# Adjusting the Wires on a Bassoon Reed

The shape of the two exposed wires on the bassoon reed affect the response, tone, and intonation in varying degrees. The *normal* shape of the wires is:

a. OVAL for the 1st wire (the wire closest to the reed tip)

b. APPROACHING ROUND for the 2nd wire (the wire closest to the butt end of the reed)

This combination will produce the classic dark bassoon sound while still allowing the reed to be responsive in all registers. Professional bassoonists start with these wire shapes but because every piece of cane is different (due to the natural growing process), there will be times when the wires must slightly deviate from these characteristic shapes. Wire adjustment with small pliers is easy enough to be learned by even beginning students. They should always have them in their bassoon case. The small pliers that I recommend, typically used on small electronic projects, can be purchased in any hardware store for $6 - $12.

There are two ways to adjust the wires:

a. by squeezing the sides

b. by squeezing the top and bottom

The 1st and 2nd wires work in opposites--that is, the same adjusting technique will produce opposite effects at the reed tip. Squeezing the 1st wire on the sides will open the tip; squeezing the 2nd wire on sides will close the tip. If you squeeze the 1st wire on the top and bottom, you will close the tip; squeezing the 2nd wire on the top and bottom will open the tip slightly.

The role of the 1st wire is to control the tip opening and thus, the response of the reed (that is, how hard or easy it is to produce a sound over various dynamic ranges). The role of the 2nd wire is to control the tone--how dark or bright (buzzy) it is. The 2nd wire is located at the area of the reed called the *throat*. The throat encompasses the area from behind the 1st wire to the start of the Turk's head (raised part) of the string wrapping. Adjusting the 2nd wire will change the tone of the bassoon and since it also opens or closes the tip of the reed slightly, it will affect the reed's response almost as much as adjusting the 1st wire.

To adjust the wires, you must first soak the reed in water for 2 - 3 minutes. Many commercial reeds have a tip opening that is too closed. If the student produces a thin or buzzy tone or cannot seem to play a true *forte*, open the tip by squeezing the 1st wire on the sides. If a reed has a thin or buzzy tone, you can darken it by squeezing the 2nd wire on the sides (only if the 2nd wire is not already round before adjustment). Adjusting the 2nd wire in this way will also close the tip so you may need to re-adjust the 1st wire by squeezing it on the sides.

If you have a reed that is hard to blow, not very responsive, cannot seem to play soft dynamics, or has poor articulation response, try closing the tip by squeezing the 1st wire on the top and bottom. If the tone of the

reed is too dark, or if you need to soften the reed's response, squeeze the 2nd wire on the top and bottom to open up the sound. This adjustment will also open the tip slightly so you have have to re-adjust the 1st wire by squeezing on the top and bottom to slightly close the tip.

There is a tendency for the wires to become loose on older reeds. The cane shrinks away from the wires over time due to the constant soaking and drying process. If the wires are loose, insert a *forming* mandrel (the longer mandrel of the two types of mandrels) into the butt end of the reed and tighten the 1st and 2nd wires by 1) bending up the wire twist; 2) pulling this twist to take up any slack; 3) twist the wire clockwise until it tightens against the cane. Note that a few commercial reed manufacturers tighten their wires by twisting counter-clockwise. Tightening the wires will make a reed slightly harder and help bring it up to pitch. It can also eliminate any air leaks that may be occurring.

Don't tighten the wires so much that the cane is dented. A 1st wire that is too tight will choke the tone and make the low register harder to produce. On a soaked reed, the 1st wire should be able to be moved down with the thumb and forefinger without undo pressure (it should be snug, not tight).

## Summary of Wire Adjustments

PROBLEM: the reed is resistant; hard to blow; the sound is too dark; it cannot play a *pianissimo* dynamic; has poor response to articulation.

SOLUTION: try one or more of the following adjustments *in order* (you must try the reed on the bassoon after each adjustment):

1. close the tip by squeezing the 1st wire on the top and bottom; the normal tip opening is 1/16"

2. change the shape of the throat by squeezing the 2nd wire on the top and bottom (this will open the tip slightly so you may have to repeat no. 1 above)

PROBLEM: the reed has a thin, bright, or buzzy sound; it can't play adequate loud dynamics

SOLUTION: try one or more of the following adjustments *in order* (you must try the reed after each adjustment):

1. open the tip by squeezing the 1st wire on the sides; the normal tip opening is 1/16"

2. darken the tone by squeezing the 2nd wire on the sides (this will close the tip slightly so you may have to repeat no. 1 above)

3. check to see that the 1st and 2nd wires are snug on the reed; if not, tighten wires

4. clip the tip with a razor blade very slightly (only a sliver); check the pitch by playing the reed on the instrument; clip again, if necessary