

## IZH-46M Repair of Leak On Closing Action

M.I.T. Sport Pistol Club

Doug White, 11/28/13

We have a couple of IZH's that would pump fine, but as soon as the Breech Block Lever (#57) was lowered to close the breech, there would be a faint hiss as the gas escaped out of the top of the action. The same symptom was mentioned by another owner on-line, and they managed to fix it with a thorough cleaning & oiling of the firing valve area. I tried that, and the first attempt seemed to work, but only briefly. I was concerned the inner firing seal ("Locking piece", #31) might need replacing, which requires a fairly major teardown of the pistol. The fact that it sealed OK until the action was closed made me suspect it might actually be something in the firing mechanics, which might be an easier fix.

A careful study of the mechanism ensued. When the breech is fully open (Figure 1), the Valve Plunger (#17) is cammed forward by the breech block lever. It has to go forward far enough for the Valve Sear (#14) to pop up into the firing position. Depending on the fit of the various pieces, there can be a significant gap between the back of the valve plunger and the valve sear at this point.

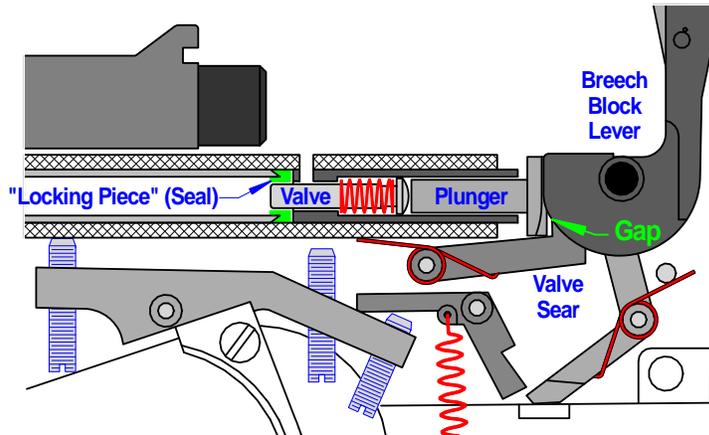


Figure 1: Valve plunger & valve held forward by breech block lever during pump stroke

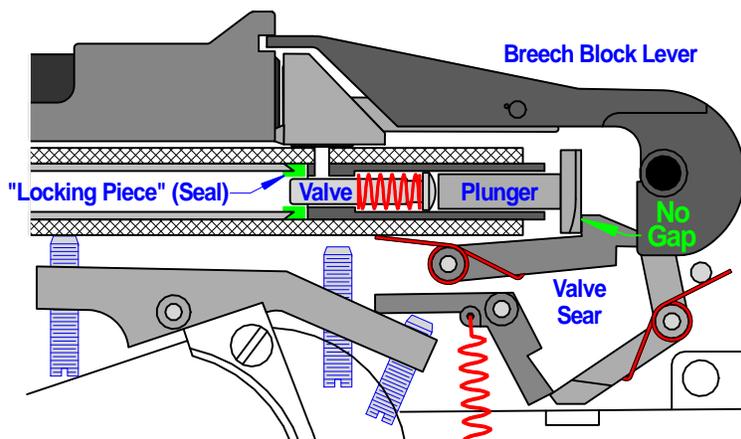


Figure 2: Plunger & valve retract until plunger is caught by sear when lever is closed

Figure 2 shows the relationship of the various parts when the action is fully closed. At some point, as the breech block lever is lowered, the valve and valve plunger move to the rear until the plunger is caught by the valve sear. This is when the leak occurs.

Given that the pistol worked fine for over a decade, something had clearly changed. Either the rear portion of the seal, or the area where the valve plunger & sear meet (or both) had become worn enough to create a small leak.

Not wanting to do a complete teardown unless it was absolutely necessary, I checked our spare parts, and made an interesting discovery. Figure 3 shows the original Valve, and one of the two newer spares we have. The overall lengths are nearly identical, but the forward end of the original valve is much more rounded. The cylindrical sealing portion of both new valves continues forward about a half millimeter more. This is right where it is needed to maintain a good seal as the valve retracts to meet the sear!



Figure 3: New & old valve designs

I installed one of the newer valves, and the problem appears to be solved. A dozen test fires showed no sign of any leaking. I suspect that Baikal discovered this problem over time, and modified the design of the valve to eliminate this issue.