CJ750B INSTRUCTION FOR MOTORCYCLE

NANCHANG AIRCRAFT MANUFACTURING CO.

OPERATION AND MAINTENANCE INSTRUCTIONS
CHANG JIANG 750 MOTORCYCLE

NANCHANG AIRCRAFT MANUFACTURING CO.
CHINA

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1 .Performance and technical data

BRIEF DATA

Dimensions(longth×width×Height):

2230×820×1000(mm) (two-wheel)

2400×1590×1000(mm) (three-wheel)

Wheel Base	1420 mm
Tread.	1100 mm
Min. Ground clearance:	135 mm
Max. wading deep:	350 mm
Curb weight:	215 kg (two-wheel) 350 kg (three-wheel)
Payload(three-wheel):	3 persons + 100 kg

PERFORMANCE

Top Speed:	110 km/h (two-wheel), 85km/h (three-wheel)
Economical Speed	60 to 65 km/h (two-wheel), 40 to 50 km/h (three-wheel)
Fuel Consumption:	17 km/Lit (60 to 65 km/h) (two-wheel).
	14.5 km/Lit (45 to 50 km/h) (three-wheel)

Acceleration Capability:	0 to 400 m	20 sec.(two-wheel), 27 sec.(three-wheel).

ENGINE

Type:	four-stroke, double-cylinder horizontal and air cooling
Displacement:	746 cm^3
Diameter × Stroke:	78×78 (mm)
Compression Ratio:	5.7 : 1
Valve Arrangement:	side vale
Max. Power:	22 hp/4500 to 4800 rpm
Max. Torque:	4 kg • m/2750 to 3500 rpm
Lubrication System	
Lubrication mode:	pressure and splash lubrication
Oil Pump:	geared
Oil Capacity:	2 Lit.
Oil Consumption:	Less than 0.15 Lit./100 km
Starting Mode:	kick

TRANSMISSION

Mode:	4-Speed, gear shift pedal, gear lever
Clutch:	double-disc, dry friction
Rear-wheel Drive:	shaft drive
Oil Capacity in Gear Box:	0.8 Lit.
Oil Capacity of Rear Drive:	0.175 Lit.

FUEL SYSTEM

Part No. of Fuel:	RQ-66GB489-65 or RQ-70GB484-65
Fuel tank capacity:	23 Lit.
Type of Carburetor × Quantity:	QHQ-15×2
Fuel Filter:	grade 3 copper-wire filter
Oil Filter:	oil adds iron-wire filter

ELECTRICAL EQUIPMENT

Electrode connection:	positive grounding
Line Voltage:	6V
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Ignition Coil:	DQ121
Distributor:	FDQ-1
Spark plug:	4Z5, 4ZK or 14-11-1
Battery:	3-M-14 (6V 14A)
Generator:	MZF-12 or MZF-11 (DC, 45w, 6,5V)
Current-Voltage controller:	MTY-2 or MTY-1
Horn:	LB38-6 or DL38-6/1C
Head Light (far/near):	35/25 w
Advance ignition angle (before bead centre ignition):	$30^0 \pm 2^0$
Delayed ignition angle:	$0^0 \pm 6^0$

STRUCTURAL UNITES

Frame:	Steel pipe welded
Front-wheel fork damping:	Spring+hydraulic pressure
Back-wheel damping:	Spring
Side car damping:	Spring seat +torsion bar
Size of Tyre (inch):	3.75-19

Tyre Pressure(kg/cm^2)

Front wheel:	1.6+0.2
Back wheel:	2+0.5
Side wheel:	1.8+0.2
Spare Tyre:	2+0.5
Side Car:	1 person+100 kg cargo

ADJUSTMENT

Valve Clearance

Cold Clearance:	0.1 mm
Hot Clearance:	0.08 mm
Spark plug Clearance:	0.6 to 0.7 mm
Outage Contact Point Clearance:	0.4 to 0.45 mm

2. Running-in of Motorcycle

Running-in period is divided by two phases; The first phase is 0 to 1000 km and the second phase is 1000 to 2000 km. During running-in period, top speed of the motorcycle should be in accordance with the following table.

Top Speeds

Trawel / Type / Speed(km/h) / Gear position	0-1000 km		1000-2000 km		2000 km after	
	Two-wheel	Three-wheel	Two-wheel	Three-wheel	Two-wheel	Three-wheel
First Gear	15	10	20	15	25	20
Second Gear	25	20	45	35	50	40
Third Gear	45	35	65	50	80	60
Fourth Gear	65	50	90	70	110	85

In order to limit the maximum speed of the engine during running-in period, there are two up-stop screws attached separately with two caps of the carburetors They are used to limit the lifting hight of the throttle valve. After finishing the first phase of runing-in period, half screw rods of the up-stop screws of the two carburettors should be cut away. \nd after finishing the second phase of running-in period, the residual parts of the up-stop screws should be cut away based on

the grooves of the screw roots.

Long distance driving is not allowed within 300 to 500 km travelling in running-in period. During this period, frequent stop of the motorcycle is required to avoid temperature rising with the engine. Keep on check of the temperature of the engine, gear box, rear drive and brake drum. If the overheating occurs, it is necessary to find out the cause and do trouble shooting. In the meantime, check all parts, components for their fixation. Adjust the clearance and tighten the loosen parts in time.

Keep on check of the oil quality in the running-in period, if its viscosity is changed and some metal powders are found in the oil, new oil should be replaced without consideration with the travelling distance. After finishing the running-in period, the oil inside the gear box and rear drive should be replaced in the hot status Normal oil filling and replacing shonld be performed according to the lubrication chart.

Try to avoid the bad road for the motorcycle travelling in the running-in period. It is not allowed to drive the motorcycle for long duration with high speed and overloading. Only when the running-in period is finished and 3000 km travelling

distance is obtained, the motorcycle can run with top speed and maximum load.

After finishing second phase of running-in period, tighten the screw of the cylinder head in the conditon of hot cylinder.

3. Operation of the Motorcycle

3.1 Preperation before Starting

3.1.1 Before starting, check the petrol and oil quantity first.

Fill the fuel directly through the filter to the fuel tank.

The oil level should be 15-20 mm away from the edge of the filler port.

3.1.2 There are three manners for oil filling: The oil level should be in-between the up and down marking lines of the oil dipstick inside the crankshaft box. The oil level inside the gear box should get the thread position of the filler port. The oil level inside the rear drive casing should get the thread position of the threaded plug. Before oil filling check conscientiously the threaded plugs which are used for oil drain for the tightness.

3.1.3 After petrol and oil filling, check the steering wheel, brake and clutch for the reliability and flexibility. Check the pressure of the tyres, the tightness of the wheels, junction of the main body with the side car, liquid level of the battery,

electric circuit, fuel pipes and etc. for the serviceability.

3.2 Engine starting

The following steps should be taken for "cold" engine starting.

3.2.1 Turn the petrol switch to left position.

3.2.2 place gear lever at neutral gear position between the first and second gears.

3.2.3 Close the air valve approximately by half ($\frac{1}{2}$).

3.2.4 Pressdown the button attached on the float chamber cover until the petrol spilled from the seal of the float chamber cover of the carburettor.

3.2.5 Turn the throttle handle to the end towards outer, then bring it back to 1/8 full travel.

3.2.6 Step tee kick lever jor 4—5 times.

3.2.7 Place the advanced ignition handle to the "delay" position.

3.2.8 Cut-in the ignition switch by use of the key (turn the key counterclokwise for daytime drivixg and vice versa).

3.2.9 Press down the kick level slightly by foot to make the brake block insert into the ratchet wheel of the starting gear (filling without idle travel). Then step the kick level forcefully.If the first time starting is unsatisfied, second time starting should be carried out. For new engine starting,5-6 times of kick are allowed meanwhile adjust the engine according to the starting.condition.Normally 2-3 times of kick can cause the engine which being in service to starting. More times of kick, the engine still can not be started.inspection and trouble shooting should be performed according to the section "Engine Can Not Be Started" of the Trouble Case Chart.

3.2.10 After engine starting, slowly open the air valve and push the advanced ignition handle to "advance" position according to the engine operating condition.

3.2.11 Accrding to the operation sound of the engine, rotate the throttle handle to

heat the engine at low-middle speed. The heating period is approximately 4-5 min. Extend the heating period in case of the low ambient temperature. For engine stopping, the first reduce the throttle then close the ignition switch, After engine stopped, the petrol switch should be closed (the handle toward down). For night parking, the connecting wire of the batteery of the motorcycle should be disconnected to avoid electric leakage.

In severe cold season, the following procedures should be taken for outside parking of the motorcycle:

a. Before stopping of the engine, the first close the petrol switch then press-down the float button to make all the petrol remained inside the carburettor burnt out.

b. Remove the battery, prevent it from frost.

c. It is allowed to heat the cylinder by blowtorch, if it is unable to start the engine with cold cylinder. If the oil inside the gear box and crank shaft box becomes thick, and affects the rotation, it is allowed to heat the engin. Care should be taken to avoid damage of the high pressure wire, ignition coil, rubber parts and etc. In this case petrol switch sh-

ould be closed.

4. Adjustment of the motorcycle

Before delivering from the factory, all the motorcycles have been adjusted already and passed through test-run of the motorcycle. Normally, no need to adjust them again.

In case, there is any faulty with the motorcycle, throuble shooting should be performed according to the follwing chart "Fault, Cause and Trouble Shooting".

4.1 Engine

Phenomenon	Cause	Trouble shooting
1. Engine is unable to start	1. Week spark or no spark with spark plug.	
	a. Low electric with battery	Check battery or electric charging
	b. Battery-ignition switch-ignition coil, the low voltage circuit is broken circuit or short circuit.	Find out the broken wire or replace the wire

Phenomenon	Cause	Trouble Shooting
	c. Capacitor of distributor is failure.	Replace
	d. poor contact with contact point, abiation or lube contamination.	Grind, Clean
	e. Moisture with high voltage wire	Replace
	f. Failure with spark plug.	Replace
	g. Short circuit with distributor cap.	
	h. Failure with ignition coil.	Replace
	2. Mixture can not come into cylinder.	
	a. Low temperature, air valve should be reduced.	Reduce the air valve to $\frac{1}{4}$ opening
	b. Fuel blocked in the fuel supply	Clean the fuel pipe

Phenomenon	Cause	Trouble Shooting
	system.	
	3. Low compression with cylinder.	
	a. Leakage with cylinder cap	Tighten the cap or replace the washer
	b. Wornout with p'ston ring	Replace piston ring or piston and lap cylinder
	c. Unacceptable clearance with the air valve	Adjust
	d. Leakage with air valve and air valve seat	Lap the air valve and air valve seat
	e. Seizing with valver lever	Disassemble, clean and polish
	f. Bornout with piston crown	Replace
	4. Failure with ignition timer	Adjust
	5. More thin or thick with	Adjust carburettor

Phenomenon	Cause	Trouble Shooting
	mixture	
2. Start engine difficultly	1. Low compression with cylinder	See above 4.1.3
	2. Low electric with battery	Check battery or charging
	3. Too small clearance with the electrode of the spark plug	Adjust
	4. Single cylinder operates	Trouble shooting for non-operation cylinder
	5. Problem with idle speed	Adjtst
	6. Problem with fuel supply system	Clean
3. Unsteady operation with engine	1. Moisture remains in the fuel inside carburettor	Filter the water
	2. Problem with fuel supply system	Clean
	3. Problem with adjustment of car-	Adjust

Phenomenon	Cause	Trouble Shooting
	burettor	
	4. Contamination with spark plug	Clean or replace spark plug
	5. Ablation with contact point of distributor	Crind, Repair
	6. Failure with capacitor of the distributor	Replace
	7. Single cylinder operates	Trouble shooting for non-operattion cylinder
	8. Moisture with high voltage wire	Replace
4. Engine overheat	1. Unqualified oil	Replace
	2. Low gear high revolution travelling for long period	Change the position of gear
	3. High load operation for long pe-	Control

Phenomenon	Cause	Trouble Shooting
	riod	
	4. Late with ignition timing	Adjust
	5. Problem with mixture	Adjust
	6. Slip with clutch	See 4.2.1
	7. Dirty with the cooling fin of the cylinder head	Clean
	8. Single cylinder operates	Trouble shooting for non-operation cylinder
5. Low power with engine, poor acceleration	1. Problem with adiustment of carburettor	Adjust
	2. Blockag with air filter	Clean
	3. Damaged with capacitor of distributer	Replace
	4. problem with ignition timing	Adjust

Phenomenon	Cause	Trouble Shooting
	5. Poor compression with cylnderi	See 4.1.3
6. Unable to adjusting engine to minimum rotating speep	1. problem with spark plug	See.4.1.1
	2. Leakage with fitting surface of carburettor	Tighten nut. Repiace washer
	3. Poor compression with cylinder	See.4.1.3
	4. Throttle valve of carburettor wonout	Replace and match
	5. Problem with fuel line and oil line of the carburettor	Disassemble. clean, blow
	6. Idle speed orifice blockage	Clean. blow
7. High consumption with fuel	1. Problem with adjustment of carburettor	Adjust
	2. Higher level in the float chamber	Check float. reapair and adjust

Phenomenon	Cause	Trouble Shooting
	3. Blockage with air filter	Clean
	4. Wornout with main sprayer of carburettor	Replace
	5. High idle speed	Adjust
	6. Problem with ignition timing	Adjust
	7. poor compression with cylinder	See 4.1.3
	8. More carbon-deposit in the combustion chamber	Remove carbondeposit
8. High consumption with oil	1. Wornout with piston ring, piston and cylinder wall	Replace piston ring, piston and lap cylinder
	2. High speed operation for long periob	Control the rpm of engine
	3. Leakage with rubber seal connection	Check or replace

4.2 Clutch

Phenomenon	Cause	Trouble Shooting
1. Clutch slip	1. Water or oil with friction plate of the clutch	After wading, more frequent use of clutch to evaportate water. For oil contamination, disassemble and clean it, remedy the leakage.
	2. Wornout with friction plate of clutch or broken	Replace
	3. Failure with clutch spring	Replace whole set of spring
	4. No free-travel with the handle of clutch	Adjust free-travel for 5-10 mm

Phenomenon	Cause	Trouble Shooting
2. Clutch is unable to disengaging	1. More free- travel with control cable	Adjust
	2. Seizing with broken friction plate	Replace
	3. Wornout with separating lever and separating slider	Replace

4.3 Gear change mechanism

Phenomenon	Cause	Trouble Shooting
1. Difficult tc change the gear position	1. Clutch can not disengage	See 4.2.2
	2. Too high with idle spoed	Adjust

Phenomenon	Cause	Trouble Shooting
2. Gear change jumping	1. Wornout with connecting sleeve or gear	Replace
	2. Wornout with washer of second axle	Replace
	3. Problem with adiustment of the foot gear change mechanism	Adjust
	4. Low tension of left cap reset spring	Replace

4.4 Starting mechanism

Phenomenon	Cause	Trouble Shooting
1. KicK lever slip	1. Wornout with brake block	Replace or angle change by 180°
	2. Broken with ratchet teeth inside	

Phenomenon	Cause	Trouble Shooting
	the starting gear	
	3. Broken with pushing pin spring of the brake block	Replace
	4. Wornont or broken with friction plate of the clutch	Replace
2. More freetravel with kick lever, no reset function	1. Wornout with taper pin and starting shaft	Replace
	2. Broken with reset spring	Replace

4.5 Rear drive mechanism

Phenomenon	Cause	Trouble Shooting
1. Noise with rear drive	1. Problem with the clearance of the gear	Adjust to 0.1-0.4 mm

Phenomenon	Cause	Trouble Shooting
	2. Wornout with needle bearing	Replace
	3. Wornout with gear fixing screw	Replace
2. Leakage with sealing leather cup of the rear drive	1. Aging with sealing leather cup	Replace
	2. Wornout with driven gear case	Replace
	3. Blockage with oil drain	Clean

4.6 Brake mechanism

Phenomenon	Cause	Trouble Shooting
1. Malfunction with brake	1. Wornout with brake strap	Replace
	2. Oil with brake strap	Clean and remedy the leakage
	3. Poor contact with brake strap	Grind
	4. More free-travel with control	Adjust

Phenomenon	Cause	Trouble Shooting
	mechanism	
2. Brake selzing	1. Broken with brake shoe spring	Replace
	2. Probiem with adjustment of b-rake mechanism	Adjust
	3. Wornout with brake cam	Replace

4.7 Travelling performance

Phenomenon	Cause	Trouble Shooting
1. One side deviating during running	Problem with adjustment of main body and side car connection	Adiust
2. Turning lag	Broken with bearing	Replace

Phenomenon	Cause	Trouble Shooting
3. Swing with steering handle during running	1. Loose with screw rod of shook absorber	Adjust according to the road condition
4. No shook absorbing with front-wheel fork	1. Less oil in the buffer	Add oil
	2. Buffer spring broken	Replace
	3. Piston seizing	Clean or replace

4.8 Electric part

Phenomenon	Cause	Trouble Shooting
1. Electric charging indication light does not come on without operation	1. Less electricity in the battery	Check battery or change
	2. Terminal loose of the battery	Reconnect
	3. Failure with bulb	Replace
	4. Short circuit with low voltage	Check

Phenomenon	Cause	Trouble Shooting
of generator	circuit	
1. Electric charging indication light does not come off with high speed of engine	1. Malfunction with current voltage controller	Clean and grind all the contacts
	2. Poor contact with carbon brush of the generator	Adjust
	3. Failure with commutater of the generator	Clean
	4. Broken circuit with magnetic pole of generator	Check and repair
	5. Commutator of the generator grounding	Check and repair
	6. Short circuit with the armature	Check and repair

5. Tools

Ser. №	Part №	Name	Qty	Size
1	7224106G	Socket wrench	1	14×12
2	7224114	Special spanner	1	41×36
3	7224116	Special socket wrench	1	10×11 (square socket)
4	7224120	Spanner	1	6
5	7224121G	Socket wrench	1	22×19
6	7224122G	Sleeve	1	8×9
7	7224125G	Screw driver	1	5 inch
8	7224125G	Screw driver	1	2½ inch
9	7224143	Rod	2	
10	7224157	Assembly spanner	1	

Ser. №	Part №	Name	Oty	Size
11	7224159	Air valve spanner	1 (For two-wheel motorcydle 2)	
12	7224301	Double head wrench	1	11×9
13	7224302	Double head wrench	1	17×14
14	7224303	Double head wrench	1	14×12
15	7224500	Hammer	1	square head
16		Adjustable spanner	1	200×24
17		Slip-joint pliers	1	6 inch
18		Tyre pressure gauge	1	0-4 atmospheric pressure
19		Grease gun	1	Grease gun JB 288-60

Ser. №	Part №	Name	Qty	Size
20		Hand pump	1	L=520 with hose
21		Long-nose pliers	1	5 inch