

**Ural (Урал) - Днепр (Днепр)  
Russian Motorcycle  
Carburetors  
Part 2B: PZ-24 and PZ-28  
Carburetor Assembly and  
Jet Drilling**

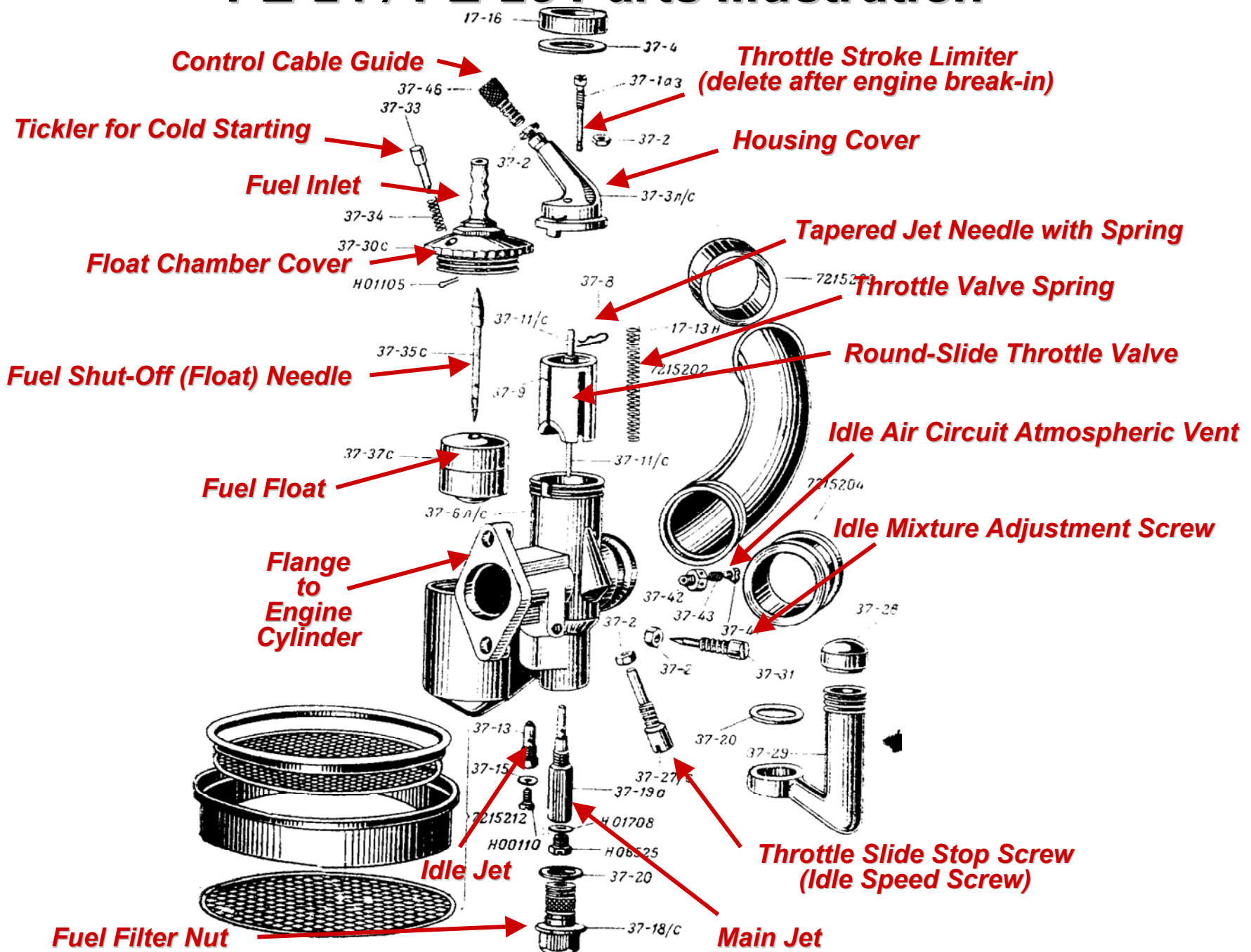
**(applies also to K-37 and K-38 carbs)**

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**www.pl750.com**

# PZ-24 / PZ-28 Parts Illustration



<http://www.changjiangunlimited.com/tb2152.htm>  
and <http://www.changjiangunlimited.com/2012/Carb%20Cleaning.pdf>  
**The CJ750 Carburetor - a primer by Ross Kowalski**



*Ross Kowalski had the carbs from the black bike sitting on the porch table after he cleaned them, so he figured he would photograph how they come apart and what the different parts are. This is a half disassembly guide, half tour, and half explanation.*

*The throttle slide cover should have a little washer to allow the top to be screwed on without galling. The red fiber washer is important for preventing water and dust from entering.*



**The speed limit screw (throttle stroke limiter) is only needed during the engine run-in period. It can be cut off flush after 2,000 km, as shown in the photo.**



**This the spot for the break-in screw. I replaced it with a set screw as soon as I got the bike and just went easy when driving during break-in.**



**The set screw viewed from the bottom of the slide cover.**

***Removing the throttle control cable  
from the throttle slide.***



***Pull out the plunger. When reassembling, note that  
the narrow groove (slit) goes toward the air intake.***



***Pull back the spring and squeeze the cable, then push the cable towards the bottom of the slide to free it.***





***The cable and spring held in position for reinstallation.***

**The main jet needle is held in place by a spring clip. There are two holes in the throttle slide valve corresponding to 4 holes in the needle, allowing for a total of 8 positions. Raising the needle gives a richer fuel mixture; lowering the needle gives a leaner mix. The pin for the needle valve can be removed by pressing it out with a screwdriver as shown.**



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**The throttle needle adjustment can be seen here. There are four holes on the needle and two on the throttle slide for a total of eight positions. Moving the needle towards the top of the carb makes the mixture start richer when the throttle slide is opened and reach full richness sooner. Moving it towards the bottom of the carb of course does the opposite.**



**The pin seemed very loose on this carb, so I pinched it closed before reinstalling it.**



**Next, open the float chamber. Sometimes the plastic float is cracked and fills up with fuel, so it does not float and close the needle valve. The height of the needle is adjustable, allowing the fuel level in the float chamber to be raised or lowered. If fuel leaks out the top of the fuel chamber, the level is probably too high.**





***Removing the float bowl cover.***



***The two screws should have lock-washers.***





***The hole you see at the side of the float bowl is where the gas from the float bowl moves to the main jet well.***



***Loosening the idle air circuit atmospheric inlet. Notice the little brass plug indicated by the arrow. The plug closes the hole that is left at manufacturing time when a passage is drilled from the main jet well to the idle jet well.***



***A shot of the idle air circuit atmospheric inlet removed from the carb body. The fitting allows additional air into the idle circuit. Maybe it is very important that the back side of the idle circuit be at atmospheric pressure, though I really am not sure why that would be.***



***Lower photo is the air filter for the idle jet.***



***This is the idle mixture hole visible at the bottom of the carb bore on the engine side of the throttle slide.***



***Here you can see two holes at the mouth of the carb. The larger one lets air in around the venturi tube to vaporized the gas more completely. The smaller hole lets air into the idle air circuit (which is why I am a little confused about the role of the atmospheric inlet listed above). The red line shows the relative height of the venturi tube mount with the carb body. The venturi holder is just lightly pressed in so they can come loose. The top of the venture holder is almost level with the flats on the carb body on either side. Once you have had one of these things apart it is pretty simple to do it again.***



***The small hole on the left is the idle air inlet.***



***There is a tiny screen inside that should be clear.***



***The screw is only there to plug the hole, it should be tightened all the way down against the drain.***

***This is the idle mixture screw. It controls the amount of air from the idle air filter. Screwing in decrease the air intake and results in a richer idle mix. Screwing out lets more air in, resulting in a leaner idle mix.***

***Loosen the idle air mixture screw.  
The idle screw is initially adjusted by fully tightening, then unscrewing two full turns. Fine tuning can be done afterwards.***





**The idle air mixture screw removed. This screw controls how much air is let into the idle mixture. It is sort of opposite to how most needle valves work. Tightening the screw in closes the supply of air bled in with the gas so the mixture is richer. Backing the screw out lets more air into the idle mixture making the mixture leaner.**





***Loosening the idle speed screw (throttle slide stop screw) lock-nut.***



***This is the idle speed adjustment. Screwing in will lift the main jet needle, and increase the idling speed. The idle speed screw out for inspection. Tightening it in raises the throttle slide increasing the idle speed.***





***Remove the fuel filter nut, paying attention not to loose the sealing washer.***



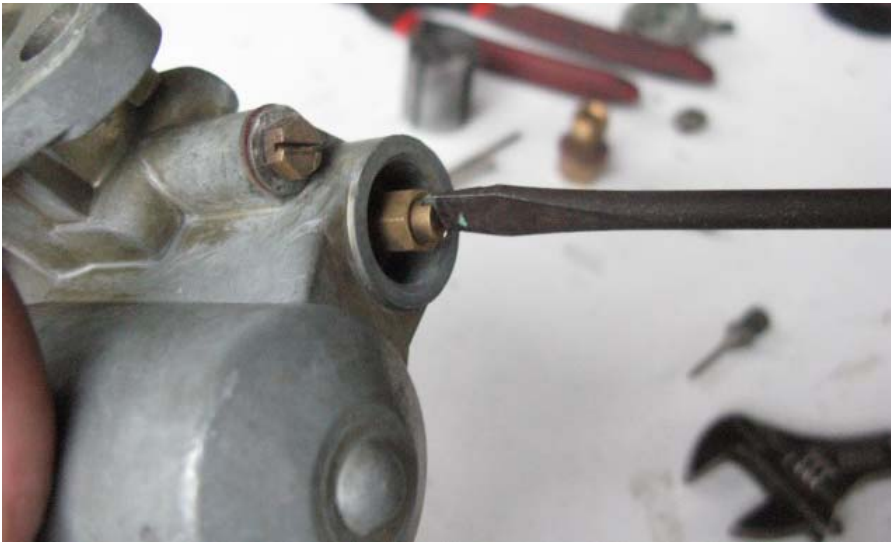
***Loosening the main jet fuel well.***



***The fuel well should have a fine screen wrapped around the outside and a washer to seal it to the carb body.***



***Remove and clean the main jet assembly.***



***Loosening the main jet.***



***The main jet exposed for inspection and cleaning.***



***This is a shot of the needle valve bore from the bottom of the carb. It should be clear.***



***The main jet orifice. The main jet is a restriction located below the needle valve that limits the amount of fuel that can be drawn through needle valve at full throttle or near full throttle operation. It really doesn't do a lot most of the time. If you plan on testing your main jet by the color of your plugs, remember to color the plugs under full throttle.***



***Removing the needle valve venturi tube.***



***You can see it here for inspection.***



***Above is the idle jet. It has a very small hole that is prone to blockage. Once blocked, the engine will not idle smoothly due to a bad fuel mixture at idling speed. To clean you can use a strand from a discarded throttle cable or other thin wire. Use carburetor cleaner to flush out the air jet channel.***





***Removing the idle jet cover.***



***The idle jet cover, note the washer. This is not an adjustable screw. You just screw it all the way in. The taper at the tip works in conjunction with a tiny idle jet to mix the air and gas in the idle mixture.***



***Looking into the idle jet hole, you can see the idle jet. The black 1.5 mm hole in the center of the brass is NOT the idle jet, just the base of it. The actual orifice of the idle jet is 0.010" or so.***

***It is almost impossible to see through this jet, and because it is by far the smallest passage on a Chang Jiang motorcycle. It is critical to proper operation of the bike and should be cleaned out with a thin wire even if you think it is clean. I am using a single straightened strand of bicycle brake cable to clean out the hole.***



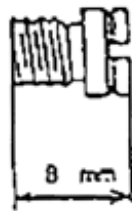


***A good way to check if it is through is to look into the idle air mixture screw hole and see if the wire is visible there. If this hole is plugged, the idle mixture screws won't work and setting a reliable idle will be all but impossible. If your idle air mixture screws don't seem to do anything, a blocked idle jet is likely the cause.***

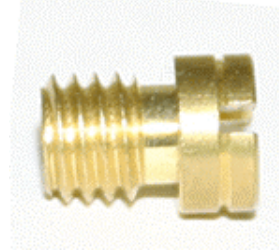
# **Drilling-Out Carburetor Jets from Danno's 750 Toolbox**

**([www.changjiangunlimited.com](http://www.changjiangunlimited.com))**

**Increasing jet size will make a difference in your bike's performance. It's also something you'll want to do if you run with straight pipes, otherwise you may not be able to achieve a sufficiently rich fuel mixture which leads to higher temperatures and a possible piston meltdown. (Trust me on this one.) Stock CJ carbs come with a variety of jet sizes, and sometimes even pairs of carbs will have different sized jets! You can buy jets that'll fit your carbs, but unless you know exactly what to order, it can be a gamble. (Some 1.02 mm jets I found on eBay were \$8.75 each.) Hey! Why not just drill out an existing set?**



**99101-393-XXX**



**I also wanted to include along these little nuggets from Miin Leong regarding carburetors and jets: "CJ carbs use Keihin jets. Sizes are crazy on CJ's. Many times I've seen two sizes on the same bike! IMO, an OHV with 28mm carbs runs best (sea level to 2000 feet) with 1.0 mm jets and the needles setting #2 from the top. SV's with 28 mm carbs—0.95 to 0.97 jets."**

**"The Keihin jet is the 8 mm one seen on this <http://www.sudco.com/keihinjets.html>, P/N 99101-393-XXX. XXX will be the size of the jets. Dynojets also make these jets. Almost all local bike shops can order them for \$3-4 each or sometimes have them in stock. They are very common jets."**

# Drilling-Out Carburetor Jets (cont.)



*Look at all these jets! I harvested them from some junk carbs I had laying around.*



*Here's a Dremel tool, something no shop should be without.*



*These are #57 bits (1.0922mm.) Unfortunately, that's too small for the Dremel's chuck so I wrapped it with masking tape to increase its diameter.*



*It worked like a charm.*

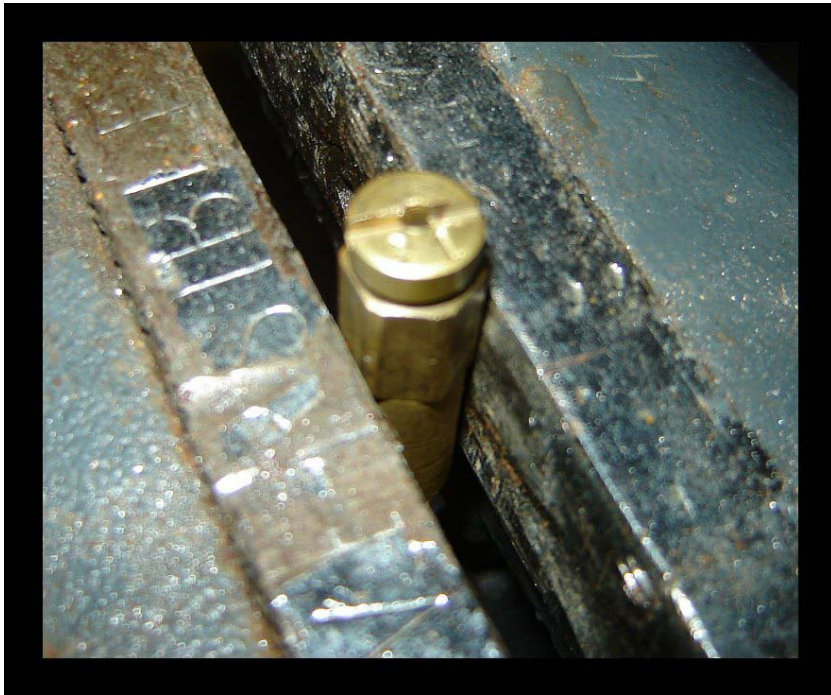
# Drilling-Out Carburetor Jets (cont.)



*This carb part was used to hold the jet. I believe it's known as a whatchamajigger.*



*Here it is with a jet screwed in. Note there's no fiber washer, something you'd definitely not want to forget when you put your carb back together.*



*Here's the whole enchilada in my Craftsman vise—made in China!*



*Done. These are all essentially 1.1 mm jets now. I took this picture in order to show you the different markings on the jets (or, in one case, no marking at all.) What the heck are they supposed to mean?!*