

Extending the Life of a Low Pressure, High Volume Air Pump, Version 1.1

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This is my Texsport low pressure/high volume air pumps. It is useful when pumping up my inflatable kayak. When I bought my second-hand kayak, it came with this second-hand pump. I did not get any airflow until the plunger was about 3 inches from the bottom. Lots of wasted motion and not a lot of air.

After unscrewing the top, I could see that the bore was out of round. Given that it was plastic and rather thin, this was no surprise. After trying a few things including applying temporary clamps and also wrapping it with baling wire, I hit on a trick that worked. I figure that this will extend the life of the pump but have no illusions of this being a permanent fix. However, given the cost and effort, I'm happy.

I took an old plastic file folder, rolled it up, and slid it down the bore. Then I marked the top and pulled it out.



Using my trusty paper cutter², I cleaning cut on the mark. The goal was to have the plastic sheet fit snug top to bottom. This ensures that the piston can't get under or over the sheet where it will catch.



Then, I rolled up the sheet and again slid it down the bore. This reduced the inside diameter by about 0.01 inches from top to bottom. There is a small vertical overlap but it is harmless.

Before inserting the plunger, I generously greased the seals with silicone grease.

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² I could have done it with scissors.

This ID reduction did the trick. I was able to slide the piston back into the newly modified bore and get pressure all the way from top to bottom.

As a final test, I used the pump to fully inflate my kayak. It is still a bit of work but at least it is all productive.

I welcome your comments and questions.

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