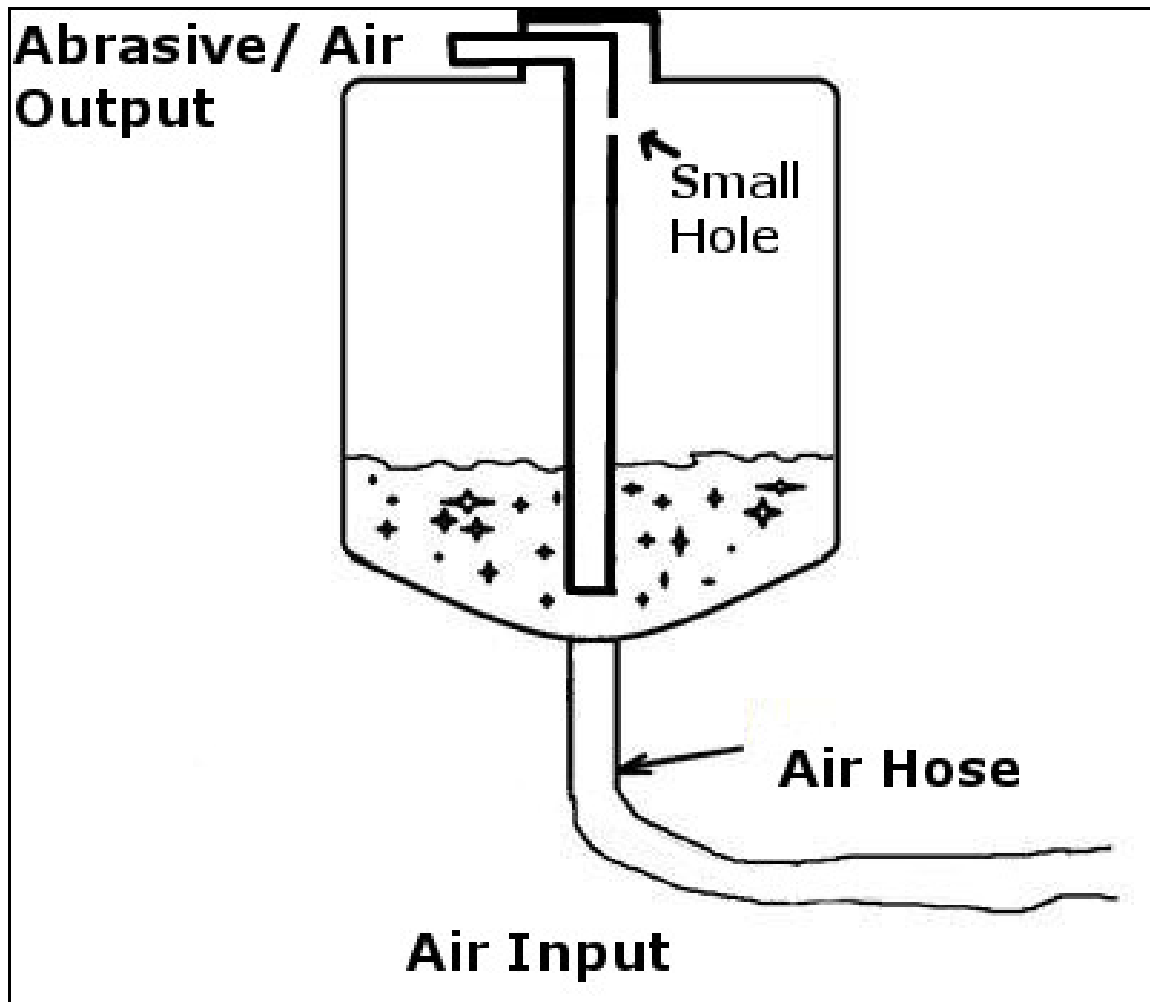


# More Advanced Modifications for the Pressure Pot



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## Intro to this modification

I don't know if you have been staying up to date about what types of projects I have been working on through my blog and newsletter, but one of my latest plans is how to make a mini sandblaster which is shown here: <http://www.sandblasterinfo.com/sandblaster-manual/mini-plans/>

At the same time, I was testing ways to make my own so called "dust-less sandblaster" which is named after a company's wet sandblaster design. I talk about it on the blog here: <http://www.sandblasterinfo.com/dustless-sandblasting/>

The reason I bring this up, is because these advanced modification suggestions use a similar design to both the mini sandblaster I made and the wet "dust-less" sandblaster.

The mini sandblaster was meant to be used with very fine abrasive that uses 220 grit or finer. The first mini design was made out of a camping type propane tank with the traditional pressure pot design as shown below. It worked okay for a short period of time, but it would stop and be a total nuisance.



I tried every little modification, so I started looking at the dustless sandblaster design which is basically a standard pressure pot upside down. Eventually, I tested this as shown below and it has been working great ever since.



## Why Separate These Plans?

I decided to include these more advanced modification plans as an extra bonus and keep them separate because:

- I haven't actually tested this on the larger sandblasters yet
- I dedicated my plans on easier solutions because many people don't want to modify their pressure pot this much.
- It may only be necessary for people that use fine grit sizes.

If you have been still having abrasive flow problems or want to improve them even more, you might want to reroute the sandblaster so that it has an upside down design. The modifications will require patience to do and some extra parts.

Since I haven't done this, these plans are merely a suggestion and I can not confidently say that it will work, but I do think it will. Listed below are my suggestions.

### 1. Direct Air Line to Bottom

One of the things that needs to be done is to unscrew the bottom tee and find some fittings that will allow you to connect the air hose in it's place.

The more I use my mini sandblaster, I think the 3<sup>rd</sup> valve (known as the throttle valve) is not necessary. You might want to try omitting this so you will the abrasive valve and the air valve only.



My mini sandblaster, shown above used 90 degree elbow fitting with a male and female end. You will need a 3/8" size which should screw directly into the bottom.

Instead of that barbed fitting, you can connect a ball valve with a 3/8" pipe nipple, followed by a 3/8" to 1/4" bushing, and then the air hose connector will screw directly on.

## 2. Route the bottom mixing abrasive valve toward the top

The valve doesn't necessarily have to be directly straight out of the top. Most of the pressure pot sandblasters have the fill up port on the top with a wide opening. So I recommend you place it on that port where the air originally went in which has a horizontal hole near the top. See picture below which points that out.

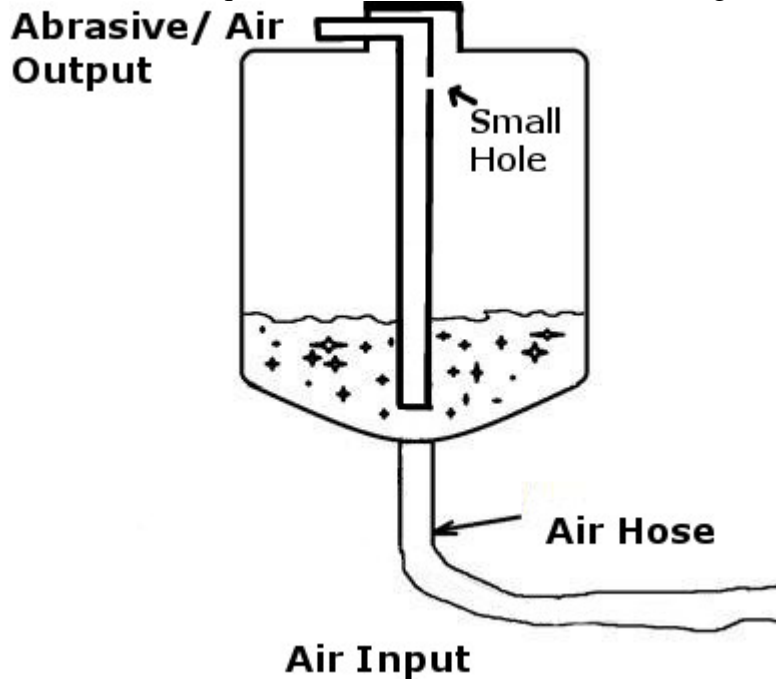


Simply screw on the abrasive valve at the end of this air pipe port. Then connect a barbed fitting (like the one shown below) to the end of the valve so you can slide the abrasive hose over it.



### 3. Tricky Part: Adding Internal Pick up Tube

Now the tricky part is to add an internal tube which will help carry the abrasive up toward the top. You will have to rig up a metal or plastic tube that will start about an inch from the bottom and insert into the top pipe at a 90 degree angle since the hole is horizontal. At a quick view, it should look like the design below:



### 4. Modifying the Internal Tube: Part 1

Remember when I suggested that you might not even need to use the 3<sup>rd</sup> throttle valve? The reason I suggested this is because I am finding that it is not very helpful on my mini sandblaster. It seems to cause more problems with the flow because when opened, the air path was going out more toward the nozzle rather than through the tank with the abrasive. Remember, pressurized air goes toward a lower pressure first.

Instead of using this valve, I have drilled a small hole near the top of the pick up tube which is directly inside the pressure pot. I drilled it near the top so that it mixes in some of the pressurized air with the abrasive being fed from the bottom. Take a look again at the diagram I showed above and you will see where the hole is. This hole dilutes the abrasive mixture a little bit and adds in more air. You will want to test different size holes to find what works the best. A picture below shows an example of a small hole I drilled out for the mini sandblaster.



## 5. Modifying the Internal Tube: Part 2

The great thing about this design is that the air going in the bottom of the tank disrupts the abrasive so it never settles in one place and is constantly being mixed up which prevents it from binding up. The bad thing is that this delivers way too much abrasive to the valve and nozzle. I fixed this by constricting the amount of abrasive from going up into the tube. This was done by inserting a plug into the bottom side of the tube and drilling a much smaller hole out for the abrasive to enter. See the photo below on what it looks like.



That is all there really is to this modification. If you are mechanically inclined, it really is not too hard to do, but I assume most people would not want to modify it this far.

Be sure to experiment with the different size holes. Start small, test, then work your way up until you find the perfect size holes.

Since I have not tested this for the large sandblasters and you try it out, please let me know how it worked out for you by emailing me at [eric@sandblasterinfo.com](mailto:eric@sandblasterinfo.com) . Feel free to ask questions also. Thank you!

-Eric