

Zhang's Motor Works www.beijing-sidecar.com

Maintenance and Performance for CJ750:

These basic maintenance and performance tips are what we get from people that are very experienced Chang Jiang 750 sidecar owners. They may not be the most detailed answers, but we do hope they give you a good idea of what may be the solution to all of your Chang Jiang 750 questions. Also, they should help keep your Chang Jiang 750 in top running condition.

We welcome your input. Please feel free to send us any additional CHANG JIANG 750 tips you have, so that we may post it and help out other Chang Jiang 750 owners.

Remember, "the Chang Jiang 750 is a high maintenance motorcycle". This is 1930s technology and should be treated as such. If you live in China, then you are lucky to have plenty of Chang Jiang 750 mechanics around that can help you out. The cost is generally just a few dollars. Most Chang Jiang 750 shops in China will even do minor repairs for free if you bought your bike from them. Leaking oil is probably the biggest concern compared to modern motorcycles. Being that these motorcycles come from a "simpler" era, they are not real complicated. You will not find many electronic black boxes on them, they are mostly steel and rubber and very basic machines. Some mechanics say that if you can tinker with a lawn mower, you can basically do work on a Chang Jiang 750.

Remember, "If you live in a western country make sure you are comfortable with a wrench before buying a Chang Jiang 750 "

Are engine gas cleaners and solvents good for my engine?

No, engine cleaner may actually harm your engine because it can strip off metal from the engine block, enter pores in the engine and harm engine internals.

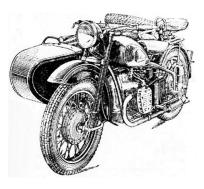
• Is synthetic oil good for my engine?

No! Synthetic oils can dissolve the seals in this type of motor.

• Is overheating normal?

Depends on the road conditions and how your ride your bike.

Having a well tuned bike (ignition timing, setting your valves, and synchronized carburetors) will seriously reduce the problem of overheating. Even too much or too little oil will affect the engine heating.



Zhang's Motor Works www.beijing-sidecar.com

Normally the Chang Jiang 750 should not overheat unless going uphill for long distances. It is normal practice when we ride in the summer to rest the Chang Jiang sidevalve 24 HP engine every hour or 50km on mountain roads or every 45 minutes of riding to let the engines cool down.

• Is it bad to spray water on my engine when it is hot to cool it down?

Spraying too much cold water on your engine can crack it if it is too hot. Importantly cooling it too fast will cause the outside engine case to contract while the pistons and parts inside the engine is still expanded from the heat, thus this may cause scratching of the piston walls. Best to take a 15 to 20 min break and let it cool down naturally. Chang Jiang 750 sidecars are not meant for fast speeds and to be stressed for extended periods. Relax and enjoy your ride, and take an occasional stop to rest the engine. The same rule applies when crossing a river or deep water; let your engine cool down.

When do I need to change my engine oil?

Normally every 3,000 kilometers.

• When should I check my engine and transmission oil?

Daily check is a good rule of thumb. Definitely every time you fill your gas tank, check the engine oil. Most Chang Jiang engines do leak and burn oil so a few drops of oil on the garage floor is normal. Basically it is best to check the engine oil as often as possible. For transmission oil, we recommend every 1,000KM.

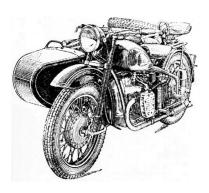
Are oil leaks common?

Yes, the Chang Jiang 750 tends to leak some oil (just like a Harley), however it should not be too much (usually just a few drops). Be aware of oil leak at the rear main seal. If this happens oil can wet the clutch plates, causing the clutch to slip.

• How can I see the oil on the oil stick especially when I use new oil?

Press your oil stick on a clean cloth and look at the oil mark on the cloth. You may machine the dip stick by grinding it flat on one side or use a tap and die and cut thread into the bottom of the dip stick. This will make it easier to read the oil level. Keep your oil near the top line. NEVER over fill the oil.

Check your oil frequently, this means every time before you ride your Chang Jiang 750. In some Chang Jiang 750's oil disappears like water.



Zhang's Motor Works www.beijing-sidecar.com

• Does the type of head gasket used on the Chang Jiang 750 engine affect my bike?

There are 2 types of head gaskets, one is a thin solid copper gasket. This is sometimes preferred because it is a better conductor of heat from the cylinders out to the heads where there is more cooling. The other type of gasket has asbestos sandwiched between 2 thin plates of copper. If the machining of the head and cylinders is not exact, the asbestos will fill in any imperfections. You can take the copper asbesto gasket apart and just use the copper.

• I just put in new gasket?

After 100km or so, check and re-torque the head bolts if necessary. Sometimes the head bolts loosen due to the heat and vibration, especially after it is first installed. Remember to torque the head properly going from opposite sides of the head and torque them gradually. Never take the head cover off when it is hot.

Are there ways to improve the brakes?

The Chang Jiang 750 is a very heavy motorcycle, and does not stop like a high performance motorcycle. It depends mainly on rear wheel braking. There are a few types of brake shoes and also there are two types of thickness for the brake shoes. The softer brake shoes control feel much more sensitive however the harder type last longer.

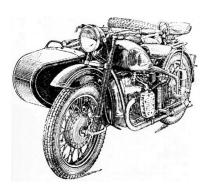
Make sure that the pads are put in correctly and correct side on the inside. Make sure your brake drum is not old and worn, if so, it may need to be replaced.

If you drive at 60 KPH (40 MPH) you will likely be fine with the stock brakes. Many Chang Jiang 750 riders do end up modifying their bikes to improve brake performance. ZMW offers sidecar wheel brakes, hydraulic front disk brakes and M-5 drum brakes which all will greatly improve your Chang Jiang 750 braking. (the M-5 drum brakes use wider brake shoes and stop much better).

Are disk brakes better?

Technically yes. But, for the Chang Jiang 750 their effectiveness can depend. The Chang Jiang 750 is a very heavy bike, so disk brakes in the front will not make a major difference. You will still need to rely heavily on the rear brake to stop.

A disadvantage of having a hydraulic front disk brake is that if get a flat tire, the 4th (spare) wheel will usually not a disk brake on it. Make sure that you get a proper installation and you will be able to rotate all 4 wheels using the same disk brake. Some Chang Jiang 750 bikers that have disk brakes have told us that the difference is only slightly noticeable.



Zhang's Motor Works www.beijing-sidecar.com

• What type of gas should I use?

Regular leaded gas is best, but any unleaded gas will also work.

Are round tires or flat ones better?

The Chang Jiang 750 sidecars do not lean on turns so flat tires are better and more economical. Solo Chang Jiang 750 should use round (radial tires) for better performance. It is advisable to not use off-road tires on the road due to their reduced traction on pavement.

• Are there differences in tires?

Yes, wear, traction, width and price. ZMW tire prices range from 80rmb to 250rmb. Tires on a Chang Jiang 750 tends to wear out quicker because of the toe-in pitch of the bike with the sidecar. Some tires wear out faster than others, most of the better quality newer made tires on the back wheel will last around 5,000 km.

Are alloy wheels better than spokes?

Down side of alloy wheels is they have a harder ride, and are harder on wheel bearings. Up side of alloy rims, is they are far truer than the average spoked CHANG JIANG 750 wheel.

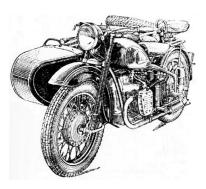
Spokes have a softer ride, however on strong impacts the spokes may absorb the impact, and then the spokes break.

There are about 5 different types of alloys wheels available. For long distance rides, on rough roads, most of us will prefer to use alloy wheels especially on the rear wheel.

ZMW has also aluminum alloy rims with high strength spokes. These wheels are powder coated and also may be polished for a super shine. The disadvantage of the alloy rims are that they are too stiff and will rip the spokes out of the hub when you ride on rough roads. For flat roads they are perfect.

Are old stock wheels better than the new ones?

Yes, the newer wheels are made of thinner metal and you can see where it is welded together, the spokes are also thinner and in our experience not as strong as the older wheels. There are some older non-polished rims that are thicker. Also ZMW has Duxin spokes which are thicker, however these can be very difficult to find. Make sure the spokes are all evenly tightened, and always replace broken spokes immediately.



Zhang's Motor Works www.beijing-sidecar.com

• What is the top speed of a Chang Jiang 750?

That is a good question. It usually boils down to 1.) who tuned your bike and 2.) the modifications that have been done to it. We have Chang Jiang 750 sidecars with 32 hp engines that have done up to 140 km/h. The new CV carbs are a big help in the power department. With a normal 32 hp the Chang Jiang 750 can comfortably cruise at 80 km/h with top speed of about 110km/h.

For 24hp Chang Jiang 750 sidecars with 24 hp engines we have seen ones that can reach and maintain top speeds of 128 km/h. Normally a 24 hp Chang Jiang 750 can cruise comfortably at 70km/h, with top speed at about 100 km/h.

For bikers that want top speed, we recommend the CV carburetors, 3 ring pistons, high speed 4th gear or high speed rear differential.

• What is the performance of the new 3 ring pistons?

On 24 hp engines it is very noticeable performance upgrade. It is not so noticeable on the 32 hp OHV engines. On the 24 hp engine, when installed, you notice an immediate increase in acceleration, gear changing is done at higher engine speeds, and the engine runs cooler and quieter. The overall performance will also depend on the quality of your engine. ZMW has installed over 100 pairs of them and the performance varied on each Chang Jiang 750 depending on condition of the engine. Generally, this is a very worthwhile upgrade for the 24 hp engine.

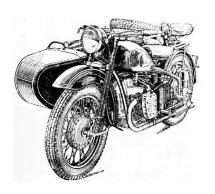
What is the performance of the new thinner piston ring 3 ring pistons?

The difference of the 3 ring pistons are very noticeable. It has higher compression, less noise, and engine runs cooler.

What is the performance of the high performance carburetors?

We strongly recommend the high performance carburetors.
Faster and smoother acceleration
Better throttle response
More consistency and balance
No vapor lock, or boiling gas
Engine runs cooler
Easier starting
Better gas mileage
Less gas leakage and sticking floats

ZMW was the first shop in Beijing that tested the CV carburetor. We tested these, along with the Fire Dragons M/C Club, for three months before they were sold on the local market. ZMW has installed over 100 sets in the past couple of months. Ask any rider that has them installed, and they will tell you how well they perform. A very reasonable price (55 USD) for much improved power and performance.



Zhang's Motor Works www.beijing-sidecar.com

How is the high speed 4th gear performance?

Obvious, it will be faster, however you need the horsepower to attain higher speeds. Power on up-hills at speed in 4th gear is also compromised. This upgrade is recommended only on the 32 hp OHV engines. ZMW installed the high speed 4th gear as standard for premium restorations. Most of the local Beijing riders use 24 hp engines, on the weekend rides into the mountains there have been complaints of not enough hauling power with the high speed 4th gear when going up hills.

How is the high speed rear differential?

Faster top speed. As with the high speed 4th gear, ZMW only recommends them only on the 32 hp OHV engines. The 24 hp engine just does not have the power to push this higher gear ration especially when there are two passengers.

High speed rear differentials versus high speed 4th gear?

The high speed 4th gear is a better value. It cost less. The performance will depend on the type of engine you have.

Does a deep oil sump make a difference?

Theoretically, yes. But, experience has shown that it has not made a big difference. A big drawback of the deep sump oil pan, is it reduces the CJ750 ground clearance. Off-road, this can be very detrimental; it is east to damage the deep oil sump. When buying the deep sump, make sure that the shop knows how to modify the oil pump so that it can draw the oil from lower in the sump, than the stock oil pump. All the oil will not be circulated if you do not lower the oil pump suction point. Many shops will gladly install the deep sump, and not make any change to the oil pump.

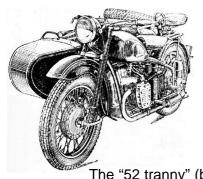
Are Chang Jiang 750 transmissions without reverse gears faster?

No. Transmissions without the reverse gear are simpler. However, most riders do like the convenience of the reverse gear. For example, when pulling out of a "head first" parking space, or when making a 3 point turn.

Are there different reverse gear transmissions?

Yes. There are the stock transmissions that have a lever that can go into reverse from first gear.

The "331 tranny" (by Nan Fang) requires first being in neutral, before switching into reverse. It takes some getting used to before being able to go quickly into neutral.



Zhang's Motor Works www.beijing-sidecar.com

The "52 tranny" (by Chang Jiang) is the single lever reverse transmission that can go into reverse in first gear. It is the stock transmission that is on most Chang Jiang 750 sidecars. Some riders do not like this transmission because it is very easy to throw it into reverse when the bike is moving and grind the gears. This happens quite often with beginners.

Are there any differences in the reverse gears boxes?

Different folks, different strokes, some prefer the M-5 model as it is safer and will not accidentally grind the transmission. Others prefer the stock one due to the ease of not having to find reverse.

Are maintenance free batteries better?

Depends. Normal lead acid batteries last longer. Maintenance free batteries, just like normal batteries, do vent acid fumes when it they get hot. Sealed "maintenance free" batteries tend to stay cleaner. If you have it on the side of the Chang Jiang 750, it seems more resistant to the elements. If your battery is on the side of the bike, make sure it is tied. Batteries have been known to fall out, when not tied down.

• Can the battery be put in the trunk?

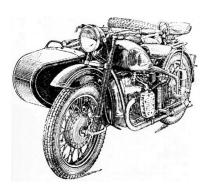
Yes, most of our customized Chang Jiang 750 sidecars have their batteries put in the trunk. But, remember, if it is the trunk, the biker can not be converted to a "Chang Jiang 750 Solo" ride, without switching the battery back to the motorcycle. Also, be sure that it is in an enclosed box that is ventilated. We have seen poorly installed batteries in the sidecar bucket that have let to fires when metal touched both terminals of the battery. If your batteries are on the side of your Chang Jiang 750, please make sure it is secured in place. We have seen batteries fly off during rough rides.

Do sidecar brakes work?

Yes, they work, however they need to be adjusted frequently due to cables being stretched. It is best to adjust the cables so that it assist in the stopping and do not adversely affect the performance of the bike. We recommend not tightening it too tightly, as changes in the weight of the sidecar will affect its performance of the pull of the bike when stopping.

Are straight pipes bad for my engine?

Yes, straight pipes do not give the engine enough back compression pressure. This can cause extra heat and stress on the top end of the engine (piston and valves). You may install straight pipes that have mufflers in them. It is advisable not to ride your Chang Jiang 750 with straight pipes that have no mufflers especially during the breaking in period.



Zhang's Motor Works www.beijing-sidecar.com

• My wheels keep hitting the center stand causing it hit the ground?

Sometimes the stand can get out of position, and it can be widened. Also check the spacer / washer in the rear wheel. It is possible that your wheel bearings have an excess of play.

• There is a strong clicking nose in the engine?

A small amount of clicking is quite normal however it can also be a sign of a problem. Excess noise can be your valves, pistons, etc. 32 hp engines have overhead valves, with more moving parts, it has more engine noise than a 24 hp engines.

When the engine starts to overheat, it makes clicking noises. Also, when overheating, it is fairly clear, just sitting on the motorcycle. You can feel it. A lot of Chang Jiang 750 riders have devised different methods of installing temperature gauges on their Chang Jiang 750s.

If you are overheating, take a rest, and let the engine cool down. You will feel the difference, the engine runs far stronger after it cools down, (and the clicking noise should go away).

My Chang Jiang 750 feels sluggish?

Check your tire air pressure, and make sure brakes are returning to position, and that the foot rest is not pushing down on the brake pedal. Do not ride your Chang Jiang 750 with flat tires, the rubber on the sidewalls of the tire will be ruined and the tube will not stay in place when inflated.

My steering is very heavy?

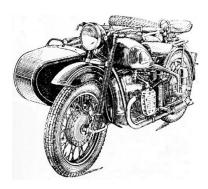
Check your tire air pressure, and also do not over tighten the steering damper, make sure the brake is returning back to position, and not stuck.

My Chang Jiang 750 does not accelerate out of first gear smoothly?

If the Chang Jiang750 jolts a bit on accelerating the clutch throw-out bearing might be bad.

• My Chang Jiang 750 does not decelerate when I down shift and when changing gear the clutch reacts very slow?

Most likely your clutch actuator might be bad, the bearing may be worn or clutch might have some problems.



Zhang's Motor Works www.beijing-sidecar.com

• My Chang Jiang 750 does not accelerate well?

Adjust your valves, check the ignition timing, carburetors may be dirty or may need balancing, clutch may be worn, etc. The Chang Jiang 750 is a peculiar motorcycle; the timing may be fine tuned for power on acceleration, or tuned for high speeds, however not for both. The timing will also affect the gas mileage.

If you like power and acceleration and have a 24hp engine, try the new 3 ring pistons from Dong Tian. However be aware of the older 3 ring pistons that are of inferior quality due to poor controls on metallurgy as it may wear out your piston walls. If you have a 32 hp engine, try the new 30mm high performance carburetors also from Dong Tian. You will notice immediate improvements in performance, throttle response and acceleration. Both Dong Tian products are also available at ZMW. To date ZMW has installed over 100 sets of the new carbs and new pistons. We have plenty of good recommendations about these parts.

My Chang Jiang 750 goes to one side when braking and accelerating?

Camber or "toe in" of the bike may not be correct. Different production runs of Chang Jiang 750 sidecars will vary on the camber they have the sidecar set at. Some Chang Jiang 750s are a bit taller and the sidecar is lower, others may have a higher sidecar. We have also seen many Chang Jiang 750 with slight alignment problems with the sidecar wheel, most likely caused by the sidecar hitting the curb too often. A small amount of pull on acceleration and deceleration is normal. Also riding with a passenger in the sidecar will also affect the pull of the bike.

• How do I know when my bike is not charging?

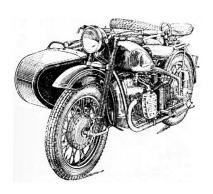
The light on the left side of the ignition key stays on. If it blinks a bit when you increase above idle RPM, most likely it is a wiring problem, if it stays on and nothing happens when you increase the RPMs the alternator may be bad. If you are riding fast, leave your head lights on. At night when riding in the city with the lights on, your Chang Jiang 750 may not charge fast enough, the rate of usage can exceed the charging rate of the system. This may result in the battery running out of power.

My battery does not charge?

It can be a loose ground cable, the alternator, the rectifier, the voltage regulator or other electrical parts.

• My Chang Jiang 750 does not turn on with the key switch?

Check the switch or fuse under the seat or in the electric box. Run a wire from the positive terminal of the battery to the positive wire on the 2 way coil. You can now kick start your bike.



Zhang's Motor Works www.beijing-sidecar.com

• I push my starter button and nothing happens or starter turns very slow?

If nothing happens electric might be bad or the switch might be broken, if starter turns but very slowly, it could be a weak battery or bad starter. Some starters just get worn out and will have no power.

My starter turns and engine does not start?

Check your distributor, points, gas or the starter gears might be worn out.

My starter and engine turns but Chang Jiang 750 does not start?

Make sure the gas is on and you have gas, and tickle the button on the top of the carbs a few times. Check the spark plug cables to see if there is spark. Open the distributor and see if the points are sparking. If there is no electricity going to the cables it may be a bad coil. If the points are not sparking it may be the distributor or condenser.

• My engine is back firing and has irregular sparking?

Check the condenser, points, spark plugs, spark plug cables and carburetors.

• My engine is only firing on one cylinder?

Check your spark plug, spark plug cables, ignition coil, fuel delivery or carburetors.

There is white smoke coming out of the exhaust pipes?

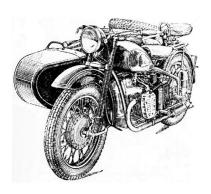
There is water in the engine which may be from the engine being cold, or improperly adjusted carburetor.

There is blue smoke coming out of the exhaust pipes?

You are burning oil. It may be from worn valves, or a problem with your piston or rings. It also could be a scratched cylinder wall.

• There is occasional blue smoke coming out of my exhaust pipes?

Some oil might get into the combustion chamber via the carburetors. Most Chang Jiang 750s have a oil vent line (hose) goes from the front of the engine block, into the air filter housing. The air filter can fill and overflow.



Zhang's Motor Works www.beijing-sidecar.com

There is some rattling sound from the exhaust pipes?

The innards of the muffler can come loose. Also make sure the bolts that hold the fender mounts are tight. Vibration loosens most bolts with time. Installing lock washers on every nut on the bike is a good idea.

• My bike back fires?

Check your carburetors, condenser and points.

Handle bars wobbles?

Tighten the steering damper. That is the butterfly knob in front of the handle bar. A slight wobble is very common at low speeds. The front bearing and fork mount assembly may have to be tightened.

Handlebar wobbles especially when I brake?

Might be a problem with the forks or wheels. It is possible your bike has been in an accident.

My throttle is too tight?

Loosen the screw under the throttle, oil the throttle, make sure the cables are moving in and out freely. Get a cable lubricator, and spray lube into all cables

• Idle does not go down?

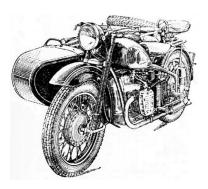
Check that the throttle cables are not sticking. Also, may be that the carbs may need cleaning. Sometimes the cable will get caught, hangs up. It this happens when you are riding, you might have to manually pull it back down, to allow it to get back into place. Just pull the cable on top of the carburetor a few times softly or wiggle it a bit and it should go back into place.

My Chang Jiang 750 starts but engine is running off beat?

Balance (synch) your carburetors, check the plugs and spark plug cables.

My idle is running a bit fast or too slow?

Check your timing and carburetor adjustment.



Zhang's Motor Works www.beijing-sidecar.com

• My Chang Jiang 750 runs but has no power?

Check the following: carburetors, valve adjustment, ignition timing and compression.

My back brake no longer effective?

Tighten your brakes by adjusting the butterfly bolt behind the brake pedal. The brake shoes may be worn out, or the drum. Also, rear differentials have been known to leak, this may cause the brake pads to get contaminated with oil.

• Can I make the brake lights work when I use my front brake?

No, unless you modify the bike to have a front brake switch installed. ZMW installs those on Chang Jiang 750 going to Europe. This is the law in most countries in Europe and America.

How do I know when my wheel bearings are bad?

They may scratch and make a nasty "metal on metal" noise. Also you may hear some grinding noise and vibration. Normally bearings may go bad after a hard impact.

• My engine runs, drive shaft rotates but the Chang Jiang 750 does not move?

Drive gear in the rear wheel may be worn out. Rear differential may be worn out, or the spacer in the back wheel is broken thus drive is not catching.

• My Chang Jiang 750 is having a hard time changing gears and it gets very hot in the transmission area?

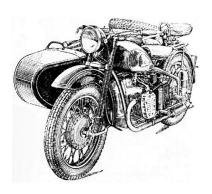
Check that your gear box has not run out of oil.

What type of gear oil should I use?

We recommend SAE 80W90

• How much oil should I put it the transmission and rear differential?

0.7 liters in the tranny, 0.3 liters in the rear differential. Look carefully when filling transmission with oil, when it reaches the third thread from the bottom.



Zhang's Motor Works www.beijing-sidecar.com

My back wheel drive is leaking oil?

Seal is bad, or it may be too much oil in the rear drive. A hard impact to the back wheel may also loosen the seal causing it to leak.

• Is slipping out of gear normal on a Chang Jiang 750?

Yes, on most Chang Jiang 750 sidecar motorcycles the bike will occasionally slip out of gear. However it should not happen constantly. The transmission has two adjustment screws that should cure this problem. Beware though if you take your bike to a repair shop. They may charge you for repairing the tranny, when it only needed an adjustment of the two screws to fix the gear slipping. When the bike is moving and the gear slips into neutral always up shift the gear to get it back into gear.

How do I adjust my gears when they are slipping?

The upper screw is for adjustment of down shifting. The lower screw is for adjustments of up shifting. It is advisable to have a professional adjust it because they will be able to tell if it is correct by the amount of movement in the hand shift. If you have to adjust it yourself, do not over adjust the screws. Each adjustment should only be about a quarter of a turn or less. Read more on our gear adjustment FAQ.

• My back wheel locked up?

Might be transmission gears jammed or locked. It could be the rear wheel differential locked up. It can be gears jammed from teeth breaking off the gears.

• My engine runs, goes into gear, but bike does not move?

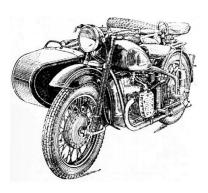
Gear teeth in the back wheel can be worn out, back wheel might not be tighten in properly, or drive donut is broken.

• I am big and heavy, my seat keeps hitting the fender?

Seat can be adjusted for the seat to be higher or use double springs.

• The seat is a bit uncomfortable especially the raised front part is there any solution?

Commonly called ball breakers, use a leather seat cover and pad it with foam or a towel.



Zhang's Motor Works www.beijing-sidecar.com

• I hear a pulsating hissing sound?

The head gasket may be leaking, spark plug may be loose, and may also be the carburetors.

Do I need to turn off the gas petcock?

Yes, especially if you are going to let the bike sit for a while (more than a few days). Best to always turn it off as it is easy for carburetors to leak gas. Gas may seep into the engine.

• My carburetor is leaking gas?

This is very common with old stylecarbs. Sometimes the floats stick, do not rise and shut off the fuel flow. Press the gas release button on top of the carburetor a few times, it may free the sticking float. If it still leaks, take off top of the carb and clean out the float bowl. Also, check the float to see if it is cracked or broken. Sometimes just tapping on the side of the carburetor with the handle of a screwdriver is enough to settle the float. Also sharpening the pin that points out the float will help it.

Gas leaks out of the top of my tank?

Put a splash guard in, that is a round screen that fits into the mouth of the gas tank.

How much throttle should I give my Chang Jiang 750 when starting?

Do not open the throttle when cranking the bike over. Let the bike idle and give it time to warm up too fast; just use a little slow twist to get the engine started.

What should I carry besides basic tools?

A liter of motor oil

2 meter long electrical wire to hotwire the bike in case of electrical problems

Spare engine gaskets

Funnel or plastic bottle for adding oil to the engine

Spare condenser and points

Spare clutch cable and brake cable

Electrical tape

Tow rope