Clarinet Reeds and Mouthpieces

by Christopher Sumner

Whenever I conduct a clinic with a high school clarinet section, the band director usually asks if I can work on their sound quality, especially in the high register. Problems in tone quality often reflect equipment deficiencies. The reed alone drastically affects the sound produced by a woodwind player. A good reed maintained properly will improve the overall tone and help players with difficult altissimo notes. Other factors include posture, embouchure, the type of instrument, and the size and quality of mouthpiece. The comments here pertain primarily to the clarinet, but most apply to other single reed instruments as well.

Choosing a Reed

The thickness and density of reeds vary from one commercial brand to another. The less costly reeds tend to be thinner and less dense than expensive ones. This is why reeds of the same size will vary in hardness from one manufacturer to another, but even reeds from the same box will have different degrees of stiffness. Reed stiffness depends on the density of the cane used to make the reeds: the denser the cane, the better the reed. To gauge the density of a reed, hold it up to a light and examine the closeness of the fibers. Check the evenness of fibers; if one side of the tip of the reed is denser than the other, it will be difficult to play.

For high school students, soft reeds are often the cause of poor sound quality, especially in the altissimo register. A high school clarinet section should play a size 3 or within a half size of this. The tradition of starting beginners on a 1½ does not always guarantee the best results. A 2 reed is often a good choice for beginners because it gives them a sense of resistance from the start and precludes the kazoo sound typical of beginning woodwind players.

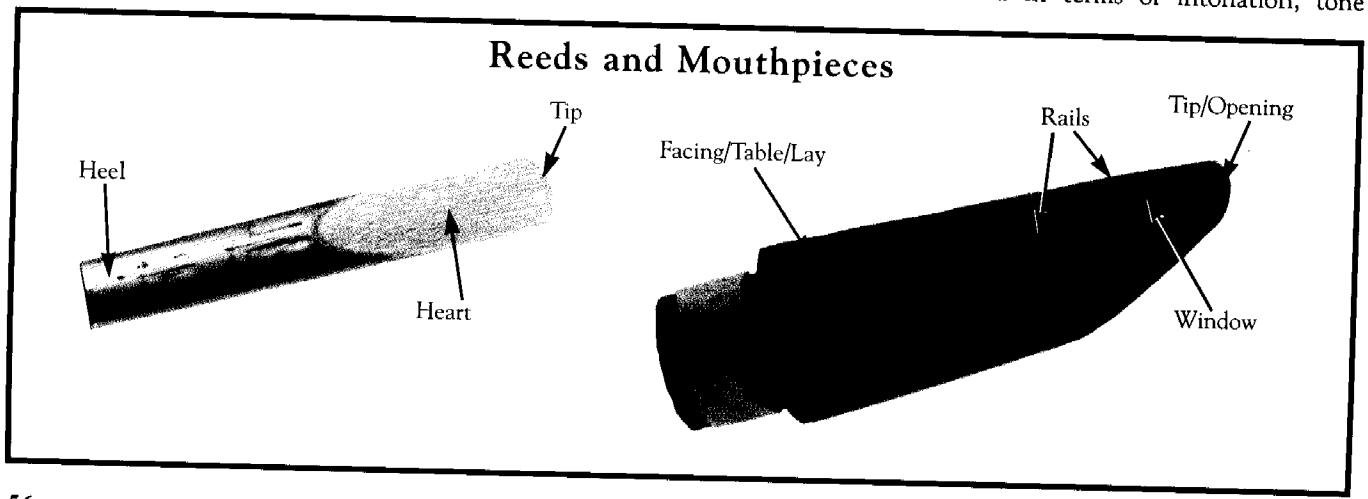
Getting Started

Recently a flute player who teaches middle school band told a story about a clarinet student who could not get a sound out of the instrument. After looking over the instrument to check for mechanical problems, the teacher asked if the reed had been soaked before playing. The answer was, of course, no. Reeds have to be thoroughly soaked; several seconds in the mouth is insufficient. Woodwind players should put the reed in their mouth to soak as they assemble the instrument. An alternative is a canister or a plastic film container filled with water. The water contains fewer impurities than saliva and does not break the reed down as much. The entire back of the reed should be wet to create an airtight seal between the face of the mouthpiece and the backside of the reed which prevents squeaking. Ripples at the tip of the reed are a good indication that it has not been soaked enough. New reeds often need to be soaked longer than older ones.

A new reed should be sealed after soaking but before playing. This simple process will help to preserve the life of the reed. Place a wet reed on a flat surface or on a finger and rub from the heel of the reed to the tip with the thumb using a medium amount of pressure. Rub each side of the reed about ten times. This process breaks off tiny fibers on the surface of the reed and closes up exposed fibers. Sealing a reed increases its longevity because the reed does not become easily waterlogged.

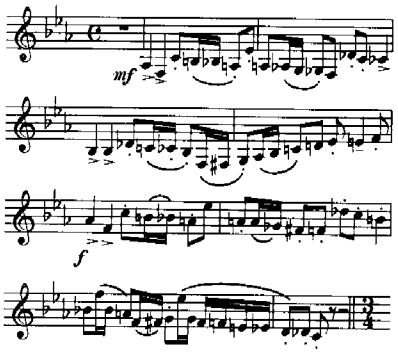
Mouthpieces and Ligatures

Mouthpieces and ligatures affect sound production on reed instruments so much that a good reed on one set-up (reed, mouthpiece, and ligature combination) could turn out to be a bad reed on another set-up. Although mouthpieces are made of many different materials including wood, metal, plastic, hard rubber, and crystal, most accomplished reed players agree that hard rubber and crystal mouthpieces are best. Mouthpieces should be evaluated in terms of intonation, tone

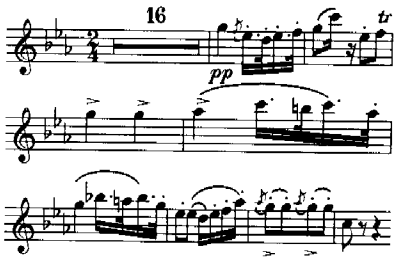


quality, response, and resistance. Although it is useful to check pitches on an electronic tuner, I recommend playing several scales without a tuner to test the intonation of the instrument. Check whether the mouthpiece produces a clear, resonant, and well-focused sound. Test how quickly and easily the sound responds by playing a passage with several articulations and dynamics, as in the following examples.

Shostakovich Symphony #1



Schubert Symphony in C Major



The resistance of a mouthpiece dictates how much air will flow freely through the mouthpiece. Mouthpieces with less resistance work well for beginners. Most mouthpiece brands have a numeric or alphabetic label for the tip opening, which in turn indicates the resistance of a mouthpiece. Because most brands use different systems, it is difficult to compare mouthpieces, although many companies offer a chart to explain the rating system.

With so many makes and models it is difficult to recommend specific mouthpieces. One suggestion that can be made without reservation is not to use the stock mouthpiece that comes with the instrument, which tends to be of mediocre quality. The sound quality of a section may improve if all players use the same type of mouthpiece.

Ligatures are less critical than the choice of mouthpiece but also affect the sound quality. With ligatures the goal is for a minimal amount of material to touch the reed because a reed that vibrates more produces a better sound.

Reed Placement

It may seem a simple task to place reed on a mouthpiece, but poor re placement is the root of many to problems. Students often fail to cent the reed from side to side or place t reed too high or low on the mout piece. The tip of the reed should b centered side by side on the rails the mouthpiece with the heel ce tered on the cut facing of the mout piece. The tip of the reed should b aligned with the tip of the mouthpiec but the top edge of the mouthpiec should be visible.

Exceptions can be made to this method if the reed is too soft or too hard. It the reed is too soft, the tip of the reed can be raised slightly higher than the tip of the mouthpiece to make the reed play a little harder. To resolve the opposite problem, bring the tip of the reed down just below the tip of the mouthpiece. Bear in mind that these adjustments only minimally alter how the reed plays. To avoid cracking or splitting reeds, place the ligature on the mouthpiece first, then slip the heel of the reed onto the face of the mouthpiece under the ligature.

Excess saliva inevitably collects on the back of the reed after some time,

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causing a fuzzy tone. The easiest solution is to suck in air with the mouthpiece in the mouth, but some students have a fear of their own saliva. The other option is to take the reed off the mouthpiece and wipe off the back of the reed, but this is obviously much more time-consuming. Also, the more the reed is handled, the greater the risk of splitting or chipping.

Storage

The reed should never be left on the mouthpiece after playing but should be dried and placed on a flat surface to prevent warping. A warped reed cannot create an airtight seal between the reed and the face of the mouthpiece. The back of the reed should be wiped off and placed in a case or guard to keep the reed flat and protected. Some reeds come in suitable cases, but often it is necessary to buy cases or guards separately. Most reed manufacturers sell inexpensive cases and guards, the best of which have a glass plate to keep the reed flat.

Reed cases also help players to organize their reeds. Most professionals evolve a system of marking reeds to indicate softness, overall condition, and other qualities. Some players use numbers and others letters, such as S (soft), H (hard), St (stuffy), G (good). Any system that describes the reeds effectively is acceptable.

Advanced Adjustments

Advanced reed players should learn to make some basic reed adjustments with the following simple tools: a reed knife, very fine sandpaper, and a reed trimmer (optional). No two reeds will be the same, even from the same box. As a test, play one side of the reed by rotating the mouthpiece slightly so that the bottom lip pinches off one corner of the reed and leaves the other corner open; repeat the process closing off the other corner. If one side is harder to play than the other, make adjustments by carefully scraping off some of the wood with a knife. Scrape only the thicker corner and just a little bit at a time; the reed will be too soft if too much is removed.

Excessively thick and overly soft reeds also require adjustments. If the reed is too thick and difficult to play, place the back of it on a piece of very fine sandpaper and sand lightly. Place two or three fingers gently on the reed and slide the reed on the sandpaper several times with the grain. Again, be careful not to take too much off. If a reed is too soft, clip off a small portion of the tip with a reed trimmer. The

more a reed is clipped, however, less vibrant the reed becomes. A many students use a reed trimme remove chips in a reed, and while is somewhat effective, they should ognize that each clip makes the re little harder and less vibrant.

Although most high school w wind players will not obsess over t the way professionals do, most of t adjustments can be performed easi students. These slight changes improve the sound quality of reed tions immensely.

Band Method Released

Hal Leonard Corporation rel *Essential Elements 2000*, a new method with a C.D. available for instrument. Designed by John Hi Charles Menghini, Paul Lavende Lautzenheiser, Don Bierschenk Tom Rhodes, the method pre the popular feature of the pre *Essential Elements* method and new elements. Book 1 will be ava on May 1, and the second book w introduced at the 1999 Midwest (Hal Leonard Corporation, 7777 Bluemound Road, P.O. Box Milwaukee, Wisconsin)

New Miniature Scores

Dover Publications added scores to its Miniature Scores including Mass in B Minor by J Sebastian Bach; Symphony Ludwig Van Beethoven; Symph by Gustav Mahler; Mozart phonies #35, #36, and #38; phony #4 by Peter Ilyich Tchail and Giuseppe Verdi's *Requie* works appear in full score. To contact Dover Publications, I East 2nd Street, Mineola, New