

# *Unbreakable's Guide to Shim Construction and Usage.*

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Here's my guide to making some nice shims to use on padlocks. Shims will only open certain locks, but they are nonetheless a valuable item to know how to make and use.

## *Materials:*

1. Pop or Beer can.
2. Permanent Marker.
3. Ruler.
3. Scissors that you're not afraid to wreck (you'll be using these to cut the pop can)  
**OR** Tin snips or any other tool meant for or capable of cutting pop cans.
5. A small knife.
6. Needle Nose Pliers.



## *Construction:*

- First, you'll need to cut your can into a rectangular shape. To do this, make your first cut just slightly below the top of the can, in the middle of the tapered part. I started this hole with a knife



- Cut along the center of the tapered part with your scissors. (This cut doesn't have to be straight, just try not to go below the bottom the taper. The bottom of the taper is shown in the picture as the thick black line.)



- Now, cut just slightly below the bottom of the taper. Try to make this line nice and straight.



- Next, cut vertically down the length of the can. It helps if you find a vertical, straight line to go by (like that on the outside border of the nutrition information box.)



- Now, draw a plus sign, making sure that one of the lines of the plus is in line with the last cut you made. Cut up and along all of these two lines. (\*Note. The metal on the bottom of the can is usually really thick. It can be difficult to cut without tin snips. So, if you don't have tin snips, then skip this step altogether, and just follow the next step, and just cut slightly above the top of the taper with your scissors. You'll lose more useable metal this way, but you'll save your scissors, and you'll save yourself a lot of hard work as opposed to if you were to attempt to cut out the plus with scissors.)



You should be able to do this with the can when you're done.

- Next, cut along the bottom of the taper (the bottom of the taper is shown in the picture as the thick black line.)



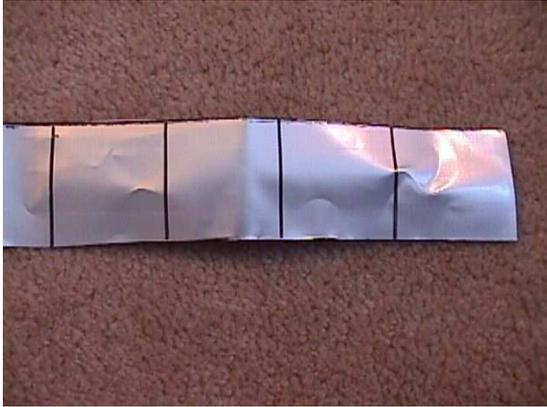
- You should end up with a piece of sheet metal that looks like the piece in the picture below.



- Now, divide the can in half. (\*Note. The dimensions that I use will be to create shims for a standard combination Master Lock. If you need the shims for a lock that is smaller or larger than this, than adjust your cuts as necessary.)



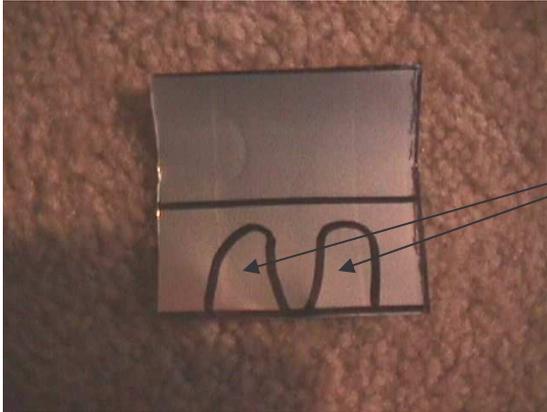
- Now divide each half into five sections. These should be four and a half to five centimeters across. Cut along the lines that you've just drawn. (One of these squares will not be the same size as the others, and that's ok.)



- Now, take these squares, and divide them in half horizontally.



- Now, draw a almost M shape, like the one shown in the picture. Cut this shape out, removing the parts that the arrows are pointing too.



- Now, fold the part above the M in half, so that it ends up just slightly above the two upside down U peaks.



- Now, fold the two bottom flaps up, so that they overlap the last piece that you bent.



- Now fold the entire top section in half and down onto itself.



- Next, fold the remainder of the two bottom flaps up.



- Now, crimp the entire upper section.



- The shim is finished!



### *Shaping and Using the Shim:*

- For shaping a shim to be used on a Master Lock combination lock, I would suggest shaping the shim around a round pencil. To do this, just place the shim on the pencil, and bend it to the shape of the pencil as shown in the picture below.
- If the shim is going to be used on a lock other than a Master Lock combination lock, than I would recommend shaping the shim around the locks shackle (the U shaped piece of metal on the top of the lock.)



- Now the shim is properly shaped!!



- To use the shim, insert it into the left side of the shackle. Push it down until you feel it meet an obstruction.



- Now twist the shim 90° counter clockwise (towards the inside of the shackle.)



- Now just pull on the bottom of the lock like you would if you were to open it normally, and it should open.



*Voila!!*

The shims that you've just made are only good for a few uses, and as soon as you see any rips along the outside of them, you should dispose of them in order to prevent them from breaking off inside the lock.

Have Fun!  
Unbreakable