

How to make a disc punch.

For many conversions or scratch build projects we need small discs: buttons or rivets for instance.

Some punches are available commercially but they tend to be for punching smaller discs up to 2 or 3 mm in diameter and limited to very thin plastic card.

Here is how I made a jig which can punch out nice, clean discs from 1.5mm up to 8mm diameter out of plastic card or soft metal up to 1mm thick.

Some commercial punches call for the punch to be hit with a hammer; a hammer can be used with this jig, but I use a pillar drill which is far easier.



A tool I have because my other hobby is wood working.

Although this is easier to use, a hammer can still be used although it is less effective than a pillar drill.

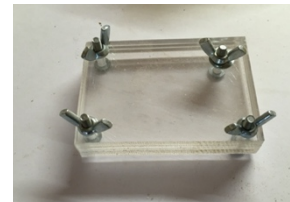


The main body of the punch is made from three small pieces of 6mm thick acrylic sheet - available from a number of internet sources.

I bought a single, larger sheet and cut it down to the size of 8cm x 5.5cm.



Holding the three pieces together with masking tape I drilled a single hole in one corner, inserted a bolt which would hold them all together.



With the single bolt holding the 3 pieces together I then drilled holes in each corner, inserting a bolt as a did.

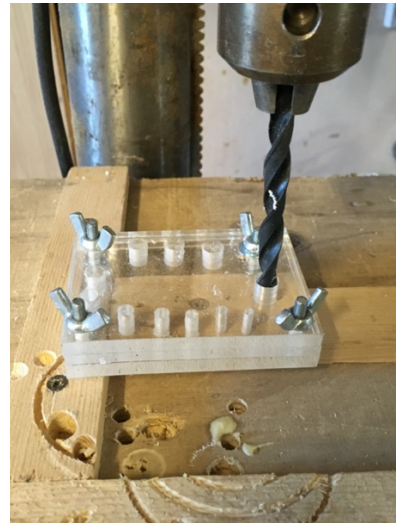
The three pieces should now be held firmly and squarely together.



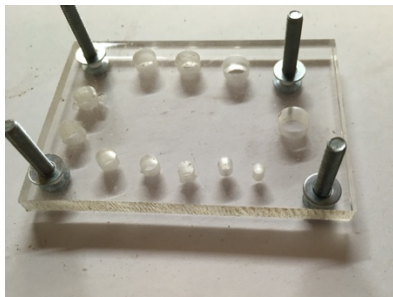
I bought a relatively inexpensive set of metal drill bits. The most important attribute is that the non-drilling end is flat and square.

It is vital that the diameter or the shank of the drill bit is the same as the diameter of the cutting end.

So far, every bit I have seen which drills holes larger than 8mm has a shank of a narrower diameter, but there is space on the jig if I do find any.

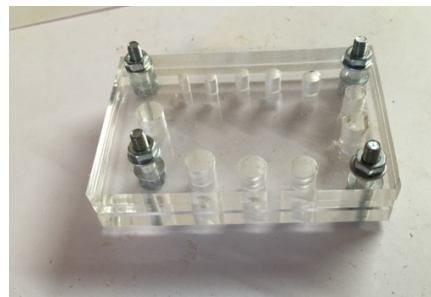


I drilled a hole in the three layers of acrylic sheet with each of the drill bits



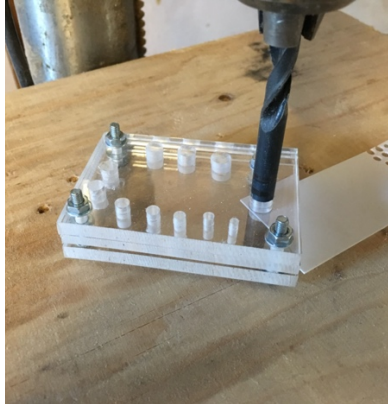
The 3 sheets were taken apart, the bolts re-inserted and a 1mm thick washer placed over each bolt.

These act as spacers to allow the plastic sheet/ metal sheet to be inserted.



The two remaining sheets are added, and using bolts, fixed tightly so that nothing can move.

Construction is now completed.



To use: the drill bit is inserted into the pillar drill upside down so the blunt, square end is at the bottom, and inserted into the appropriate hole with the plastic sheet slipped into the space made by the washers.



By pulling down, the drill bit is lowered, punching out a disc of plastic.