



Reed Adjustment

By Ariel Detwiler



Reed adjusting is a tricky thing to put into words. There are many ways to adjust reeds published by many a great teacher, but ultimately reed adjusting is learned through experience. If you need a reference for the issue you're having, I'll provide some here, but the best way to learn is to get advice from a professional, and to experiment with as many different processes as you can find to see what works for you. If you ever don't know how to define your problem, ask for an opinion!

My philosophy on reed adjustment is based on a few principles:

1. Always **enhance** the shape and profile of the cane, don't **change** it.
2. Play test thoroughly and often. You can always take more cane **off**, but you can't put it back **on**.
3. Get to know and grow with the tendencies of your reeds throughout their life.
4. There is no one way to fix an issue. Usually one issue has 3 different solutions.
5. There is no one area of the reed to fix an issue with one specific note. Adjustments are determined by the issue, and connected to a general area of the reed. If you're having an issue with one note, check your instrument for maintenance issues, or make sure your embouchure is correct before blaming the reed. A common reason for issues with specific notes is simply pinching the reed or using embouchure adjustments to correct intonation issues.

Defining the issue

The first step in reed adjusting is to actually put a name to the issue you're having. There are two major categories of diagnosis: **physical issues** and **audible issues**. These don't always go hand in hand. A terrible looking reed could play beautifully, or a beautifully made reed could have some serious issues when you play it. Here are some common issues to look for when you're trying to figure out what the problem may be with your reed. Always start by fixing any physical issues, then assess audible ones.

UNFIXABLE Issues

It's not a sign of weakness to donate a reed to your reed graveyard when it is simply past its prime. For a beginner to advanced player, I suggest buying or making 2-4 new reeds every 3-4 months (especially during season changes) no matter how much you play. If you throw away a reed for these reasons, replace it!

- **Reed has been consistently played on/soaked most days for more than 6 months** (it's just OLD! A good way to assess the age of your reed is to look at the color of the inside of the base of your reed. If it is grey or black, it's time for a new reed. If your reed is technically old but hasn't been played on, it's probably fine!)
- **Reed has grown significant mold/fuzz** (this is dangerous to your health. Don't try to sanitize it, just throw it out, or it may contaminate the other reeds in your case.)
- **Reed has a crack more than 2mm long** (putting your plaque in and adjusting this reed will be a lost cause—you will just crack it further)
- **Reed has a chunk of the base missing** (seal is compromised—nothing you can do at this point)
- **Reed has a significant chip in the corner** (more than 3mm will compromise the seal of the rails, which helps produce the proper vibration)

Physical Issues

Issue	Solution
Reed blades not lining up	Adjust wires, or sand sides of reed on flat surface
Reed discolored (tip or inside)	Scrape off gunk with a knife, or just get a new reed!
Reed chipped/cracked	Chips can be trimmed or sanded. Cracks are usually the beginning of the end of a reed.
Reed warped (smiling edges)	Make sure upper half of reed matches thickness on each blade, or adjust the wires to open the tip.
Reed blades uneven thickness	Focus on the thicker blade to make all angles look similar (front view, side view arch, rail taper)
Rails uneven taper	Use either a knife or a metal file angled to each side to precisely even the taper to the tip
Reed blades or sides of tube don't meet easily (gaps)	Adjust the wires, or scrape the channels to enhance the arc of the spine
Base of reed has leaks (cracks or uneven ream)	Ream while dry, or coat a mandrel with candle wax and use it to seal the inside of the reed temporarily. If too severe, get a new reed.
Wire tightness (too tight/loose)	If loose when soaked, adjust the tightness of the wires, but ONLY while WET, and have new wire standing by just in case. If too tight, place new wire in a new location to prevent pinching.
Grains of cane too pronounced	Sand while dry, or metal file while wet.

Audible Issues

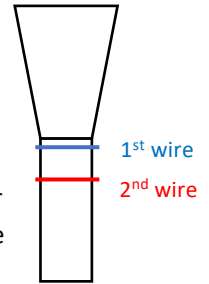
**Because there are so many ways to fix audible issues, I will present possible issues as a list, then show what each specific adjustment might do for your situation.

Issue
Muffled tone – high register
Muffled tone – low register
Too bright
Too dark
Raspy tone quality
Intonation – flat (sour)
Intonation – sharp
Intonation – unstable, but not generally flat or sharp
Lacking vibrancy in tone/ lacking vibration
Reed is hard to tongue fast
Reed feels hard – exhausting to play, too much resistance
Reed feels light – too easy to play, no resistance
Airy tone quality
Obvious leak sound (either air or gurgle of water)
Low Register doesn't speak easily
Low register isn't easy to play soft

Adjustment Techniques

There are four main techniques I use. For each zone you see, you can use one of these, or a combination of all of them.

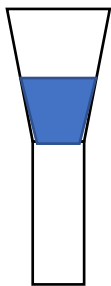
1. **Cane removal scrapes** – done with a reed knife, focusing on a specific area, these are meant to take off cane when you find significant unevenness in the thickness of the blades that lead to *significant audible or physical issues*.
2. **Blending scrapes** – done with either the light stroke of a reed knife or a wet metal file, these are meant to level the unevenness your cane removal scrapes may have left behind or fix *minor audible or physical issues*. Every time you use cane removal scrapes, you should always follow with blending scrapes around that area to blend your work in to fit the rest of the reed.
3. **Sanding**—done with 220-1000 grit sandpaper, meant for finishing purposes or basic lightening up of the reed if it feels heavy. Can be used when the reed is wet, but is more effective when the reed is dry.
4. **Adjusting the wires**—always done with pliers. Close the tip by making the first wire flatter or the second wire rounder, and open the tip with the exact opposite – making the first wire rounder or the second wire flatter.



Reed Zones

As I mentioned in my reed adjustment philosophy, “there is no one area of the reed to fix an issue with one specific note.” This is contradictory to many great teachers’ techniques, but is not meant to debunk their theories—it is simply my opinion from experience. Below are the areas of the reed I focus on and the issues for which you may find that specific adjustment helpful. Below you will find a list of some specific issue

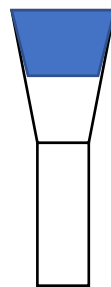
Back Half



Associated issues:

- Low register not speaking
- Heaviness of cane
- Lack of vibration/vibrancy
- Brightness

Front Half



Associated issues:

- Mid to high register not speaking
- Intonation issues
- Tonguing issues (too heavy)
- Muffled tone

Channels

Heart

Spine

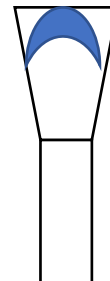
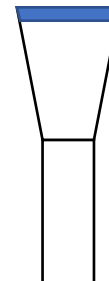
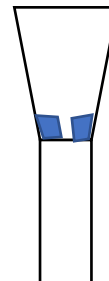
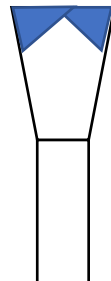
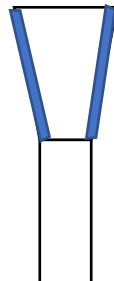
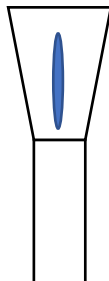
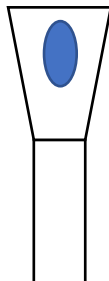
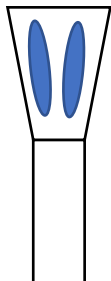
Rails

Tip Corners

Back Corners

Tip

Thumbnail

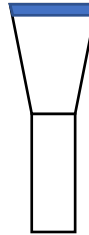
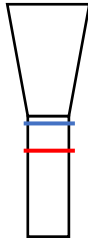


Reed Solutions

All solutions should be approached in order, but all steps may not be necessary. Play test between all steps to see if your issue has been fixed.

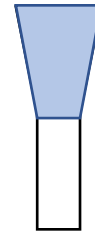
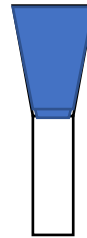
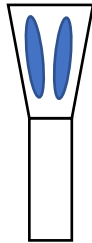
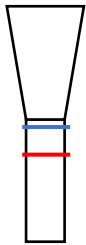
Issue	Suggested Reed Test
Intonation consistently FLAT	-Play a middle E as loud as possible with hard articulation. Try to bend the pitch. If it bends immediately, do the following. -Play a B \flat Major scale with a tuner. If all notes, even your low B \flat , can go flat easily, do the following.

1. Adjust the wires. (open tip) 2. Clip the tip, 1mm at a time between testing.



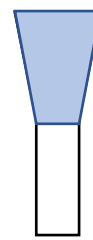
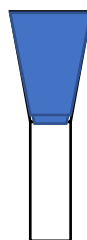
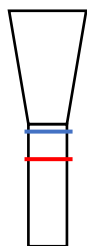
Issue	Suggested Reed Test
Intonation consistently SHARP	--Play a two-octave B \flat Major scale with a tuner. If all notes, especially your low B \flat , are 5cents+ sharp, do the following.

1. Adjust the wires. (open tip) 2. Scrape the channels 3. General lightening scrape all over (start at back, work up) 4. Blend all



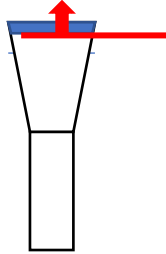
Issue	Suggested Reed Test
Reed feels hard – exhausting to play, too much resistance	Play anything musical. A good example is the beginning of the Mozart Concerto. If you feel physically tired after 10 seconds of playing, do the following.

1. Adjust the wires (close tip) 2. General lightening scrape all over 3. Blend all

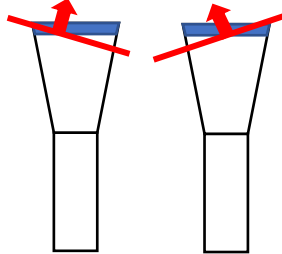


Issue	Suggested Reed Test
Reed is hard to tongue fast	Play a short fast tonguing exercise that you are comfortable with. Perhaps a scale on 16ths, at Q=100-130.

1. Scrape tip (straight forward)



2. Scrape tip (angled)



3. Blend thumbnail

