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## Good Vibrations

the balancing process



“There are no bad vibrations in reed making, just misdirected ones.”

-Lindabeth

Good vibrations are the basis of every great reed, and balancing is where you learn to channel them in the right direction. This is the stage where a rough-scraped reed transforms into a responsive musical partner, one that frees you to communicate extraordinary musical moments. Those rattles, squeals, and unstable sounds that might seem like problems? They're actually valuable information telling you exactly what the reed needs.

The balancing process requires patience, careful listening, and a willingness to trust your developing instincts as you learn to "read" what the reed is communicating through its crow. While it can feel overwhelming at first, following a systematic approach will help you develop consistency and confidence. Remember, every great reed maker started exactly where you are now, learning to redirect vibrations one reed at a time.

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It all begins with one primary objective:

To create a responsive, stable reed in which the highs and lows of the double octave crow sound in balance with each other.

You may achieve this by focusing on two main goals:



1. **Universal Response:** The reed must respond consistently in every register and at all dynamic levels
2. **A Clean Crow:** The reed must produce a stable, evenly vibrating double octave crow, both before and AFTER playing

These goals form the foundation of successful reed making, enabling beautiful tone production with the flexibility needed to play expressively.

## How are you going to reach these goals?

By understanding the three most critical areas responsible for balancing the crow (*fig. 1*):

- **Tip** = Produces high C crow
- **Blend** = Transitions high C crow into low C crow, creating the double octave
- **Heart** = Produces the Low C crow

## What about the back of the reed?

The back “releases the lows and supports the highs” of the crow. It helps balance the octave C relationship in



### CROW PITCH PREFERENCE

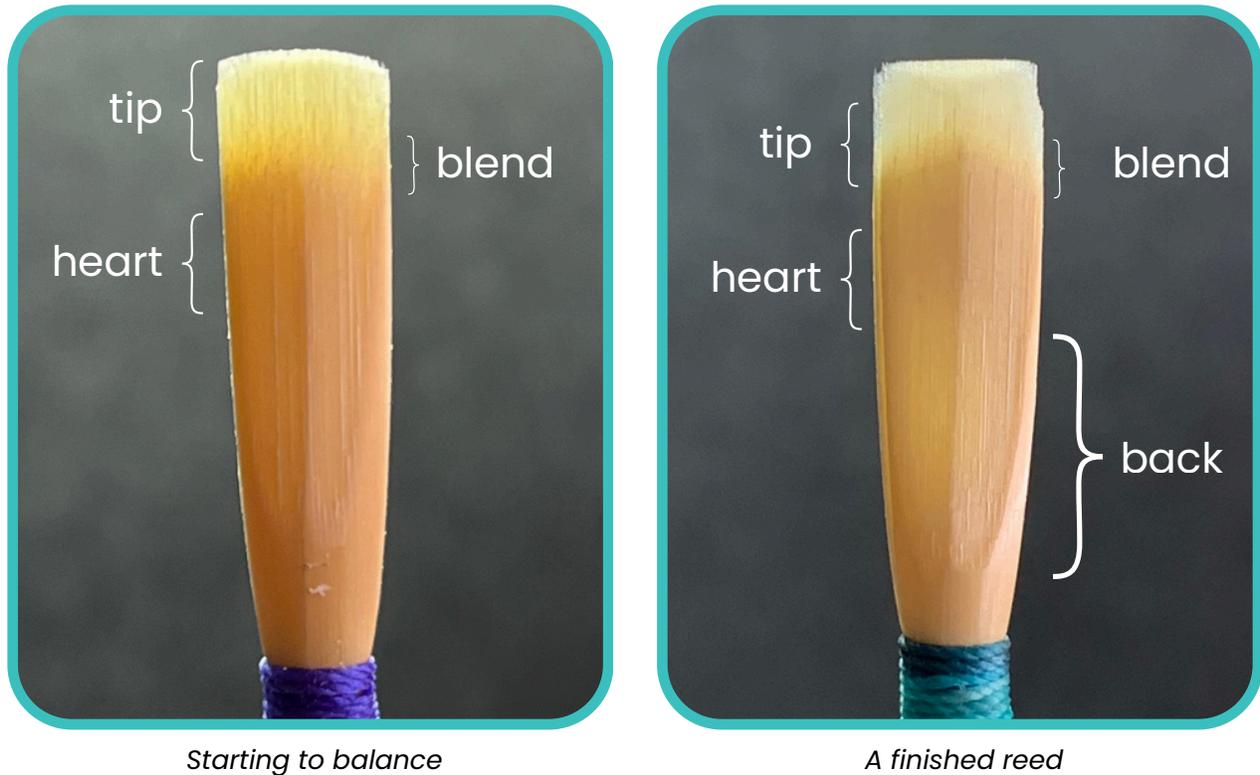
Typically, an oboe reed should crow as close to a double octave C as possible, but some players prefer a C#. The choice depends on the intonation level that serves you best.

For the purposes of this approach, all instructions are built around a double octave C crow.

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the crow. Removing cane from the back also closes the tip slightly, raising crow pitch and improving tip response. For this reason, back work happens AFTER the relationship between the tip, blend, and heart has been established (*fig. 1*).

*Fig. 1: The three critical areas*



### **A note about measurements:**

The measurements for tip length, heart length, and catch placement depend on your reed's tie length and cane shape. For this reason, all measurements given are approximations. Please feel free to use your own measurements as a starting point.

The "Thin the Tip" approach relies on using the crow to guide your scrape, which may require slight variations in tip length, heart length, and catch placement. Best advice? Start with what you know but be willing to experiment. While it can be scary to play fast and loose with measurements, learning to trust the crow

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and allowing it to guide you while making reeds can be a liberating experience!

For new reed makers, I have included specific measurements based on a reed tied on a 47mm staple with a somewhat narrow shape (such as a Joshua or Mack-Pfeiffer shape).

A diagram sharing my typical finished reed measurements is available for reference at the end of this chapter.

Are you ready? Let's start scraping!



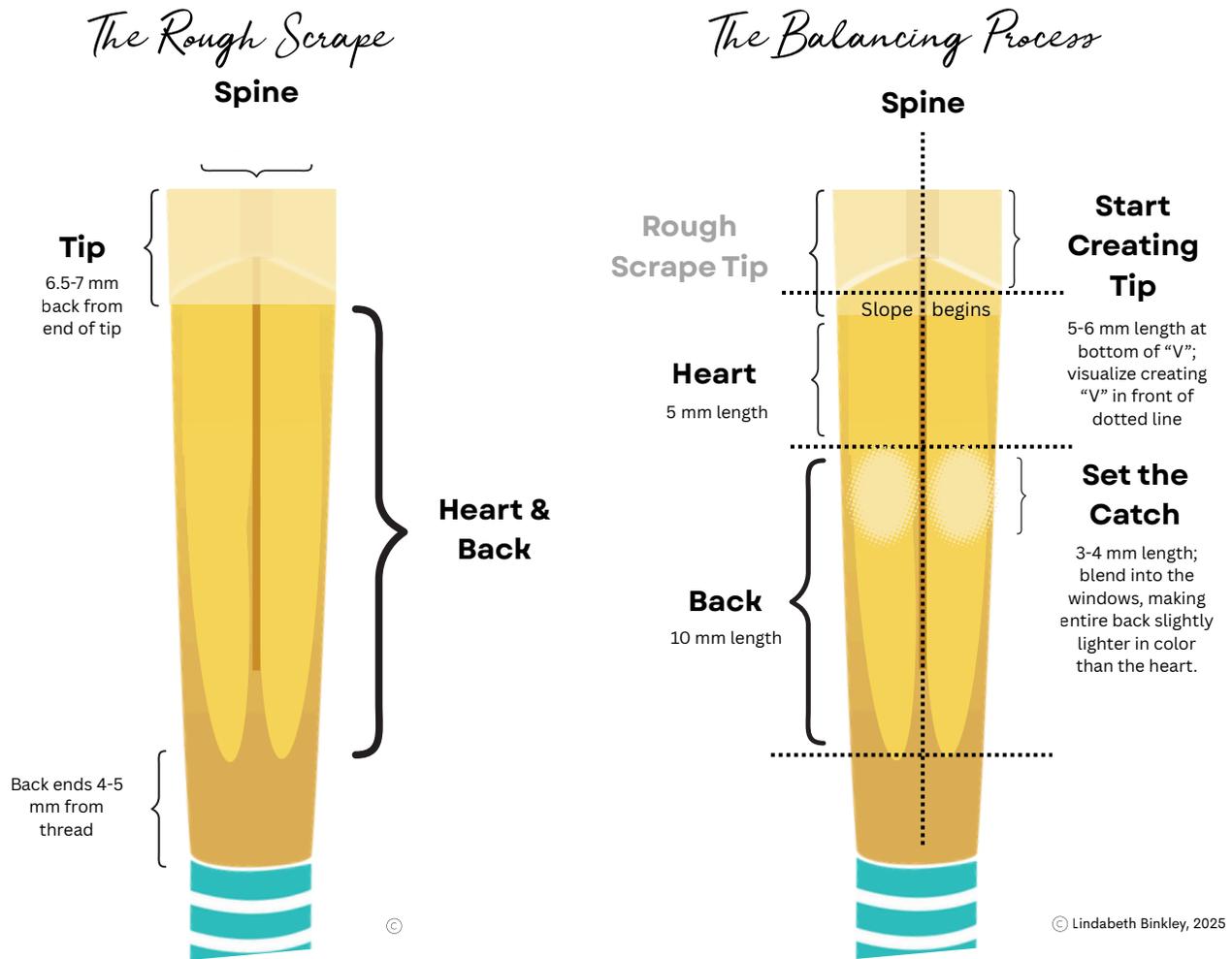
## The Balancing Process

Before beginning, it's helpful to visualize the oboe reed's blade divided into quadrants related to the proportions of tip, heart, and back of a finished reed. This visualization is especially critical because it shows that when balancing, you'll be creating the "V" between the heart and tip slightly in front of where you started the tip in your rough scrape. Doing so helps you avoid creating a tip that is too long and/or too thin during the balancing process.

Think of the "V" as the top of the blend that transitions the slope into the heart. Ideally, if you've carefully rough scraped, you'll have already established a good slope in the blend area. As you work on establishing the high and low crow, you'll refine this "V" gradually throughout the balancing process. (See Fig. 2)

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Fig. 2: From Rough Scrape to Balancing



What follows is a step-by-step outline of the balancing process.

## Step 1: Get the Tip Vibrating

**Starting Point:** Begin at the very tip of the reed, gradually extending your scrape backwards, merging into the blend area.

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## Setup and Scraping Technique

1. Insert your plaque, ensuring it supports the sides of the tip
  - Align the plaque edge with the side edge of the tip
  - Avoid extending the plaque too far beyond the blade's edge (this prevents knife dulling)
2. Position the knife handle slightly below the reed when scraping the blade's right side and slightly above it when scraping on the left side
  - This technique helps thin the sides of the tip while preserving the center thickness
  - It also helps create the beneficial upside-down "V" in the blend area



## Scraping Process

1. Start with short strokes at the tip, gradually extending back 5-6mm
2. Follow the general set up of the tip established in your rough scrape

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3. Thin until the tip appears very pale yellow, almost white in color
4. Check evenness using backlighting

## Crowing Protocol

Test periodically using the Full Spectrum Crow (FSC) process, paying close attention to the engagement of the tip crow.



### Target Result

Achieve a clear, slightly resistant high-pitched "C" crow with a single pitch.

## Troubleshooting

- **Low pitch or excessive rattle:** Tip may be too long. Remedy this by clipping tiny amounts until the crow begins to raise and vibrations become more homogenous. Alternatively, the blend may be too long and/or too smooth. Try a small clip, then create a new slope by redefining the blend area. Check the profile view to ensure the tip tapers at the same angle on both blades.
- **"Wild Card" scenario:** Crow speaks very easily but sounds flat and saggy, with no rattle (or LOTS of rattles). Tip may be too long and too thin—clip it to see if this improves the crow.
- **No improvement after clipping:** Discard the reed (structural issues are likely present).



### ESSENTIAL RULE

The tip **MUST** crow clearly and be up in pitch (a sharp C or leaning towards a C#) before you start scraping the heart!

FYI: Removing cane from the blend/heart area always lowers the crow's pitch.



### KEEP KNIFE SHARP

Sharpen every time you flip the reed to work on a different blade.

A dull knife destroys reeds faster than any other factor!

## Step 2: Free the Low Crow

Once the tip crows properly, begin scraping the heart.

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**Starting Point:** Begin at the top of the blend area.

## Scraping Technique

1. Work on the sides of the heart, maintaining a center spine
2. Depending on the cane's gouge, create very thin rails along the side of the heart
  - **Note:** Thick-sided gouges (.46-.47mm +) may not require rails
3. **Critical:** Scrape completely through the top of the heart and into the blend area,
  - Avoid scooping or releasing pressure as your knife move through the blend
  - Start your stroke slightly behind your intended starting point to ensure the strongest part of your knife stroke occurs as your knife leaves the cane

## Expected Changes

- **Ideal:** The tip crow pitch may drop, and the low crow may gradually enter the FSC with lots of rumbles or rattles! This indicates low vibrations are released and moving freely through the reed.

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- Make tiny clips to raise the crow's pitch to a C in octaves and clean up vibrations.

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## Scraping Process: The Balancing Begins

As you alternate between scraping and clipping:

- The high octave crow (tip) likely becomes more resistant; continuous focus on thinning the tip is normal during this phase
- Thinning the sides of the tip will help raise the pitch of the tip crow WITHOUT clipping
- The lower octave crow (heart) may temporarily disappear; paying attention to the blend's slope and the top of the heart may help prevent this. Keep an eye on the profile view!

## Crowing Protocol

Using the FSC process, always listen for the tip crow first, then observe how the tip crow transitions into the low crow. It is important to listen for how and when the low crow emerges.

**Target Result:** Continue scraping in the tip and heart until achieving a responsive and balanced double C crow, only clipping when necessary.

## Step 3: Refine the "V" (Blend Area)

*(More to come! This is the end of sample chapter.)*



## The Balanced Crow Check List

### Using the Balanced Crow Checklist

This checklist translates the Full Spectrum Crow (FSC) process into specific, observable characteristics that you can use to guide your balancing decisions. Use it as both a diagnostic tool and a progress tracker while taking the reed from a rough scrape to balanced state.

As you work through Steps 1-5 on the **Balancing: Order of Scrape Worksheet**, refer to this checklist while crowing to identify exactly what needs attention.

Don't expect to check every box immediately—**this represents the characteristics of a fully balanced reed**. Instead, use it to pinpoint which area (tip, low crow, or overall balance) requires your focus next.

For example, if your tip crow "pops" at the beginning or hesitates to respond, you know to continue working on Step 1. If your low crow immediately appears as soon as you start the FSC and has lots of crazy rumbling vibration, you know something is likely off between the tip and the heart. Take a closer look at the blend area (Steps 2-3).

Most importantly, use the final section to assess whether your reed maintains its balanced characteristics after playing—this is the true test of successful balancing and tells you whether the reed is ready for its rest period or needs further adjustment.

**Insert your own measurements here:**

Tip:

Heart:

Back:



# The Balanced Crow Checklist

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[Hear a  
balanced  
crow!](#)



## THE TIP CROW

- Response begins smoothly (no "pop")
- Response begins clearly at a low level of air speed
- Pitch of the tip crow is at a C or slightly higher
- Pitch of tip crow is stable no matter how much air is used when crowing
- The sound of the tip crow is clear, bright, and "up"

## THE LOW CROW

- Low crow emerges gradually from the tip crow when producing a FSC
- Low crow has a stable pitch center; is +/- 5 cents of a C when blowing at a forte dynamic level
- Low crow expresses even vibrations or has mild low rumbles that do not distort the overall pitch center of the crow

## THE BALANCED CROW

- Crow has a predominantly clean double octave crow, +/- 5 cents of a C
- Once the FSC is well in progress, the upper and lower octave of the crow are heard evenly at once; one does not dominate more than the other.
- Octave crow remains stable even after 5-10 minutes of playing
- Low crow is still present after 3-5 minutes of playing



## Balancing Success Tips

### Maintain Proper Proportions

- Keep the tip length moderate—not too long
- Ensure the back is longer than the heart
- Position the catch appropriately—not too low on the reed

**Insert your own  
measurements  
here:**

Tip:

Heart:

Back:

### Define the “Pencil” Profile

Start with small strokes at the very tip, gradually lengthening your scrapes as you work back toward the heart. This creates a tapered "pencil" shape where the tip remains thinner than the areas behind it.

### Prevent "Muffin Top" Thickness

Begin at the top of the heart with light, short strokes. Gradually lengthen your scrapes as you move toward the back of the reed. This technique prevents unwanted thickness buildup (the "muffin top" effect) where the heart meets the blend area.

### Use Consistent Crowing Technique

Develop consistency in your crowing technique, as in the FSC, to determine when each section is properly scraped. Consistent crowing helps you know when to stop working on one area and move to the next.

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## Engage Multiple Senses

- **Auditory:** Utilize the FSC to assess response, pitch, and tone
- **Visual:** Work under good lighting to see thickness and scrape variations
- **Tactile:** Gently pinch different reed sections closed with your fingers to test flexibility and symmetry in various areas



## Balancing: Order of Scrape Worksheet Instructions

**STEP 1:** Follow the numbered sequence to balance your reed from its rough scrape state

**STEP 2:** Using the FSC, crow the reed while working on each specific section. When you believe the section is completed, document your crow by using the R.P.T. Method

### **Crow Description: THE R.P.T. Method**

**Response:** How easily does the high crow, low crow, or both present itself? Note its Level of Effort: 1 (very easy) to 5 (very hard)

**Pitch:** What pitch does the crow produce? Is it stable or unstable?

**Tone Quality:** How does the crow sound? (Bright/dark, clean/dirty, fuzzy/clear, saggy/up, loose/tight, etc.)

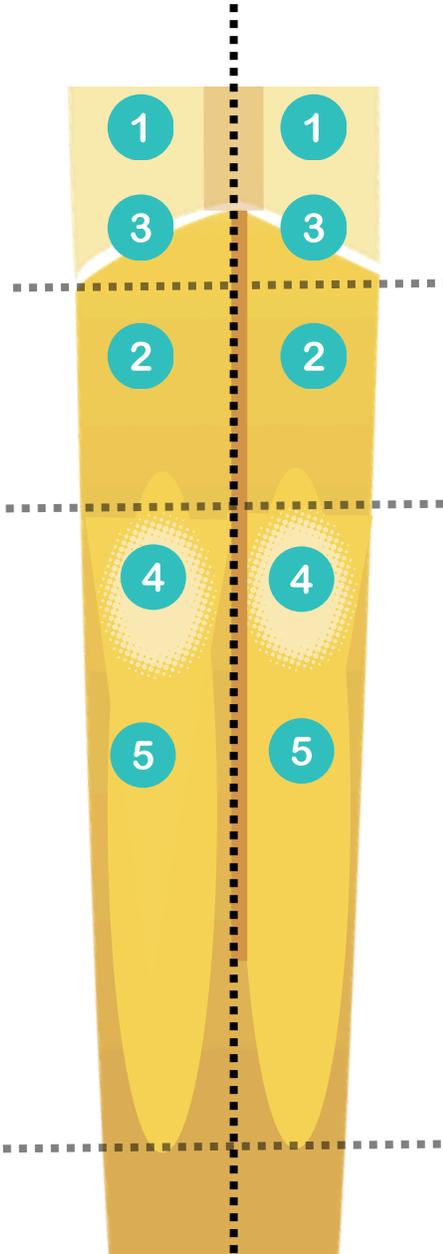
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[YouTube Balancing Playlist](#)



# Balancing: Order of Scrape Worksheet

**1 The Tip**  
Describe Crow  
R:  
P:  
T:



**Refine "V"**  
Describe Crow  
R:  
P:  
T:

**2 The Heart**  
Describe Crow  
R:  
P:  
T:

**The Catch**  
Describe Crow  
R:  
P:  
T:

**5 The Back**  
Describe Crow  
R:  
P:  
T:

Example

**1 The Tip**  
Describe Crow  
R: Easy (Level 2)  
P: Sharp C  
T: Clear, bright, bird?