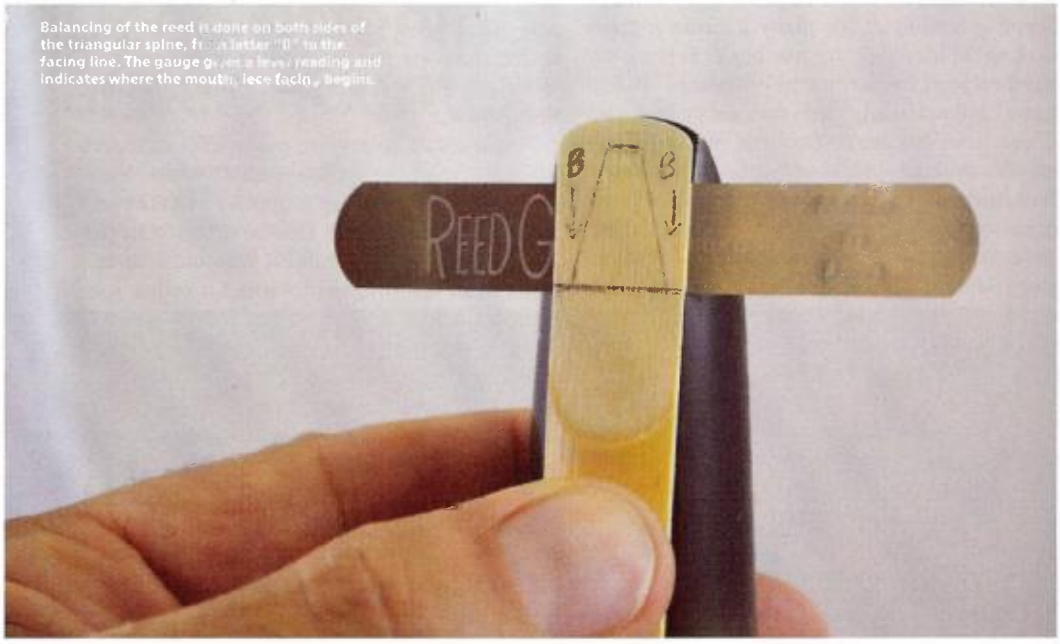
# Cane Care With the ReedGeek




**HAVING GROWN UP IN THE LAKE** Tahoe, Nev., area and being heavily involved in winter sports like skiing and snowboarding, I continue to find many parallels between my experiences on the slopes and those of a reed-playing musician. The woodwind playing experience is very much akin to a snowboard or a pair of skis floating atop a pillow of powder—it's simply fluid dynamics. One's equipment needs to work as a system: Whether you are on the bandstand at a high-pressure gig or standing atop a 10,000-foot ridge ready to ski down, you have to have faith that your equipment—more precisely, your reed or skis—is going to offer you the response, control, resistance and support you need in a fraction of a second. Like a great pair of skis, the reed needs to have characteristics that allow the player to dictate the direction they want to head. So, how do we get our reeds to this place? I developed the ReedGeek Universal tool—a multi-edged steel reed-sculpting device—just for this purpose.

Ask any woodwind player, "What are you looking for in your sound or your equipment?" You're likely to hear responses like "the right resistance," "intonation," "playfulness in the reed," "the right timbre," etc. And you might be surprised to learn that all of these desires are controlled by the often-overlooked, bamboo-like, tubular, fibrous plant known by the scientific name "Arundo Donax," commonly known as a reed.

## Cane Density & Reed Strengths

Cane is a plant, and depending on the soil it was grown in and other environmental factors, it will display differences in fiber density and strength. This is what determines how a particular reed is graded at the factory (e.g., #2, #3½, #5).

The denser and more resilient reeds will want to dictate their vibrational shape to the instrument's bore. The opposite is true if the reed is too soft, with low fiber density and resiliency, as the bore will almost completely dominate the vibrational shape. Using a skiing analogy, if you are engaged on a very steep and bumpy slope, a stiffer (and often longer) ski-and-boot setup will let you transfer much more energy to the snow and give you a feeling of control. If the ski-and-boot setup is too soft, you will lack energy stability and the rough, steep terrain will completely dictate, bouncing and chattering you about. So, the player must be up to the challenge of "taming" their reeds. Players must acquire true knowledge of reed selection and adjustment so that they are able to dictate their own playing terms and adjust the reed to their liking.

## Pressure Regulation

The reed, mouthpiece and instrumentalist are all interdependent. Air pressure from the player's lungs supplies the energy to excite the instrument's bore. The reed regulates the pressure (operating as a proportioning pressure valve), opening and closing as it vibrates along the facing curve of the mouthpiece. For a reed to perform well, it has to be balanced within itself so it has a natural vibration along the whole length of the reed as well as being functional in its "pressure valve" role on the mouthpiece. When the reed and mouthpiece properly seat and oscillate as a unit, it serves as a generator for the air column to vibrate and excite the instrument's bore. How effectively it performs this task largely determines the pitch and timbre of the notes being played. When a player is picking reeds indiscriminately out of the box, he is searching for the correct valve that works in conjunction with the mouthpiece, the instrument's bore and his personal lung capacity; he is essentially trying to obtain the correct energy balance. As you can imagine, this is very much the luck of the draw, often resulting in frustration.

## Reed Flaws?

Many people attribute reeds that are not compatible with their system as having inherent flaws. These flaws can be blamed on cane quality and poor cuts, among other issues. But, as a reed is manufactured, it is cut with the aid of computerized machines to a specific set of measurements and proportions that have been determined to be functional for the majority of woodwind players and equipment on the market today. However, it is almost impossible to mass-produce a reed for every individual's playing style, lung support and equipment.

Overall, reed companies have provided a good service in that the player does not have to tirelessly create this finished blank out of raw cane for himself—a practice that was common a century ago. Any of these reeds can be profiled and made to perform excellently with the correct knowledge and tools. By far the two biggest problems with single reeds (both new and old) are ones that can't necessarily be blamed on the manufacturers: warpage of the reed table and imbalances at the tip and along the side rails and heart due to differing cane densities. These are problems that individuals have to deal with. It is the player's responsibility to find the correct reed cut compatible with their system, and profile it to his liking.

## Improving Reeds

The first step to improving a reed is to flatten the back with the ReedGeek. When the reed is not flat and sealing against the mouthpiece, air leaks from your setup. Like a car's engine, you have lost compression. Once the reed is flat and sealing, full compression is restored and you can get a very good estimate of the true resistance of the reed.

Always flatten your new and old reeds by laying the ReedGeek on any one of its completely true edges perpendicular to the reed and letting the weight of the tool find the high spots as it's pushed/pulled across the length of the reed table. (See Figure 1.) Make sure to flatten the table using consistent pressure, proceeding lightly toward and off the reed's tip. Flattening is important as it enables you to ensure that the whole reed is seating on the mouthpiece table, rails and tip for optimal vibration. Especially on new reeds

that haven't seen water, the flattening process starts sealing the pores so when they do take in moisture it will be in a more uniform way. Those broken-in or perhaps blown-out older reeds that you have yet to throw away are most likely suffering severe warpage. Repeating the flattening procedure, but with more gusto, will often resurrect these tired reeds. You might even give them a thorough soaking and then re-plane them with the ReedGeek—it's OK to remove some cane from


Figure 1

the table (there's plenty there). Frequent flattening is where the ReedGeek works its magic and will continue to do so for the remaining life of your reeds.

## Outer Perimeters

With the reed flat and sealing on the mouthpiece table, the outer areas of the reed known to be the most responsive can now be adjusted. The goal is to make the reed ultra-flexible as it vibrates along your mouthpiece facing curve. Start by flexing the reed with your fingertips. Visually inspect it to see if one rail is heavier (thicker) than the other. If so, this will need to be shaved down. Using the ReedGeek, this can be accomplished with one of the scraper blades on either side of the tool, or by any of the edges on the body of the ReedGeek being lightly dragged over the length of the rail. (See Figure 2.)


Figure 2

Similarly, the corners of the reed (the "ears") can be addressed. Again, very lightly bend the right and left "ear" with your forefingers to determine symmetry. These need to be balanced, much like the wings of an airplane, for consistent airflow. This area can be blended with the radius end of the ReedGeek, which works like a pencil eraser. (See Figure 3.)

The final way that the perimeter can be addressed is by smoothing out the denser (darker) spots that lie on the outside of the reed's spine. This can be difficult to do with tools other than the ReedGeek, as gouging can occur. However, with the ReedGeek's tip, pinpointing dense areas and "erasing" them can be easily accomplished.


Figure 3

When all adjustments have been made, the outer perimeter of the reed should be smoothly blended toward the spine (heart), and this area should be in the shape of an inverted "U" or Christmas tree. The more open your mouthpiece and the longer the facing, the more elongated the Christmas-tree shape should be so the reed has a longer pallet on which to vibrate. Knowing where your facing actually starts—the pivot point where the curvature begins—is vital for accurate reed adjustment. (See photo on opposite page.)

## Maximum Reed Function

Players should not have to be at the mercy of their reeds. Everything comes down to maximizing the reed's function through profiling, flattening and maintenance. With knowledge, a little practice and dedication, players of any level can see positive results in their reeds' performance. DB

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