# Pressure Pot for Resin Casting

by Big Shed

originally posted on Australia's Woodwork Forums

http://www.woodworkforums.com/showthread.php?t=76319

Have just completed setting up my SuperCheap Auto pressure pot for resin casting and blank stabilising.

Having looked at most of the pressure pots set up for this, most in the US supplied mainly by Harbor Freight, I was somewhat daunted at first by the complexity of some of the setups.

Granted some were dual purpose pots, set up for both pressure and vacuum.

A recent thread on IAP[1] conformed more to what I considered a workable minimalist approach, eliminating most of the complexity of previously viewed set ups.

First order of business is to strip everything off the lid of the pressure pot, then remove to paint intake tube from underneath the lid.

A lot of people have reported great difficulty with this task, I was however fortunate that fairly firm pressure on a pipe wrench got it moving and I got it removed. If you can't get it removed, or don't want to, just cut it with a 4" grinder and a cut off wheel.

When you look on top of the lid there are 2 threaded entrance holes, one is 3/8" BSP (the bigger of the two) and the other apparently 1/4" BSP (more on this later).
I wanted to use the bigger (3/8" BSP)for the air inlet.


This needed to be stepped down to 1/4" BSP so it would take a 1/4" BSP fitting. I bought all my fittings from the local Bunnings Warehouse.

I then fitted a 1/4" BSP cut off valve and as my air system in the shed uses Ryco fittings, a Ryco male plug.

If your air fittings are different you would obviously use a male fitting to suit, eg Nitto.

Here we see the inlet side completed

Most of the designs I have seen keep the supplied regulator. I don't see the need as all we are doing is bringing the pressure pot to a certain PSI, so all we really need is a pressure gauge.

The original T piece was going to be used for this with the gauge mounted on one end, the opposite end fitted to the smaller of the 2 threaded holes on the lid and a pressure relief valve fitted to the male thread coming out on the left. This didn't work as the thread opposite the pressure gauge (male 1/4" BSP is a very sloppy fit and the thread at right angles is the right fit for this hole and what's more it doesn't take a female 1/4" BSP fitting. Don't quite know what it is, but it was originally the thread that fitted that hole, so a change of plan here.

Here we have the original right angle fitting that held the regulator fitted back to the T piece with the pressure gauge mounted directly to it. Also we have a 1/4" BSP cut off valve fitted to the other side of the T piece.


I could have used the original safety pressure valve here, but didn't see any purpose in this.

When you are putting the pot under pressure you have full control with the valve on the inlet, if you are worried about accidentally over pressurising the pot (max working pressure is 80 psi) you can set the regulator on your compressor to 80 psi.

The cut off valve fitted can also be used to lower the pressure in the pot if you go a bit higher than you wanted to, whilst the inlet hose is still connected.

Releasing the pressure before opening the pot after the blanks are cured can be done with either valve.

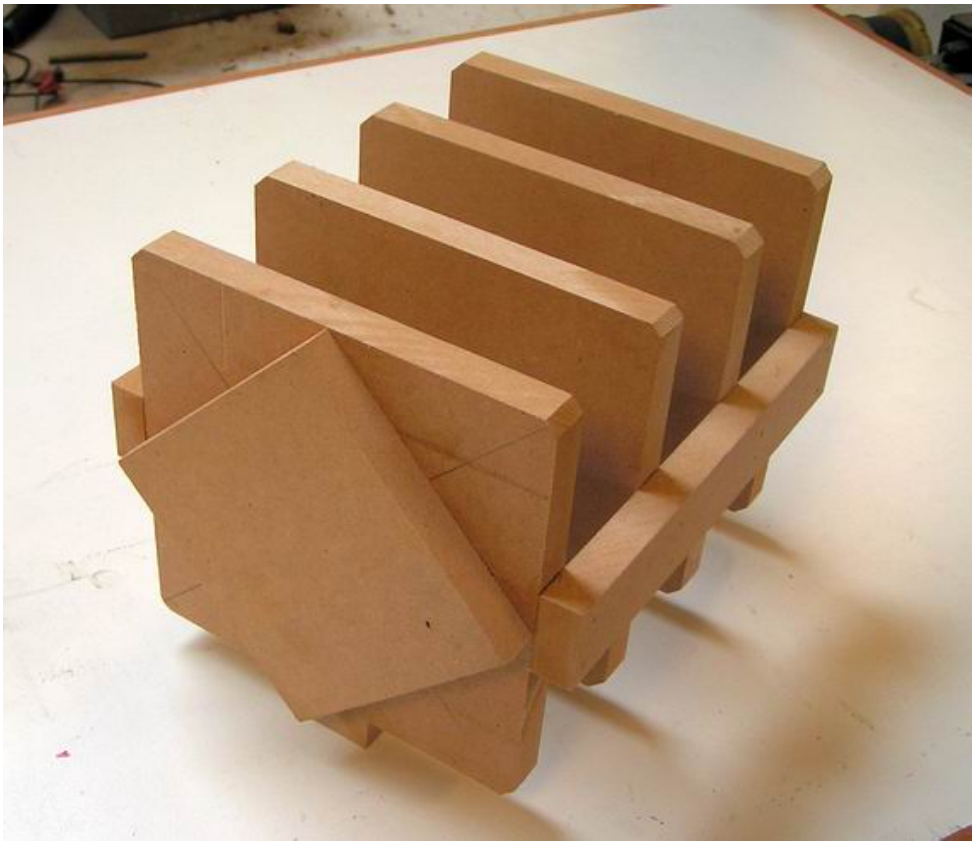
If you are worried about not using the safety valve, you can fit that instead, it can still be pulled to release pressure. There have been quite a few reports from people that this safety valve is the main culprit for the pot losing pressure over a period of time, so I eliminated it.

I have used joint compound on all joints as well as teflon tape. So far no leaks.
I am now ready to do my first casting and will report on that in due course.

I have made up a 3 tier rack for inside the pot to hold my moulds, although I only have 2 at this stage.
The rack is a fairly good fit inside the pot so it is easy to lower without too much lateral movement.

All shelves are 170mm square with about 6mm cut off the corners.

I have fitted a diagonal piece to the bottom which locates it in the dished bottom and a handles for ease of handling.



The top shelf diffuses the incoming air and prevents it blowing on the uncured resin.

This pressure pot and rack has now been in use for nearly a year and has stood the test of time well.