

Tuning The Clarinet Section

by Brian Jones

When it comes to symphonic bands, clarinets can be the backbone or the undoing of good intonation. Because accurate intonation begins with good tone, beginners should learn to find the sweet spot, the place in the oral cavity where the tone has the most definition, by practicing on the clarinet mouthpiece before learning to play the instrument. When a player uses a correct embouchure, the mouthpiece will sound a C or C#6.

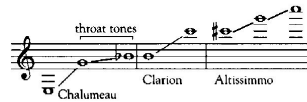
Beginners often play flat at first because their embouchure muscles are still weak. Directors should first play the pitch on a piano or clarinet, followed by students playing the pitch individually and together as a group. The next step is to show how to bend the pitch by manipulating the embouchure. This is done by moving the lower jaw as if saying *weeooo-weeeooo-weeeooo*. The goal here is for students to locate the sweet spot, bend below it, and then return to it.

Once they have produced a steady pitch on the mouthpiece, students should practice with the mouthpiece and barrel to produce an F#5. Some students make the mistake of opening the throat and dropping the tongue, as if saying *whaah*, which places the tone in the back of the throat. Instead, stu-

dents should say *huz* while playing, which places the tongue in the front of the mouth and allows them to play at the sweet spot of good tone and intonation.

Before tuning students should practice playing in all registers of the instrument. Once they can play comfortably in the clarion register, tuning can become a primary concern. An electronic tuner tells beginners whether they are in or out of tune, but it should never become a substitute for careful listening.

Despite prevailing misconceptions, the clarinet cannot be tuned with one note because two joints have to be adjusted.



To adjust the G4, pull or push joint A; when playing this note the air column passes through the top tone holes and not the lower joints. Next play a C5 and adjust joint B for good intonation. This will alter the pitch of other notes that use the lower section of the clarinet. This adjustment does not disturb the throat and upper clarion notes that were tuned first. After tuning these two notes, the clarinet should be basically in tune.

Orchestras and other ensembles tune to A440, and clarinetists play a B4, which tends to be sharp. Joint C can be adjusted to tune this pitch. Orchestral clarinetists should tune G and C before tuning to A440.

Advanced players deal with this troublesome tuning process by playing clarion B4, F#5, and G5 (I, IV, and V) to hear the overall pitch. B5 tends to be sharp but very flexible; it should not be used to adjust joint A when tuning to A440.

Some directors condense the tuning process into a short phrase.



The sudden resistance of the clarion register following the free-blowing throat tones can interfere with producing a good C5 for tuning. Most students pre-set the right hand to ease the transition, but this causes the throat tone to be flat. A better solution is for students to play the following passage, which includes a scale into the tuning note.



Coins can be used to measure the proper distance between clarinet joints. If a nickel or dime fits in a certain tuning joint when the clarinet is in tune, this is a good starting point for the next session.

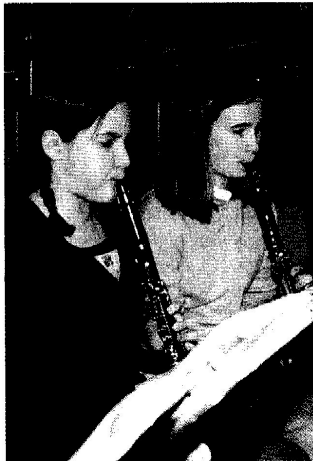
With the return of big band music, students may thrust the clarinet bell out from the body, perhaps thinking that this will produce a bigger sound. The oboe and soprano saxophone should be played at a 45° angle, but the clarinet should be held at 30°, with the bell just behind the knees when seated. A greater angle weakens the tone and may lower the pitch; directors should demonstrate the change in pitch by playing a clarion B5 and moving the bell toward and away from the body. The pitch will lower considerably as the bell moves out. The same effect occurs when the head is lowered and is another reason why good posture is important.

Despite careful tuning, several rogue notes will remain.



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- The low chalumeau F3 is often flat and difficult to adjust. In slow, exposed passages the note can be adjusted by pulling the clarinet close to the body.
- The chalumeau A3 is often noticeably sharp, especially when played in unison with an alto instrument, such as the saxophone. This note can be tuned by shading the bottom finger hole with the ring finger.
- The clarion C#5 and D5 also tend to be sharp but are more flexible than those in the chalumeau register and can be tuned by dropping the jaw and pushing the bell away from the body.
- The high B5 and C6 are often sharp but are easily adjusted by dropping the head forward. These notes are not a problem when an inverted taper barrel is used.
- The standard fingerings for altissimo F6 and F#6 tend to be flat but improve with one of the alternates. There are many fingerings for these notes, so consult a chart to find the best alternative.

Before getting rid of standard fingerings, students should make sure to vent the E \flat pinky key in the right hand. This also works for other altissimo notes. If these notes sound flat, press the silver or fork key with the right ring finger.

Singers are often flat when they approach a note from the bottom or sharp if they approach from the top, so they often check pitches on the piano. The following excerpt from William Schuman's *Chester Overture* (Merion Music) is difficult for clarinetists to

play in tune and is a good exercise in intonation. Check pitches against a piano or a tuner.



The F6 in measure 199 is naturally flat and even flatter when approached from below. Have each clarinetist in the section play the figure, sustaining the high F to tune the note as the director plays it on the piano. Although there are many ways to tune this high note, a performer should always hear the correct pitch in his head before playing it.

A useful teaching technique is to play or demonstrate chord progressions or intervals on the piano. This exercise can be expanded later by



having a contest in which students identify intervals played on the piano or by a student on various instruments. Practice of intervals will improve overall intonation.

The opening clarinet solo in Copland's *Variations on a Shaker Melody* (Boosey & Hawkes) begins with an important tuning interval, the perfect fourth.

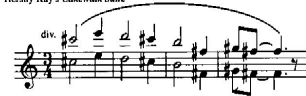


Many soloists fail to sound a true perfect fourth up to a B \flat , and the entire passage up to the F5 sounds flat and static. To complicate matters, players may add the right hand on the eighth-note B \flat 4 to ease the transition from the throat tones into the clarion register. This is a good legato fingering, although it lowers the important

eighth-note B \flat 4. A better alternative is to add the right hand on the sixteenth-note B \flat 4.

Because clarinet registers have different pitch tendencies, this passage from "Wallflower Waltz" in Hershey Kay's *Cakewalk Suite* (arranged by William Chaloner, Boosey & Hawkes) is a challenge to play in tune.

"Wallflower Waltz" from Hershey Kay's *Cakewalk Suite*




The first clarinets are divided in octaves, with the lower part beginning in the clarion register and the upper part in the altissimo register. As the upper part descends to the clarion register the lower part moves into the chalumeau register. For tuning, each part should be played separately, beginning with the lower line. Then put the parts together. It is usually better to split divided parts on each stand so players can hear the other part of the divisi and make adjustments.

Very few advanced clarinetists use a standard barrel, which is a straight tube that causes the top clarion notes (especially B4 and C5) to be sharp while the throat tones are flat. Around 1950 renowned woodwind repairman Hans Moening began marketing special barrels with the top a little wider than the bottom. This improved intonation in the clarion and throat registers.

Today there are many types of barrels with inverted tapers. The standard length of a B \flat clarinet barrel is 66mm (an A clarinet barrel is 65mm), but they vary in length to help greater tuning problems. Barrels are made from



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wood, which some believe to be best, or synthetic materials that are reputed to remain stable and unaffected by weather changes. Although inverted barrels may cost as much as a good mouthpiece, serious and accomplished high school clarinetists should consider purchasing one with the help of a clarinet teacher.

The clarinet is an assemblage of compromises. Throughout its 300-year history manufacturers have wrestled with the reality that a tone hole drilled to sound perfectly in-tune on a low note produces a horribly out-of-tune partner note a 12th above. Clarinet makers often have to split the difference, making each note in the 12th equally off the mark. To further complicate matters, the most mathematically accurate tone hole may not guarantee the clearest sound, so yet another compromise has to be made.

Over the years manufacturers have introduced clarinets that first and foremost tout an even scale, but the measures taken to rein in intonation glitches sometimes stifle the vitality of the overall tone. Interviewed in March on N.P.R.'s *All Things Considered*, British bassoonist William Waterhouse likened instruments designed primarily with perfect intonation in mind to typewriters. He contends that a fine instrument with natural intonation quirks can be compared to a thoroughbred race horse. Such an instrument may require more practice and adjusting, but it can also produce amazing results.

The greatest threat to the perceived intonation of a clarinet section is too much variation in individual tone concepts. In the first half of the century American orchestras were filled with European clarinetists who had a distinct concept of tone. By mid-century, there arose a distinct American sound that became associated espe-

cially with Robert Marcellus (principal clarinetist of the Cleveland Orchestra under George Szell and later professor of clarinet at Northwestern University). This blended and even tone eliminated as much color disparity between registers and notes as possible.

Recently, in an effort to make classical music more commercially successful, clarinetists have developed a new sound, changing color and timbre from note to note to demonstrate the expressive flexibility of tone. Sadly the tone used by Marcellus has been written off as dull and lifeless by some misguided critics.

Although this new sound makes for great solos, it is often troublesome for section-playing, which depends on balance and blend. An unblended section will sound out of tune even if each individual can make the tuner needle go straight up. It is very difficult to match other players when you cannot predict how they will sound from note to note. The most popular performer may not be the best choice for demonstrating good tone to students; students should strive for a tone that works best for both solo and ensemble playing. □

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