

## CFMoto - CFMoto ATV CF500-5B, CF500-5C. Service Manual.English.2009

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CF500-5B

CF500-5C Service

Manual

CFMOTO

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Zhejiang CFMOTO Power Co., Ltd.

Aug. 2009

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### FORWARD

This manual introduces X5 EFI version (CF500-5B/5C) maintenance information, disassembly procedure, check & adjustment methods, troubleshooting and technical specifications. There are illustrations, drawing to guide your operations.

Chapter 1 mainly introduces general operation information, tools, vehicle structure and basic specifications.

Chapter 2 mainly introduces check & adjustment methods and how to do vehicle maintenance.

Chapter 3 mainly introduces disassembly, installation, adjustment, maintenance and troubleshooting information.

CFMOTO reserves right to make improvements and modifications to the products without prior notice. Overhaul and maintenance should be done according to actual condition of vehicle.

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Aug. 2009

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Conversion table

## Item Example Conversion

Pressure 200 kPa=2.00kgf/cm<sup>2</sup> 1kgf/cm<sup>2</sup>=98.0665kPa 1kpa=1000 Pa

33kPa (250mmHg) 1mmHg=133.322Pa=0.133322 kPa

Torque 18N#m(1.8kgf-m) 1kgf#m=9.80665 N#m

Volume 419ml 1ml=1cm<sup>3</sup>=1cc

1l=1000 cm<sup>3</sup>

Force 12N(1.2kgf) 1kgf=9.80665 N

## 1-1

### 1. Maintenance Information

#### Cautions

#### Safety Cautions

1. Hazardous components in exhaust. Do not run the engine in a enclosed or poorly ventilated place for long time.
2. Do not touch the engine or muffler with bare hands after the engine has just stopped to avoid scalding. Wear long-sleeve work clothes and gloves for operation.
3. Battery liquid (dilute sulfuric acid) is highly caustic and may cause burns to skin and eyes. Flush with water if splashed to skin and get immediate medical attention. Flush with water if splashed to clothes to avoid burns. Keep battery and liquid away from reach of children
4. Coolant is poisonous. Do not drink or splash to skin, eyes or clothes. Flush with plenty of soap water if splashed to skin. If splashed into eyes, flush with water and consult the doctor. If drinking the coolant, induce vomit and consult the doctor. Keep coolant away from reach of children.
5. Wear proper work clothes, cap and boots. If necessary, wear dust-glass, gloves and mask.
6. Gasoline is highly flammable. No smoking or fire. Also keep against sparks. Vaporized gasoline is also explosive. Operate in a well-ventilated place.
7. When charged, Battery may generate hydrogen which is explosive. Charge the battery in a well-ventilated place.
8. Be careful not to get clamped by the turning parts like wheels and clutch.
9. When more than two people are operating, keep reminding each other for safety purpose.

#### Cautions for Disassembling and Assembling

1. Use genuine CFMOTO parts, lubricants and grease
3. Clean the mud, dust before overhauling
2. Store the disassembled parts separately in order for correct assemble.
4. Replace the disassembled washers, o-rings, piston pin retainer, cotter pin with new ones.
5. Elastic retainers might get distorted after disassembled. Do not use the loosened retainers.
6. Clean and blow off the detergent after disassembling the parts. Apply lubricants on the surface of moving parts. Measure the data during disassembly for correct assembling.
7. If you do not know the length of screws, install the screws one by one and make sure they are screwed in with same depth.
8. Check if the disassembled rubber parts are aged and replace if necessary. Keep the rubber parts away from grease.
9. Pre-tighten the bolts, nuts and screws, then tighten according to the specified torque, from big to small and from inner side to outer side.
10. Replace aged latex parts before assembling. Do not mix volatile oil and grease on the surface, due to aggressiveness of fuel and oil.
11. Apply or inject recommended lubricant to the specified parts
12. Use special tools wherever necessary.
13. When ball bearing disassembled by pressing ball ring, it can not be reused. Caution!!!!!! 1-1

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14. Turn the inner and outer rings of ball bearing to make sure the bearing will turn smoothly.

"Replace if the axial or radial play is too big.

"If the surface is uneven, clean with oil and replace if the cleaning does not help. When pressing the bearing into the machine or to the shaft.

15. Install the one-side dust-proof bearing in the right direction. When assembling the open type or double-side dustproof bearing, install with manufacturer's mark outward.

16. Keep the bearing block still when blowing dry the bearing after washing clean. Apply oil or lubricant before assembling.

17. Install the elastic circlip properly. Turn the circlip after assembling to make sure it has been installed into the slot.

18. After assembling, check if all the tightened parts are properly tightened and can move smoothly.

19. Brake fluid and coolant may damage coating, plastic and rubber parts. Flush these parts with water if splashed.

20. Install oil seal with the side of manufacturer's mark outward.

"Do not fold or scratch the oil seal lip.

"Apply grease to the oil seal lip before assembling

21. When installing pipes, insert the pipe till the end of joint. Fit the pipe clip, if any, into the groove. Replace the pipes or hoses that cannot be tightened.

22. Do not mix mud or dust into engine and/or the hydraulic brake system.

23. Clean the gaskets and washers of the engine casing before assembling. Remove the scratches on the joint faces by polishing evenly with an oilstone.

24. Do not twist or bend the cables too much. Distorted or damaged cables may cause poor

25. When assembling the parts of protection caps, insert the caps to the grooves, if any.

## 1-3

### 1. Maintenance Information

Numbers Marking Location

CF500-5B/CF500-5C

VIN Number!! LCELDTS5"/LCELDTS6

Engine Number!!CF188-B"

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Main Data Table

Item Parameter

Model CF500-5B/CF500-5C

Length CF500-5B: 2100mm CF500-5C: 2300mm

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Width 1180mm  
Height 1230 mm  
Wheel base CF500-5B: 1290mm CF500-5C: 1490mm  
Engine type CF188  
Displacement 493Cm3  
Fuel type Unleaded gasoline RQ-90or above  
Dry weight CF500-5B: 344 kg CF500 -5C: 358 kg  
Number of Passengers CF500-5B:2 \$Include driver%  
Max. Load 210 kg  
Tire  
Front Tire 25!8-12 40J  
185/80-12 40J  
Rear Tire 25!10-12 47J  
270/60-12 47J  
Min. Ground Clearance 275mm  
Turning Diameter Turning Diameter  
Engine Starting Electrical starting, Manual Starting  
Engine Type Single cylinder, 4-stroke, Liquid-cooled, 4 valves, OHC  
Combustion Chamber Type Triangle  
Valve Driving Type SOHC /Chain Drive  
Bore !Stroke 87.5mm!82.0mm  
Compression Ratio 10.2:1  
Lubrication Type Pressure & Splash  
Oil Pump Type Rotor  
Lubricant Filter Type Full flow filter screen  
Oil Type SAE15W-40/SF  
Cooling Type Closed coolant circulation  
Coolant Type -35& anti-rust coolant

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## 1. Maintenance Information

### Item Parameter

#### Fuel

Device Air Filter type Sponge element filter

Valve Type Type: CF188-B-173000

Diameter of mixing valve 36mm

Gearing Clutch Wet, Auto-Centrifugal

#### Operation

Mode Automatic\$CVT%+Parking & Gear Shifting

Gears Shift Low Gear, High Gear & Reverse Gear

#### Shift

Mode /order Manual /L-H-N-R

\$CVT%

#### Transmission

Ratio 2.88'0.70

Gear

Ratio Final Ratio 1.333\$24/18(Bevel Gear%

Secondary

Ratio 1.952\$41/21%

Gears Low Gear)2.25(36/16)\*High Gear)

1.350(27/20)\* Reverse Gear)

1.471(25/17)

Total Low Gear5.857\*High Gear)3.514\*

Reverse Gear)3.828

Axle Ratio Front

Axle 33 / 9 = 3.667

Rear

Axle 33 / 9 = 3.667

Engine Output Mode Front/Rear Shaft

Direction of Output

Rotation Clockwise on forward shift

Steering

Device Steering

Angle Inner 31°

Outer 31°

Brake Type Front Hydraulic Disc

Rear Hydraulic Disc

Bumper

Device Suspension Swing Arm

Frame Type Welded Steel Tube and Plate

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Maintenance Parameters Table

Lubrication System

Air Inlet System

Item Standard Service Limit

Engine Oil

Capacity Volume when replacing 1900mL +

Volume when replacing filter 2200mL +

Recommended Oil\$See Original%

·Specially for 4-stroke motorcycle

SAE-15W-40

Substitutes must be used in the following range.

API type: SE or SF grade

SAE type: Choose from the left chart according to the environmental temperature

Oil Pump Rotor Gap between Inner and Outer Rotors 0.03'0.1mm 0.15mm

Gap between Outer rotor and body 0.03'0.1mm 0.12mm

Oil pressure 3000r / min,130-170KPa

Item Standard

Fuel Tank Capacity Full capacity 18L

Valve CF188-B-173000

Inlet Pressure Sensor CF188-B-175000

Inlet Temperature Sensor CF188-B-177000

Air Bypass Valve CF188-B-172000

Injector CF188-B-171000

Idle Speed 1400±100r / min