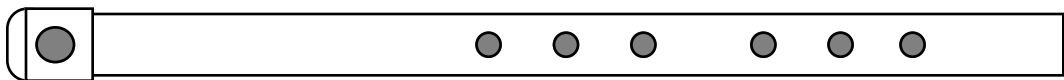
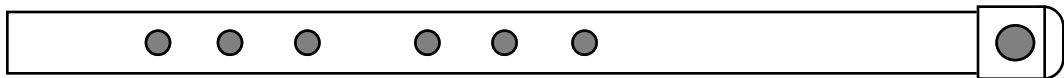
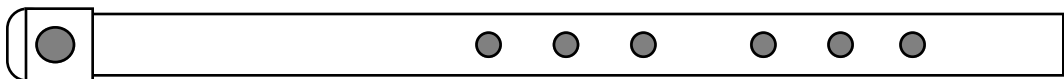
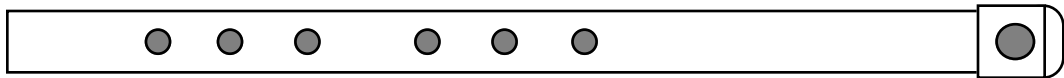


THE PLUMBER'S PIPE



By Mark Shepard



May we be made ever more perfect instruments.

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Version 2.0

Author Online!

For more resources,
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www.markshep.com/flute

About the Author

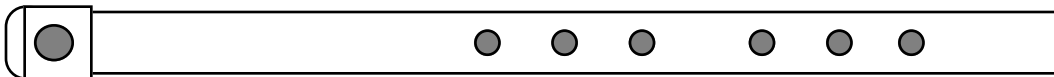
Mark Shepard is the author of *How to Love Your Flute: A Guide to Flutes and Flute Playing*, called by Paul Horn "a model for our times." He was a professional flutist and simple flutemaker for many years.

THE PLUMBER'S PIPE

The Plumber's Pipe is a modern folk flute designed by Mark Shepard. It is made from CPVC plumbing pipe. The flute is notable for its fine tone and tuning over two octaves. It is almost indestructible, and needs only occasional cleaning.

This flute is in the key of G. It can be played fairly easily in most other popular keys, as well.

You can carry it anywhere. And it's easy to play!



GETTING A SOUND

Leave your fingers *off* the holes, for now. Rest your bottom lip on the edge of the mouthhole, and blow it like a pop bottle.



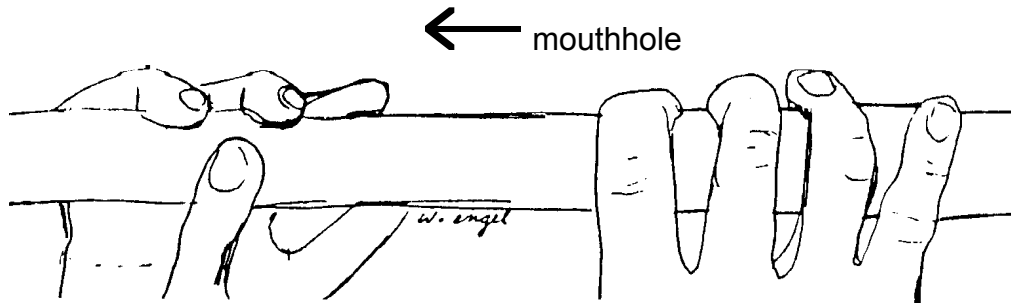
Make sure the mouthhole is pointed directly upward, and that you're holding your head straight up. Rest your bottom lip *loosely* on the edge—not pulled up, or curled under itself, or pressed down hard against the flute. Press your lips together at the corners, leaving a narrow opening at the front, centered on the mouthhole. Blow a solid stream of air directly at the opposite edge of the hole. Don't lift your bottom lip as you blow!

If no sound comes, check your bottom lip to make sure you're not pulling it up. Then rotate the flute to change the angle at which your breath hits the edge. Also try varying the shape and pressure of your blowing. Looking in a mirror will help.

If your lips get tired, take a break. Don't worry if you feel dizzy. You just aren't used to breathing so deeply!

HOLDING THE FLUTE

Here is the best way to hold a flute.



The hands approach the flute from *opposite sides*. The holes are covered by the first three fingers of each hand. The left hand comes in *at an angle*.

The flute is supported by

- (1) the left index finger, curled under the flute in a “cradle.”
- (2) the left thumb, on the *side* of the flute, between the first and second fingerholes,
- (3) the right thumb, under the right forefinger, and
- (4) one or both little fingers.

This position will allow you to hold the flute securely with all fingers lifted from the holes. Never use your bottom lip to support the flute!

For best playing, keep your back straight, with your elbows and shoulders down. Tilt the flute slightly down and forward, keeping your head at right angles to the flute.

PLAYING THE NOTES

Again lift your fingers from the holes. Blow the flute, and at the same time cover the first fingerhole (the one nearest the mouthhole). Cover it airtight with the fleshy face of your finger. You shouldn't need to press hard.

If the note sounds good, keep that hole covered while you cover the next one. Keep covering more holes, as long as the notes sound good. Make sure you cover each hole completely. Each note should be lower.

As you play lower notes, your top lip should move slightly forward and down. Your lip opening should become larger and more relaxed.

If you lose the sound, or if it goes to a higher note, start over. Practice until you can play the lowest note, with all fingerholes covered.

This series of notes is called the "first octave."

PLAYING THE SECOND OCTAVE

To play the flute's higher notes—the “second octave”—you will use the same fingerings, but blow differently.

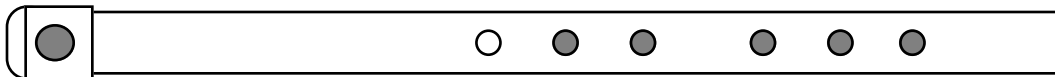
Cover all the fingerholes. Narrow your lip opening and blow a little harder than before. You should hear a high note.

Now lift your fingers from the fingerholes, one at a time, starting with the *last* fingerhole (the one farthest from the mouthhole). Each note should be higher.

As you play higher notes, your upper lip should move up and back. Your lip opening should become narrower and tighter, making you blow harder to force your breath out.

When you've played the note with all fingers lifted, cover all fingerholes again and play the next higher note.

This note and the first note you played in this octave will sound better if you use the alternate fingering shown here.



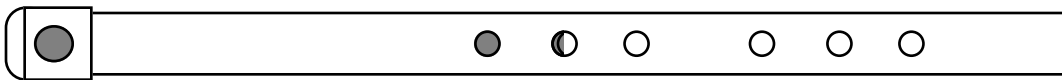
● = covered hole

PLAYING SHARPS AND FLATS

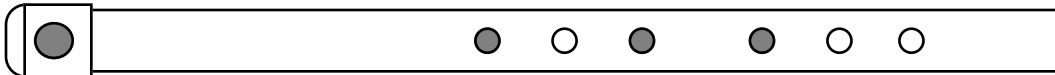
If you play the notes of the flute from the lowest to the highest, you will hear a major scale—*do, re, mi*. You will hear the notes play a *minor* scale if you cover only the first finger-hole, then play higher.

For many tunes, you won't need any other notes, if you find the right note to start on. But other tunes may call for sharps or flats—the “notes between the notes.” You may also need sharps and flats while playing with other musicians.

There are two ways to play these notes. To “half-hole,” cover only half of the last hole fingered.



To “cross-finger,” uncover that same hole completely, but cover one or more holes below it.



Experiment to find what fingerings work best for you.

The main notes of this flute play the keys G major and E minor. By substituting only one sharp or flat, you can play the flute in C major, D major, A minor, or B minor.

OTHER HINTS

With the tip of your tongue, add a light “t” to the beginning of individual notes or to the first note of a series.

Always breathe from your stomach.

Practice holding single notes long and steadily.

When your notes are fairly solid, you can also practice vibrato—a pulsing tone. Pull in your stomach in short jerks, as if belly-laughing. You can use vibrato to enhance long notes.

When playing with other musicians, you can tune the flute slightly by rotating it, so the mouthhole moves toward you or away. But the tone, and the tuning of the notes to each other, are always best when you hold the flute normally.

To learn to play by ear, start with simple tunes, picking out the notes. Begin a tune on the note that lets you avoid sharps and flats, or that leads to the fewest.

To play written music, the simplest way is to transpose to the key of the flute. For example, when reading music written in the key of C major—as for soprano recorder—pretend that the flute too is in that key, and that its lowest note is C.

CARE OF THE FLUTE

The flute can be easily cleaned with a scouring pad, or with baking soda or bathroom cleanser on a damp sponge. Rinse with water. You can sterilize the flute with hot water from the tap. No other care is required.

The flute can be carried or played under any conditions, without fear of damaging it. The mouthhole cap is permanently bonded to the flute.

HOW IT WORKS

When you blow toward the mouthhole edge, your breath alternates rapidly between going into and over the hole. Every time it enters the hole, it gives the air in the flute a tiny push. This makes the air vibrate between the mouthhole and the nearest uncovered fingerhole. The farther apart these two holes are, the greater the length of the vibration, and the lower the note.

Blowing harder gives the second octave note by forcing *two* vibrations into that same space. Each vibration is then half the length.

The Plumber's Pipe achieves its fine tone and tuning through a combination of large, shallow fingerholes, a deep mouthhole, and proper proportioning of the length to the inside diameter. The sound of a flute is affected much more by the flute's dimensions than by its material.

The flute tube is 3/4 inch CPVC pipe, schedule 40, a hot water pipe available at hardware stores. The cap is a standard fitting, bonded with solvent cement. The holes were drilled with bits ground to a zero rake, to avoid catching.