

SAFELY DE-PRESSURIZING AN AIR SPRING

– John M. Herrmann

¹ CopyLEFT protects this document

NOTE/DISCLAIMER: Air springs contain tremendous pressures. Approach CAREFULLLY, and ALWAYS use suitable personal protective equipment. I was very cautious doing this, and I can't be there with you to be sure you're doing it right. Proceed at your own risk!

I've often used various odd parts of old office chairs, which I get at Goodwill for a very few bucks. For instance, the base "spiders" make dandy Lazy Susan "bearings." I've also kept a few of the lift cylinders, hoping I could find a way to "harvest" the nicely polished rods, etc.

But I've been paranoid about cutting into them, given the tremendous pressures involved!

Today I figured out how to do it safely! The breakthrough came when I realized how well polished the rod has to be, in order to maintain the pressure seal against the internal gaskets.

I started by grinding a tiny groove in the rod with a Dremel disk. It doesn't need to be deep, and probably doesn't need to be as long as I made mine (~1/4"). The groove is visible in the photo below, just outside the cylinder section.



Next, I put couple of washers around the release button at the other end. Normal air springs don't have buttons, so the washers probably aren't needed. I just required a flat surface when the button was depressed, as it doesn't retract completely.

¹ You are free to copy and distribute this document, but not to change it.



Finally, I put the air spring into a suitable (ie, long enough) gluing clamp. Before tightening the clamp and compressing the air spring, I made sure that the groove was facing down toward the table. I also placed a rag atop the air spring, so that any oil or whatever wouldn't fly around.

I then slowly tightened the clamp. The first 1/8" or so retracted the release button. After about an inch or so more, I started to hear a slight hiss.



I left the assembly alone until the hissing stopped, then closed the clamp a bit further to be sure I'd released the last of the pressure.

Once that was done, I took the deflated air spring to the lathe, sliced the ends off the cylinder, and completed the deconstruction. The "harvest" was not just a nice piece of very straight, hard, and highly polished shafting, but also some heavy walled tubing (the outer cylinder) and a piece of thinner tubing that was inside the assembly.

