

Kawasaki Z900 Z1000 Carburettors

One of the biggest pains when trying to get you Z running properly is the carburettors, with the most common issue being running rich and fowling plugs. This is intended to cover sorting out your carburettors on a standard set up (standard pipes, an airbox, a new air filter and standard pilot and main jets as per the manual), it may help if you have K&N pods and a 4 into 1, but that becomes a whole different challenge.



If you have a problem with your carburettors, this attempts to cover the wear and age related problems that we have seen. There are so many contradictory different schools of thought out there; it hard to know what may work and what is a waste of time. This is intended to capture current thinking – you make your own mind up. It starts with the easy ones!

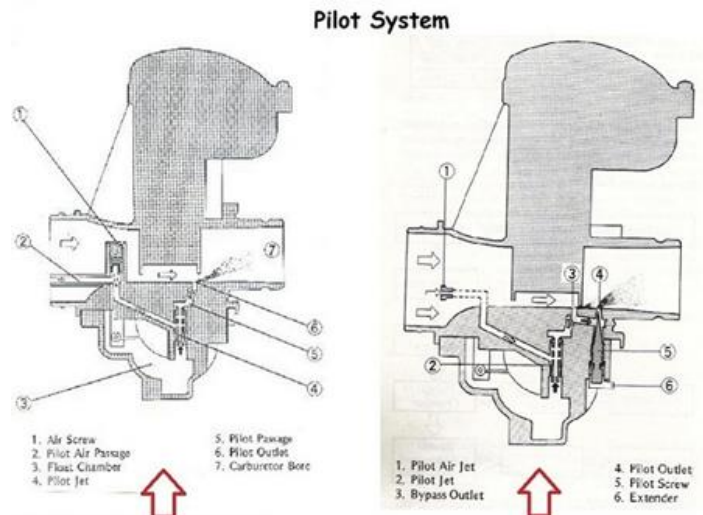
Contents

1. Background to Z carbs	1
2. Difficult to Start – Fowled Carb Bowl	2
3. Float Heights – Running Rich, Overflow	2
4. Needle Setting. Slide Height	3
5. Fuel Overflow – Float Valve	4
6. Running Rich & Erratic Idle - Damaged Fuel Screws / Seat	4
7. Running Rich – Worn Needle Jet /Seat	5
8. Running Rich & Erratic Idle - Choke plunger failing to seal	5
9. Maybe It's Not Your Carbs?	5

1. Background to Z carbs

There were many variations of carburettor from 1972 through to the 1978 but the most fundamental difference was the use of the air screw or a fuel screw.

	<p>Z1 / A4 and on the later 28mm ones on Z1R, MK2 and ST have an air screw.</p> <p>The air screw will always be behind the slide (air intake side)</p>	<p>Backing out an air screw adds more air to the circuit</p>
	<p>The Z1000 A2 had a fuel screw. The fuel screw will always be in front of the slide (inlet manifold side) Z1000</p>	<p>Backing out a fuel screw will add more fuel to a circuit</p> <p>Screw it in to reduce the amount of fuel and make it less rich</p>



The average base line for the air screws is between 1 -1/4 to 1-3/4 turns out from lightly seated but given their age and possible wear they may be happier well above or below that. The usual procedure is to start with them midway at 1-1/2 turns out and go from there.

In theory, when setting up your carburetors:

- If your **air screw** is in further than 1 turn, you may need a richer pilot.
- If your **fuel screw** is out further than 3 turns, you need a richer pilot.

But if you have a standard setup and have put the correct jets in as per the manual, it could be another reason....

2. Difficult to Start – Fowled Carb Bowl



The choke mechanism draws fuel from the float bowl via a hole as shown here.

If that hole becomes blocked (and it does!) then the choke mechanism can't work.

Carb cleaner will normally unblock it.

3. Float Heights – Running Rich, Overflow

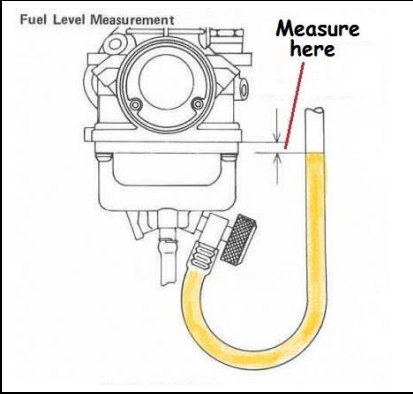
You may not think that float height is critical, but it is; so it comes first. It's also a relatively easy and inexpensive thing to check. This explanation was posted on-line by qadsan (with small edits). It is a bit technical – but then again, so are carburetors!

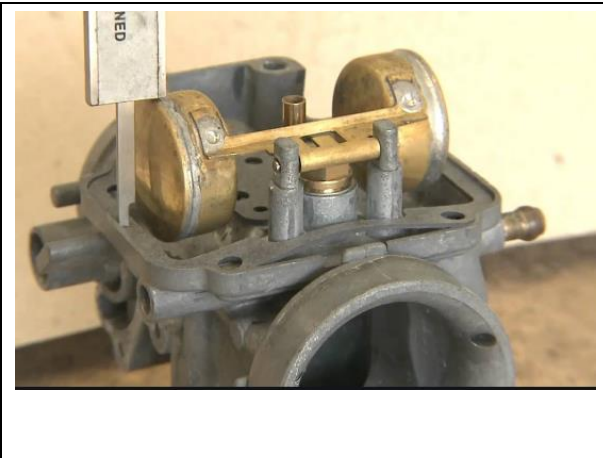
Fuel delivery depends on the differential of pressure between the venturi and float bowl, which is vented to the outside world. The air pressure in the venturi decreases as air flows through it and because the float bowl is vented to the outside world which is at a higher pressure, it causes fuel to be pushed through a jet and into the venturi.

The amount of fuel going into the venturi through the jet depends on the size of the jet and the pressure difference. If the float level is too high, then it may block certain air passages that allows the carb to depressurize and if this happens, the carb will deliver too much fuel causing your engine to bog (and run rich). If float level is too low, then the engine will obviously starve for fuel and run lean.

Kawasaki state that the float height for the Z1 Z1a Z1b should be 24mm.

For the later A4 and Z1000 models a range of 24 to 26mm is specified.

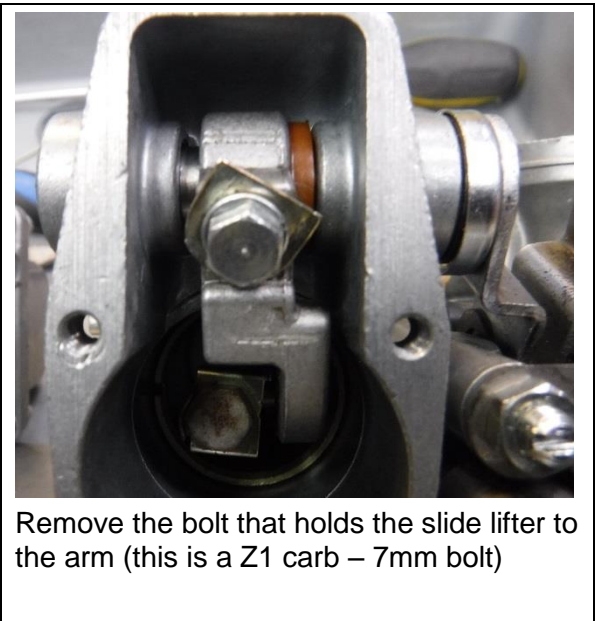
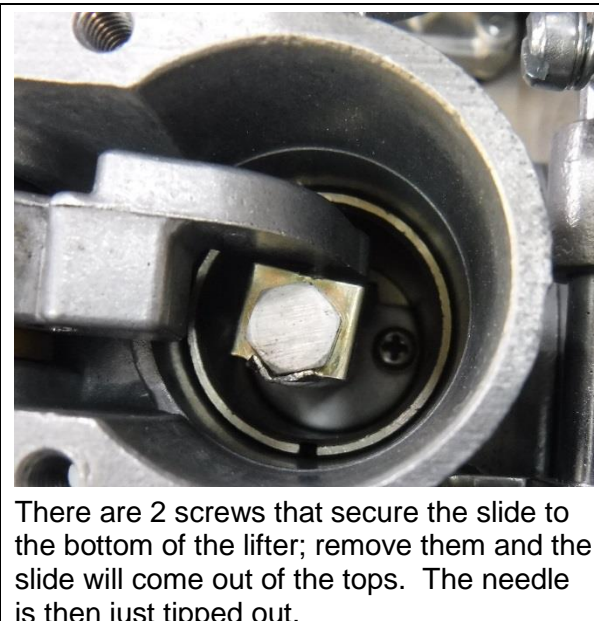
	<p>In theory the float height should be set using a manometer, or “float height adjustment tool” http://www.z-power.co.uk/carb-float-height-tool-z1z1a.</p> <p>When using one you will need to take the carbs off to make the adjustment and then check again, and repeat.</p>
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	<p>In practice, you can get a reasonably good check by allowing the floats to rest held down by their own weight (gravity), when upside down for measuring.</p> <p>Ideally, a Vernier is needed.</p> <p>Note: some patent float valve needles too short and it's just not possible to get the float height right with them. If you have this problem, replace them.</p>
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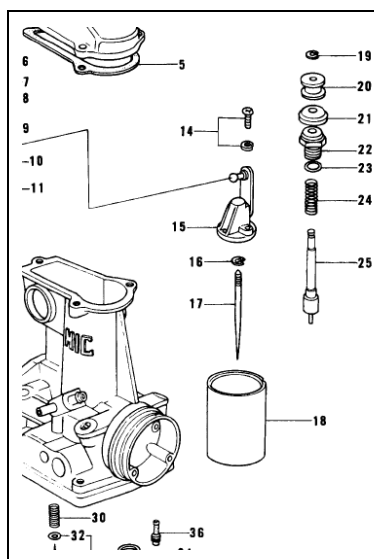
4. Needle Setting. Slide Height

Don't underestimate just how much effect changing the needle height by just one notch has on the carburetors. It's relatively easy to do.

Take the top off the carb body and

	
<p>Remove the bolt that holds the slide lifter to the arm (this is a Z1 carb – 7mm bolt)</p>	<p>There are 2 screws that secure the slide to the bottom of the lifter; remove them and the slide will come out of the tops. The needle is then just tipped out.</p>

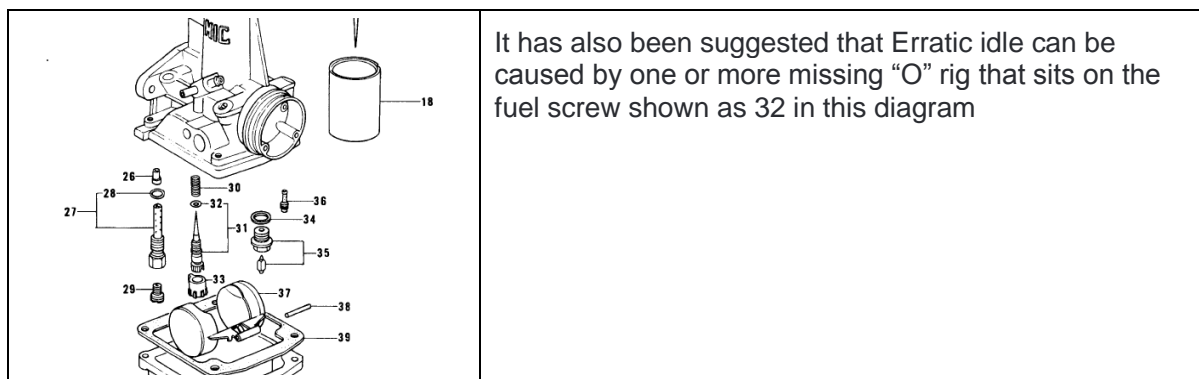
The physics is relatively simple. The taper on the needle acts as a “stopper” in the needle jet. With the circlip raised, the needle is lowered and more fuel is “stopped”, making it leaner.



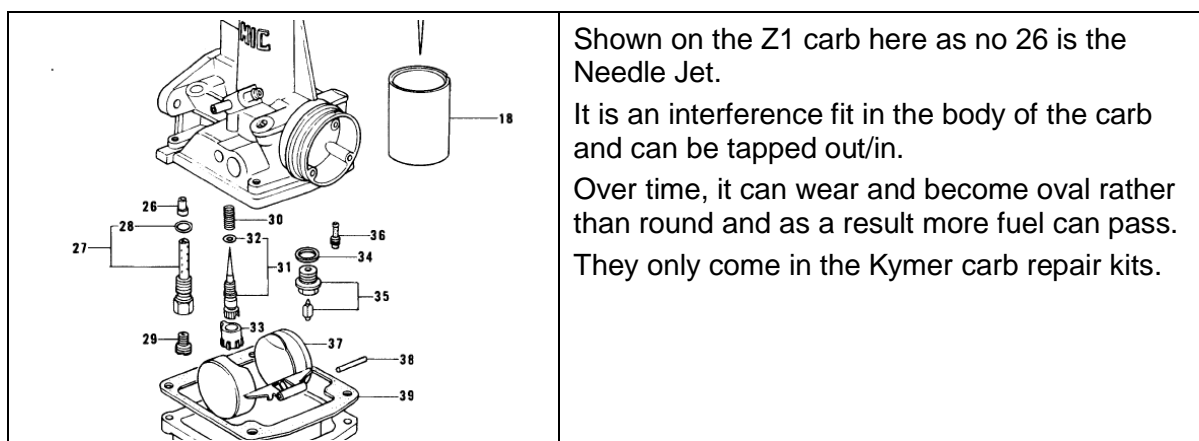
It may be a bit fiddly, but you may be able to fix a running rich issue without even spending any money!

The genuine one is still available from Kawasaki.

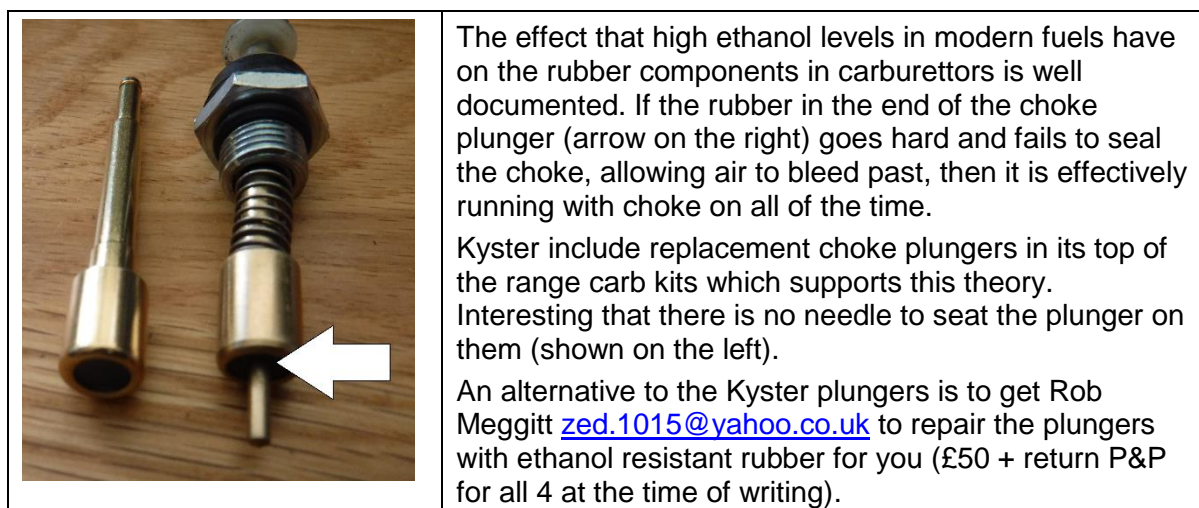
It has been suggested that as the carbs age, the hole for the pilot screw gets bigger and the screw itself needs to be screwed in further but the springs are too long (when fully compressed) to enable it to go in far enough. Check it without the spring.



7. Running Rich – Worn Needle Jet /Seat



8. Running Rich & Erratic Idle - Choke plunger failing to seal



9. Maybe It's Not Your Carbs?

Wired George (<https://www.wgcarbs.com/index.php>) suggests a very quick check to see just how much voltage is getting to the coils.

Get a multimeter and put the POSITIVE probe on the coil power wire. This wire is attached to a lug on your coil and will be either yellow/red, pink or red (depending on Kawasaki model).

Put the NEGATIVE probe on a frame or engine ground. Put the multimeter in VDC scale. Turn the key on with the kill switch in the RUN position. You do not have to start the bike. If you get less than 12 VDC, your coils are being robbed of power.

When I have done this, even on a bike with a brand new loom, I don't get 12 volts.

Wired George has published a fix that enables the coils to get their power directly from the battery.

<https://www.wgcarbs.com/index.php/using-joomla/extensions/components/content-component/article-categories/89-coils>