

Leaking Carburettors

We know one of the main issues that we have with Zs is carburetion and in particular, fuel coming out of the overflows. We probably get more calls about this than anything else.

We are increasingly of the opinion that getting the float height right is more critical to the correct running of your Z than you may think (running rich, fouling plus etc) and almost certainly the cause of fuel overflow.

Logic dictates that if you have fuel coming out of the overflows the fuel height in the carburettor is too high and the bike will be running incorrectly (rich).

If you have a look just how far the overflow tube is above the top of the carburettor bowl (and the desired operating fuel height) you can see just how far beyond the desired level the fuel must be in order for it to overflow. It stands to reason that if fuel is overflowing from the carburettors then there's no way you can get your bike running as intended.



Our "Carburettor" trouble shooting guide covers how to check the float heights. 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. People on the forums have even set the height as high as 28mm to get the fuel height right. We start by aiming at 25mm, but achieving that can be a challenge.

This covers how we address the problem.

When we get a bike and check the carburettor float heights, they are nearly always low. In short, that means when we put the vernier on the inverted carburettor it will be 20 to 22mm. Not the required target of 25mm.



No idea why, if anyone can tell us please do. It could be that the needle valve has lost its “spring”, or the seat itself has worn and the float is therefore allowed to drop too far as a result.

New needle valves and seats come in carburettor repair kits. There is little doubt that some of the cheap aftermarket needle valves are just not up to the job and are the source of the problem.

At Zpower we can still sell the original Kawasaki float valve assembly (Z1 part number is 16030-017, later models, 16030-027) but at about £75 a pop you are looking at a £300 spend to replace them with the original parts.

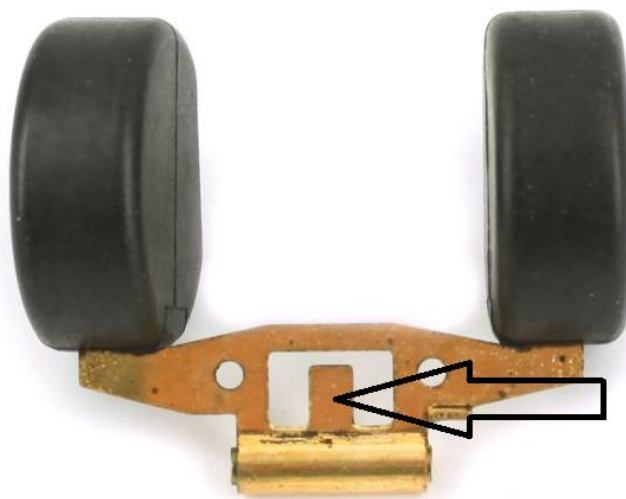
We sell good quality aftermarket needle valve assemblies for a fraction of this, also the needle valves can be purchased on their own. We have sold lots of them. From our own experience and feedback from customers we know that this *sometimes* fixes the problem – but not always.



(don't ask why the photo has the needle in upside down – I don't know)

If the float height is still too low with new needle valves (or needle valves and seats that you are happy are not worn), to increase the float height, the obvious thing to do is to bend down the tab in the middle of the carburettor float (below).

Obviously, that's what it's there for isn't it? To facilitate the adjustment of the float height?



Well. Yes and No.

In practice, if this tab is bent significantly away from the horizontal it does not sit squarely on top of the needle valve and as a result it fails to seat the valve properly and shut off the fuel. Result is incorrect fuel height and fuel coming out of the overflows.

So how do we go about achieving the right float height?

In an ideal world, fitting a slightly longer needle valve would fix the problem. Dave Marsden dragged from the dark recesses of his brain that fitting an XS1100 needle valve would work. In practice, they are no longer than the Kawasaki Z ones. If anyone has found one that works, please let us know!

It's not text book, but this is what we do.

To raise the float we put two (we have sometimes put 3) washers under the needle valve seat. We are fortunate to have lots knocking about, but new washers come with new seats and carburettor repair kits.

This successfully raises the float height; however, it introduces another potential problem. The tolerances on the carburettors are so tight that, having raised the height of the needle valve seat by the thickness of a washer, when you come to insert the pin that holds the float in place it sometimes catches on the needle valve seat and doesn't go in.

If it goes in and the float moves freely – happy days. If it doesn't, we take a Dremel with a small grinding tool and put a small chamfer on the edge of the needle valve seat (take the needle valve out first). This allows the pin to be inserted freely.

With 2 (or 3) washers under the needle valve seat and a small chamfer on the seat itself to allow the pin to be inserted and the float to move freely, you can get a float height of circa 25mm + with the tab on the float more/less horizontal. In our experience, this fixes the problem of overflowing carburettors and the other running issues associated with fuel heights being too high (running rich etc).