



**LET'S PLAY**

*Bassoon*

By Hugo Fox

# Hugo Fox

From 1922 until 1949, Hugo Fox served as principal bassoonist of the Chicago Symphony Orchestra, where he acquired an almost legendary reputation as one of the outstanding bassoonists of his era. During fifteen years of this period, he was instructor of bassoon at Northwestern University, and many of his students became ranked among the prominent bassoonists of America.

During this period, his studies of the acoustics of the instrument and a desire to experiment, prompted him to form the Fox Bassoon Company, which now produces the well-known instruments that bear his name.



## INTRODUCTION:

This booklet has been prepared for the bandmaster or woodwind instructor who teaches the instrument, while not being an accomplished bassoonist.

It is intended to serve as a handy reminder of some of the more important points to consider when starting a student, maintaining the instrument, and finishing reeds or reed blanks.

The fingering chart is based on competent professional practices, and while not extensive in its treatment of alternate fingerings, is sufficiently complete to be used with almost any properly constructed instrument.

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## STARTING THE STUDENT ON THE BASSOON

Either transfer the students from another instrument, or start them directly on bassoon. If you have access to a short-reach model bassoon, it is practical to start them in elementary..

Since the bassoon does not require a firm or tight embouchure, there is leeway in selecting suitable players. The teeth need not be straight, nor does the player need to have a normal bite. The lip tension is much less, for instance, than that used in playing clarinet or oboe.

The reed should be taken into the mouth until the upper lip almost touches the first wire. The lips control the reed completely: the teeth play a minor role. The feeling of the lip should be one of grasping the reed all around, and the reed should be supported on the sides, as well as from above and below. The teeth should be apart when playing

bassoon, much like when playing trombone. The air stream must have a clear, unobstructed path through the reed, continuing through the instrument.

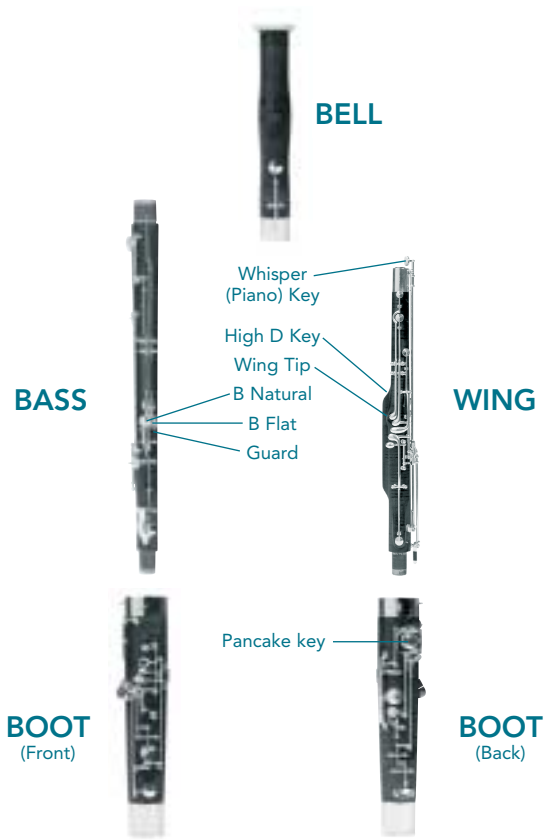
So that the reed will enter the mouth in a comfortable and natural position, the body and instrument position should be correct. The body should be erect, standing or sitting. The head should also be erect and facing forward. The adjustment of the neck or seat strap should be such that the reed enters the mouth with the head in this position.

## ASSEMBLY

- To assemble the bassoon, place the **wing** and **bass** joints together with the bottom ends even (see illustration) and insert them into the **boot joint**. Next, add the **bell** and then the **bocal** or **mouth pipe**. Exercise care in inserting the bocal so that the pad on the **whisper (piano) key** will not be injured or broken off.
- An alternate assembly method is to first insert the wing joint, and twist it to achieve a comfortable adjustment of the piano key mechanism. This adjustment should be measured with the bocal in the wing joint, and the mechanism should be such that the **whisper (piano) key** covers the bocal button just prior to or simultaneously with the **“pancake key”** on the boot joint. On Fox and Renard bassoons, it is possible to install the wing joint so that the groove running the length of the wing is concentric with the large socket in the boot. This will match a scribe line on the bottom of the whisper key side of the wing with a similar line on the boot, which can also be used for aligning it. After achieving this position, the bocal should be removed and the bass joint inserted in the boot joint. The player should be extremely careful when using this method of

assembly, since carelessness can damage the keys or the tenons on the wing and bass joints.

- If a body lock is used on the instrument, its closure should be made after the bass and wing joints are in alignment. If the key alignment is incorrect with the body lock in place, disengage the lock and have it adjusted by a repairman. It is the opinion of the author that body locks, while of some value, are a constant hazard to the instrument, because they can easily be torn off the thin tenon wall of the bass joint. An exception to this is with plastic bassoons, which have stronger sections than the wooden instruments. If wooden instruments have **thread wound tenons**, there is less of a need for the body lock, since the thread wrapping can be adjusted to provide a firm fit between the joints.
- Use of a **hand rest** is optional and is governed in most cases by the length of the player’s hand. When playing with a neck strap, some form of hand support is necessary and the hand rest becomes more important, in order to position the instrument. The size and shape of the hand rest should be selected to provide maximum comfort to the player.



- 1.** Place the Wing and Bass Joints together with the bottom ends even.
- 2.** Insert Wing and Bass Joints into Boot Joint.
- 3.** Add Bell, Bocal and Reed.



## CARE OF THE INSTRUMENT

### GENERAL

Treat the instrument like a fine piece of furniture. Avoid excessive heat and moisture, particularly sudden changes. Do not leave it in a cold automobile overnight, and then try to play it immediately upon entering a building. The cost of making a bassoon is mostly hand labor. It frequently costs more to repair a damaged instrument than it does to make a new one.

### BOCALS

Blow out, by blowing on the large end, after each use. Once a month flush with mixture of one tablespoon of baking soda in a large glass of warm water. Upon doing so, swab the bocal with a bocal brush and flush it out with warm water from a faucet. Check the hole in the bocal button to be sure it is open. This is best done by blowing through it.

### OILING THE BORE

After protecting the pads with wax paper or other suitable material, or after removing the keys, the unlined portion of the bore should be swabbed with LIGHT mineral oil, using a pull-through swab. After allowing the oil to soak in for about an hour, remove the remaining oil with another pull-through swab. This should be done every six months.

### CLEANING THE BORE

Wood and pads can be severely damaged by moisture. Swab the bore after every concert, rehearsal and practice, in order to remove the moisture that has been deposited there, as well as for sanitary reasons. This should be done with a pull-through swab. A silk swab works best because it can be dropped down the “unlined” side of the bore and pulled out the “lined” side, pulling the moisture away from the wood and out through the rubber lining. (Although plastic bassoons are impervious to moisture, they should still be swabbed to protect the pads and for sanitary reasons.)



## CLEANING THE FINISH

**PLASTIC MODELS** – Clean weekly with a damp cloth, being careful not to wet pads. Dry after cleaning. Soap and water may be used, if necessary.

**WOODEN INSTRUMENTS** – Clean weekly with a damp cloth, being careful not to wet the pads. Dry after cleaning. Once every two months, polish with furniture polish.

## KEYS

Clean with a dry cloth after each use. If the keys are nickel, they should be buffed by an experienced repairman, once a year. If the keys are silver, they should be polished once a month. If the keys tarnish very rapidly, it may be due to the climate or the system of the player, and this should be discussed with the instrument manufacturer.

## MECHANISM

Use light key oil on long screws and heavy key oil on pivot screws. This should be done every two weeks. Weekly, check all screws to see that they are tight.

## TENONS

If **CORK WOUND**, use a thin coat of cork grease once every two weeks, being sure to wipe off the old coating before applying the new.

If **THREAD WRAPPED**, use a cake of canning wax. Warm it in your hand until it is soft, then rub a thin layer on the threads. This should be done once every month. **DO NOT** use cork grease on thread wound tenons, because it will eventually get imbedded with dirt.



## THE REED

Bandmasters, who do not play bassoon should either buy their reeds from a reliable source, or buy reed blanks and hand finish them.

### RECOMMENDED TOOLS FOR FINISHING REEDS:

1. Reed knife
2. Mandrel
3. Reamer
4. Plaque
5. Small rat-tail file
6. Fine flat file
7. Fine sandpaper
8. Small pliers
9. Small block of hardwood

Items 5 through 9 should be purchased from a hardware store.

### FINISHING THE REED

The reed should slip over the end of the bocal about  $\frac{1}{2}$  inch. If the opening is too small to allow this, it should be opened with a reamer. If it is too loose or if it leaks around the bocal, the bore of the reed should be closed by dipping a mandrel in a can of hot canning wax and applying the wax evenly to



the inside of the reed. After it cools, be sure the throat is not obstructed with wax. A small rat-tail file will easily clean the throat. These operations should be done when the reed is dry.



Most reeds are heavy and must have excess wood removed in the right places. If the lower tones do not speak easily and if the reed tires the lips, this is usually a sign that the wire end of the lay is heavy. Wood should be scraped or filed from the wire half of the lay.



To make the upper register speak easily and with a bright tone, remove wood from the corners and tip. In doing this it is advisable to insert a plaque into the tip of the reed to prevent breakage. This operation is far safer if the reed is wet.

The opening of the reed at the tip is also very important and must be wide enough to allow sufficient air to pass through the instrument to produce a full tone in the lower register. The tip opening can be regulated by squeezing the sides of the 1st wire when the reed is thoroughly wet.

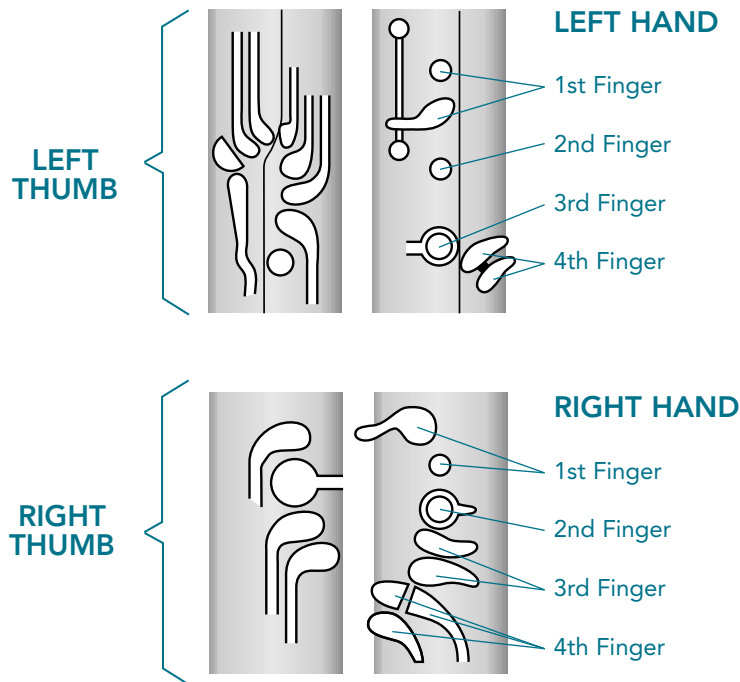
Before using, dip the reed in a cup of water for a few moments, or hold it under a faucet. Then remove it and allow the water to penetrate the cane before using. It is undesirable to soak the reed for a long period of time before using it. Prolonged soaking usually results in a sluggish, waterlogged sound. Some players prefer to wash off the saliva after using the reed, in order to prolong its life. This is usually effective, however, sanding with light sandpaper will also work. In either case, reeds must be given adequate ventilation to prevent mildew. If the reeds are stored in tubes, the containers should have ventilation holes.

If a competent bassoonist is available, consult him for detailed instructions. An excellent reference is William Spencer's "The Art of Bassoon Playing". It is published by Summy-Birchard, and is available through most music stores. If specific problems arise, call or write the staff at the Fox Bassoon Company, South Whitley, Indiana.

## FINGERING CHARTS

In the following fingering chart, all the keys on the bassoon are shown in the diagrams under each note. To finger any note **depress** the keys, levers or cover the holes shown in **teal**. Special attention should be given to the hole covered by the first finger of the left hand. If the **lower half** of the hole is shown covered, then this hole should be only **half covered** by this finger. A group of important alternate fingerings are included at the end of this chart.



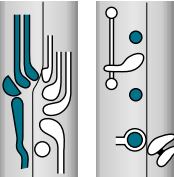
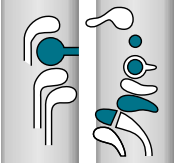

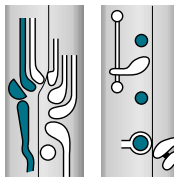
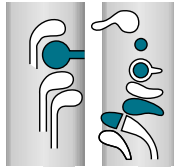

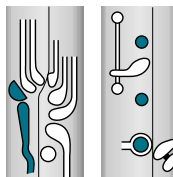
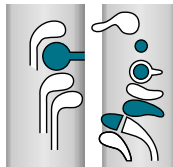

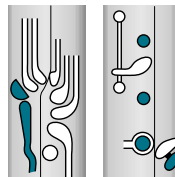
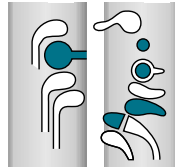

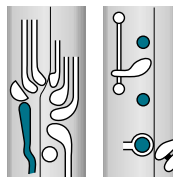
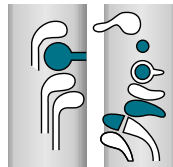

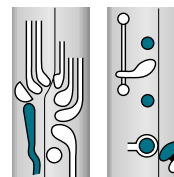
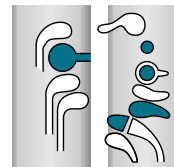
This illustration shows the correct fingering of a bassoon. The thumb of the left hand operates nine keys and the thumb of the right hand operates four keys. The keys on the front of the bassoon are operated by the fingers of both hands.




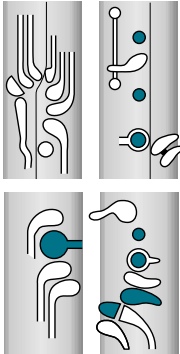

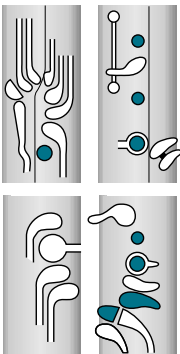

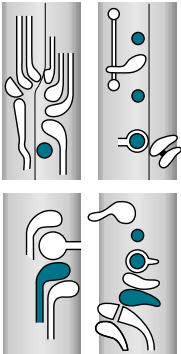

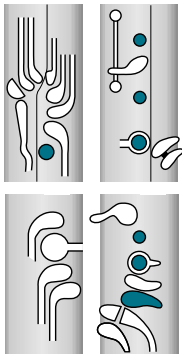

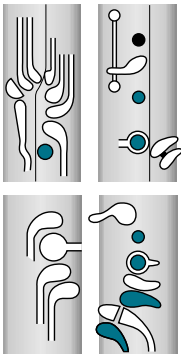

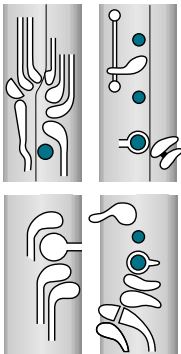









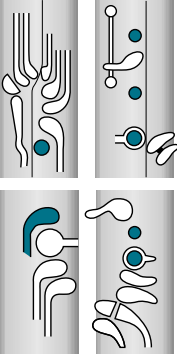
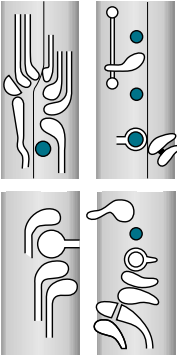
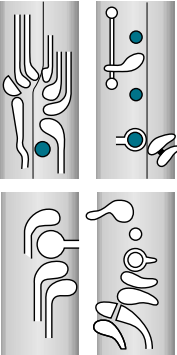
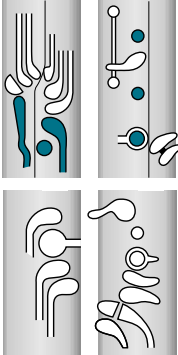
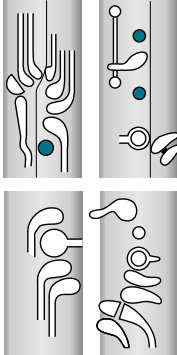
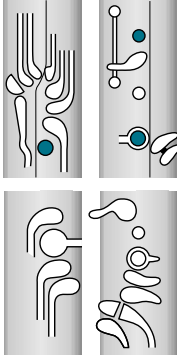
The following fingering chart is the basis for tuning all Fox Bassoons, and also applies to most Heckel Bassoons, as well as many other makes. To permit the use of this chart with the majority of instruments, a group of important alternate fingerings has been included at the end of the standard chart.

It should be realized that the lower register of the bassoon is relatively inflexible, and that an instrument manufactured to be tuned to A-443 cannot easily be altered to play A-440, or vice versa, and still retain its tone quality. The reader should be aware, however, that the pitch of most notes can be adjusted slightly by reaming or filling in tone holes, or by adjusting key height, and that many intonation problems can be corrected by using these methods. When a tuner is used to check the intonation of the instrument, all notes should be carefully checked, and compensation for temperature should be considered. A one degree Fahrenheit rise (above 72°F) produces a pitch increase of about two cents, or  $\frac{1}{2}$  vibration per second at A-440.







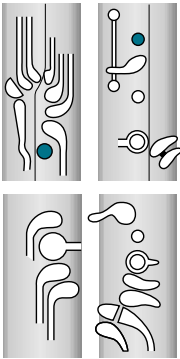
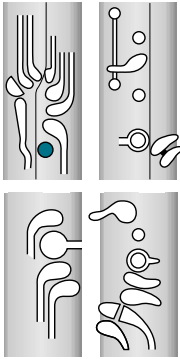
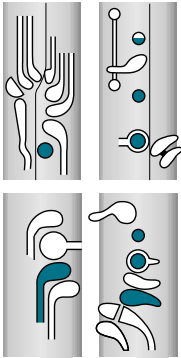
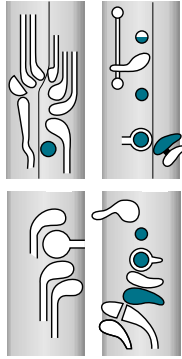
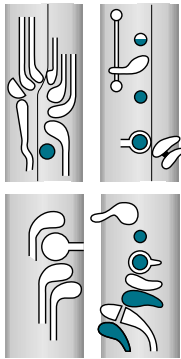
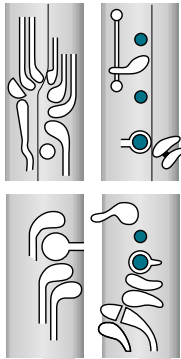
Good bocals will improve the tone and intonation of most poor instruments. This is primarily due to their cross-sectional dimensions, and is only slightly affected by length.

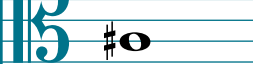

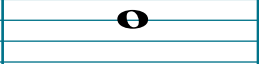
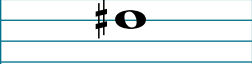
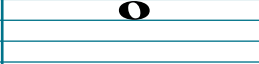
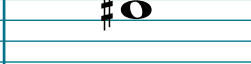
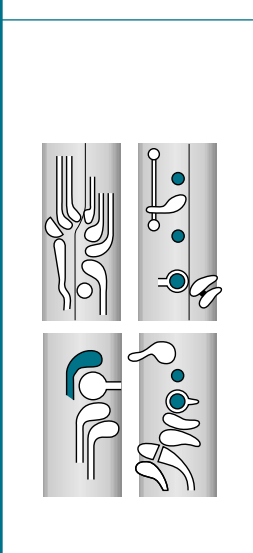
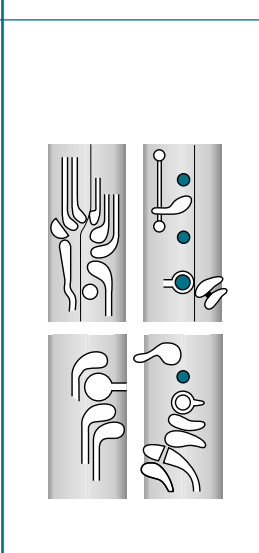
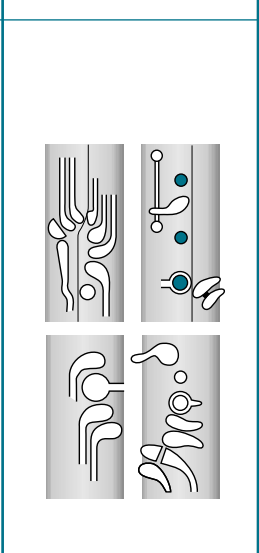
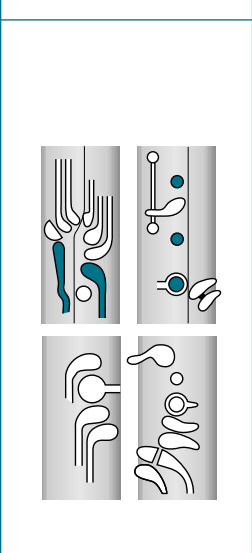
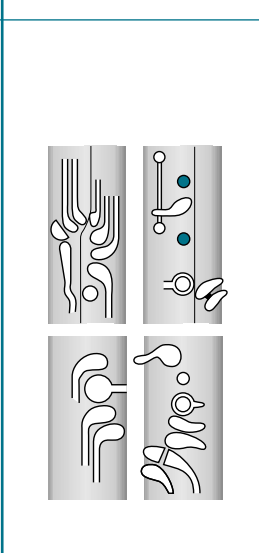
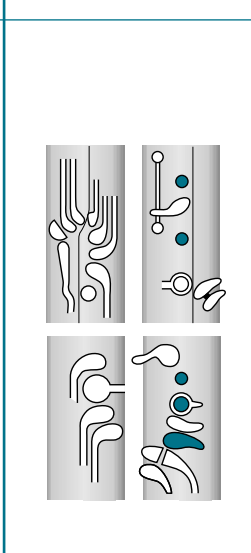
B $\flat$	B	C	C $\sharp$ - D $\flat$	D	E $\flat$ - D $\sharp$
					
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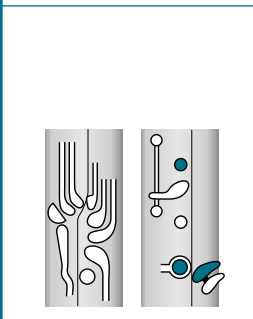
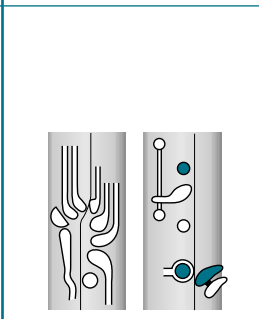
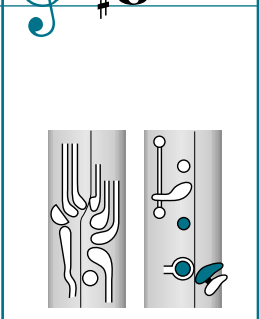
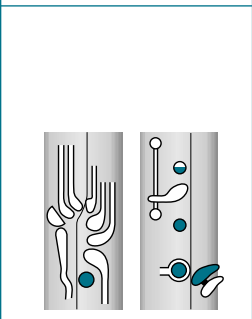
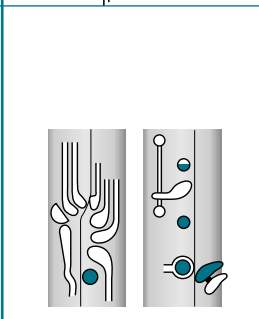
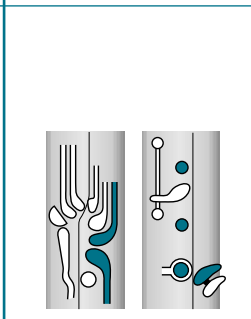
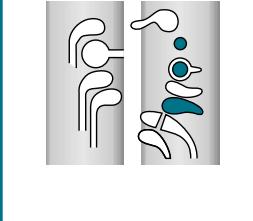
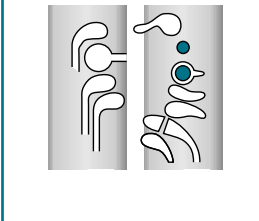
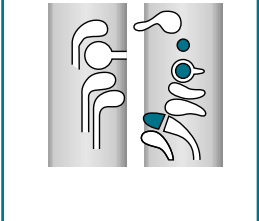
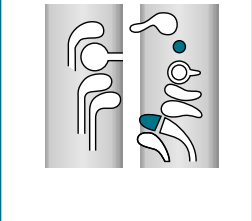
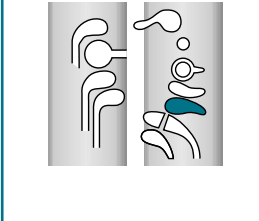
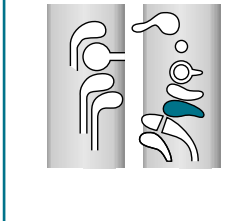
E	F	F# - Gb	G	G# - Ab	A
					
					
 	 	 	 	 	 







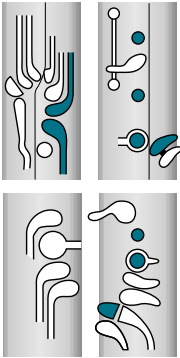
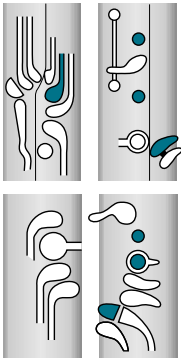
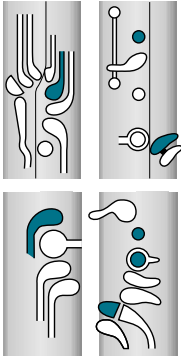
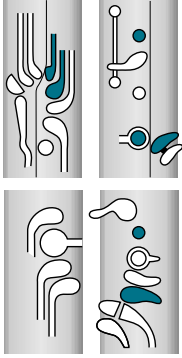
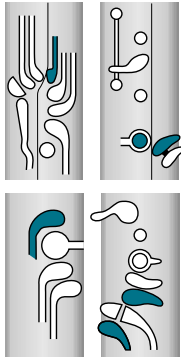
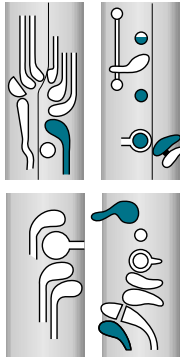
A# - Bb	B	C	C# - Db	D	D# - Eb
 					
					

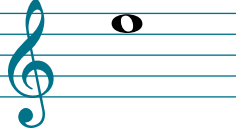
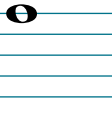
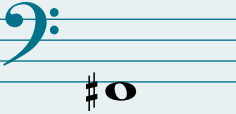
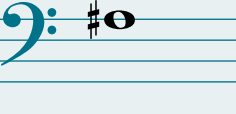
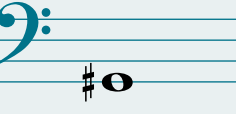
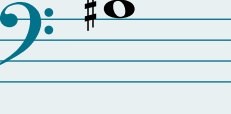
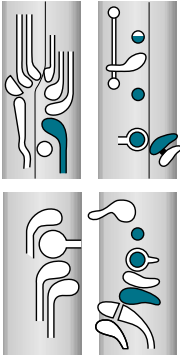
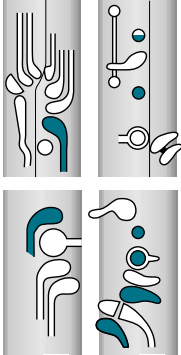
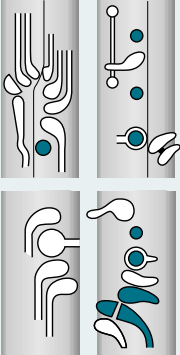
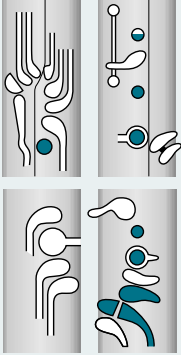
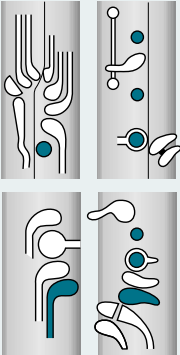
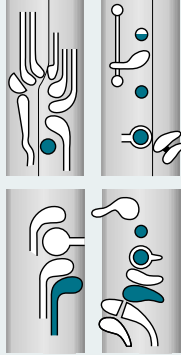



E	F	F# - Gb	G	G# - Ab	A
					
					







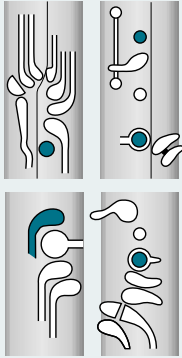
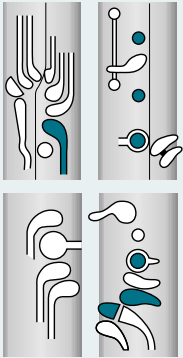
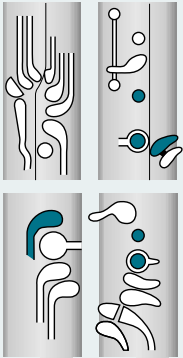
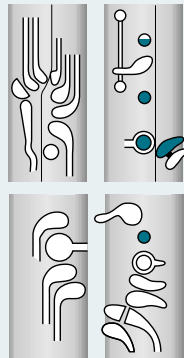
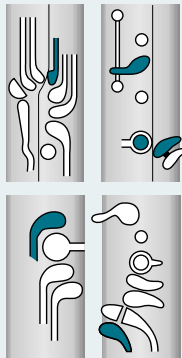
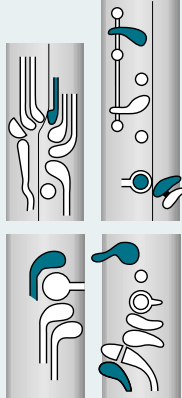
A# - Bb	B	C	C# - Db	D	D# - Eb
					
					


E	F	F# - Gb	G	G# - Ab	A
					
					

A# - Bb	B	C	C# - Db	D	D# - Eb
					
					

E	F	F# - Gb	F# - Gb	G# - Ab	G# - Ab
					
					

 = alternate fingerings

D# - Eb	C# - Db	F# - Gb	F# - Gb	D# - Eb	E
					
					

 = alternate fingerings

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