

FORWARD

I recently came upon the realization that in the community of saxophonists and clarinetists, there is a large void in the area of available wisdom and practical knowledge in playing techniques. Joe Allard, a legend as a performer and teacher, has never documented his methods of playing, leaving hundreds if not thousands of reed players without the opportunity to learn what he has to offer. This booklet and video series, hopefully, will fill that void.

While studying with Joe at the Manhattan School of Music from 1977-1979, I learned only a portion of what he had to offer, since his knowledge is so vast. I must confess that my first year of study with him was difficult for me because his ideas and techniques are so different and in some cases exactly opposite to what I had learned from previous teachers. Needless to say, I wasn't sure if I was ready to give up practically everything that I had learned about reed playing. In 1977, while on a gig in the famed Catskill Mountains of New York, I detected certain problems that I could not correct with my "comfortable" way of playing. I then decided to re-try some of the things that Joe had taught me during my first year of study, but with more dedication. I discovered, to my amazement, that he really knew what he was talking about, and was convinced that I ought to listen to what he had to say.

All of the principles and ideas given here are ones that Joe has been teaching students for over fifty years. The list of students that he has taught them to include some of the best reed players in the music business including Michael Brecker, Dave Liebman, Eddie Daniels, Paul Winter, Dave Tofani and Bob Berg to name a few. If that's not a who's who of American reed players I don't know what is.

The content of this series is limited to principles and exercises as they relate to the clarinet and saxophone, not about Joe's life or professional playing career, which is a topic for another book. There are no recommendations as far as mouthpieces, horns, reeds, etc. These are personal choices for most musicians and you need to do your share of experimentation. You may find some of the ideas and exercises unorthodox, just as I had when I first saw them. Have confidence in the fact that, if practiced with care and followed accurately, these techniques will improve your playing.

The beauty of Joe's principles is that they combine the physical tools that nature has given us with the laws of physics, as they relate to sound production or workings of the two instruments. The technical explanations are as simple as possible and you will see specific reasonings behind the ideas. This is in sharp contrast to different schools of thought that have no true basis other than "this is the way I do it", or, "this is what I've found to work". Although the explanations have been made as simple as possible, use of "The Master Speaks" video is highly recommended for further clarification. It is available for \$29.95 plus \$3.00 postage and handling from RIA Business Concepts, 219 First Ave., North, #427 Seattle, WA 98109-4893.

This series should not be misconstrued as a technique book, much like the many fine ones that are already on the market that improve finger accuracy and articulation capabilities, for it is not that. The ideas that are addressed here are ones that this author has never seen in print and are subjects that need clarification in the woodwind community. It is my hope that this information becomes of great value to you both as a performer and teacher.

INTRODUCTION

One of the most important pieces of advice that Joe has to offer students is one that he learned from the great maestro Arturo Toscanani, that is; to achieve greatness as a performer, **you must be able to hear each phrase before playing it.** Joe would exchange all the embouchure and breathing techniques in the world for the development of the inner ear, the ability to pre-hear a musical phrase and perform it with correct intonation.

The purpose of this booklet is to give you the tools, on both clarinet and saxophone, to play what you hear in terms of sounds, tonal variety, and intonation, and to enhance your ability to sing with your instrument.

The ideas discussed here are applicable to all saxophones and clarinets, with the obvious exception of fundamental and overtone exercises, which are marked.

The exercises in this book should be practiced like any other ones that you do, such as long tones. They should be done with care and consistency and not overdone. Do not try to do too much in a short amount of time and don't expect results immediately. Also, your tone while doing some of the exercises, initially might be awful. This is to be expected and do not be concerned. These are new techniques for you so learn them gradually.

THE MOUTHPIECE

Anyone past the beginning stages of playing a single reed instrument knows that the reed vibrating against the mouthpiece produces the sound. Of course this is correct; however, it is important for us to look at how this works a bit closer. There are three rails of the mouthpiece, two side and one tip rail. In order for the reed to vibrate fully it must vibrate against all three rails. Try moving the reed off of any of the three rails and see what you get - probably a lot of air and not much else.

There are a variety of mouthpieces on the market today. They come in many different sizes of facings, baffle (the slanted area between the three rails) grades and chambers. There are choices in materials as well, usually in the form of different types of rubber and metal for saxophone, and rubber and glass for clarinet. These variables, along with finding a comfortable reed strength, can sometimes be confusing and require some diligent experimenting. Every player hears differently and every mouthpiece feels different.

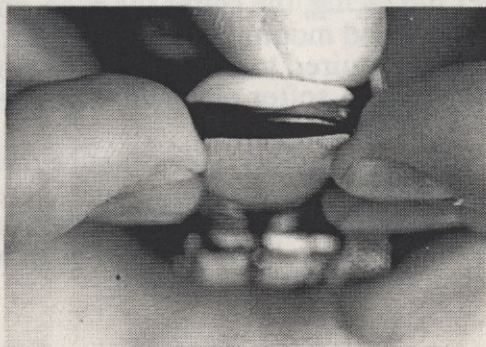
There are some general rules that one can use as a guideline, however. Usually, the higher the baffle or table, the brighter the sound and the more resistance. You'll also probably need a softer reed to play the full register of the horn, particularly the lower register. The mouthpieces with deeper baffles will usually sound darker or more muffled and might respond better with a harder reed. Of course, the facing or tip opening also weight heavily in determining what reed strength should be used. The rule that usually follows is the smaller the facing, the harder the reed. This is to counteract the tendency of the reed closing off at the tip with more resistance from the reed. The larger the facing, the softer the reed, applies too. Since the reed and mouthpiece are now farther apart, more effort is required to set the reed in motion against the mouthpiece. A softer reed will facilitate that.

When looking to select a mouthpiece there are a few points to consider. The first being that there should be at least three or four mouthpieces available for you to try out. This is so you can familiarize yourself with the characteristics of a particular brand.

Although brands of mouthpieces have certain definable characteristics, two mouthpieces of the same make, material, facing and reed will usually play quite differently. After you've narrowed it down to one or two, be sure that the mouthpiece plays in tune. This appears to be obvious, however, it is sometimes overlooked due to our preoccupation with the tonal qualities and response of the mouthpiece. Also check the resistance with two or three reeds. Many times a mouthpiece will only respond to a particular reed and is hard to duplicate with another. You don't want a mouthpiece that is too "fussy" with reeds. Mouthpieces can vary a great deal and should be thoroughly checked before spending your money. You should be able to get a wide variety of overtones on any good mouthpiece. Be sure to check the capabilities of the mouthpiece in producing overtones. Techniques in doing this will be discussed later.

EMBOUCHURE

One of the biggest misconceptions that exists is the idea that you should use equal pressure with your lips around the mouthpiece. Think of a laundry bag or a rubber band tightening around the mouthpiece, we are told. This habit creates two hindrances in our ability to create good tone. The first hindrance is that we put pressure down onto the top of the mouthpiece, or bite down with our top teeth (which we will explore later). The second hindrance is that we create or form an upward curvature on the sides of the reed. We saw earlier that the reed must vibrate on the three rails of the mouthpiece, but it must also vibrate evenly. When you use the "laundry bag" method, you are curving the sides of the reed upward and preventing it from vibrating against the rails evenly, subsequently cutting off a large part of the reed that produces sound; that being the sides of the reed.



Exercise No. 1

This exercise is designed to train you to keep the reed even by keeping your bottom lip flat or even, not curved around the mouthpiece. Practice this exercise for 10 - 15 minutes a day for at least two weeks. After that you should use it as a reminder 2 to 3 times per week. Place the mouthpiece, reed and horn, assembled correctly, into your mouth. Now place the tips of your middle and index fingers on your right hand, forming a V, under the mouthpiece and onto the bottom lip. Your index finger is now on the right side of the mouthpiece and your middle finger is on the left side. The tips of the fingers should be slightly touching the sides of the mouthpiece and firmly pressing down on the bottom lip at the same time.



Now finger any note with your left hand and play it. The idea again is to keep the bottom lip flat, so that it does not curl up around the mouthpiece. Get the feel of this in the high and low registers, slowly, while keeping the pressure on the bottom lip with your fingers. Now hold out one tone, and slowly remove your fingers from the lip, releasing the pressure. Initially you may choke off the sound. This is because when you release the downward pressure, your lip "springs" back, choking the reed. The objective is to train your side and bottom lip muscles to stay down by themselves. Another way of describing the feeling of this is to think of spreading your bottom lip outward.

Don't expect to get a good sound when you begin to practice this exercise. It will take at least a couple of weeks until you really start to feel the lip staying flat. It is important to practice this every day so that you don't have to think about this while in performance.

Another thing we are taught is to think of the syllable "TA". This causes three things to happen that are problematic in producing good sound. The first problem is that, by thinking "TA" you are putting unwanted pressure on the larynx or vocal box area. Try that out for yourself. Vocalize "TA" and notice the tension in your throat increase. Notice where the tongue lands when you hold out "AH". It lands down in your throat. Now keep the tongue in that position and try to sing different pitches with the syllable "AH". You may notice that it is difficult to do this. By playing your instrument thinking "TA", you put the same hindrance on yourself. Of course, there is a more efficient way to play.

Think the syllable "TEE", and vocalize it. Notice where the tongue is now. It should be anchored against the bottom of your top molars, on both sides. It should not be down in your throat. This will free the muscles in the vocal box area that control pitch when you talk or sing. Now vocalize "TEE" again and sign different pitches with the syllable "EE". Sing as high and as low as possible. Try an arpeggio. Notice the ease compared to the other way, using "TA". Notice the increased freedom and flexibility that you now have.



The principle of this is to have no restrictions or pressure on the vocal area, whether you are talking, singing or playing an instrument. Your vocal chords adjust by themselves according to the pitch that you hear. If they are restricted in any way, you will have difficulty in performing musical tones. The second problem that "TA" creates is that it restricts the air flow when you are blowing into the instrument. When the tongue is down in the throat, you need to push harder to maintain the same intensity.

Exercise No. 2

Place the palm of your right hand about a foot in front of your mouth. Thinking the syllable "TA", exhale with force and notice the force of air that hits your hand. There should be some. Now think "TEE", and exhale with the same amount of power and notice the force that hits your hand. You may need to tilt your head back slightly because the angle of the air stream is slightly altered. You should feel a considerably stronger force of air, using the same energy or less while exhaling. You can also do this exercise with a lit candle or a match. Try blowing either out using both syllables. Of course it should be much easier with "TEE". This newly found, greater force of air will give you better projection, volume control and better intonation control. Think of driving a boat at a slow speed. Not much control at the wheel. If you pick up the speed, you increase the accuracy of the steering. You can also look into a mirror and notice your tongue position when you do this exercise. Notice that when you say "TA", the tongue drops into your throat. Look under your chin in the vocal box area. When you say "TEE", this does not occur. This is true for when you play in the high, mid and lower registers of your instrument.

The third problem that arises when you use "TA" is that your jaw drops. Understanding this problem and correcting it will dramatically increase your control on all single reed instruments.

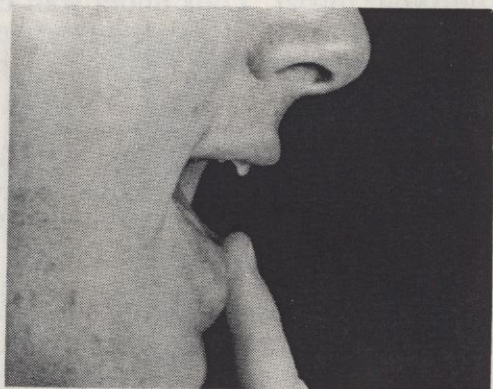
Think of the bottom teeth as being the equivalent to the wooden part of the hammer that is found inside a piano. The bottom lip is equivalent to the felt that covers the hammer. The hammer of the piano and our lower teeth are what set the sound matter (piano string and reed) in motion.

The hammer, through the felt, strikes the piano string. Our bottom teeth, through the lower lip, presses or moves the reed into a position that allows the reed to vibrate. Both the lower lip and the felt of the hammer act as buffers, filtering out extreme overtones. I've witnessed Joe play without the use of his lower lip, just his teeth on the reed, and get a decent sound. It's hard, but it can be done.

What this leads to is this; you should not drop your jaw! You should be able to feel the reed, through the bottom lip, with your teeth (unless you want a muffled, subtone sound). Thinking "TA" will cause you to drop the jaw which decreases your ability to control the reed. If you only used your lip, which would now be your "hammer", you'd produce a weaker sound with much less projection and intensity. If a piano's hammers were made of only felt, you would not produce much sound either.

Exercise No. 3

Take either index finger and place it on top of your bottom lip, about an inch in your mouth. Your finger is substituting for a reed. Do not put any pressure down but hold firmly. Now move your jaw up and down so that your finger actually touches the top teeth. Notice the feel of your **bottom teeth through the bottom lip** on your finger. Roll your finger in and out on your bottom lip and really feel those lower teeth with your finger.



Now put just your mouthpiece with the reed on it into your mouth. **Feel the reed through your bottom lip.** If your lip wasn't there your teeth would be on the reed. Do not bite the mouthpiece but rather think of the chewing motion when you eat. You can also think of the syllable "EX". Now put the mouthpiece on your saxophone or clarinet and put it into your mouth. Again, the same chewing motion into the reed, with your lip flat, on the reed. Be sure not to put downward pressure on the top of the mouthpiece. Do not bite! Putting downward pressure will do nothing but put teeth marks on your mouthpiece. You want to control the object that moves, the reed, not an inanimate object, the mouthpiece. This exercise will help you develop the principle of using your lower teeth so that you can control the reed completely. The control and projection of having bone against the reed as opposed to flesh is much greater. Although you are using your lip, it is now acting like the felt of the piano's hammer.

The habit of **putting pressure down**, which we mentioned earlier, can be another problem in producing good tone. Firstly, it takes away from the emphasis of putting pressure upwards into the reed. Secondly, it puts another unwanted pressure on your throat or vocal area. Say the syllable "EE" again. Move your head up and down while holding the syllable out. When your head comes down and your chin almost touches your chest, the sound gets choked off, even if your tongue is out of your throat. Again, you are inhibiting the vocal chords from acting naturally. When you raise your chin, still holding out the syllable "EE", the sound gets much easier to produce. The same idea applies when you are playing an instrument. Makes sure that your **top teeth are receiving pressure**, not applying it. Also, be sure to maintain a natural overbite, don't stick out lower jaw. Use the syllable "EX" when applying pressure into the reed.

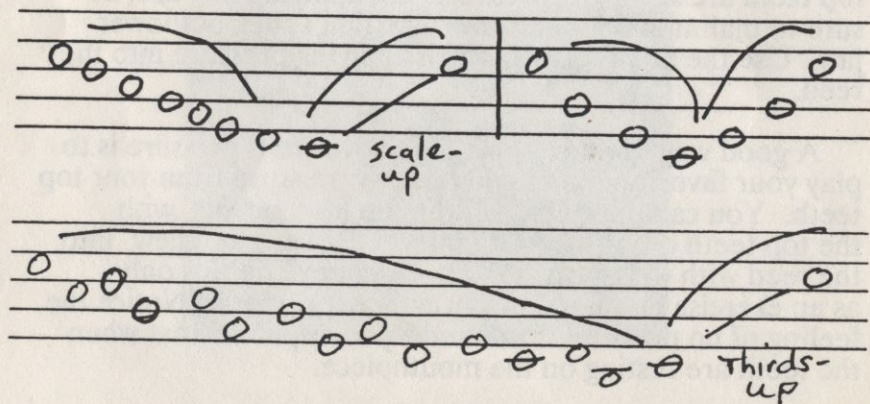
A good way to practice with no downward pressure is to play your favorite etudes without any pressure from your top teeth. You can play with just the top lip touching, with the top teeth off of the mouthpiece. Be sure to "chew" into the reed with the lower lip flat. Of course, do this only as an exercise and not a performance technique. Notice the feeling of no pressure down and try to duplicate that when the teeth are resting on the mouthpiece.

Another exercise that Joe teaches is the "mouthpiece exercise". This exercise, borrowed from brass players enables us to practice everything we've discussed so far. It also trains us to hear a pitch and play it without the benefit of having a horn in our hands. It will also train us for excellent volume control.

Exercise No. 4

Place the mouthpiece and reed, unattached to your horn, in your mouth and play the highest fundamental tone that you can, similar to the position of playing a kazoo. Now play a major scale downward, as if the horn was attached. As you go down the scale, slide the mouthpiece out of your mouth - very slightly! On the way up, slide the mouthpiece back in - very slightly! Everything else stays the same. Do not drop your lower jaw to produce the low tones. This cannot be stressed enough. Sliding the mouthpiece in gives you more control over loud volumes and sliding it out gives you more control while playing softly.

You may also notice that the tip of your tongue moves as you play different pitches. Although it is still in the "EE" position the tip of the tongue is now free to respond and move according to what the ear dictates. If you are having a particularly hard time with this exercise you may want to try a softer reed. If this is the case, it may indicate that you may need a softer reed when you are actually playing. Again, the idea here is to hear the pitches before you play the next note. Try to play these exercises accurately.



Inhaling

If Joe had to pick one area that students misunderstand the most when they first come to see him it would be breathing. The popular phrase "support from the diaphragm" is confusing and doesn't explain anything. Unfortunately, this is what many teachers say to their students, although the spirit of the message is well received.

The way to breathe with the maximum force and intensity is derived from a basic technique that is taught in yoga. It occurs in three stages that are easily combined into one.

Step One: Completely exhale, making sure that your rib cage and stomach are both fully collapsed.

Step Two: While holding stomach in, expand your rib cage fully. At first, doing this will not be easy. With practice, it will.

Step Three: After rib cage is expanded fully with air do the same with your mid-stomach and lower stomach, in that order. Fill yourself to 99% capacity. You don't want to be bursting at the seams. After some modest practice, you will be inhaling with this technique in one quick step.

Exhaling

Exhaling is the exact opposite as inhaling.

Step one: While holding rib cage open, press your lower stomach in. Be sure to keep rib cage open or expanded until you feel your lower and mid-stomach to be exhausted.

Step two: Now press in from your rib cage until it is exhausted. This is not as complex as it might first appear. Again, this will occur in one motion. Unless you are already doing this exactly as described, your breathing capacity and intensity of sound will dramatically increase. In contrast, if you breathe only from your stomach or "diaphragm" without attention to the rib cage, you are severely limiting your air capacity, as well as blocking the air stream or chest cavity with your ribs. If you don't have the chest and stomach muscles working in the proper sequence, the air won't be pushed out with intensity and you will need to use more air than is necessary. You will also need to breath more frequently than necessary.

Exercise No. 5

The yoga exercise that teaches us how to breath correctly is as follows:



Step one: lie on your back on a hard, flat surface with both legs bent and feet are flat on the ground.

Step two: raise your lower back and buttocks so that your body forms a 45% angle with the floor. Keep your head back and hands and arms to the sides.

Step three: first exhale completely then breath naturally. Watch the order of movement of your chest and stomach when you inhale and exhale. Inhaling will be chest, mid-stomach and lower stomach, and exhaling will start from the lower stomach, mid-stomach and then chest will exhaust. Do this several times to get the feel and notice carefully what happens. You should do this as a reminder before warming up or before long tones. Be careful to keep chest expanded while exhaling during this exercise.

Exercise No. 6

Another exercise that trains you to breathe correctly and gets you into the upright position is the "belt exercise".

Take one of your waist belts and instead of wearing it on your waist, fasten it firmly, not tightly, around your chest or rib cage. It should be tight enough so that only when you completely exhale, the belt falls down slightly and loose enough so that you can inhale to full capacity comfortably. This may take a little time to adjust. Now breathe as described in the exercise keeping the belt tight around your chest from the initial inhale until you have completely exhausted the air out of your lungs causing the belt to drop. You probably will need at least a week or more to be able to perform this exercise correctly. This breathing technique should not be thought about while playing, so it is important to teach yourself to do it naturally, without thinking about it.

This breathing technique is one that will not come overnight, so be sure to spend a few minutes each day with it going over it carefully. If you are wondering if this or any other technique described so far will improve your playing, the advice here is to stay with the program and have faith that Joe's reputation as a master woodwind instructor came after he developed these ideas. They do work!



OVERTONES

As far as I or anyone else that I've talked to about the subject knows, Joe was the first teacher to recognize the value of producing and practicing overtones on the clarinet and saxophone. When I first went to see Joe, I didn't know what an overtone was, let alone know how to play one. Within a short time I was using them on a regular basis, gaining from them immeasurably.

Practicing overtones will help you secure a lot of the embouchure techniques that we've discussed so far. They are helpful in intonation training, with the use of overtone matching, which we will discuss later. Another primary benefit of practicing overtones is the training that it gives you to hear and play an interval without the benefit of fingering those particular notes of the interval, much like in the mouthpiece exercise.

Of course, when you finger a fundamental tone you will normally play other tones in that overtone series. For example, if you finger a low B on the saxophone, the notes that you are going to use initially are limited to B, F#, octave B, D#, F# and A. Of course, other chromatic tones eventually occur, however, these would be the most practical for exercise purposes. If you'd like to go higher, work with B, C#, D# and E#. The best way to start practicing overtones initially is to work from one tone and let it drop down to the next. For instance:

The image shows a handwritten musical exercise on a five-line staff. The notes are arranged in two groups, each with a descending sequence of notes connected by slurs. The first group is labeled 'NO OCT. KEY SAXOPHONE' and the second is labeled 'NO REG. KEY CLARINET'. The notes are written as circles with stems, and some have accidentals (sharps, flats, or naturals) above them. The saxophone group starts with a natural B (B1) and goes down to a natural B (B2). The clarinet group starts with a flat B (B1) and goes down to a natural B (B2). The notes are: B1, F#1, B2, D#2, F#2, A2.

NO OCT. KEY
SAXOPHONE

NO REG. KEY
CLARINET

You may want to play the first or higher tone with the register or octave key to get the note firmly established in your ear. Then play it again without the octave or register key. On saxophone do this from high C to middle Bb, with middle C# - Bb fingered as low C# through Bb, and played as overtones. On clarinet do this exercise from high Bb to middle B, playing the high note without the register key and having the note drop to the twelfth below.

Now finger low Bb on saxophone or low C on clarinet and play:

The image shows two musical exercises on a five-line staff. The first exercise is for saxophone (SAX) and the second is for clarinet (CL.).

SAX: The first exercise starts with a note on the second line (G4) with a flat sign (b) and a slur over it. This is followed by a note on the first space (F4) with a flat sign (b) and a slur over it. Below the staff, there are two notes on a line with a flat sign (b) and a slur over them.

CL.: The second exercise starts with a note on the second line (G4) with a sharp sign (#) and a slur over it. This is followed by a note on the first space (F4) with a flat sign (b) and a slur over it. Below the staff, there are two notes on a line with a flat sign (b) and a slur over them.

Let the notes drop naturally and do not drop jaw! You can slide the mouthpiece out very slightly as the notes drop down. On saxophone do this exercise starting from low Bb to low C#. On clarinet starting from low C down to low E.

Exercise No. 7

Overtone and intonation matching
For saxophone:

Handwritten musical notation for Exercise No. 7, showing two systems of three staves each. The first system shows a sequence of notes: B \flat , B \flat , B \flat , B \flat , B \flat . The second system shows a sequence: G, G, G, G. Above the notes are various accidentals and slurs, including flats, naturals, and sharps. Below the notes are arrows and text indicating fingerings or breath marks.

INTONATION: MATCH OVERTONE WITH
FINGERED NOTE

Handwritten musical notation for intonation matching. It includes the word "Play:" followed by notes and slurs. The text "MATCH PITCH" is written above notes. Below, there are diagrams showing fingerings and breath marks for B \flat and G notes. The text "MATCH OVERTONES STARTING w/ B \flat series to C \sharp series." is written at the bottom.

Overtone and intonation matching
For clarinet:

Finger
♭: but play

FINGER
♭:

FINGER
♭♭: ect.-

*NOTE - when playing
the overtone series
on low E, a G♭ occurs
instead of G♯.

* ALSO, MATCH THE DIFFERENT
OVERTONES WITH THE FINGERED NOTE

play: ♭ ♯ ♭ ♯ ♭*

Finger:
No Req.
key.

Do this slowly, then again,
faster.

When you play a fundamental tone, you're actually playing that tone plus that tone's overtone series. This is a natural phenomenon that adds the color to your sound. When you practice the overtone series of a particular note, you are dissecting the overtone series of that note and are strengthening its color characteristics, which are the overtones. After working with overtones for a short while, you should begin to notice that more "highs" are present in your sound. When we use the term "highs" we mean high overtones, much like when you turn up the treble on your stereo. Although there may be playing situations or passages where a very dark tone is needed, you now have the "highs" available when you need them. You also have the flexibility with all of the other principles mentioned to play what you hear, inclusive of tonal qualities, pitch, volume, etc.

When you begin to develop Joe's playing techniques, you will find that the overtones will become increasingly easier. You needn't blow hard, in fact you should practice them softly as well as medium-loud. Before you play the next note down or up in the overtone series, be sure that you hear it in your inner ear. An excellent book of overtone exercise for saxophonists is Sigurd Rascher's "Top Tones", which gives many creative ideas in using overtones. It is highly recommended.

INTONATION FLEXIBILITY

Although our instruments are "factory tuned", there probably hasn't been an instrument made that plays perfectly in tune by itself. Even instruments that are very close to perfection need to be played with a certain amount of flexibility. Joe developed this next exercise to increase our capabilities in compensating for inaccuracies in our instruments.

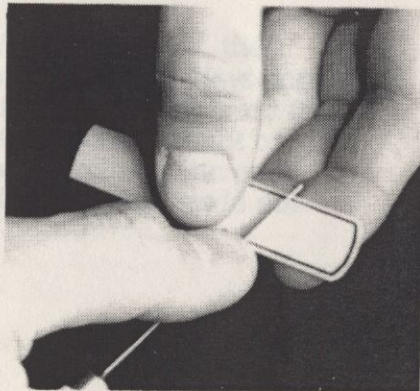
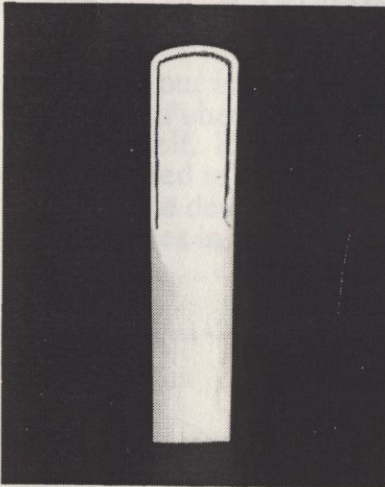
Exercise No. 8

Play chromatic long tones starting from the top range of your instrument, C above the staff on clarinet and high F on saxophone. As you play each note, bend the note down to a 1/2 tone below, e.g. C to B, F to E, etc. Be sure not to drop your jaw. Do not "lip" the note down. This is similar to the mouthpiece exercise where the tip of your tongue moves to change the pitch. After you can play one 1/2 tone below the original tone, try to go for one whole tone below. Practice this each day in conjunction with the overtone exercises. This will increase your ability to play with excellent intonation - from the attack of the note.

REEDS

Anyone who has studied with Joe will tell you that he can perform magic with a reed knife. He can work virtually any unplayable reed and turn it into one that you wouldn't mind using on a job. The first test that Joe gives to a reed is testing the sides. The way he does this is to "play the sides of the reed" by putting the instrument in to the mouth as if you were going to play normally. Then tilt or rotate the horn slightly to the left, so that the mouthpiece and reed slightly rotate to the left closing that side off, keeping the right side open. Then blow, without an attack on the reed, without the use of your tongue, open G on clarinet or C# on saxophone. Then do that same thing to the other side of the reed. Rotate the reed to the right closing of the right side and keep the left open. Again blow without an attack.

What you are testing is the strength of the sides of the reed. If the reed is too hard, you will hear quite a bit of air when you blow. Of course, you want a comfortable amount of resistance in the reed. You will be able to tell, by doing this check, if the resistance is the right amount for you. If you determine that one or both sides have too



much wood for your taste, you then can begin to shave the reed $1/16$ of an inch in from either edge. Never touch the heart of the reed. Also when you adjust a reed on the edge, start from the beginning of the vamp (where the slope of the reed ends) and work up gradually to about $1/16$ of an inch from the tip. Remember to try a lot and adjust a little.

You can always take more wood off the reed but you can't put any back. When using the knife, which should always be kept sharp, put your thumb (on your strong hand) on the back of the blade and use a semi-rotating motion. Press gently so that you carve "shavings" that are fine in texture.

You might need to do this process (check the resistance and shave both sides) three or four times until you are satisfied, however be sure to leave a bit more resistance there to allow the reed to "break in", especially if it is new. As we all know, reeds get soft as we use them. Also, you can shave the reed $1/16$ of an inch down from the tip, across the top if there is still too much resistance and you've decided that you've taken enough wood off the sides. Again, if you carve the heart or center of the reed you're running a high risk of taking the strength out of the reed.

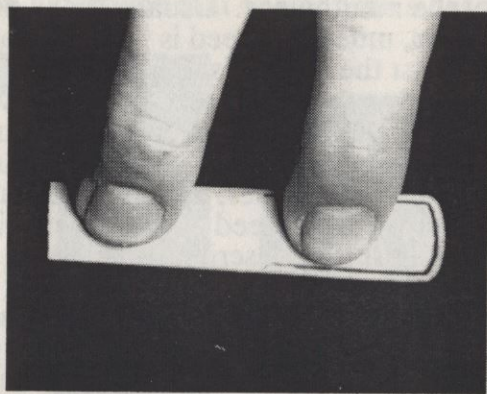
Another important point about reeds is reed placement. From our discussion earlier about the mouthpiece, we know that it is important to have the reed vibrating against all three rails of the mouthpiece. Usually the two side rails aren't a problem, unless the reed is warped, however, reed placement against the tip rail is more flexible. Although you can produce tone with the reed pulled down from the tip, you will get more intensity and evenness as you move the reed higher on the mouthpiece. The reed should be at least even with the tip, if not higher. If you can't play the reed comfortably with the reed at least even with the tip, you'll need to adjust it as described earlier.

Reeds can sometimes warp especially if you have changing or very dry weather conditions. One possible remedy for this is to wet the reed and get as flat as possible by pressing it perpendicularly against the facing of the mouthpiece with your thumb.

Never play a reed that is visibly warped. Once the reed is visibly flat you can check to see if it is still warped by taking the mouthpiece and reed off the horn. Now place the palm of one hand flatly onto the opposite end of the mouthpiece. Then put the mouthpiece into your mouth and suck air out of the mouthpiece to create a vacuum inside the mouthpiece. If the reed is warped, the reed will not stick to the mouthpiece. This means air is leaking through. If the reed isn't warped it will stick to the mouthpiece for a second or so, then release.

You should only do this if you suspect that the reed is warped, which would show up as very poor response, especially in the lower registers.

The next thing to do is take a flat, hard surface and lay a sheet of white paper on top of it. Place the reed on it, vamped side up. With your index and middle fingers of your strong hand placed firmly on the reed lengthwise, move the reed in a circular motion. The intention is to press the fibers of the reed back into place. Do this for at least 30 seconds. If the reed was slightly warped on the back side, this procedure should help correct the problem. If the reed is more than slightly warped, you can try a fine sandpaper in place of the sheet of paper or even use a fine metal file.



TEETH

Some reed players complain that when they start to play with the chewing motion of the lower jaw, the bottom lip becomes quickly fatigued or that a ridge develops which is painful. Usually practicing over a certain period of time will help relieve this problem, however, there are a couple of other solutions. The first thing that you can do is use any type of cigarette rolling paper and fold it twice. Then place the folded paper over and around your bottom teeth. This will help in relieving any discomfort, although it may take some getting used to. The other thing that you can have done requires a little bit of cosmetic work done by your dentist. You can have him grind down any ridges that he finds. This is a very simple procedure and involves no pain and can be done in 2 minutes or less. Doing this will also help the reed vibrate as evenly as possible.

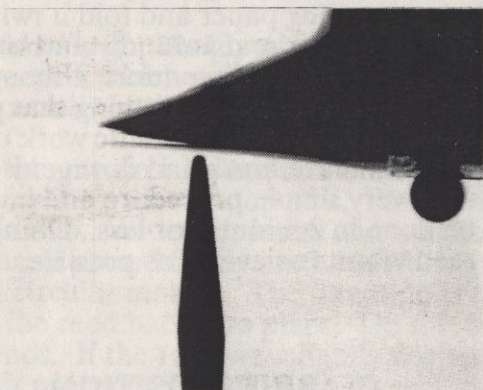
CLARINET POSITION

Joe observes that many clarinetists hold the clarinet very straight, with the bell too close to their body. This will restrict sound because it creates an angle with the teeth that is not natural. When the clarinet is held too vertically, the lower jaw wants to push out, which is an unnatural position. Try pushing the lower part of the clarinet away from your body. Your teeth will form a natural bite transforming your sound into one that is less restricted. Everyone has a different bite so there is no definite recommendation as to how far to move the clarinet. You need to do some modest experimentation and see what works best for you. Some of Joe's students play with the bell resting on their right thigh, near the knee.

TEETH PLACEMENT

You need to determine where the reed and mouthpiece separate, so that you can take the right amount of mouthpiece. In other words, you want to find out where the facing actually starts. This is the specific point that your bottom teeth should be, through you lip, of course.

To find where the facing or mouthpiece curve is, look at the mouthpiece sideways, with the reed attached.



Make sure that there is substantial light behind the mouthpiece. You should be able to see where the reed and mouthpiece meet. Again, that's where your bottom teeth should be for maximum control. Put your finger at this point. Now put your bottom teeth on this point so that you know where it is with your mouth. Then you can release and use your lower lip, as normal. Your top teeth should now be in the same position as your natural overbite. Your top teeth are further along on the mouthpiece than your bottom teeth, because of your overbite. Remember, just resting, not biting.

OTHER SOUND PRODUCTION COMMENTS

Another comment that Joe has made to his students is to think of the sound that you produce coming out of the bridge of your nose. Of course, this is not the case; however, the idea is for you to have the feeling of vibration in your mouth and face. This was told to him by some of the great vocalists that he has worked with.