



RUCKUS ZOOMER Metropolitan

- HOW TO SHIM NEEDLE -

Soooo, you've got the Baddest Ruck on the block after your Airbox removal intake kit and exhaust mods, and you've jetted the hell out of it to get it dialed in... yet the midrange still feels iffy. What can you do?

Do you notice:

- **Hesitation** at around 15-20mph?
- **General lack** of power in midrange?

Well, here's how to get your Midrange Back.

What you'll need:

- > Medium Phillips Screwdriver
- > Long Needle-nose pliers (or a small phillips screwdriver) We recommend using a 6mm socket instead of needle nose to get the needle out
- > ONE M2.5 flat washer (or M3 will work if M2.5 is not available in your area. From what I saw, they are the same external diameter. The internal diameter is the only difference)



Pop the lid on your Ruck and here's what you see. The plate right on top is where we'll be concentrating.



Unscrew the two screws on the top of this plate and very carefully lift it. Notice the spring under the plate.. be very careful to not let this go flying.



With the plate removed, here's the slide piston spring and diaphragm.



Very carefully lift the little loop and pull the diaphragm up out of its seat in the top of the carb.



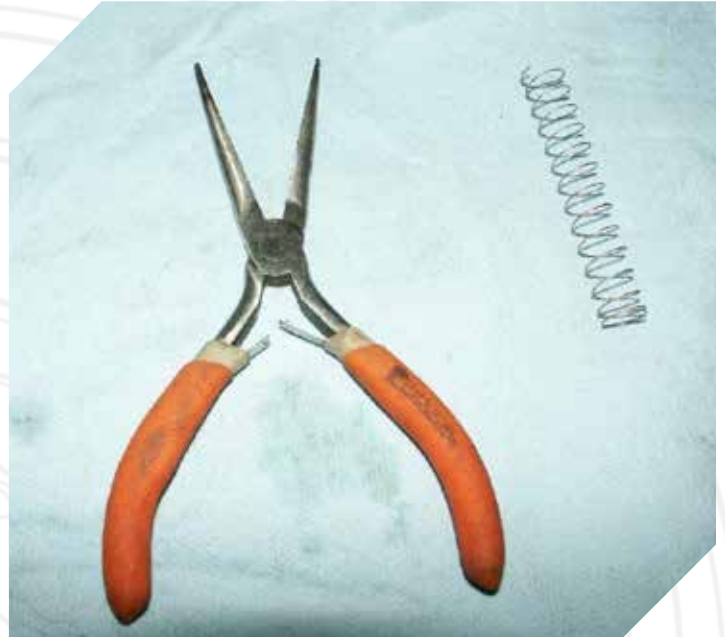
The diaphragm is attached to the top of the slide piston. Hanging from the bottom of the slide piston is the needle. Move over to your workbench and **Do NOT drop this assembly as it could bend/break your needle!**



Obligatory overexposed view of the piston spring and slide piston assembly on the workbench.



Here's a super detail shot of the stock needle position in the slide piston. Notice the little ledge on the needle where it meets the piston.



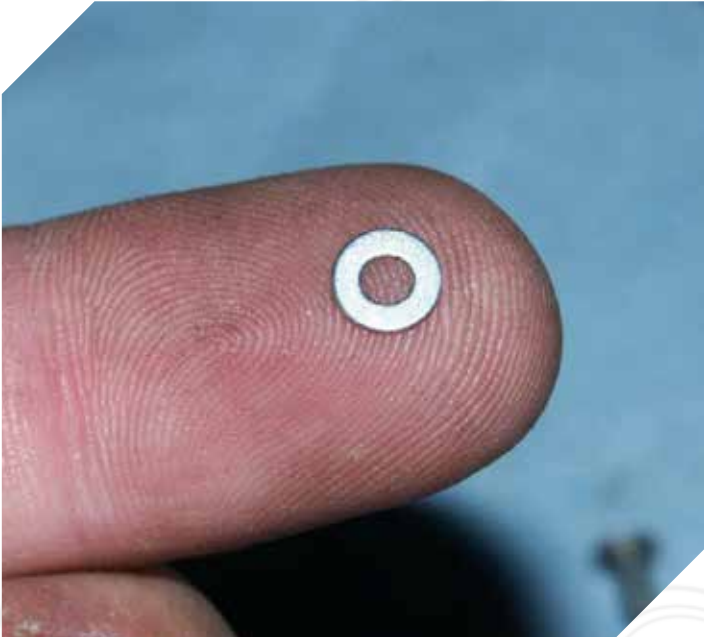
Grab your loong needlenose pliers or the preferred 6mm Deep socket.



Here is what we need to remove now.. The three sided retainer sits inside the top of the slide piston. Notice the ears inside the piston. There are cams on the retainer that slide underneath to hold it in place. Using the pliers (or a small phillips screwdriver), grab and carefully rotate the retainer counterclockwise. Do not force it. **OR USE A 6MM SOCKET AND IT WORKS PERFECT.**



Here's the retainer and needle removed from the piston assembly:



Next, grab your big-ass M2.5 washer. Don't breathe, you might lose it. :)

Put the washer on the needle like this. It'll slide all the way to the base and should seat flush at the end.

Now, put the needle with washer back into the piston, taking care not to drop the washer inside the piston.

Re-install the retainer and lock it into position by turning it clockwise while pushing downwards on it.

Note that it will be a bit more difficult to install with the washer on the needle, but it WILL slide in place.

Just don't force it / break it.



Here's what you end up with. Notice that the little ledge is now flush with the face of the piston. This effectively richens your mixture throughout the midrange RPM by holding the needle a bit further out its seat.



Now time for reinstallation. To reinstall the diaphragm, position it like this and carefully work the bead of it into its seat on top of the carb.

Once the diaphragm is seated, you can then push it downwards, at which point it'll look like this.

Insert the spring into the top of the piston.

Reinstall the plate (make sure the dimple of the plate sits inside the spring) and screw it down into place.

Check it from the side to make sure it is sitting flush with the top of the carb.

If not, remove it and reset the diaphragm.

