



The Essential Saxophone Basics

By Jeremy Polk

To the dismay of many band directors, there is always an abundance of students who want to play the saxophone. Some schools limit the number of saxophonists by starting them on clarinet and choosing from these the ones who will study the saxophone. The switch from clarinet to saxophone will seem natural and almost effortless to most students.

When students do switch to saxophone, I start everyone on alto sax and later switch some of them to tenor or baritone. The saxophone suits the physical sizes of most people, and even the smallest beginner should be able to reach the keys and work the mechanisms fairly well. A severe under- or overbite may preclude a good embouchure if the top and bottom teeth do not line up correctly. Slightly crooked teeth do not affect the tone. When students have braces affixed, they always have some initial discomfort, especially with the bottom lip. If dental wax is placed over the bottom braces, this often alleviates the pain or discomfort during this adjustment period.

The Right Equipment

New saxophones are introduced on the market each year. I have not tried all of them, but I tend to prefer the larger, more well-known brands, although some smaller companies have made recent improvements to their student models. Regardless of

make or model, I always test the response, tuning, and general construction of each instrument. The hand and finger placements on some student models are often uncomfortable for students with small hands.

Student models typically sell for \$800-\$1,200, and some professional models now sell for under \$1,600. The only option of consequence between many student and professional models is the addition of a high F# key, which is used in advanced band and solo literature. Plain lacquered models are best for beginners because silver-plated instruments have a slightly brighter sound, cost a bit more, and custom colors are more expensive to repair.

Many music stores offer rental instruments to schools with a choice of mouthpieces. Often mouthpieces for student models are of poorer quality. The cost of a professional mouthpiece (about \$75) gives a good return on the small additional investment. Reference charts explain the differences between

the myriad of options in mouthpieces and are useful to directors.

I start all students on the same brand and strength of reed and have spares on hand for emergencies. Beginners should start on a 2-2½ strength, but not all brands have a consistent grading system. At Christmas or sooner I move them to a 2½ or 3. Students are not used to a harder reed when they have not grasped on the fundamentals. I have developed some embouchure exercises. They will likely stay at this strength of reed for several years. Most students also use a 3½-4 reed, and I avoid the hardest reeds available. The use of the less expensive reeds is usually about ½ point softer than the higher quality. Reeds that are too hard make raucous sounds and can lapse under the proper support of the lower jaw. I start the first fix with students at summer camps. Many second-year students still use a 2 or 2½ reed. They play flat and cannot



upper register with a good tone and in tune without the reed collapsing, they should use a stronger reed.

Accessories are nearly as important as reeds, mouthpieces, and the saxophone itself. Neckstraps that are made of a stretching, neoprene material work well to offset the added weight of larger saxophones. A strap with no stretch works best on altos. Thick black mouthpiece patches that adhere to the beak cushion the top teeth against the mouthpiece; they will slightly open the embouchure as well. A good reed case is a must because

reeds are not meant to be stored in the plastic shipping containers in which they are sold. The case need not be expensive; one that holds the reeds flat while they dry will suffice.

A body swab and neck swab (with non-scratching weights) that keeps the instrument clean and helps preserve the pads is preferable to the large, leave-in swabs, which tend to shed material inside the instrument. A tuner and metronome are always helpful, and music stores often include these with instrument rentals or purchases. Advanced students might

want some reed rush and a reed trimmer to make small adjustments. Cigarette paper absorbs moisture from pads and alleviates sticky keys, but a director might supply this to avoid the problem of students carrying cigarette paper around.

I encourage students to carefully soak reeds in their mouths while they assemble the body of the instrument. The loosened ligature is placed on the mouthpiece before the reed, which should be centered and positioned just low enough that a thin line of black mouthpiece is visible behind the tip of the reed. The edge of the ligature closest to the tip should be pulled back behind the indentation line on the mouthpiece, if there is one, because the ligature is meant to hold the stock of the reed without clamping down on the cut, or filed portion. Ligature screws do not need to be tight and should only be turned until some resistance is felt. Make sure inverted ligatures are installed correctly.

Embouchure

In a good saxophone embouchure the reed rests on the fleshy part of the lower lip while it is relaxed. Then the reed is pushed into the mouth, which causes the lip to roll over the bottom teeth. There is no need to stretch the lips. The top teeth should rest on the mouthpiece as the corners of the mouth close around it, much like a

Troubleshooting Tips

- If the pitch is flat overall, first check the posture and air support. Other culprits may be a too soft reed or a poorly adjusted mouthpiece.
- If the pitch is sharp overall, the reed may be too hard. Another indication of a hard reed is that notes in the extreme low register are difficult to play. A common misconception is that lower notes need a looser jaw; I use the same lower lip pressure in all ranges. The bell keys are almost always out of adjustment on student instruments. To check on this, ask students to play F4 and add one finger at a time while slurring downward to C4 while using good

air and embouchure support. It is easier to articulate low notes with a softer reed.

- If tonguing notes in the palm key register produces a honking sound, the reed is either too soft or the articulation too heavy.
- If the upper register is flat, the reed is probably too soft. Students will likely need at least a 3 strength by the time they learn these notes. Check for proper embouchure and air support. Even with proper breath support, these notes have a natural tendency to be sharp and should be adjusted downward.

- Squeaks are often caused by an instrument that is out of adjustment or a reed that is warped, or inherently poor. Try a different one.
- If octaves are unstable, the octave key mechanism on the neck may have been bent. I insist that students place the end plugs in the receiver of the saxophone body before storing it in the case to prevent bending the octave key.
- If the G# key sticks in the closed position, open it, slide some cigarette paper in the gap, and close the key. Then gently tug the paper out to clean the pad and the tone hole.

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drawstring closing a trash bag. After awhile the embouchure will settle into a position that feels natural.

Experienced teachers can readily determine whether students have too much or too little of the mouthpiece in their mouths from the sounds that are produced. A weak sound indicates too little of the mouthpiece is in the mouth; a raucous, uncontrolled sound results from too much.

One way to determine the correct amount of mouthpiece to use is to slide a piece of paper in between the reed



and mouthpiece. The point at which the paper stops sliding, or where the reed and mouthpiece rails touch, is approximately where the top teeth should rest. At first I will mark this imaginary line on the top of the mouthpiece with electrical tape. This way students can feel how far to place the mouthpiece in their mouths. When the top teeth reach the tape, this is far enough.

The best way for a student to learn about embouchure formation and good air support is by playing on the mouthpiece alone or with the neck and mouthpiece to eliminate distractions such as fingerings or holding the instrument. The mouthpiece alone will sound about a concert A \flat or A and will be an octave lower when attached to the neck. I try to diagnose and fix any breathing and posture

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problems at this point to keep them from becoming bad habits. A good exercise is for students to make a game of matching whatever pitch I play.

Elementary rhythm and tonguing exercises are best introduced on the neck and mouthpiece alone. Even though students are often anxious to assemble and play the instrument, I insist that they leave the instruments at school and take only the mouthpiece, neck, and reed home to practice what we covered in class, otherwise bad habits creep in.

I compare the start of each sound as similar to turning on a water faucet. The tip of the tongue, like a valve, holds the air back by touching the reed and preventing it from vibrating. When the tongue moves back from the reed, the air rushes into the instrument. Students should tongue quickly and lightly without any bumps in the sound. I use the phrase *today I went to town*, to demonstrate a light, quick tonguing style.

Assembly and Posture

Cases should be held on the lap when assembling a saxophone. First lift the body out of the case and attach it to the neckstrap. Then the neck of the sax should be put into the receiver with a twisting motion until the octave key lines up with the lever mechanism. If the neck is difficult to insert, the mating surfaces should be cleaned with a scouring pad or lubricated with a small amount of key oil. The mouthpiece should be twisted onto the neck, with cork grease applied whenever necessary. I have all beginners hold the instrument to the side, resting the bow on their right thigh. With the sax in the front some students rest the instrument on the chair and lower the head to meet the mouthpiece. Holding the instrument to the side offers the most natural arm and hand positions and also promotes good posture. The bottom of the saxophone is angled back toward the hip, and the upper body moves slightly forward to meet the mouthpiece.

A properly adjusted neckstrap will hold the saxophone high enough for the mouthpiece to enter the mouth in a horizontal position, not at an angle. The saxophone should be brought to the mouth, not the body to the instrument. When the saxophone is held to the side, a slight turn of the mouthpiece is necessary to prevent students from tilting the head to one side while

they play. All aspects of the saxophone can be adjusted to match the good position developed while practicing on the mouthpiece and neck. When the instrument is added the posture should not change.

Hand position is often a problem for beginners. The sides of the hands accidentally touch the left-hand palm keys or the right-hand side keys. This is especially true of small hands. The best way to prevent this is for the fingertips to stay on the pearly part of the keys.

When disassembling the saxophone, students should wipe saliva off of the reed, put it in a reed case, and pour any water that collected out of the bell before swabbing. The swab is pulled through the mouthpiece, neck, and body of the saxophone. Water in the palm-key tone holes should be blown out. When the instrument is put in the case, I always have students check the latches before picking it up. It seems that every year someone forgets to do this, and a sax is dropped on the floor.

Instrument Care

It is easier to maintain a saxophone than other woodwinds that are mechanically more complex. If a mouthpiece does not fit snugly onto the neck, the cork should be replaced, but a piece of paper wrapped around the cork is a temporary fix. Keys should be oiled only twice a year or as needed, and then only sparingly. Take care to wipe off the excess oil before putting an instrument away. An oil bottle with a needle dropper will put small drops of oil in tight places, and many qualified repair shops oil the keys as part of a maintenance check-up.

Whenever performance problems occur, the reed is the most likely source. First try some different reeds, and ask another person to play the saxophone to determine whether the instrument is the cause. Most problems have easy solutions, but any that persist should be left to a qualified repairman.

While reed adjustment and maintenance is not normally covered until high school or college, beginners should learn how to care for reeds and determine which sound best. New reeds should be soaked and played on several occasions before being used extensively. Reeds will respond differently after they are broken in. A change in humidity and other conditions will alter the characteristics of any reed, and it is important to have three or four playable reeds at all times.

A simple way to prolong the life of a reed is to refrain from eating or

drinking just before playing. The contaminants in food will break down the fibers and shorten the life of a good reed. Lipstick and lip balms have the same effect. If a reed is soaked in hydrogen peroxide and rinsed in water occasionally, this will clean out clogged fibers and temporarily revive a reed. I discourage students from playing the same reed for months on end because they will probably not notice how much the quality deteriorates over time.

To determine whether a reed is sealing properly against the mouthpiece, cover the end of the mouthpiece with one hand and suck all the air out to create a vacuum. If a reed seals properly, the suction will hold it against the mouthpiece even after it is removed from the mouth. A few seconds later it will release with an audible pop. If it is impossible to draw a vacuum, the sides of the reed are not flat against the rails of the mouthpiece. Rubbing the bottom side of the reed on some fine grit sandpaper may alleviate the condition, but if it doesn't, the reed is warped and should be thrown away.

Fingering

Directors often fail to spend enough time on the fingerings because these seem fairly straightforward, but introducing a few alternate fingerings during the first year of study greatly improves the intonation and technique. The chromatic or forked F# fingering is needed in the chromatic scale and any exercise with an F-F# shift.

If the middle key on the right-hand side is added to the B fingering, this produces an alternate C (known as the side C). The bis B \flat key is located between the first and second left-hand key and is a handy alternative to the standard B \flat fingering but only when the music has many B \flat s and no B \natural s. Another useful but little-known alternate fingering for C# is to lift the top two fingers of the left hand while fingering a D, which leaves the octave key, the third finger of the left hand, and the right-hand keys closed. This C# is more in tune and its softer timbre is closer to that of the notes above.

Another useful alternative is the articulated G#. In fast passages, players can leave the G# key down when playing notes that use any of the right-hand keys (fingers 1, 2, or 3). Because these automatically close the G# tone hole regardless of whether the pinky key remains depressed, the pitch is not

affected. Also, any of the left-pinky keys (G#, C#, B^b, or B^b) will open the G# key. This system simplifies many passages that would otherwise be impossible to play. The musical context of the notes will dictate the best and easiest fingerings to use. I regularly supplement the early lessons in beginning band books by adding exercises with alternate fingerings.

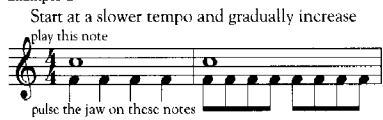
Vibrato

I try to introduce vibrato early on because it usually takes several years before this begins to sound natural. I teach jaw vibrato with scale warm-ups sometime toward the end of the first year of study and into the beginning of the second. For a good saxophone vibrato I start students on slow exercises to increase flexibility, then follow these with quicker, rhythmic exercises to develop fine motor control. The jaw motion is similar to the one used when chewing gum. With the proper breath support it will sound as if students are saying *ya-ya-ya-ya* while they play. The actual vibrato lies somewhere in between the pitch bending exercise in example 1 and the quick, sharp jaw movements of example 2.

Example 1



Example 2



Example 3 is meant to move away from the mechanics of vibrato and develop an expressive, non-metered vibrato.

Example 3

Increase speed of expressive vibrato as scale ascends

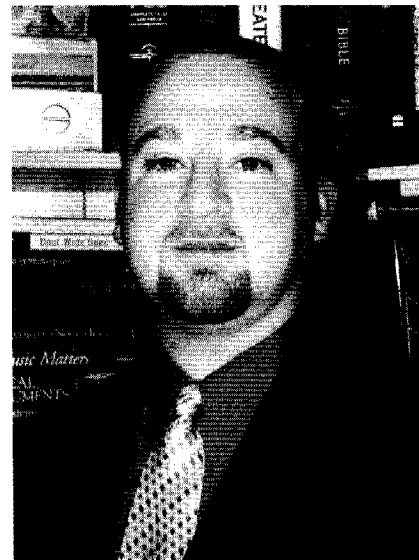


Solo literature often uses a great deal of vibrato, which may cause the overall pitch to sound flat. Push the mouthpiece in and tune a bit sharp to offset this change.

Intonation

The pitch tendencies on a saxophone will differ greatly from player to player and between instruments. Generally concert A and B^b are good tuning notes, but concert F (written D) is

wildly sharp. Students should learn that the pitch of sustained D5s must be lowered by relaxing the lower jaw and maintaining a steady air flow. Notes above an A5 sound sharp. When this occurs, I first congratulate them for using good breath and embouchure support and suggest opening the throat and flattening the tongue as they would for palm-key notes. The open C# is naturally flat, but adding the middle side key or using the alternate fingering suggested earlier will raise the pitch. It is easier to adjust the pitch down than up. The alternate fingerings in saxophone method books will correct most intonation problems.

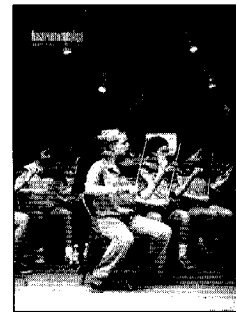


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