

Hypotooter -- a mini-musical instrument

by [Thinkenstein](#) on October 26, 2010

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I'm a refugee from Los Angeles, living in backwoods Puerto Rico for about 35 years now and loving it. I built my own home from discarded nylon fishnet and cement.

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Intro: Hypotooter -- a mini-musical instrument

The hypotooter is a mini-member of the tootophone family of reed instruments. (See: <http://www.instructables.com/id/pvc-TOOTOPHONE-a-musical-reed-instrument> and also; <http://www.instructables.com/id/Baby-Bass-Tootophone-a-reed-instrument>)

It is made from the protective case for a 12 cc hypodermic syringe, which can be purchased from a pet store or veterinary supply store. I use the syringes as tools for extruding silicone rubber in making silicone rubber sculptures. This is a good way to recycle the protective cases.

The needle cover (pink) is sanded down to make the mouthpiece. The reed is cut from a piece of scrap plastic that I recovered from a junked flat screen monitor. Electrical tape holds it all together.

To protect it in my pocket, I made a carrying case out of PVC pipe.

To hear how the hypotooter sounds, listen to the .mp3 audio file in the last step.



Image Notes

1. Electrical tape (it comes in various colors, including white and black) holds the mouthpiece securely to the body. I mark my favorite mouthpieces with a strip of contrasting color tape.



Image Notes

1. PVC carrying case for the hypotooter, to protect the reed. It's great for carrying the hypotooter in your pocket.



step 1: The Syringe

It's the case we are interested in. The syringe is not needed for this project. Syringes make good tools for precise application of lubricating oil. Without the needles, they can also be used for fine extrusion of silicone rubber. (The needles are too narrow to force the silicone through.) If you discard the needle tips, just be careful. They are very sharp.

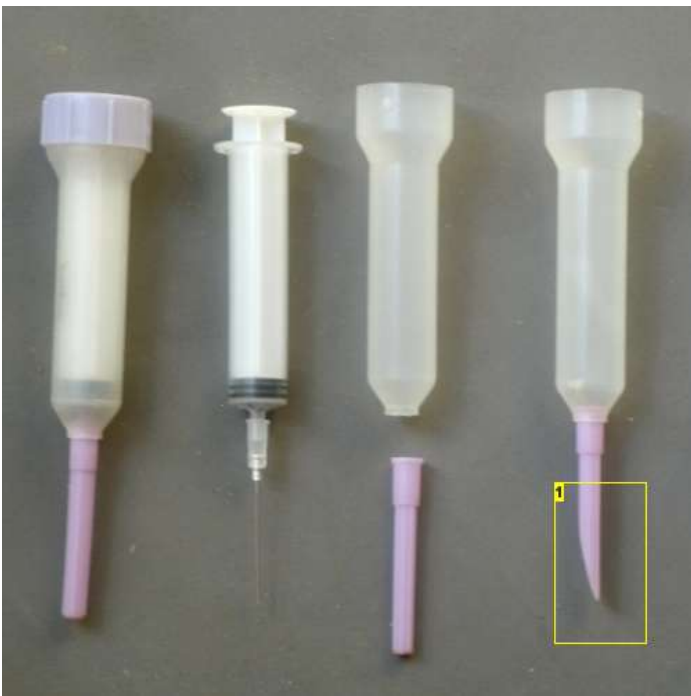
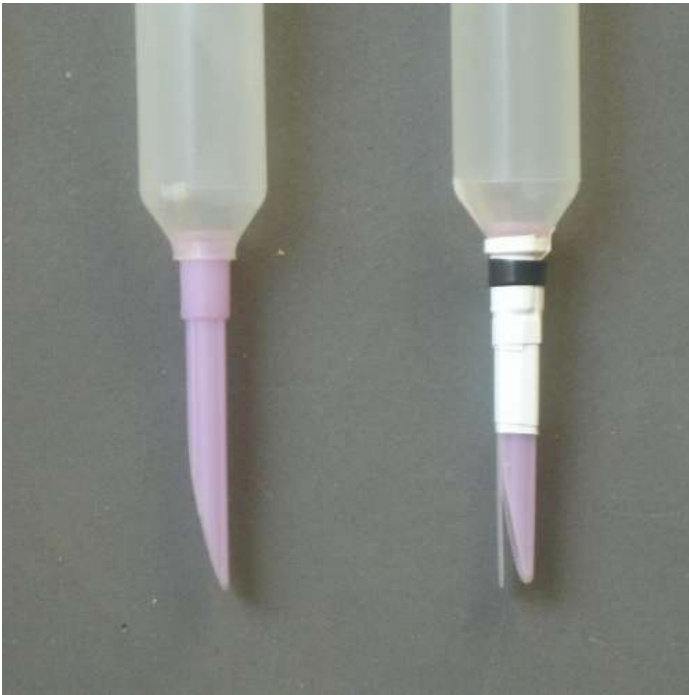


Image Notes

1. The needle tip cover has been sanded to make the mouthpiece.



step 2: Forming the Mouthpiece

Since the tip protector is small and hard to hold while sanding, I set it in the protective syringe body cover and hold it in place with the syringe (without the needle) from inside.

To sand the curve, use a forward and backward motion, with a little extra wrist action. Make sure the curve has no flat spots and that both sides are sanded with the same curve. Once you get the arm and wrist motion down, it becomes almost automatic.

Use course sandpaper first, then medium, and then fine. Remove edge burrs with a very sharp X-acto craft knife, or something similarly precise.

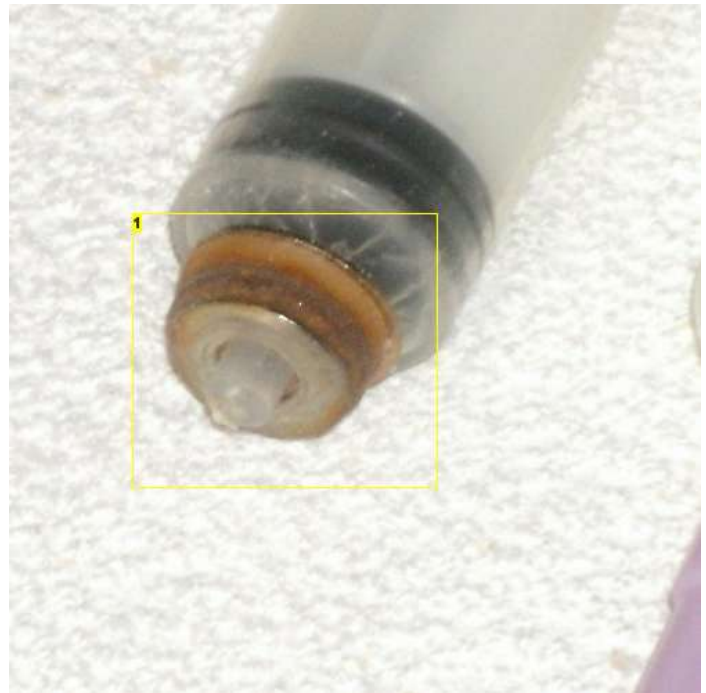


Image Notes

1. Course, medium, and fine sandpaper.

Image Notes

1. This is a stack of washers, which is needed to exert pressure on the tip holder to hold it in place while sanding the tip.

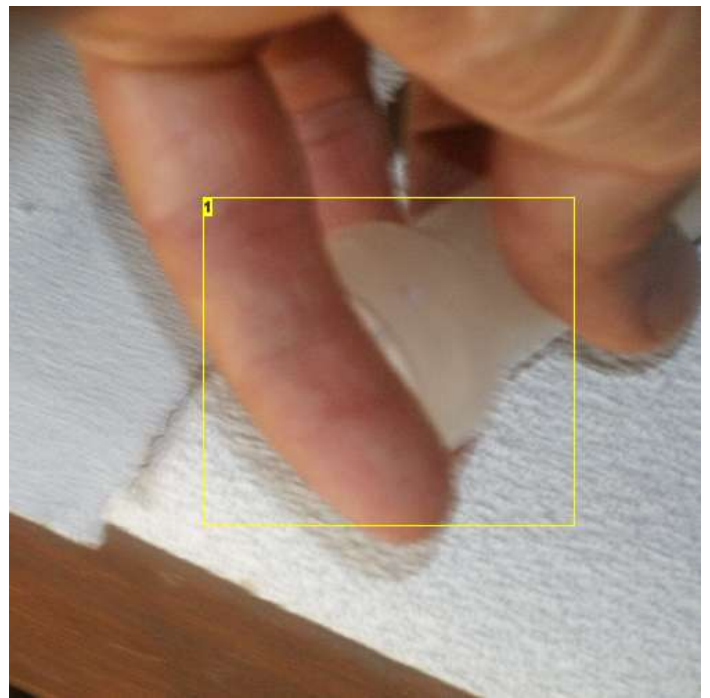
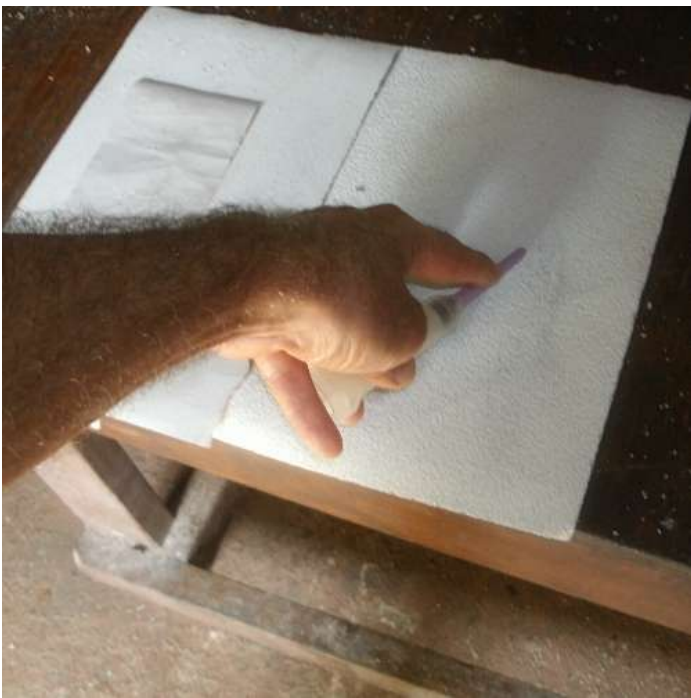


Image Notes

1. Exert pressure with your little finger to push the syringe body into the body cover while sanding the tip cover.

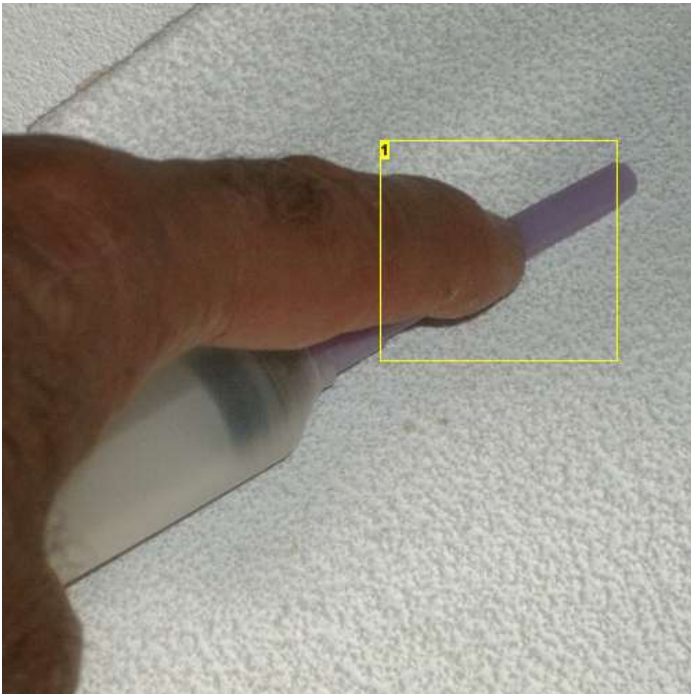


Image Notes

1. Exert pressure downward with a finger to control the tip cover while sanding.



Image Notes

1. Sand a continual curve. The reed must form a tangent line to the curve, no matter where your lip presses down on it. The working end of the reed has to be free to vibrate.

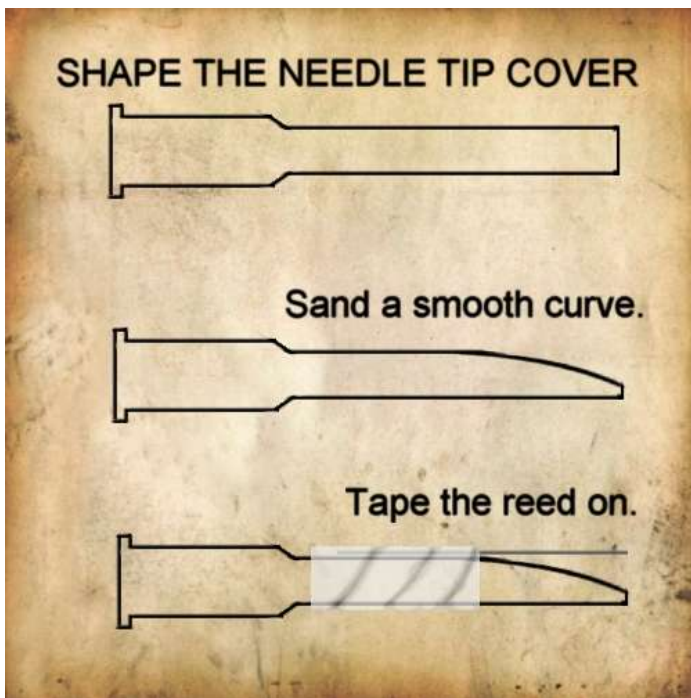


Image Notes

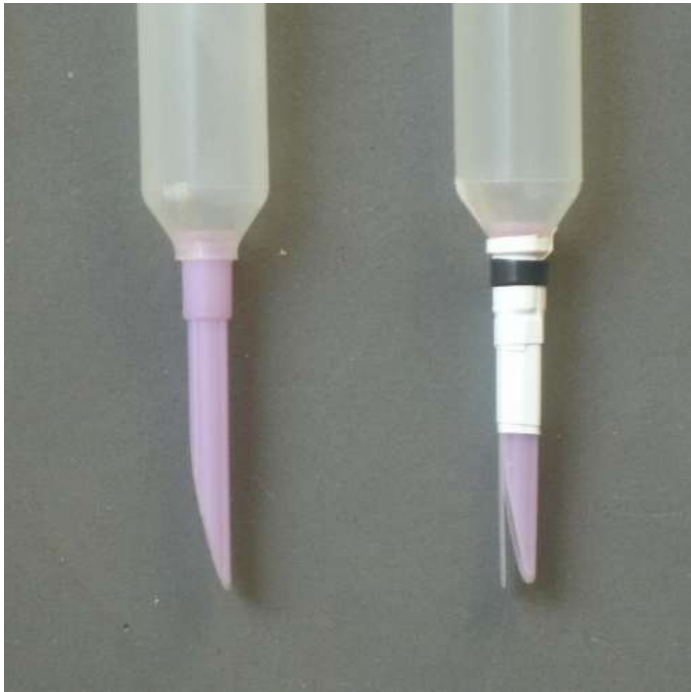
1. Electrical tape (it comes in various colors, including white and black) holds the mouthpiece securely to the body. I mark my favorite mouthpieces with a strip of contrasting color tape.

step 3: The Reed

The reed is just a narrow, rectangular piece of plastic from the trash. Plastic sheet material comes with myriad variations of stiffness, thickness, and kind of plastic. I have found that the most responsive material for this hypotooter is the thinnest material I have. The plastic used in the transparent covers that protect notebook pages is of similar thickness.

I usually do a whole slew of mouthpieces, with variations of curvature and reed material and then select my favorite out of the bunch.

I find that cutting the reed right at the end of the mouthpiece, after the reed is taped in place, is better than having it extend beyond the mouthpiece. Sometimes, I cut it a little shorter, but you don't want it to be so short that it ends on air and not on the plastic of the mouthpiece.



step 4: The Carrying Case

One nice thing about the hypotooter is that it is so small and easy to carry. It fits in a pocket.

To protect the reed, I cut a piece of 3/4" PVC pipe (appropriate to the diameter of the hypotooter body), and then cut some fingers in it that expand a little and grab the hypotooter.

I made a special spreading tool for opening up the fingers during manufacture, so I could clean up the cuts with a file and an X-acto knife.

I drilled a hole in the PVC for hanging it all from a nail.

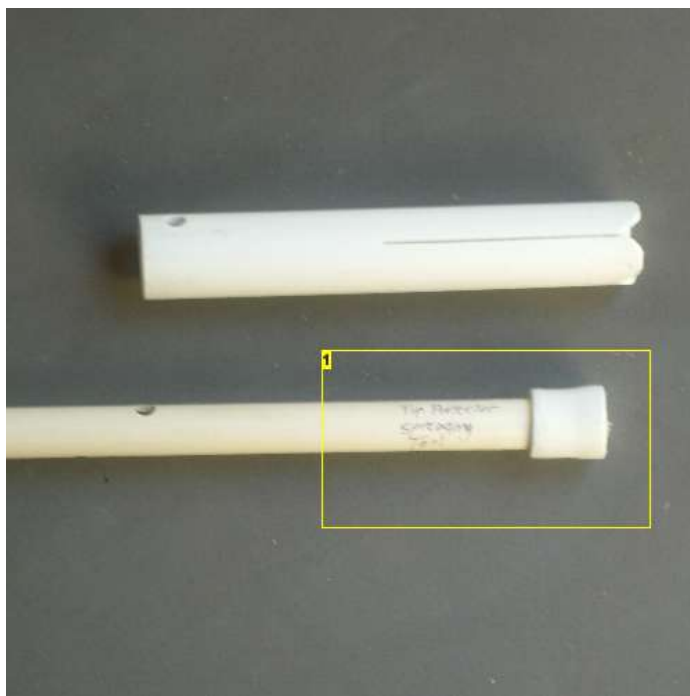


Image Notes

1. This tool opens up the fingers for working on them.



step 5: Playing Tips

Playing the hypotooter is a lot like silent singing -- without using the vocal cords. There is movement of the adams apple, and the tongue, as in singing, which changes the volume of the mouth and throat. Pinch down harder with the lips and blow harder for the high notes.

There are a lot of variables and they all get easier with practice.

step 6: Hear the Hypotooter

To hear the hypotooter, click on the thumbnail icon below to open the .mp3 audio file. It looks like a piece of paper with the corner bent over.

It sounds remarkably trumpet-like sometimes. It's great for chasing those high notes.

File Downloads



HYPO TOOT.mp3 (1 MB)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'HYPO TOOT.mp3']

Related Instructables



Baby Bass Tootophone -- a reed instrument
by Thinkenstein



pvc "TOOTOPHONE" -- a musical reed instrument
by Thinkenstein



saxophone tips
by BADGER MAN



Basic Alto Saxophone (could be applied to tenner, baritone, ect.) Guide
by waverider894



PVC Soprano Recorder
by Thinkenstein



How to clean and seal a harmonica
by tiltmonkey

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