

Teaching Woodwinds



H. Gene Griswold

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Preface

This book is the result of having taught woodwind methods courses at Towson University in Baltimore for the past thirty-five years. The book was developed as a *workbook* for the hundreds of students who passed through my classes and who went on to teach instrumental music in Maryland and other Mid-Atlantic states. I dedicate this book to those students.

Over the years I discovered the value of having quickly accessed solutions to specific performance problems that arise in class. This was brought home to me early in my teaching career when a former member of the class was interviewed about his student teaching experience. He related how his supervisory teacher informed him that his first assignment was to rehearse a B \flat major scale with the woodwind section of a junior high band. In order to prepare for this assignment, the student teacher described how he spent many hours reviewing relevant pedagogy by looking up information in his woodwind textbook for each of the five woodwind instruments located in five separate prose-written chapters.

As a result of this discussion, I started reorganizing my course *workbooks* by integrating pedagogical materials for all five woodwind instruments under specific teaching topics rather than dividing the materials into separate sections for each instrument. For example, the aforementioned student teacher could simply have accessed a list of teaching points such as “Hand and Finger Position,” “Articulation,” and “Intonation” for information on all five woodwind instruments, rather than looking up each of these three topics in five separate chapters. To further assist future student teachers, I began to use outline/checklist formats in order to provide more efficient access to information that could be applied directly to the teaching tasks at hand—see Chapters 1 and 2. I also included procedures for teaching specific scales to an *entire* woodwind section—see pages 136–185.

The *Hands-on Overview* (see Chapters 3, 4, and 5) was initially developed for a two-week refresher course offered during the summer months for instrumental teachers who were seeking a review of the techniques and fingerings on all five woodwinds. Instruments and reeds were made available so that students could work through these assigned materials on each of the five instruments. Since time was so limited, I tried to develop a more comparative and systematic approach to teaching fingerings and techniques so that the members of the class could more easily compare and make pedagogical connections between the five instruments. For this teaching task I developed fingering charts for all five woodwind instruments based on six circles representing the three middle fingers of each hand—see page xiii. Using these six-note patterns as points of departure, I discovered that one could introduce fingerings within specific categories such as octave/register mechanisms, break crossings, registers, throat tones, thumb keys, pinky key clusters, forefinger clusters, and twig keys. I also discovered that it was more helpful for these teachers to have an *overview* of the techniques and fingerings for all five instruments on the same page rather than dividing the pedagogy into five separate sections for each instrument. It should be noted that these exercises are not ensembles, but are to be performed and practiced individually.

Another challenge I encountered with undergraduate students was how to avoid teaching procedures which isolated students in the class into their individual parts. In their *workbooks* I wanted students to have a *visual* as well as *aural* reference to problems and accomplishments of classmates performing on other instruments. After much experimentation, I decided on an opposite-page format used in the *Technique/Tunes: Twenty-five Class Lessons* that allowed students to experience an ensemble director’s overview of the pedagogical approaches to all five woodwind instruments simultaneously. Relevant pedagogical notes and fingerings are inserted directly into the scores and students are encouraged to add their own notes and comments during class performances and instruction—see page 137. These *Class Lessons* are linked directly to specific *Student/Teacher Duets*—see pages 187–214.

Perhaps the most important outcome and challenge of a woodwind pedagogy class is the student’s development of solid tonal and expressive concepts on each of the five woodwind instruments. This can

be especially difficult when students have diverse musical and academic backgrounds, (i.e. percussion, string, and brass majors sitting next to woodwind majors as well as freshmen sitting next to seniors who are planning to fulfill student teaching requirements the following semester).

Although live performances, demonstrations, and suggested lists of recordings are helpful in developing a student's *aural* concept of articulation, tone quality, and so on, I have concluded nothing works as effectively in this regard as the actual playing of an assigned duet with one's teacher or an advanced player. For this reason I decided to revive a set of time-proven (nineteenth century) pedagogical *Student/Teacher Duets*—see pages 187–214. The goal here is to provide a *live and immediate aural reference* to which a student can strive within an ensemble setting with the woodwind teacher, advanced players in the class, and/or with woodwind majors in and out of class. The availability of verbal exchange as well as tonal exchange between teacher and student makes for the perfect teaching combination. This was true over a hundred years ago when these duets were written and is still true today.

Note: Over the years, I have come to recommend certain brands, vendors, and Web sites to my students. While I cannot guarantee service nor do I endorse any specific brand or vendor, some readers may find this information useful. Therefore, I decided to include this information.

H. Gene Griswold

Acknowledgments

At the top of my list of acknowledgments are the students who went through several generations of workbooks and handouts in my woodwind methods courses at Towson University.

Others who contributed their time and talent to this project include: Amy Betten and Ron Santana, colleagues at Towson University's Center for Instructional Advancement and Technology (CIAT) who assisted me with the fingering designs and photos respectively; my former students, Dr. Richard Spittel and Dr. Christopher Schaub, as well as my colleague, Dr. Michael Mark who provided proof readings and guidance; for the photos my present and former students, Eddie Sanders, Allison Yacoub, Denis Karp, Jane Marsilio, Sabrina McLaughlin, and Andrew Delclos; and finally my music department colleagues Dr. Terry Ewell (bassoon and chair of the department), Sara Nichols (flute), Marguerite Baker (clarinet), Leslie Starr (oboe), and Michael Bayes (saxophone) for their support and advice.

I owe a debt of gratitude to the reviewers of this book: Wendy Herbener (Ithaca College); Jon Beebe (Appalachian State University); and Dr. Joanne M. Britz (Pittsburg State University). Their constructive and informative comments on selected chapters enabled me to expand this project into a complete book.

I would also like to thank the people at Prentice Hall with whom I worked in order to make this publication possible. These include Richard Carlin, Executive Editor; Sarah Kiefer, Editorial Assistant; Mary Rottino, Senior Managing Editor; Lisa Iarkowski, Assistant Director of Project Management; Jean Lapidus, Production Liaison; Ang'john Ferreri, Image Permission Coordinator; and Sasha Anderson-Smith, Associate Marketing Manager.

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Introduction

The primary goal of this workbook is for students, as future teachers, to analyze and apply the woodwind pedagogy required for performing/teaching music at the beginning, intermediate, and advanced levels.

This book is a workbook to be used on the music stand in the practice room, methods class, or on the teaching job. Rather than separating information about each of the five woodwind instruments into five prose-written chapters, an opposite-page format allows the user to experience an ensemble director's overview of pedagogical approaches for all five woodwinds simultaneously.

A comparative approach to the five woodwind instruments is emphasized throughout. In the sections *Fundamentals* and *Teaching Guides and Checklists*, aspects of teaching/playing the woodwinds have been integrated into readily accessed outlines and checklists.

Performance materials are found in the following sections: (1) *Hands-on Overviews—Parts I, II, and III*; (2) *Twenty-five Class Lessons* based on tunes and scales found in band method books; (3) *Student/Teacher Duets*; and (4) *Alternate Fingerings*.

1. The *Hands-on Overviews—Parts I, II, and III*, serve as a systematic introduction to the basic fingerings and techniques of the five woodwind instruments—see pages 55–106. The exercises in the *Overviews* are intended to be performed by individual students as warm-ups and, at the same time, offer the class a comparative (as well as pedagogical) study of the fingering systems and acoustical behavior of all five woodwind instruments.
2. Since pedagogical analysis of scores is an important task for future teachers, the *Technique/Tunes: Twenty-five Class Lessons* feature a hands-on approach for twenty-five tunes commonly found in band method books—see pages 133–186. Each tune and its pedagogical analysis is presented in score form so that users are offered a visual reference to pedagogical problems (and solutions) being experienced by other members of the class.
3. The *Student/Teacher Duets* are linked directly to the *Technique/Tunes: Twenty-five Class Lessons*, enabling students to actually participate in live performances with the teacher or with advanced players in and out of class. The duets are in score form so that any number of students can participate at one time—see pages 187–214. The duets offer opportunities for the more advanced students to “practice teach” beginning students in and out of class. It should be noted, however, that many of the “teacher” parts are technically within reach of nonwoodwind majors.
4. *Alternate Fingerings* are presented so they can be comparatively studied. The exercises utilizing alternate fingerings may be performed individually as well as in an ensemble setting. A woodwind quintet written at an advanced high school level is also offered for analysis.

The final section of this workbook is devoted to *self-testing devices*—see pages 239–314. These include exercises in preparing scores for rehearsals, study questions regarding the pedagogy for each instrument, and a list of relevant terminology. Also included are bibliographies of books, magazines, and Web sites as well as blank fingering charts for reviewing and testing of fingerings.

Abbreviations Used in This Book

ALT—alternate fingering (all woodwinds)

BC—break crossing (all woodwinds)

F—forked fingering (oboe)

FLK—flick key (bassoon)

LH—left hand

MP—mouthpiece

OK—octave key (saxophone)

PK—palm keys (saxophone)

RH—right hand

RHD—right hand down (clarinet)

RK—register key (clarinet)

SOK—side octave key (oboe)

TK—twig key—(all woodwinds)

TOK—thumb octave key (oboe)

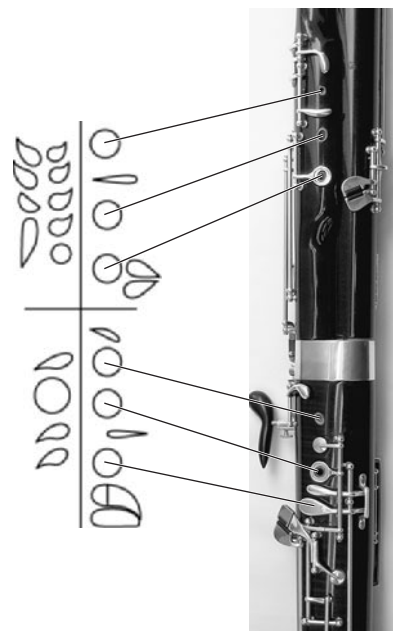
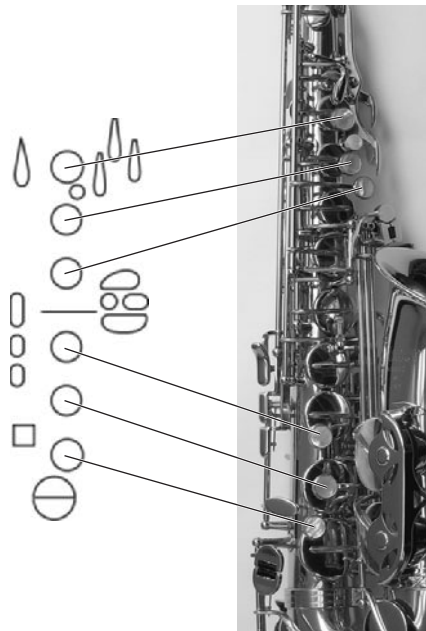
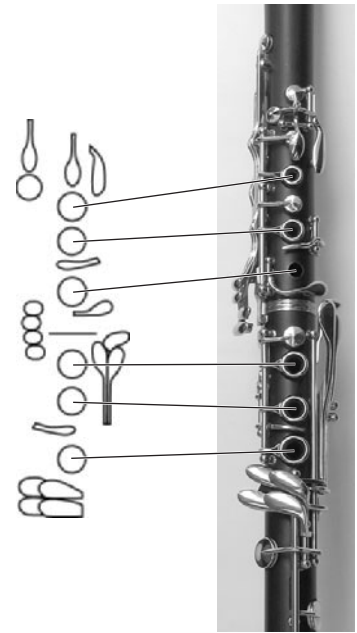
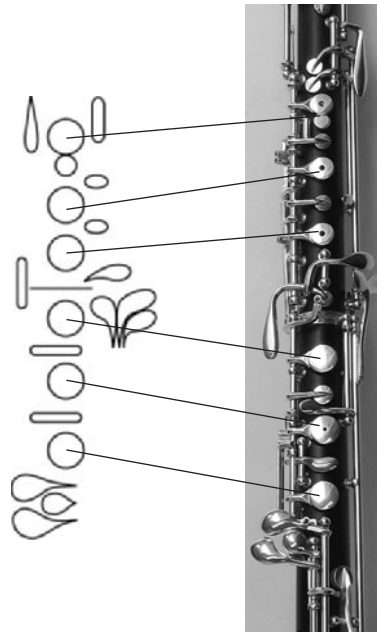
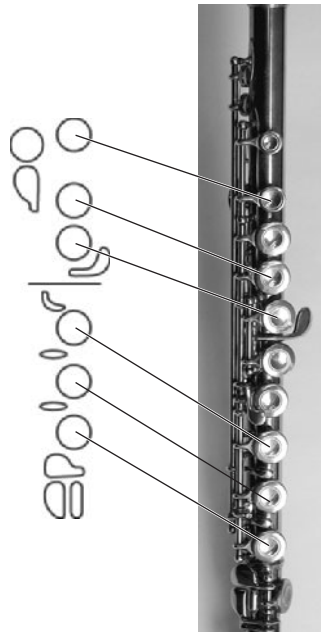
TTT—touch-tone-teaching (all woodwinds, except flute)

WK—whisper key (bassoon)

$\frac{1}{2}$ **H** (half-hole fingering on oboe, bassoon, clarinet)

Fingering Diagrams Used in This Book

The circles in the fingering diagrams below represent the three middle fingers of each hand. The five woodwind instruments require the use of these six fingers to perform a six-note basic scale used as a basis for teaching all other fingerings. See pages 60–61.



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1 *Fundamentals*

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Daily Care—General

- **USE CORK GREASE ON ALL TENON JOINTS (CLARINET AND OBOE) AS NEEDED.** Use a light application of cork grease on oboe reed corks, saxophone necks, and bassoon bocals. Thoroughly rub grease into pores of cork and wipe off the excess grease. Wipe grease from fingers before handling the instrument.
- **DO NOT USE LUBRICANT ON THE SLIDING JOINTS OF THE FLUTE AND SAXOPHONE.** If these joints fit too tightly when being assembled, vigorously rub the contact points with a clean cotton cloth in order to remove tarnish/dirt buildup.
- **MOST BASSOON TENONS ARE WRAPPED WITH THREAD RATHER THAN CORK.** Therefore remove or add soft cotton thread or waxed dental floss for a snug (not tight) fit and rub with cooking paraffin (not cork grease).
- **STORE DOUBLE REEDS IN VENTILATED CASES AND SINGLE REEDS IN HOLDERS AFTER USE.** Do not soak reeds in the mouth (saliva deteriorates the cane). Keep small plastic containers or clear film containers filled with water in instrument cases for reed soaking. Before playing, avoid candy and soft drinks (these deteriorate the reeds). Fox double reed cases and Vandoren reed holders are reasonably priced, hold reeds securely, and allow air to circulate around the reeds.
- **CHECK FOR MOISTURE UNDER PADS.** Remove water by blowing under the pad of the clogged tone hole and/or by sliding cigarette paper under the affected pad and pressing the key in order to blot the moisture.
- **SILK SWABS ARE RECOMMENDED, SINCE THEY ARE LINT FREE.**
- **USE A SMALL SOFT PAINT BRUSH TO REMOVE DUST UNDER KEYS.** Be careful not to unhook springs.
- **PREVENT GRENADILLA WOOD (OBOES AND CLARINETS) FROM CRACKING.** Avoid rapid and extreme changes in humidity and temperature. Bassoons made of maple wood tolerate more expansion and contraction. Nonwood bassoons need more time to warm up; the keys may bind on a cold instrument due to contraction.

Assembly—General

- **DAMAGE TO STUDENT INSTRUMENTS.** Generally occurs during assembly/disassembly and transport, not while performing on the instruments. Gently shake case to see if parts fit snugly.
- **AVOID UNDUE FORCE WHEN ASSEMBLING.** Keep tenon corks lubricated for ease in assembly (see above). Avoid excessive hand pressure on key clusters and key rods when assembling. Be extremely careful with connecting levers (bridge keys). Keep connecting levers raised until properly aligned and avoid forcing/bending keys during assembling.
- **DISASSEMBLE ALL INSTRUMENTS IN REVERSE ORDER.** Memorize the configuration of the case so that each part fits properly back into the case.

Assembly—Flute

General

- Avoid force when assembling. To avoid hand pressure on keys when assembling, hands should hold the joints where there are no keys (see photos).
- If joints seem to be too tight when assembling, take a clean cotton cloth and rub the tarnish and residue from both the outside and inside of the joints. Do not use lubricant on sliding joints.
- There are no bridge keys or connecting levers on the flute.

Assembly* (two steps)

1. Place the foot joint on the middle section. To avoid pressure on the keys, grip middle section at upper end and the foot joint at lower end where there are no keys. Turn foot joint to accommodate length of right pinky—in general, key rod of foot should align with the middle of keys on the middle joint.



2. Place the head joint on the middle joint. Align so that the center of the embouchure hole is in line with the center of the keys. (Some flutists align the far side of the embouchure hole with the center of the keys.) Head joint alignment affects holding position and embouchure formation—see <http://www.jennifercluff.com/lineup.htm>.



Daily Care

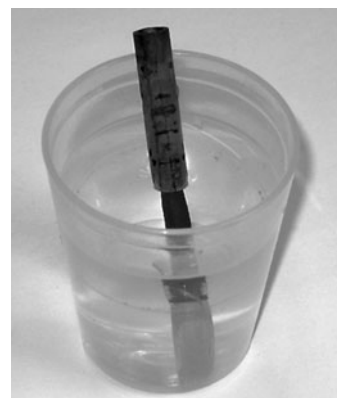
- After playing, swab the bore using a dry cotton cloth threaded onto the cleaning rod and wrapped over the end of the rod.
- Wipe off fingerprints with a cotton cloth.
- If there is moisture under pads or if pads are sticking, insert absorbent cloth between key and tone hole and gently close key.

* For all instruments, disassemble in reverse order.

Assembly—Oboe

General

- Dip the reed in water up to the thread binding, remove, and place on music stand. Reed will continue to soak during assembly.
- **Handle with extreme care.** Oboes are more susceptible to damage than any other woodwind instrument.
 1. Keep corks lightly greased for ease in assembly (including the reed cork).
 2. Avoid force when assembling, and avoid pressure on the key clusters.
 3. There are **FOUR BRIDGE KEYS (CONNECTING LEVERS) ON OBOES:** three between the upper and lower joints and one between bell and lower joint (not found on some student oboes).



Soaking reed

Assembly

1. Place the bell on the lower joint. Hold the lower joint with thumb rest in palm of right hand and fingers curved around on the keys. With the left hand, hold down the B \flat connecting lever and gently twist on bell (some student oboes do not have this key).
2. Put the upper joint on the lower joint. Hold upper joint so bridge keys stay open. Hold the lower joint near the bell where there are no keys. Align the three bridge keys with minimal twisting.
3. Insert the reed (all the way) into the upper joint—thumb and forefinger should grip the reed at the top of cork, not on the reed binding. Use a small amount of cork grease on the reed cork, if necessary. If the reed is difficult to remove, try rocking it from side to side while pulling with the thumb and forefinger.



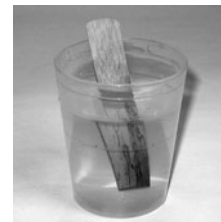
Daily Care

- After playing, place the reed in a ventilated reed case.
- Swab the oboe after each playing session (use caution here). Oboes have conical bores and swabs may easily become stuck. If this happens, take the instrument to a repair person. The safest oboe swabs are the silk swabs that have a “safety cord” on the back end and will clean the entire instrument while fully assembled—see <http://www.hodgeproductsinc.com/>. To remove moisture from under pads or if pads are sticking, insert cigarette paper between the key and the tone hole and gently close the key.

Assembly—Clarinet

General

Place the reed in water during assembly—dip both ends in water container so the entire reed is soaked, not just the tip. If the tip of the reed is wavy, continue soaking it until wrinkles disappear. Grease corks if necessary.



Soaking reed

Assembly

1. Hold lower joint near the bottom where there are no keys—with the other hand twist the bell onto the lower joint.



Bell onto lower joint

2. With the right hand, grasp lower joint near the bottom where there are no keys—hold upper joint with left palm against the body on underside and press key rings of upper joint with finger tips to raise bridge key. Push the two joints together with slight rotary motion—keep eyes on raised bridge key to align.



Lower joint onto upper joint

3. Twist larger end of barrel unto the upper joint.
4. Insert the mouthpiece into small end of barrel—align the flat of the mouthpiece with the thumb hole and register key.
5. Place the soaked reed on the flat part of the mouthpiece. Center the reed so that the tip is slightly below the tip of the mouthpiece leaving a “hairline” of the mouthpiece visible (see below).
6. Put ligature in place with loosened screw(s) and gently tighten screw(s). If there are two ligature screws, the lower one should be slightly tighter than the upper screw. Screws should always be on the player’s right side and tightened with player’s right hand.

Hairline

- Place tip of reed so “hairline” of MP is visible.
- If reed is too hard, increase the hairline area.
- If reed is too soft, decrease the hairline area.

Daily Care

- After each playing session, remove and store the reed in a reed holder.
- Swab clarinet after each playing session.
- Do not swab the mouthpiece—clean it with a soft cotton cloth.



Reed hairline

Assembly—Saxophone

General

Place reed in water while assembling—dip both ends in water container so the entire reed is soaked, not just the tip of reed (see clarinet assembly). If the tip of the reed is wavy, continue soaking until wrinkles disappear.

Assembly

1. After putting the neck strap around neck, remove saxophone by grasping the bell with the right hand and the bottom of the saxophone with the left hand (see photo). Remove the end plug and fasten the neck strap to the saxophone with the left hand.



2. Loosen tension screw near the top of saxophone with right hand. Pick up neck by placing fingers on the *sides* of the neck (see photo) not on the top where the octave key is located. When inserting neck into body of saxophone, avoid putting hand pressure on the octave key. If the neck is resistive, clean connecting joint by vigorously rubbing the sliding surfaces of the neck and saxophone with a dry cotton cloth. Line up connecting lever so that *octave key on top of neck is closed*—gently tighten screw (see photo).



3. Push mouthpiece onto neck and align so that the flat part of the mouthpiece faces downwards in line with the saxophone. Mouthpiece should cover one-half or more of the cork. Rub grease into the cork if needed. After a few weeks of intonation adjustment, mark the cork with a sharp felt pen so that the student twists the MP up to the same mark each time.



4. Reed/Mouthpiece Assembly—see Steps 5 and 6 under Clarinet Assembly.

Daily Care

- After each playing session, remove and store the reed in a reed guard.
- Remove the mouthpiece and swab the neck after each playing session.
- Clean mouthpiece with a soft cotton cloth.
- Wipe saxophone with a clean cloth—no need to polish.
- Some teachers recommend pad savers (devices left in the bore to absorb moisture).

Assembly—Bassoon

General

- Dip both ends of the reed in water container so the entire reed is soaked, not just the tip of reed. Remove from water—the reed will continue to soak.
- Make certain tenons and corks are well lubricated.
- Place seat strap toward front of chair or if using a neck strap, put neck strap around neck.



Reed soaking



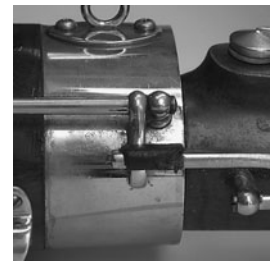
Seat strap on chair

Assembly

1. Place wing joint into boot (avoid finger pressure on keys)



2. Align bridge key between wing and boot



3. Hold the large end of the long joint and insert it into the boot. Avoid hand pressure on keys and use minimal twisting. The metal tab under keys on long joint should be about 1/8 inch from the wood of the wing joint. If bassoon has a locking mechanism near the top of the wing, make certain it is aligned and locked.



Locking mechanism



Metal tab

Long joint into boot

Assembly—Bassoon

4. Close the key pad on the bell and gently push bell unto long joint. Align bridge key.
5. Insert the bocal into the wing joint. **CAUTION:** Bocals are expensive, made of very thin metal and are easily damaged. Apply cork grease if necessary. Hold bocal near the cork. Align small bocal hole to the whisper key pad. Make certain key pad is not damaged. Both the whisper key and the pancake key (see p. 13) should close the bocal hole.
6. Attach hand rest. Students with small hands may not be able to use a hand rest; see hand position, on page 15.
7. Take reed from water, remove excess water, and place on bocal using a slight twisting motion. Make certain reed is parallel to the floor.



Inserting Bocal

Daily Care

- After playing, place the reed in a ventilated reed case.
- Blow out the bocal after each playing session.
- Swab the bocal every week with a bocal swab (available from <http://www.hodgeproductsinc.com/>).
- Bassoons should be equipped with two swabs: a wing swab and a boot swab (available from <http://www.foxproducts.com/>).
- **CAUTION:** Make certain that there are no knots or wrinkles in the swabs before using. Unlike the cylindrical bores of the flute and clarinet, the bores of the bassoon, oboe, and saxophone are conical. Swabs become stuck more easily when being pulled through conical bores. If this happens, take to a repair person.
- Drop the weight of the wing swab through the large end of the wing and pull through slowly. Use caution.
- Swab the boot—use the boot swab only. Insert the boot swab into the larger bore, shake so that the swab makes a “U” turn at the bottom of the boot. Then pull the swab slowly through *both* bores.
- Tenons are wrapped with thread rather than cork since bassoons are made of porous maple wood and tend to expand and contract with the seasons. Therefore, remove or add thread for a snug (not tight) fit and rub with cooking paraffin (not cork grease).

Body Position

Flute

- Head up
- Bring flute to mouth
- Flute should be parallel to lips
- Flute may be parallel with floor (or slightly tilted downward)
- Chest up (lift rib cage off abdominal muscles)
- In sitting position, right elbow should not hook over back of chair



Good posture with flute

Oboe

- Head straight and level
- Bring oboe to mouth
- Oboe held at 40-degree angle (slightly higher than the clarinet)
- Chest up (lift rib cage off abdominal muscles)



Good posture with oboe

Clarinet

- Chest up (lift rib cage off abdominal muscles)
- Clarinet held at a 30- to 40-degree angle
- Experiment: raise or lower clarinet in order to find the best tone quality
- Angle accommodates relationship of upper and lower teeth (occlusion)
- Two primary points of contact involved in holding the clarinet:
 - (1) upper teeth and (2) right thumb
- Right thumb pushes upward so that mouthpiece is firm against upper teeth



Good posture with clarinet

Body Position

Saxophone

- Hold the instrument directly in front of body. Younger students may have to hold the instrument to the side of the body resting the saxophone on right leg
- Do not rest instrument on chair
- Adjust length of neck strap so the end of the MP touches center of lower lip
- Head erect, chin up, eyes straight ahead, shoulders up but relaxed
- Weight of saxophone is supported by neck strap only, not hands or chair. Saxophone is balanced by right and left thumbs creating fulcrum with a neck strap
- Feet flat on floor—shoulders and back do not touch back of chair
- Tenor/baritone saxophones—held to the right side of the body
- Soprano sax—held more in a straight line like the oboe



Good posture with saxophone

Bassoon

- The seat strap is used more widely than the neck strap—use a neck strap when standing
- Sit on seat strap placed toward front of chair (see p. 8) and attach seat strap to bassoon
- Sit straight, head straight and level—chest up
- Bassoon rests against right leg
- Long joint rests against index finger of left hand
- Bassoon is balanced between left index finger and right hand (on hand rest)
- Adjust seat strap—do not adjust your body to the bassoon
- Bocal slants downward slightly—head should tilt down slightly
- Adjust height of bassoon by moving the seat strap
- **IMPORTANT:** student looks over the right side of the bassoon at the music stand
- For younger students having trouble stabilizing the bassoon, try a BG bassoon leather seat strap with adjustable Velcro cup. (see <http://www.millermarketingco.com/bg/index.htm>)



Good posture with bassoon

Hand/Finger Position

General

Hand/finger position may be checked by playing “open tones” that require minimal finger contact with the instrument. Keep fingers close to keys and tone holes. Use the fleshy part of fingers on tone holes and keys, not the tips of fingers. The fulcrum on the flute and saxophone refers to the pivotal point for two opposing forces (i.e., a “see-saw” effect). Compare these guidelines with the photos on pages 14–15.

Flute (head joint alignment affects holding position—see p. 4)

OPEN TONE: C#

POINTS OF CONTACT: (1) lower lip, (2) base of left forefinger, (3) right hand thumb

WEIGHT BEARING: Shelf created by base of left forefinger

FULCRUM: Left forefinger (right thumb pushes embouchure plate against chin)

LEFT HAND:

Wrist bends

Flute rests on shelf of *sharply curved* forefinger—see page 14

Thumb over B key

Pinky over G# key

RIGHT HAND:

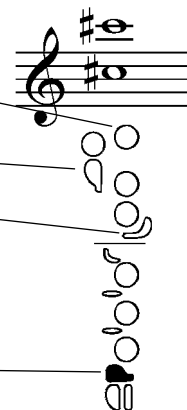
Thumb directly under first and second fingers

Thumb does not extend past body of flute

Thumb pushes forward for fulcrum with left forefinger

Flute should rest on the firm flesh close to the thumbnail,
not on the flat, fleshy part of the thumb

Pinky presses E \flat key



Oboe

OPEN TONE: C

POINTS OF CONTACT:

1. Left hand thumb anchored at 2 o'clock angle just below thumb octave key (TOK)

2. Right thumb, between tip and first knuckle placed on thumb rest

WEIGHT BEARING: Right thumb

FULCRUM: None

LEFT HAND:

Fingers slanted toward keys so that index finger is in
position to press SOK (side octave key)

Thumb anchored at 2 o'clock angle just below TOK

Pinky over G# key

Fingers curved, but left hand ring finger is less curved

RIGHT HAND:

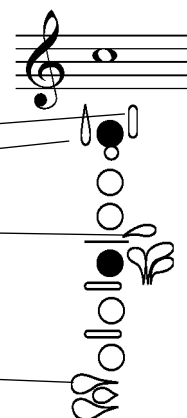
Do not push thumb too far past thumb rest

Pinky over low C key

GENERAL:

Depending on their length, fingers slant slightly upwards

Note that finger span on oboe is larger than on clarinet—see page 14



Clarinet

OPEN TONE: G

POINTS OF CONTACT:

1. Right thumb, midway between tip and first knuckle, placed under thumb rest

2. Upper teeth placed on mouthpiece approximately $\frac{1}{2}$ inch from tip

WEIGHT BEARING: Right thumb (pushes MP toward upper teeth)

Hand/Finger Position

FULCRUM: none

LEFT HAND:

The clarinet is the *only* instrument where the left hand is not anchored

Bend wrist slightly

Hold fingers about $\frac{1}{2}$ inch from tone holes

Forefinger over first tone hole is curved so that it lightly touches G# key

Tip of thumb overlaps F hole in order to pivot to register key (RK)

Thumb at 2 o'clock position over F hole

Pinky near or lightly touching low E key

RIGHT HAND:

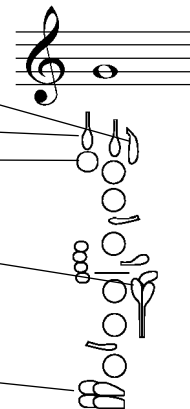
Thumb under thumb rest between tip and first knuckle

Thumb pushes mouthpiece toward upper teeth

Pinky over corresponding key cluster

GENERAL:

Depending on their length, fingers slant slightly upwards



Saxophone

SUSTAINING PITCH: C#

POINTS OF CONTACT: Right and left thumbs

WEIGHT BEARING: Neck strap

FULCRUM: Neck strap/gentle forward pressure of both thumbs

LEFT HAND:

Thumb gently pushes outward on thumb plate at 2 o'clock position

Tip of thumb touches but does not depress octave key (OK)

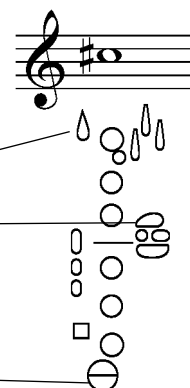
Pinky over G# key

RIGHT HAND:

Thumb contacts thumb rest on flesh near base of nail

Thumb pushes outwards (not upwards as on clarinet)

Pinky touches C key lightly



Bassoon

SUSTAINING PITCH: F

POINTS OF CONTACT:

1. Bass joint rests upon the base of left forefinger

2. Boot joint rests on the right leg

3. Right hand contacts hand rest

WEIGHT BEARING: Left forefinger and seat strap (near front of chair)

Bassoon is balanced between the left forefinger and right hand

FULCRUM: None

LEFT HAND:

Thumb on whisper key

Pinky over low E \flat key

RIGHT HAND:

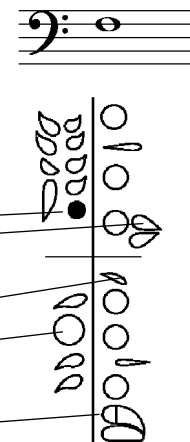
Place hand on hand rest or forefinger on

C# trill bar if hand rest is not used

Thumb hovers over pancake key

(Beginners may anchor thumb on key guard)

Pinky over low F key

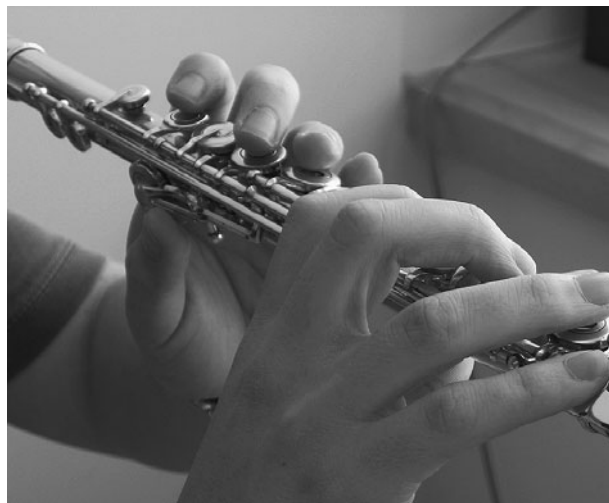


Hand/Finger Position

Left Hand



Right Hand



Flute



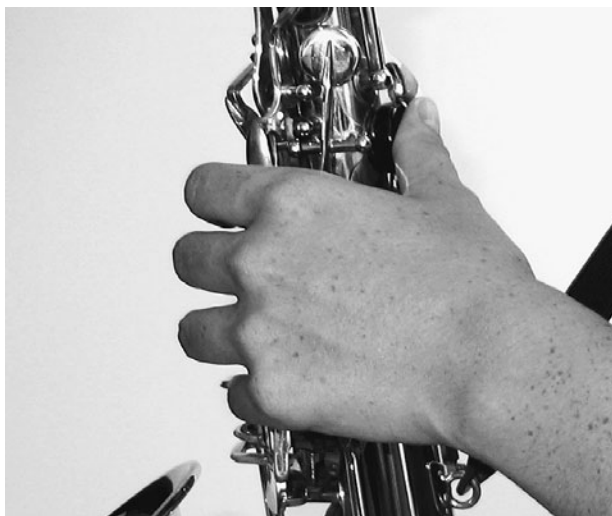
Oboe



Clarinet

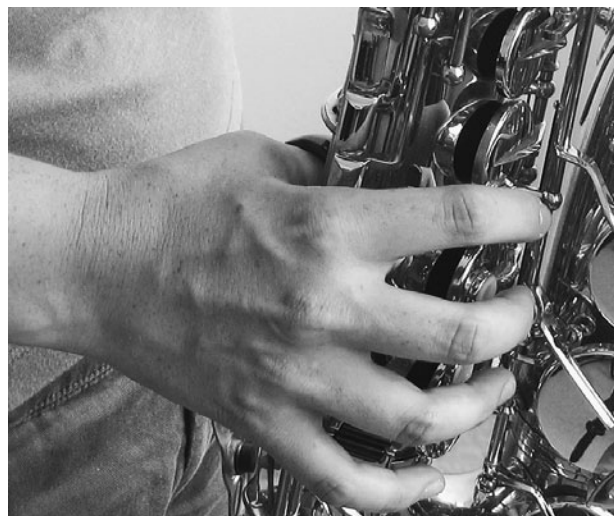
Hand/Finger Position

Left Hand

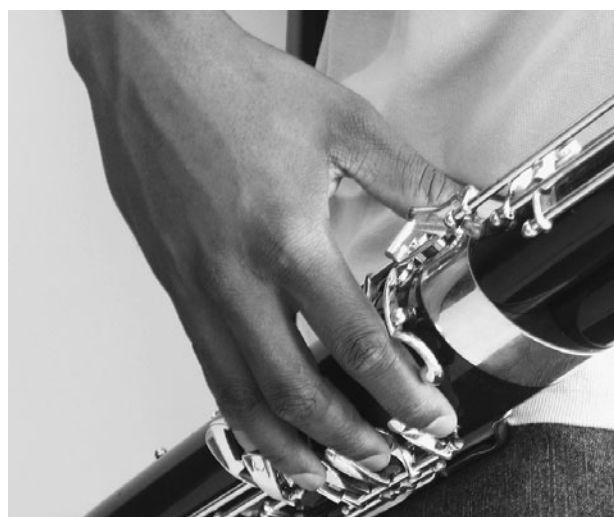


Saxophone

Right Hand



Bassoon (front view)



Bassoon (showing thumb keys)



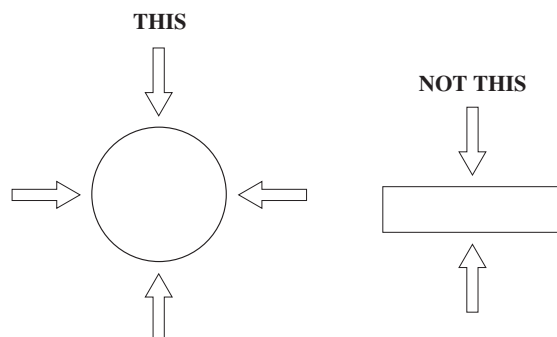
Embouchure—Generalities

Visual versus Aural Analysis

Although the *visual analysis* of embouchure appearance is an important teaching element, *aural analysis* of the resulting tone quality, intonation, articulation, and expression is even more important. Students and teachers should use a mirror often in order to point out visible attributes and problems of the embouchure. But from the earliest stages of development, students also need to be taught the desired attributes of a “good tone.” Performing the student/teacher duets on page 187–213 will help one acquire a concept of good tone as well as concepts of good articulation and intonation.

Facial Musculature

A rounded facial musculature is desirable for forming the embouchures on all five woodwind instruments.



This mental image is not only applicable to the rounded lip cushioning used on double reeds, but also on single reeds where the goal is to allow the lower lip to flex by keeping the lower teeth from biting upwards and to keep mouth and throat open even though the upper teeth are contacting mouthpieces.

Although the actual aperture on the flute is elliptical (about the size of a bassoon reed tip opening), the muscles controlling the inner and outer parts of the lips must focus from all directions in order to create the desired lip aperture and, at the same time, an open throat.

Throat Openings and Tongue Positions

Syllable selection influences throat openings—experiment with the following:

“tee,” “teh,” “tuh,” “tah,” “toll” (as if cooling mouth from hot food)

Throat opening increases →

Tongue position lowers →

Throat openings will have an influence on tone quality and pitch especially on tones with open fingerings (throat tones)—see pages 62–63.

Apertures and Air Speeds

In general, smaller apertures create faster air speeds and larger apertures create slower air speeds.

The speed of the air stream used on flute is controlled by the size and shape of the lip aperture. A smaller lip aperture is required for softer/higher tones while larger lip apertures are required for louder/lower tones. The flute is the only woodwind instrument requiring absolute control of the *direction* of the air stream (controlled by the lower lip and jaw). The air stream used on oboe and bassoon is controlled by the size of reed apertures (regulated by circular lip cushioning). Smaller reed apertures (tip openings) are required for softer/higher tones while larger reed apertures (tip openings) are required for louder/lower tones.

Embouchure—Generalities

The apertures created by single reeds and their mouthpieces are more stationary during performance and the required air speed is more constant. Aperture size on single reeds is determined by reed strength and the opening between the reed and mouthpiece as well as the lower-lip pad.

Adjusting the air speed to the desired tone quality, volume, and pitch is an important pedagogical element on all five woodwind instruments. However, the ideal air speed on any wind instrument is the speed initiated by an impulse to sing the note through the instrument. Developing a natural “singing impulse” is important for an instrumentalist and plays a role in the aural development of the student. The only woodwind instrument that is totally dependent on the speed of the air stream without aperture movement and/or manipulation is the recorder. Practicing long tones on a recorder allows students to focus solely on the air stream since the aperture on recorder is stationary and cannot be regulated or manipulated by the embouchure.

Distance

Distance is an important factor on all woodwind embouchures. Adjustments of air speed and aperture size are directly related to distance. On the flute, the distance between the lower lip and the outer edge of the embouchure hole is critical; the amount of lower lip covering the embouchure hole is greater for higher and softer tones and less for lower and/or louder notes—see the next page.

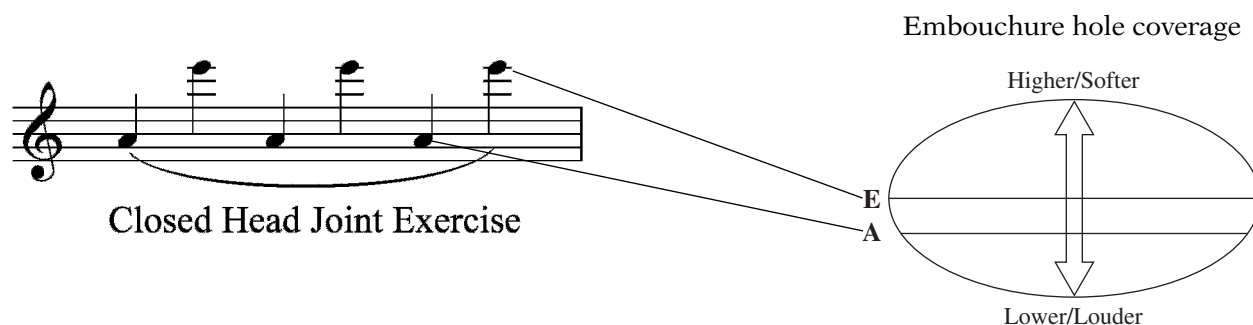
On double reeds, the distance that the reed is inserted into the mouth is crucial to tone quality, volume, pitch, and register. More double reed inserted into the mouth produces a louder volume, a sharper pitch, and higher register. Less reed in the mouth produces a softer tone quality, softer volume, a flatter pitch, and lower registers. On the oboe, reed insertion into the mouth is generally minimal and only the tip of the reed protrudes into the mouth. The distance that the bassoon reed protrudes into the mouth beyond the lips varies among players and is determined by the size and shape of the mouth cavity and throat opening of each individual.

On single reeds, the distance of upper teeth placement on the mouthpiece, determined by the student’s occlusion and the angle at which the instrument is held, is an important factor in determining tone quality. Also important on single reeds is the distance factor regarding lower-lip placement on the reed. That distance is best determined by carefully sliding a business card between the reed and mouthpiece until it stops and marking that point with a light pencil mark in order to find the ideal control point for lower-lip contact (see p. 20).

Mouthpiece/Reed Pitches

The above generalities may be checked and measured on all the woodwind instruments by using the chart on mouthpiece/reed pitches located on page 24. It is important to make the student aware of not only the pitches to be achieved, but also the desired tone quality and articulation required for these exercises.

Developing Flute Embouchures



Goal: match volume and tone quality of both upper and lower tones

- Hold head joint with left hand—cover open end with the palm of the right hand
- Head joint should be parallel with the line of the lips
- Outer rim of hole should be slightly higher than inner rim
- Start with approximately $\frac{1}{4}$ of the embouchure hole covered by the lower lip
- Higher notes will be louder at first—instead of overblowing, extend the lower lip forward
- Size and direction of the air stream is formed by inner surface of lips
- Turn lower lip outward so that the air passes over the inner lip tissue
- For high notes, pucker slightly (increases coverage and raises air stream)
- For lower notes—lower lip covers less of the embouchure hole
- Lower notes will project better if the tone is “buzzy” or “edgy” (created by smaller lip apertures and a well-aimed air stream)

Five Primary Factors

1. Air speed
 - Faster for high and loud tones
 - Slower for low and soft tones
2. Aperture size
 - Smaller apertures increase air speed
 - Larger apertures decrease air speed
3. Coverage (see diagram above)
 - For high/soft tones: cover **more** of the embouchure hole with lower lip
 - For low/loud tones: cover **less** of the embouchure hole with the lower lip
4. Aperture shape
 - Aperture shape resembles the opening of a bassoon reed
 - Be aware of the aperture shape of both inner and outer surfaces of the lips
5. Direction of air stream (see soda straw exercise on the next page)
 - High/soft tones: aim the air stream higher—lower jaw pushes outward slightly
 - Lower/louder tones: aim the air stream lower—lower jaw recedes slightly



Flute embouchure

Developing Flute Embouchures

Paper Aperture Exercise

- Helps student understand embouchure principles
- Use a business card: fold the card lengthwise into thirds in order to create a flattened windway; seal with plastic tape—the paper aperture should be approximately 2 cm wide and 1.5 mm high
- Put end of flattened card into mouth—hold card with left hand, hold flute with right hand

The paper aperture exercise demonstrates four embouchure principles:

1. Air speed
 - With the left hand, place end of card so that it covers $\frac{1}{4}$ of tone hole
 - Blow slow/fast/slow/fast to produce octaves
2. Coverage and distance
 - With the left hand place end of card so that it covers one-fourth of tone hole
 - While blowing a gentle air stream, slide card forward and back in order to produce octaves
3. Size
 - Squeeze aperture of card so that it opens 3 mm or more
 - Note the “airy” tone quality (versus centered)
4. Direction (aiming the air at the outer edge of the tone hole)
 - With left hand, place end of card so that it covers one-fourth of tone hole
 - While blowing, keep card in place and turn flute slightly inward in order to produce octaves



Paper aperture exercise

Soda Straw Exercise

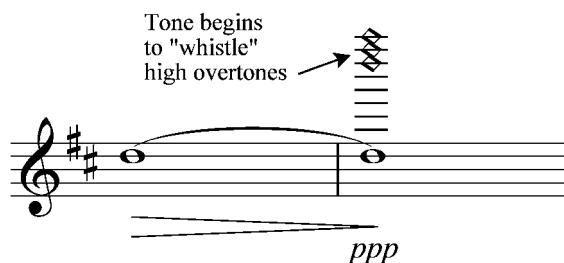
This exercise helps the student understand the role of the jaw in controlling the *direction* of the air stream. Take an ordinary soda straw or a small cocktail straw and place the end in mouth—while blowing, push out and recede lower lip in order to raise and lower straw.

Condensation Exercise

This exercise helps the student understand the size and shape of the aperture. Using a mirror, observe condensation spot caused by warm air passing over the cold embouchure plate. Observe size and shape of this spot while playing. Have students observe each other.

Whisper Tones (sometimes referred to as “whistle tones”)

These are very soft harmonics often used on the flute to relax the embouchure and to help achieve control of very slow air streams. Play middle D and make a diminuendo into total silence. Just before the silence one can detect faint whistling. Next, blow very gently and try to start the whistle tone without the diminuendo. Experiment with this technique.



Harmonics

See p. 217.