

# Bottle Jack Press

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This little bottle jack press is very handy for relief printing, and it can even handle most collagraphs and mono-prints. I have shown it with a 6-ton jack; but if you are doing only relief work, a 2-ton jack would probably be sufficient.

There are many designs for such presses available. In some the jack sits stationary on the bottom and raises the bed, with the unmoving platen fixed to the top bar. I personally prefer a press with a fixed bed and a moveable platen, and that is the design I used for this press. This press has the same action as a bookbinding (or nipping) press, and could be used for that.

The top and bottom bars are made by screwing and glueing two pieces of 2x4 lumber together. This construction provides ample strength. One could use 4x4 material, but it will be more prone to cracking and not be as strong as the laminated design.

I used slotted steel angle for the uprights ... 1/8 inch thick, 1 3/8 inches per side. This material is readily available, cheap, light, and amply strong. Also, it need not be drilled. The wooden top and bottom bars must be drilled through to take the bolts which attach them to the uprights. I used threaded "ready rod" for the through bolts, cut to appropriate length. I used wing nuts to make disassembly easy.

I use bungee chord to retract the platen and the jack. One could use springs, but they are expensive to buy in an appropriate size. Bungee chords are cheap and easy to find, and they work well. If the bungee chord available to you is too wimpy to

raise the jack, simply double it. Some designs dispense with the bungee chords and springs altogether, relying on retracting the jack by hand. I find this to be exceedingly tedious, especially during an edition.

I used old 5/8 inch thick melamine counter top material for the bed and the platen, but one could use plywood. The bed is well supported from the bottom, and one layer is sufficient. The platen on my press is just two layers to improve stiffness. In my design, the two layers need not be attached to each other, as the pressure of the bungee chords and jack will hold them in place.

The bottom plate is centered on the bottom bar. Supports of 2x4 material are attached to the underside of the bottom plate at each end, parallel to the bottom bar. I used angle brackets to attach the bed to the bottom bar and the end supports. Be sure the screws for the brackets are shorter than the thickness of the bottom plate so they do not come through the surface.

The platen needs to have some play in order to be self-levelling. But too much flop is to be avoided. I put two guide screws in the edge of each side of the platen to prevent too much back and forth sway. You may find it desirable to use blocks of wood or dowels attached (glued and screwed) to the edge of the platen for the same purpose. The side to side motion of the platen is restricted by the uprights.

The jack should be centered on the top of the platen. If you find the jack shifting around in use, just glue some corner guides to the top of the platen to match the base of the jack.

It is undesirable for the ram of the jack to be digging into the wood of the top bar. And it is desirable to have some means of keeping the ram centered on the top bar. Because I had a piece of scrap, I used a piece of box sectioned steel tube, with a hole cut out for the ram, screwed to the underside of the top bar. A piece of thin sheet metal and a couple of angle brackets would serve the same purpose.

In use, the printing plate needs to be well centered on the bed. I use a ruled sheet of plexiglass. Place the plate with the paper on top in the center of the plexiglass sheet. Cover the paper with whatever felt blankets or backing material you choose to use. Then just slide the plexiglass in place on the bed.

To apply pressure, be sure the valve on the jack is closed ... most turn clockwise to

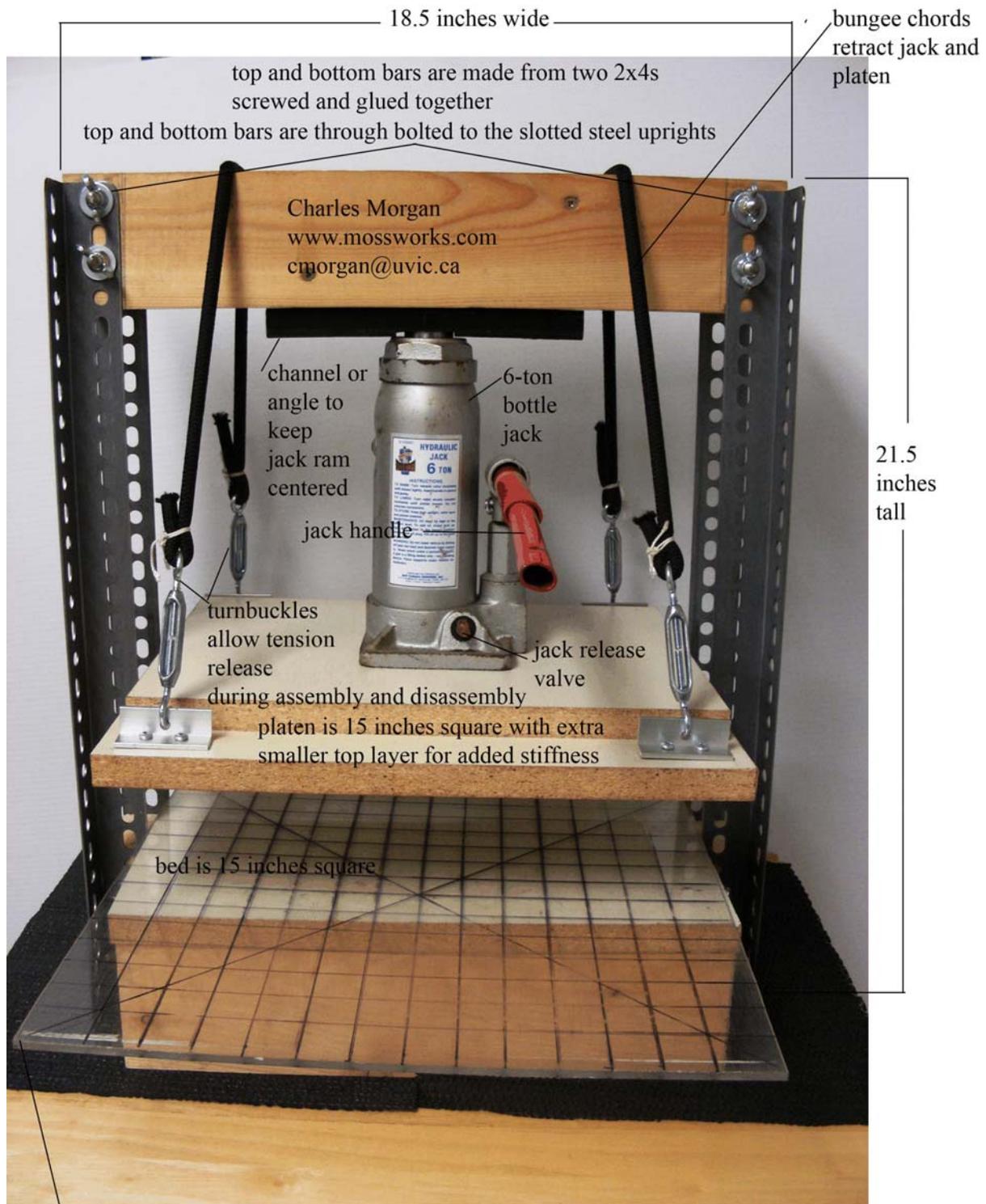
close. Then place the jack handle in the appropriate recess and pump up and down. This action will extend the ram, lowering the platen. When contact is made, continue pumping until the desired pressure is obtained ... experience and the quality of the print will guide you.

To release the pressure, you must open the valve on the jack. Most jacks are designed so you can use the jack handle for this purpose. One end of the handle should be a close fit over the head of the valve. Turn in a counter clockwise direction to release the pressure, and the jack and platen should start to rise. Close the valve when you have enough clearance to slide out the plexiglass sheet with your print and plate.

None of the dimensions nor the material is crucial. Use whatever material is to hand and adjust the dimensions appropriately. The only proviso is that if the bed is much larger, then a stronger jack must be used for large plates.

If you have any questions, problems, or suggestions, please feel free to contact me. And of course I would be delighted to hear from other press makers and to get photos of your creations.

Cheers ..... Charles



use ruled plexiglass sheet as sliding plate to position paper and printing plate on the bed

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