

## **BIGmouthPiece for alto clarinet**

~ Big easy sound with a tenor sax reed ~

Intro & Instructions V.4.1 April 2024

~ Windy Dankoff, Santa Fe, NM ~

Alto clarinet can be stuffy and stubborn. The reason is simple – the reed is too short. BIGmouthPiece uses a *tenor sax* reed instead. Here's the logic – Assume that the Bb clarinet reed is the ideal length. The alto clarinet is 34% longer acoustically. Therefore, its reed should be that much longer. But it's only 12% longer. A tenor sax reed is 40% longer (we're comparing the *vibrating* portions of the reeds). Also, consider that the alto clarinet and tenor sax play nearly the same tonal range. BIGmouth is a tenor sax MP that is modified to bring tenor reeds (and new life) to the alto clarinet.

### **First customer comment:**

*"I LOVE THIS MOUTHPIECE setup! You have done a remarkable thing here, in that you've taken a rather boring horn and given it a sonorous, gutsy personality. The alto has never been regarded as anything but a filler horn, and now it can take center stage. It has very fat sound both in the chalumeau and the clarion, and MUCH more projection. I do not foresee ever going back to a traditional MP." — Jim D. "Windsong" on ClarinetPages.info*



**PHOTO** shows the raw tenor MP and the clarinet modification after cutting the tenor on a lathe.

The sax MP bore is shaped to fit a sax neck, so it's not acoustically correct. So, it's modified to produce good intonation and accurate 12<sup>ths</sup>. Then, with the harmonics lining up, it creates a strong, beautiful tone.

### **THE TONE**

The bottom is like dark chocolate, melting up from the bottom, then pouring over the break with a gutsy undertone like a baritone sax. Clarion continues clear and smooth into altissimo. It's like a "baby bass" clarinet in tone and overall behavior – with no fuzzy zone.

### **A professional opinion:**

*I've tried out the mouthpiece and I'm quite impressed. Intonation was good throughout the range and it made the alto very free blowing. ... I think this could appeal to a lot of people. Thanks again for sending it to me! — Jared De Leon, technician and manufacturer, low clarinet and MP specialist, [www.jdwoodwind.com](http://www.jdwoodwind.com) (tested on Buffet alto)*

### **A RADICAL upgrade for \$200**

**BIGmouthPiece** transforms your horn at far less cost than stepping up to a higher-grade instrument. My school-surplus Vito and Bundy altos are deeply satisfying, now that they're supercharged.

## QUALITY

I start with a very good US-made plastic tenor MP. I hand-finish the reed table and facing if necessary, to achieve a tight seal (critical for the low clarion and squeak resistance). I make **THREE VERSIONS** of **BIGmouth** to match the dominant alto designs, so the MP is optimized to your instrument.



### **BIGmouthPiece package includes**

- BIGmouth Piece
- Fibracell® tenor sax reed
- Flexible ligature
- MP cap
- Tooth patch
- Brass Neck Insert (for Large Bore version)

**Fibracell synthetic reeds** are an alto clarinet favorite. I include one to assure you get a good result right out of the box. One reed outlasts boxes of cane reeds, with no soak, no prep. You get a 2 or 2.5 reed, depending on your MP version (soft reeds produce the best sound).

**Flexible Ligature** – Rising over the break causes a spike of back pressure (with any MP). A flexible lig absorbs the impulse. It helps keep the tone continuous, and also helps articulation. I include this particular lig because it's easy to handle, it grips well, and it costs me only \$10. I mark the MP to show the position of best response. Medium screw tension works best.

**Brass Neck Insert** is a tuning device for the Large Bore version. See next page.

## There are **THREE VERSIONS** of **BIGmouthPiece**

<b>Large Bore alto</b>	LeBlanc, Noblet, Vito
<b>Small Bore alto</b>	Buffet and some others
<b>Selmer / Bundy</b>	(Paris and USA)

### **Selmer / Bundy**

Selmer and Bundy altos are shorter and have smaller tone holes than other altos. The standard BIGmouth overloads it and almost stops dead. It has its own unique version based on a different tenor MP. It has a baffle that's curved like the top of an airplane wing. It seems to draw pressure away from the reed so it isn't stifled. The performance is very pleasing.

### **Other Alto Clarinet Brands** (not Selmer / Bundy)

These use a classical "dark-tone" tenor MP. There are two versions according to the bore (inside diameter) of your horn, measured in the neck tube. Here's how to determine if you need the Large Bore Version (18 mm) or the Small Bore Version (17 mm).

A US dime is 17.8mm diameter

- If it falls through the neck – get the **Large Bore Version**
- If it will not enter the neck – get the **Small Bore Version**

The Large Bore includes a brass neck insert. The MPs are otherwise identical.

### **NECK INSERT** **included with the LARGE BORE version**

For a large-bore alto, a brass neck insert forms an acoustical extension of the MP. It tunes the throat notes. It strengthens the Bb. It equalizes the tone across the break. It tunes the altissimo. It slices. It dices. It won't interfere with your standard MP. You can try your new MP without it. Then if you're a believer, be sure to install the insert.

### **INSTALLING THE NECK INSERT in the Large Bore version**



You can insert it without glue for a trial, but it may get swabbed out. So, use the shellac glue that's included. It's easy to remove any time.

Clean the neck entrance with alcohol. Apply shellac glue to the outside of the insert. The wet glue also acts as a lubricant that makes it easy to insert it and turn it into position. Place the gap toward the *front* of the horn.

Use plenty of glue to seal it in – it's easy to clean later. Insert it with a finger. Leave it protruding a bit. Then use the MP press it into perfect position. Pull the MP, remove excess glue with alcohol on a cloth, and clean your finger. Let it dry for a few hours. If you're in a hurry, warm the neck with a flame or hair dryer.

**REMOVING THE INSERT** Find a hook tool (or a piece of wire like a paper clip, and use pliers to make a short 90° bend). Warm the neck below the socket with a small flame to melt the glue. Pull out the insert with the hook tool. Swab out remaining glue with alcohol. This will restore the original condition of the neck. Shellac glue is traditionally used on woodwinds, for parts that may need removal. Any technician will think its probably shellac, and will know what to do.

### **FINE-TUNING your “NEW INSTRUMENT”**

Your alto clarinet with BIGmouthPiece is practically a new instrument. You may need to adjust your blowing technique and that may affect the pitch. So where do you start with adjusting the neck? Educators advise “tune the instrument to itself”. This means the top of the horn is in tune with the bottom with no embouchure change. Neck pullout affects the top of the horn more than the bottom, so there is one ideal set point. Here’s how to find it.

Apply a firm and steady *clarinet* embouchure and go for a strong and steady tone. *Ignore the tuning* for now. Play a low clarion note and check your tuner but *don’t change anything – just remember the deviation*. Now play a high chalumeau note and *tune the neck for the same deviation*. EXAMPLE – If clarion low B is 15 cents flat, adjust the neck so your chalumeau top A is *also* 15 cents flat. This is your first approximation of the “sweet spot”.

**Mark this position** for the next time you assemble. For a metal tenon, I use nail polish and/or Sharpie pen. For a corked tenon, use another visual clue.

**NOW correct the overall pitch (don’t adjust the neck)**. Vary the mouth insertion, lip pressure, muscle squeeze, and breath, to bring the entire instrument into tune. When you get there, the overtones will harmonize and you will hear the true voice of the clarinet. With the horn in tune top-to-bottom, your embouchure can stay nearly constant. If you apply this method to all your woodwinds, you will have easier continuity when switching instruments.

**Future adjustment:** Your oral cavity forms part the overall air column, so your voicing technique affects your pitch. So does a change of reed strength. So, re-test your pull-out occasionally, but always for *continuity across the break*.

**Fibracell Reeds** – Soft Fibracell reeds produce the warmest, darkest tone with BIGmouth. The grade that comes with your MP is 2.5, or 2 for the Selmer/Bundy version. If the edges irritate your lip, round them minimally with fine sandpaper but do not approach the tip – leave the last 8mm (1/4”) untouched. One Fibracell can last around a year. They tend to play consistently from day-1, then fail suddenly. They are widely available – fast and lowest prices are from Kessler & Sons or Weiner Music.

**BIGmouthPiece** ~ *too ridiculous for a trademark™*

**Windy Dankoff** woodwind technician

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### **GRATITUDE**

to Eugene Kirton who originated this concept, and to ClarinetPages.info for ongoing support