PVC Flute in C (7 hole)

(This PVC flute is still very much a work in progress which I intend to improve upon. - M. Nadeau, 2015)

Schedule 40 PVC (200 PSI) 3/4"

Note: for schedule 80 PVC hole dimensions will vary slightly

Hole distances are mesured to center of hole.

Figure 1
Length & Hole Distance

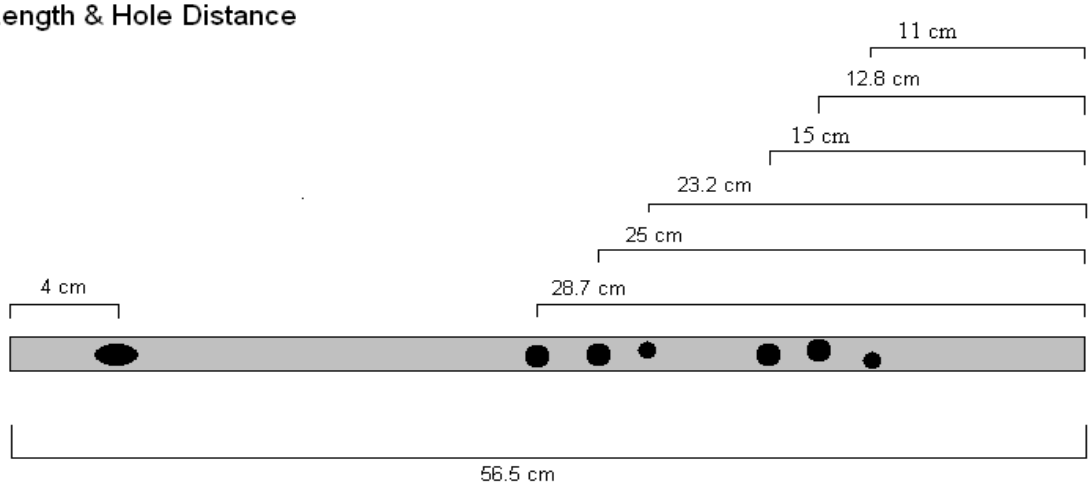


Figure 2
Hole Diameter

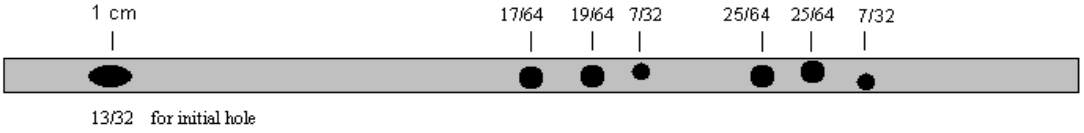
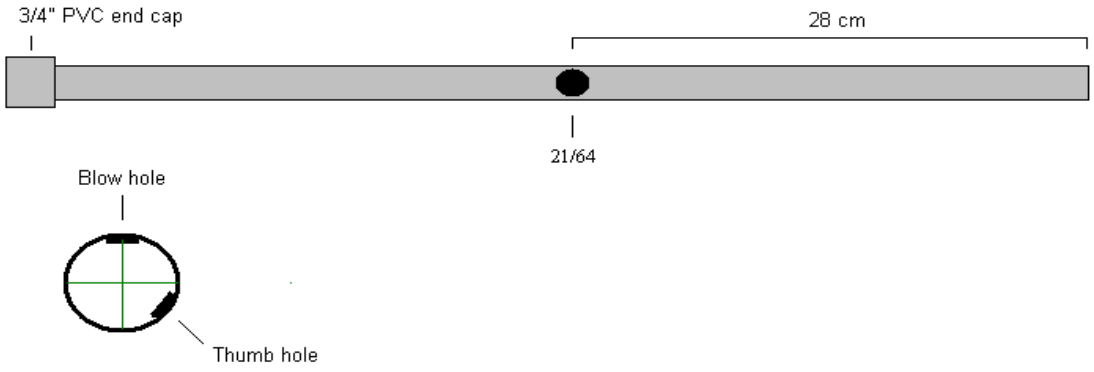


Figure 3
Thumb hole & End Cap



Construction Notes

I am currently teaching a self-contained music pilot program where I travel to various schools bringing all of the instruments with me. Because of this, the flute students do not have an instrument to practice with at home . Therefore, my attempt here is simply to help provide students with a very simple mechanism to practice their first sounds and fingerings for their first three notes: D, C, Bb to go along with the rest of the band. Hence, this is still very much a work in progress. I'm sure anyone reading this willing to take much more time than I have to devote to this can come up with better hole dimensions.

Personally, I did begin with a Flutomat flute designer found here: http://11wall-west.com/~ph_kosel/flutomat.html It was very helpful but only to a point. Unfortunately, it was only for a 6 hole flute, and never bothered to identify the overall length of the blank, and the only one I could get to sound descent was in D, but I wanted it to be in C. Also, I found the distance between holes to be way too large for little kids. So with a little experimentation, I came up with this. It's very crude and basic, but gets the job done as a first note practice horn. I hope you find it useful.

Hints:
These dimensions are for schedule 40 PVC. Schedule 80 PVC is thicker and thus, the dimensions will vary slightly.
When Drilling holes, begin with a very small drill bit. (The smaller the better.) That way the drill bit won't slide around the PVC and you are much more able to place the center of the hole exactly where you want it. Then, go back and widen the holes by using larger drill bit's a little a at time until you get the desired sound. Remember, you can always make the hole larger.
Begin by cutting out the blow hole. I started with a 5/64 drill bit and filed it oval from there. (Later, I used a Dremel.)
After cutting the blow hole, begin with the finger hole farthest away from the blow hole and work towards the blow hole one finger hole at a time.
The key to the flute's success is to make sure you have very sharp, clean holes. Rough, or sloppy holes will hamper the sound.
Be sure to offset the holes slightly to accommodate your ring finger and left thumb length .
Larger holes raise the pitch. Smaller holes lower the pitch. Moving the hole towards the blow hole raises the pitch. Moving holes away from the blow hole lowers the pitch.