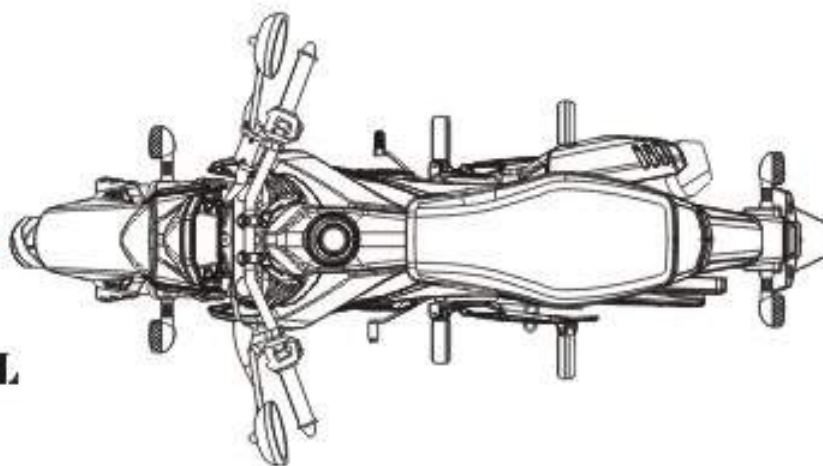




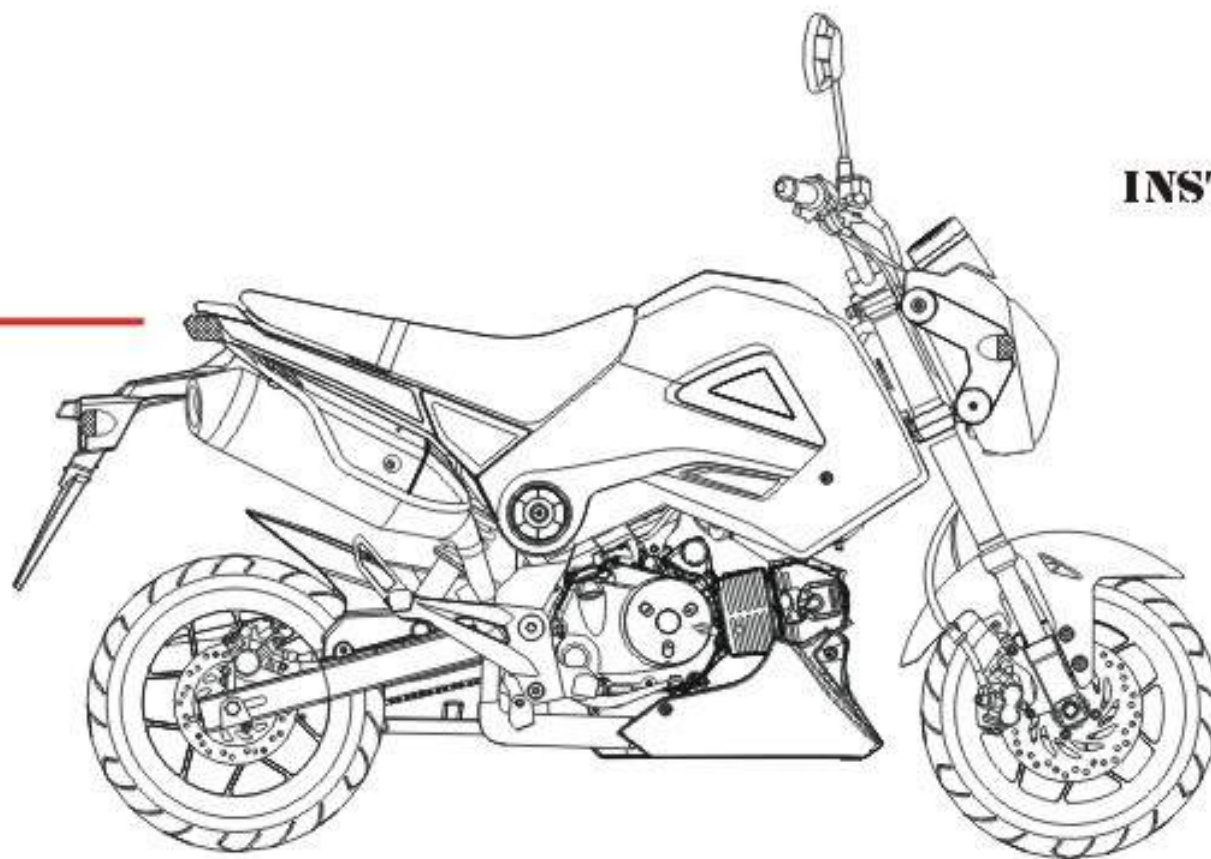
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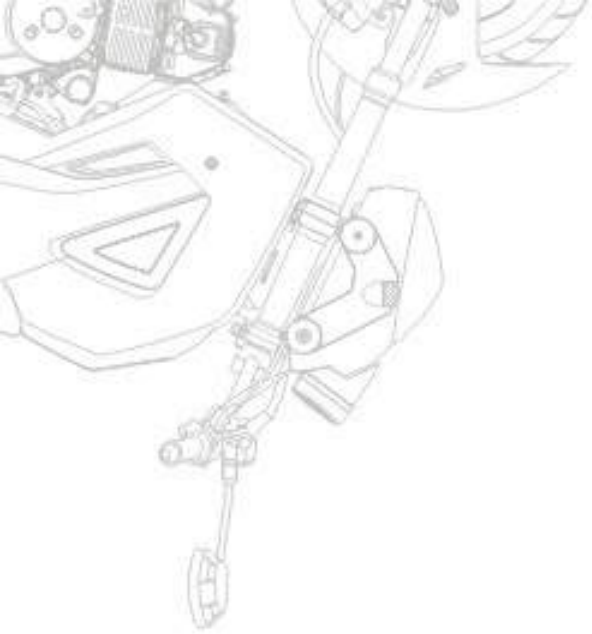
Motorcycle
INSTRUCTION MANUAL



M3

Motorcycle
INSTRUCTION MANUAL





M3

Motorcycle
INSTRUCTION MANUAL



Foreword

This Manual introduces basic operation and maintenance methods of motorcycle. Please carefully read it before driving since correct use and maintenance can effectively reduce motorcycle breakdown, keep its optimum status and prolong its service life. Our company's maintenance station from place to place will provide you with the best after-sales service at any time.

Data, instructions, specifications and pictures in this Manual are prepared based on the latest product. Our company reserves the right to change all the products at any time without further notice on the changed parameters and other items.

Thank you for buying our motorcycle and wish you comfort and pleasure in future driving.

When transferring motorcycle to others, please offer this Manual as well.

Our company reserves the copyright of this Manual which shall not be reprinted without our written approval.

Contents

Safe Driving Rules.....	2-3
Part Mounting Position.....	4-6
Part Function.....	7-10
Selection of Lubricating oil.....	10
Tyre Pressure.....	10-11
Operation Guide.....	11-13
Repair and Maintenance.....	13-19
Breakdown Maintenance.....	19
Maintenance period Table.....	20-22
Main Technical Parameters of motorcycle.....	23
Typical Fault Maintenance manual of EFI System.....	23-28
Electrical Schematic Diagram of motorcycle.....	29

Motorcycle Safe Driving and User Manual

Safe Driving Rules

Before starting engine, please carefully read the "re-driving inspection" and check the motorcycle to ensure the safety of riders.

Motorcycle driver must pass the examination of traffic administration department and get driving license. Driving without license is strictly prohibited.

Please wear bright clothes, keep away from other motor vehicles, and correctly use turn light, horn and other signal devices.

Overtaking and violation of traffic rules are not allowed.

Overspeeding might cause traffic accident and is therefore prohibited.

When driving motorcycle, please put both hands on handlebars and both feet on pedals; and the passenger should hug the driver with both hands and put both feet on the back pedals.

Protective Article

Please select and wear qualified, safe and standard helmet to guarantee safety. Before driving, please wear the safety helmet, dust goggles, leather boots and other protective articles, and so does the passenger.

Motorcycle Refitting

It is unsafe and illegal to refit and change original accessories at will.

If you have good refitting suggestions, please tell us and refit with our permission. Otherwise, you shall take all the consequences arisen.

Cargo Loading

Gravity center of cargos shall be as low as possible and close to center of the motorcycle. Please evenly put loaded weight on both sides to keep balance. Otherwise, it will affect manipulation of the motorcycle.

Please appropriately adjust the tyre and rear shock absorber according to the loaded weight and road condition to make sure cargos are solidly fixed on motorcycle in balance.

Please do not tie large and heavy things on handlebars, front fork and front mudguard. Otherwise, it might cause safety accident due to unsteady driving or inflexible steering.

The maximum load is 150kg.

Accessories

Our accessories, after test on motorcycle, can ensure safety and users can use them safely. Please carefully select and mount accessories not manufactured by us at your own risk and make sure to: carefully check accessories and mount them without blocking driver's sight, reducing the ground clearance, restraining rotation of the suspension and steering mechanism, or hindering manipulation.

Please do not add extra electrical accessories. Severe overload might damage cable or electrical equipment, and even burn the motorcycle.

Attentions

Correct use can effectively prolong the service life of engine and give full play to performance of a new motorcycle. Please use by following such rules:

- * In the first 1000km of a new motorcycle, the throttle opening $\leq 3/4$ and heavy load driving is not allowed with maximum Engine revolution speed of no greater than 6000r/min.
- * After the first 1000km, please change engine oil and change it once more after 3000km, and have maintenance on the Motorcycle according to maintenance instructions hereof.

Warning

If there is electronic fuel injection system, the product will have strong dependency on power supply and it is not allowed to add any other electric device. Otherwise, it will cause starting failure, electronic fuel injection system fault or ECU burning.

Danger

Burglar alarm can be mounted on this product by professionals for installation and debugging. Otherwise, it might cause line short and burn the motorcycle.

Product Model Compilation Method

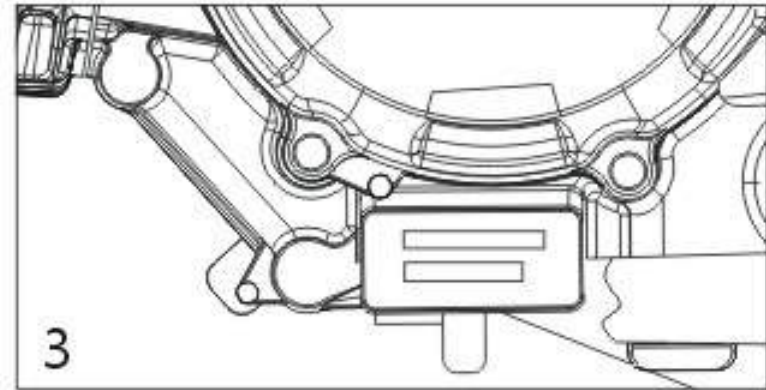
JN 250 - 1 A

Improvement number
Design number
Nominal engine displacement 250ml
Trademark code

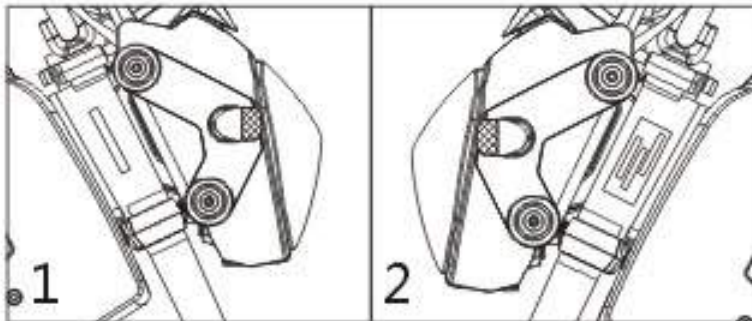
Number position

Vehicle identification number (VIN code) and engine number are used in motorcycle registration. When you are ordering accessories and after-sales service, you can enjoy faster and better service with such numbers.

Vehicle identification number (VIN code) is put at right side of head tube of motorcycle frame and frame nameplate is fixed at the left side. Engine number is put under the left crankcase.






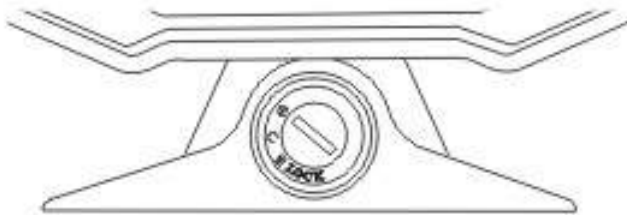
- 1 Vehicle identification number (VIN code)
- 2 Frame nameplate
- 3 Engine number



Ignition Switch

Ignition switch is right ahead of the Motorcycle frame.

- “” Indicates opening of circuit when engine cannot be started and the key can be pulled out.
- “” Indicates closing of circuit when engine can be started and the key cannot be pulled out.
- “” Indicates head lock position where key can be rotated to the left after inserted; the key can be pulled out.

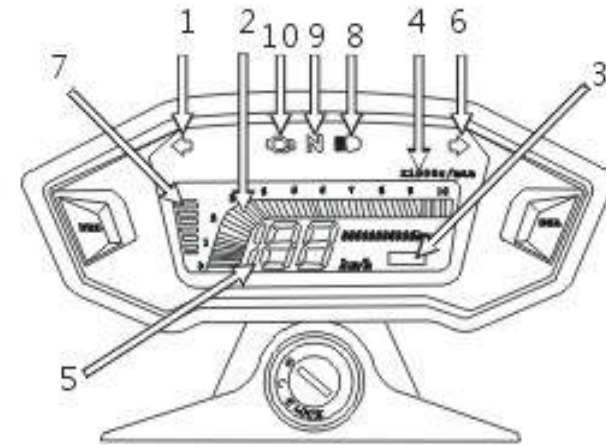


Attention

It is required to lock the steering mechanism when the motorcycle is not in use.

It is not allowed to start or push the motorcycle when the steering mechanism is locked.

Instruments



1. Left-turn indicator light

This light will flash when you are about to turn Left by pushing the Steering switch to the left.

2. Engine tachometer

It indicates the engine speed during runtime.

3. Gear indicator

It indicates gear of the engine.

4. Odometer

It records the total mileage, miles cannot be reset.

5. **Speed indicator**

It indicates the driving speed in kilometer per hour.

6. **Right-turn indicator light**

This light will flash when you are about to turn right by pushing the steering switch to the right.

7. **Oil gauge**

It indicates oil level in the fuel tank; the red line indicates no much oil left, so refuel is required as soon as possible.

Warning

There shall be sufficient fuel oil in the fuel tank. Otherwise, the fuel pump will idle after exhausting of the fuel oil, which will burn the fuel pump.

8. **High beam indicator light**

When using high beam function of the headlamp, the high beam will shine.

9. **Neutral gear indicator light**

When the engine is at neutral gear, this light will be on.

10. **Electronic injection warning light**

When unlocking the electric door, electronic injection warning light in the odometer will be on and it will be off when the engine is started. In case of flashing of trouble light after starting motorcycle, it indicates fault of the electronic fuel injection system. Please check fault code and corresponding parameters by using detector for troubleshooting.

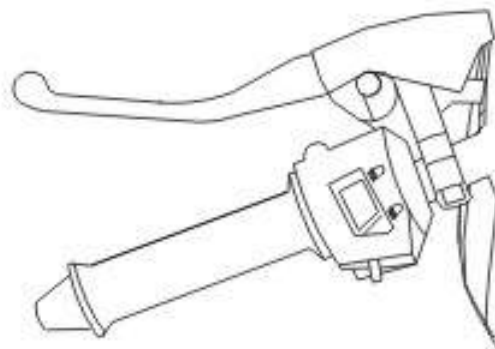
11. **Coolant temperature indicator It**

It indicates the engine coolant temperature; the red scale line indicates too high engine coolant temperature.

Warning

When the coolant temperature indicator points to the red scale, please immediately stop and check if the cooling fan is working and coolant in the kettle is sufficient. You can start the motorcycle again after troubleshooting or the indicator light goes off.

Left Switch Group



1. Horn button
Press the button if necessary.
2. Turn light switch
There are three positions on this switch. Please push the turn light switch to " ← " for turning left, when front and rear turn lights on the left will be on; push the turn light switch to " → " For turning right, when front and rear turn light on the right will be on; and press the turn light switch to turn off both the left and right turn lights, then the switch will automatically return to the neutral position.
3. Clutch operating handle
In case of engine gear shift, please hold the handle and clutch friction lining of the engine will separate. Cut off the power before gear shift. It is also required to hold the handle to start when the engine is at gear position.

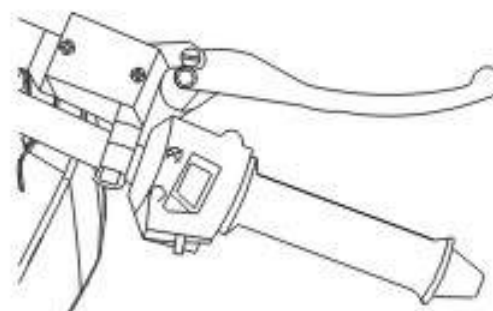
4. Overtaking switch

If necessary, press the switch when the headlamp on full beam is on, while the lamp will go off when getting it loosened. Please press the switch repeatedly during overtaking to improve safety.

5. Headlamp dimmer switch

Please push this switch to " ≡ ○ " for low beam and " ≡ ○ " for high beam.

Right Switch Group



1. Flameout preset switch

" ⊗ " Indicates opening of circuit, when the engine cannot be started or the running engine will be stopped;

" ↻ " indicates closing of circuit, when the engine can be started; and it is required to Put this switch at " ↻ " when starting the engine.

2. Accelerator handlebar

Accelerator control handlebar is used to adjust the throttle size and control the motorcycle speed. Please turn it to your own direction to accelerate and turn to the other direction to slow down.

3. Headlamp switch

There are three positions "☀" "☀" and "●" on this switch.

"☀" Indicates headlamp, tail lamp and instrument lamp are on.

"☀" Indicates front position lamp, tail lamp and instrument lamp are on.

"●" indicates headlamp, tail lamp, front position lamp and instrument lamp are off.

4. Electric start button

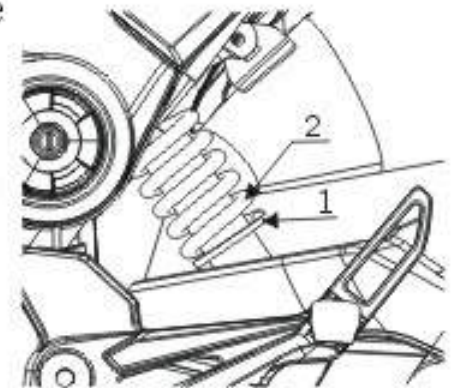
- ① Put the engine at neutral gear or at gear position, and hold the clutch handle to separate the clutch.
- ② Insert key into the ignition switch and rotate to "☺" position.
- ③ Put flameout switch at "☺" position, press the electric start button "☺" while rotating the accelerator handlebar, the engine can be started.

⚠ Warning

The start-up time shall be no longer than 5s and 10s for time interval between two starts is required. Please check the oil circuit and electric circuit system if it cannot be started for many times.

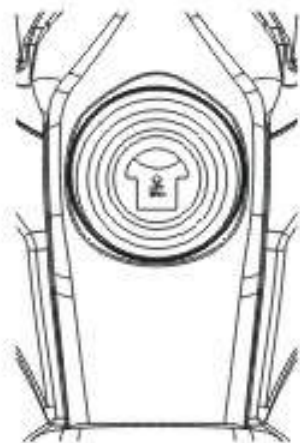
Rear Shock Absorber

Position of rear shock absorber can be adjusted based on different road conditions and driving conditions. During adjustment, please first loosen locking bolt "1" on the adjusting nut, and then loosen or screw down the adjusting nut "2" to increase or decrease the spring tension to make the rear suspension solid or loose, so as to adapt to different driving requirements.



Fuel Tank and Fuel Tank Cap

Please first open cover on the fuel tank lock, insert key into the ignition switch and rotate the key to the right for 90° to open the fuel tank cap. Please press it down and pull out the key to close it.



⚠ Attention

- *Failure to get key pulled out indicates that the fuel tank cap is not well locked. Please do not force it and wait until the key's natural restoration.
- *The fuel oil shall not be refilled above the fuel tank neck. After filling fuel, please fasten down the fuel tank cap tightly.

⚠ Warning

It is only allowed to use 93# and superior clean gasoline, since inferior gasoline will damage the electronic fuel injection system.

Oil Pump

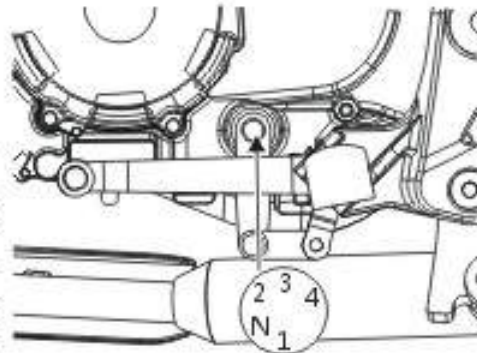
Oil pump is used in JL250--1A for oil supply. When you open the electric door lock and flameout switch, the oil pump will stop working after 2~3s. When you start the engine, the oil pump will be working all the time. When the fuel oil runs out, the oil pump will idle and cause damages. Please pay attention to the oil gauge and refill oil before its running out.

⚠ Attention

During first running of oil pump, please make sure there is sufficient fuel oil in the tank and do not keep it running without oil. Oil pump assembly is only designed for gasoline. Please contact with the manufacturer to change oil pump if there is ethanol in the fuel.

Gear Lever

There are 4 gears on the engine in accordance with the international standards. It is first gear when you step on the lever and it is second gear when you lift up the lever. The relationship among gears is shown as follows: please step on or lift up the gear lever to change for the appropriate gear.



⚠ Attention

The wasted lubricating oil shall be collected to recycling center for disposal instead of being directly discharged, so as to avoid environmental pollution.

Tyre Pressure

Accurate tyre pressure can maintain the best driving stability, comfortable driving and durable service of tyre.

Selection of Lubricating Oil

Lubricating oil is an important factor affecting performance and service life of the engine and must be selected as stipulated; no inferior engine oil, gear oil or plant oil can be replaced. We fill SAE15W \40 APISJ gasoline engine oil in our products. In case of change into other lubricating oil, the selected oil shall feature above-SG quality level and viscosity applicable to different regions and temperature changes by referring to the attached drawing. When changing lubricating oil, please refill in new lubricating oil as specified after releasing all of the original in the crankcase.

Load	Tyre pressure (KPa)	Tyre pressure (KPa)
Driver	Front wheel: 225	Rear wheel: 250
Driver and passenger	Front wheel: 250	Rear wheel: 280

In case the tyre is in cool status, check if there is shear mark, nail or other sharp objects and if any depression or deformation occurs to the tyre. In case of any damage, please go to the maintenance station for repair or exchange.

Minimum tread depth (mm)	
Front tyre: 1.5	Rear tyre: 2.0

When tread depth at middle of the tyre reaches the following limit, please change the tyre.

⚠ Danger

The use of excessive wear tyre is extremely dangerous and will affect the traction, stability, steering and operation. Incorrect tyre pressure might cause abnormal tread abrasion and cause safety accident. Insufficient tyre pressure will cause tyre damage or separation from rim, thus causing accidents.

Operation Guide

Engine running-in

The running-in mileage for new motorcycle is 1000km. Please use 3/4 throttle opening during running-in to avoid full-opening operation, and frequently shift the gear to avoid continuous running of engine at a certain rotating speed. Please strictly control the rotating speed of engine, which shall be 6000r/min to the maximum. During the first 500km running-in, the maximum speed shall be no greater than 60km/h; and during the 500--1000km running-in, the maximum speed shall be no greater than 70km/h. Maintenance is required after running-in to screw down all the fasteners for readjustment. Changing lubricating oil contaminated by abrasive dust during running-in, and carefully overhauling all parts after the first 1000km can ensure the optimum state of motorcycle and prolong the service life of engine.

Inspection before driving




Before driving, it is required to check the following items of motorcycle for only a few minutes, which can not only save your time in troubleshooting during travel, but also ensure your driving safety. Check the engine lubricating oil level.....and refill in as required and check if there is oil leakage; check the front and rear brake.....check action of the front and rear brake and adjust them if the free stroke is too large or too small, and check if there is locking or braking failure;

and check the tyre.....check the pressure and abrasive damage of front and rear tyre for inflation or maintenance if necessary. Check the accelerator manipulation.....check action of the accelerator handlebar, connection of operating line and free stroke of the handlebar. Make adjustment or replacement if necessary. Check the lighting and signal.....check performance of the headlamp, tail lamp, turn light and horn. Conduct adjustment and repair if necessary. Check the drive chain.....check tension and lubrication of the chain. Replacement shall be made in case of severe wear or damage.


Check the steering control mechanism.....check the manipulation flexibility and stability. Make adjustment if necessary. Check the engine.....check if the engine is normal. Check if there is sufficient coolant in the kettle.

12

Engine Start

Insert key into the ignition switch and rotate it to "  " position; push the flameout preset switch to "  " and change gear to neutral gear with gear shift pedal. At this time when the gear indicator shows gear 1 or transmission is at any gear position, please start the engine by holding the clutch brake handle. (For electric start) please press the electric start button "  ". While rotating the accelerator handlebar to make appropriate acceleration, then the engine will be started.

Attention

1. Please immediately release the electric start button "  " after keeping pressing it for 3 ~5s. Otherwise, it might cause excessively fast battery discharging.
2. After starting engine, please immediately keep your hand away from the electric start button.
3. During continuous running of engine, it is not allowed to press the electric start button. Otherwise, it might have adverse effects on engine.
4. If the engine cannot be started after 3 times of electric start, please get restarted after 2 minutes to avoid too fast or too much battery discharging or shortening of battery service life.

Warning

Please do not start engine at narrow place since it is difficult for the discharged exhaust gas to diffuse. It is strictly prohibited to start the engine during gear shift, which might cause damages to parts and accident.

Driving

- Start the engine and let it heat up gradually. 1. When the engine is at idle, disengage the clutch and step on the gear shift pedal to the low gear (first gear) position;
2. Coordinate two actions, i.e. gradually accelerating the engine speed & slowly releasing the clutch handle,

To ensure steady starting;

3. When the motorcycle reaches steady driving, return oil to slow down the engine speed. Then disengage the clutch and lift up the transmission pedal to shift to the second gear; The same method is applicable to shift to other gears.

⚠ Danger

- * Please do not shift gear without holding the clutch handle. Otherwise, it might cause damage to the engine drive chain and other parts.
- * Please do not slide in neutral gear during downhill. It is required to use engine power to assist braking.

Braking and Stopping

If slowing down is needed, gradually loosen the throttle until finally let go of it. Or using front and rear braking at the same time can also decelerate. Then hold the clutch handle, put the gear at neutral position, stop the motorcycle and put down the supporting lug.

Before turning, please first let go of the throttle and use braking to slow down. Otherwise, throttle releasing or emergency braking at the moment of turning might make the motorcycle out of control and cause sideslip or overturning.

When driving on humid or slack road, please keep steady operation. Sudden acceleration, emergency braking and sudden turn might make the motorcycle out of control.

⚠ Danger

Higher speed requires longer braking distance. During driving, please keep safe braking distance with vehicles in front. It is very dangerous to merely use the front brake or rear brake, which might put the vehicle out of control by causing slide.

Repair and Maintenance

Oil level check

Please check the lubricating oil level before driving every day. There is engine oil dipstick on right crankcase cover rear to measure the lubricating oil level.

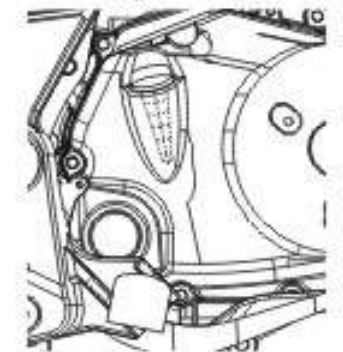
Please stop the engine and leave it standing for 5 minutes

before measurement. Then, please keep the motorcycle vertical to flat ground, unscrew the engine oil dipstick, clean it, insert it into the oil without screwing on the thread and take it out to check the oil level.

When the oil level is between the upper and lower scale, there is sufficient lubricating oil.

When the oil level is at or below the lower scale, please fill in SAE15W/40API SJ gasoline engine oil until the upper scale (upper line).

Mount the engine oil dipstick and check if there is oil leakage.



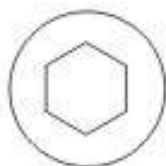
⚠ Warning

Running of engine with insufficient engine oil will cause damages to its parts; while excessive engine oil will affect the speed.

Replacement of lubricating oil

Lubricating oil shall be replaced when the engine is hot, so that all the lubricating oil can be poured out.

During replacement, please put an empty oil container under the engine, unscrew the filter screen cover, take out the spring and filter screen, release engine oil in the box, clean the filter screen and put it in the box. Obliquely place the engine for 2~3 until residual oil in the box is drained off and screw down the filter screen cover. Please check the peephole or dipstick to see the filling quantity of new engine oil.



filter cap



Spring



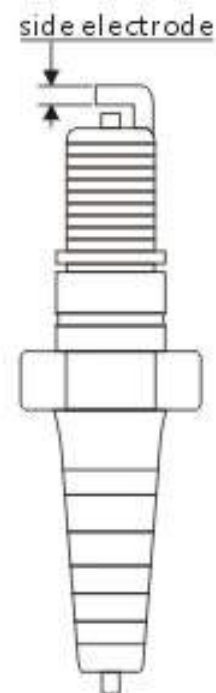
Filter

Spark plug

Take off the spark plug cover, clean the surrounding dirt, remove the spark plug with spark plug wrench in the tool bag, use wire brush to clear away carbon deposit and dirt in the spark plug, check if the spark plug is damaged and if the inter-electrode part is burnt or corroded. In case of damage, please change the spark plug.

Use plug gauge to check clearance of the spark plug side electrode and adjust it to 0.60.7mm.

Check if sealing gasket of the spark plug is under good condition.



⚠ Attention

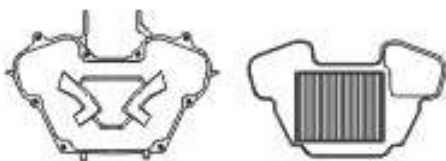
- * When mounting spark plug, it is required to first screw down the spark plug with hands and then fasten it with spark plug wrench, to avoid thread disorderly buckle, thus causing damages to mounting thread for spark plug on the cylinder head.
- * Please do not let impurities come into the engine via spark plug hole when removing the spark plug.

Use of spark plug

1. In case of frequent low speed driving or driving in winter of low temperature, central electrode of the spark plug will be black and it is better to use CR5HSA model.
2. In case of frequent high speed driving or driving in summer with high temperature, central electrode of the spark plug will be grey and white. Thus CR7HSA model will be preferred.
3. Under standard state, please select CR6HSA model (Factory is CR6HSA).

Air filter

Air filter shall be regularly maintained; while the maintenance shall be more frequent as to driving at



humid and dusty regions. Remove the saddle and guard plate, unscrew all the bolts, dismantle the air filter cover, take out the filter element part and mount new part.

Install the air filter in reverse order.

Warning

As to driving in dusty conditions, the maintenance shall be more frequent.

Battery

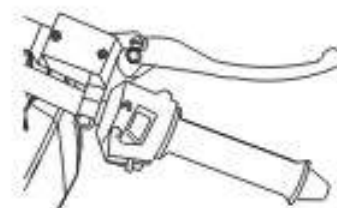
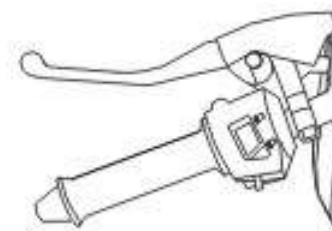
Please check voltage at both terminals of the battery. The battery needs to be charged under 12.3v.

Clutch adjustment

Hold the clutch operating handle and operate the clutch handle when the end free stroke before obvious resistance shall be 10~20mm. If not, please make adjustment according to the following steps:

Unscrew lock nut at locking plate of the clutch operating line on crankcase and adjust the adjusting screw rod. Rotate to the direction shown in (A) and stroke of the left handle will be reduced; and rotate to the direction shown in (B) and free stroke will be increased. After adjusting screw rod.

Adjusting screw rod at the left brake handle can be used for fine adjustment of free stroke. In adjustment, please unscrew the lock nut, adjust the adjusting screw rod and fasten the nut after free stroke of the handle is satisfied.

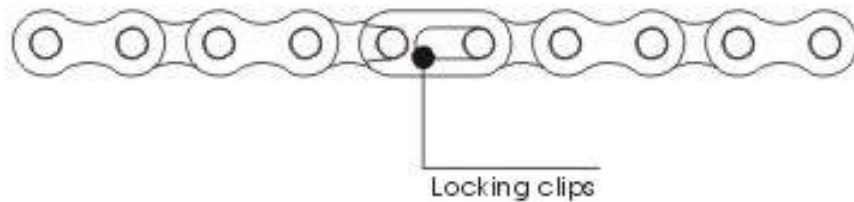


Accelerator cable adjustment

Check if the accelerator handlebar can flexibly rotate from the full-open position to the full-closed position: Check if accelerator control cable from the accelerator handlebar to the throttle body is good. In case of breakage in operation, clamping stagnation or improper wiring, replacement of operating lines or rewiring is required. Check if free stroke of accelerator handlebar at idle is 2~6mm or not.

In case of adjustment, please first unscrew the lock nut, rotate the upper adjusting solenoid, and unscrew the adjusting nut a and b if further adjustment is required; then, adjust the adjusting screw rod. Adjust to the free stroke 2~6mm and fasten the adjusting nut a and b.

Inspection, investigation and lubrication of drive chain



Check of chain wheel and chain: check if chain pin is loose; if pin roller is damaged; if chain is rusted or dry; if chain ratchet is flexible; if chain and chain wheel are excessively worn; if chain wheel gear tooth is damaged; and if fixing bolt of chain wheel is loose.

Lubrication of chain

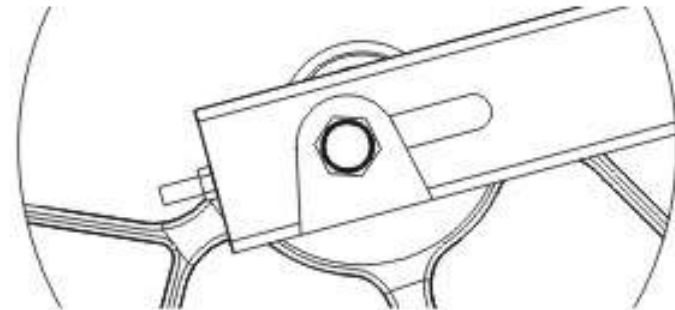
Chain with dirt will accelerate the abrasion of chain and chain wheel. Please regularly check based on the "Maintenance Period Table" and use flushing oil to clean the chain, and refill in appropriate engine oil or chain oil after air drying.

⚠ Attention

When mounting locking clamp, it is required to ensure open end of the clamp is opposite to the normal running direction.

Adjustment of driving chain

Unscrew the rear wheel axle nut and drive chain adjuster lock nut and rotate the adjuster in the same adjustment amount. Check the chain swing stroke when the left and right adjusters are at the same scale, keep it at 10~20mm and fasten the rear wheel axle nut.



Braking

Brake disc will be worn after some time and it shall be replaced when the brake disc is worn to the thickness limit so as to ensure braking performance and reliability of the braking system.

The thickness limit of brake disc is 3mm. Please check the following items of braking system before driving every day:

- A. Check liquid level in the braking fluid cup;
- B. Check if there is liquid leakage in the braking system braking fluid hose and braking fluid cup;
- C. Check if there is liquid leakage or crack on the;
- D. Check abrasion condition of the brake disc and brake lining;
- E. Stroke of the front brake handle shall be 10-20mm and free stroke of the rear brake pedal shall be 20-30mm.

⚠ Attention

- ★ Since hydraulic disc brake is working under high pressure, the time for change of braking fluid hose, braking fluid cup and braking fluid shall strictly follow the specified time hereof to ensure safety and reliability.
- ★ In case of maintenance of braking system or brake disc, please go to our authorized maintenance station to ensure safety.

Brake lining

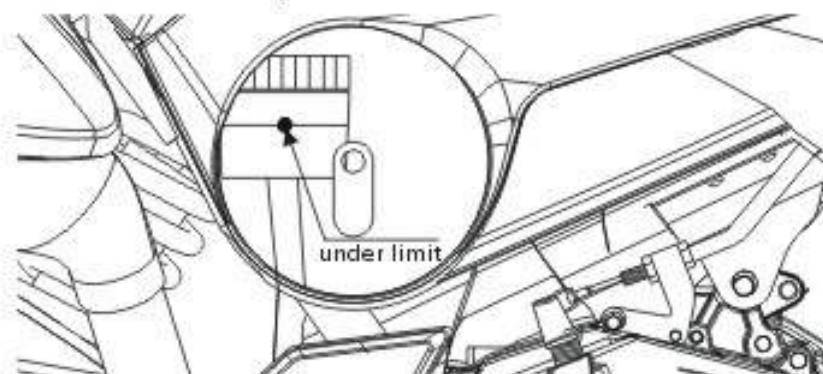
Check if brake lining is worn to the limit position. Please make replacement if it is.

⚠ Attention

In case a new brake disc or friction lining is replaced, the front brake handle or rear brake pedal shall be operated for several times instead of driving the motorcycle at once, so as to ensure satisfactory meshing between the brake disc and the brake caliper, thus making the braking system normal again.

Braking fluid

Please pay attention to checking liquid level in the braking fluid cup on the right brake handle and rear main brake pump. Please fill in braking fluid appointed by our company if the liquid level is low. If brake lining is worn, liquid in the braking fluid cup will automatically fill in the oil pressure pipe and the liquid level will lower. Inspection and supplement of braking fluid are important items in the regular maintenance of hydraulic disc brake.



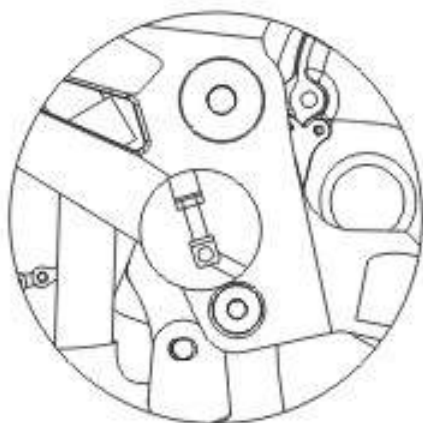
⚠ Attention

- * Please do not use residual braking fluid or braking fluid kept in open container and do not mix water and other impurities into the braking fluid. Otherwise, it will severely damage the braking system and affect the braking effect.
- * Please do not splash braking fluid with strong corrosion on paint surface or plastic parts. Only DOT4 braking fluid can be used.

Adjustment of rear brake

Prop up the motorcycle to ensure the free stroke of rear brake pedal lever from free state to the initial working of brake.

In case of adjustment, please unscrew the lock nut, adjust the exposing length of push rod and increase or reduce stroke of the pedal lever. Step on the rear brake pedal lever for several times, release the brake and rotate the rear wheel to see if it can rotate freely. Then, please fasten the nut when it is appropriate.



Replacement of fuse protector

Please first check the fuse in case of sudden flame out or circuit disconnection during driving.

The fuse protector can be replaced by unscrewing the cross bolt on right guard plate, removing the right guard plate and opening the fuse protector box. The nominal standard of fuse protector is 15A.

If fuse protector is often burnt out, there might be short circuit or overload in electrical system, and you can go to our authorized maintenance station for troubleshooting.

⚠ Attention

- * The replaced fuse protector must meet the specification. No other conducting materials shall be replaced.
- * Please first turn off the ignition switch before checking or changing fuse protector.

Breakdown Maintenance

If the engine cannot be started (the electronic fuel injection fault lamp is off), please check the following items to find out reasons:

1. Observe position of the oil gauge pointer to determine if there is sufficient fuel in the oil tank.
2. Check if the connection between the positive and Negative of the battery is secure.
3. Check if the fuse is melted.

If the electronic fuel injection fault lamp is on, please Do not dismantle and repair it without permission. Please come to our authorized maintenance station for troubleshooting with fault diagnosis tester.

Warning

- * After ECU replacement, turn off the ignition switch after starting for 3-5 minutes, and restart.
- * Please first turn off the ignition switch before pulling off the connector assembly of electronic injector. Otherwise, it might leave historical faults, which require diagnosis tester to find them out. Please press the plug cover component before pulling it out.

Attention

After-sales repair is not available for ECU. In case of problems, please first confirm if it is caused by calibration or software. If it is, please refresh the software calibration. In case of fault or damage of controller hardware within the warranty period, please send the controller back to our factory for further investigation of reasons. Relevant behavior is only valid to products within the warranty period.

Note:

1. Clearing shall be conducted more frequently When driving at dusty regions.
2. When odometer reading exceeds the given maximum figure, its repair cycle shall still follow the mileage interval as specified in the table.
3. To ensure safety, the adjustment of timing chain tension and valve clearance can only be carried out by our personnel at the authorized Maintenance station.

Project period	Maintenance	Maintenance mileage(km)			
Maintenance frequency	Period	1000	4000	8000	1200
Project period	Maintenance Period	Maintenance mileage(km)			
Maintenance frequency		1000	4000	8000	1200
Fuel system circuit		Check	Check	Check	Check
Accelerator operating system		Check	Check	Check	Check
Throttle body		—	Check	Check	Check
Air filter element	Make replacement if required	Clean	Clean	Clean	Clean
Spark plug	Make replacement every 4000km	Check	Check	Check	Check

Project period	Maintenance	Maintenance mileage (km)			
Maintenance frequency	Period	1000	4000	8000	12000
Engine lubricating oil	Maintenance shall be conducted once for the first 500km and every 3000km later				
Lubricating oil filter screen	Conduct cleaning when replacing engine oil				
Timing chain tension	Make adjustment if required	Adjust	Adjust	Adjust	Adjust
Valve clearance	Make adjustment if required	Check	Check	Check	Check
Drive chain		Check/ lubricate	Check/ lubricate	Check/ lubricate	Check/ lubricate
Front and rear braking system		————	Check	Check	Check
Brake shoe abrasion		————	Check	Check	Check
Braking fluid hose	Make replacement every four years	Check	Check	Check	Check

Project period	Maintenance	Maintenance mileage (km)			
Maintenance frequency	Period	1000	4000	8000	12000
Braking fluid cup		Check	Check	Check	Check
Braking fluid	Make replacement once every two years				
Rear brake lamp switch	One month	Check	Check	Check	Check
Front and tail lamp lighting		Check	Check	Check	Check
Clutch	Change friction lining if required	Adjust	Adjust	Adjust	Adjust
Nuts and bolts	One month	Check	Check	Check	Check
Wheel/tyre	Three months	Check	Check	Check	Check
Steering handle bearing	Three months	Check	Check	Check	Check
Cooling system		Check	Check/ replace	Check/ replace	Check/ replace

Main Technical Parameters of Motorcycle

Name	Item	Unit	Model or technical parameter

Typical Fault Repair Manual about EFI System (Apply without diagnosis tool)

I.Introduction of EFI System

Honzen EFI system includes the following three parts:

- 1.Sensors, Includes intake air temperature sensor, water temperature sensor, throttle position sensor, oxygen sensor. The functions are transporting Engine operating parameters to electronic control Unit (ECU).
- 2.Electronic control unit (ECU), is the brain of the system. Its function is calculating the optimum injection timing, ignition timing and fuel injection quantity according to the signal from sensors, and then sends drive signals to actuators.
- 3.Actuators, include ignition mechanism (ignition, ignition coil, spark plug), injector and Electromagnetic pump. The functions are executing Ignition and fuel injection.

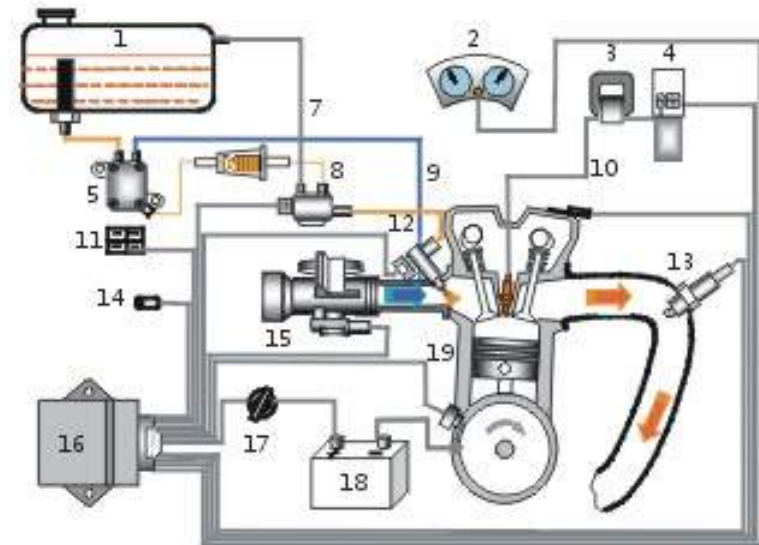


Figure1 EFI system schematic diagram

- | | |
|--------------------------------------|------------------------------------|
| 1.Tank ; | 11.Serial port communication plug; |
| 2.Fault light ; | 12.Injector; |
| 3.Ignition coil ; | 13.O ₂ sensor ; |
| 4.Igniter ; | 14.Intake air temperature Sensor; |
| 5.Self sucking pump; | 15.Throttle position sensor; |
| 6.Filter; | 16.ECU; |
| 7.Bubble tube ; | 17.Ignition switch; |
| 8.Electromagnetic pump ; | 18.Battery; |
| 9.Vacuum pipe; | 19.Crank angle sensor |
| 10.Cylinder head temperature sensor; | |

II. Fault type and elimination

1. Start fault

Fault phenomenon

(1): Start the motor shows no sign of combustion

1.1.1 Crank angle sensor fault

Judgment method: Turn on the ignition switch, electromagnetic pump sound can be heard, but the all ECU fault lights (see figure 2 and table 1) are dark when starting the motor. If so, crank angle sensor signal might not reach the ECU. Check the crank angle sensor, related signal wire and plug on the magneto.

1.1.2 Ignition output fault

Judgment method: If the ECU fault lights of injector, electromagnetic pump and igniter are flashing, then try spark discharge outside the cylinder after pulling the spark plug cap out. If there is no spark or very weak spark, check whether the plug of ignition coil is unconnected, or there is open circuit between ECU and igniter, or igniter and ignition coil. Finally, judge whether the igniter or the ignition coil is fault by using substitution method.

1.1.3 Electromagnetic pump or wire fault

Judgment method: If the electromagnetic pump sound is very high when turning on the ignition switch, this may be a lack of fuel in the tank. If there is not electromagnetic pump sound but the electromagnetic pump fault light can flash 2 seconds

after turning on the ignition switch, mechanical failure might occur in the electromagnetic pump, replace the electromagnetic pump. If the electromagnetic pump fault light keeps dark after turning on the ignition switch, while ignition and injector fault light can flash after starting the motor, driver wire fault might occur to electromagnetic pump. Check the electromagnetic pump driver wire, plug, check the resistance between two pins of the electromagnetic pump to judge whether there is open circuit.

1.1.4 Injector or injector wire fault:

Judgment method: Start motor, electromagnetic pump and ignition fault lights can flash, but the injector fault light is dark, injector wire fault might occur. Check whether the injector plug is no connection, or injector drive wire is broken, or there exists open circuit between two pins of the injector. If injector fault light can flash after starting motor, loosen the injector mounting screw and pull out the injector from the air inlet pipe, start motor to observe the spray. If there is no spray or continuous spray, injector fault occurs.

1.1.5 ECU fault

Judgment method: All ECU fault lights are dark no matter turning on the ignition switch or starting the motor, ECU fault occurs. If everything has been done in 1.1.3 but still no spark found, ignition output channel inside ECU might fault, replace ECU.

Failure phenomenon

(2): Start is difficult, or start time is too long

1.1.6 Small valve gap

Judgment method: When the engine is cold, starting and running is difficult, but when the engine is hot everything goes normally. If so, the valve gap might be too small. Check the valve gap using a plug gauge and adjust them in accordance with the manual.

1.2.1 Cylinder head temperature sensor or signal wire fault

Judgment method: Turn on the ignition switch, the electromagnetic pump sound is intermittent "click, click", at the same time the fault light on the dashboard is bright. Cold start is difficult but hot start is normal. All these indicate cylinder head temperature sensor fault or signal wire fault.

1.2.2 Injector leakage

Judgment method: If restart is difficult after about 1 minute but all will be normal either restart immediately or restart after a long time. Elimination method: Loosen the injector mounting screw, pull out the injector from the air inlet pipe, turn on the ignition switch, keep the electromagnetic pump working by pulling the throttle to more than half opening, observe whether there is fuel dripping from the tip of the injector, if the interval time is less than 9 seconds, the injector needs to be replaced.

1.2.3 Throttle idle hole jam

Judgment method: The engine can be started when you pull the throttle, but the idle speed is too low or flameout occurs if the throttle is released. Clean the throttle idle hole, or adjust the idle speed screw counterclockwise (as shown in figure 2) till the idle speed is normal.

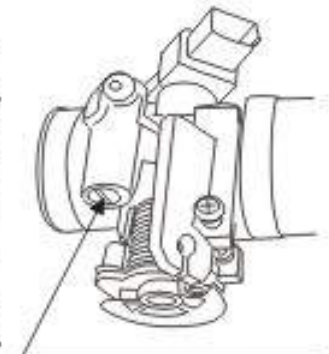


Figure 2 Idle screw position

2. Idle fault

Fault phenomenon (1): Unstable idle speed, flameout

2.1.1 Spark plug cap fault.

Judgment method: Check whether the spark plug cap is loose or corroded.

2.1.2 Spark plug fault

Judgment method: Pull out the spark plug, check whether there is carbon deposition, or the electrode gap is abnormal, or the calorific value is unmatched. If so, try to replace the spark plug.

2.1.3 Throttle idle hole jam.

Same with 1.2.3

2.1.4 Fuel pipe gas resistance

Judgment method: All are normal when the engine is not hot, but flameout happens when the engine becomes very hot. Check the fuel pipe and the bubbles tube between the self-suction pump and the electromagnetic pump, whether these pipes are unobstructed?

2.1.5 The spark energy shortage

Judgment method: Try to change the igniter or ignition coil, observe whether flameout disappears.

Fault phenomenon

(2): Idle speed is too high, flameout

2.2.1 Throttle cannot return to idle position

Judgment method: pull the throttle and suddenly relaxed, repeated this many times, then start and observe whether fault phenomenon disappears. If so, repair the cable accelerator to make it retractile.

2.2.2 Air inlet pipe leakage.

Judgment method: check whether the screws between inlet pipe and cylinder head are loose.

2.2.3 The factory idle hole opening set is too large.

The friction of the engine might decrease when running time going, the idle hole opening set which fit the new engine may be too big. Then high idle speed and flameout phenomenon will occur. Elimination method: adjust the idle hole screw (as shown in figure 2) clockwise till hot idle and cold start all are normal.

3. Flameout or underpowered when accelerating **Fault phenomenon**

(1) Idle is normal, flameout or underpowered occur when pull the throttle.

3.1.1 Throttle position sensor or connection wire fault.

Judgment method: Turn on the ignition switch, the electromagnetic pump sounds intermittent "click, click" sound. The fault light on the dashboard is bright. Turning on the ignition switch, pulling the throttle to more than half position, electromagnetic pump can't work continuously. All these phenomena indicate the throttle position sensor or connection wire fault.

3.1.2 Fuel filter clogging.

Judgment method: Observe whether the color of gasoline filter is black? Or the use time of filter is too long?

3.1.3 The tank filter clogging or self sucking pump fault.

Judgment method: when engine works, pull and keep the throttle in high position for a time, observe whether liquid level in the fuel filter drops too low. If so, check whether the filter in the tank is clogging, or the self sucking pump is fault.

3.1.4 Injector or electromagnetic pump fault.

Judgment method: If all above faults are excluded, but the fault phenomenon still exists. Nozzle holes jam or filter clogging might occur in the injector, or fuel shortage fault might occur in the electromagnetic pump. Try to replace them. In turn and judge whether the fault phenomenon disappears.

Failure phenomenon

(2) : The engine speed can't exceed 5000 RPM

3.2.1 If the battery voltage is greater than 15.6 V,
The EFI system will come into protection state. Check whether the rectifier is faulty.

4. Fuel consumption is too high

Fault phenomenon: fuel consumption is too high, the exhaust pipe shots and smokes.

4.1.1 Oxygen sensor fault or connect wire fault

Judgment method: The oxygen sensor fault light on the ECU is always dark, even if the engine is warm-up, and the throttle is suddenly pulled. This indicates oxygen sensor fault or connect wire unconnected.

4.1.2 Exhaust pipe leakage.

Judgment method: Plug the exhaust outlet when idling, if idle speed can't significantly reduce or flameout, exhaust pipe leakage might exist. Check the connection between the oxygen sensor and the exhaust pipe, and the connection between the exhaust pipe and cylinder head.

III. Other instructions

1. After change the throttle body or throttle position sensor or ECU, user need to calibrate throttle position: pull the throttle to the largest opening and maintain, turn on the ignition switch, remain the throttle in the biggest opening position more than 10 seconds, then loose the throttle, turn off the ignition switch, calibration end. This process also does the factory settings at the same time.

2. There are 4 ECU fault lights on ECU, which can indicate four type faults, as shown in figure 3 and table 1.

3. This system also adopts the electromagnetic pump as voice alarm. The normal electromagnetic pump sound is a continuous "cheep" for about 2 seconds after turn on the ignition switch. If there is a sensor fault, it will make Intermittent "click, click" sound.

4. If the fault light on the dashboard bights, it alarms the following possible faults: the inlet temperature sensor is open circuit or short circuit, the cylinder head temperature sensor is open circuit or short circuit, the throttle position sensor is open circuit or short circuit, the cylinder head temperature is over 115 degrees Celsius.

5. If the faults can't be handled by users, they can be handled to professional repair departments.

Figure 3 ECU fault light



Item number	Instruction content	Normal performance	Abnormal performance
1	Oxygen sensor voltage	Alternating 1-3 times per second from bright to dark after the engine is heated.	Always dark. Oxygen sensor fault.
2	Ignition signal	Flash one time as crankshaft turn one cycle. When in high speed bright instead of flash can be observed.	Always dark. It indicated that there is no ignition signal output. The greatest possible is crankshaft angle signal can't reach the ECU.
3	Injector drive signal	Flash one time as crankshaft turn two cycles. When in high speed bright instead of flash can be observed.	Always off, indicate that drive signals can not reach the injector. The greatest possible is the injector connector is unconnected.
4	Oil electromagnetic pump drive signal	Flash one time as crankshaft turn two cycles. When in high speed bright instead of flash can be observed.	Always off, indicate that drive signals can not reach the electromagnetic pump. The greatest possible is the electromagnetic pump connector is unconnected.

