

## CONTENT

- 01 Maintenance information
- 02 Body and muffler
- 03 Test, adjustment
- 04 Lubricating system
- 05 Oil supplying system, air inlet system
- 06 Cooling system
- 07 Disassembly and assembly of engine
- 08 Hood of cylinder cover, cylinder cover, cylinder body, air distribution system
- 09 Continuously variable Transmission System & Left Cover
- 10 Reduction box
- 11 Right side cover, magneto and water pump
- 12 Box body, crank and piston
- 13 Front wheel, braking, suspension and steering system
- 14 Rear Wheel, Braking, Suspension
- 15 Battery, Charging System
- 16 Ignition System
- 17 Electrical starting system & overrun clutch
- 18 Light, instrument, switch
- 19 Circuit principle diagram
- 20 Electric injection diagnostic system and error diagnosis
- 21 Function of buttons of diagnosis analyzer
- 22 EEU Errors Coding Table

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

## Cooling device

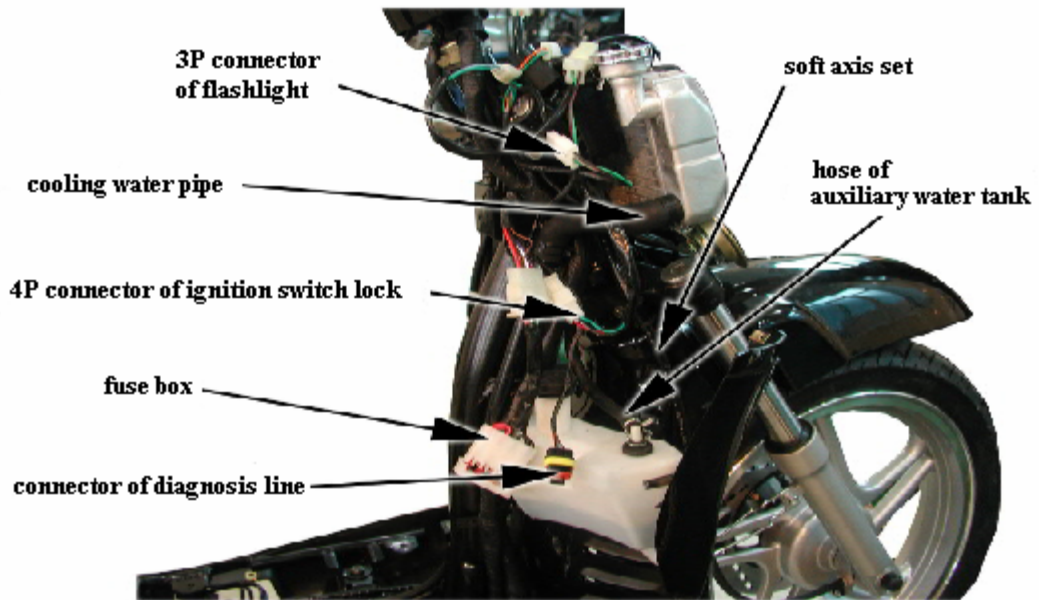
Item		Standard
Capacity of coolant	Full capacity	0.8l
	Capacity of assistant water box	0.26l
	Standard concentration	50% (proportion for compounding with original fluid)
Opening pressure of water-adding entry lid		108kPa ( 1.1kgf/cm <sup>2</sup> )
Thermostat	Initial temperature	71± 3℃
	Full opening temperature	88℃
	Full opening lift range	3.5—4.5mm

## Cylinder cover, valve

Item		Standard	Operation limit	
Compression pressure of cylinder		700kPa(7.0kgf/cm <sup>2</sup> ) -260r/min	-	
Valve gap	IN	0.05mm	-	
	EX	0.20mm	-	
Skewness of cylinder cover		-	0.05mm	
Camshaft	Height of cam top	IN	30.74— 30.86mm	30.69mm
		EX	30.33— 30.45mm	30.28mm
Valve rocker	Interior diameter of valve rocker hole	IN/EX	10.000— 10.015mm	10.10mm
	External diameter of valve rocker shaft	IN/EX	9.978— 9.987mm	9.91mm
Valve	External diameter of valve stem	IN	4.975— 4.99mm	4.965mm
		EX	4.955— 4.97mm	4.945mm
Sleeve for valve guide	Interior diameter of valve guide	IN	5— 5.012mm	5.04mm
		EX	5— 5.012mm	5.04mm
	Gap of valve stem and valve guide	IN	0.01— 0.037mm	0.075mm
		EX	0.03— 0.057mm	0.095mm
Driving depth of valve guide	IN/EX	11.9— 12.1mm	-	
Contact width of valve seat	IN/EX	0.9-1.1mm	1.8mm	
Valve spring	Overhanging length (outer/inner spring)	IN/EX	35.0/32.3mm	33.5/30.8mm

## Automatic continuously variable transmission variator

Item		Standard	Operation limit
Drive wheel of Derailleur	Moving disc subassembly for derailleur	24.007— 24.028mm	24.07mm
	External diameter of shaft sleeve for drive wheel disc	23.959— 23.98mm	23.92mm
	External diameter of centrifugal rotor subassembly	19.95— 20.05mm	19.45mm
Belt width		21.7— 23.3mm	20.7mm
Driven wheel of clutch	Thickness of friction plate	—	2.75mm
	Internal diameter of clutch outer rotary table	124.5— 124.2mm	125mm
	Overhanging length of clutch spring	144— 146mm	140mm
	External diameter of driven rotary table	33.95— 33.975mm	33.92mm
	Internal diameter of moving driven rotary table	34.000— 34.025mm	34.06mm



## Rear connecting board

### Disassembly

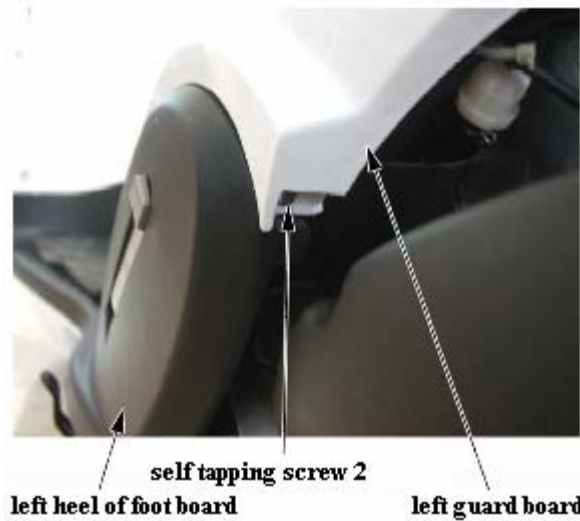
Disassemble the two self tapping screws 1 shown in the drawing, and then get the Rear connecting board off.



## Left guard board

### Disassembly

Disassemble the rear connecting board (→2-5),  
 Disassemble the seating mat (→2-2),  
 Disassemble the maintenance cover (→2-2),  
 Disassemble the trunk (→2-3),  
 Disassemble the guy cable of seating mat from the lock of seating mat (→2-3),  
 Disassemble the rear shelf (→2-4),  
 Disassemble the self tapping screw 2 which is connecting the left heel of foot board with the left guard board, pull out the left guard board from the rubber ring on the rear taillight, and then disassemble the left guard board.



### Assembly

Make assembling in the reverse sequences of disassembling

## Right guard board

### Disassembly

Disassemble the rear connecting board (→2-5),  
 Disassemble the seating mat (→2-2),  
 Disassemble the maintenance cover (→2-2),  
 Disassemble the trunk (→2-3),  
 Disassemble the left guard board (→2-5),  
 Disassemble the rear shelf (→2-4),  
 Disassemble the self tapping screw 3 which is connecting the right heel of foot board with the right guard board, pull out the right guard board from the rubber ring on the rear taillight, and then disassemble the right guard board.



### Assembly

Make assembling in the reverse sequences of disassembling

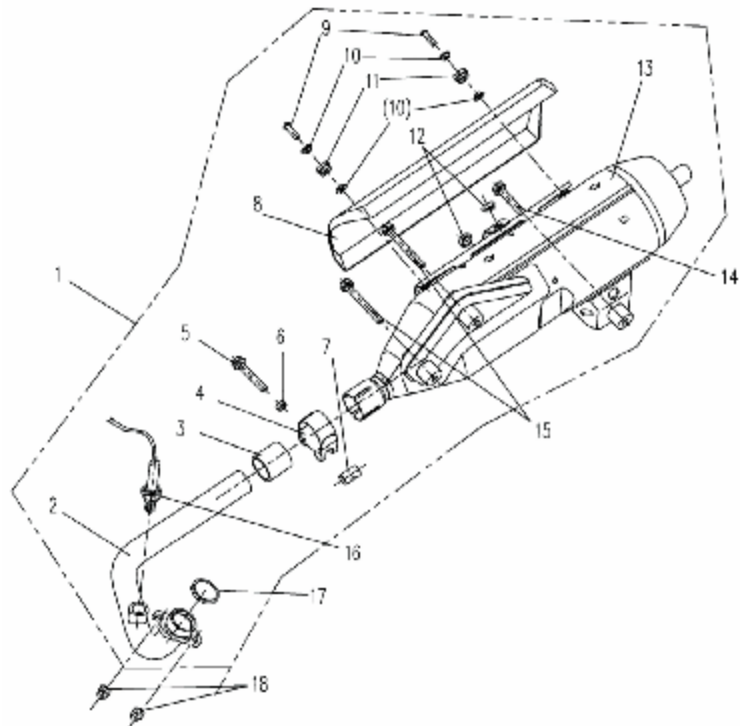
## Muffler

### Disassembly

#### Notes

**When the muffler is in the cooling condition, it can be disassembled.**

Remove the 2 nuts 5, tie-in at angle pipe in front muffler.  
 Take off bolt 14, 15  
 Disassemble the oxygen sensor 16.  
 Remove muffler



### Assembly

Make assembling in the reverse sequences of disassembling

**Torque: The front angle tube nut:** 30N • m (3.0 k g f • m)  
**Muffler bolt :** 40N • m (40.5kgf • m)

#### Notes

When assembling, the vent seal washer should be renewed.

### Vibration of connection

Support the main bracket, shake the engine leftward and rightward, inspect whether there is damage, vibration etc on the hanger cushion cover, renew it when there is vibration.

## Transmission

### Spot Test of lubricating oil in the transmission

Inspect whether the transmission leaking.

Support the vehicle with main bracket, put the vehicle horizontal.

Turn off the engine; disassemble the engine oil Test bolt, Inspect whether the oil level reaches the bolt opening.

Supplement the engine oil up to the lower edge of bolt opening when the oil is insufficient.

**Recommended engine oil: hyperbola gear oil #90**

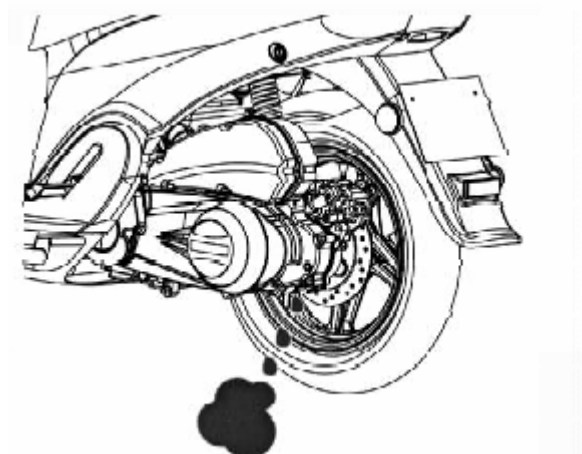
Inspect the status of sealing gasket, install the engine oil Test bolt and fasten it.

**Torque: 22N· m (2.2kgf· m)**

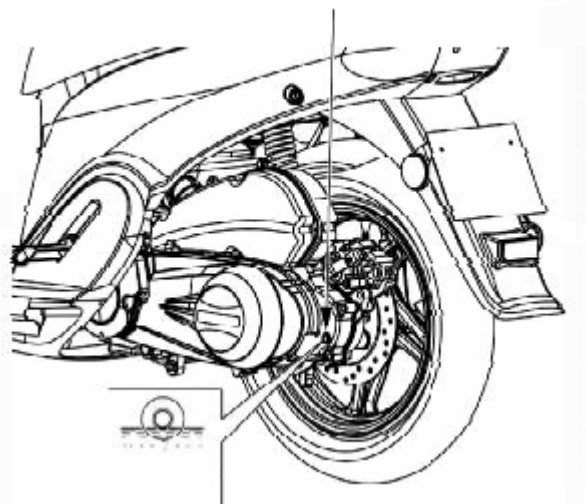
## Ignition device

### Spark plug

Disassemble the maintenance cover (→ 2-2)



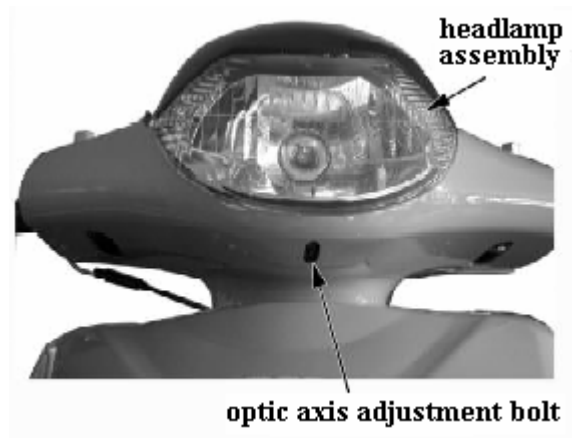
**The engine oil test bolt**



## Lighting device

### Adjustment of headlamp optic axis

Tweak the optic axis adjustment bolt with cross screwdriver, for adjusting the far and short reaching of light. Therefore the operation requirements can be met.



**Disassembly of high pressure oil pipe**

Disassemble the trunk (→2-3), loosen the belt.  
Loosen the clamping band on the cap of oil injector which is exclusively for oil pipe;  
loosen the clamping band on the gasoline tank which is exclusively for oil pipe.  
remove the high pressure oil pipe

**Notes**

Hold the remained gasoline from the high pressure oil pipe with container when loosening the clamping band which is exclusively for oil pipe.

**Installation of high pressure oil pipe**

Make assembling in the reverse sequences of disassembling. Please use the OETIKER pinchers for clamping band when installing the clamping band which is exclusively for oil pipe.

**Disassembly of body of throttle valve**

Disassemble the trunk (→2-3), loosen the belt, and disassemble the insert element of the throttle valve body.

Loosen the locknut, remove the adjusting nut, and remove the accelerator guy cable from the accelerator rotating drum.

Disassemble the idle speed air outlet pipe on the body of throttle valve.

Loosen the air inlet connecting hoop, the connecting hoop of air cleaner, and disassemble the body of throttle valve

**Notes**

Do not adjust the bolts of throttle valve. Do not remove the cap on the body of throttle valve.

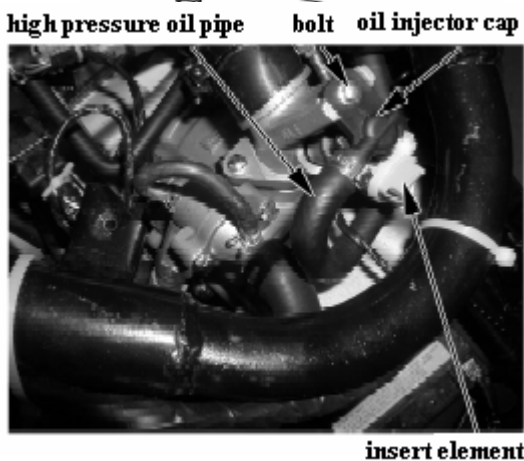
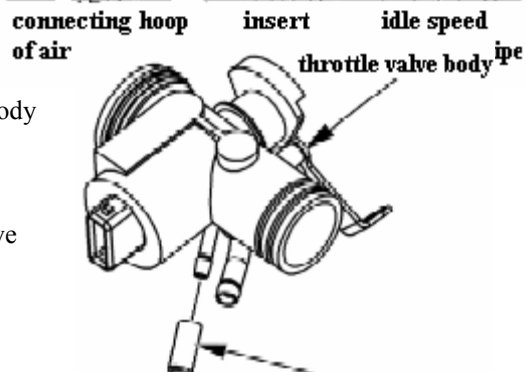
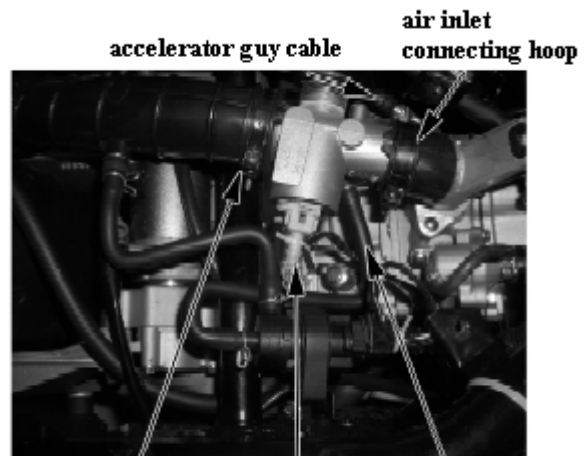
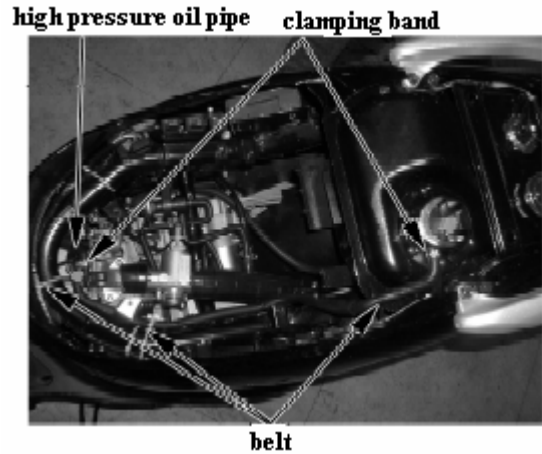
**Installation of body of throttle valve**

Make assembling in the reverse sequences of disassembling.

**Disassembly of oil injector branch assembly**

Disassemble the trunk (→2-3)  
Disassemble the high pressure oil pipe (→5-3)  
Disassemble the belt; disassemble the insert element of oil injector.  
Disassemble the bolts, remove the cap of oil injector and oil injector

**Installation of oil injector branch assembly**



## Thermostat

### Disassembly and assembly

#### Notes

The radiator cover can be opened only when the coolant is confirmed cooled.

Disassemble the foot plate (→2-12); eject the coolant (→6-4);

Disassemble the bolt 1, remove the upper shell 7, lower shell 2 of thermostat, and take out the thermostat 11.

Make assembling in the reverse sequences of disassembling

Erect the foot plate. (→2-8)

Inject the coolant, eject the air. (→6-4)

Assemble the carburetor. (→5-13)

## Maintenance

#### Notes

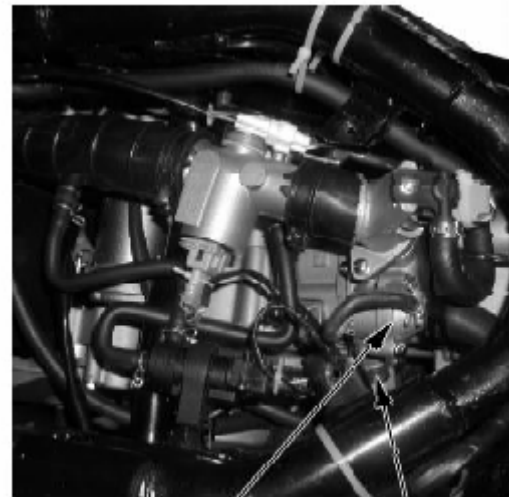
- At normal temperature, the thermostat shall be renewed even it is opened a little only.
- The thermostat will be lagged in terms of time, for its temperature detecting area is small. So that the lift range of opening valve shall be inspected when keeping the full opening temperature for 5 minutes before and after.
- The thermostat and thermometer shall not contact the bottom of the test container.

Put the thermostat into the water of container, make the water temperature rise slowly, and inspect the opening temperature of the valves of thermostat.

**Operating temperature of opening valve:**  $72 \pm 2^{\circ}\text{C}$

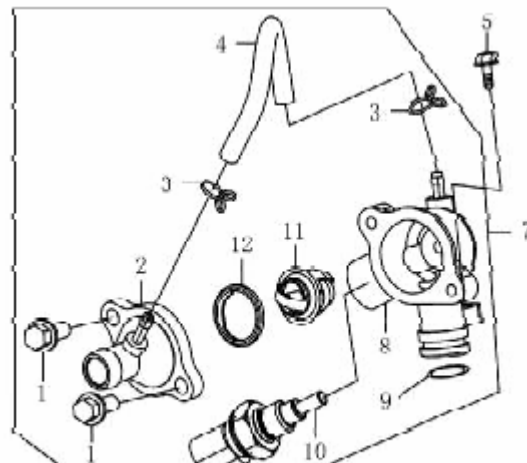
Full opening lift range/temperature: 3.5 — 4.5mm /  $88^{\circ}\text{C}$

Assemble the thermostat. (Refers to the above content)

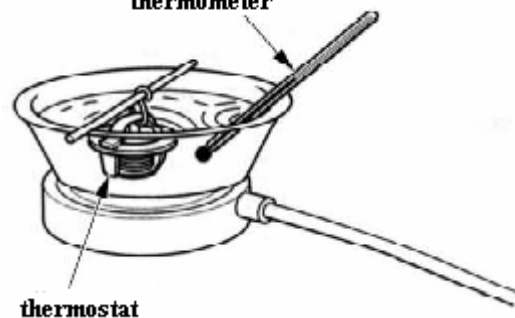


thermostat assembly

bolt



thermometer



thermostat

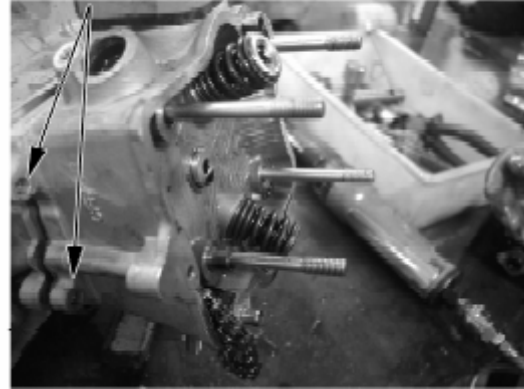


Disassemble the bolts and washers of cylinder cover.  
Disassemble the cylinder cover subassembly.

**Notes**

Stand the main support, and press the rear part of the whole vehicle downward forcibly by hands, then the cylinder cover can be removed.

**bolts and washers of cylinder cove**



Disassemble the shim, locating pin of cylinder cover.

**locating pin**



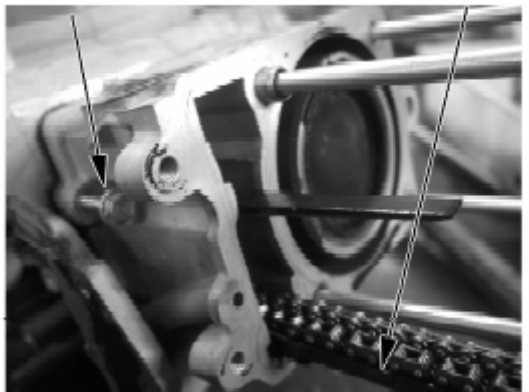
**shim**

**Disassembly of cylinder body**

Disassemble the chain guide.  
Disassemble the bolts, washers.

**bolt and washer**

**chain guide**

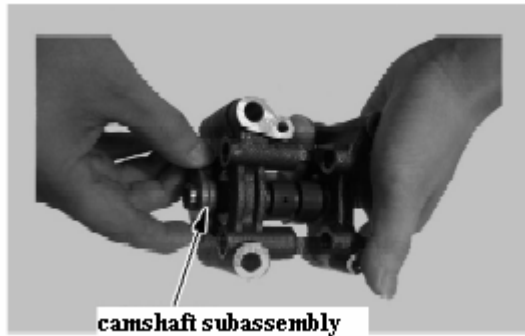


Disassemble the air inlet hose, cylinder body group.

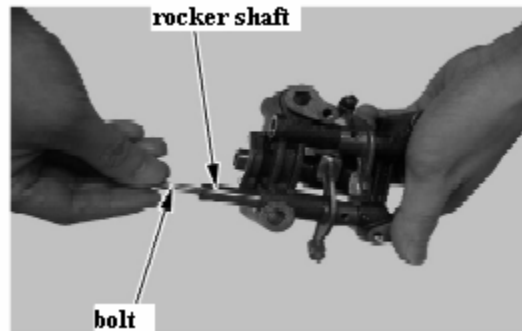
## Installation of camshaft support subassembly

### Installation of camshaft subassembly

Install the camshaft into the camshaft hole of camshaft support.



Apply the head of rocker shaft with some lubricating oil, and make it enter the hole of rocker shaft, meanwhile, enter the rocker.



Install the elastic collar for hole into the collar groove of rocker shaft hole and camshaft hole.



Apply lubricating oil to the cam surface of camshaft.

Install the cam top of camshaft towards the side of crankcase.

Press it to tight with 4 acorn nuts and shims.

Screw the acorn nuts to tight for 2-3 times according to the specific torque.

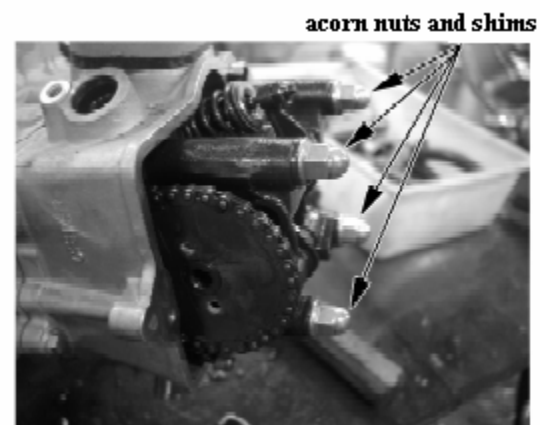
Torque:  $30\text{N} \cdot \text{m}$  ( $3.0\text{kgf} \cdot \text{m}$ )

Screw the bolts for cylinder body to tight according to the specific torque.

Torque:  $10\text{N} \cdot \text{m}$  ( $1.0\text{kgf} \cdot \text{m}$ )

Screw the bolts for cylinder cover to tight according to the specific torque.

Torque:  $10\text{N} \cdot \text{m}$  ( $1.0\text{kgf} \cdot \text{m}$ )



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below

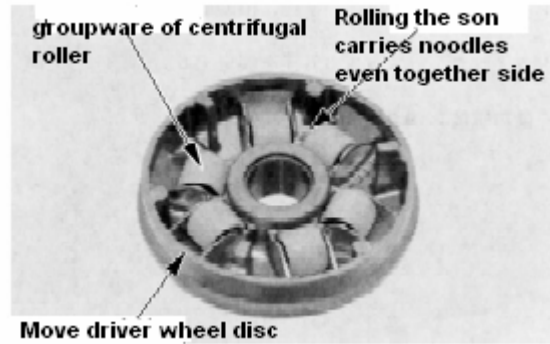


- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

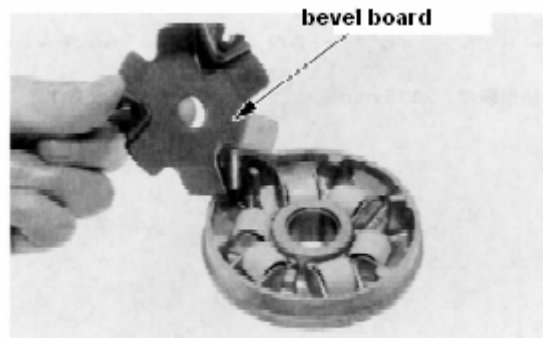
CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

## 9 Continuously variable Transmission System & Left Cover

Assemble groupware of centrifugal roller into the slide groove of driver disc.



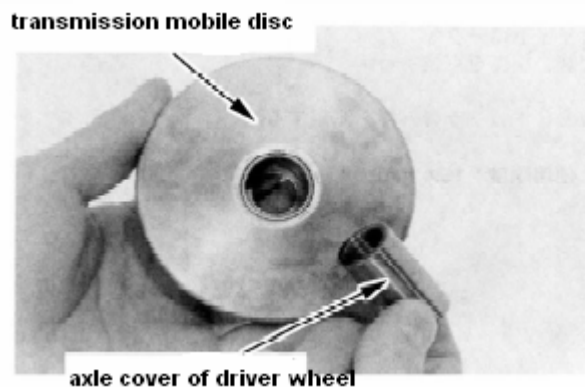
Set the same-length ends of centrifugal roller according the picture orientation.



Set bevel board.

Install axle cover of driver wheel into the bush cave of transmission mobile disc.

**Erection**



**Notes**

Don' t attach grease to tooth shape strap and the surface of strap sheave.  
Hold two sides of transmission mobile disc and assemble it with axle cover of driver wheel.



**Transmission axle cover of main traction wheel disc**

## 9 Continuously variable Transmission System & Left Cover

Assemble rightly between the hole of driven turntable set and the protruding part of spring compress tool of the clutch.

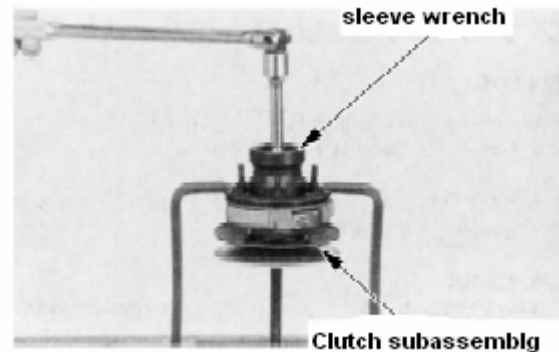
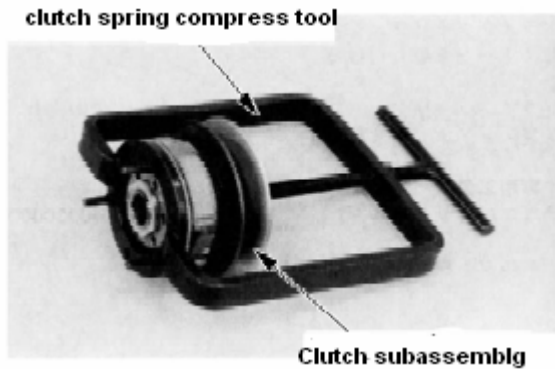
### Cautions

Don't fix the spring compress tool of the clutch over the needed wring square.

Fix the spring compress tool of the clutch with table vice, etc.  
Install driven nut.

Tightly fix the special nut of the clutch with sleeve spanner at the specified wring square.

**Torque : 88 N · m ( 9.0kgf · m)**



Take down the sub-assembly of the clutch with the spring compress tool of the clutch.

### Assembly of the clutch

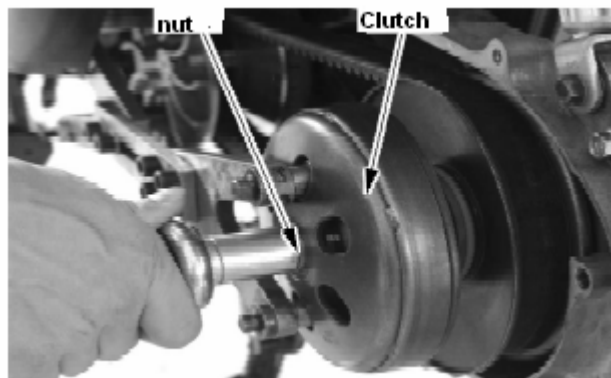
Install the clutch, and tighten the nut at appointed wring square.

**Torque: 53 N · m ( 5.3kgf · m)**

Install the driver turntable.

( → 9-12)

Install the left cover. ( → 9-3)



**CF Moto**

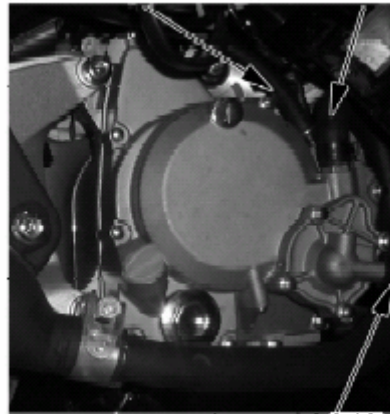
**Disassemble of right side cover**

Remove body plastic parts (→ 2)

Drain coolant (→ 6 - 4)

Drain lubricating oil from crank box (→ 3-11)

vent hose water pump outlet hose



water pump inlet hose

**Notes**

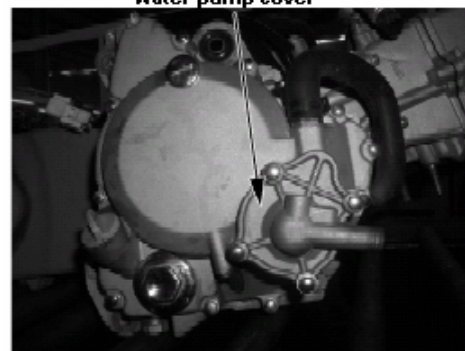
**The right side cover shall be disassembled under cold engine state.**

Remove water inlet hose, water outlet hose and vent hose.

Remove water pump cover, positioning pin and water pump cover sealing pad.

Remove bolts of right side cover bolt and take out the right side cover.

water pump cover

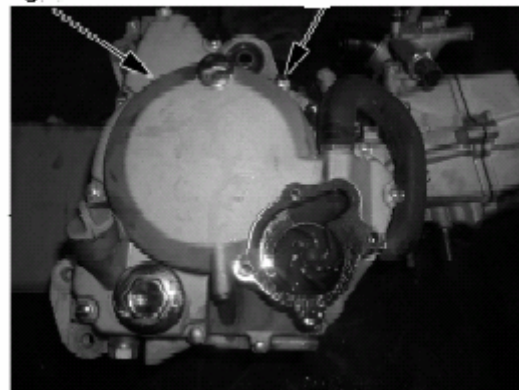


**Disassemble of flywheel combination**

Remove oil duct connector and spring of oil duct connector.

Remove positioning pin and right side cover sealing pad

right side cover nut



Remove dual gear and dual gear shaft.

Remove nut and washer

dual gear shaft positioning pin  
right side cover sealing pad



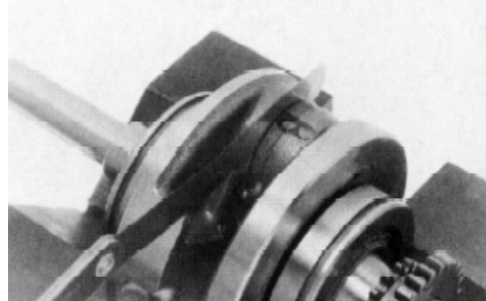
nut and washer spring of oil duct connector

**Check**

**Crank**

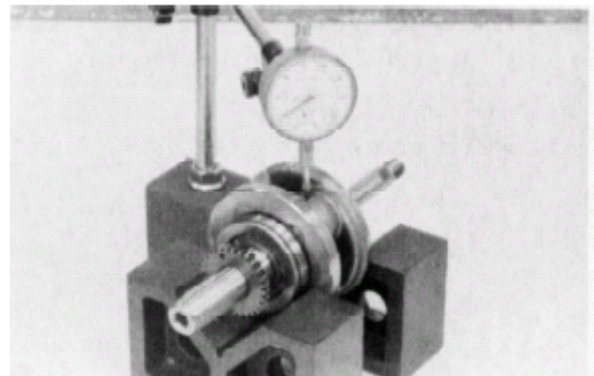
Measure the side gap of the big end of connecting rod.

Service limit: 0.5mm



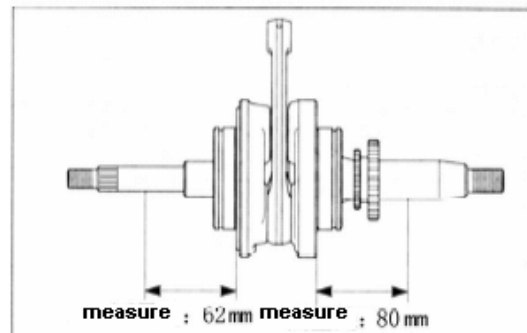
Measure the radial gap of the big end of connecting rod.

Service limit: 0.05mm



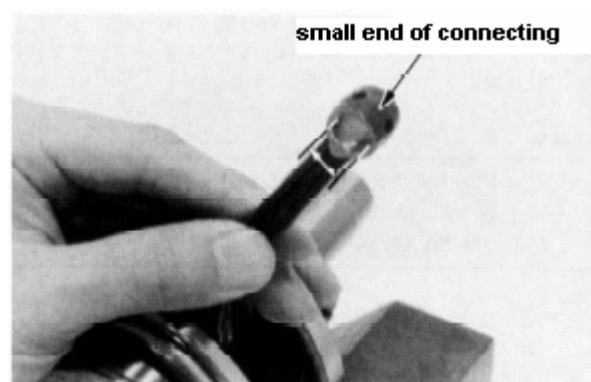
Measure the crank run-out .

Service limit: 0.10mm



Measure the Inside diameter of hole at small end of connecting rod.

Service limit: 15.05mm

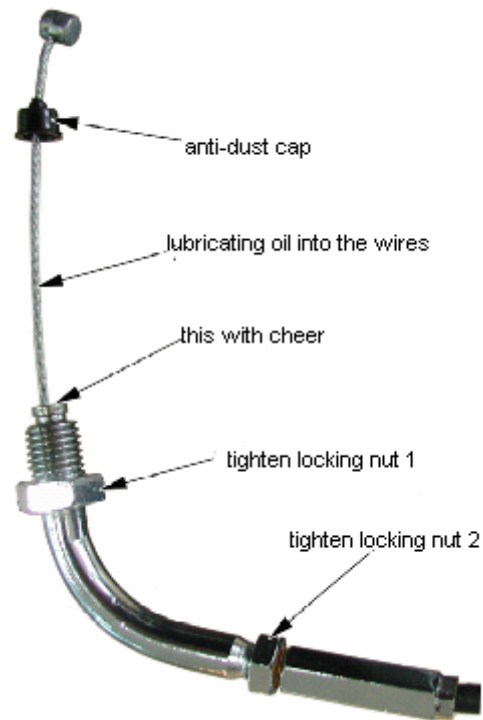


**Erection**

Make assembling in the reverse sequences of disassembling

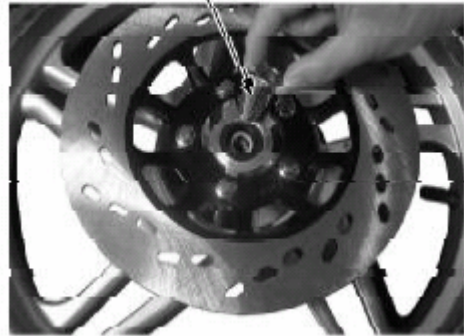
**Notes:**

1. Tightening torque of locking nut of handlebar 50~ 60N·m
2. Correctly thread the main cable assembly, throttle control cable, brake fluid tube, cables and wires as per the diagram.  
(→Chapter 1)
3. Correctly insert each plug into corresponding socket without any loosing or dropping off
4. At fixing the throttle control cable, pull out its anti-dust cap, add several drops of lubricating oil into the wires, forwards-backwards pull the cable for several time to make the lubricating oil enter the cable and finally tighten locking nut 1 and locking nut 2.
5. At fixing the rotating handle of throttle, coat grease on its inside and its fitted slide face and the handlebar.
6. At fixing the left and right rear view mirror, please note that the left rear view mirror is right thread and the right rear view mirror is left thread.



Take out left axle cover off front wheel from left side of front wheel

left side of front wheel axle cover



**Inspection**

**Axle**

Place the axle on the V-shaped pad and measure its run-out with micrometer

**Service limit: 0.2mm**

**Rim**

Check the rim for damage, deformation and scratch and replace the rim, in case of abnormality

Slowly rotate the wheel and measure the run-out of the rim with micrometer

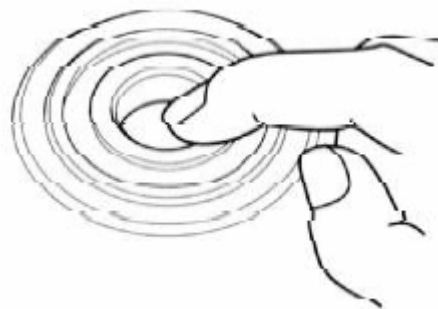
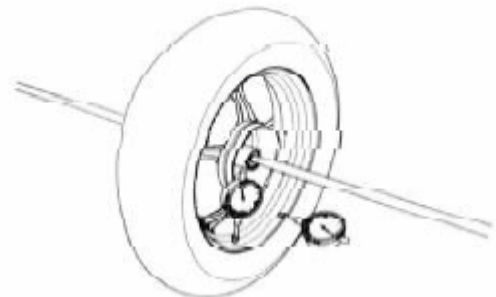
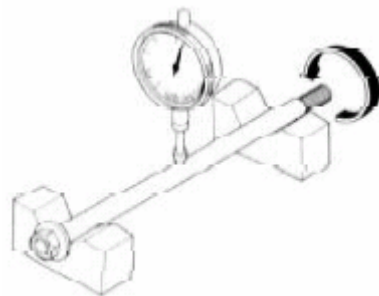
**Service limit: Axial: 2.0mm**

**Radial: 2.0mm**

**Wheel bearing**

Rotate the bearing cone with finger, check it for free and steady rotation and check for loosening when it is erected onto the hub.

In case non-free or unstable rotation, abnormal sound or shaking, replace new one.



**Notes:**

Replace the bearings in package (left and right bearing)

1 3 Front wheel, braking, suspension and steering system

### Test

Check bumper for oil leakage, aging bush rubber and other scathes. Replace it if abnormality.

### Erection

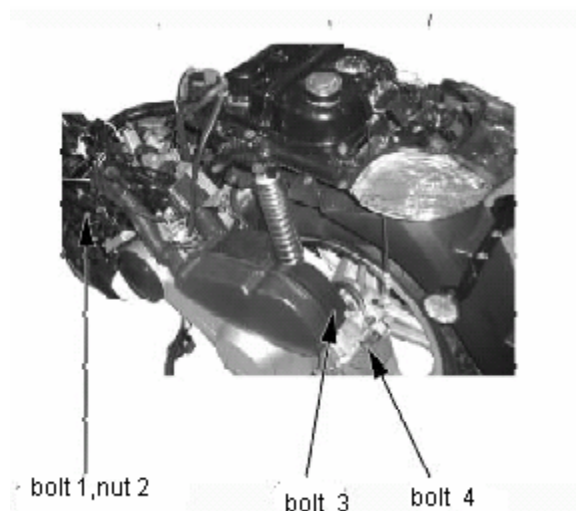
Make assembling in the reverse sequences of disassembling, and tighten bumper installing bolt with specified moment.

Erect fixed bolt above bumper

**Torque: 55 N • m ( 5.6kgf • m)**

Erect fixed bolt below bumper

**Torque: 30 N • m ( 3.1kgf • m)**



## Rear Brake

### Rear Brake Caliper

#### Disassemble

Remove bolt 3 and bolt 4

Remove rear brake caliper combination

#### Test

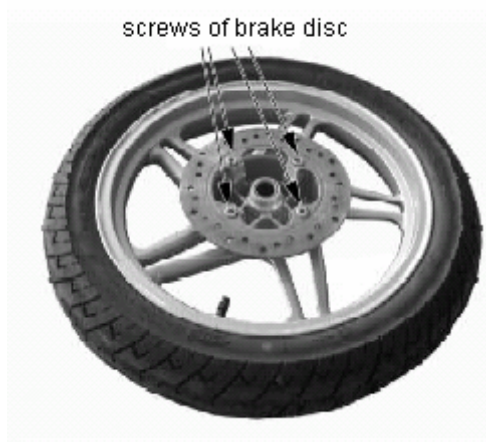
Check the brake caliper for crack and oil leakage from tightened locations and make replacement, if any.

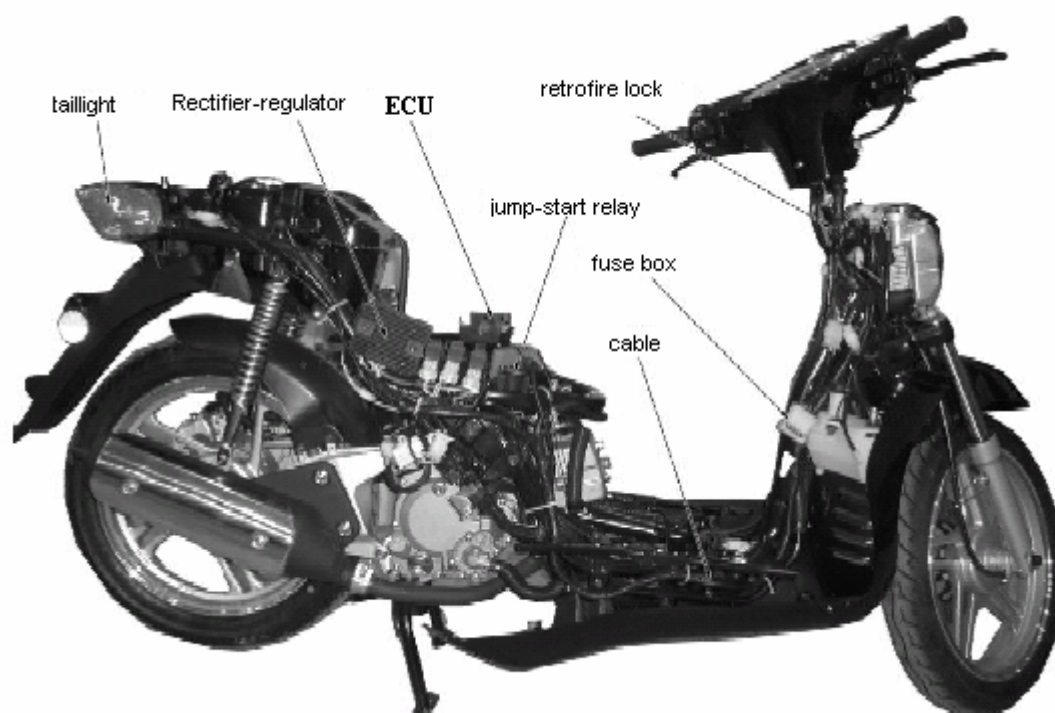
Test brake piece wearing situation ( → 3-6 ) .

## Rear Braking Disc

#### Test

Check the slide surface of braking disc for worn and impaired place. Replace braking disc in time when the thickness is less 3mm.





Maintenance information.....17-1 Starting the relay.....17-2  
Error diagnosis.....17-1 Subassembly of starting motor.....17-2  
Overrun clutch.....17-5

## Maintenance information

### Notes during operation

Put all the wires with the same color in bundles. Wires with different colors should be put on sleeves with the same color at the place the device is connected with the wire. Before disassembling the wire, be aware of the color of the wire. The connector should be linked to that of the same color.

### Maintenance standard

Items	standard values	Usage limit
Length of the brush	10 mm	7mm

## Error diagnosis

### The starting motor does not run

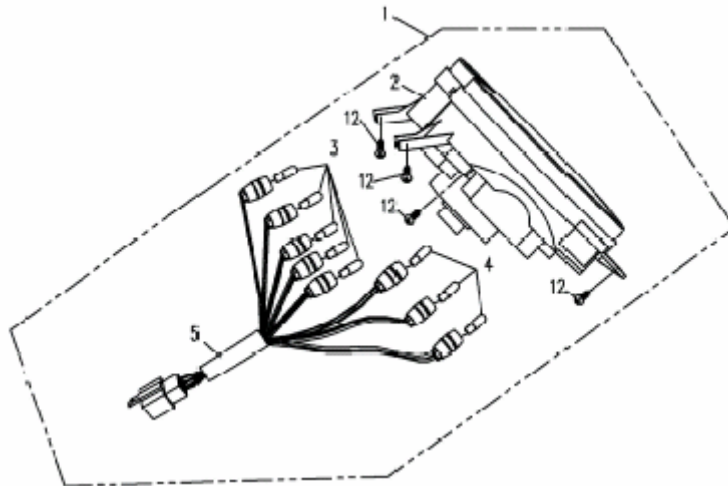
- Battery low
- Main switch does not work well
- Starting switch is not in good condition
- Defective starting relay
- Ill connection in wire bundles, connectors and connecting posts; short circuit or wire breakage
- Defective starting motor
- Fuse burn

### Starting motor with insufficient torque

- Battery low
- Ill connection in wire bundles, connectors or connecting posts
- Bits or chips are jammed in electric motor or starting gears

**Instrument lighting lamp**

Remove front cover set of handlebar ( → 1 3 - 1 0 ) ,  
 Remove back cover set of handlebar ( → 1 3 - 1 1 ) 。  
 Remove 4 self-attack bolt 1



Remove the instrument

Take out the lamp seat and replace bulb from the instrument.

Bulb specification:

12V-1.7W (lighting bulb) 3

12V-3.4W (indicating bulb) 4

**Notes**

The main cable and guy cable must be correctly passed through according to the concerned layout chart ( → 1-20)

Make assembling in the reverse sequences of disassembling

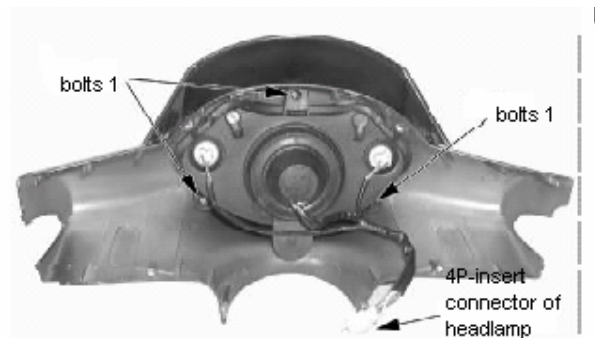
**Headlamp**

**headlamp set**

Remove the front cover set of handlebar ( → 1 3 - 1 0 ) ,

Remove the 4P-insert connector of headlamp,

Remove 3 bolts 1, remove the headlamp.



## CF Moto

### II. Notes

1. This chapter states the main error diagnosis in electric rejection diagnostic system and the whole engine. The errors excluding in the chapter, please refer to other chapter .

Before debugging the electric injection system, please check the error records

When checking the error records, don't cut off the join of wire and battery

2. The pressure, supplied to the system by fuel oil, is 2.45 Bar, so smoking and fire is forbidden when removing the conduit coupling. Take care of the fuel oil splashing into eyes.

3. Cut off the join of wire and battery when repairing electrical components, exclude special requirement.

4. When examining operating function, the battery voltage must be above 12V

5. When starting the engine, ensure that the fuel oil in fuel tank is more than 2 litres, or it's possible to damage the fuel pump.

6. If the motorcycle isn't used for a long time, you'd better let the fuel oil out before using, in order to avoid the fuel line plugging

7. When washing the motorcycle, prevent the water from crushing into electrical components and cables.

8. Only after switching off the power, cutting off the join of wire and battery, can ECU be pulled out, avoid the damage of ECU. Don't insert and pull out the ECU rashly.

9. TPS sensor (restrictor place sensor) moves randomly, it is hard to start engine probably.

10. Avoid counter electrode when dismounting battery

When the motorcycle heeling to the land for 7 seconds, the heel sensor works, the engine automatically flameouts, powers off. You can start it when processing the power again

11. Maintenance attention, when ECU has worked for 100 hours, the error light flashes continuously 15 times when switching on the power, prompts that it's time to go to the service apron for maintaining.

21. Electron diagnostic system and error diagnosis

### Connecting diagnosis analyzer

Note ! Before connecting diagnosis analyzer, check for correct voltage of battery, connection wires and fuses.

The plug of diagnosis wire 2P is in the right trunk.

Open the right front trunk cover A

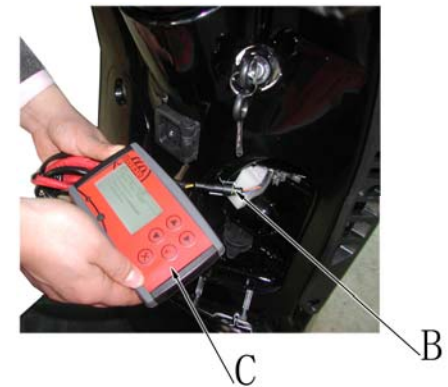
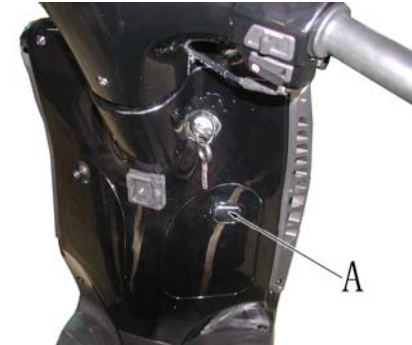
Connect the plug B of diagnosis wire 2P with diagnosis analyzer C

Note !!

After connection of plug of diagnosis analyzer, the screen will prompt “checking connection”:

Rotating the power key to ON:

The diagnosis analyzer will prompt “Connected” and after 5 seconds shows the main menu.



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL