston O.D. measurement point	10mm above piston skirt	---	
	Piston pin hole I.D.	15.002-15.008	15.040	
	Piston pin O.D.	14.995-15.00	14.980	
	Piston-to-piston pin clearance	0.002—0.014	0.04	
	Ring-to-ring groove clearance	Top ring	0.015-0.055	0.08
		Second ring	0.015-0.055	0.08
	Ring end gap	Top ring	0.1-0.35	0.40
		Second ring	0.1-0.35	0.40
		Oil ring	0.15-0.5	0.90
Cylinder-to-piston clearance		0.010—0.040	0.12	

### 3.4.1. Checking warpage of cylinder head



After removing the seal ring from cylinder head, press it on the flat surface plate and check its warpage at different point with thickness gauge①.

Service limit: 0.06mm.

### 3.4.2. Rocker arm shaft O.D.



Measure Rocker arm shaft O.D. by micrometer.

Service limit: 9.91mm.

### 3.4.3. Rocker arm I.D.



Measure rocker arm I.D. by micrometer.

Service limit 10.10mm.

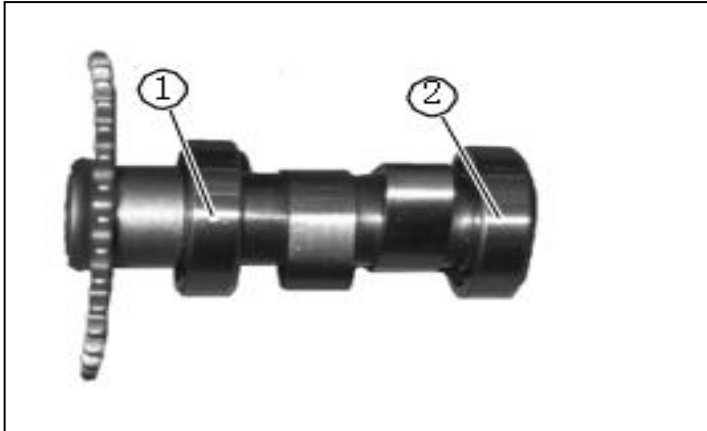
### 3.4.4. Shaft-to-arm clearance



Check shaft-to-arm clearance.

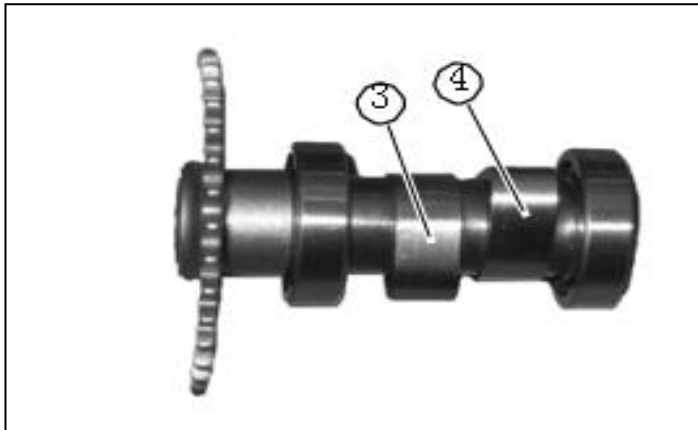
Service limit: 0.08mm.

### 3.4.5. Cam shaft



If abnormal noise or vibration was found, or engine output was less, the bearing① &②, cam profile and shaft journal must be inspected.

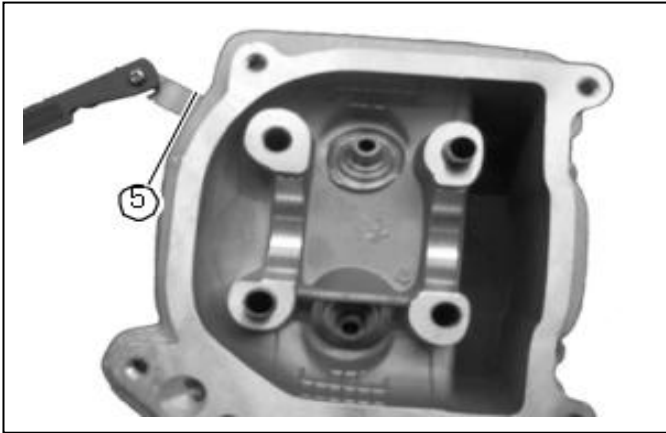
### 3.4.6. Wear of cam



Worn cam shaft will cause insufficient valve timing and less horsepower. Wear of cam shaft can be indicated as cam height of intake cam③ and exhaust cam④ and measured by micrometer. Replace if cam height exceeds the limit.

Service limit:25.50mm(in.)/25.10mm(ex.)

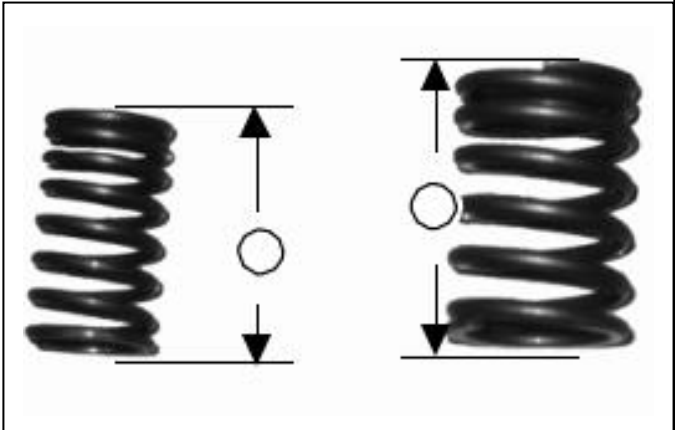
### 3.4.7. Cylinder head warpage



Remove carbon deposits in combustion chamber, and check warpage by flat surface plate and thickness gauge⑤ at different position. Replace with new cylinder head if the reading of any position exceeds the limit.

Service limit: 0.05mm

### 3.4.8. Valve spring



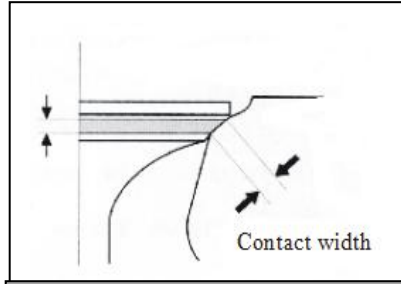
Check the spring through measuring the free length or spring tension. Replace the spring set if the free length exceeds the limit.



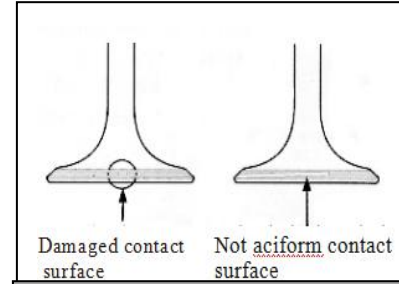
## 3.4.9. Valve/valve guide



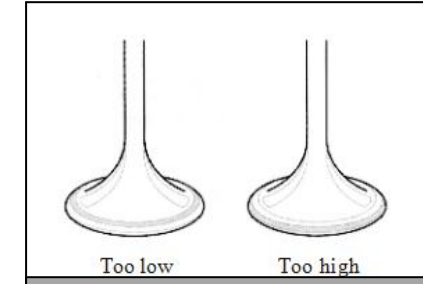
Ensure valve stem sliding in valve guide smoothly. Check for bending, burns, scratches or over wear. Measure valve stem O.D.  
Service limit(in./ex.)



Remove valves and measure contact width of valve seat.  
Standard: 0.8mm  
Service limit: 1.5mm

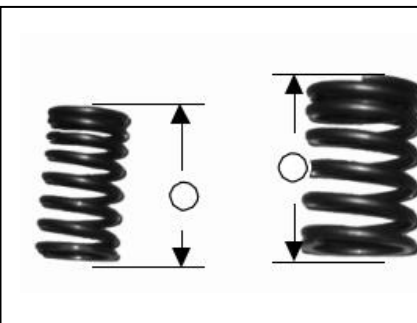


Replace valve or reface valve seat, if valve seat contact surface is damaged or not uniform.

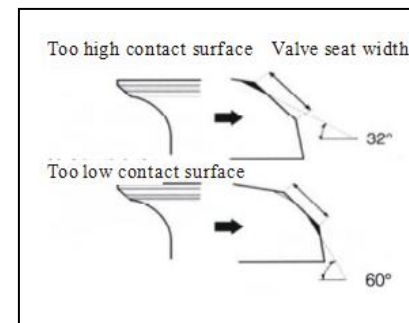


Reface the valve seat contact surface if the it is too high or low. 4.90mm

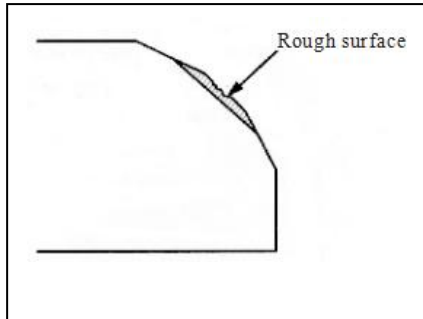
## 3.4.10. Repair valve seat by reamer



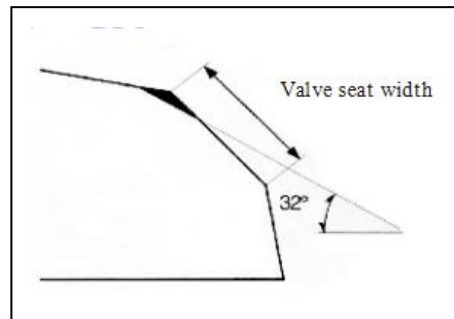
Refer to operation manual of reamer. Take care not to over cut valve seat.



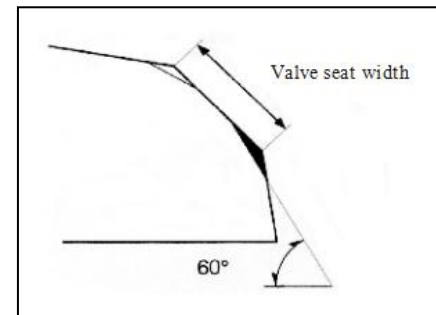
Reduce the height of contact surface by 32° reamer. Increase the height of contact surface by 60° reamer. Polish the contact surface to specification by 45° reamer.



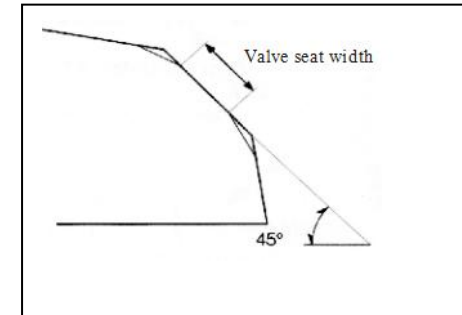
Remove unequal or rough surface from valve seat by 45° reamer.



Remove top 1/4 length of valve seat by 32° reamer.

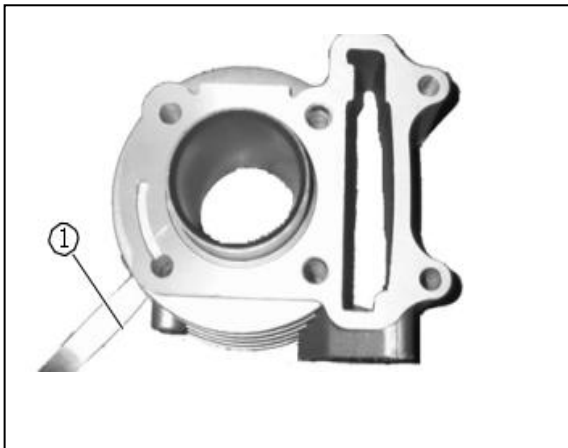


Remove bottom 1/4 length of valve seat by 60° reamer.



Polish the contact surface to specified width by 45° reamer.

### 3.4.11. Cylinder warpage /Cylinder I.D.



#### Cylinder warpage:

Check warpage of sealing surface by flat surface plate and thickness gauge at different position. Replace with new cylinder if the reading of any position exceeds the limit.

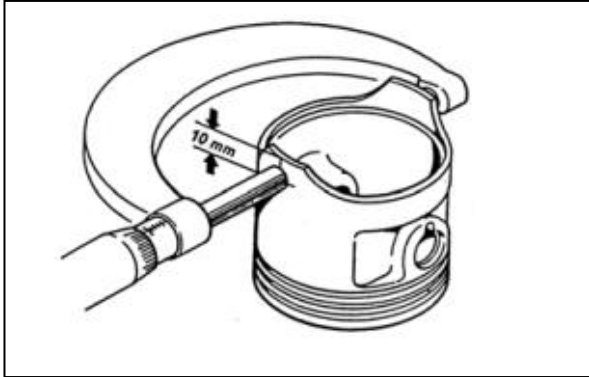
Service limit: 0.05mm

#### Cylinder I.D:

Measure the cylinder I.D. at 6 difference position.

Repair the cylinder if any reading exceeds the limit, or replace cylinder and piston in set.

## 3.4.12. Piston O.D.



Measure the piston O.D. by micrometer at the position 10mm above piston skirt. Replace if reading exceeds the limit.

## 3.4.13. Ring end gap



Insert piston ring into cylinder, measure end gap of each ring by thickness gauge②. Replace defect piece whose gap exceeds the limit.

	Service limit
Top ring	0.08 mm
Second ring	0.08 mm
Oil ring	0.04 mm

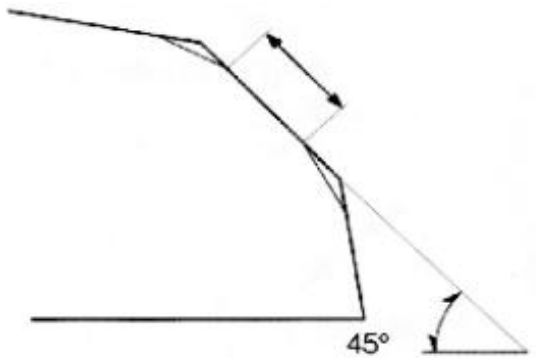
## 3.4.14. Piston hole-to-piston pin clearance



Measure piston pin hole I.D. by telescope caliper, and measure piston pin O.D. by micrometer. If piston hole-to-piston pin clearance exceeds the limit, replace piston and piston pin meanwhile.

Piston hole I.D:

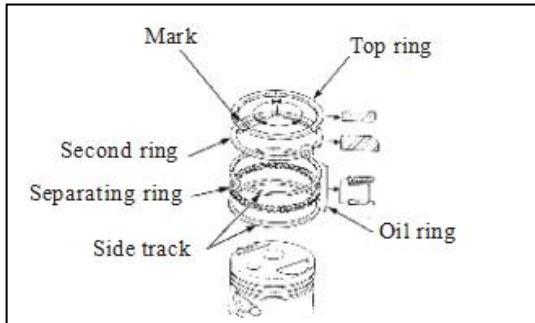
Service limit: 13.04mm



Service limit 12.98

### 3.5. Reassembly of Cylinder & Cylinder head

#### 3.5.1. Installation of piston



Apply engine oil to piston ring and piston ring groove, then install piston ring to groove with the stamped mark upward.



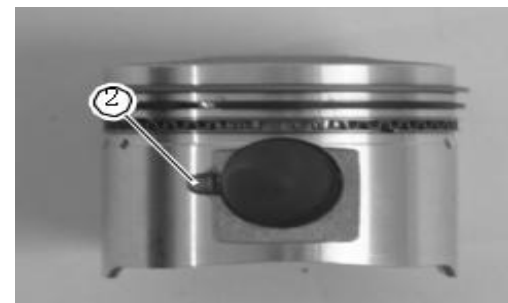
Adjust piston rings to ensure the rings end gap uniformly distributed at 120°



Apply engine oil to small end of connecting rod. Install piston with “IN” mark on crown toward up. Apply engine oil to piston pin and install it to piston through the small end of connecting rod.

**Note:**

Do not make any object fall into the crankcase.  
Install the piston, piston pin and retainer ring.



Install new piston pin circlips properly into its groove and ensure the circlip end gap not aligned with the rabbet② of piston pin hole.

**Note:**

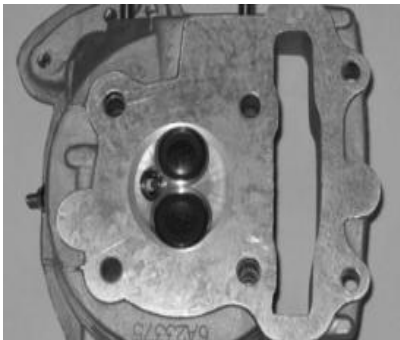
Do not make any object fall into the crankcase.  
Install the piston, piston pin and retainer ring.

## 3.6. Installation of cylinder



Apply a layer of oil around the inside of the cylinder first and then place the piston in the cylinder .

## 3.7. Installation of cylinder head Sub Assembly



Blow compressed air through all oil passages. Apply grease to the stem of valves

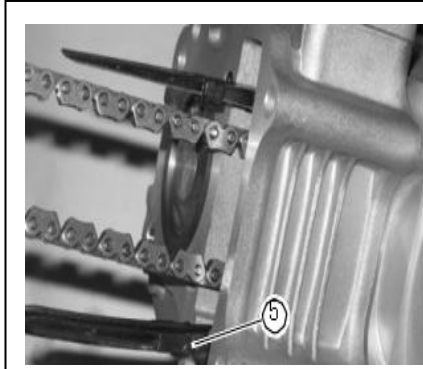
Apply engine oil to new valve boot.



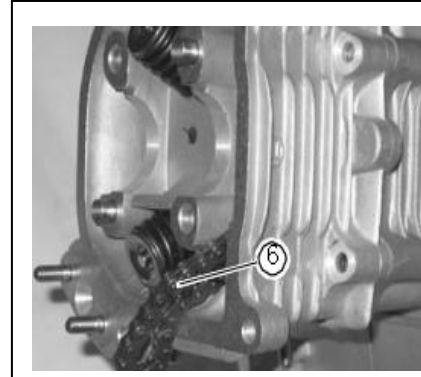
Install valve spring seats ① and new valve boot ②



## 3.8. Assembly

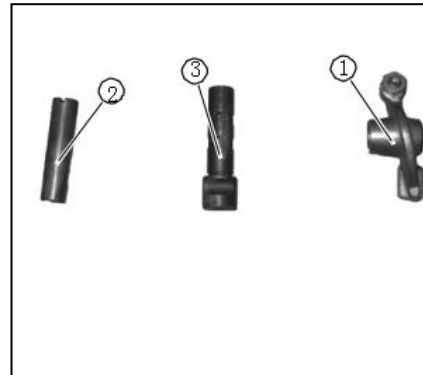


Clean the contact surface between cylinder and cylinder head.

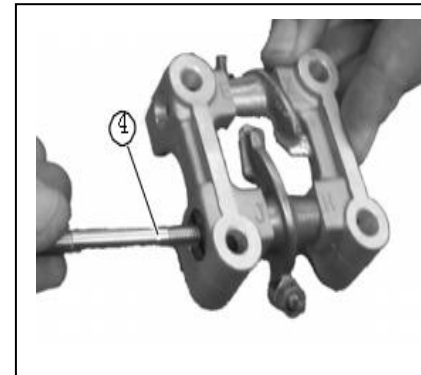


Install dowel pin and new gasket to cylinder. Take out timing chain through chain chamber of cylinder head and install cylinder head to cylinder.

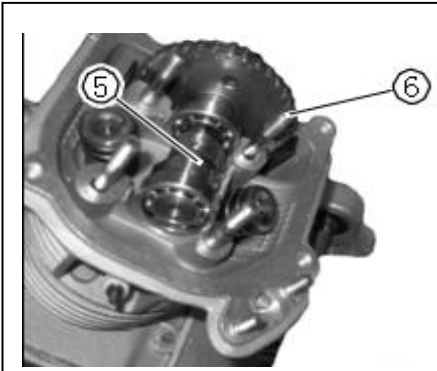
## 3.9. Install cam shaft holder



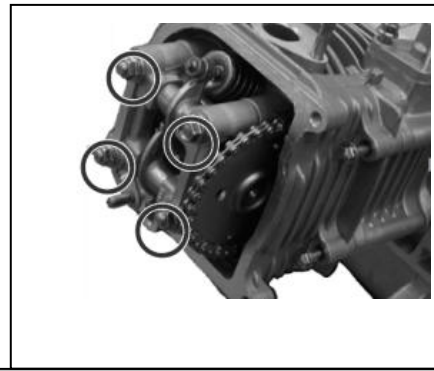
Apply engine oil to sliding surface of rock arm ①, and rock arm shaft ②③.



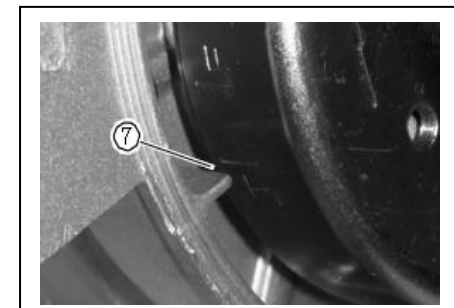
Insert bolt M5 ④ into rocker shaft, then install rock arm and shaft to cam shaft holder by this bolt.



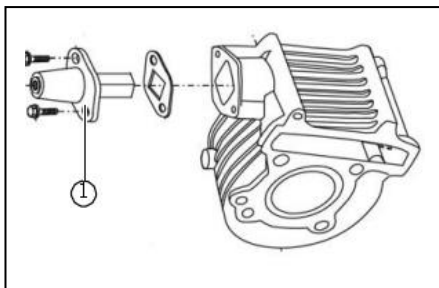
Insert cam shaft⑤to timing chain⑥.



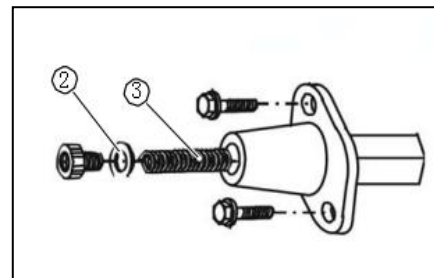
Diagonally tighten cam holder nuts to specified torque.  
Specified torque: 18N.M



Turn crankshaft counterclockwise till “T” mark on flywheel align with indicator mark on crankcase RH. Apply engine oil to timing chain and sprocket. Align the mark on sprocket with flat surface of cylinder head.



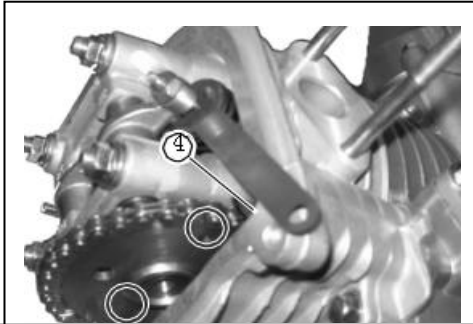
Install timing chain tensioner and gasket with two bolts and tighten to specified torque.  
Specified torque: 10N.m



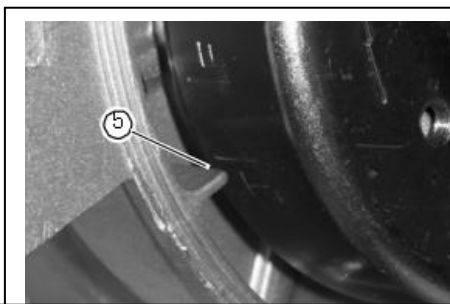
Apply engine oil to new O-ring② and insert into tensioner. Insert spring③ into tensioner by screw and tighten the screw to specified torque.



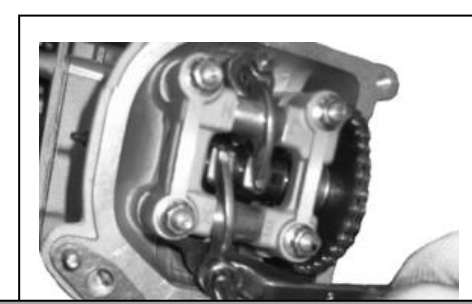
### 3.10. Tappet clearance



Turn crankshaft counterclockwise till the mark on sprocket align to flat surface④ of cylinder head.



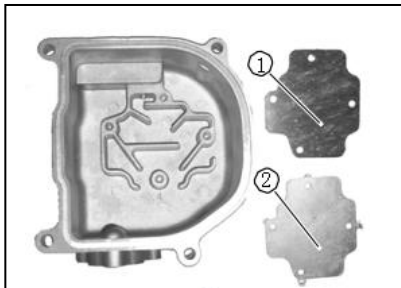
Ensure cam profile upward and primary circle downward, and keep “T mark on flywheel align with indicator mark⑤ on crankcase RH.



Adjust Tappet clearance to specification, and tighten the lock nut to specified toque.

Specified toque: 10N.m.

### 3.11. Cylinder head cover sub assembly

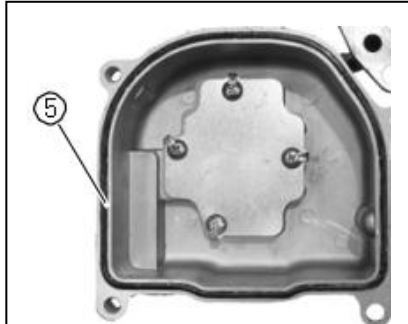


Install plat② and new gasket① to cylinder head cover.

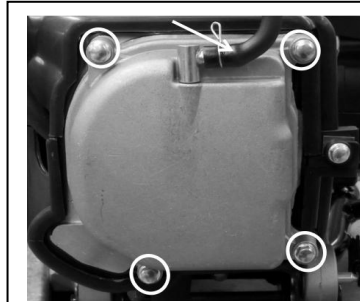


Bend the edge of plate to lock the bolts with long nozzle pliers.

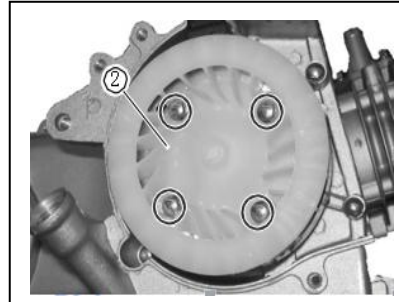
### 3.12. Installing cylinder head cover



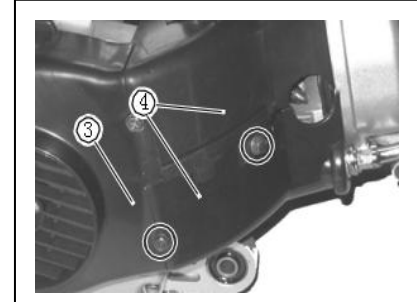
Install new rubber ring ⑤ to sealing surface of cylinder head cover.



Install cylinder head cover to cylinder head, and diagonally tighten the mounting bolts to specified torque. Connect breath hose. Specified torque:

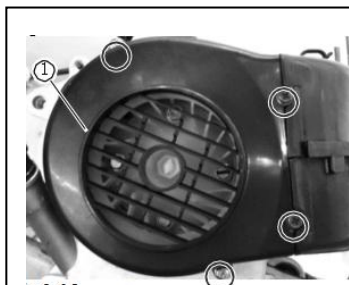


Install cooling fan ②, and tighten the mounting screws to specified torque.

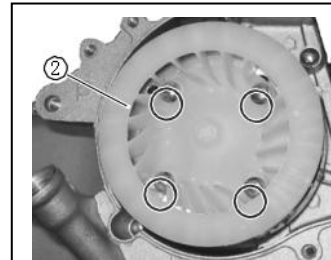


Install fan cover ③, upper shroud and lower shroud ④, and tighten the mounting screws to specified torque.

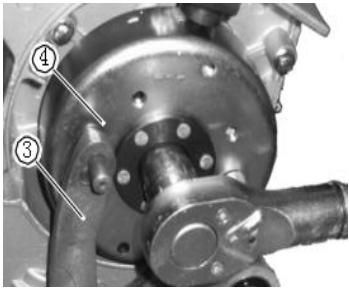
### 3.13. Crankcase Disassembly/Magneto ASSY



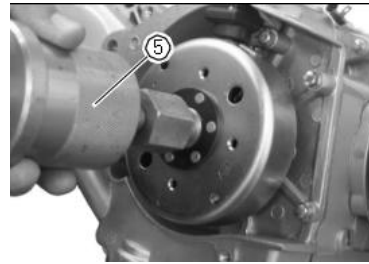
Remove screws and fan cover ①.



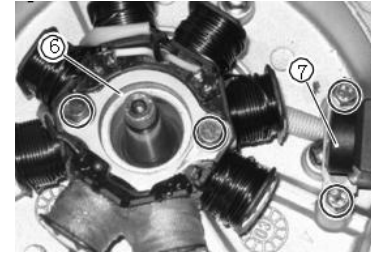
Remove bolts and cooling fan.



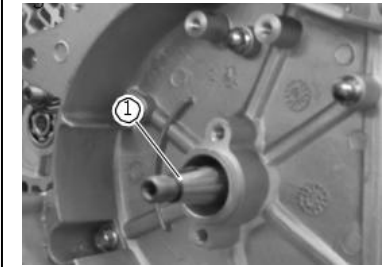
Hold the flywheel④ by special tool③ and loosen the nut.  
Special tool: flywheel holder



Take out flywheel nut and washer. Remove flywheel by special tool ⑤.  
Special tool: flywheel remover



Loosen stator bolts and pulse coil bolts. Remove stator⑥ and pulse coil⑦.



Remove the woodruff key① from the crankshaft.

### 3.14. Starter motor

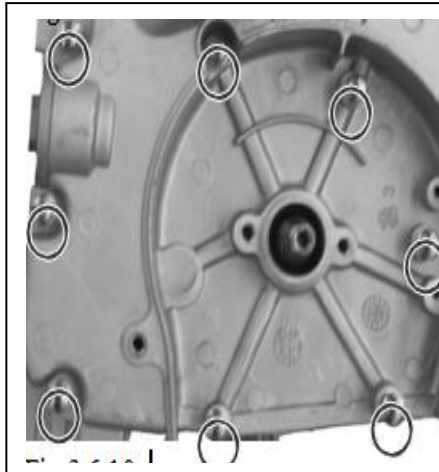


Remove bolts and starter motor.

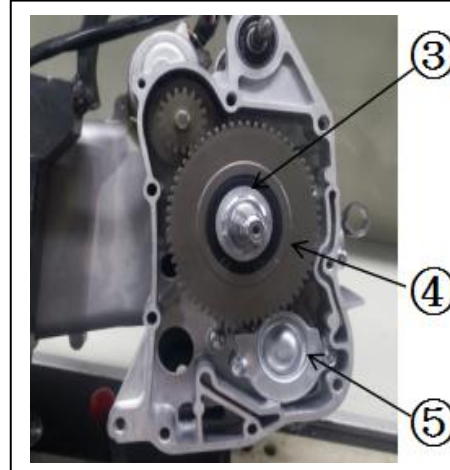


Remove O-ring② from starter motor.

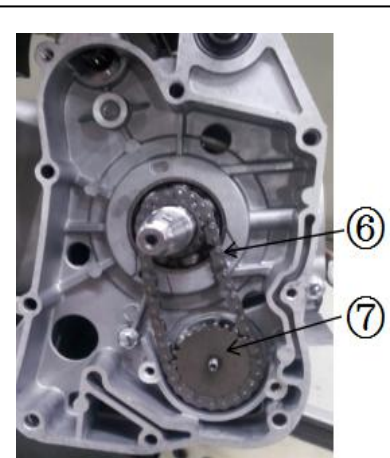
### 3.15. Cover RH /Oil pump



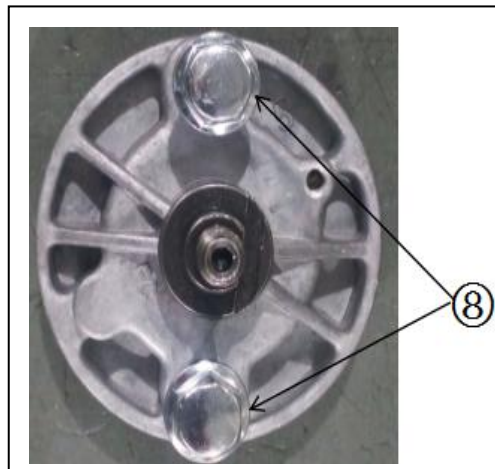
Loosen mounting bolts and remove cover RH.



When removing oil pump, take care to prevent dust from entering the crankcase.  
Remove mounting nut③ ,oil pump gear④and platen⑤.

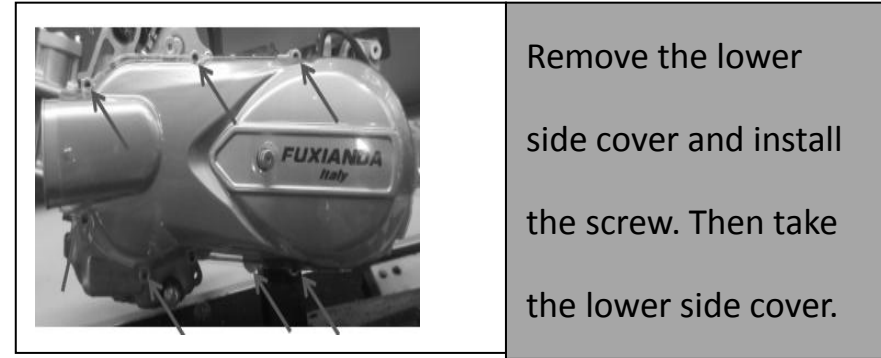


Remove the drive chain⑥ and gear of the oil pump⑦.

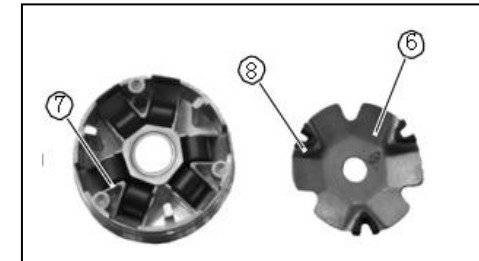
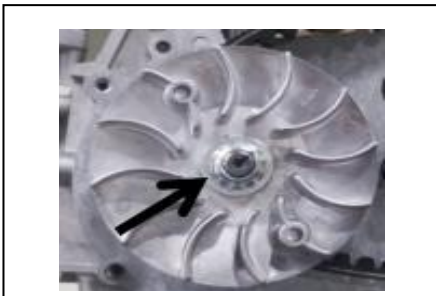


Remove the mounting screws⑧ of the oil pump and remove the oil pump.

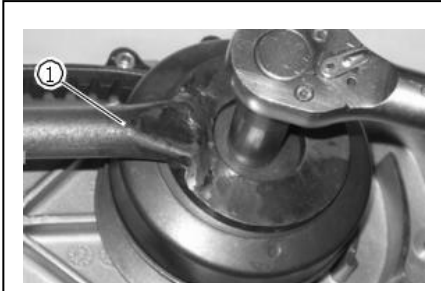
### 3.16. COVER LH



### 3.17. CLUTCH ASSY Pulley drive



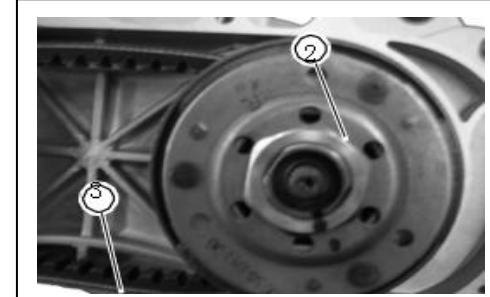
### 3.18. Clutch ASSY / Driven pulley



Hold the clutch hub by special tool① to loosen the nut.  
Special tool:clutch hub holder

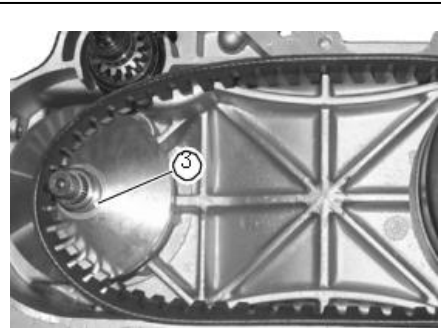


Remove clutch hub.

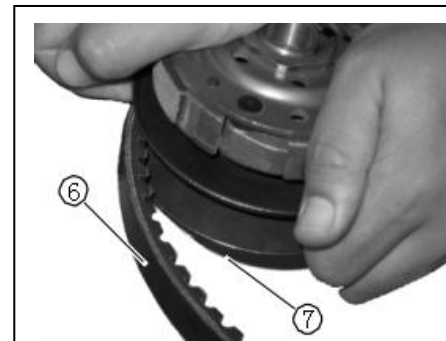


Remove the driven plate assy②  
and belt③.

### 3.19. Drive belt

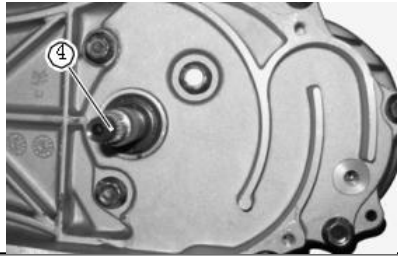


Put drive belt out of the  
bush③ of drive face assy.

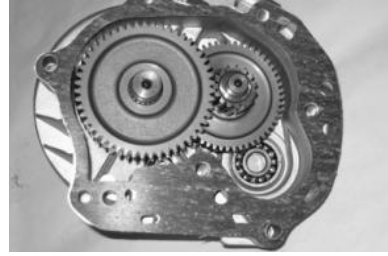


Take the belt out of  
the clutch.

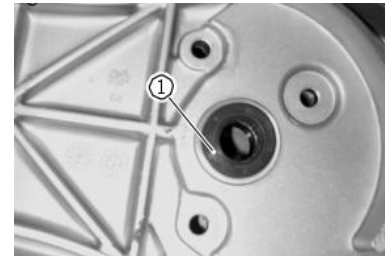
### 3.20. GEAR BOX



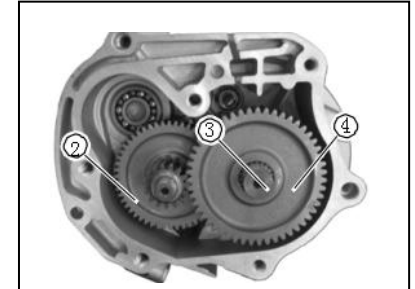
Loosen the bolts, and remove gear box. Remove drive shaft④.



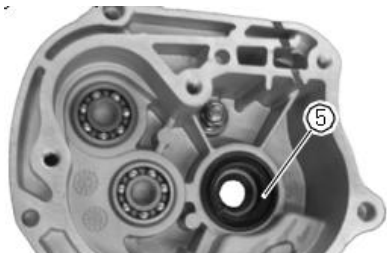
Remove gasket and dowel pins.



Remove oil seal of drive shaft ①.



Remove the parts in following order: Final gear④  
Final shaft③ Counter shaft②



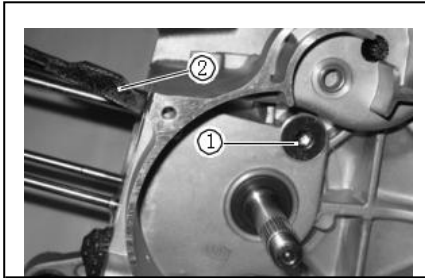
Remove the parts in following order: Final gear④  
Final shaft③ Counter shaft②



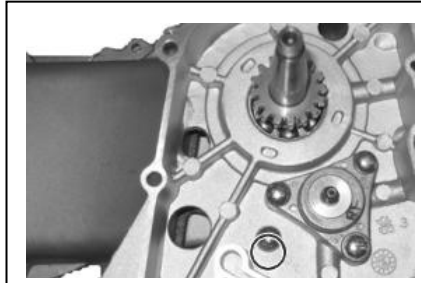
Drive out final shaft bearing, drive shaft bearing and counter shaft bearing by special tools.

Special tool: Bearing puller

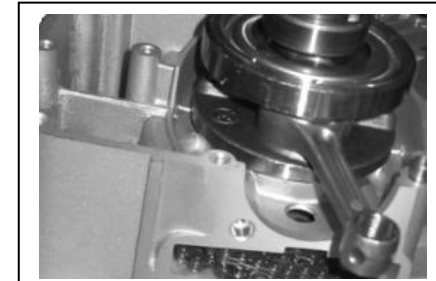
### 3.21. CRANK CASE



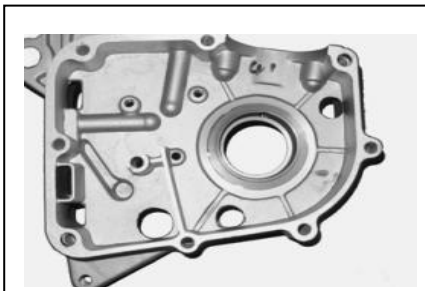
Remove chain tension pivot ① and chain guide②.



Loosen crankcase bolts.



Keep crankcase LH downward, and separate crankcase RH from crankcase LH.



Remove dowel pins, and clean the sealing surface of crankcase.



Slide timing chain③ from timing sprocket of crankshaft, then remove timing chain from crankcase. Remove timing chain.



### 3.22. Crankcase parts inspection/KICK STARTER



Check kick starter shaft for wear and damage. Check the teeth of gears for wear and damage.

Check kick return spring for weak tension and damage. Check collar for wear and damage.

Check bush for wear and damage.



Check the socket on cover LH for wear and damage.

### 3.23. Drive belt/Ball assembly



Check belt for scratch, separation and over wear, and measure the width of belt.

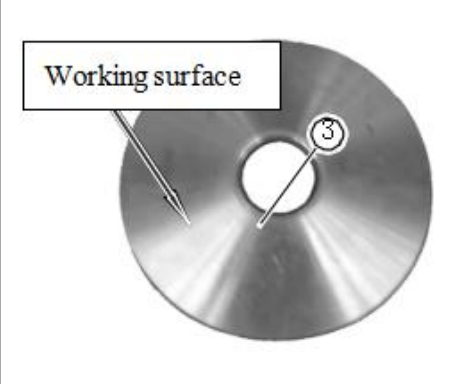
Service limit: 17.0mm

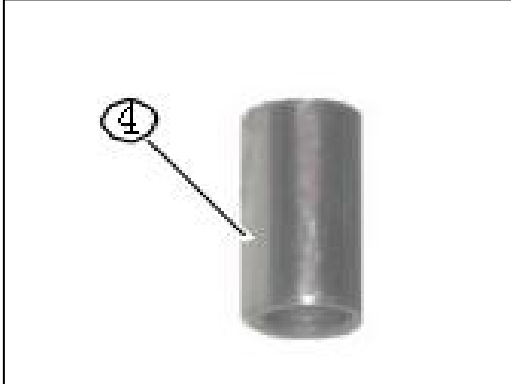


Check the rollers② for wear and damage, and measure O.D. of rollers.

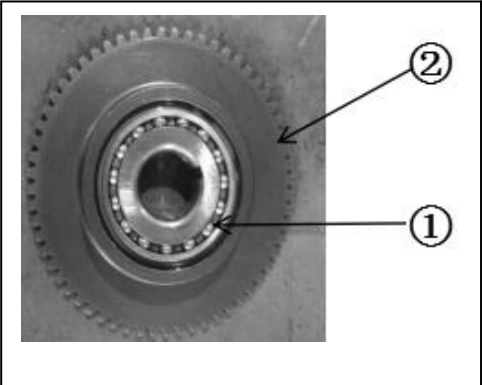
Service limit : 15.4mm

### 3.24. Moveable drive face assy

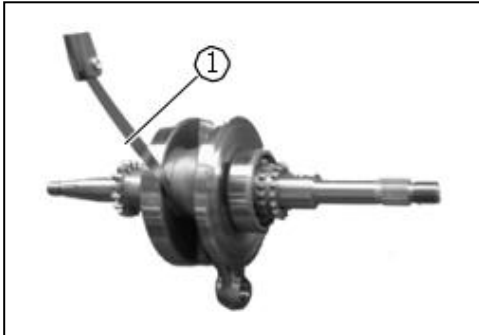
	<p>Check the working surface of moveable drive face assy for wear and damage, and measure its I.D. ③. Service limit: 20.17mm</p>
---	--

	<p>Check the inner bush of moveable drive face assy for wear and damage. Measure O.D. of inner bush. Service limit: 19.97mm</p>
---	---

### 3.25. Starter motor clutch

	<p>Ensure starter motor clutch operating smoothly. Check the gear② of clutch for wear or other defect. Check whether the bearing① is damaged.</p>
--	---

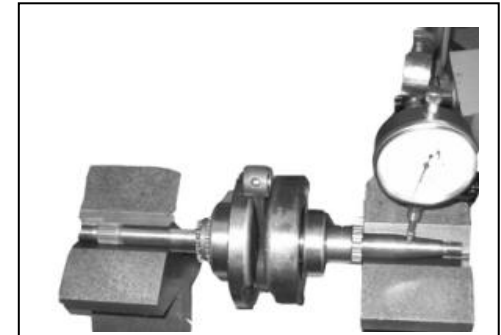
### 3.26. Crankshaft inspection



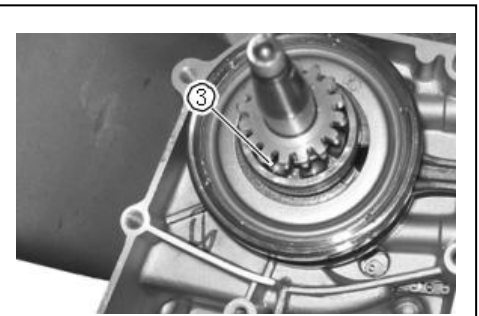
Measure the axial gap at connecting rod big end by thickness gauge.  
Service limit: 0.55mm



Set the crankshaft on V block, and measure the face run-out at connecting rod small end by diameter-indicator②.  
Service limit 0.02mm



Set the crankshaft on V block, and measure the radial run-out at journal by diameter-indicator②.  
Service limit: 0.10mm

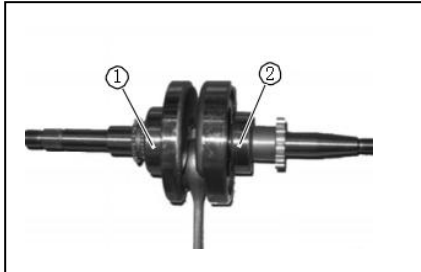


Check the oil pump driving gear on crankshaft for wear and damage.

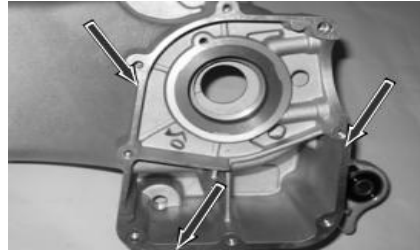


Turn the outer ring of bearings of crankshaft by finger to ensure them working smoothly.

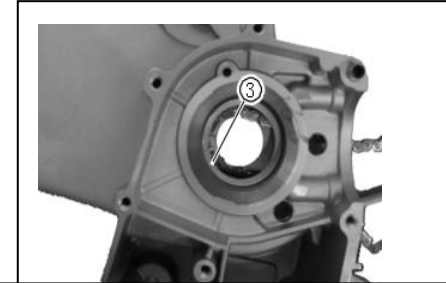
## 3.27. Crankcase Parts Reinstallation



Turn the bearing of crankshaft by finger to ensure it moving smoothly and quietly, otherwise replace it.



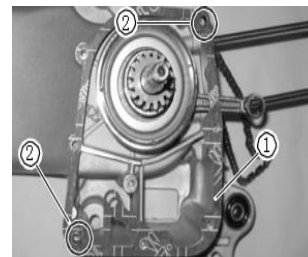
Always take care to avoid damaging the sealing surface of crankcase. Clean the crankcase and check it for scratch or damage.



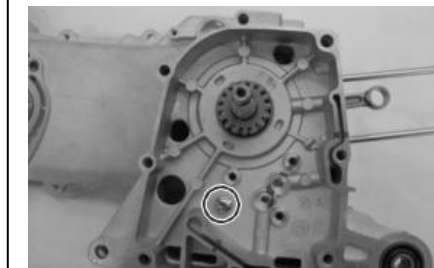
Apply engine oil to timing chain<sup>③</sup> and insert it into crankcase. Apply engine oil to crankshaft bearing.



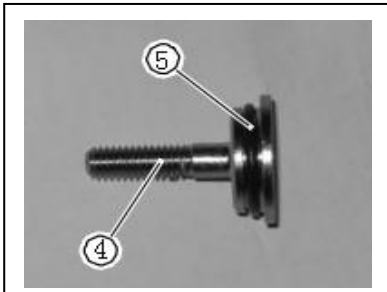
Apply engine oil to big end of connecting rod, and crankcase bearing. Press crankshaft assy into crankcase LH through timing chain till it fitted firmly.



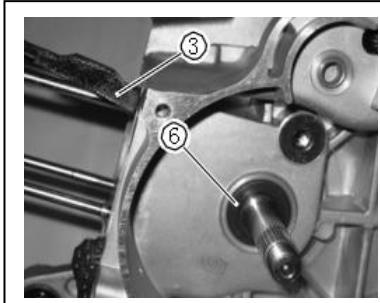
Clean the sealing surface of crankcase RH & LH, and install gasket<sup>①</sup> and dowel pin<sup>②</sup>.



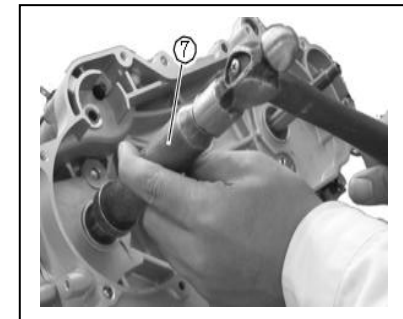
Install crankcase RH to crankcase LH, and tighten the bolts to specified torque.  
Specified torque: 10N·m



Insert tentioner movable guide<sup>③</sup> to crankcase LH. Insert the pin<sup>④</sup> of tentioner movable guide and O-ring<sup>⑤</sup> to crankcase LH and tighten to specified torque.

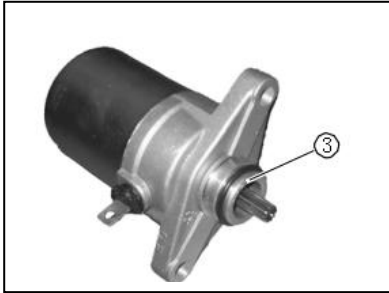


Insert tentioner movable guide<sup>③</sup> to crankcase LH. Insert the pin<sup>④</sup> of tentioner movable guide and O-ring<sup>⑤</sup> to crankcase LH and tighten to specified torque.

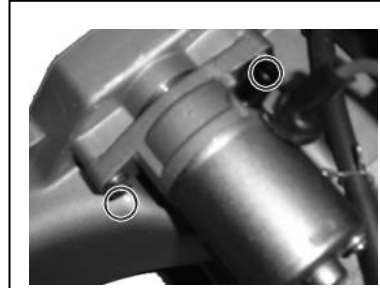


Apply grease to the lip of fresh oil seal<sup>⑥</sup>. Drive the oil seal into crankcase LH till it equal to crankcase. Tool:Oil seal driver

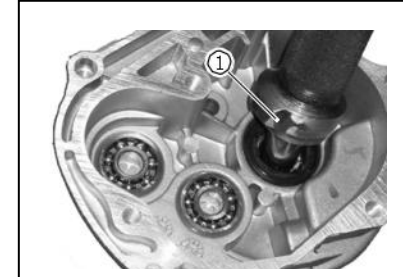
## 3.28. Starter motor/Gear box



Apply engine oil to new O-ring, and insert it to the end cover of starter motor.

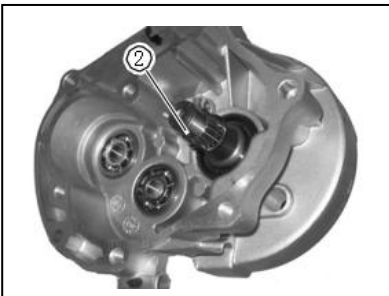


Install starter motor to crankcase LH, and tighten mounting bolts to specified torque.  
Specified torque: 10N·m



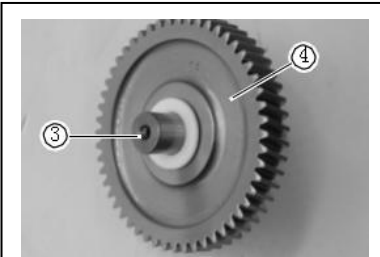
### Bearing replacement

Apply grease to bearing socket, and press bearings into their socket. Apply grease to the lip of oil seal of final shaft, and install it into gear box by special tool ①.

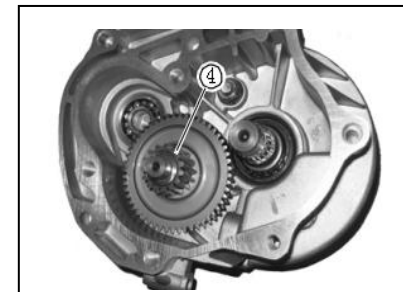


### Assemble gear box

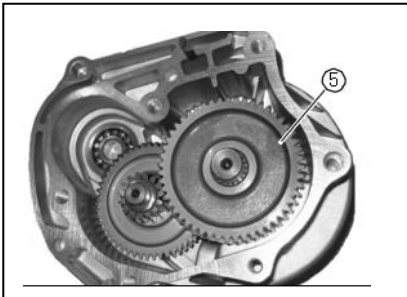
Apply engine oil to gears and shafts. Install final shaft to its bearing.



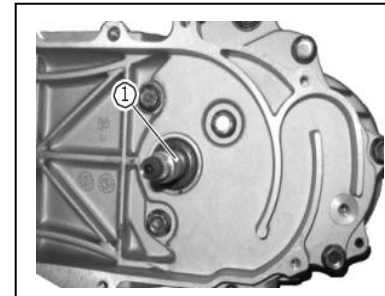
Install washer ③ to countershaft ④, and install them to bearing.



Install washer to countershaft ④, and install them to bearing.



Install final gear⑤ to final shaft.



Install new gasket and dowel pins. Fasten crankcase cover LH by tightening the bolts to specified torque.  
Specified torque: 10N·M

## 3.29. Starting gear Assy/Pulley drive



Apply 0.1-0.3g grease to shaft of starting gear assy, and insert it into crankcase LH.



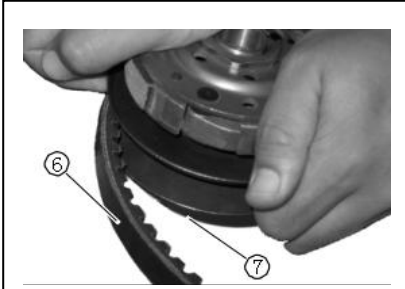
Remove the oil and grease from rollers ③, insert them into movable drive face assy, and install guiding plate to cover them.



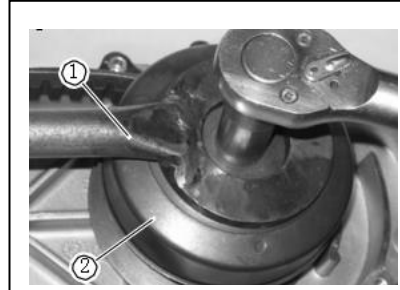
Remove the oil and grease from the surface of movable drive face assy, and insert the inner bush into it.



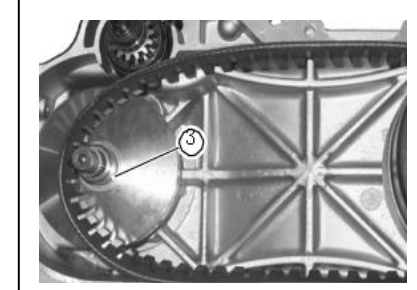
### 3.30. Driven plate assy



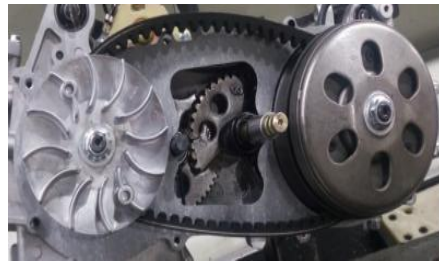
Insert belt⑥ into driven plate assy  
⑦.



Hold clutch hub②specified torque.  
Specified torque: 50N·m  
Specialtool: Clutch holder



Put drive belt out of the bush③ of  
drive face assy.



Install fixed drive face.  
Specified torque: 50N·m  
Special tool: Ratchet holder.

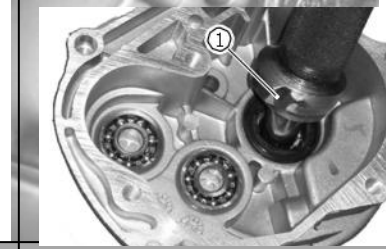
### 3.31. Crankcase cover LH/ Magneto Assembly



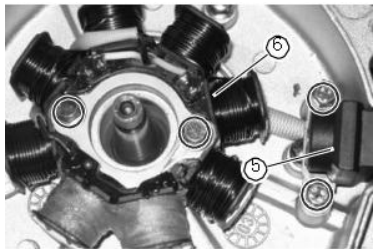
Install dowel pins and new screw on crankcase LH.



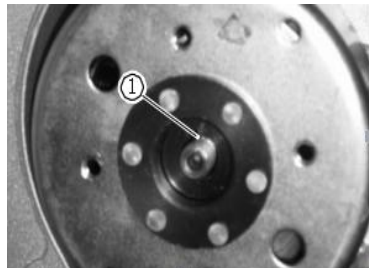
Install crankcase cover LH to crankcase LH, and tighten the bolts diagonally to specified torque. Specified torque: 10N·m



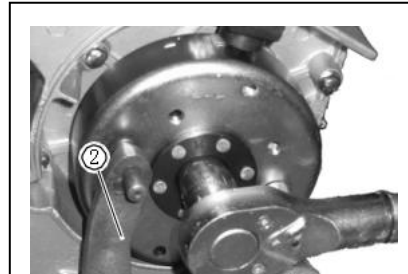
Clean the taper area of crankshaft, and insert the key④ on it.



Install pulse coil⑤, and tighten the bolts to specified torque. Specified torque: 6N·m  
Install stator plate⑥, and tighten the bolts to specified torque. Specified torque: 8N·m

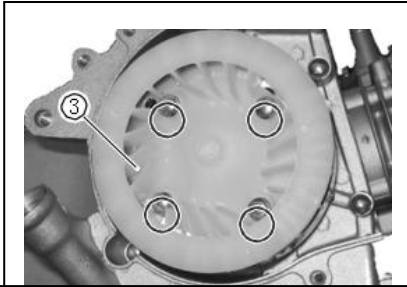


Reinstall kick lever to previous location according to disassembly mark, and tighten mounting bolt.

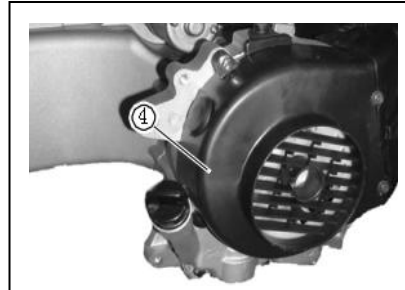


Insert washer, hold fly wheel by special tool ②, and tighten nut to specified torque. Specified torque: 50N·m  
Special tool: Universal holder

## Service and Maintenance



Install cooling fan③, and tighten bolts to specified torque.  
Specified torque: 8N·m



Install fan cover④, and tighten bolts to specified torque.  
Specified torque: 0.8N·m



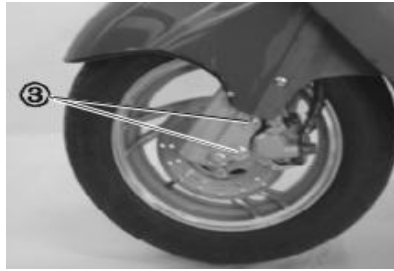
Tighten bolts to specified torque.  
Specified torque: 8N·m

## 4. Frame Body Disassembly

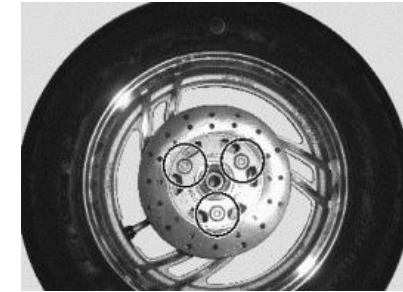
### 4.1. Front Wheel / Disassembly



Remove nut① from front axle.  
Disconnect speedometer cable②



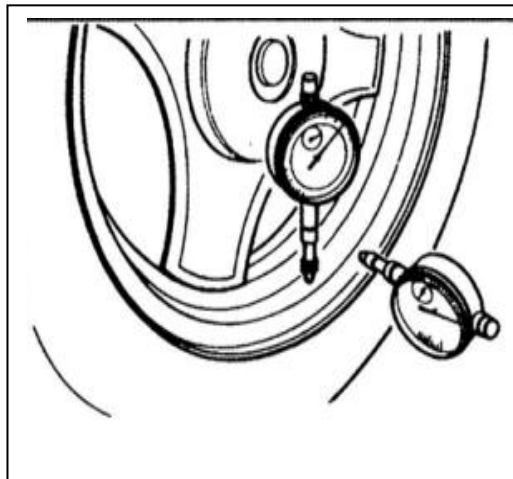
Remove brake caliper mounting bolts③.



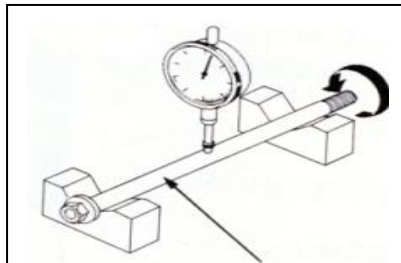
Remove brake disk and bush.



Turn the gear in speedometer gear box to ensure gear and pinion moving smoothly.



Front rim: inspect the run-out (Radial & Axial) of front rim, and ensure it under service limit. If over run-out was caused by damaged rim bearing, rim could be utilized after replacing the bearing. Otherwise replace with new rim. Service limit; 2.0mm.

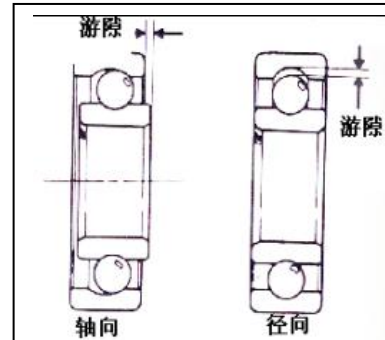


## Front axle:

Inspect front axle run-out by micrometer, and replace it if it exceeds service limit.

Tools: Micrometer Magnetic base V-block.

Service limit: 0.2mm



## Check rolling of the bearings:

The bearings will not roll if abraded or loosened. Replace it.

(游隙 clearance 轴向 axially 径向 radially)

## 4.2. Front Wheel(Reassembly)

Lubricate the front wheel spindle, gear seat assembly, oil seal (opening), spindle sleeve, bearing 6201-2RS and distance sleeve of bearing.



### 1.Brake disk

Ensure there is no any oil dirt on brake disk.

Apply thread locking sealant 1360 to brake disk mounting bolts, and tighten them to specified torque.

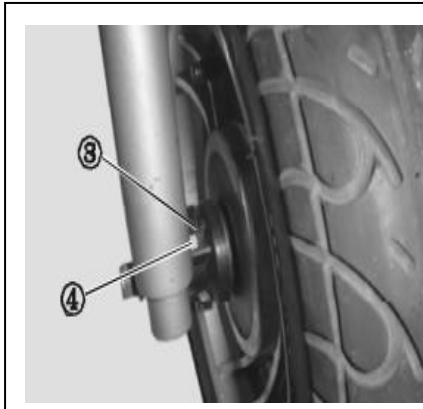
Specified torque: 23N.m



### 2.Speedometer gear box

Apply grease to gear and oil seal before installation.

Align the gear drive piece with the groove on rim, and install the speedometer gear box to rim.

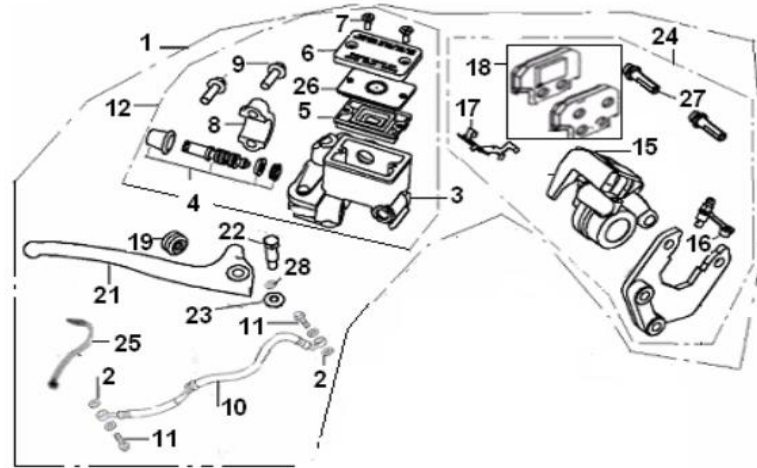


Align the stopper edge on speedometer gear box to the groove on front fork, and install front wheel to front fork by inserting front axle.



3. Front axle nut  
Tighten front axle nut to specified  
Specified torque: 53N.m

### 4.3. Front Brake System



1. front disc brake assembly 2. PLATE WASHER 3. MASTER CYLINDER BODY 4. PISTON ASSY.  
 5. RESERVOIR DIAPHRAGM 6. RESERVOIR CAP 7. SCREW 4X10MM 8. MASTER CYLINDER BRACKET 9. BOLT 6X23MM  
 10. FR. BRAKE HOSE 11. UNION BOLT 12. MASTER CYLINDER ASSY. 15. CALIPER COMP (GOLDEN) 16. BREED SCREW  
 CAP 17. PAD SUPPORT,1 18. BRAKE PAD SET, NON-ASBESTOS 19. TENSION SPRING,LEVER 21. BRAKE LEVER, FR. DISK

#### Caution

Only Grade DOT4 glycol based hydraulic brake fluid is equipped in brake system of this vehicle.

Don't use or mix with silicon or fossil oil based fluid when refilling, otherwise the brake system will be damaged.

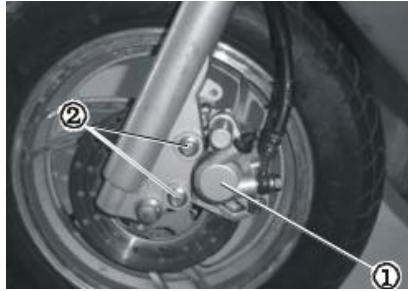
Keep the container properly sealed and away from reaching of child when stocking brake fluid. Don't use long-stocking or unsealed brake fluid.

Take care to avoid any dirt or dust entering the brake system when refilling brake fluid. Use fresh brake fluid only to wash the parts of brake system.

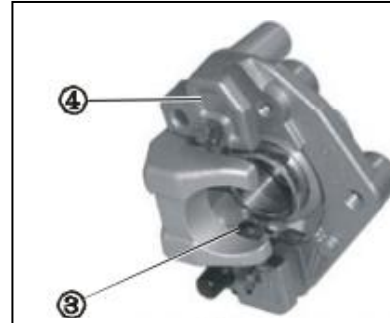
Dirty brake disk and pad will affect brake efficiency. Replace or clean it by neutral abstergen



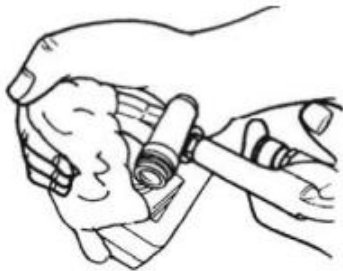
## 4.4. Disassemble and reassemble brake caliper Disassembly



Remove brake hose from brake caliper ASSY by removing the union bolt①, and drain out brake fluid to other container. Remove caliper ASSY mounting bolts②



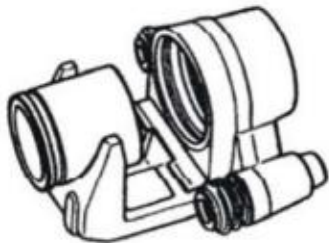
Remove brake pad spring③.  
Remove brake pad holder④.



Cover brake caliper by rap to prevent the piston escape suddenly, push out the piston by compressed air.



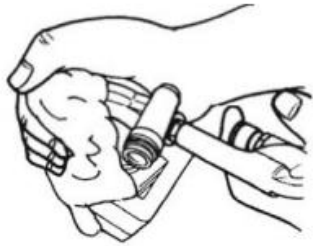
Remove dust ring① and piston sealing ring②.



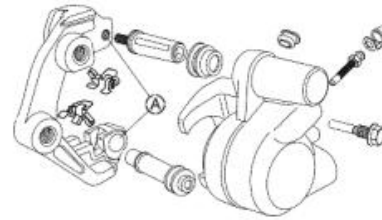
1.Brake caliper  
Check caliper cylinder wall for crack, scratch or other blemish. Replace with new one if necessary.  
2.Brake caliper piston  
Check caliper piston for crack, scratch or other blemish. Replace with new one if necessary.



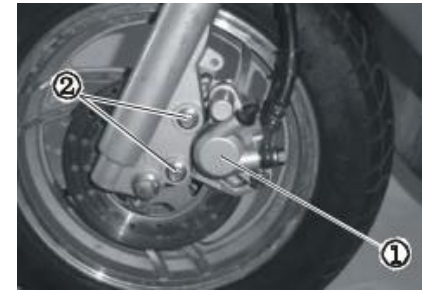
3.Reassemble brake caliper  
Wash the piston and caliper by specified brake fluid, specially the groove for piston ring and dust seal.  
Reassemble the brake caliper in the reverse order of disassembly



Install piston sealing ring and dust ring .

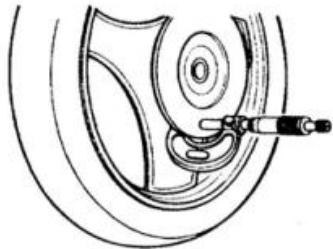


Apply grease to caliper holder A.

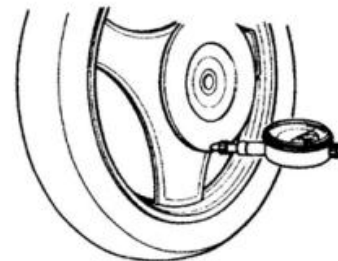


Tighten caliper mounting bolts① specified torque.  
Specified torque:  
Caliper mounting bolts — 26N.m  
Hose union bolts—23N.m

## 4.5. Brake disk inspection



Check the brake disk for scratch, and measure its thickness by micrometer. Replace with fresh one if it is scratched or thickness is less than specified service limit.  
Service limit:2.5mm

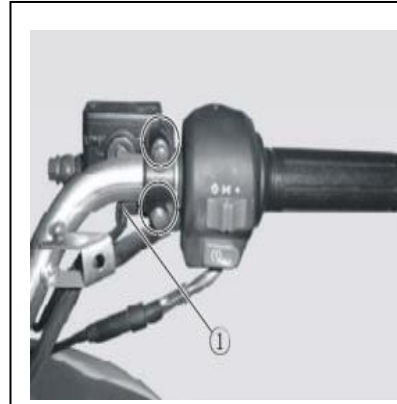


Measure brake disk run-out by diameter-indicator, and replace with fresh one in it exceeds service limit.  
Tools:Diameter-indicator  
Magnetic basic  
Service limit:0.3mm

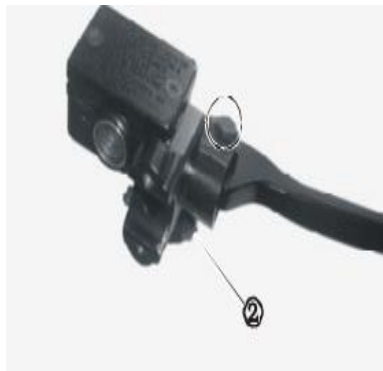
## 4.6. Master cylinder disassembly and installation



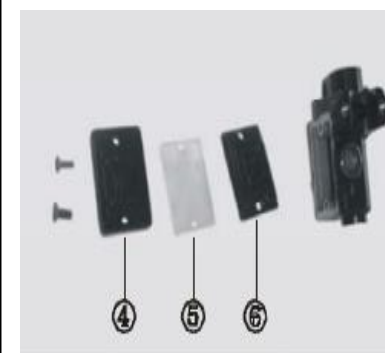
Remove handlebar covers.  
Put some cotton under the brake hose bolt, and then loosen the bolt and remove brake hose.



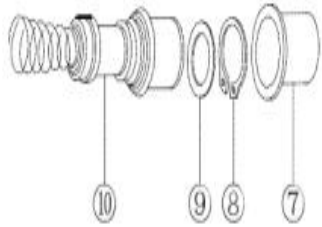
Disconnect wire① of front brake switch.  
Remove master cylinder ASSY.



Remove front brake lever② and front brake switch③.



Remove cap④ and diaphragm⑤⑥.  
Drain out brake fluid.



Remove Dust cap<sup>⑦</sup>, clip<sup>⑧</sup>, washer<sup>⑨</sup> and piston<sup>⑩</sup> along with spring.

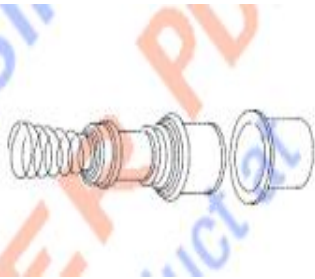


Master cylinder inspection:

1. Cylinder

Check the inner surface of cylinder for scratch or other damage.

Replace it if necessary.



Master cylinder inspection:

2. Piston and rubber ring

Check piston surface and sealing ring for scratch or wear. Replace it if necessary.

### Note:

**Immediately rub the brake fluid away from the surface of any parts. Brake fluid can damage the parts of plastic, paint and rubber due to chemistry.**

## 4.7. Master cylinder disassembly and installation(Reassemble master cylinder in the reverse order of removal).



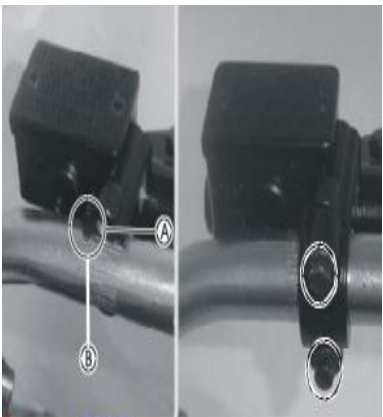
Install the clip properly.

Note

Ensure clip sharp edge facing outward when installing it.



Install the brake switch with its top end aligning with the master cylinder hole.

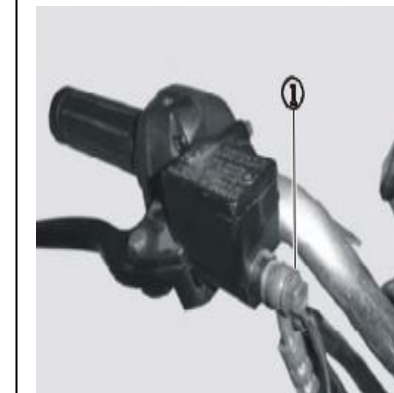


Install the master cylinder to handlebar with its bracket touching area A aligning with the mark B on handlebar.

Firstly tighten the upper bolt, and tighten both bolts to specified torque.

Specified torque: 10N.m

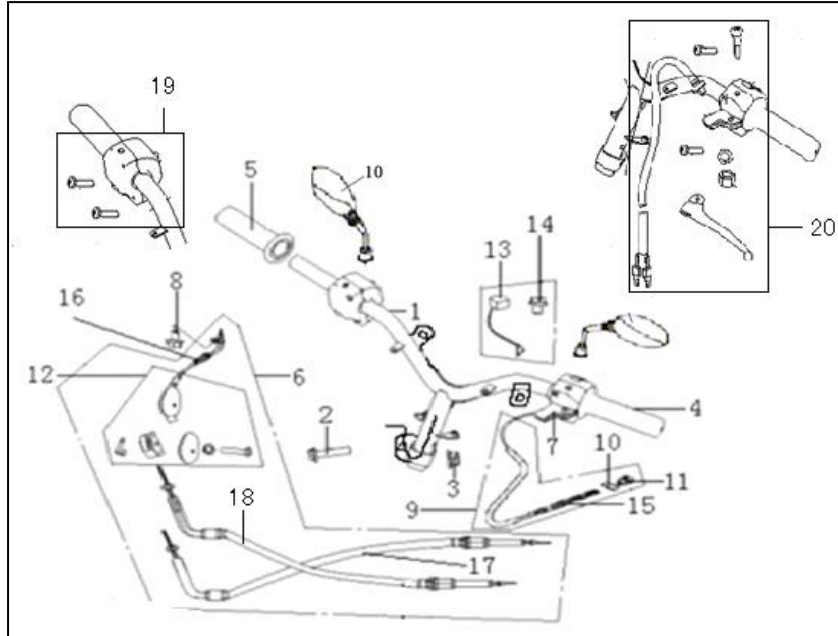
**1.1.1.1.1.1.2. Note: Ensure “UP” mark on master cylinder upward.**



Tighten the brake hose bolt to specified torque.

Specified torque: 23N.m

## 4.8. Steering handle/Disassembly

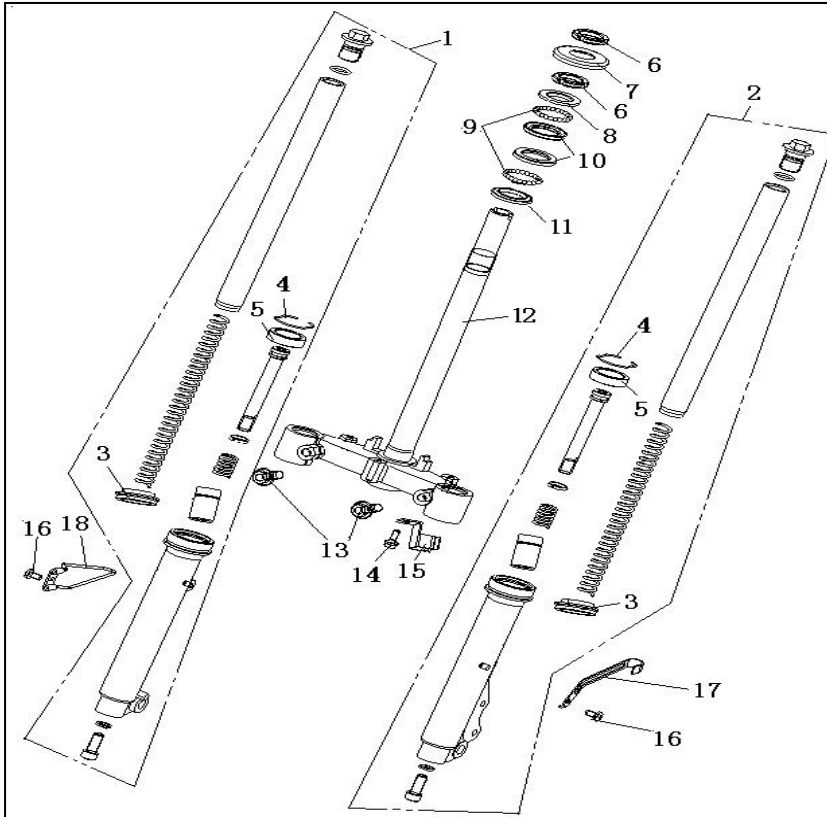


- Remove the rear view mirror assembly.
- Remove the fixing screws of the handlebar shade.
- Remove the front/rear shield the handlebar and dismantle the meter.
- Remove the front shade assembly.
- Remove the left/right combination switch assembly.
- Remove the fuel pump assembly.
- Remove the left grip and the throttle lever assembly.
- Loosen the fixing bolt (2) and nut (3) of the handlebar weld assembly.
- Remove the handlebar weld assembly (1).

## installation

Reassemble Steering handle in the reverse order of removal.

## 4.9. Front fork/Disassembly



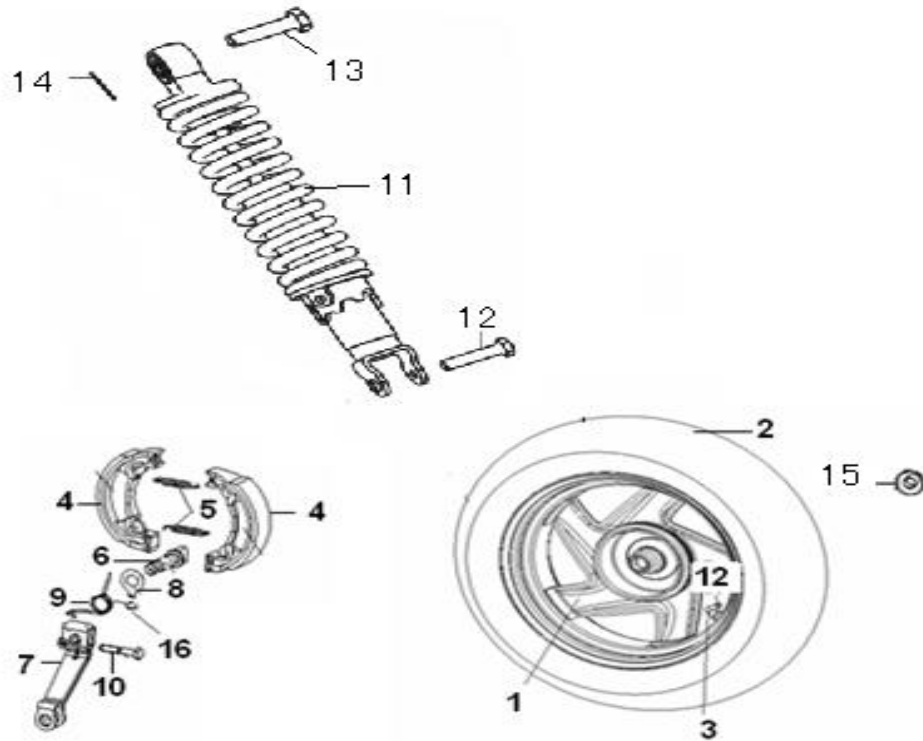
Remove the front wheel.  
 Remove the body guard.  
 Remove the brake hose and the odometer cable.  
 Remove the handlebar.  
 Remove the gland nut (6), dust cover (7), packing steel bowl (8) and steel ball (9) in order.  
 Remove the front fork.  
 Remove the upper/lower steel bowl (10,11) of the lower bearing and steel balls (9).  
 Loosen the fixing bolt of the front absorber.  
 Remove the front left/right absorber assembly (1,2).

Tools:  
 Fixing bolt spanner for the steering handle weld assembly.  
 Fixing nut spanner.  
 Special disassembly tool for bearing steel bowl.

### installation

Reassemble Steering handle in the reverse order of removal.

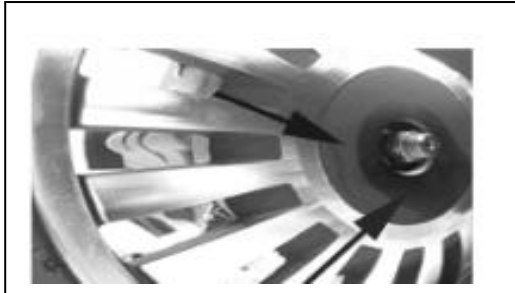
### 4.10. Rear Wheel /Brake/Suspension



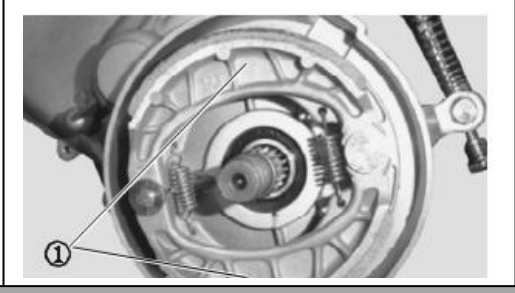
1 RR. RIM COMP. 3.5X12    2. TIRE 130/70-12    3. RIM VALVE Z2-01-1    4. BRAKE SHOE KIT    5. SPRING(BLACK)    6. CAM SHAFT    7. CAM SHAFT LEVER, ASSY    8. BRAKE INDICATOR PLATE    9. TENSION SPRING    10. HEX. BOLT 6X30MM    11. U NUT 16X1.5MM



## 4.11. Disassembly



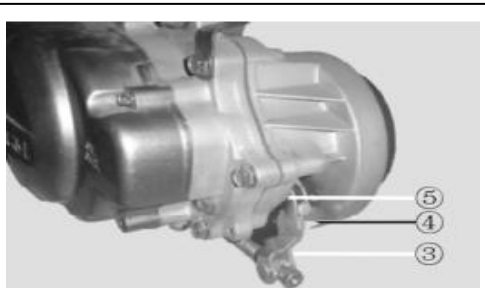
1. Rear wheel and brake  
Stand the vehicle by center stand. Remove muffler.  
Remove rear wheel.



Remove rear brake shoes ①.



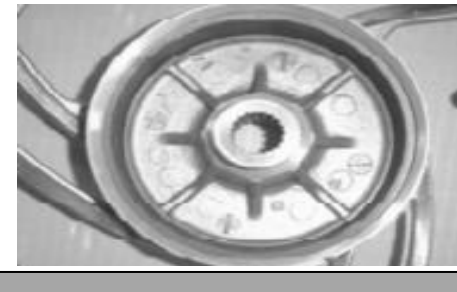
Remove brake adjusting nut ①, brake lever bolt and nut ②



Remove brake lever ③, indicator ④ and brake cam ⑤.



Rear shock absorber Remove frame cover.  
Remove air cleaner. Remove rear shock absorber



Inspection:  
1. Brake hub Inspect I.D. of brake hub, and replace the rim if I.D. exceeds service limit.  
Tool: Caliper  
Service limit 120.7mm

## Service and Maintenance



### 2.Brake shoe

Inspect the brake shoes for wear and damage, and replace the completed set of brake shoes if necessary.



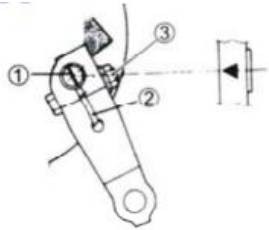
### 3.Rear shock absorber

Inspect the rear shock absorber for leakage or other damage, and replace if necessary.



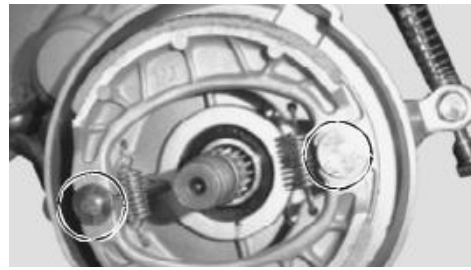
### Reinstallation:

Reinstall rear wheel, brake and suspension in reverse order of removal.



### Reinstallation:

Install the indicator to the brake cam with its tooth aligning with the slot on the brake cam, and then install brake lever to the brake cam. Tighten the brake lever bolt to specified torque. Specified torque: 11N.m



### Reinstallation:

Apply grease to the brake cam and fixed pin before install brake shoes to them.

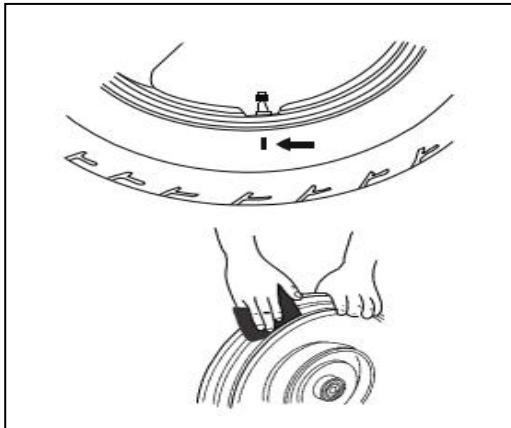


### Reinstallation:

Install rear wheel to final shaft, and tighten the nut to specified torque. Specified torque: 120N.m

## 4.12. Tire and Rim/Dismantle

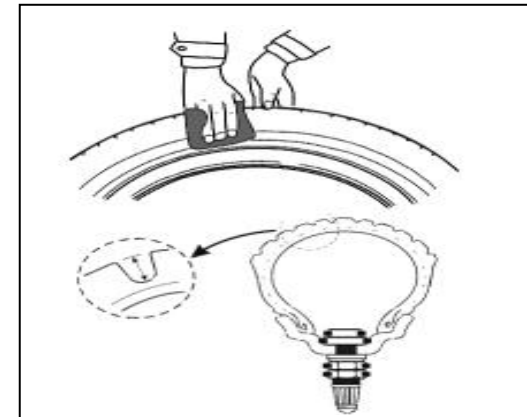
Proper sealing between rim and tire is important for tubeless tire. It is recommended to dismantle and reassemble the tire by tire building machine according to its operation manual.



### Inspection Rim:

Clean and check the rim, and replace with fresh piece if following defect was found.

Deform, crack Scratch at rim edge; Over wear .Service limit 2.0mm.



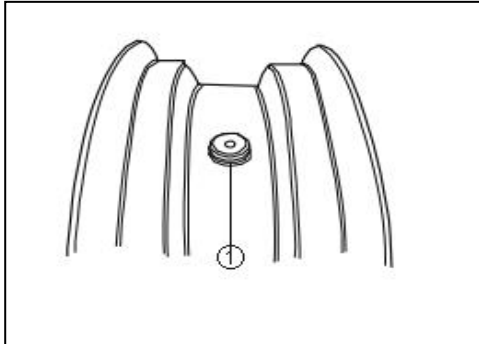
### Tire:

Check and replace the tire if following defect was found.  
Scratch and crack on side face of tire  
Damaged tire cord  
Abnormal wear of tread  
Crack on tire edge  
Tire protector disarrangement .

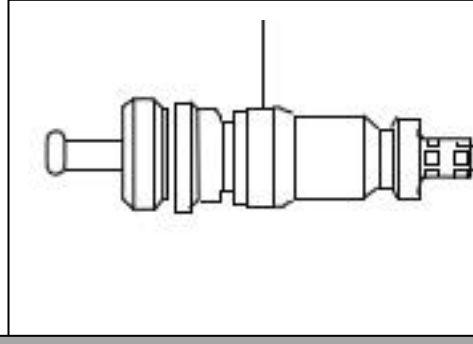
Tool: Tire tread tester

Service limit of tread depth (Front & rear)1.6mm.

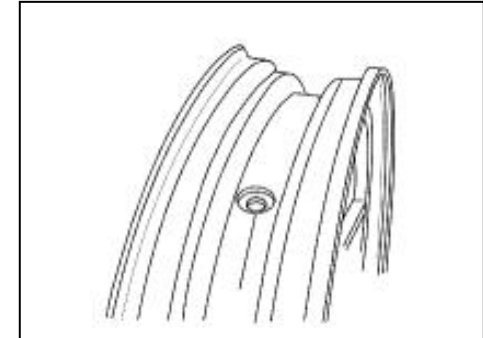
### 4.13. Inflating valve



Check the inflating valve ① and sealing ring for crack or other damage. Replace if necessary.



Remove the dust and rust surrounding inflating valve.

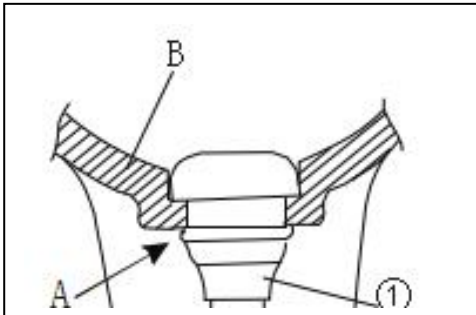


Install inflating valve ① to rim.

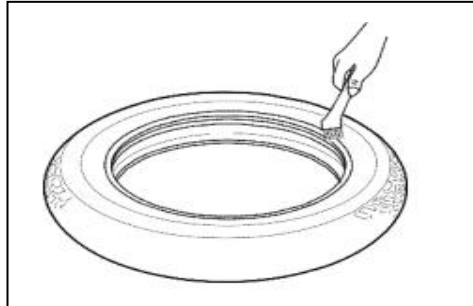
#### Note:

Apply special lubricant or neutral soap emulsion on inflating valve before installing it.

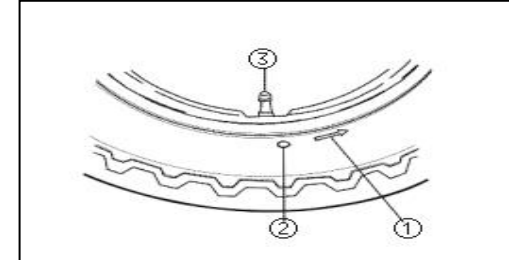
## 4.14. Reinstallation



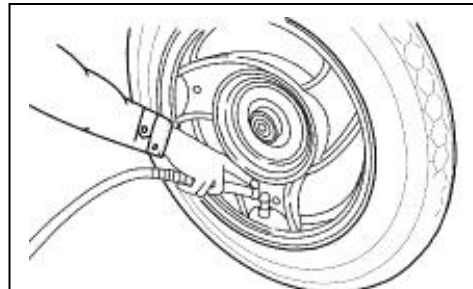
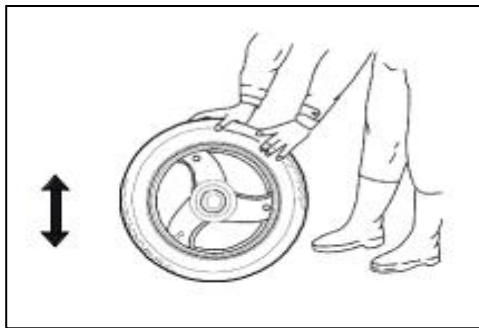
Don't damage the lip A of inflating valve.



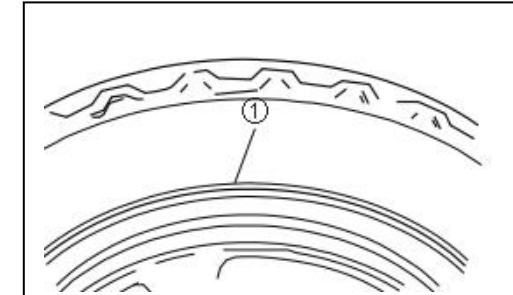
Apply special lubricant on tire edge.  
**1.1.1.1.1.1.3. Note: Don't apply grease, oil or petrol.**



When installing tire to rim, ensure arrow mark ① on tire aiming to the rotate direction of wheel and balance mark ② aligning with inflating valve ③.



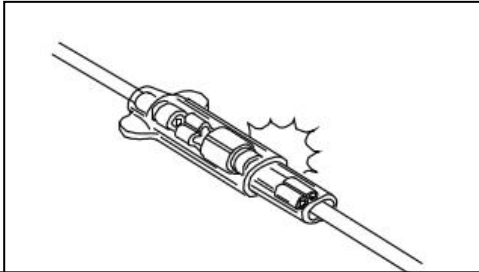
Ensure balance mark aligning with inflating valve before inflating.  
Specified cold tire pressure:  
Front:220kPa    Rear:220kPa



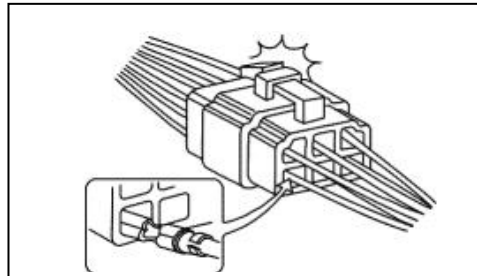
Ensure the tire out of rim is balanced after inflating.  
Otherwise bleed it and reinstall again.

## **5. ELECTRIC SYSTEM**

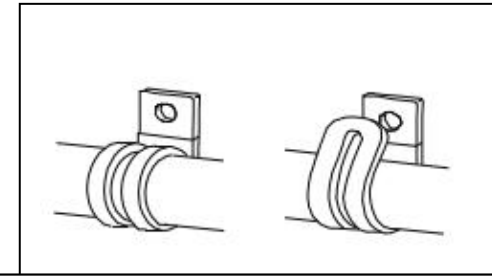
## 5.1. General



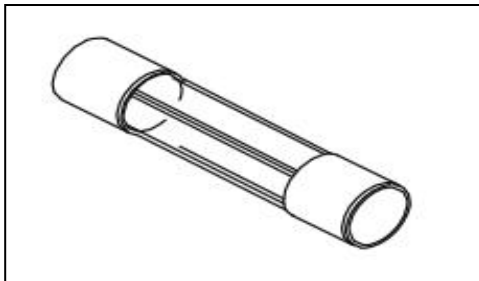
Connector: Hold the connectors instead of wire to disconnect it. Push the connectors firmly to connect it. Check the connector terminal for corrosion, dirt or crack.



Lock connector: Release the lock firstly before disconnecting the connectors. Push the connectors firmly to connect it.

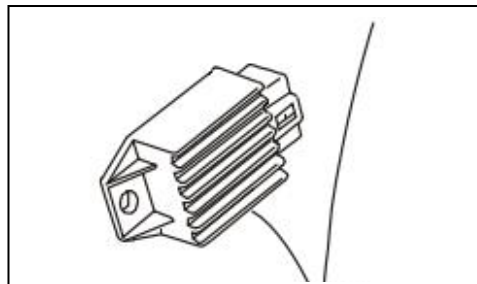


Clamp the wires at the location shown in wire diagram. Don't use wire or other succedaneum instead of clamp.



### 1.1.1.1.1.1.5. Fuse

Check the defect reason before replacing the burned fuse. Don't install the unspecified fuse or other material instead of fuse.



### 1.1.1.1.1.1.4. Semiconductor device

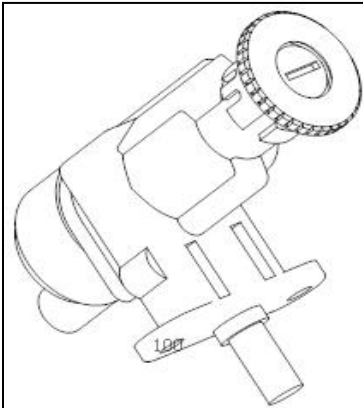
Take care not to drop down the parts contain of semiconductor device, such as ECU, rectifier.



### Battery

Sealed battery is equipped in this vehicle.

### 5.2. Main Switch/Horn



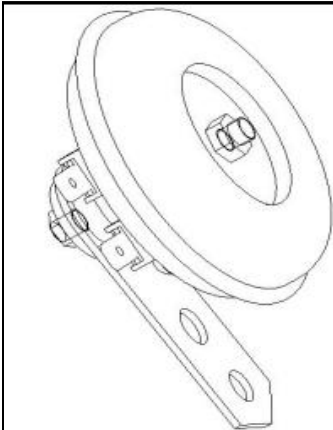
Check

Remove the front guard.

Remove the helmet hook.

Remove the foot guard.

Remove the wiring connector fo the main switch.



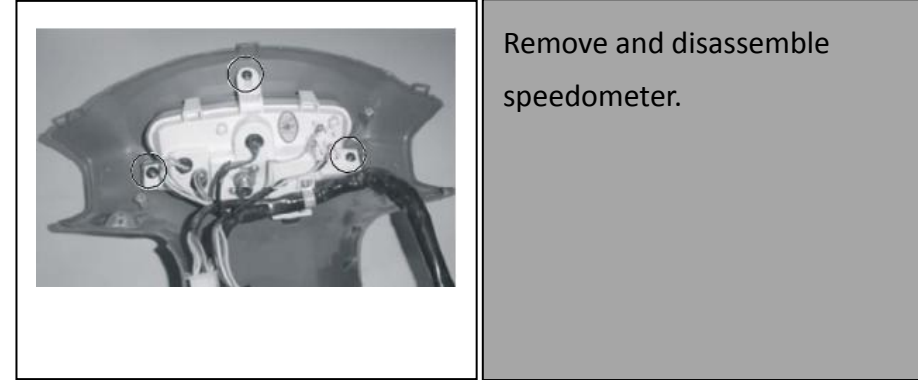
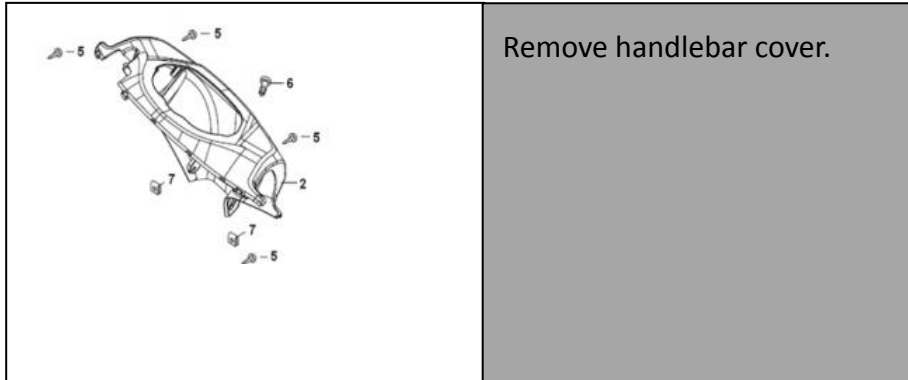
Check

Remove horn wires.

It shows good if making a sound when the horn wire is connected to the battery.



### 5.3. Speedometer ASSY/Dismantle



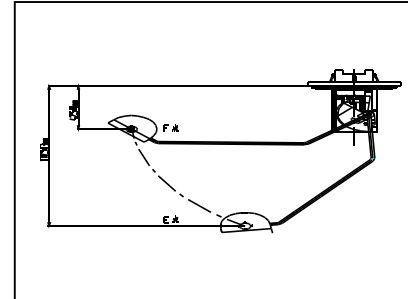
#### Inspection

Install the speedometer in reverse order.

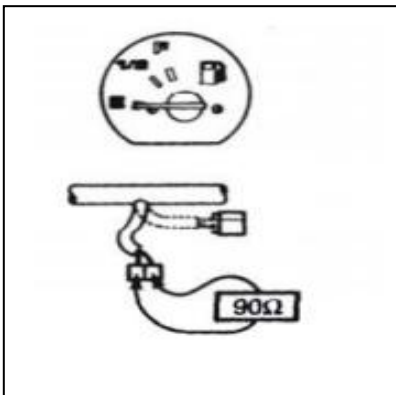
### 5.4. Fuel level gauge/Electric fuel pump



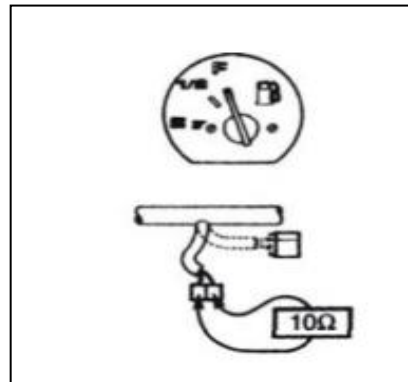
Remove luggage box.  
Disconnect wire coupler of fuel level sensor. Remove fuel level sensor.



Measure the resistance of fuel level sensor at different position.



If resistor of 90-100Ω was connected between B/W & Y/B wire and ignition switch was turned on, fuel level gauge will indicate "E".



If resistor of 6-10Ω was connected between B/W & Y/B wire and ignition switch was turned on, fuel level gauge will indicate "F".

Replace fuel level gauge if defect was found in any inspection.

Reinstall fuel level sensor Reinstall the fuel level sensor in the reverse order of remov.

### 5.5. Switch & Flasher Relay

Ignition Switch

Wire	Black	Red	Black/White	green
Position				
LOCK (Locked)				
(Off)				
(On)				

Front/Rear Brake Switch

Wire	Black	Green/Yellow
Position		
Off		
On		

Horn Switch

Wire	Black	Powder blue
Position		
Press		

Stop Switch on Side Stand

Wire	Green	Black/White
Position		
Released		
Compressed		

Beam Switch

Wire	Blue	White/Blue	White
Position			
(High beam)			
(Low beam)			
Press			

Winker Switch

Wire	Orange	Green	Light blue
Position			
(LH)			
(RH)			

Starter Switch

Wire	Black/White	Yellow/Red
Position		
Press		

## 5.6. Flasher Relay



### Flasher Relay

Flasher relay is located behind front leg shield.

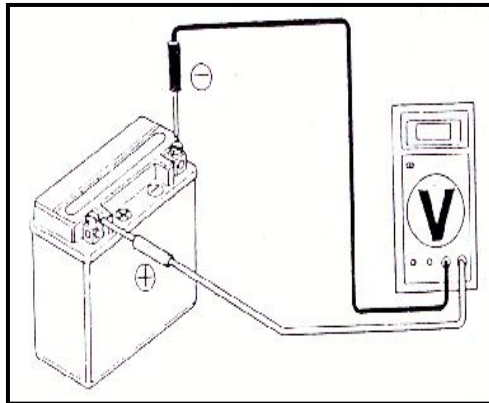
Replace flasher relay when bulbs and electric circuit are in working order, but wipers don't work.

### Note:

**Ensure battery is fully charged before this inspection.**

Note: Ensure the performance of every switch by multi-meter. Replace accordingly if defect was found.

## 5.7. Battery Charging state (closed circuit) inspection



Open the cover of battery container. First remove the negative wire and then remove the positive wire. Take out the battery.

Measure the voltage between battery terminals:

Full charge: 13.1V

Under charge: 12.3V

\* Note

Charge state examination must use a voltmeter operation.



### Charge

Connection method: Connect the battery charger positive pole and battery positive pole together.

Connect the battery charger negative pole and battery negative pole together.

Charging current: standard: 0.6A      Emergency: 6.0A

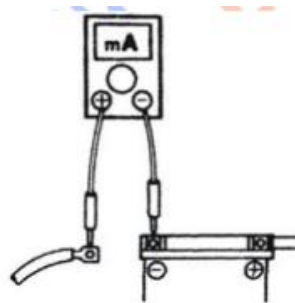
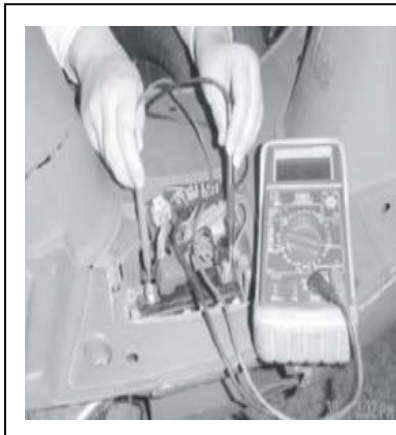
Charging time: standard: 10-15h.      Emergency: 30 min.

Charging complete: closed circuit voltage: above 12.8V

\*Note

- Except emergencies, you should not use emergency charge.
- Measure the voltage for every other 30 minutes.

### 5.8. Charging System



#### Inspection Leakage Test:

Turn the ignition switch off. Remove battery case cover

Disconnect the ground (-) cable from battery.

Connect the ammeter (+) probe to the ground cable and the ammeter (-) probe to the battery (-) terminal, and check for current leakage.

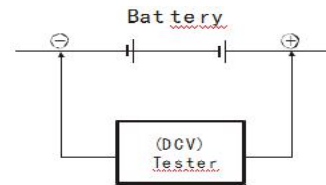
Tool: multi-meter.      Ammeter measurement range : DC 20mA

Specified current leakage: 1mA max

Note: When measuring, firstly set the meter to a high range, and then bring the range down to an appropriate level. Current flow larger than the selected range may damage the meter.



Start engine, turn Light switch to ON position and dimmer switch to HI position, and keep engine running and keep engine running at 5000 rpm.



Connect the multi-meter between the battery terminals to measure DC voltage. If the reading is less than specified value, check alternator coil and regulator/rectifier.

Tool: multi-meter

Voltage measurement range: DC 20V

Specified regulated voltage: 14.0-15.0V at 5000rpm

### 5.9. Stator coil resistance&Generator coil open-circuit voltag.



Remove inspection cap at bottom of luggage box. Disconnect stator coil 3P connector.

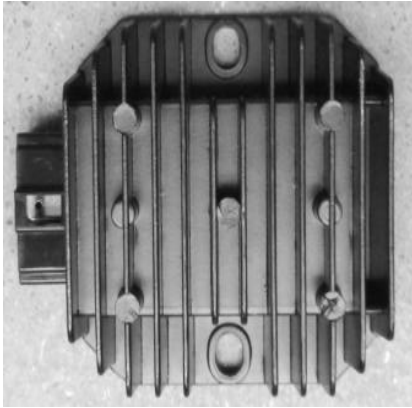
Start engine and keep engine running at 5000 rpm.

Measure open-circuit voltage between terminals of stator coils.

If the reading is less than specified value, replace stator coil. Tool:

multi-meter Measurement range: AC 50V Specified voltage: 30V at 5000rpm

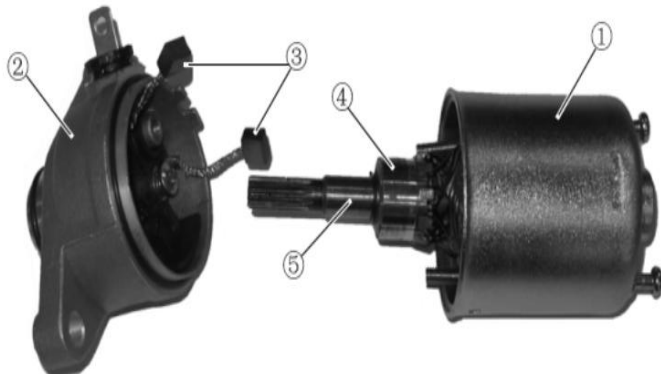
### 5.10. Regulator/rectifier



Remove front leg shield and lower shield  
 Disconnect regulator/rectifier connector  
 Measure voltage between terminals  
 according to following table.

		(+ ) Probe				
		B/R	B/W	B	B	B
(-) P r o b e	B/R		0.4-0.7	0.3-0.6	0.3-0.6	0.3-0.6
	B/W	*		8	8	*
	B	*	*			*
	B	*	*	*		*
	B	*	*	*	*	

### 5.11. Starting System



**Starter motor component:**

Starter motor case①、Holder②、Carbon brush③、Armature④、Commutator bar⑤.

**Specification**

Item	Standard	Service limit
Carbon brush length	6.8mm	4.8mm

### **Inspection:**

#### 1. Carbon brush inspection

When carbon brush worn, starter motor can not generate enough torque, and engine is hard to start.

To avoid this defect, it is necessary to measure length of carbon brush and replace if it is too short or thin.

#### 2. Armature coil inspection

Check armature commutator bar for color changing. Changed color on one couple of commutators bar shows this coil is shorted.

Ensure every couple of commutator bar admittance. Ensure insulation between commutator bar and armature.

### **Trouble shooting:**

#### 1. Starter motor can not work.

Fuse is burn.

Battery is not fully charged

Starter motor wire is disconnected or loose.

Check starter relay performance. When pressing the starting button, contact sound can be heard.

#### 2. When starter motor working, engine turns slowly.

Battery voltage is low.

Battery terminal is not properly connected Starter motor wire is not properly connected Defect in starter motor.

#### 3. When starter motor working, engine can not turn.

Starter motor turns in wrong direction.

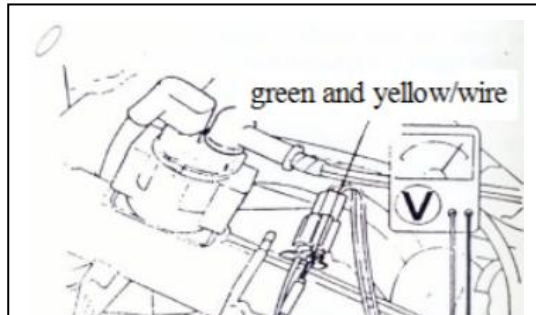


Starter motor terminal is not properly connected. Defect in starter gears.

4. When pressing the starting button, the contact sound can be heard, but engine doesn't turn. Due to defect in engine, crankshaft doesn't turn.

Defect in starter motor.

### 5.12. Starter Relay



#### Check

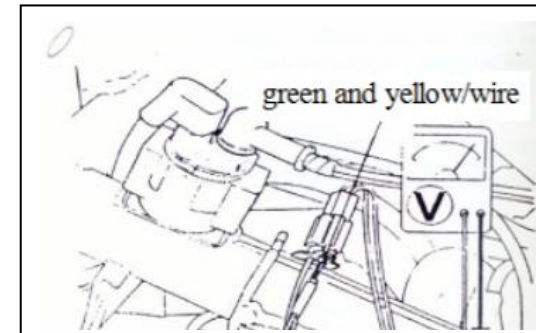
Remove the body guard

When the main switch is “on”, check there is “click” sound at the time of pressing the startup motor.

With click sound, it is normal.

Without click sound:

- check voltage of the starter relay;
- check the GND loop of the starter relay;
- check the movement of the starter relay.



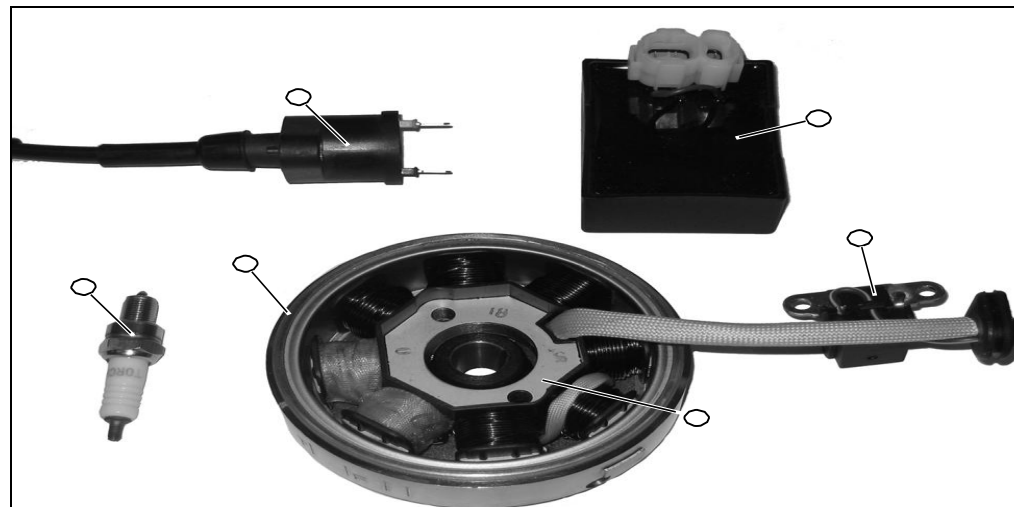
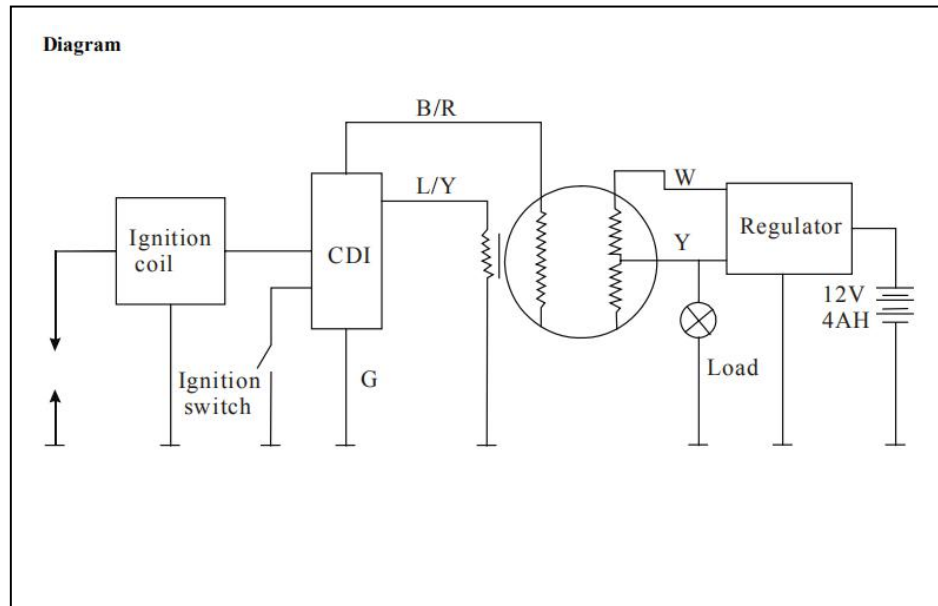
#### Voltage check of the starter relay

Set up the main stand, and measure voltage between the negative pole of the green/yellow wire of the starter relay terminal and the body ground connection.

When the main switch is “on”, hold the brake lever. The battery voltage shall comply with regulations.

When there is no voltage at the starter relay terminal, check the conduction of the brake switch and leads.

### 5.13. Ignition System



## 5.14. Material Preparation

Note of Work:

1. Checking the ignition system following the sequence listed in the table of failure diagnosis.
2. The ignition system is solidified in the ECU group and you don't have to adjust the ignition time.
3. Checking the ignition system following the sequence listed in the table of failure diagnosis.
4. Check whether the connection is bad or not, because usually the reason for failure is poor contact socket.
5. The heat value of the spark plug should be appropriate. Improper spark plug will cause the engine running unsmooth and even the spark plug will be burn-out.

Items		Standard Value	
Recommended Spark Plug	Standard	CR6HSA(NGK)	
	Hot	CR5HSA(NGK)	
	Cold	CR7HSA(NGK)	
Spark Gap		0.6-0.7mm	
Ignition Coil Impedance (20°C)	Primary Coil		
	Secondary Coil	With plug cap	(4±0.2)Ω
		Without plug cap	(19±2)KΩ
Resistance of Trigger (20°C)		10-15KΩ	
Maximum Voltage Measurement of Ignition Coil		100-250Ω	
Trigger Voltage		95-600V	
		0.7V Min	

## 6. Failure Diagnosis

## 6.1. Table

Fault system	Fault	Causes	Troubleshooting
Fuel system	The engine is difficult or is unable to be started.	Fuel cannot enter the carburetor; The fuel negative pressure switch is blocked; The T-pipe leaks; The fuel pipe is blocked; The vacuum pipe is blocked.	Dredge each blocked place. Clean the fuel negative pressure switch Replace the T-pipe Dredge the fuel pipe. Dredge the vacuum pipe
	The motorcycle is difficult to be started or the fuel is excessively consumed.	The carburetor is blocked; The adjustment of the mixing ratio and concentration of the carburetor is incorrect; The carburetor leaks; The fuel filter is blocked; The throttle of the carburetor is worn; The fuel goes bad; The air vent of the fuel tank is blocked; The fuel in the fuel tank is not enough.	Clean or replace the carburetor Readjust the mixing ratio and concentration of the carburetor. Clean the carburetor or replace the carburetor floater Clean the fuel filter Replace the throttle Replace the fuel. Dredge the air vent of the fuel tank Add fuel to the fuel tank
Air intake/exhaust system	The motorcycle is difficult to be started or is short of power.	The Air filter element is blocked; The air filter leaks; The air filter has too much dust; The air filter housing leaks; Too much carbon is built up at the exhaust port; The exhaust port leaks;  The silencer is blocked.	Clean the air filter element Replace the air filter Clean the air filter element. Repair or change the air filter housing.  Clean the carbon buildup at the exhaust port.  The exhaust port leaks.   The silencer is blocked.

## 6.2. Continued

Fault system	Fault	Causes	Troubleshooting
Environmental protection device	Emitted pollutants exceed applicable standards	Too much carbon is built up at the secondary air intake port. The air pump is blocked or damaged. The air pump filter is blocked or damaged. The intake rubber hose is aged or leaks. The clamp is loose or damaged.	Clean the carbon buildup at the secondary air intake port. Replace the air pump. Replace the air pump filter. Replace the intake rubber hose. Replace the clamp.
Ignition system	Weak spark or no spark	There is carbon buildup or dirt on the spark plug. The spark plug gap is improper. The insulation part of the spark plug is damaged, resulting in Short-circuit of electrodes.	Clean the carbon buildup and dirt on the spark plug . Adjust the gap to 0.6mm~0.7mm Replace the spark plug
		Short-circuit of the ignition coil C.D.I igniter is faulty.	Replace the ignition coil Replace C.D.I igniter.
		The impulse generator is faulty. The connection of the ignition system is loose.	Replace the impulse generator. Check each connection.
Air distribution system	The engine is difficult to be started up or the idling is not stable	The sealing washer of the cylinder head leaks. The adjustment of the valve lash is incorrect . The air valve stem bends. Th elasticity of the air valve spring is reduced.	Replace the sealing washer or apply some sealant. Adjust the valve lash to 0.10mm~0.14mm Replace the air valve. Replace the air valve spring.

## 6.3. Continued

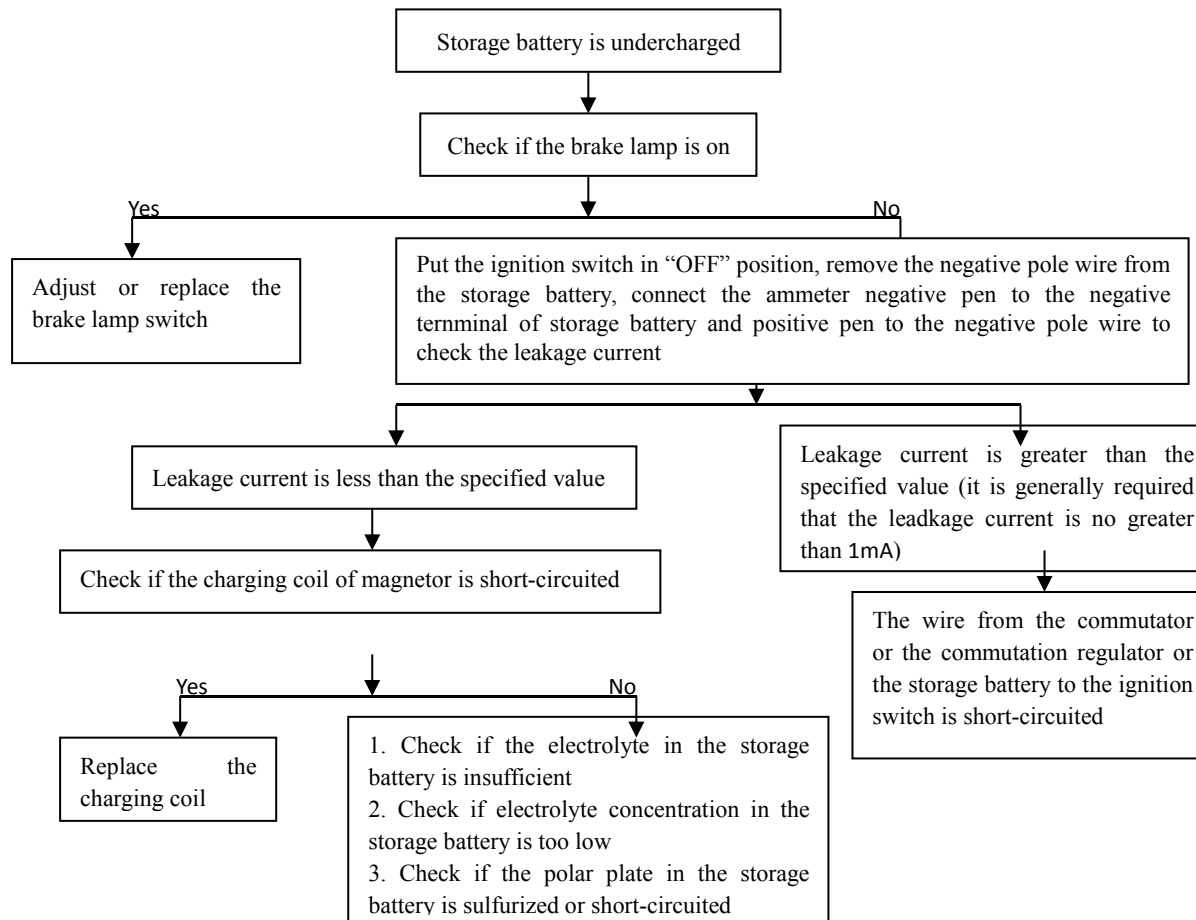
Fault system	Fault	Causes	Troubleshooting
Air distribution system	The cylinder pressure is too high.	There is too much carbon buildup in the combustion chamber and on the top of the piston.	Clean the carbon buildup in the combustion chamber and on the top of the piston.
	The engine shows big noise.	The adjustment of the valve lash is improper. The air valve spring breaks off. The cylinder and piston wear out.	Readjust the valve lash Replace the air valve spring. Replace the cylinder and piston.
	The cylinder pressure is too low.	The cylinder, piston and piston ring seriously wear out.	Replace the cylinder, piston and piston ring.
	The silencer gives blue smoke.	The piston ring wears out. The piston ring is improperly mounted. There is scratch or wear on the piston or cylinder wall.	Replace the piston ring. Remount the piston ring. Replace the piston or cylinder.
	The cylinder head leaks.	The air valve stem or air valve guide pipe wears out.	Replace the air valve stem and air valve guide pipe.
Travel system	The front wheel deviates.	The front shock absorber deforms. The front wheel shafts bends. The front wheel deforms. The front wheel is improperly mounted.  The front wheel bearings are worn out or damaged.	Replace the front shock absorber Rectify the front wheel shaft. Rectify the front wheel and replace the front wheel Remount it  Replace the front wheel bearings.
	The front wheel swings.	The front aluminum wheel deforms. The nut of the front wheel shaft is loose. The tire pressure is too low. The front wheel shaft is loose.	Replace the front aluminum wheel. Tighten the nut of the front wheel shaft. Increase the tire pressure. Tighten the nut of the front wheel shaft.

## 6.4. Continued

Fault system	Fault	Causes	Troubleshooting
Travel system	The rear wheel swings.	The rear aluminum wheel deforms. The tire pressure is too low. The rear wheel shaft is loose.	Replace the rear aluminum wheel. Increase the tire pressure. Tighten the nut of the rear wheel shaft.
Suspension system	The shock absorber is too soft.	The spring of the shock absorber loses elasticity.	Replace the spring of the shock absorber
		The shock absorber is improperly adjusted.	Re-adjust the shock absorber
Braking system	The braking performance is poor.	The brake malfunctions. The brake shoe wears out. The brake disc wears out.	Adjust and repair the braking system Replace the brake shoe Replace the brake disc. Add brake oil.
Lighting system	The head Light is not on.	The head light bulb burns out . The housing assembly switch is faulty. The connecting plug is loose. The fuse burns out. The accumulator cell is faulty.	Replace the head light bulb. Repair the housing assembly switch. Tighten the connecting plug. Replace the fuse. Replace the accumulator cell
		The lighting coil of the magnetor is faulty.	Replace the lighting coil.

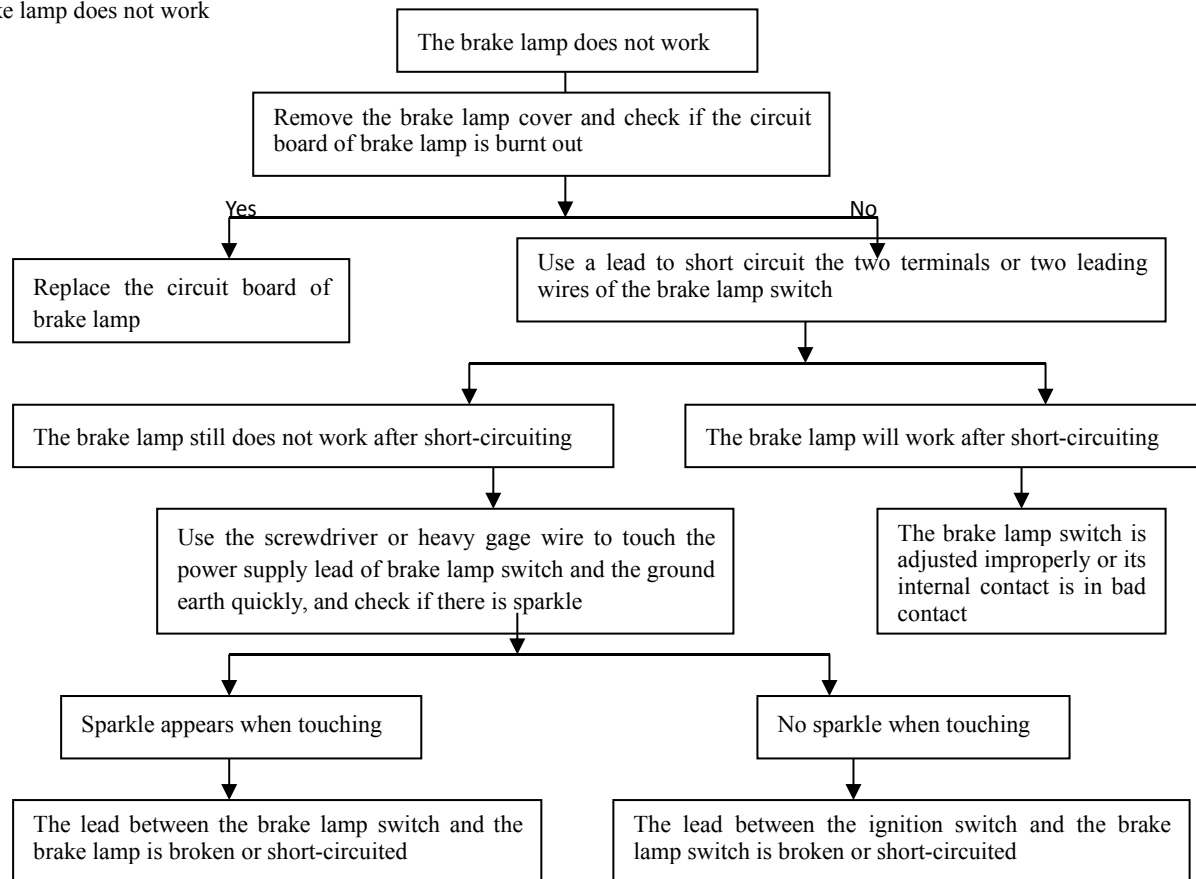


## 6.5. Failure diagnosis procedure when the storage battery is undercharged

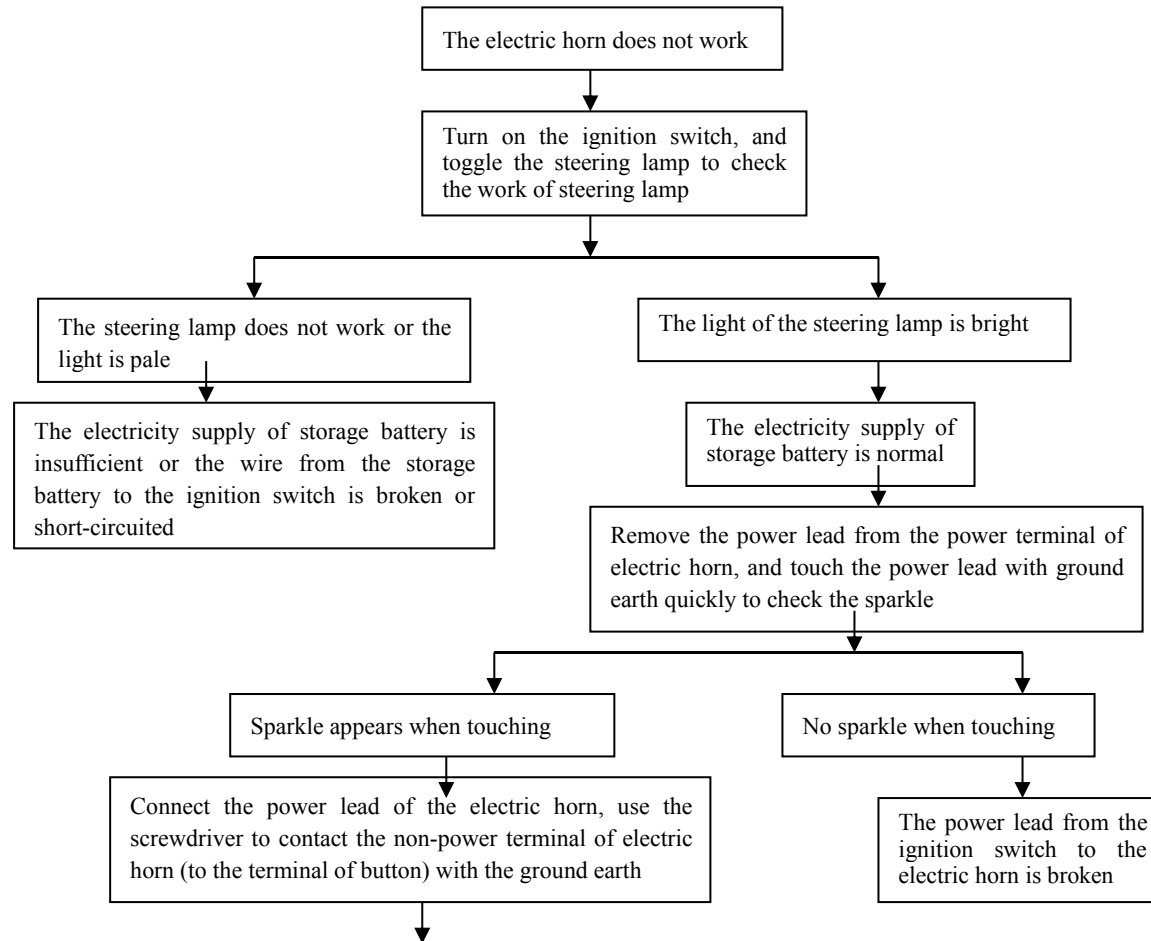


## 6.6. Failure diagnosis procedure when the brake lamp does not work

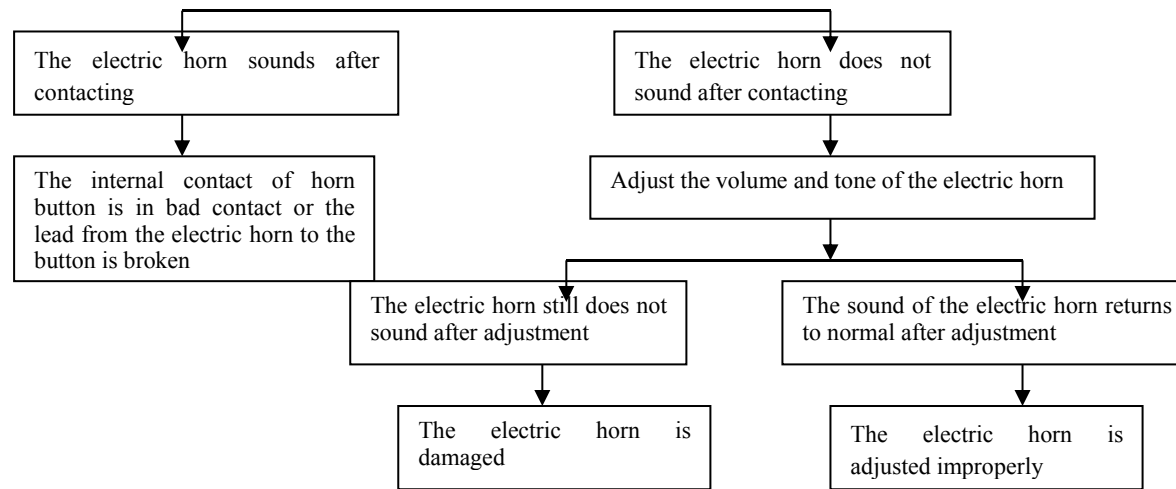
The brake lamp does not work



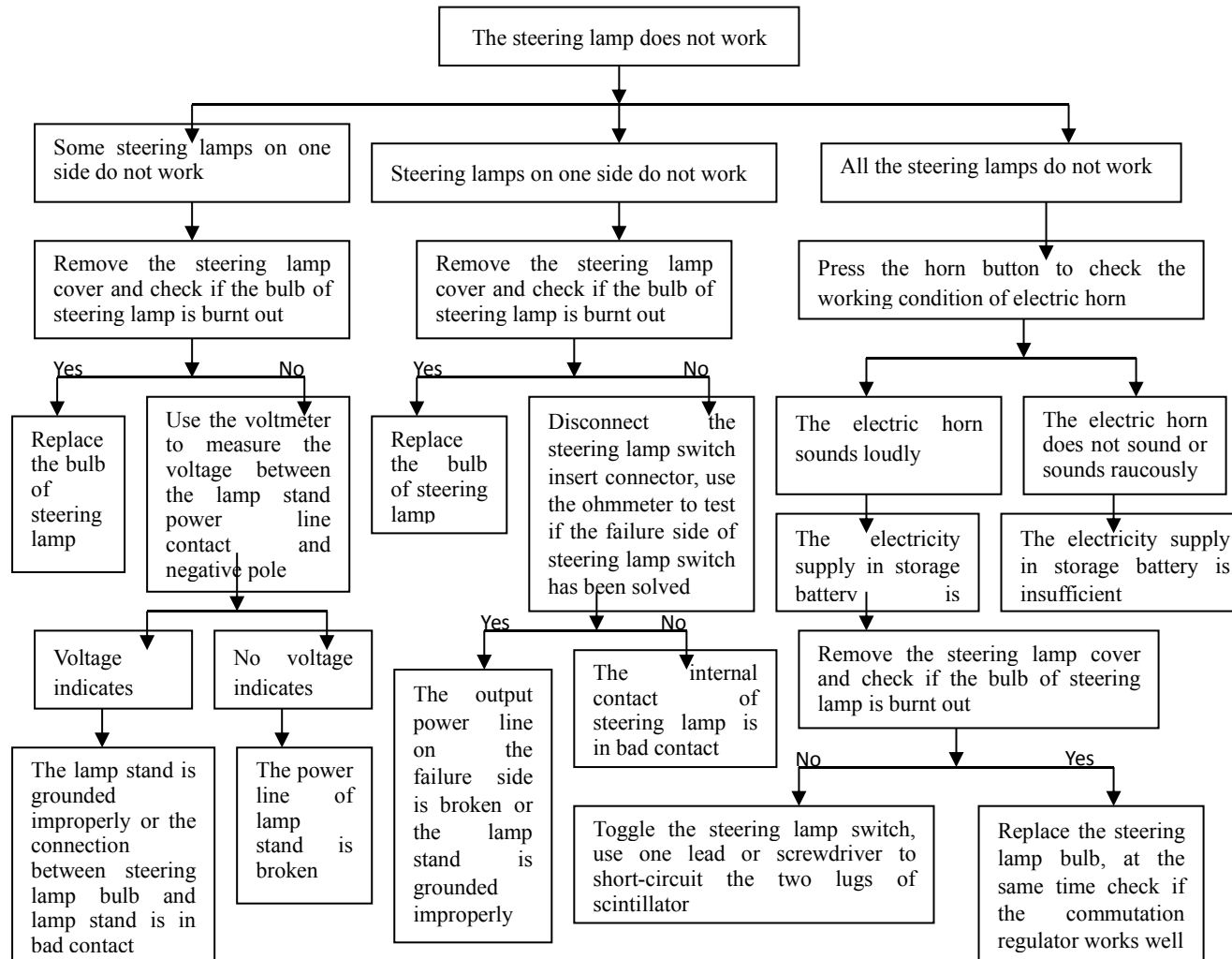
### 6.7. Failure diagnosis procedure when the electric horn does not work

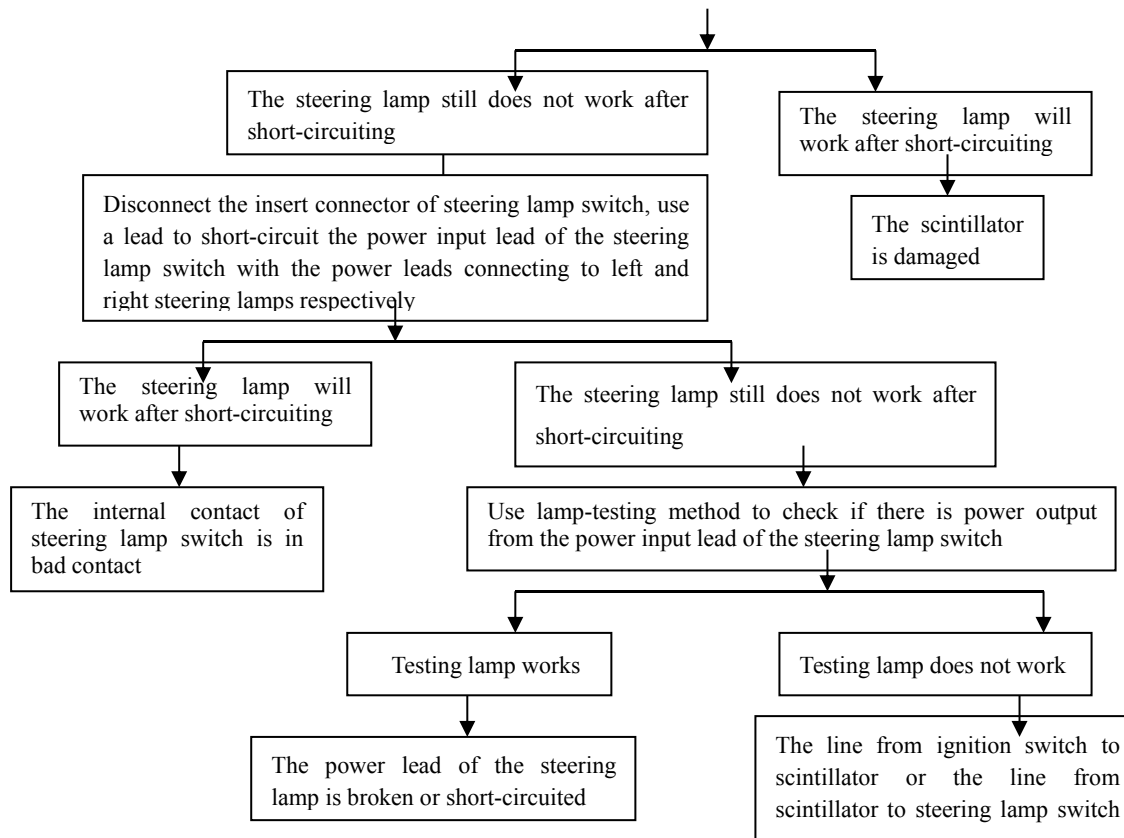


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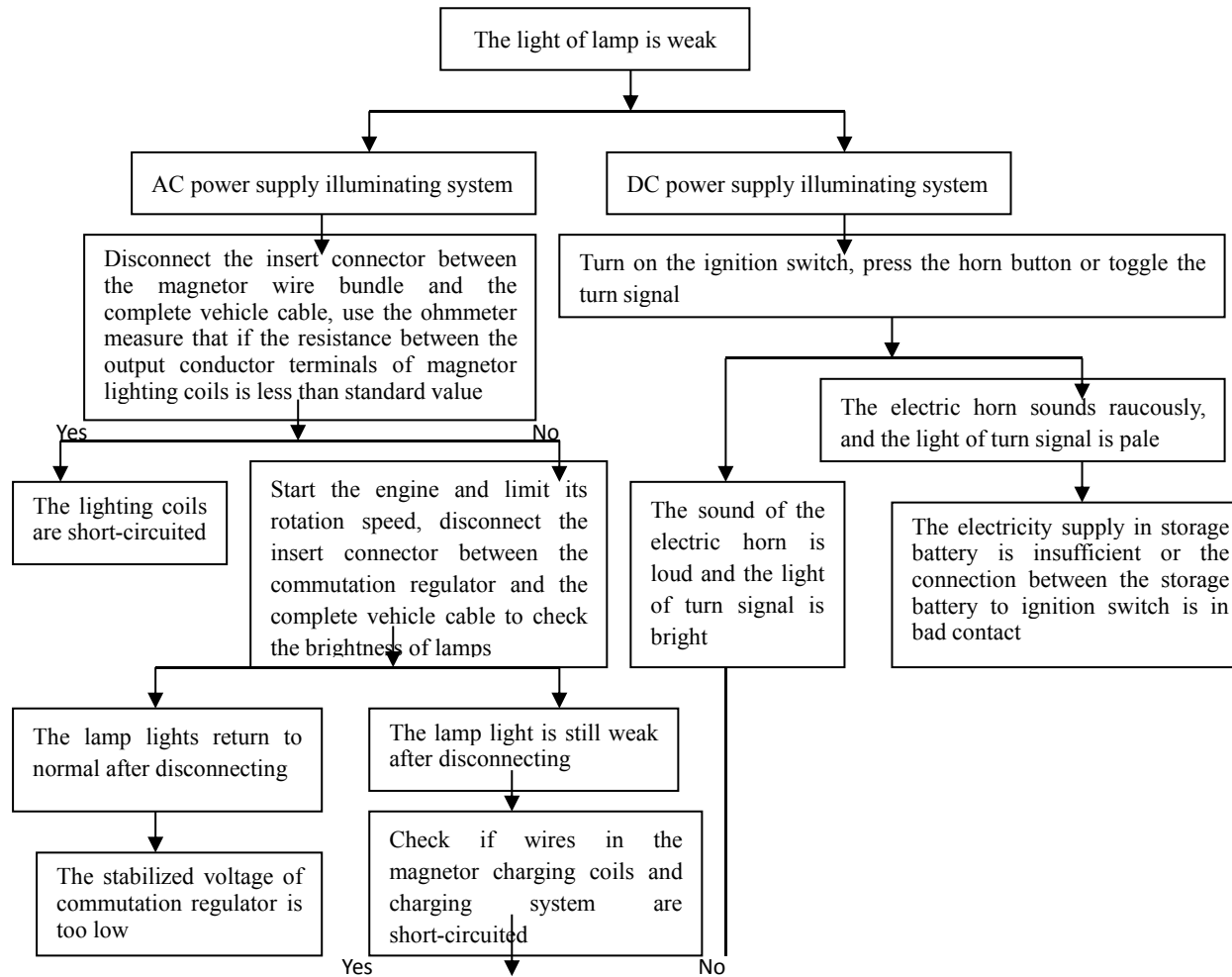


### 6.8. Failure diagnosis procedure when the steering lamp does not work

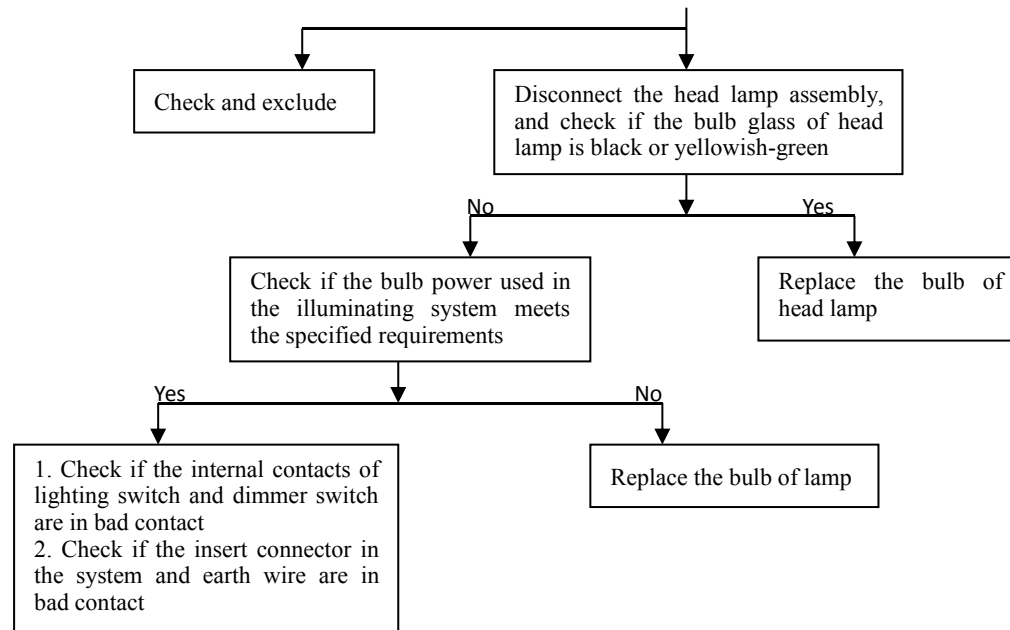




### 6.9. Failure diagnosis procedure when the light of lamp is weak

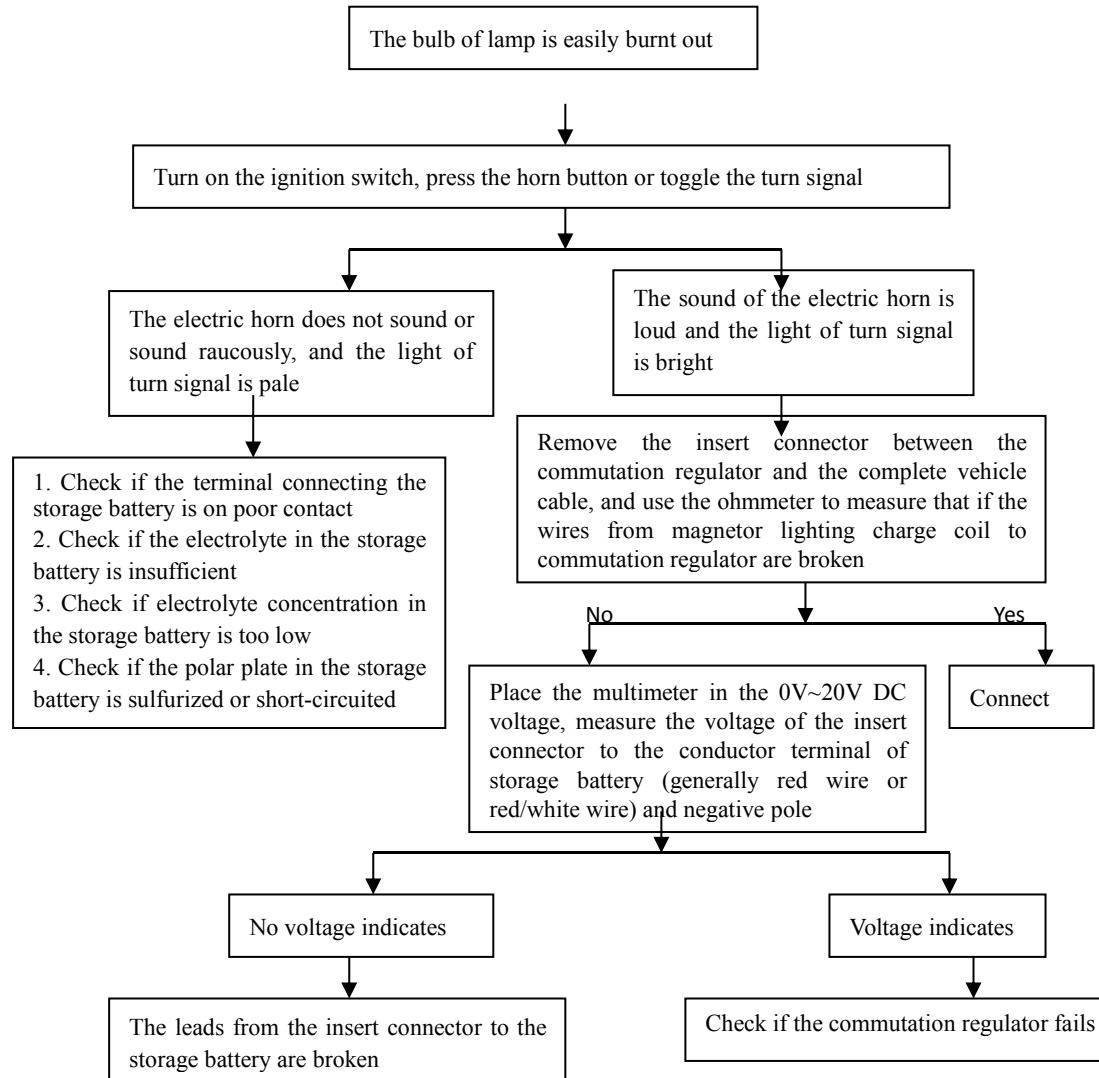


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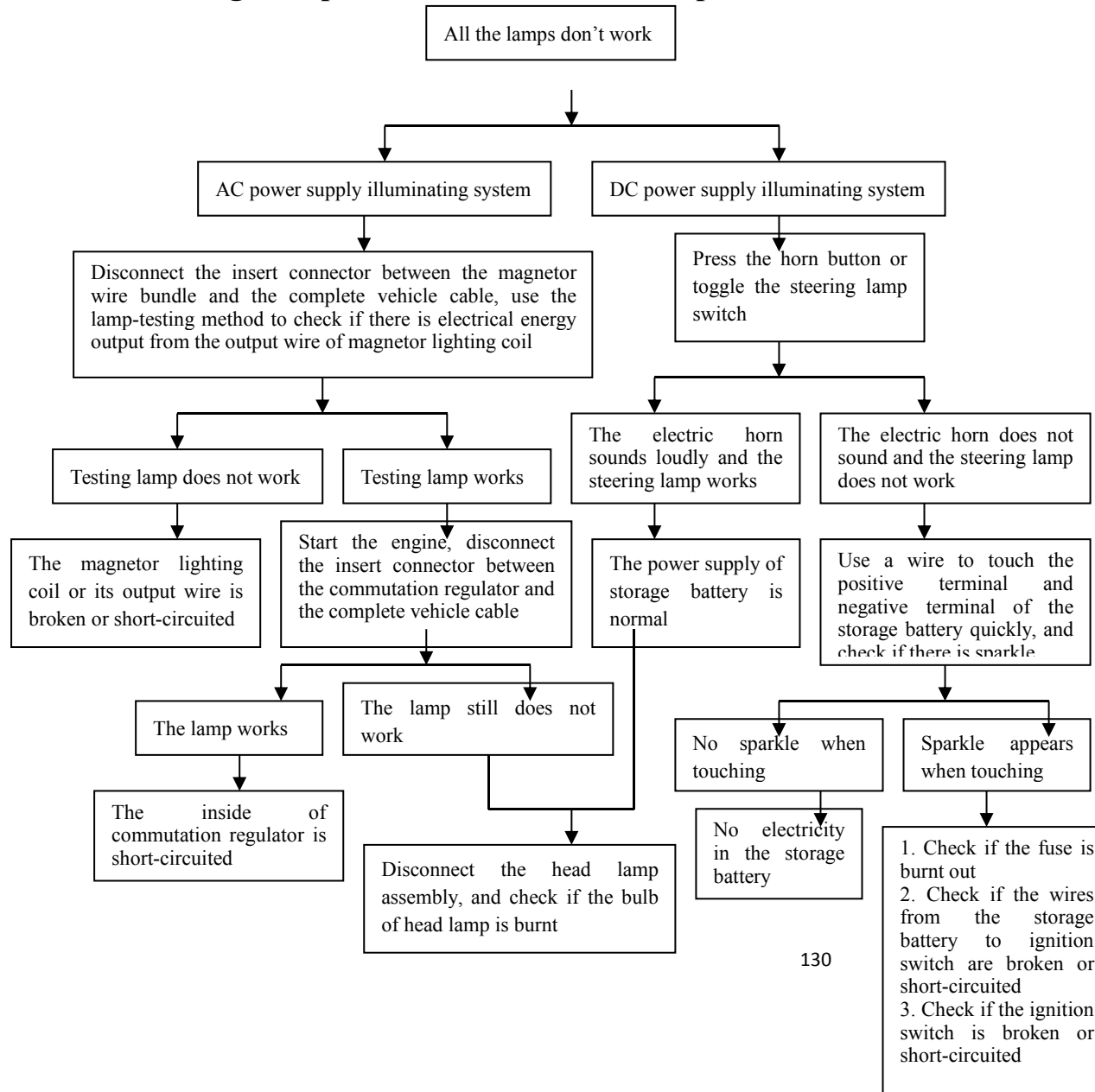


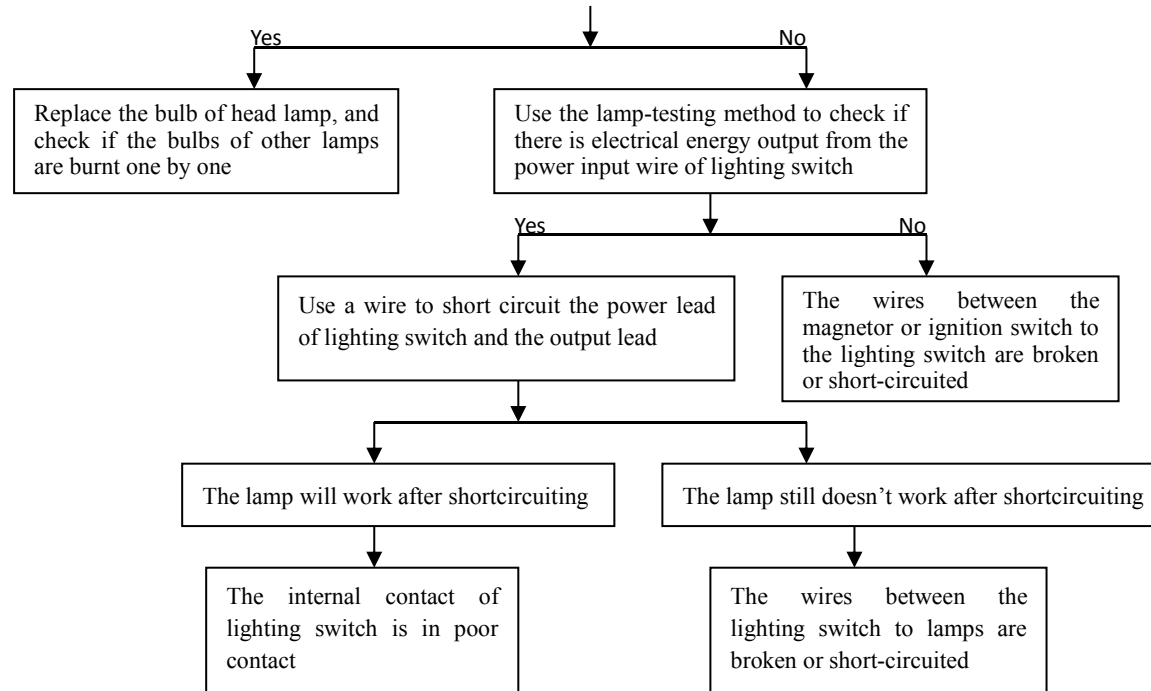


## 6.10. Failure diagnosis procedure when the bulb of lamp is easily burnt out

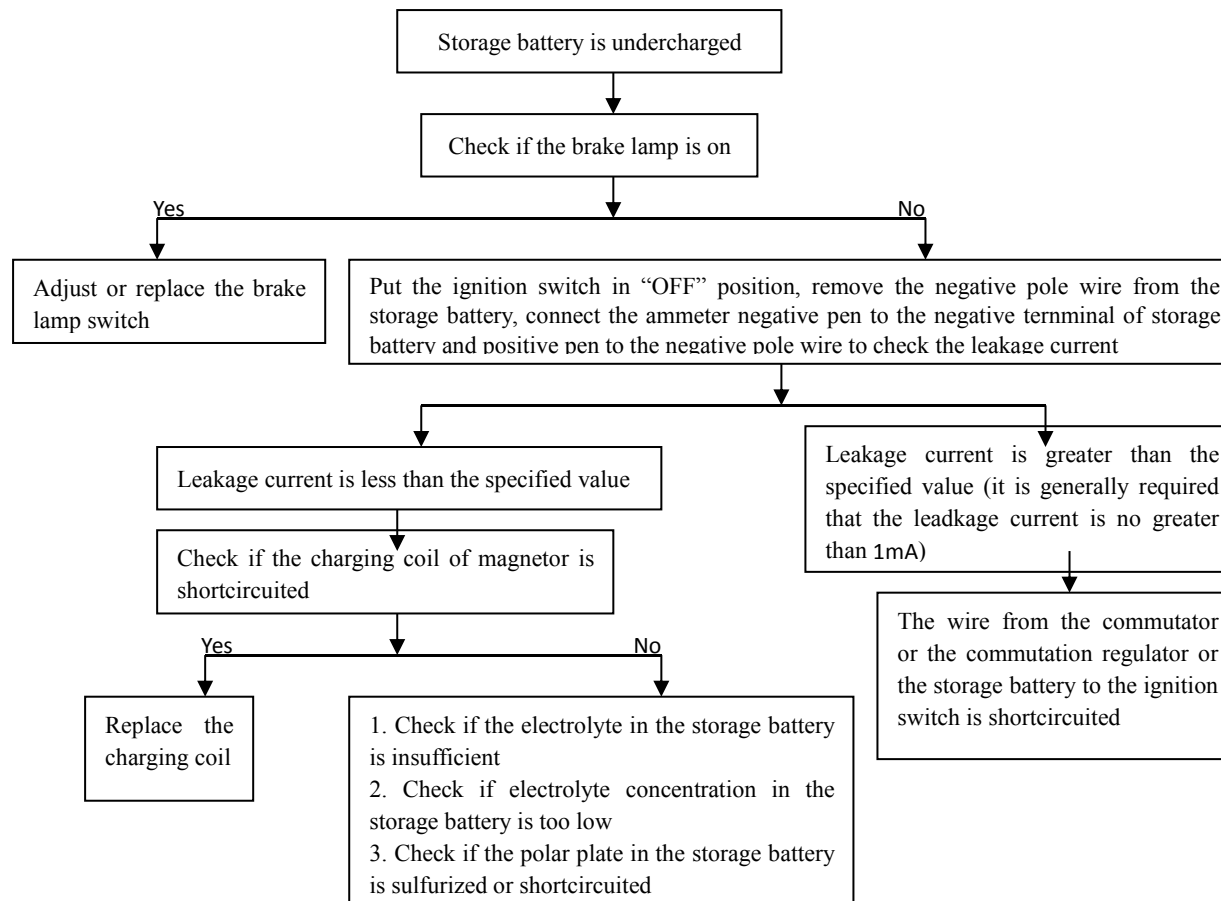


## 6.11. Failure diagnosis procedure when all the lamps don't work

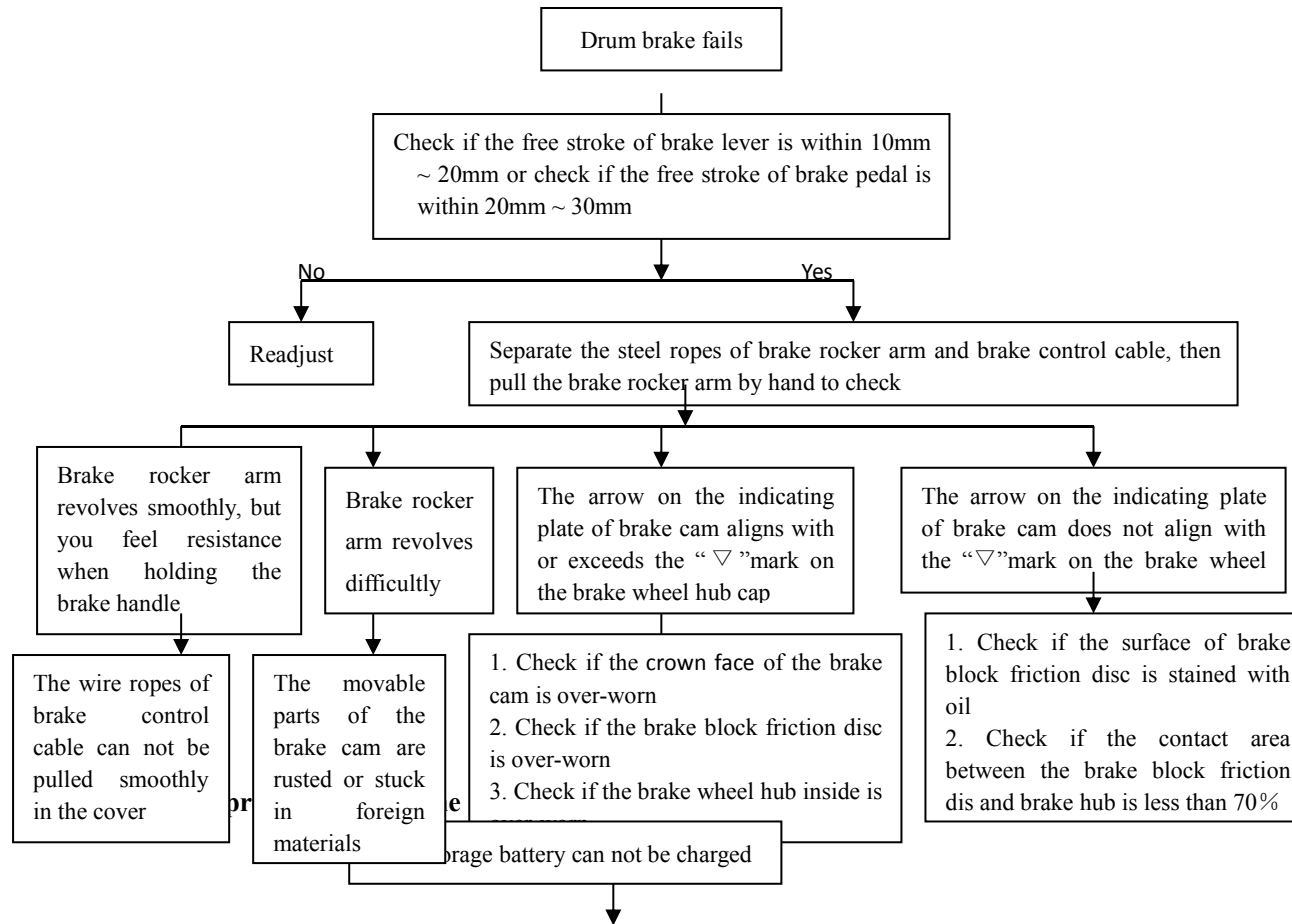




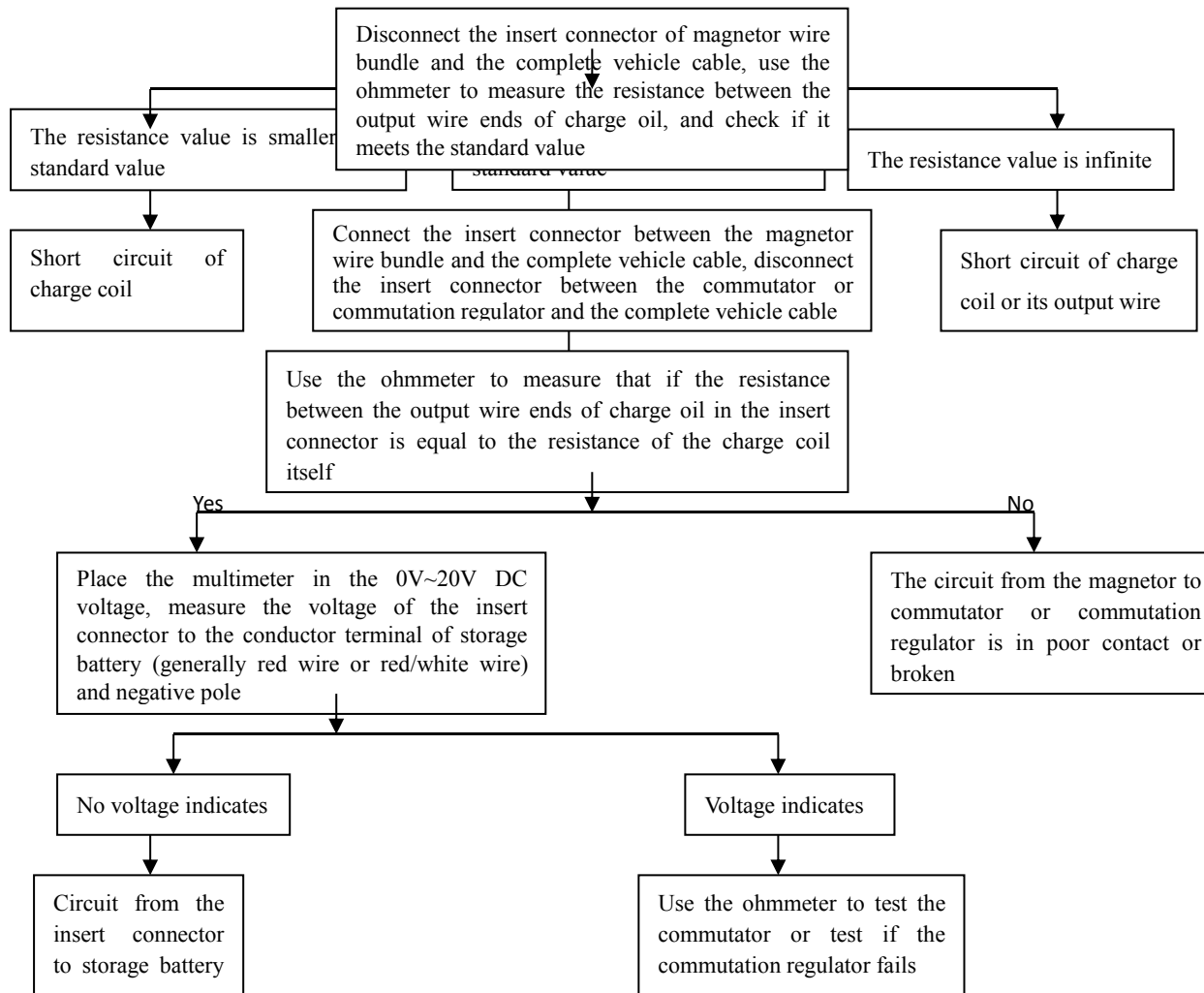
## 6.12. Failure diagnosis procedure when the storage battery is undercharged



### 6.13. Failure diagnosis procedure when the drum brake fails



# Service and Maintenance



### 6.14. Failure diagnosis procedure when the hydraulic disc brake fails

