Teacher's Guide

Saxophone

Selmer

by Dr Frederick Hemke



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Introduction

It is unnecessary to lament the plight of the saxophone and its gross misuse. It is necessary to recognize that the instrument can be successfully taught with as high a degree of seriousness as any other concert instrument. Moreover, it can be taught in relation to itself; that is, it need not depend on any other instrument for pedagogical analogies. The saxophone is an instrument distinct in itself and must be taught as such.

While in the United States uncertainty has hampered the teaching of the saxophone, Europeans have long since turned to France's established school of saxophone technique, sound, and pedagogy. For this reason, the basic teaching premises in this pamphlet will be derived from the French School.

Whether a student's inclinations are toward jazz or concert music, certain fundamentals are prerequisite to his playing the instrument with dignity and musicianship. This is a guide to those fundamentals, and it can help your saxophone section to add a new sound and vital color to your ensemble or prepare a promising saxophonist to gain the most from his chosen instrument.

Basic to all wind instruments are certain acoustical characteristics linked to tone production, intonation, quality of sound, range, and technique. Each instrument also has its own acoustical peculiarities. In order to understand any one instrument completely, the teacher must know thoroughly both general principles and peculiarities. Only a sketch of the acoustical nature of the saxophone can be given here, and it can only serve as a preliminary guide to the instrumental teacher.

The saxophone combines two acoustical features - a single beating reed and a conical tube. These features were not combined accidentally, but were intended by the inventor, Antoine Sax. He thus produced an instrument that responded as an overblown open organ pipe, permitting the production of the full complement of overtones in the harmonic series. Unlike the clarinet, which overblows a twelfth and is not capable of producing all the overtones, the saxophone overblows an octave. This accounts for its relatively simple system of fingering. It also accounts for the characteristic tone quality of the instrument.

Since it is not practical to produce all octaves simply by overblowing their fundamentals, provision was made to assist mechanically the playing of the upper register. On a stringed instrument stopping the string at its midpoint with a finger produces an octave. On the saxophone the same principle holds, but it is a column of air which must be



divided. This is accomplished by placing a small hole in the side of the body to break the air column within. If low D to middle C sharp may be considered as basic fundamentals on which the notes above C sharp are produced, it will be seen that at least 12 such holes would be necessary to raise these fundamentals a perfect octave.

Yet the saxophone has but two octave keys, and any more than this number would be mechanically impractical. The result is that while every possible means of compensation has been incorporated, it is acoustically impossible to construct an instrument which is at once perfectly in tune, mechanically sound, and not a hindrance to the performer. In a superior instrument this problem is minimized, but its implications cannot be overlooked by the instrumental teacher.

A few notes on the saxophone tend to be slightly sharp or flat within the instrument's own scale. These can be humored to true intonation by minute adjustment of the embouchure, assuming the player has acquired the necessary sensitivity. The saxophone is constructed to tune best at a specific pitch level, the same as other wind instruments. This is usually A-440 at 72 degrees F. If the instrument is forced much above or below this pitch, it is certain to become out of tune with itself, for changing location of the mouthpiece on the neck of the instrument affects some notes much more than others.

The uncommon flexibility of the saxophone's pitch requires the beginner to become extremely sensitive to pitch discrimination, much as a young string player must cultivate the same awareness. As the saxophonist matures, he will find that slight adjustment of the oral cavity, embouchure, breath or even alternate fingerings will have to be utilized.

On the other hand, the simplicity of the instrument's fingerings causes many young players to achieve technical facility only. This leaves intonation, tone quality and musicianship to be attained late - or never. This is why young saxophonists MUST LEARN TO PRACTICE SLOWLY.

In those situations where it is necessary to teach either a class of saxophones or heterogeneous classes, the problem is aggravated, and in this respect, private lessons from a qualified teacher are a valuable supplement to regular class instruction.

To get the best results from saxophones, treat them as primary instruments capable of high musical achievements. Don't try to build a fine saxophone section by starting youngsters on clarinet or some other instrument and then switching them later. This old custom not only promotes an improper start on saxophone, but also prevents many of the problems of the instrument from being explored. It also implies that the saxophone is a secondary instrument, which it definitely is not.

Selecting Eqiupment

During the early part of the Twentieth Century when the saxophone first became popular in the United States, almost every household had a C melody or some sort of saxophone. During that time many fine instruments were manufactured, but also many inferior ones. The beginner with an inferior instrument of this type is at a disadvantage. Although the student need not have an instrument identical to that of a professional, it must have good intonation, be well constructed and in good mechanical adjustment. The progress of a student can be seriously hindered by faulty or inferior equipment. Since few students or parents are able to appraise an instrument, this responsibility usually falls on the teacher, or on a reliable instrument dealer. Helping the parent and student to choose a proper instrument will not assure the student of success, but it will at least help him get off to a good start.

The selection of a proper mouthpiece for the student is likewise important. Even an instrument of professional quality can be difficult to play with an ill-suited mouthpiece. Since a mouthpiece must be matched either to the instrument or the embouchure, or both, I recommend that the instrumental teacher have at his disposal a kit of mouthpieces with various facings. The average student should select a mouthpiece with a medium facing. Avoid exaggerated tip openings and unconventional bores. The exotic mouthpiece may have its place, but not in the mouth of a beginning student. The material a mouthpiece is made of plays only a small part in the tonal color produced. That is not to say that there is no difference in sound; the difference is discernible but usually not significant. Plastic, rod rubber or metal affect the durability and longevity of a mouthpiece far more than its sound. A metal mouthpiece, for example, will naturally keep its lay

longer and will be free from cracking or breaking. The choice then is one of practicality as well as artistic results.

Whenever you select a mouthpiece for a student, be sure that the time of indoctrination is long enough. The student should use the mouthpiece conscientiously for a period of months and not switch around from mouthpiece to mouthpiece.

Although the ligature also plays an important part in successful playing and teaching, it is seldom given a second thought. Make sure that the ligature is malleable enough to conform to the shape of the mouthpiece. Avoid tightening the screws to the point that edges of the ligature gouge the reed. It is sometimes an advantage to place the screws on the top of the mouthpiece so that the reed is held to the mouthpiece firmly and with even pressure. Generally, the screws should be just tight enough to hold the reed, the front screw being just tight enough to keep it from vibrating. Any excess tension will keep the reed from vibrating fully.

The reed, that everlasting curse on instrumentalists, plays an extremely important part in the beginner's early studies. A good instrument, good mouthpiece, good ligature, and bad reeds is a combination that has caused many a dropout.

It is nearly impossible to describe the perfect reed, and even to suggest that there is such a thing may inspire a lifelong (and futile) search. Still, a reed's appearance reveals useful clues to its quality. The best cane is usually deep yellow and without any tinge of green. The good reed should have a straight grain running its entire length. The reed should be evenly cut, so that holding it to the light shows a dark "heart" in the middle, with one side neither darker nor lighter than the other. Rolling the reed from side to side against the finger should indicate that the corners of the reed are equally springy. Finally, the two edges of a good reed look identical. In short, the best reeds are bilaterally symmetrical.

For the medium faced mouthpiece and the type of embouchure that I will describe, a reed between 2 and 2 1/2 will work most successfully. Reeds should not become stronger as the student progresses.

Advise the student to purchase several reeds at a time - even a box if possible. A reed which at first does not respond should not be discarded, since it may perform perfectly well later. Do not be satisfied with one good reed; search for three or four and then alternate them in daily practice. With proper instruction and discipline, the serious average student finds this not a chore, but a challenge. Early indoctrination of this type provides the instrumental

teacher with teaching time that might otherwise have been spent in clearing out ambient overtones from the instrument.

The Production of Tone

The embouchure here described is that of the French School. I recommend it because of its successful results, but others are also successful, and my description need not be used for anything more than a guide.

Cover the bottom teeth with the lower lip. Use no more of the lip than necessary - certainly no more than the red part. Since the lower lip acts as a cushion on which the reed rests and vibrates, it is not tightly drawn over the teeth. The top teeth rest on the mouthpiece. The pressure around the mouthpiece is just sufficient to keep air from escaping at the corners and keep the instrument in correct intonation. The concept is that of a rubber band with an equalized pressure around the entire mouthpiece.

The tongue will inevitably move a little during changes of register, but it should normally be kept flat on the bottom of the mouth. This is particularly important for good sound production in the lower range. In fact, all my points concerned with tone production remain relatively constant throughout the entire range of the instrument. No radical change is necessary for either the low register or the upper register.

The position of the chin is natural, without pointing, tightening, or bunching. The jaw itself should tend to relax, with the mouthpiece being held firmly but not tightly in the mouth. To introduce this concept to the beginner, have the student begin with an open mouth, with no lower lip drawn over the teeth. Have him put the mouthpiece about five-eighths of an inch into the mouth, rest the top teeth on the mouthpiece, close the mouth, and only then roll the lower lip over the bottom teeth just enough to cover them. During these first lessons a medium-face mouthpiece and soft (No. 2) reed will help the student produce a sound without biting.

The next step is to blow and it is important that the student be allowed to project plenty of air into the instrument. Do not hinder the student by forcing him to play softly; this is the very hardest task for any instrumentalist. A beginning saxophonist attempting to play softly will only tighten up, and this is the antithesis of what the French School wishes to accomplish. The tone must be free and rich and must sound like a saxophone, not a clarinet or a bassoon.

The cheeks should not be drawn taut, but while not puffed, they must give a large, open feeling within the mouth. The throat remains open always. Rather than trying to describe an open throat, take the student to the piano and have him sing a scale in his range on an "AW" vowel. This feeling should be exactly the same when he plays the instrument.

All these points concerned with tone production remain constant throughout the entire range of the instrument. No change is necessary for either the low register or the upper register. The common belief that the extreme registers of the saxophone are difficult to produce is unfounded. An instrument in good mechanical condition will respond easily without embouchure or throat manipulations. As suggested earlier, adjustments may be necessary to correct the intonation of a particular instrument, but even these are slight. Remember that more air will be needed for both low and high registers and allow the student to project plenty of air through the instrument. Never tell a student that either register is difficult to produce; this can only lead to an unjustified mental block.

The Teaching of Saxophone Vibrato

The sound that the mature student will produce must be a product of himself. The student should be guided by recordings or concerts by prominent saxophonists and must be continually encouraged to realize the inherent sound of the instrument. When you teach the student to be a sensitive musician as well as a saxophonist, his conception of the saxophone's sound will help make the distinctive color of his section a greater asset to your ensemble.

Vibrato on the saxophone cannot be thought of as an embellishment superimposed on the tone. When vibrato is to be used, it must be considered inseparable from the total sound. This is why problems of instruction go beyond the technique of its production as an ornamentation. Saxophone sound for the student should be a sound with vibrato.

If vibrato is a vital part not only of long tones, but of moving lines, then it must be controlled to the point where it can be used as an inherent part of the sound, or completely eliminated to produce a "straight" tone.

The two common types of vibrato are the intensity vibrato and the frequency modulating vibrato. The one that best meets the requirements of the saxophonist is the frequency modulating vibrato.

As its name makes clear, this vibrato affects pitch. It cannot be stated absolutely, however, that it does not also affect intensity. Experiments have shown that the low point in the frequency undulation of vibrato is usually less intense than the top. The effect is evidently produced by simultaneous frequency and intensity changes.

If diagrammed, the saxophone frequency vibrato would take the shape of a uniform undulation. This undulation will dip from the actual pitch by .05 - .15 of a semitone and then return to the pitch. It is at the low point in the undulation that the intensity change may be measured.

A prerequisite for the profitable study of vibrato is a well established concept of saxophone sound. The time it takes to achieve this concept varies with the individual and depends largely on the ideal set before him and his own ability and determination. It may be weeks or months before this is achieved. In any case it should be placed above all technical achievements from the start. If it is, vibrato may be taught at a relatively early level of instruction.

The experience of artistic vibrato is so subjective it is difficult to explain how to teach it. However, there are reliable methods for teaching the first steps, with the expectation or hope that later the student's maturation will help.

Although the vibrato will ultimately be controlled by the lip, jaw movement is used also in the beginning to effect the pitch change. No more need be said about the intensity change at this point, since this will evolve normally and need not be taught. To begin, then, the student forms the proper embouchure and plays some easily produced tone, such as second line G. Then he allows his jaw to relax almost completely while the air supply remains constant. Since this is only a beginning technique, do not be alarmed at the degree of pitch change. Its purpose rests in demonstrating to the student, in an exaggerated way, how the vibrato is actually produced. As soon as the jaw is relaxed, it is brought back to normal and the correct pitch is regained.

To stress the uniformity needed for vibrato, introduce a metronome and set up an absolute number of undulations. To begin, set the metronome at MM 60 with two undulations being given to each click. Play this exercise as four beats to a measure, moving upward to the next note in the scale after each four beats. The selection of a scale such as G major, F major or C major will be helpful. When the student is proficient in ascending and descending the scale in this manner, have him practice three undulations to each click. Once the student has mastered this much, generally

in one lesson, urge him to practice vibrato with the metronome as part of his daily practice procedure. Do not attempt to teach the use of vibrato in solos or studies at this point.

After a student is able to control the vibrato at four undulations MM 60, the more serious work begins. The movement of the jaw should by this time be noticeably decreased. The dip in pitch can be reduced further by allowing the lower lip to produce this vibrato.

In view of Marcel Mule of the Paris National Conservatory of Music, the speed of vibrato should depend largely on the tempo of the music being performed. He asserts that the number of undulations used should vary between 300 and 350 per minute. This means that at MM 60, five undulations per beat would be used. At MM 55 there would be six per beat, etc. A word of caution: be sure that your metronome is accurate. Check to be sure that MM 60, for example, is actually 60 beats per minute.



Mule's vibrato speed is well suited to the sound of the instrument and the concert style. The instructor may, however, prefer a different rate of undulation, and the Mule method itself does not insist on a never-changing rate of undulation at a given tempo.

Vibrato must change for mood, intensity, and style. It is the overall uniformity that is important, and the most difficult for the student to attain, so whatever the speed, urge the student to practice it with the metronome.

When the student's vibrato is reasonably uniform, even, and at a correct speed, he may begin to use it in solos or slow studies. One of the remaining problems is to incorporate the vibrato in the complete sound. The student must be able to play up or down a scale in slow half notes without stopping the vibrato at the end of one note and beginning it again on the next. The scale should be slurred

and the vibrato continuous. When this is accomplished, repeat the study in quarter notes, then eighths, and finally sixteenth notes. At this last speed the vibrato will be all but unnoticeable, but will, if learned correctly, lend a distinctive timbre to the sound. For obvious reasons an elementary student should not be expected to fulfill this final phase.

The true worth of vibrato study comes in the application of principle to practice. The artistic vibrato does not evolve overnight, but is part of the continuous maturation of the young musician, who slowly learns discretion in its use. To be sure, discretion cannot be taught with rules. Suffice it to say that vibrato need not be used indiscriminately at all times. There is a time and place within every piece of music where vibrato may be varied or stopped for effect. I won't attempt to pinpoint this time and place.

In ensembles where many saxophones are used, a general rule is to eliminate vibrato for the sake of group intonation or blend, except in solos or in passages chosen for effect. This is especially true at the grade and junior high school level. In stage bands, where section work is so important, the entire section must learn to approximate the same kind of vibrato and to eliminate it for specific effects.

The instrumental teacher will be best qualified to judge and determine when vibrato is desired in ensemble playing. On the other hand, the student should be encouraged, through guidance, to use his own discretion in the use of vibrato in solos or small ensembles. Teach him the principles and fundamentals so that he may know what, how, and why he is studying. Then he is in a position to respond intelligently and help himself to realizing good musicianship.

First Use of The Tongue

Among the various currently accepted tonguing methods, the most successful for the saxophone uses a part of the tongue away from the tip. The straight-on manner in which the saxophone mouthpiece enters the mouth accounts for the success of this method. The tip is arched forward, touching either the underside of the bottom lip or the bottom teeth, depending on the length of the tongue. Although the tip need not be rigidly anchored, it must not be allowed to find refuge under the reed (where it will assuredly produce a "slap tongue"). With the tip down and forward, only a portion away from the tip can then be used to touch the reed. The motion of the tongue is one of flexing, with the tip used as a pivot. For the majority of students, this method produces light, fast tonguing.

Tonguing need not be started with the first lesson, but should follow a certain mastery of embouchure control and breathing habits. To begin to tongue, the student forms the correct embouchure and places the tongue as described above. The body of the tongue is then arched upward until it closes off the reed against the mouthpiece, so that no air can enter the instrument. The student then blows, drops the arch of the tongue, and while still blowing arches the tongue once again until it touches the reed. This is the complete tonguing cycle.



There is never only one solution to a pedagogical problem. The result is the important thing, and it is often arrived at in seemingly conflicting ways. In teaching tonguing attacks, the instructor may or may not wish to use related syllables. Beginning students usually make fast associations with this approach, though. The choice of syllable (tah, tee, too, dah, etc.) depends largely on the desired sharpness of attack.

When the tongue is used correctly, it does not normally close the orifice between reed and mouthpiece. Its function is to stop the vibration of the reed, not to close off the air supply. So as he tongues, the player must continually propel air through the instrument. Indeed, the student must learn to keep all factors except the tongue constant while he tongues.

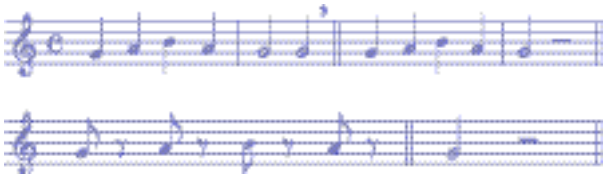
It is usually only in rapid staccato playing that the tongue actually closes off the tone. The release of one note then becomes the preparation for the succeeding note.

Just as many possibilities of bowing and articulation exist for the stringed instruments, so does a wind instrument demand many and varied types of tonguing. The more advanced student will eventually have to learn these tonguings and their uses.

Legato tonguing involves the same basic principles, with less pronounced attacks. Light attacks and a sustained doodoodoodoo articulation produce an agreeable legato tonguing effect.

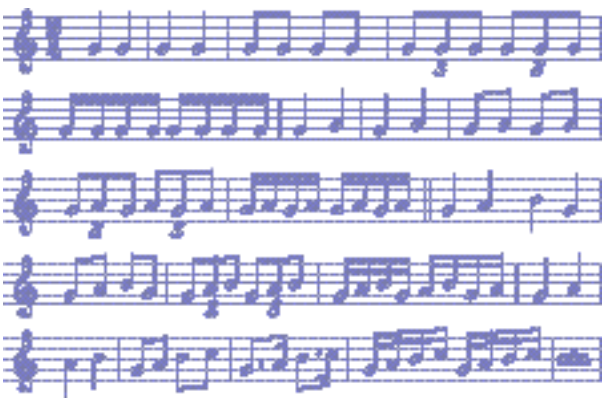
Once the tonguing movement is successfully started, the question of stopping the sound remains. Generally this is done by closing the aperture between mouthpiece and reed with the tongue, by withdrawing the breath at the end of a phrase, or, at the end of a pianissimo phrase, allowing the breath to die away. The stopping point is indicated by a breath mark, by a succeeding rest, or it may be left to the player's musicianship.

Since coordinating the tongue with the fingers is often a



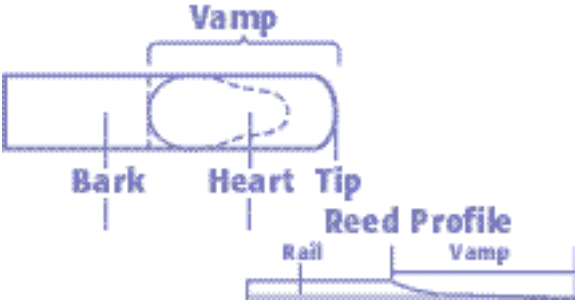
great challenge to beginners, start tonguing exercises with slowly repeated notes. Follow this with slow alternations between closely associated notes. Continue with varied rhythms and progressively more complex scale patterns until extended patterns can be played with speed.

The example below illustrates these exercises.



Reed Preparation and Placement

Any reed will last twice as long if it is prepared before playing. One of the easiest methods requires only a piece of glass or clear plastic a little larger than the reed. Place a wetted reed on the glass, flat side down. Rub the reed (with the grain) vigorously with a clean finger until the surface becomes smooth. This will cause the grains exposed by the cutter to be closed off and impede saliva from waterlogging the reed.



A more time consuming but more successful way to prepare a reed is to rub it with 400A silicon carbide paper. First cut two small pieces of this paper (about 1" x 3") and rub their faces together until both are smooth. Then rub the reed firmly with the grain, avoiding the extreme tip of the reed. If this is correctly done, the paper makes a clicking sound and seems to stick to the reed slightly. This process will close off the open grain, and also polish the reed.

If a student will prepare a number of good reeds at a time, and use them alternately, each reed will last longer. Reeds should be stored and placed on a flat, durable, non-absorbing surface when not in use.

If wetting the reed before playing makes wrinkles appear on the tip, roll the tip lengthwise against the flat bottom portion of the mouthpiece.

To protect the delicate reed tip, first place the ligature on the mouthpiece and then slip the reed, blunt end first, under the ligature. The tip and sides of the reed should be about even with the tip and sides of the mouthpiece lay. Reeds that are slightly too soft can be saved from clipping by moving them above the tip of the mouthpiece a bit. Putting the mouthpiece on the instrument without the reed will save the effort of readjusting it. A well greased neck cork will aid this as well as being an aid while tuning. Once the reed and ligature are in place, reduce the pressure of the screws - especially the front one - to allow for complete reed vibration.

The student should be taught how to adjust reeds when he becomes sensitive to his own sound and is studying seriously. Because embouchures and mouthpieces do vary, reeds should be individually fitted. But, generally, only the more serious students will have the time and purposefulness to perfect the art of reed adjustment.

While much of this adjustment must be learned empirically, a few major guides can be given.

1. The marks of a promising reed were described earlier; it is nearly impossible to adjust a reed that lacks these qualities in material and cut.
2. A good reed knife, light sandpaper and a rectangular piece of glass or plastic larger than the reed will be needed to begin.
3. When scraping, test the reed frequently on the mouthpiece to avoid taking off too much cane.
4. Avoid working on the center or heart of the reed.
5. Avoid working at the extreme tip of the reed; work on the small area directly behind the tip.
6. Avoid clipping a reed unless it is extremely soft.
7. If the reed is too bright or soft in all registers, move it a bit above the tip of the mouthpiece.
8. Unevenly cut reeds should be scraped on the thick side.
9. Reeds which respond well at forte but not well at piano are too stiff at the tip. Work on the area immediately behind the tip.
10. If squeaks are present, one side of the reed is probably too heavy or too light.
11. If the reed is bright in the upper register and dark in the lower, scrape the sides near the back of the vamp.
12. If the reed is dark in the top register but bright in the lower, scrape at the edges about half way down its length.
13. If the reed is dark in all registers, scrape off a small amount behind the tip or at the middle and back of the vamp, where the bark ends.
14. Saliva entering the reed at the mouthpiece window will cause the grain to rise, and the reed will vibrate sluggishly. A reed that once worked well but is now sluggish can be lightly sanded on the flat side.
15. Generally, scraping can be used to adjust trouble in any register of the saxophone. If the trouble is in the low register work on the back of the reed; if the trouble is higher, work towards the tip.
16. The balance of the reed is all important. The back surface of the reed must always be flat and smooth. Be sure to scrape or lightly sand the underside of the reed to remove any swelling or unevenness.

Correct Breathing

To describe embouchure, equipment, throat and all other facets concerned with tone production is a waste unless the student has learned to breathe correctly.

The diaphragm is a three-part dome-shaped muscle just under the lungs, or more precisely under the pleural cavity. By nature it assists us in our breathing. One can neither feel the muscle nor directly and consciously control it. The saxophonist makes the best possible use of it by learning to control it indirectly.

This means that students must be taught how to create the largest possible inner chest cavity in which the lungs may expand. To accomplish this, correct posture is a primary consideration. The student should sit well forward on the chair with his back away from the back of the chair. This will allow him to concentrate on expanding the rib cage to provide a large chest cavity. In inhalation, the high part of the diaphragmatic muscle dome sinks downward, creating the vacuum that draws air into the lungs. Pushing the abdominal muscles forward allows for still greater expansion. It can be seen that poor posture, or excessively tight clothing or lack of concentration will impede these objectives.

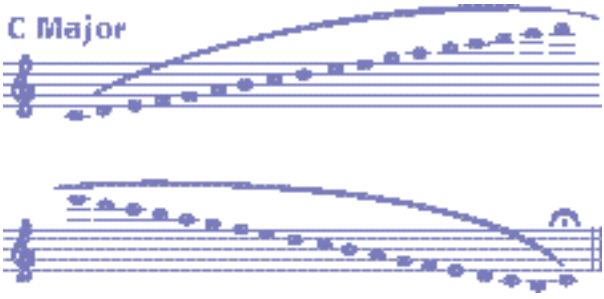
In exhalation the procedure is reversed. The abdominal muscle and rib muscles are used to act on the diaphragmatic muscle and force the air out of the lungs at any given rate. This rate must be at all times uniform - a distinct "column of air." While this is usually easy for the beginner at forte, it becomes a problem at piano.

Forte or piano, the quality of the tone should remain the same, but it often becomes pinched as it becomes soft. This is because the diaphragmatic muscle is controlled indirectly, while the muscles of the larynx can be directly controlled. Hence in an effort to play softly, the student may unconsciously close the larynx and sacrifice the quality of sound.

To play softly successfully, pressure on the diaphragm must combine with the correct opening of the larynx, a combination that is not learned overnight and one which requires an informed and understanding teacher.

The mechanics of breathing and sound production on the saxophone must remain constant for all registers. Nor is the range of the saxophone extensive enough to warrant drastic embouchure or throat changes. Thus low B flat and high F are produced in basically the same way, with only an increase in air to compensate for added resistance in the upper register and increased volume in the lower.

A high F should have the same sonority as a middle C or low B flat. An efficient way for students to learn this is practice of the extended scale:



The purpose of the extended scale is to utilize the entire instrument for developing uniformity of sound, finger facility in the extreme ranges, and familiarity with all keys. The scale is played diatonically from any given tone, such as C in the example, to the instrument's highest note in that key or scale. The scale then descends to the instrument's lowest note in that scale and finishes on the starting note.

Hand Position, Finger Action and Development of Technique

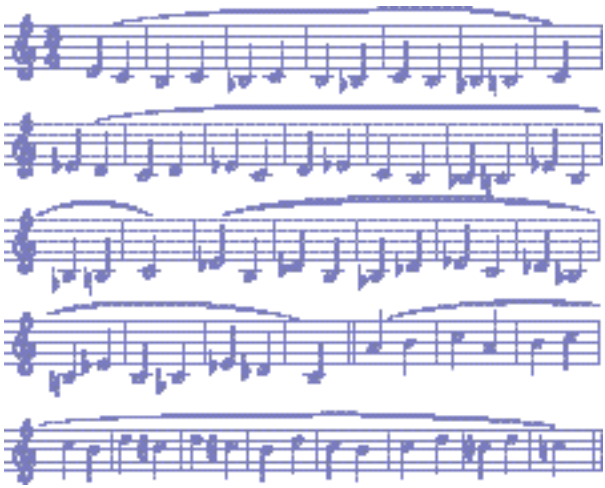
The young player must hold the instrument in a position conducive to facility and accurate intonation. The seated player can hold his saxophone directly in front, but it must be neither too close to his legs nor too close to his chair. If the saxophone is too close to the legs the sound is stifled and the intonation of each note below low E hindered. The saxophone can also be held at the side if it is also far enough forward so that the player blows through the mouthpiece and not against it. If the player is standing, the instrument is best held in front and away from the body.

The hands are held in what is called a "streamlined position" approaching the instrument obliquely and allowing the fingers to move in a natural manner. Saxophone keys are designed for this position.

The left thumb is used as a pivot, rocking rather than switching from plateau to octave key. The right thumb helps to support the instrument, but care must be taken to see that the thumb is not too far under the support, as this will deter the action of the other fingers on that hand.

The fingers of both hands are gently cupped, not rigid and straight, and they do not rest on the instrument. The first finger of the right hand is about over the middle side C key. The left hand arches above the side palm keys for easy access to these keys.

Special fingering problems are inherent in the instrument. Special progressive exercises should be devised to master them.



Method of Practice

Practice of slow, even finger pressure on the keys will result in a smooth technique. Overexerted snappy finger action will cause undesirable key and pad noise. The finger should not be allowed to rise too far above the keys; this can only result in excess noise and uneven technique. As in so many other cases, slow, conscientious study is the surest way to success.

Utilize various articulations in scale studies to develop facility and coordination of tongue and fingers. Do not overlook the importance of the overall slur.

About ten to fifteen minutes of the practice period should be allotted to the study of various scales and arpeggios. During the remaining time, melodic ectudes, exercises in technique and articulation, vibrato studies, or any specific lesson assignment may be first practiced. After the material for the next lesson has been well practiced, the sight reading of new music will not only improve reading ability, but will introduce new problems which must be solved in later lessons. New solos for increased repertoire are points of focus where all associated and related factors of a lesson can be brought together. A review of a solo or

exercise learned for a previous lesson will help make the practice time more meaningful.

Young players always attach a certain amount of prestige to great speed. Their urge to speed can be disciplined by the metronome, a considerable aid in the development of uniform technique if used correctly.

The length of practice sessions while important, is secondary to their regularity. Parents are obligated to provide a time which is to be used daily for practicing.

Because the saxophone is capable of such wide variance in tonal color, the first major goal of the young saxophonist is a mature concept of sound quality. No student should ever proceed from one note to the next until he and his teacher are sure that he first has the desired sound. As idealistic as this may appear, it is nevertheless a vital necessity for any student of any age who performs on the saxophone. To this end must all practicing be geared, from the slowest, most lyrical etudes to the fastest technical exercises. If a saxophonist does not bother about the sound of his instrument, he is likely to become little more than a technician. He need not select an instrument with so rich a sound quality potential.

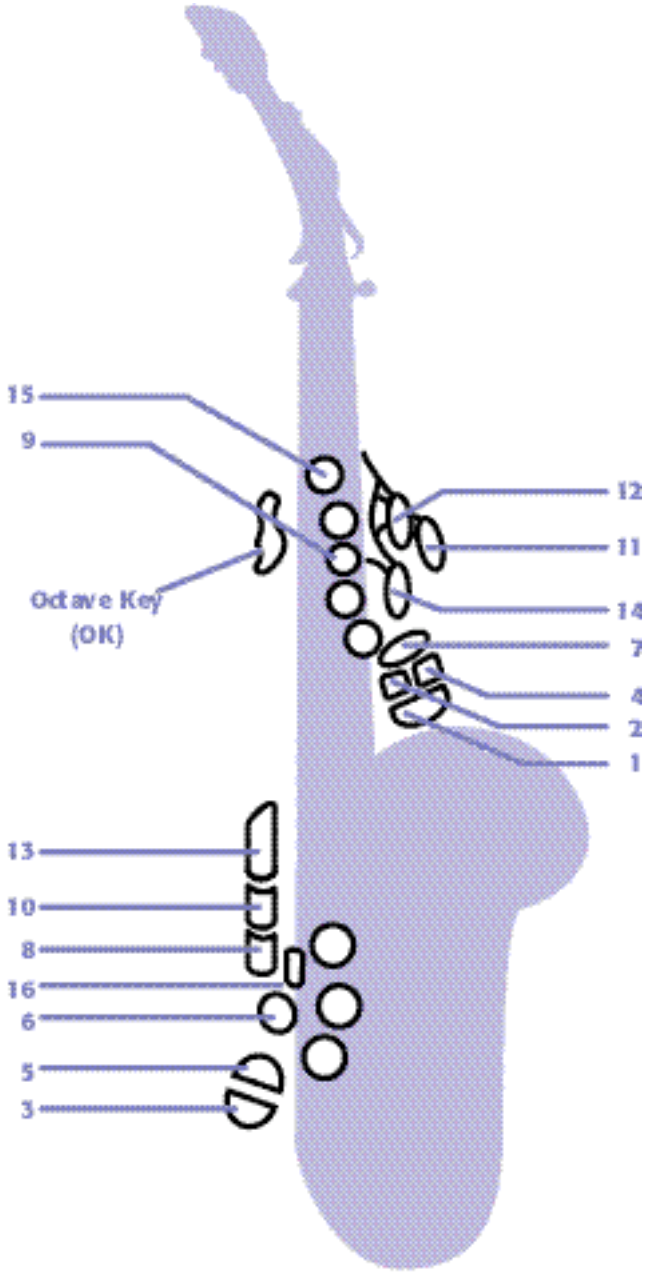
Since almost all beginning and intermediate music, and most advanced music as well, is based on scales, arpeggios, and various common intervals, is necessary for the student to study these diligently, so that associations can be made between practice and performance. Major, minor and whole-tone scales should be practiced in scalewise progressions and intervallically in thirds, fourths, etc. Both major and minor arpeggios likewise should be practiced.

Include the entire register of the instrument in these studies. Do not allow the student to become proficient in the middle register of the instrument only. Explore both the upper and lower limits of the instrument as if they were the middle register. Practice of extended scales, as already explained, will help to accomplish this.

Fingering

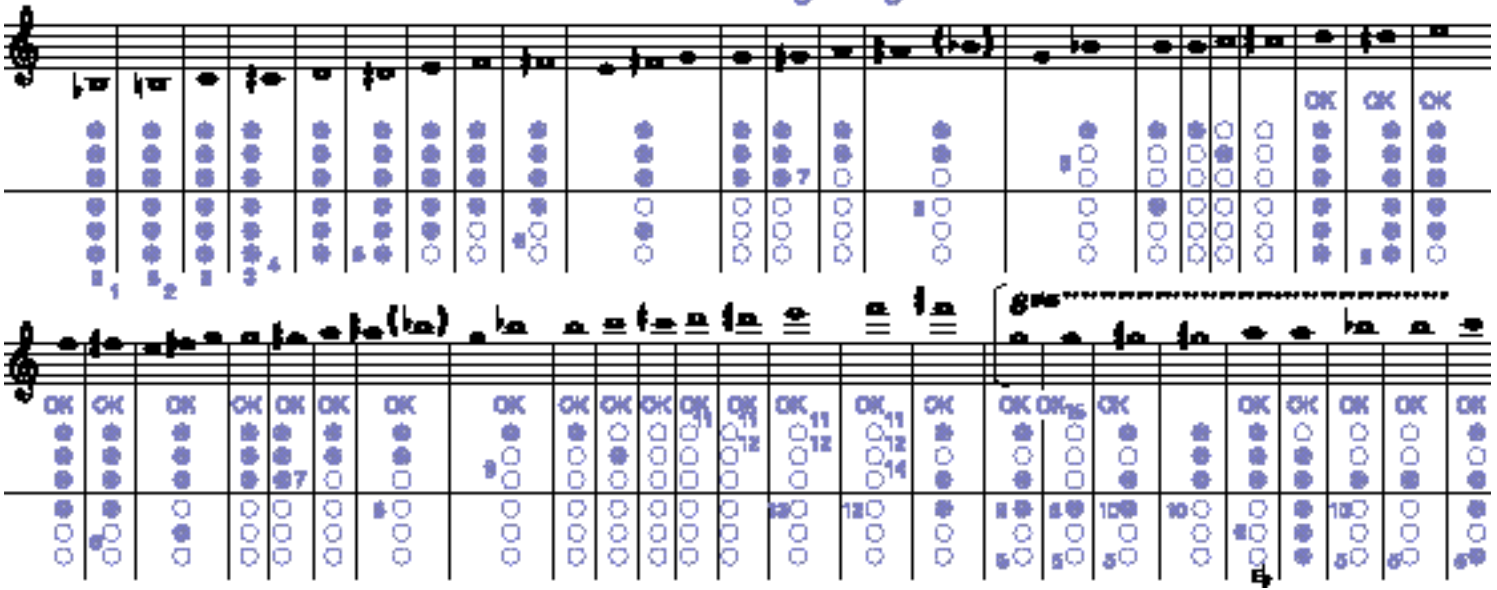
The fingering of the saxophone is not complex. This is so well known it has caused valuable alternate fingerings to be slighted. Choices of fingerings, for the sake of intonation or facility, will have to be made as the student encounters passages of increased complexity. For this reason the following chart of regular and alternate fingerings should be more and more useful as the student progresses. Preferences are indicated on the chart by order of presentation. The first two B flats shown must be given equal importance on the saxophone, however. The side B flat and the Bis B flat are to be taught one with the other, since neither is sufficient to meet all fingering problems. The fingerings for notes above high F# are included only because there is occasional reference to them in saxophone literature. These fingerings do not guarantee perfect intonation. Any of the fingerings above the normal register will demand experimentation, some embouchure manipulation and acute listening on the part of the performer. Obviously, the beginner will not be concerned with these notes and only the most advanced student need be concerned, or even interested.

For other fingerings, students are encouraged to experiment and to decide which are best suited to specific problems in intonation, timbre, dynamics or technique. Those examples preceded or followed by blackened notes indicate the usual approach or progression to that particular fingering.

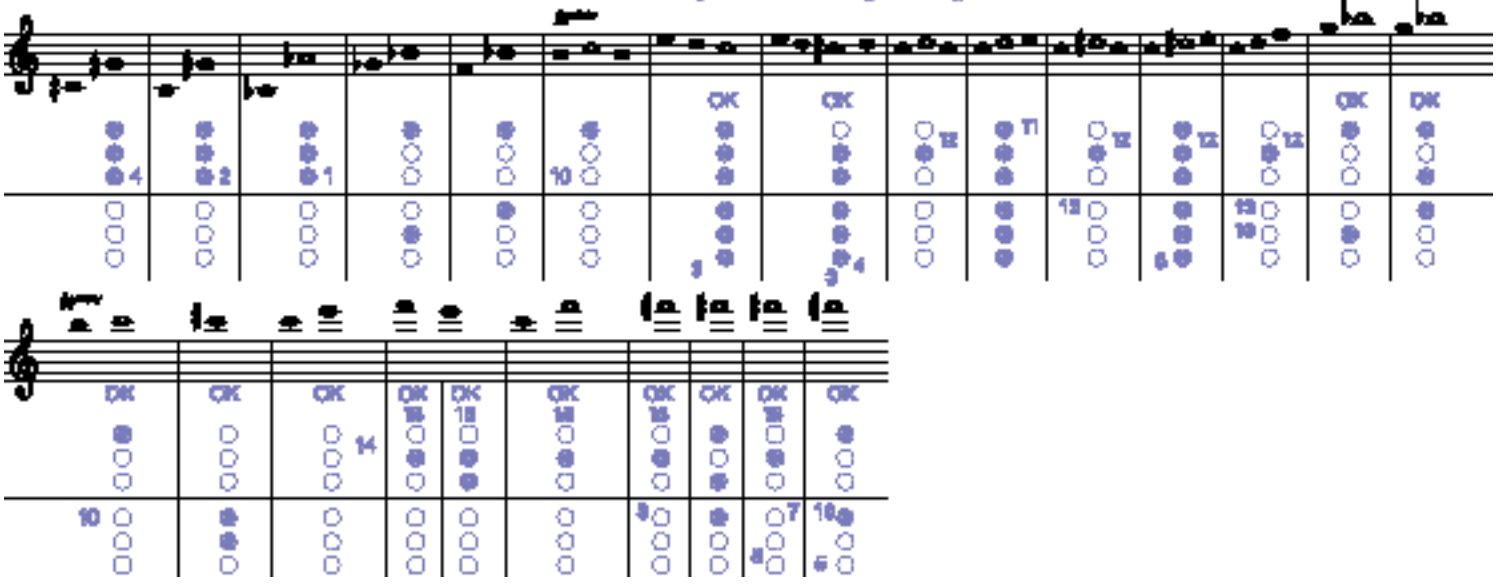


Saxophone Diagram

A Chromatic Fingering Chart


OK
OK
OK

A Chart of Special Fingerings


OK
OK
OK

Intonation Problems

The saxophone's great variance in tone color and pitch has caused many a band director to look with distaste on the saxophone section. Some, unwilling to meet the challenge of section tuning, have eliminated the instrument from the band.

They might well have been discouraged by instruments with leaky pads, unregulated key openings, faulty alignment, etc. Such instruments will not be able to play in tune.

Other mechanical details also influence tuning. The bore, throat, and facing of the mouthpiece must be suitable for the instrument. The price of a mouthpiece often has little to do with its suitability. A facing warped or distorted in any way will impair both tone and pitch. Either too soft or too hard a reed will cause embouchure adjustments that lead to faulty intonation in one or more parts of the instrument's range. Reed manufacturers can grade their reeds only relatively; 2 1/2 reeds may be marked the same, but they will respond differently. Students must be taught that they cannot simply buy one reed, wet it, and place it on the mouthpiece and expect it to perform perfectly.



A "column of air" must always be flowing through the instrument. To cut off this flow is to invite discrepancies in intonation. This may happen through what is called lack of breath support, tightening of the throat or tightening of the embouchure. Biting for the high register and relaxing for the lower is common, unnecessary and detrimental to accurate intonation.

Since there are usually many contributing difficulties, the problem of intonation cannot be dealt with in isolation. Every band director knows that inadequate pitch

perception cannot be cured with misunderstanding and impatience.

It is necessary to work with deficient students in a special way. Without such extra attention, no amount of sharp criticism in a group rehearsal will be productive.

The ability to discriminate between good and bad intonation can and must be taught. Students must be taught to LISTEN. When tuning a section, avoid using only one note to tune by. Make use of simple triads, easy scales and melodic lines which may be approached in unison and in simple harmonization. Eventually tuning should be the responsibility of the section itself, so that the members develop pitch discrimination on their own.

Participation of young instrumentalists in small ensembles is highly recommended. Duet, trio, and quartet playing helps to develop sensitivity to pitch and awareness to the other parts in a composition.

Scoring

One of the greatest threats to the quality of a saxophone section is the scoring for the instrument in band literature. The saxophone is no more than a buttress to the other band instruments, to judge by the various doublings that it is forced to make. Only in recent years have some contemporary composers utilized the saxophone as an independent color.

While doublings in arrangements can be and are often necessary and effective, there is no need to confine the saxophone to this position permanently. If full scores are available, look for unnecessary or ineffective doubling and correct it by omitting the French horn sound occasionally, for example, and letting the saxophone color be heard.

Use the saxophones as a section whenever possible, by omitting those instruments which double the saxophone, by transposing and adding the voice which will allow the saxophones to sound as a section, or by using the saxophone section sound in place of an all brass or all clarinet sonority. Such changes are not irreverent to a composer who probably has not heard any but the poor decadent sound of saxophonists at their worst.

Where a reed quality is desired, saxophones can easily be entrusted with the middle and lower sonorities often given to horns, baritones and basses. A doubling of saxophones with clarinets can give an excellent and rich sonority. The alto saxophone doubles well with the flute. The tenor saxophone coupled with the bassoon makes the low

double reed richer and more dexterous. Baritone and bass saxophones lend a rich sonority offered by no other instruments in the band. When they are not used as part of the saxophone section, they provide a secure bottom to the low clarinets, bassoons, or low brasses.



Don't avoid soprano saxophones. These instruments are today made well in tune. Not only are they a valuable asset to the modern saxophone quartet, but can be a most valuable addition to the band's saxophone section. Directors who have performed works by Percy Grainger know how effective this voice can be. A saxophone section without its upper voice is like a choir with only alto, tenor and baritone voices. Often the top voice of the saxophone section is placed in the clarinet, flute or oboe parts. There is no set rule as to what part will contain the upper voice for a complete saxophone section.

The saxophone has an almost infinite capacity for dynamic variation, so that the well-taught performer can play either softly or loudly with a beautiful sonority. Until band directors use their own imagination in respect to saxophone voicing, composers will never know what can actually be accomplished with the instrument. It is hoped that composers and arrangers alike will go beyond using the saxophone as a solo virtuoso instrument and insist that it also become a vital new sound in the contemporary ensemble.

The claim that the literature for the saxophone is limited is no longer justified. Below is a sampling of the wealth of fine literature for the instrument, including works suitable for beginning students and more advanced high school performers. All are available in this country.

A Selective List of Graded Solos for the Saxophone

Easy	Publisher
1. Bach - Mule - Bourree (No. 8)* (Tenor Sax No. 71)	A. Leduc
2. Benson, W. - Cantelina	Boosey & Hawkes
3. Corelli - Mule - Adagio (No. 49)	A. Leduc
4. Cui - Mule - En Pariant	A. Leduc
5. Franck - Mule - Piece No. 2	
6. Gretchaninoff, A. - Deux Miniatures Opus 145	A. Leduc A. Leduc
7. Handel - Mule - Largo (No. 62)	A. Leduc
8. Lully - Mule - Le Bourgeois Gentilhomme (No. 12)	A. Leduc
9. Martini - Mule - Plaisir D, Amour	A. Leduc
10. Moussorgsky - Gee - The Old Castle	E.B. Marks Music Corp.
11. Tournier, F. - Variations Sur Un Theme de Claude Lejeune	A. Leduc
12. Voxman, H. - Lament and Tarantella	Chart Music Pub. Co.

Medium	Publisher
1. Ackermans - Petite Fantaisie Italienne	A. Leduc
2. Bach - Mule - Gavottes (No. 68)	A. Leduc
3. Bozza, E. - Aria	A. Leduc
4. Fricker, P. - Aubade	Schott & Co.
5. Handel - Mule - Pastorale (No. 32)	A. Leduc
6. Lantier, P. - Sicillienne	A. Leduc
7. Martelli, H. - Three Esquisses Opus 55	Max Eschig
8. Mondonville - Mule - Tambourin (No. 50)	A. Leduc
9. Purcell - Rascher - Two Bourrees	Bourne
10. Reutter, H. - Elegie	A. Leduc
11. Tomasi, H. - Chant Corse	A. Leduc

Medium Difficult	Publisher
1. Bitsch, M. - Villageoise	A. Leduc
2. Casterede, J. - Scherzo	A. Leduc
3. Dautremer, M. - Tango et Tarentelle	A. Leduc
4. Eccles - Rascher - Sonata	Elkan - Vogel Co.
5. Gallaher, C. - Impressions of Summer	Southern Music Co.
6. Glazounov, A. - Concerto in E Flat	A. Leduc
7. Gossec - Mule - La Fete du Village (No. 11)	A. Leduc
8. Lajtha, L. - Intermezzo	A. Leduc
9. Leclair - Mule - Gigue (No. 105)	A. Leduc
10. Pierne, P. - Prelude & Scherzo	A. Leduc
11. Reuff, J. - Chanson et Passepied	A. Leduc
12. Tcherepnine, A. - Sonatine Sportive	A. Leduc
13. Ward, D. - An Abstract	Southern Music Co.

Difficult	Publisher
1. Badings, H. - Concerto	Donemus
2. Bonneau, P. - Caprice en Forme de Valse (unaccompanied)	A. Leduc
3. Bozza, E. - Concertino	A. Leduc
4. Creston, P. - Sonata	Shawnee Press
5. Dahl, I. - Concerto - Write the composer at the University of Southern California, Los Angeles	
6. Dubois, P.M. - Divertissement	A. Leduc
7. Hartley, W.S. - Petite Suite (unaccompanied)	Interlochen Press
8. Heiden, B. - Sonata	Schott & Co.
9. Ibert, J. - Concertino de Camera	A. Leduc
10. Koch, E. von - Concerto	Edition Marbot
11. Martin, F. - Ballade (tenor saxophone)	Universa Edition
12. Pascal, C. - Sonatine	A. Leduc
13. Tomasi, H. - Ballade	A. Leduc

Advanced Studies	Publisher
1. Ameller, A. - Etudes Expressives	Peters
2. Berbiguier - Mule - 18 Exercises	A. Leduc
3. Bozza, E. - Twelve Etudes - Caprices	A. Leduc
4. Decruck, M. - Ecole Moderne du Saxophone	A. Leduc
5. Ferling - Mule - 48 Studies	A. Leduc
6. Mule, M. - Etudes Varies	A. Leduc
7. Mule, M. - Etudes Varies	A. Leduc
8. Mule, M. - 53 Etudes (Books 1, 2, 3)	A. Leduc
9. Mule, M. - Gammes et Arpeges (Books 1, 2, 3)	
10. Perrin, M. - Exercises Transcendants	A. Leduc
11. Rascher, S. - 158 Exercises	Wilhelm Hansen
12. Sellner, J. - Methode for Saxophone (Books 1, 2)	Editions Costallat
13. Soussman - Mule - 30 Grade Exercises	A. Leduc
14. Teal, L. - The Saxophonist's Workshop	University Music Press - Ann Arbor, MI
15. Teal, L. - The Art of the Saxophone	Summy Birchard
16. Terschak - Mule - Exercises Journaliers	A. Leduc
17. Traits, Dificiles (Books 1, 2, 3)	A. Leduc
18. Voxman, H. - Selected Studies	Rubank

*The numbers in parenthesis refer to their listing in Mule's series, **Les Classiques du Saxophone.**

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