

## Is it Time for a Check Up? A Booster Shot for Your Bassoon Pedagogy Skills

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The following pages present a brief “booster shot” of four bassoon basics: a quick review or perhaps overview of a few common issues with the bassoon itself, a summary of reed characteristics, care, and simple adjustments, some strategies for establishing an appropriate embouchure, and a guide to proper flicking technique.

### TWO COMMON, EASILY FIXED PROBLEMS WITH THE BASSOON ITSELF

#### The Whisper Key Bridge

When properly assembled, both the left thumb whisper key and the right thumb low E key should independently close the vent on the bocal nipple. Sometimes however, the bridge key from the right thumb does not link properly with the bridge on the wing joint (FIG. 1), causing a small leak from the bocal vent (FIG. 2 and FIG. 3). The result is difficulty playing below Low F2. A simple rotation of the wing joint to achieve more leverage may solve the problem, but sometimes building up the bridge key sleeve (FIG. 4) with plumbers tape or dental floss will be necessary. Occasionally the reverse occurs; the bridge is too tight and the vent on the bocal nipple will not open. In this case, rotate the wing joint in the opposite direction or remove girth from the bridge key sleeve. Once the proper connection is made, alignment marks may be made on the tenor and boot joints for reference when assembling the bassoon.

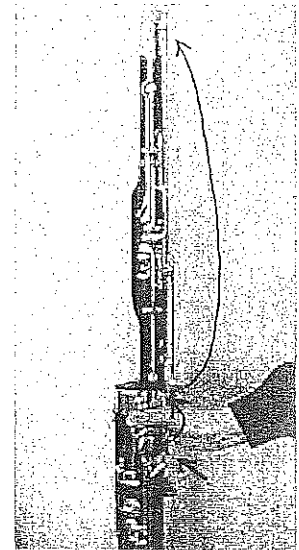


FIG. 1

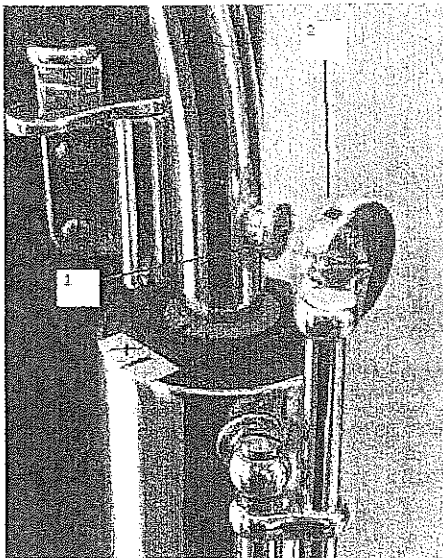


FIG. 2: bocal vent (1) uncovered by pad (2)

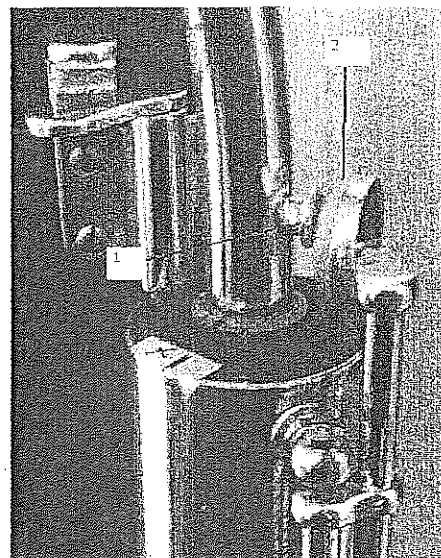


FIG. 3: bocal vent (1) covered by pad (2)

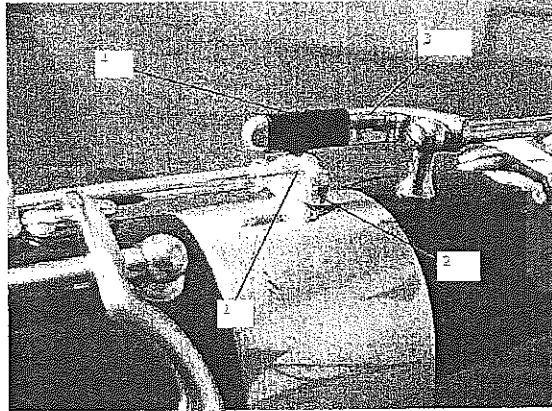


FIG. 4

- boot joint bridge key (1)
- bridge key cork (2)
- wing joint bridge key (3)
- bridge key sleeve (4)

### Bocal Obstruction

The bocal, if not kept clean, often becomes partially obstructed. The result is a more resistant, stuffy sounding bassoon. If the above mentioned bocal vent becomes clogged the upper middle register may cease to function entirely; pitches may crack or even drop to the lower octave. An inexpensive bocal brush (\$8-10) used once a month will solve or prevent this problem (FIG. 5). While running warm water through the bocal, push the brush through once or twice. Fill the bocal with water, cover the cork end with a thumb, and blow water through the tip. If a steady stream does not squirt from the bocal vent it will need to be cleaned with a broom bristle or other relatively soft object. Avoid putting anything into the vent that might enlarge it as this may compromise the bocal's response and intonation.

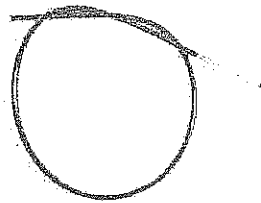


FIG. 5

## REEDS

### Characteristics of a Good Reed

The cane should ideally be golden in color, though light brown is acceptable. Dark blotches are not harmful provided they are confined to the bark. Cane that is greenish or orange should be avoided. Check the reed blade for an even, straight grain that is not too widely spaced. The closer the grain, the harder the cane.

The tube and throat should be symmetrical. Look through the butt of the reed; the tube should be circular from the butt to the 2<sup>nd</sup> wire and should taper to an oval shape at the throat. The 1<sup>st</sup> wire may be loose when the reed is dry. When wet however, it should be snug, but not so tight as to cut into the cane. The 2<sup>nd</sup> wire and the binding should be tight with no loose ends. The reed should fit onto the bocal 5/16"; deeper bocal penetration may hinder a reed's response while anything less may result in a wobbly connection.

Examine the tips of the reed blade for symmetry and an opening of not more than 1/16". With the blades wet, gently squeeze the tip closed. The sides should meet before the center.

Crow the wet reed. The resulting sound should be very free with a high "peep" around F4 and an octave oscillation between Bb1 and Bb2. It should be possible to play at least the first six notes of a major scale on the reed alone; a full octave is ideal.

Most important is the reed's playability, which can be quite easily checked according to four criteria:

1. The reed should be comfortable to play and should have a rich, clear tone in all registers with a hint of edginess but no buzz in the sound.
2. Dynamic flexibility from pianissimo to fortissimo should be attainable in all registers. Be especially sensitive to the reed's capacity for a low register pianissimo and a high register fortissimo.
3. Articulation should be clean and comfortable, from the smoothest legato to the driest staccato. Again, the extreme registers are the most sensitive.
4. A few key pitches can reveal the overall hardness or softness of a reed. If middle-register notes, especially Eb3 and G3, sound sharp and harsh in relationship to surrounding notes the reed is probably too hard and consequently sharp. (Squeeze both wires from the top and bottom, as indicated below in "Adjusting the Wires.") If middle E3 sags, the reed is too soft and consequently flat. (Squeeze both wires from the sides, as noted below.) If these pitches are satisfactory the reed will probably play well after it is broken in.

## Reed Maintenance and Storage

Once a good reed is established it may last several months if treated carefully. Before playing be certain that the teeth have been brushed and that the throat has been cleared by gargling a bit of water. After use the reed should be gently cleaned inside with a reed brush or pipe cleaner, and the outside wiped off. The best commercial reed cases hold the reeds on mandrel tips, but they are expensive. A suitable reed box can be created by lining an earring box with paper towels or foam rubber. It must not be airtight as the reed might mildew and rot. Reeds will last longer if allowed to dry out thoroughly between uses; it is best to use a reed only every other day. Therefore, always have more than one reed available.

## Adjusting the Wires

Adjustments to the reed may be made in two ways, by manipulating the wires or by removing cane. The former method is preferred because the learning curve is very short, and if an operation is unsatisfactory a wire can be returned to its original position. Removal of cane with the knife or sandpaper is, on the other hand, permanent.

Wire adjustments should be gently made with the pliers while the reed is wet. If both wires are to be manipulated, adjust the second wire before the first. The following chart, from Spencer's *The Art of Bassoon Playing* (Summy-Birchard, 1958), describes the effects of the various wire adjustments.

ADJUSTMENT OF BASSOON REED AT THE WIRES				
OPERATION	RESULTS			
	BACK	TIP	TO NE QUALITY	PLAYING CHANGE
1. Squeeze 1st Wire from sides	More arch	More open	Darker, more robust Less reedy Higher pitch	More resistance Reed will feel stronger to lips Tonguing will improve in low register
2. Squeeze 1st Wire from top and bottom	Less arch	Less open	Lighter, more reedy Thinner Slight pitch drop	Less resistance Reed will feel weaker to lips Tonguing will improve in high register Reed will play easier in middle and high register
3. Squeeze 2nd Wire from sides	Remains about same	Less open	More reedy, but not as much as in No. 2	Less resistance Easier to tongue staccato Low register will not respond to fortissimo
4. Squeeze 2nd Wire from top and bottom	Remains about same	More open	Little darker Little higher pitch	Slight increase in resistance Low register will be stronger
5. Squeeze 2nd Wire from sides first, then 1st Wire from sides next	Much more arch	More open	Much darker and more robust Higher pitch	More resistance Reed will feel heavier and stronger to lips Light tonguing will be sluggish
6. Squeeze 2nd Wire from top and bottom then the same for the 1st Wire	Much less arch	More at first then less	Much thinner and lighter Reedy Pitch will drop	Much less resistance Reed will require very little lip pressure Up to a point, light staccato tonguing is easier
7. Squeeze 2nd Wire from sides then 1st Wire from top and bottom	Less arch	Much less open	Very reedy, thin and lighter than in No. 6	Even less resistance than in No. 6
8. Squeeze 2nd Wire from top and bottom then 1st Wire from sides	More arch	Much more open	Very dark sound More robust and heavy in quality Pitch is raised	Great increase in resistance Reed will feel much stronger to lips Improves fortissimo tonguing in low register

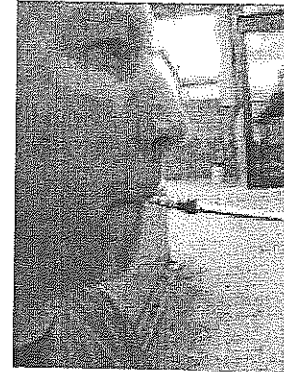
## EMBOUCHURE

Simply put, shaping your mouth to say “**DOHM**” should produce a satisfactory bassoon embouchure. Some call this a “whistle” embouchure. It is a “soft” lip supported embouchure as opposed to the “hard” jaw supported embouchure customarily used with single-reed instruments. More specifically:

Both lips are in front of the teeth, pursed as if to whistle.  
(Some of the red of the lip will inadvertently roll over the teeth, but no deliberate muscular effort is made to do so.)

What little lip tension used is focused equally from all directions toward the center of the embouchure “wheel,” much like a drawstring in the top of a bag.

The lower lip is staggered down and back. (No amount of stretching or bunching of the chin muscles will produce the necessary back stagger, the motion must come from the maxillary [jaw] hinge.)



The back staggered jaw produces an unequal “bite” on the reed bringing the upper lip closer than the lower lip to the first wire. The exact amount will vary according to individual lip configuration, reed style, and register.

A correct embouchure with an acceptable reed will produce the multiphonic “crow.”

For every register of the bassoon there is an optimum point on the reed blades where lip pressure applied will favor the patterns of vibration. This interaction of the lips and blades is subtle, acting to both dampen and highlight vibrations.

The following activity highlights this air/embouchure interaction. Using only the reed and bocal with a steady air flow, play middle C4; this embouchure corresponds to the middle register, from approximately low F2 up to middle C4. Playing B3 with the reed and bocal only corresponds to the lowest notes, below F2. Playing C#4 correlates with the upper register, while a D4 embouchure is used to produce the extreme high register. The exact registers are approximate and will vary from player to player.

The above experiment draws attention to four tuning systems, whose interactions are crucial in producing accurate intonation and dynamic control.

1. Lip pressure
2. Embouchure shape
3. Air speed
4. Amount of reed taken in the mouth

These need to be “discovered” and, when applied frequently enough, will become automatic. Do not, however, allow the embouchure adjustments to substitute for good breathing habits.

## SAY “NO” TO CRACK: CLEAN UP YOUR BASSOON TECHNIQUE

### Proper Use of the Half Hole

Proper use of the left index finger half hole will help to ensure that F#3, G3, and Ab3 will be played cleanly. While “half hole” is a convenient name for the technique, the term is not entirely accurate. When playing F#3, the hole is actually closer to three-quarters open, G3 is close to an actual half-hole, and Ab3 requires the hole to be approximately three-quarters closed. The exact amount of coverage will vary from bassoon to bassoon and from player to player. As with the embouchure, some “discovery” will take place, but to summarize, the higher the note, the higher the index finger should be on the hole.

### Flicking Technique

Flicking, the use of the left thumb keys to act in a similar function as “octave” keys on other woodwind instruments, should be introduced concurrently with the fingerings for A3, Bb3, B3, C4, and D4. (C#4 cannot be flicked because the thumb is already an integral part of the fingering.) Attempting to add the flicking technique later to fingerings already established is extremely difficult, so in addition to promoting “cleaner” playing, flicking from the outset is simply easier in the long run.

Although it is possible to get by with “situational” flicking, it is best to assume that all approaches to these notes should be flicked; if the technique is automatic then no split-second decisions need to be made about whether flicking is necessary in a particular situation. Most of the time, the chances are high that it is necessary.

The flicking motion should be smooth and low, resulting in a low sweep or arc from the whisper key to the targeted flick key. Since other fingers are not involved, octaves should be practiced first. When they are smooth and consistent other intervals and their requisite fingers can be added.

Which keys work for which notes varies from instrument to instrument so as above, some “discovery” will be necessary. If a bassoon does not have the “d” key, the “c” key will usually suffice for that note.

