Kingston 4 Ball Carburetor Model E, as Used on Copper Jacket Dispro Engines.

Are your balls still floating?

The Kingston "Floating Ball" carburetors were advertised as being "automatic" and you only had to make one adjustment. I presume that was the fuel needle valve.

How they work is that with every revolution of the motor, the vacuum created lifts the balls and allows just the right amount of air into the mix. If you rotate the flywheel by hand you can clearly hear the balls "jump" with every revolution.

When new, and as stamped on the screw caps that cover the balls, the vertical movement is only 1/32".

Fig. 1

After many years of use, the constant up and down movement, perhaps at least 500 times a minute during operation, will eventually wear the seats. As the seats wear, the ball movement will become less vertical and its erratic movement will create a tapered hole. The balls will eventuallly work their way right through and rest on the floor. The balls are now definitely not "floating" and working as intended. This was the case with the carburetor on my 1926 Dispro.

Fig. 2

My solution was to fit new seats. At first glance, this appears to be quite a complicated task because the only access you have is through the screw cap holes. This is how I accomplished the task.

Remove the screw caps and the balls and thoroughly degrease the area around the worn seats. I use Methyl Hydrate which is a form of alcohol used to thin shellac. Thoroughly dry.

Obtain some bronze bushing 7/16" OD and 5/16" ID, available from Bearings Canada. On one end of the bushing, use a Dremel 1/2" diameter ball grindstone to make a concave seat for the ball. Now cut the bushing to length, which will be about 1/8" or 5/32".

Fig. 3

The trick now is to hold on to these seats to place them in position. Wedging them on to the end of a popsicle stick or something similar works well. You may also need to insert a narow strip of wood about 1/4" thick under the hole to support the new seat and stop it from falling through. When the fit is right, use a toothpick to apply JB Weld and fix in place. Let cure for 24 hours. Make sure no JB Weld gets on to the actual seat.

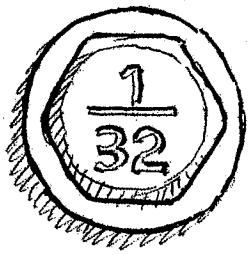
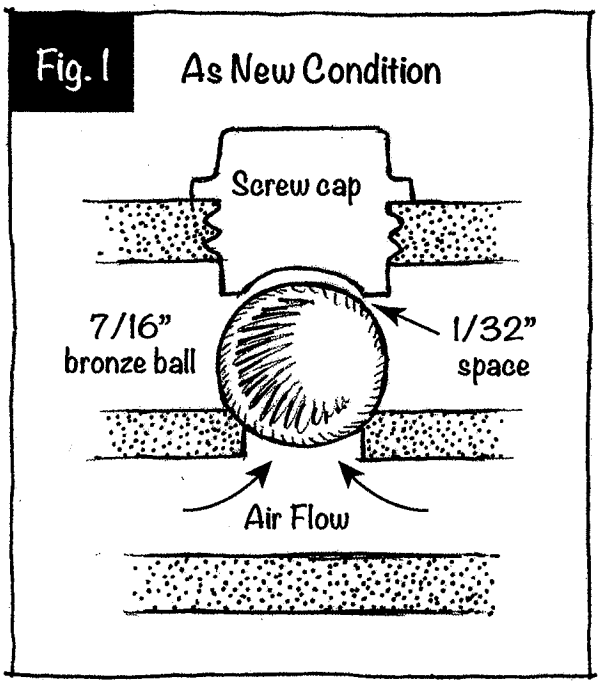
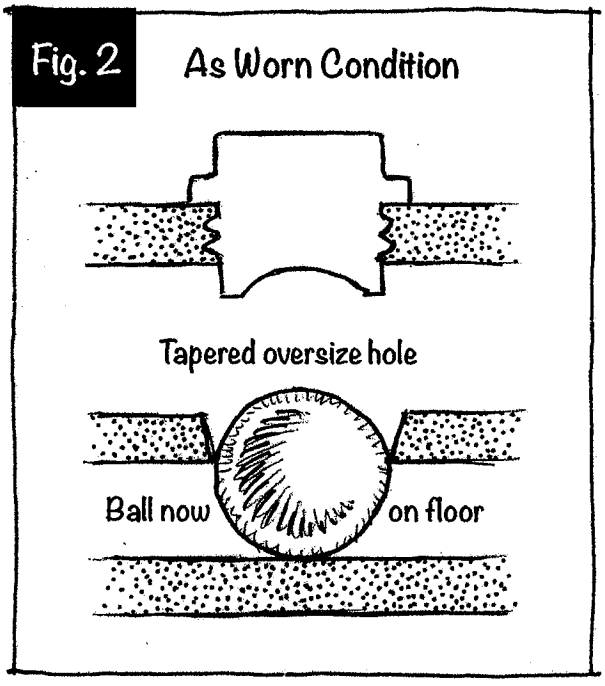
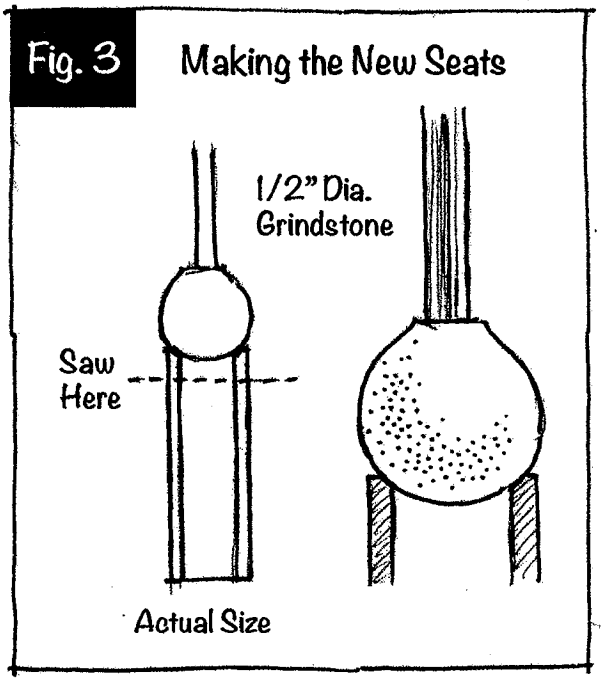
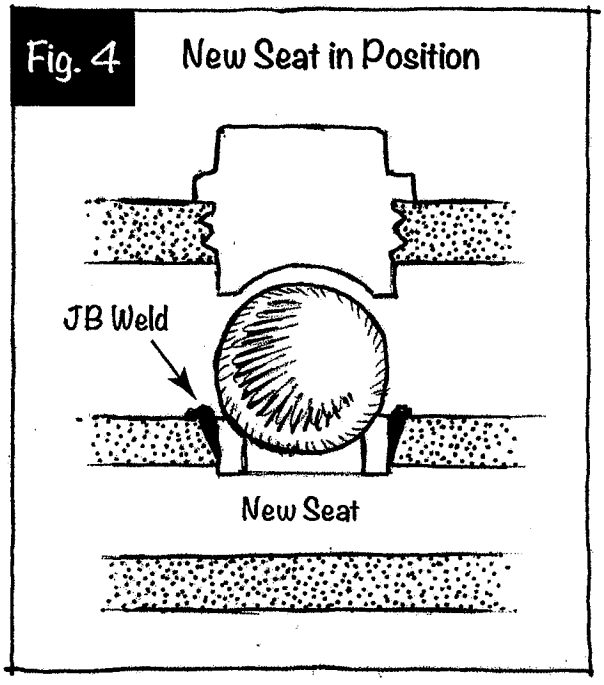
Fig. 4

Now, only three more to go!

It may not be a perfect precision job but this fix has worked for many years without any problems.

Paul Jenner • 2025 Fall Workshop

Kingston 4 Ball Carburetor



Making and Fitting New Seats