

MOTORCYCLE KPC OWNER'S MANUAL



IMPORTER
AMERICAN LIFAN, INC
9272 HYSSOP DRIVE,
RANCHO CUGAMONGA, CA
UNITED STATES 91730



OWNER'S MANUAL MOTORCYCLE KPC



Manufactured by: JIANGMEN QIPAI MOTORCYCLE CO., LTD.
Imported by: AMERICAN LIFAN, INC.

PREFACE

Thank you for choosing the motorcycle. May you enjoy riding all time.

The manual contains the necessary instructions and guidance with respect to the operation and maintenance of the motorcycle, and **BE SURE TO READ IT CAREFULLY BEFORE YOU RIDE THE MOTORCYCLE**. Proper operation and maintenance can guarantee a safe riding to minimize troubles of the motorcycle and keep it in a sound condition which can extend the engine service life.

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IMPORTANT NOTICES

Operator and Passenger

KPC motorcycle is designed to carry the operator and one passenger. The maximum load weight of the motorcycle must not exceed 160kg including 5kg for rear carrier.

On-road

KPC motorcycle is designed for on-road use.

Pay special attention to statements preceded by the following words:

⚠ WARNING: Indicates a strong possibility of severe personal injury or death if instructions are not followed.

⚠ CAUTION: Indicates a possibility of equipment damage if instructions are not followed.

NOTE: Give helpful information.

Environmental Protection (EP): Indicates special precautions that must be taken to meet environment protection laws and regulations. Improper use of a motorcycle may cause environment pollution.

If the operator fails to follow the safe operating and maintenance practices, the company will not take any responsibility to any injury or damage occurred. This manual should be considered as a permanent part for the motorcycle and should remain with the motorcycle when resold.

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MOTORCYCLE SAFE RIDING

SAFE RIDING RULES

⚠ WARNING Carefully read the instructions in the “PRE-RIDE INSPECTION” before riding and take notice of the traffic safety when driving to guarantee the safety of drivers, passengers and motorcycles.

● Always make a pre-ride inspection before you start the engine and check the fasteners, connectors and adjusters, confirm the working condition to avoid the accidents and parts damage.

● Most countries requires a special motorcycle riding test or license. Make sure you are qualified before you ride. NEVER lend your motorcycle to an inexperienced rider.

● Make yourself conspicuous to help avoid the accident that wasn't your fault.

⚠ WARNING

● Wear bright or reflective clothing.

● Don't be excessively close to other vehicles and properly use lights and horns.

● Don't speedily cross another's way.

● Obey all national and local laws and regulations.

● Obey the speed limits, and NEVER travel faster than conditions warrant.

● Signal before you make a turn or change the lane change to draw other drivers' attention.

● Use extra caution at intersections, parking lot entrances and exits.

● Always remember to ride with both hands and keep both feet on the rider footrest while the passenger grasps the handrail with both feet on the rear footrest.

PROTECTIVE CLOTHS

● For the safety sake, always wear a helmet, a face shield, dust glasses and protective clothing. Your passenger needs the same protection.

● The exhaust system becomes hot during operation, and it remains hot for a while after stopping the engine. Take care not to touch the exhaust system while it is hot. Wear clothing that fully covers your legs.

● Do not wear loose clothing that could catch on the control levers, wheels, etc.

REFITTING

⚠ WARNING Arbitrarily refitting the motorcycle or removing the original parts may make unsafe riding and is illegal also. The user must obey all national and local laws and regulations in relation to vehicle and traffic. If you have a good proposal concerning refitting of the motorcycle, please write us. The refitment can be done with permission of the Co. Otherwise, the user will take the consequences.

LOADING

⚠ WARNING The motorcycle has definite distribution requirements on load bearing, improper loading will affect the performance, stability and safe operating speed.

● Keep cargo and accessory weight lower and close to the center of the motorcycle. Load weight equally on both sides to minimize imbalance. As weight is located further from the motorcycles's center of gravity, handling is proportionally affected.

● Adjust tyre pressure according to the load weight and riding conditions.

● Make sure that cargo is fastened on the vehicle.

● Do not attach items to the handlebars, fork or fender. Otherwise, unstable handling or slow steering response may occur.

● The maximum load weight of the motorcycle is 160kg, including the rear carrier is 5kg. Please do not overload.

ACCESSORIES

● Genuine accessories of motors have been specifically designed and tested on the motorcycle. Because the factory cannot test all other accessories, you are personally responsible for selection, installation and use of accessories not produced by the Co. Always follow Safe Riding Rules as below:

● Carefully inspect the accessories. Make sure that they does not block any sight, reduce ground clearance and banking angle, and limit the movement of suspension and steering device or control operation.

● Do not install other cooling equipment for the engine.

● Do not add electric equipments as it may cause the capacity of motorcycle electrical system to overload or blow the fuse to put you in danger of light out in night driving.

GENERAL INFORMATION

PARTS LOCATION (Fig.1-3)

Fig.1 (Left-view)



- ① Gearshift pedal
- ② Side stand
- ③ Rear wheel
- ④ Handrail
- ⑤ Rear winker
- ⑥ Seat
- ⑦ Fuel tank
- ⑧ Rear-view mirror
- ⑨ Front fender
- ⑩ Front left footrest

Fig.2 (Right-view)



- ① Exhaust muffler
- ② Front right footrest
- ③ Front wheel
- ④ Front shock absorber
- ⑤ Front winker
- ⑥ Headlight
- ⑦ Meter
- ⑧ Rear shock absorber
- ⑨ Front brake
- ⑩ Rear brake

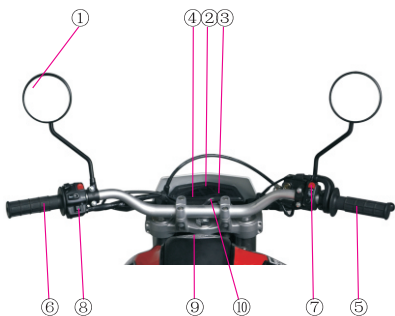


Fig.3

- ①Rear-view mirror
- ②Tachometer
- ③Fuel gauge
- ④Odometer
- ⑤Throttle grip
- ⑥Left grip
- ⑦Right handlebar switch
- ⑧Left handlebar switch
- ⑨Fuel filler lock
- ⑩Ignition switch

MOTORCYCLE IDENTIFICATION (Fig.4-6)



Fig.4

①VIN



Fig.5

②Engine Code&Type



Fig.6

③Nameplate

〔VIN RECORD〕

VIN: ☆ ☆

Engine Code: ☆ ☆

Engine Type: ☆ ☆

Please fill the VIN and engine code of your motorcycle in the blank above.
They will help order spare parts and find out the vehicle when stolen.

〔VIN LOCATION〕

- ①The VIN is stamped on the right side of the frame steering riser.
- ②The engine code/type is stamped on the left bottom of the crankcase.
- ③The nameplate is fixed on the left side of the frame steering riser.

FUEL AND ENGINE OIL (EP)

Fuel Selection

Fuel is a key factor in deciding the exhaust emission from the engine, so selection of fuel must follow the rules below. Selected fuel must be unleaded gasoline with octane No. RQ-92 or higher.

Engine Oil Selection (Fig.7)

The quality of the engine oil plays a vital role in deciding the engine performance and service. Engine oil must be selected in accordance with rules below. Other oils such as ordinary engine oil, gear oil and vegetable oil are forbidden to be used.

The vehicle has been filled with engine oil SAE 15W/40 before being delivered. The lubricant is only suitable at a temperature range within -10°C ~ $+40^{\circ}\text{C}$. If other motor oil is to be used instead, the alternative must be respect to the Grade SJ in the API Classification. Viscosity varies with regions and temperatures, so the lubricant has to be selected according to our recommendation. When refueling, drain the previous oil in the crankcase and wash it with kerosene, then refuel according to the rules.

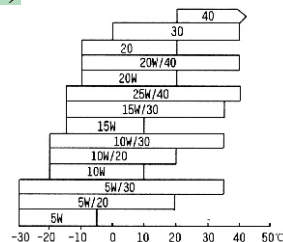


Fig.7

CONTROLLING PARTS

METER AND INDICATORS (Fig. 8)

- ① Turn left signal indicator “←”
- ② Odometer
- ③ Neutral indicator “N”
- ④ Fuel gauge
- When the leftmost grid flashes, please add fuel ASAP.
- ⑤ Tachometer
- ⑥ Speedometer
- ⑦ High beam indicator “H”
- ⑧ Turn right signal indicator “→”
- ⑨ Gearshift indicator
- ⑩ Clock
- ⑪ Right button
- ⑫ Left button
- ⑬ Position indicator
- ⑭ MIL



Fig. 8

Button Function

Right button (MODE button):

TOTAL mode: Long press(>3 sec) to enter the clock setting mode. The hour digit will flash and short press(<1 sec) to set the hour. And then if

- (a) no button pressed within 5 sec, exit the clock setting mode.
- (b) long press(>3 sec) the right button within 5 sec, it will enter the minute setting mode. The minute digit will flash, and then if
- (a) short press(<1 sec) the right button to set the minute.
- (b) no button pressed within 5 seconds, or long press(>3 sec) the right button within 5 sec, exit the clock setting mode.

Left button (CLR button):

1. TOTAL/TRIP mode: Short press(<1 sec) to switch between TOTAL and TRIP modes in non-clock setting mode.

2. TOTAL mode: Long press(>3 sec) to switch between metric and British system.

3. TRIP mode: Long press(>3 sec) to reset.

IGNITION SW. AND STEERING LOCK (Fig. 9)

Ignition Switch

The ignition switch is equipped with 2 keys including a spare one.

OFF: The circuit is off, the engine and lights cannot be operated and the key can be removed.

ON: The circuit is on, the engine can be operated, neutral light is lit and the key cannot be removed.

Steering lock

To lock the steering head, turn the steering handlebar to the left end. Then turn the key to OFF, press the key and turn it anticlockwise to LOCK and remove the key. To unlock the steering head, please turn the key clockwise.

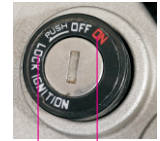



Fig. 9


- ① Steering lock
- ② Ignition switch

RIGHT HANDLEBAR CONTROLS (Fig. 10)

Electric Starter Button

The motorcycle is equipped with a electric starter button “”. Press the button to start the engine. Don’t use the electric starter button for more than 5s to start the engine.

Emergency Stop Switch

In an emergency, setting the switch to “” will turn off the ignition circuit and stop the engine at once. In normal riding cases, always

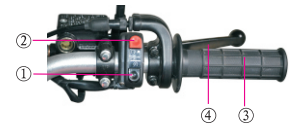


Fig.10

- ① Electric starter button
- ② Emergency stop switch
- ③ Throttle grip
- ④ Front brake lever

set it at “0”.

Throttle Grip

The grip is used to control the engine speed. Turning the grip towards your own direction will increase the fuel supply, while turning towards to the opposite direction will decrease fuel supply.

Front Brake Lever



Apply the front brake lever to brake the front wheel.

LEFT HANDLEBAR CONTROLS (Fig. 11)



Passing Light Switch

When overtaking, press the passing light switch, the headlight will flash.

Dimmer Switch

Push the switch to “” to turn on high beam; push the switch to “” to turn on low beam.

Turn Signal Switch

Move the switch to “” to signal a left turn; and to “” to signal a right turn.

Horn Button

Press the button “” to sound the horn.

Clutch Lever

It is designed to disengage/engage the crankshaft from/with the transmission and rear wheel for starting the engine or gearshifting.

Emergency Switch

Press the button to remind others in an emergency stop.

REFUELING AND CAP

Opening of Cap (Fig.12)



Fig. 11

- ① Passing light switch
- ② Dimmer switch
- ③ Turn signal switch
- ④ Horn button
- ⑤ Clutch lever
- ⑥ Emergency switch

● The fuel filler cap is located on the front top of the fuel tank. Open the fuel filler cap and insert the ignition switch key.

● Turn the key to right by 90°.

● Remove the cap .

Press the cap if you need to lock it.

⚠WARNING

● Do not overfill the tank (there should be no fuel in the filler neck). After refueling, make sure the fuel filler cap is closed securely.

● Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the fuel tank is refueled.

● Before refueling, make sure to filter fuel first.

GEARSHIFT PEDAL (Fig. 13 & 14)

The motorcycle is equipped with a 6-speed mesh transmission.

The gear indicator shows the gear position at present. The shifting patterns are as shown in Fig. 14.

International gearshift pattern

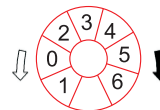
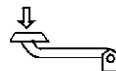
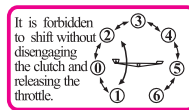
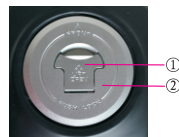


Fig. 14

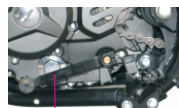
REAR BRAKE PEDAL(Fig. 15)

The rear brake will function and the rear stop light will glow when applying the pedal.



- ① Fuel filler lock
- ② Fuel filler cap

Fig. 12



Gearshift pedal

Fig. 13



Rear brake pedal

Fig.15

REAR SHOCK ABSORBER (Fig. 16)

Rear shock absorber can be adjusted according to different road surface, loading quality and driving conditions. A-direction adjustment reduces spring tension, suitable for light loads and flat roads. B-direction adjustment, on the contrary, increases the spring tension, suitable for heavy loads and uneven terrain.

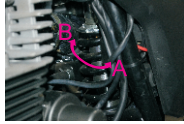


Fig.16

STANDS (Fig. 17 & 18)

Side Stand

When parking the vehicle, turn the side stand clockwise along the frame to the end. Before driving the vehicle, turn the side stand to the initial position.

⚠ CAUTION Be sure to set the side stand to the initial position before driving the motorcycle. Otherwise, it may fall over.



Fig.17



Fig.18

OPERATION GUIDE


PRE-RIDE INSPECTION

Inspect your vehicle every time before you ride it. It will only take a few minutes to check the items below to ensure you a save riding and save your time for repair.

1. Engine oil level - Add engine oil as required and check for oil leaks.
2. Fuel level - Refuel if necessary and check for oil leaks.
3. Front and rear brakes - Check operation and adjust free play if necessary.
4. Tyres - Check tyre pressure and wear conditions.
5. Battery electrolyte - Check the electrolyte level (It's not needed for maintenance-free battery and lithium battery).
6. Throttle - Check if it operates smoothly, the cable is well connected and the free play of handle is proper. Adjust or replace it if necessary.
7. Lights and horn - Check the headlight, taillight, position light, winker, all indicators and horn for proper function.
8. Drive chain - Check the slack and lubrication. Adjust, lubricate or replace it if necessary.
9. Fasteners - Check all nuts, screws and bolts are mounted securely.
10. Steering system - Check for flexible and reliable operation.

STARTING THE ENGINE

⚠ CAUTION Do not start the engine in a narrow area to prevent accidents. It's forbidden to start the engine when the gear is engaged, or a mechanical damage or an accident may occur.

- Insert the key and turn the ignition switch to “” position.
- Set the gear to NEUTRAL and the neutral indicator “N” will light up (in green).

BREAKING-IN

To ensure the reliability and performance of vehicle, please pay attention to the first 1,000km at riding. During this period, please avoid full throttle opening and change speed continually with a speed no more than 60% of

each gear. After the breaking-in period, a maintenance should be done to make compensation for the initial wear, which will significantly prolong the service life of engine.



RIDING

- Start the engine and warm up.
- While the engine is idling, disengage the clutch and stamp the gearshift pedal to shift to the low (1st) gear.
- Slowly release the clutch lever and at the same time gradually increase the engine speed.
- When the vehicle is at a steady speed, decrease the engine speed and then disengage the clutch to shift to the 2nd gear by stamping the gearshift pedal. And please shift to other gears in the same way.
- Coordinate the throttle with brakes for smooth deceleration.
- When the front and rear brakes are used at the same time, please do not brake so strongly to lock the wheel, or the braking effectiveness will be reduced and the vehicle will be difficult to control.

⚠ CAUTION It is forbidden to gearshift up or down when the throttle is not decreased and the clutch is in. Or the engine, chain and other parts may be damaged.

BRAKING AND PARKING

To stop the vehicle, please close the throttle and disengage the clutch by holding the clutch lever, then smoothly operate the front and rear brakes until the vehicle stops.

Shift the gear to NEUTRAL, turn the emergency stop switch to “” position and make the engine stop running. Then support the vehicle with side stand, turn the ignition switch to “” position and remove the key.

WORKING PRINCIPLE OF EFI

EFI system transforms parameters such as inlet air quantity, cooling water temperature and engine working conditions (such as engine RPM, acceleration/deceleration), etc. obtained by various sensors into electric signals which are input to ECU. After comparing these with stored information and calculating correctly, ECU will output control signals. ECU can not only control the fuel supply accurately to instead of the traditional carburetor, but also control the ignition advance angle and idle air flow to greatly improve the engine performance. ECU is the core of EFI system and characterized by closed-loop control of computer, and directly work on ignition, fuel injection and three-catalytic converter.

For the convenience of maintenance, a fault diagnosis logic is developed. When there is something wrong with the EFI system, the fault light will be lit to warn users to repair, also the diagnosis scanner can be used to read the fault details and parameter of engine working condition.

CHARACTERISTICS OF EFI SYSTEM

- [1] A “Speed-density” method is adopted to be the core control logic of EFI system, which has been widely used in automobile with high reliability.
- [2] The EFI system can judge the altitude and allow the engine to run well at different altitudes.
- [3] The inductive ignition is used to greatly increase the ignition energy and improve the combustion efficiency.
- [4] A 36-2 teeth magneto is adopted to improve the calculation accuracy of ignition advance angle. Besides the EFI system supplies an intelligent control to the engine ignition time, which keeps the engine working in the best condition without any knock at all time.
- [5] When loosening the throttle at occasions of deceleration, sliding or downhill running, the EFI system can cut off the fuel supply in time to avoid fuel waste and air pollution.
- [6] When accelerating in a sudden, the EFI system can respond immediately

and add adequate fuel to allow a rapid and stable acceleration, which will avoid the violent starting and improve the driving performance.

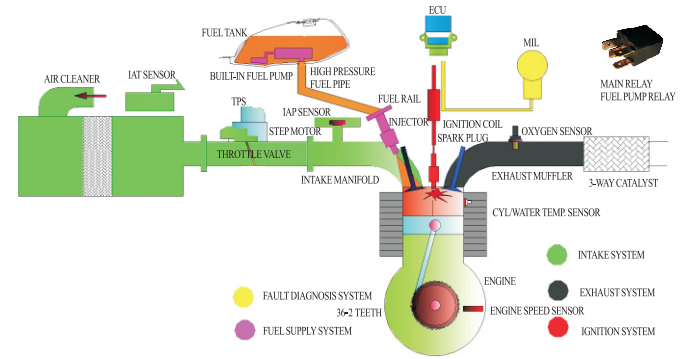
[7] The temperature correction function of EFI system makes the vehicle a prominent hot/cold starting performance. Both startings can be triggered at once.

[8] A closed-loop control is performed by EFI system through the oxygen sensor signal. It keeps the engine in a good working condition.

[9] The idle intake air amount is controlled by EFI system through a step motor, which keeps the idle speed stable.

[10] The MIL or fault diagnosis scanner can be used to judge if there is current fault, which makes the maintenance simple and easier.

EFI PRINCIPLE DRAWING



COMPONENTS OF EFI SYSTEM

Component Property	Name	Description
Components of EFI System	ECU	Computer program, chips, electronic components and circuit board are included.
	Throttle valve Assy.	Throttle valve and throttle position sensor and step motor are included.
	Oxygen sensor	Used in closed-loop control to test the oxygen content after combustion in engine.
	Cylinder/water temperature sensor	To measure the engine temperature.
	IAT sensor	To measure the intake air temperature of the engine.
	IAP sensor	To measure the load.
	Fuel pump	To supply a constant fuel pressure.
	Fuel injector	To inject fuel to the engine.
	Fuel rail	To connect to the fuel injector.

Spare Parts (Vehicle)	Fuel tank	Special part for EFI, with inlet and outlet
	Hose	Special part for EFI, used for connecting to oil circuit
	Exhaust muffler	Special part for EFI, installed with oxygen sensor and 3-way catalyst
	3-way catalyst	Installed in the exhaust muffler
	Throttle cable	Special part for EFI
	Wire harness	Special part for EFI
	Fuel pump relay	Fuel evaporative system
Spare Parts (Engine)	Magneto	Including 36-2 teeth magnetic cylinder, coil and speed sensor
	Rectifier	To match with magneto, 3-phase
	Ignition coil	Electromagnetic inductive
	Intake manifold	To install with fuel injector and rail

1. ECU (Fig.19)

ECU, located on the vehicle, is the control center of EFI system, which decides the best fuel injection timing, fuel supply and ignition advance angle by analyzing and processing the data from IAP sensor, cylinder/water temperature sensor, IAT sensor, engine speed sensor, throttle position sensor and oxygen sensor.

So that an optimal performance and exhaust emission can be achieved.

Working condition of ECU:

- [1] Power supply range: DC $12 \pm 2V$, provided by the battery;
- [2] Ambient temperature: $-25^{\circ}C \sim 85^{\circ}C$;
- [3] For ECU pin definition, please refer to the Electric Diagram.
- [4] ECU number sequence: ECU model+vehicle model+ECU batch number.

NOTE

- [1] Do not plug or unplug the ECU controller with electricity, otherwise it may damage the ECU and cause vehicle out of work.
- [2] It is forbidden to dismantle the ECU or break the pins in the socket with solid objects, otherwise it may cause damage.
- [3] Do not drop or collide ECU with solid objects. Keep the coupler away from water and oil.

2. Throttle Valve Assy. (Fig.20)

The throttle valve Assy., composed of throttle position sensor, throttle valve body and step motor, are installed between the engine intake manifold and air cleaner.

NOTE Clean the throttle valve regularly to keep it at optimal performance.



Fig.19



Fig.20

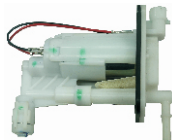


Fig.21

3. Fuel Pump (Fig.21)

Fuel pump is used to deliver fuels from fuel tank to engine at certain pressure and flow rate.

Working condition of fuel pump: when start the ignition switch, the fuel pump will run for 3s, then if ECU don't detect the effective speed signal of missing teeth, the fuel pump will stop; when the engine starts to work, the fuel pump will run unless the ECU detects at least 2 effective signals of missing teeth. Without speed signal, the fuel pump will stop.

NOTE

- [1] For the sake of service life of fuel pump, fuels remained in the tank should be $\geq 1L$.
- [2] Replace or clean the strainer every 10,000km.

4. Oxygen Sensor (Fig.22) (EP)

The oxygen sensor, installed on the exhaust muffler, is used to test the oxygen content from the engine's exhaust and to realize the closed loop and adaptive control to the system.

NOTE

- [1] Make sure that there are no air leaks at the connections between the muffler and exhaust port and between the oxygen sensor and muffler, otherwise the system will be out of work.
- [2] It is forbidden to knock or impact the oxygen sensor in dismantling, and keep the coupler away from the water and oil.
- [3] It is forbidden to clean the oxygen sensor directly with water when the engine is hot, which may cause damage.



Fig.22



Fig.23



Fig.24

5. IAT Sensor (Fig.23)

The IAT sensor, installed on the main cable near the air cleaner, is to measure the temperature of intake air.

6. Cylinder/Water Temperature Sensor (Fig.24)

The cylinder/water temperature sensor, installed on the cylinder body, is designed to measure the temperature of engine.

7. IAP Sensor (Fig.25)

The IAP sensor, connected with the engine intake manifold, is to measure the negative pressure of intake air and altitude.

NOTE

[1] Impurities such as water and oil should not exist in the IAP sensor.

[2] Pay attention to the tightness of all connections, otherwise the system will be out of work.

8. Magneto (Fig.26)

It consists of a 36-2 teeth rotor, stator and speed sensor.

NOTE

[1] The magneto is for special use, so a same component should be used in replacement, or the system will be out of work.

[2] Keep the clearance between speed sensor and magneto rotor flange is 0.7~1mm, or the system's starting performance will be affected.



Fig.25

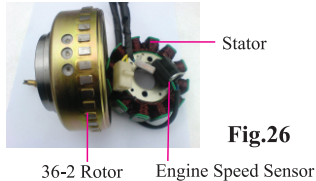


Fig.26

9. Engine Intake Manifold Assy. (Fig.27)

It is composed of intake manifold, fuel injector and fuel rail.

NOTE

[1] Check if the insulator O-ring is damaged in dismantling. And make sure it's installed properly and the air passages are air-tight without leaks.

[2] Keep the oil circuit clean in dismantling, otherwise, the electromagnetic fuel injector will be blocked to fail to work.

Fig.27



Fig.28

10. Ignition Coil (Fig.28)

The ignition coil is of electromagnetic inductive type with great ignition energy.

NOTE The same model one should be used in replacement, or the system may fail to work.

11. 3-Way Catalyst (EP)

3-way catalyst is mounted on the motorcycle exhaust muffler. It is designed to decrease contaminations such as CO, HC and NOx, etc. through redox reaction of catalysts.

NOTE

[1] In order to avoid causing non-normal failure of 3-way catalyst, it is forbidden to allow the acid liquor, water etc. entering into the exhaust muffler. Unleaded gasoline should be used.

[2] It is forbidden to do the spark-over test when the engine is still hot, otherwise the 3-way catalyst may be damaged.

12. MIL

When the ignition switch is on and the engine is not started,

① if there's no fault, the MIL will be steady on.

② if there's fault, the MIL will flash as the flashing code in fault code table.

When the ignition switch is on and the engine is started,

① if there's fault, the MIL will be steady on.

② if there's no fault, the MIL will be off.

When the MIL flashes before the engine is started and is steady on after the

engine is started, it indicates that there's fault in the system and it needs to be repaired.

The system flashing code rule is as follows,

A fault code is consists of two digits. It flashes the first digit at first, then after about 1.5s, it flashes the second digit. If there is more than one fault in the system, it will have a 6s interval between each fault code flashes.

EFI OPERATION AND DEBUGGING INSTRUCTION

1.Adjust the length of throttle cable

Check if the free travel of the throttle cable and choke cable is between 2-6mm in the natural state. If not, adjust it as follows,

[1] Loosen the locknut and remove the sleeve.

[2] Rotate the adjusting screw to adjust the throttle cable length.

[3] When the adjustment is done, tighten the locknut and put the sleeve on.

[4] If the adjustment cannot be finished, fix the adjusting cable to the end of the throttle cable bracket.

NOTE After the adjustment is done, check if the throttle grip can return without friction and lagging.

2.EFI debugging

For the first use of new vehicle and after-maintenance vehicle or engine malfunction, please do checks and adjustment strictly as follows,

[1] Check if the assembly for vehicle and engine is intact. Check if all the parts of EFI system are in good condition, reliable installation and correct wiring. Pay special attention to the connection of the positive and negative poles of the battery and make sure the harness wire is grounded securely.

[2] Check if the ROZ is correct and the fuel is enough ($\geq 1L$) and check if there is oil leaks or oil immersion in the oil circuit.

[3] Turn on the ignition switch with the power on and engine not started and run the fuel pump for 3-6s, the MIL should be steady on. If not, proceed the next step after debugging according to the fault code.

[4] Check the engine start-up at braking or neutral status. Ride and check the

vehicle acceleration and driving performance.

NOTE

[1]For the first engine start-up of new vehicle or after-maintenance vehicle, it may take a longer time because air exists in the oil circuit.

[2] Find the local dealer for help if there's still fault after debugging.

FAULT CODE TABLE

Fault Code	Flashing Code	Fault Type	Fault Code	Flashing Code	Fault Type
P0261	11	Injector open circuit	P0603	25	ECU failure
P0262	12	Injector short circuit to power	P0117	32	Cyl/water temp. sensor short circuit to ground
P0650	13	MIL failure	P0118	32	Cyl/water temp. sensor open circuit/short circuit to power
P0508	14	Idle valve open circuit	P0112	33	IAT sensor short circuit to ground
P0509	15	Idle valve short circuit to power	P0113	33	IAT sensor open circuit/short circuit to power
P0231	16	Fuel pump relay open circuit	P0563	34	System voltage failure
P0232	17	Fuel pump relay short circuit to power	P0335	35	Speed sensor failure
P0655	18	Water temp. warning lamp drive failure	P0031	41	Oxygen sensor heating circuit open circuit
P0634	19	ECU overheat	P0032	42	Oxygen sensor heating circuit short circuit
P0122	22	TPS short circuit to ground	P0106	26	IAP sensor failure
P0123	22	TPS open circuit/short circuit to power	P0691	43	Fan relay open circuit
P0107	23	IAP sensor short circuit to ground	P0692	44	Fan relay short circuit to power
P0108	23	IAP sensor open circuit/short circuit to ground	P2300	46	Ignition coil open circuit
P0131	24	Oxygen sensor low voltage	P2301	46	Ignition coil short circuit
P0132	24	Oxygen sensor open circuit/high voltage	P0685	56	System relay failure

MAINTENANCE

TOOL KIT (Fig.29)

The tool kit can be used for some roadside repairs, minor adjustments and parts replacement.

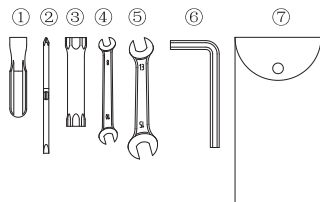


Fig.29

- ① Screw driver grip
- ② Double-ended screw driver
- ③ Spark plug wrench (16# × 18#)
- ④ Open-ended spanner, 8mm × 10mm
- ⑤ Open-ended spanner, 13mm × 15mm
- ⑥ Allen key, 5mm
- ⑦ Tool bag

MAINTENANCE SCHEDULE

Maintenance work should be performed in light of Maintenance Schedule.

Letters in the table indicate as follows:

I: inspection and clean, adjust, lubrication or replace if necessary.

C: clean **R:** replace **A:** adjust **L:** lubricate

* The item should be serviced by your dealer, unless the owner has the proper tools and is mechanically qualified. Refer to the manual.

** In the interest of safety, we recommend these items should be serviced only by your dealer.

NOTE

① Clean more frequently when riding in unusual wet or dusty areas.

② At higher odometer readings, still follow the frequency intervals established in this manual.

Frequency Item	ODOMETER READING, Km (Note②)							Everyday check before riding
	1,000	3,000	6,000	9,000	12,000	15,000	18,000	
**Engine oil		R	R	R	R	R	R	
**Spark plug	I	I	I	I	I	I	I	
**Valve gap	I	I	I	I	I	I	I	
**Idle speed	I	I	I	I	I	I	I	
*Engine bolt	I	I	I	I	I	I	I	Note①
*Oil filter			C, R			C, R		
*Fuel filter	C	C	C	C	C	C	C	
*Air cleaner		C	C	C	C	C	C	
*Drive chain	I, L	I, L	I, L	I, L	I, L	I, L	I, L	
Throttle operation	A	A	A	A	A	A	A	
Brake shoes/pad wear		I	I	I	I	I	I	
Brake system	I	I	I	I	I	I	I	
Brake light switch	I	I	I	I	I	I	I	
Brake liquid		I	I	I	I	I	I	
Clutch	I	I	I	I	I	I	I	
Suspension	I	I	I	I	I	I	I	
Fasteners	I	I	I	I	I	I	I	
Wheel/tyres	I	I	I	I	I	I	I	

ENGINE OIL (EP)

Check of Engine Oil (Fig. 30)

Check the engine oil level before driving.

A dipstick is located on the bottom of right crankcase. The level must be maintained between H mark and L mark.

● Place the vehicle on a flat ground with its body vertical to the ground. Remove and clean the dipstick, then insert it into the engine oil to check the oil level.

● Add engine oil SAE15W/40 to H mark. Do not overfill.

● Reinstall the dipstick. Check and make sure that no leak is found.

⚠ CAUTION Running the engine with insufficient oil can cause serious damage to the engine.

Change of Engine Oil (Fig. 31)

It is better to drain when the engine is still warm.

● Place an empty container under the engine, unscrew the drain plug.

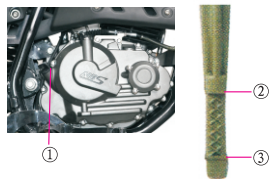
● Reinstall the drain plug, and tighten it up.

※ Pour approx. 1.1L (1.3L for new engine) of SAE 15W/40 into the engine. Restart the engine, keep it idle for a few minutes, and then stall it. Recheck the oil level, and add oil if necessary.

⚠ CAUTION When running in very dusty conditions, oil changes should be performed more frequently than specified in the maintenance schedule.

CLEAR AWAY CARBON DEPOSIT (EP)

Clear away carbon deposit around the spark plug and piston ring, on the piston top, in the piston slot and combustion chamber regularly.



① Dipstick ② H mark
③ L mark

Fig. 30

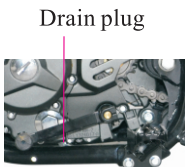


Fig. 31

SPARK PLUG (EP) (Fig. 32)

Spark Plug Type: As stated in "SPECIFICATIONS"

Check and Replace

● Spark plug is located on the upper right of cylinder head, remove the spark plug cap and clean any dirt around. Remove the spark plug by the special wrench.

● Inspect the electrodes and center porcelain for ablations and deposits. Replace the spark plug when too much ablations and deposits on or the insulator with cracks or drops. Clean the deposits and dirt with a wire brush.

● Check the spark plug gap which should be 0.8-0.9mm, adjust it with a clearance gauge.

AIR CLEANER (EP) (Fig. 33)

The air cleaner must be cleaned and then soaked in clean oil at least once every 4000kms. Riding in very dusty area, the job should be done more often. See your dealer for correct maintenance schedule according your driving condition.

● Remove the handrail, seat, right side cover, right rear panel and right rear panel mounting bracket successively.

● Remove the connecting screw. Then open the air cleaner cover and remove the air cleaner element.

● Wash or replace the element if necessary.

● Reinstall the air cleaner element and cover in the reverse order of dismantlement.

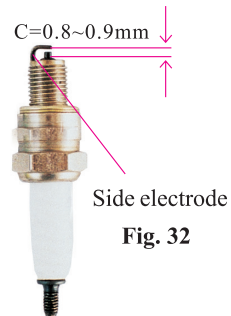
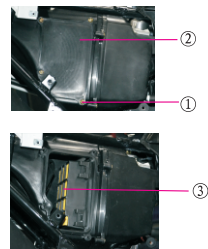


Fig. 32



① Screw
② Air cleaner cover
③ Element

Fig. 33

VALVE CLEARANCE (Fig. 34)

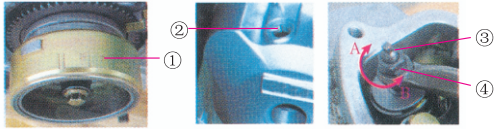


Fig. 34

- ① "T" mark
- ② Index
- ③ Adjusting screw
- ④ Locknut

Check and adjust the valve clearance when the engine is cold.

- Remove the view hole cap on front left crankcase cover, magneto cap and cylinder head cover.
- Rotate the flywheel counterclockwise until the T mark aligns with the index mark. Check the piston if it is in TDC of the compression stroke by touching the rocker arms with fingers. If they are free, it means check can be done. Otherwise, rotate the rotor by 360° until it aligns with the T mark.
- Clearance should be 0.08mm for the intake and 0.10mm for the exhaust valves.
- If it is necessary to make an adjustment, loosen the locknut and turn the adjusting screw. Rotate towards direction A, the valve clearance will decrease, or towards direction B, it increases. Then tighten the locknut up and recheck the valve clearance.

EXHAUST MUFFLER (EP)

Clear away carbon deposit in the exhaust pipe regularly check the inside of exhaust pipe for crack and washer for damage, repair or replace it if necessary.

NOTE Replace muffler gaskets every time you disassemble and reinstall the muffler. The muffler exhaust pipe is hot after the engine is running. Please make sure to avoid being burnt.

OPERATION OF THROTTLE (Fig. 35)

- Check for smooth rotation of the throttle grip from the fully open to the fully closed position at both full steering position.
- Measure the free play of throttle grip. The standard free play should be approx. 2-6mm. To adjust the free play, loosen the locknut and turn the adjusting bolt. Rotate to direction A, the free play will decrease, to direction B, it increases. Adjustment over, fasten the locknut.

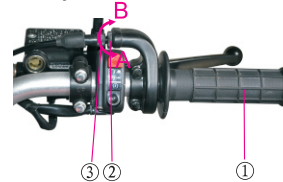


Fig. 35

- ① Throttle grip
- ② Locknut
- ③ Adjusting bolt

CHECK LEAKS ALONG AIR LINE JOINTS (EP)

Check the air supply line regularly, especially such as joints between the muffler and engine, the air cleaner and carburetor, the carburetor and the engine, etc. for leakage. Repair or replace them if necessary.

CLUTCH (Fig. 36)

- The free play should be 10-20mm and free clearance be 3-4mm. Adjust as follows: loosen the locknut located at the right side of clutch cable holder and adjust it.
- Rotate in direction A, the free play will decrease, in direction B it increases.

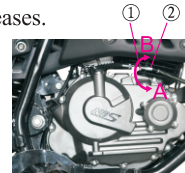


Fig. 36

- ① Locknut
- ② Holder



DRIVE CHAIN (Fig. 37)

Check

Check the drive chain for wear and slack. Lubricate the chain if it seems to be dry.

Support the motorcycle with center stand. Pull the drive chain with hands, and check the slack in the lower chain run midway between the sprockets.

Adjust the slack to 10-20mm.

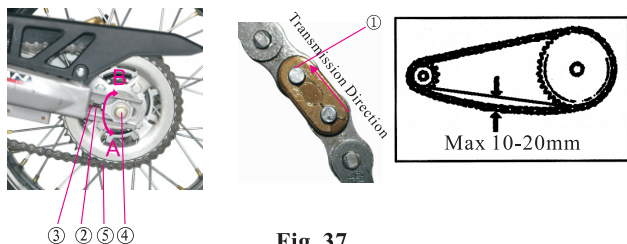


Fig. 37

- ①Chain clip ②Adjusting bolt ③Locknut
④Rear axle ⑤Chain

Adjustment

Loosen the rear axle locknut and drive chain adjuster locknut. Turning the adjusting bolt to direction A will tighten the chain, turning to direction B will release it. Make sure the left and right adjusters align with the same index marks, check and tighten the rear axle locknut up with a torque of 90 ± 10 N.m.

※Check the chain for slack.

※If slack of chain is changed, recheck and readjustment to rear wheel should be conducted, because such change will influence the free play of rear brake.

Lubrication

Pull out the chain clip with pliers, remove the joint and chain. Wash the chain in cleansing solution and dry it in the air. Check the chain including link plates, bushings and rollers for damage, cracks, wearout. Replace it if necessary.

Lubricate the chain, then reinstall and adjust it .

NOTE The chain clip shall be so installed as to make sure that its closed end faces the direction of wheel rotation.

FRONT BRAKE (Fig. 38)

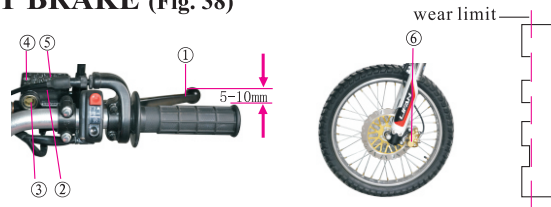


Fig. 38

- ①Front brake lever ②Brake master cylinder ③Sight glass
④Screw ⑤Cylinder cover ⑥Front brake caliper

[Check]

The brake master cylinder is mounted on the right handlebar. The parts on the brake caliper that connect with brake disc and conduct friction brake are called as disc brake shoe. It is necessary to replace the disc brake shoe as it wears to limit.

Place the vehicle vertical to a flat ground. Check the brake fluid level from the sight glass. If the fluid level is below the LOWER mark, add brake fluid. Loosen the screw and remove the cylinder cover to add brake fluid.

⚠WARNING Apply the specified brake fluid, or the braking effectiveness will be affected. Brake fluid may cause irritation. Avoid

contacting with skin and eyes. In case of contact, flush thoroughly with water.

[Adjustment]

Grasp the front brake lever until the counter force occurs, the free play should be maintained within 5~10mm. Adjust the free play as follows: Pump the brake lever, then gently loosen the bleed valve while holding the lever. Take care to tighten up the bleed valve as soon as flowing fluid.

Repeat above procedure until the brake lever obtains the specific free play.

Apply the brake several times and check for free wheel rotation after the brake lever is released.

REAR BRAKE (Fig. 39)

Place vehicle vertical to the flat ground.

Measure the distance from the rear brake pedal

to the position where the brake starts to work.

The free play should be 20~30 mm.

※Apply the rear brake pedal several times and check for free wheel rotation after the brake pedal is released.

NOTE If such adjustment is still unsatisfactory, see you dealer for help.

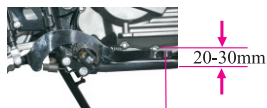
HOW TO USE BRAKE WEAR INDICATOR

(Fig. 40 & 41)

Replace the brake shoes if the front/rear brake shoes reach the wear limit.

FRONT/REAR SHOCK ABSORBER AND SUSPENSION

Place the vehicle vertical to the flat ground, hold the front brake lever, pump the front/rear shock absorber up and down several times to check if it functions well without noise and oil leaks. The front suspension should be stable. Check the rear fork bushing for proper slackness by pressing the side of the rear wheel. Make sure that all of the fasteners are tightened securely.



Rear brake pedal

Fig. 39

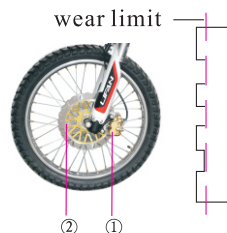


Fig. 40

- ① Front brake caliper
- ② Front brake disc

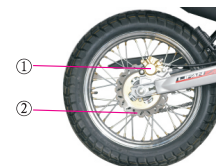


Fig. 41

- ① Rear brake caliper
- ② Rear brake disc

TYRE

Proper air pressure will provide optimum stability, comfortable riding and prolong the tyre life.

	Front tyre	Rear tyre
Max pressure in cold	225 kPa (32 PSI)	280 kPa (40 PSI)
Recommended pressure	200 kPa (29 PSI)	225 kPa (32 PSI)
Tyre size	90/90-21	120/90-18

⚠ CAUTION Operation with excessively worn tyres is hazardous and will adversely affect traction and handling.

NOTE Tyre pressure should be checked before you ride while the tyres are “cold”. Check the tyres for cuts, embedded nails, or other sharp objects. Check the rims for dents or deformation.

See your dealer for change of damaged tyres or punctured inner tubes.

⚠ CAUTION Improper tyre inflation will cause abnormal tread wear or cause a safety hazard. The tyre pressure less than the rated value may result in slipping wheel on the ground or coming off from the

When the tread depth in the middle section of tyres reached limits below, please replace them.

Tread Depth Limits			
Front tyre	0.8mm	Rear tyre	0.8mm

FRONT WHEEL (Fig. 42)

To remove the front wheel, place the vehicle vertical to ground and loosen the front axle nut. Then extract the front axle and remove the front wheel.

NOTE

Installation shall be done in the reverse order of removal. Tightening torque of front wheel axle nut: $80 \pm 10\text{N.m}$.

REAR WHEEL (Fig. 43)

Place the vehicle vertical to ground. Loosen both the locknuts of chain adjuster, then loosen the rear axle nut, take out the drive chain clip and remove the drive chain. Then remove the rear axle nut, retract the rear axle. Finally, remove the rear wheel.

NOTE

Installation shall be done in the reverse order of removal. Tightening torque of rear wheel axle nut: $90 \pm 10\text{N.m}$.

FUSE (Fig. 44)

The fuse is positioned behind the seat. The fuse will blow to protect the circuit automatically in the case of troubles such



Fig. 42

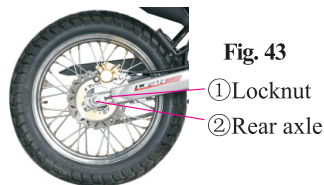
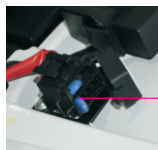


Fig. 43



Fuse

Fig. 44

as a short circuit or an overload trouble. After the troubleshooting, fit a new fuse available in the fuse box.

BATTERY (EP) (Fig. 45)

The vehicle is equipped with a battery which is located inside the left side cover. Remove the fixing bolt with tools and disassemble the left side cover, the battery can be seen.



Fig. 45

The battery stores the electric power yielded by generator as well as supplying power to starting, lighting and signal system. The function of battery will affect power storage and power supplying to electrical appliance directly. A fault occurred in the battery may cause poor illumination, disable signal system and weak starting, etc. Maintain the battery in accordance with the MAINTENANCE SCHEDULE and PRE-RIDE INSPECTION in the manual. The motorcycle is equipped with a maintenance-free battery. Please add electrolyte for your first use as follows (Fig.46&47):

- (1) Take out the battery and electrolyte container from the package box.
- (2) Remove the plastic cover from the electrolyte container and set aside.
- (3) Place the battery on a flat, level surface and turn over the electrolyte container, align inlets of the battery to outlets of container, push the container down strongly enough to break the aluminum foil seals, let electrolyte flows into battery.
- (4) This done, put the cover of container onto inlets of battery, and gently tap the caps with a rubber hammer.
- (5) Install the battery in the motorcycle after standing more than 30 minutes.

⚠ CAUTION

1. The battery contains sulfuric acid (main component of electrolyte) which is strong corrosive. Be careful when filling the electrolyte. Contacting with skin may cause severe burns. If such case occurs, flush with water immediately and see a doctor if necessary.

2. When the filling of electrolyte is finished, do not take off the cover in any case.
3. Maintain the battery according to the OPERATION INSTRUCTIONS OF BATTERY.
4. Hand in the used battery to your local qualified recycling organization or dealer to collect.

⚠ WARNING

If the battery is to be removed, disconnect the negative lead “-” from the battery terminal first, and then the positive lead “+”. Connection should be done in the reverse order of removal. Do not contact the positive lead with the vehicle body to prevent short-circuiting. The leads should be tightened securely, or spark may occur to cause a fire. Keep out of reach of children. Do not use a new battery until taking a 30-minute waiting after adding electrolyte. Charge the battery at a rate less than 1A for 10-15 hours if necessary. For prolonging the battery service life, refer to OPERATION INSTRUCTION OF BATTERY.



①Battery ②Cap ③Electrolyte

Fig.46

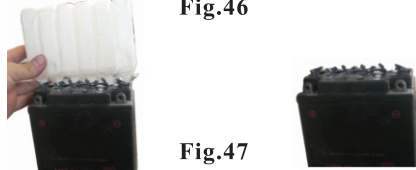


Fig.47


TROUBLESHOOTING, STORAGE AND OPTIONAL PARTS

TROUBLESHOOTING

If the engine fails to start, do checks as follows:

1. Check if there is enough fuel in the tank.
2. Check if the oil circuit is unblocked.
3. If OK, check the ignition system.

▲ CAUTION The fuel should be prevented from flowing all over the ground and collected in the container. Keep the fuel far away from the hot engine and exhaust pipe. And keep the fire, sparks and heat sources away when the engine is being checked.

- (1) Remove the spark plug and connect it with the high voltage wire.
- (2) Fix the spark plug on the vehicle body. Turn the ignition switch on, set the emergency switch to “” position and press the starter button. If the ignition system is in normal, the sparks at the electrode gap of the spark plug will be in blue. If there are no sparks, see your dealer for help.

CLEANING AND STORAGE

[Cleaning]

1. Check if the spark plug and oil filler inlets are installed securely before cleaning the vehicle.
2. Clean the vehicle completely with a flexible pipe.
3. Dry the vehicle by a soft cloth or sponge.
4. Dry the chain and lubricate it to prevent rust.
5. Start the engine and keep it running at idle speed for several minutes.

▲ CAUTION Avoid excessive water pressure when cleaning the vehicle and prevent the muffler from water penetration and the spark plug from being wetted.

[Storage]

Take some measures as follows when subjecting the vehicle to 60-day or more storage.

- [1] Empty the fuel inside the fuel tank, hose and other pipes.

- [2] Remove the spark plug, pour a bit of engine oil SAE 15W/40 into it. Turn on the ignition switch and press the starter button for several times to make the engine oil evenly lubricate the cylinder wall.

- [3] Remove the drive chain. Clean and lubricate it.

- [4] Lubricate all the controlling cables.

- [5] Elevate the frame to make the vehicle (and wheels) higher than the ground.

- [6] Seal the exhaust pipe with a plastic bag to prevent the moisture from entering.

- [7] Coat all surfaces of bare metal with a thin layer of rust-resisting oil if the motorcycle is stored in the moist and salty regions.

- [8] Dismantle the battery, charge and store it in a dry place with normal temperature. Make sure to charge it monthly during the storage.

REMOVAL FROM STORAGE

After long-term storing the motorcycle, check, adjust and service it according to the requirements stated in the manual to make sure the motorcycle functions properly. Make sure the motorcycle fulfill the requirements before riding.

MOTORCYCLE ALARM (OPTIONAL)

1. The remote-controller can be used only if the ignition switch is turned off and the vehicle is in neutral.
 2. Electric starting by the remote-controller only warms up the engine, and the engine will stop automatically in 2.5 minutes.
 3. Don't apply both the front and rear brakes after starting the engine by the remote-controller and before turning on the ignition switch, otherwise, the starting motor will run again.
 4. Cancel the keyless drive to ensure the anti-theft function is reliable.
- NOTE** The anti-theft alarm is an optional part, please select it as required.

TROUBLESHOOTING FOR EFI SYSTEM

	TROUBLE		POSSIBLE CAUSES		REMEDY		
Engine is hard to start or engine flame out	Fuel pump fails to function		Insufficient power for system or no power at the fuel pump plug		Check the battery, fuse, pump relay, wiring harness for connection or replace the ECU		
			The fuel pump plug has electricity	Damaged fuel pump	Replace the fuel pump		
				Low voltage	Check the battery, relay and wire for connection		
	Fuel pump functions	No fuel pressure		Wires in reverse connection		Reconnect	
				The battery voltage is too low		Charge or replace the battery	
				Lack of fuel		Add fuel and the amount should be not less than 1L	
				Fuel passage is blocked severely		Check the fuel pump strainer	
				Failure of fuel pressure regulator		Replace the fuel pressure regulator	
		Abnormal fuel pressure		Oil leaks from the fuel passage		The hose or hose clip are broken. Replace the failure part	
				The fuel passage is blocked		Check the fuel pump strainer	
				Failure of fuel pump or fuel pressure regulator		Replace the fuel pump or fuel pressure regulator	
				Low voltage		Check the battery, rectifier and magneto for charging	
		Normal fuel pressure	Ignition with high voltage		The spark plug is too humid to work		Remove and dry the spark plug, then keep the engine at idle speed for several times
					Electricity leaks from spark plug insulator		Replace the spark plug
					Loose spark plug		Tighten up
The spark plug gap is too small					Adjust the gap to standard value		

				Poor connection or electricity leaks from spark plug cap	Adjust or replace
				Wires failure or poor connection of couplers	Check the wiring harness, coupler and TPS (throttle position sensor) for connecting properly
				Damaged cylinder/water temperature sensor	Replace
				Engine failure	Check the valve, piston ring, etc.
			No high voltage in ignition or cutoff	Poor connection of ignition circuit	Check and repair the circuit
				The gap between magneto exciter coils is excessively large	Adjust the gap
				Damaged ignition coil	Replace
				Electricity leaks from the ignition coil	Replace the water-proof boot or ignition coil
				Poor connection of ECU or wiring harness couplers	Check and reconnect
				Clogged injector	Replace
Unstable idle speed				Insufficient power supply	Check the battery and charging system
				Poor connection of ECU or injector coupler	Check and reconnect
				Air leaks from the throttle valve body	Check the paper pad, O-ring or throttle body for proper installing
				Dirts accumulating in throttle valve body or the air cleaner is clogged	Clean
				Fuel flowing is restricted	Check the fuel pump strainer and fuel passage for blocking
				Poor fuel quality	Replace the fuel to unleaded gasoline of RQ-92 or higher
				Loose spark plug	Tighten up
				Spark plug gap is too small	Adjust the gap to standard value
				Poor connection or electricity leaks from spark plug cap	Adjust or replace
				Electricity leaks from spark plug insulator	Replace the spark plug

	Engine failure such as the valve gap is too small	Adjust the valve gap and check the engine
	Air leaks from joints of muffler and oxygen sensor	Check the muffler pad
	The pipeline of step motor is blocked or leaks.	Check or replace
Abnormal or knocking noise from engine	Over-heat engine	Cool down, avoid driving at a high speed for a long time
	Poor spark plug	Replace
	Too much carbon deposits on the cylinder	Remove and clean away
	Engine connecting rod is worn heavily	Replace
	Piston pin is worn seriously	Replace
	Crank is worn	Replace
	Crankcase is worn	Replace
	Foreign matters get in the engine	Check and clean away
	Too much carbon deposits on the exhaust pipe	Clean away
	Others	Clean off
Lack of power	Air cleaner is clogged	Clean off
	Heavily carbon deposits in the combustion chamber and exhaust pipe	Clean away
	Piston and cylinder are worn, the gap is large	Replace the cylinder or piston
	Clutch slipping	Adjust or repair

	Clogged fuel passage or low fuel pressure	Check, clean or replace the fuel pump strainer, fuel pressure regulator, fuel pump or injector
Large fuel consumption	Oil leaks from the fuel passage	Repair
	Engine failure	Repair or replace
	Damaged cylinder/water temperature sensor	Replace
	Damaged fuel pump	Replace
	The air cleaner is clogged	Clean off
	Poor fuel quality	Use unleaded gasoline with RQ-92 or higher
Low fuel pressure or clogged oil passage	The fuel pump strainer is clogged	Clean or replace. Don't contaminate the outlet port
	The fuel pressure regulator fails to function	Replace
	The fuel pump fails to function	Replace
Lower voltage in the system	Improper circuit connection	Check
	The rectifier is unable to charge	Check or replace
	The magneto functions improperly	Check it for short-circuit
	The battery is aged	Maintain or replace
	The electricity consumption is too large	Avoid driving at a low speed for a long time
Air leaks from the engine intake manifold	Air leaks from the joints of intake manifold and cylinder head	Check the paper pad and O-ring for proper installation
	Air leaks from the joints of intake manifold and injector	Check the injector O-ring
	Sand holes in the intake manifold	Replace

FAULT FEEDBACK OF EFI MOTORCYCLE

Customer Name		Purchase Time		VIN	
Address		ECU Number		Engine Code	
Telephone		Vehicle Type		Mileage	
Fault Frequency		<input type="checkbox"/> Often <input type="checkbox"/> Sometimes <input type="checkbox"/> Only once <input type="checkbox"/> Other			
Fault Occurrence Condition	Climate	<input type="checkbox"/> Winter <input type="checkbox"/> Summer <input type="checkbox"/> Sunny <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy <input type="checkbox"/> Snowy <input type="checkbox"/> Other			
	Driving Terrain	<input type="checkbox"/> Highway <input type="checkbox"/> Ordinary road <input type="checkbox"/> Rough road <input type="checkbox"/> Plain <input type="checkbox"/> Highland <input type="checkbox"/> Uphill <input type="checkbox"/> Downhill <input type="checkbox"/> Other			
	Engine Temperature	<input type="checkbox"/> Cold <input type="checkbox"/> At warm-up <input type="checkbox"/> After warm-up <input type="checkbox"/> Any <input type="checkbox"/> Other			
	Engine working condition	<input type="checkbox"/> In starting <input type="checkbox"/> After starting <input type="checkbox"/> Idling & no-load <input type="checkbox"/> In driving (<input type="checkbox"/> Constant speed <input type="checkbox"/> Acceleration <input type="checkbox"/> Deceleration) <input type="checkbox"/> Other			
Fault Phenomenon	<input type="checkbox"/> Fail to start	<input type="checkbox"/> Unable to start <input type="checkbox"/> Without starting sign <input type="checkbox"/> With starting sign			
	<input type="checkbox"/> Hard to start	<input type="checkbox"/> Low rotate speed <input type="checkbox"/> Other			
	<input type="checkbox"/> Improper idle speed	<input type="checkbox"/> Unstable <input type="checkbox"/> High <input type="checkbox"/> Low <input type="checkbox"/> Rough <input type="checkbox"/> Other			
	<input type="checkbox"/> Lack of power	<input type="checkbox"/> Slow acceleration <input type="checkbox"/> Tempering <input type="checkbox"/> Blowout <input type="checkbox"/> Futter <input type="checkbox"/> Knocking <input type="checkbox"/> Other			
	<input type="checkbox"/> Fire off	<input type="checkbox"/> At once <input type="checkbox"/> Acceleration <input type="checkbox"/> Oil return <input type="checkbox"/> Engage <input type="checkbox"/> Other			
	<input type="checkbox"/> Other				
Suggestions					

SPECIFICATIONS

Vehicle type	KPC
1. Dimensions	
Overall dim. (L×B×H), mm	2145×850×1190
Steering bar angle, °	45
Ground clearance, mm	280
Turning circle dia., mm	4432
Wheelbase, mm	1445
Kerb weight, kg	155
Max. load capacity, kg	160
Max. design speed, km/h	≥115
Economical fuel cons., L/100km	≤3.6
Grade ability, °	20
Front tyre size/pressure	90/90-21
Rear tyre size/pressure	120/90-18
Front shock absorber	Hydraulic damping type
Rear shock absorber	Spring hydraulic type
Front brake	Disc operated by hand
Rear brake	Disc operated by foot
Fuel filler capacity, L	10.5
2. Engine	
Model	172FMM-2P
Type	Single cylinder, 4-stroke, air-cooled
Bore×Stroke, mm	72.0×61.4
Displacement, mL	250
Compression ratio	8.7:1
Starting mode	Electric starter

Ignition mode	ECU
Max. net power, kW/r/min	13.5/7500
Max. torque, N.m/r/min	18.5/6000
Engine oil	SAE 15W/40
Engine oil capacity, L	1.3
Lubrication	Press/splash
Fuel	UNLEADED GASOLINE OF 87 OCTANE OR ABOVE
Clutch type	Wet multi-plate
Transmission type	6-speed, constant mesh
Primary gear ratio	3.136
Gear ratio, 1st (I ₁)	3.007
Gear ratio, 2nd (I ₂)	2.000
Gear ratio, 3rd (I ₃)	1.400
Gear ratio, 4th (I ₄)	1.091
Gear ratio, 5th (I ₅)	0.958
Gear ratio, 6th (I ₆)	0.864
Final gear ratio, (I _F)	3.23
3. Electric equipment	
Battery	12N9-BS
Spark plug	CPR8EA
Headlight	12V LED
Winker	12V LED
Tail/rear brake light	12V LED
Horn	Electric, 12V
Odometer light	12V LED
Fuse, A	15

Warranty

HMC-Emission Control System Warranty Statement YOUR WARRANTY RIGHTS AND OBLIGATIONS

The U.S. Environmental Protection Agency and **American Lifan, Inc.** (hereinafter **MFR**), are pleased to explain this Emission Control System Warranty on your motorcycle. New motor vehicles must be designed, built, and equipped to meet U.S. EPA standards. **MFR** must warrant the emission control system on your motorcycle for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your motorcycle.

A Warranty Statement: Replacement Parts, Service and Warranty. Any certification issued under this procedure is conditional upon full compliance with the design and defects emissions warranty requirements in the Federal Clean Air Act (42 U.S.C. §7401 et seq) for the applicable useful life (as specified in 40 CFR 86.402-78) in which the engine is installed.

Your emission control system may include components such as the carburetor or fuel-injection system, the ignition system, catalytic converter and engine computer. Hoses, belts, connectors and other emission-related assemblies may also be included.

Where a warrantable condition exists, **MFR** will repair your motorcycle at no cost to you, including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE

- The warranty period begins on the date the motorcycle is delivered to the first vehicle owner and subsequently continuous to the ultimate vehicle owner thereafter and covers the useful life of the HMC per for **18,000 km (11,185 miles) or 5 (five) years** from the date of initial retail delivery, whichever first occurs.
- If an emission-related component on your motorcycle is defective, the defective parts will be repaired or replaced by **MFR**. This is your Emission Control System DEFECTS WARRANTY.

OWNER'S WARRANTY RESPONSIBILITIES

- As a motorcycle owner, you are responsible for the performance of the required maintenance listed in your owner's manual. **MFR** recommends that you retain all receipts covering maintenance on your motorcycle, but **MFR** cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- You are responsible for presenting your motorcycle to a **MFR** dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.
- As the motorcycle owner, you should be aware that **MFR** may deny your warranty coverage if your motorcycle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- In case no **MFR** authorized dealer is in the vicinity, the **MFR** warranted vehicle's repair can be conducted by a local licensed mechanic workshop. **MFR** will reimburse the ultimate vehicle owner for all expenses including diagnosis, warranted part(s) and repair labor charges once paid by the ultimate vehicle owner. **MFR** will deliver warranted parts to the licensed mechanic workshop or the ultimate vehicle owner for the Warranty repair job done at the **MFR** approved licensed mechanic workshop at vehicle owner's convenience with no cost to the ultimate vehicle owner.
- The ultimate vehicle owner will be required to send the original copy of receipt of repairs conducted by the licensed mechanic workshop for reimbursement by the **MFR**.

If you have any questions regarding your warranty rights and responsibilities, you should contact **MFR** by the Toll Free **1-855-875-4326**. You can always contact U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105 for any Emission Control System Warranty related complaints about the **MFR**. But for actual Warranty related repair job, you should only contact **MFR** by Warranty service number printed on this Warranty statement included in the Owner's Manual or on **MFR**'s website; or the Dealer where your vehicle is purchased, or other **MFR** authorized local Dealer near you.

LIMITED WARRANTY ON EMISSION CONTROL SYSTEM

MFR warrants that each new **MFR** motorcycle, which includes as standard equipment a headlight, taillight and stoplight, and is street legal:

A. is designed, built and equipped so as to conform at the time of initial retail purchase with all applicable regulations of the United States Environmental Protection Agency and section 42 USC §7521.

B. is free from defects in material and workmanship which cause such motorcycle to fail to conform with applicable regulations of the United States EPA for a period of use of: **1.18,000 km (11,185 miles) or 5 (five) years** from the date of initial retail delivery, whichever first occurs.

1. COVERAGE. Warranty defects shall be remedied during customary business hours at any **MFR** authorized dealer or a licensed mechanic located within the United States of America in compliance with the Federal Clean Air Act and applicable regulations of the United States Environmental Protection Agency. Any part or parts replaced under this warranty shall become the property of **MFR**.

2. LIMITATIONS. This Emission Control System Warranty shall not cover any of the following:

A. Repair or replacement required as a result of

- (1) accident;
- (2) misuse;
- (3) repairs improperly performed or replacements improperly installed;
- (4) use of replacement parts or accessories not conforming to **MFR**'s specifications which adversely affect performance and/or;
- (5) use in competitive racing or related events.

B. Inspections, replacement of parts and other services and adjustments required for required maintenance.

C. Any motorcycle on which the odometer mileage has been changed so that actual mileage cannot be readily determined.

3. LIMITED LIABILITY

A. The liability of **MFR** under this Emission Control System Warranty is limited solely to the remedying of defects in material workmanship by a **MFR** authorized dealer at its place of business during customary business hours. This warranty does not cover inconvenience or loss of use of the motorcycle or transportation of the motorcycle to or from the **MFR** dealer. **MFR** SHALL NOT BE LIABLE FOR ANY OTHER EXPENSES LOSS OR DAMAGE, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE THE **MFR** VEHICLE FOR ANY PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

B. NO EXPRESS EMISSION CONTROL SYSTEM WARRANTY IS GIVEN BY **MFR** EXCEPT AS SPECIFICALLY SET FORTH HEREIN. ANY EMISSION CONTROL SYSTEM WARRANTY IMPLIED BY LAW, INCLUDING ANY WARRANTY OF THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS LIMITED TO THE EXPRESS EMISSION CONTROL SYSTEM WARRANTY TERMS STATED IN THIS WARRANTY. THE FOREGOING STATEMENTS OF WARRANTY ARE EXCLUSIVE AND IN LIEU OF ALL OTHER REMEDIES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

C. No dealer is authorized to modify this Limited Emission Control System Warranty.

4. LEGAL RIGHTS. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE

5. THIS EMISSION CONTROL SYSTEM WARRANTY IS IN ADDITION TO THE MFR GENERAL MOTORCYCLE LIMITED WARRANTY.

6. THE EMISSION CONTROL SYSTEM WARRANTY REPAIRS ELIGIBILITY EVALUATION

Your vehicle's eligibility for **MFR** Warranty repairs shall be evaluated by **MFR** or at **MFR** authorize Dealer's store where your vehicle is purchased. If Warranty repair is done at a local licensed mechanic workshop(with Lic #), the ultimate vehicle owner is required to call or email **MFR** and provide the following information for Warranty repairs eligibility evaluation prior to your Warranty Claims:

- Invoice number and purchase date;
- VIN number of the vehicle;
- Picture of the faulty parts;
- Labor charge for the repairs quoted by the mechanic workshop.

7. EMISSION CONTROL SYSTEM WARRANTY PARTS DELIVERY AND LABOR CHARGE

REIMBURSEMENT

A. **MFR** will deliver the repair parts at no cost to the ultimate vehicle owner or the licensed mechanic workshop you choose (if no **MFR** authorized local dealer is available), using express mail once your vehicle Warranty repairs eligibility is established.

B. The ultimate vehicle owner has to mail in the actual repair cost receipts to **MFR** for reimbursement.

C. **MFR** will reimburse the ultimate vehicle owner the Warranty repair labor cost once your Warranty repair is completed by the approved local licensed mechanic workshop.

8. ADDITIONAL INFORMATION

● **MFR** recommend that OEM parts be used when Warranty repairs are needed. Nonetheless, any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. The **MFR** Warranty is still effective under such circumstance. However the ultimate vehicle owner is responsible for the performance of all required maintenance listed in your Owner's Manual.

● **MFR** recommends that you retain all receipts covering maintenance on your vehicle, but **MFR** cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

9. CUSTOMER COMPLAINTS AND WARRANTY CLAIMS TRACKING

To ensure Warranty parts complains and repairs are handled and tracked securely and timely, **MFR** provides 'WARRANTY REGISTRATION CARD' (Appendix A) that needs to be completed by purchaser or dealer before purchaser receive **MFR** motorcycle. This will also register **MFR** with Warranty.

10. EMISSION DEFECT REPORT TO GOVERNING BODY

MFR will monitor Warranty Claims entry in a timely manner and will report to EPA once such specific emission-related defects exist in twenty-five (25) or more vehicles or engines of the same model year, per 40 CFR §85.1903(a)(2).

11. MANUFACTURER INFORMATION

American Lifan, Inc

9272 Hyssop Dr,

Rancho Cucamonga, CA 91730

Toll Free: 1-855-875-4326

Service Email: parts@AmericanLifan.com

Web: <http://americanlifan.com/>

WARRANTY REGISTRATION CARD

9272 HYSSOP DR, RANCHO CUGAMONGA, CA, US 91730

Fill out this form and send back to American Lifan for registration of Warranty within 5 business days of purchase.

MODEL NUMBER	SERIAL NUMBER
YOUR NAME(Please Print)	
STREET ADDRESS	
CITY,STATE,ZIP	
DEALER NAME	
DEALER PHONE NUMBER	DATE OF PURCHASE
I agree to be bound by the terms of this Warranty, as presented in the Owner's Manual for this product.	
CUSTOMER SIGNATURE	

