

Making Oboe Reeds- “A basic guide to reed making.”

Making Oboe Reeds



“A basic guide to reed making”

By Joseph Shalita

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Table of Contents

HOW TO USE THIS BOOK.....	6
ABOUT THE AUTHOR.....	7
INTRODUCTION.....	8
CHAPTER ONE.....	9
WHAT IS A GOOD REED	
CHAPTER TWO.....	14
TOOLS	
CHAPTER THREE.....	26
KNIFE SHARPENING	
CHAPTER FOUR.....	32
CANE PREPARATION	
CHAPTER FIVE.....	39
TYING THE BLANK	
CHAPTER SIX.....	45
PARTS OF THE REED	
CHAPTER SEVEN.....	47
OPENING THE BLANK	
CHAPTER EIGHT.....	49
BEFORE YOU BEGIN SCRAPING	
CHAPTER NINE.....	53
SCRAPING THE REED	
CHAPTER TEN.....	72
FINISHING AND ADJUSTING THE REED	

CHAPTER ELEVEN.....	84
ADJUSTMENTS TO THE SOUND	
CHAPTER TWELVE.....	88
CODA	
CHAPTER THIRTEEN.....	93
BREATHING, BLOWING, AND SUPPORT	
CHAPTER FOURTEEN.....	98
HIGH ALTITUDE REED MAKING	
CHAPTER FIFTEEN.....	104
HOW TO GET OUT OF A REED SLUMP	
ADDITIONAL RESOURCES.....	107

How to use this book

First of all, thank you for buying this book.

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You can use the bookmark section on the left of the screen to navigate easily from section to section. Remember you can print out one copy. For that reason, I have kept the photographs to a minimum. You really can't tell that much from them anyway. The graphics are better for that.

To hear the sound files of the reed crows, click on the text that says,

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About the Author



Joseph Shalita

Born in Philadelphia, Joseph Shalita started his musical studies at the age of 10 playing the clarinet. Soon afterwards he started learning the oboe, and was a member of the Philadelphia Youth orchestra, studying with Rita Smith and Stevens Hewitt, as well as a member of the woodwind quintet program at the Settlement Music School studying with Shirley Curtis.

He then received a bachelor of music studying with Joseph Turner at the Peabody Conservatory of Music in Baltimore, after which he received a Masters of Music from the Mannes College of Music studying with John Ferrillo in New York.

In 1990, he came to Mexico as the Assistant Principal Oboe of the State of Mexico Symphony Orchestra where he is presently playing. He is an avid chamber musician and teacher in Mexico where he has been a member of the Mexico City Woodwind Quintet since 1993.

While with the quintet, he has gone on tour to Europe and the United States, as well as recording three compact discs, mostly of contemporary music.

Mr. Shalita is on the faculty of the National Center for the Arts teaching chamber music, and the Ollin Yolitzly School of music in Mexico City as Professor of oboe and chamber music.

Introduction

Why do you want to learn to make oboe reeds?

There are many different answers to this question, however many people are afraid to ask because they think that leaning to make reeds is too difficult. Reed making is not a mystery. **There are no secrets.** With practice and dedication you **can** learn how to make decent, consistent reeds.

My purpose in writing this book is not only to show you several different ways of making reeds, but more importantly, **change the way you have thought about them in the past.** If you are a student just getting started, I had you in mind when I was writing this book. Remember that no reed manual can substitute for a teacher, but I hope this e-book helps a lot.

Go through the book and look at the pictures and graphics. **Listen** to recordings of oboists that you like. Ask to see the reeds of your oboe friends and teachers. **You can learn from everyone.** Remember, the best thing you can do to learn how to make oboe reeds is to make them...**Lots of them.**

In order to make decent reeds, let's first talk about what a good reed is, **and what should be looked for.** Then we will discuss all the tools that are needed, and finally, we'll make some reeds.

Chapter One

So what is a good reed?

As with a lot of things this is a very subjective question. A good reed is one which **responds correctly, is stable, up to pitch**, and allows the oboist to do their job consistently.

Notice, the word “**sound**” was **not** mentioned. When beginning to learn how to make reeds, the tendency is to only want to try and make good sounding reeds. Most of the time it is the only priority and we don’t realize that the reed **has to work properly first**.

Why is it a problem? Because, **if the only priority is to make a good sounding reed, then the result will be a series of problems . . .** bad attacks, unstable flat reeds etc.

The best advice that can be given is **don’t make a reed that only sounds good**. It needs to **work correctly**. The sound comes as a result of proper function of the reed. If there are any “secrets” to reed making, that is the best one.

A reed that works correctly will produce a good sound as a result.

This statement may sound a bit strange at this point, but it will be explained in more detail later.

What does it mean by “working correctly”?

A good reed that works correctly is one that **vibrates correctly**. It will have the following characteristics:

- **Proper response**
- **Stability**
- **Up to pitch**

Let’s look at each one of these characteristics one-by-one.

1. Proper response.

That means you can play from **low “B-flat” all the way up to a high “G” with no problems**. The reed will allow you to have a very clean attack **in all ranges and all dynamics**. The reed has to respond at your command, **not when it wants to**.

2. Stability

A reed that is stable will allow you to slur from middle “C” to high “C” **with very little or no adjustments to the lips.**

(Embouchure) The more the embouchure has to be manipulated to get the high “C” out, the more unstable the reed is.

3. Up to pitch

A reed that is up to pitch means that biting the reed when playing is not necessary. The reed maintains a minimum pitch level when playing with as open and relaxed an embouchure as possible. This minimum pitch level can be thought of as the reeds **“pitch floor”** or **“pitch cushion”**. The reed must **always be “up to pitch”**.

NEVER PLAY ON FLAT REEDS!

Playing on flat reeds **causes some of the worst habits that oboists develop.** It makes you bite to get up to pitch. **That cuts the sound off, tires the embouchure, actually makes you play sharp often, ruins the oboe’s tuning with itself, and the attacks.**

What about a good sound?

Of course a good sound is very important; however it should be the last thing on the list of priorities.

What is a good sound?

The concept of a good sound varies from player to player. A common factor which is inherent in all good sounds is that they are complete with many harmonics. **Harmonics are the natural pure sounds that are part of any musical note.** The sound is round and three-dimensional. **Not forced, tight, or “sad sounding”.** Many of us from the “American School” like to use the word “Dark” to describe our ideal sound.

The American school is characterized by reeds that are constructed with a long scrape which was developed by Marcel Tabuteau in the early 1900's. He was Principal Oboe of the Philadelphia Orchestra, and was one of the most influential woodwind players of the 20th century.

A reed with an ideal sound is on with a complete series of high and low harmonics. When adjusting the sound of a reed, it is better to think of bringing out more low harmonics without cutting the high harmonics. This will help achieve that goal of a nice “dark” sound.

While on the subject of sound, it is important to remember that the reed, embouchure, and air work together. **Each affects the others**, so they all must be doing their jobs properly. If the reed is flat or unresponsive, **the embouchure and air are affected.**

The reeds that you will learn how to make will be built to vibrate a certain way. The pitch “floor” and stability built into the reed will **allow you to “open” and relax your lips as well as your throat** so you don’t strangle the reed, and therefore the sound.

The reed must vibrate, so let it!

The next step in the process is to have an air stream that is fast enough (**proper support**). The oboe is difficult to play, but we shouldn’t have to kill ourselves either – and that’s the end of the story . . . **but not the end of the book**, so keep on going.

Chapter Two

Tools

This is a list of the tools that you will need, starting with the essential basic things and then going on to optional, more advanced tools.

- **Shaped oboe cane**
- **Oboe tubes**
- **Ruler in millimeters**
- **Mandrel**
- **Oboe plaque (flat)**
- **Oboe reed knife**
- **Sharpening stone**
- **Thread**
- **Cutting block**
- **Single edge razor blade**
- **A good desk lamp**
- **A good desk** (good meaning stable with enough room on it. Don't use a piece of good furniture as this has a tendency of causing lots of problems with the furniture's owners.)

Shaped oboe cane

Oboe cane is available in three different forms:

- Tube cane
- Gouged cane
- Gouged and shaped

If you are a beginner, you will want to buy the cane **gouged and shaped**. Later on, you can buy a shaper tip and shape the cane yourself, but for now don't worry about it.

Oboe Tubes

This is the bottom part of the reed with the cork on it. The cane is tied onto the tube.



Ruler in millimeters

Since the standard way of talking about oboe reed measurements is in the metric system, a millimeter ruler is the best.

Mandrel

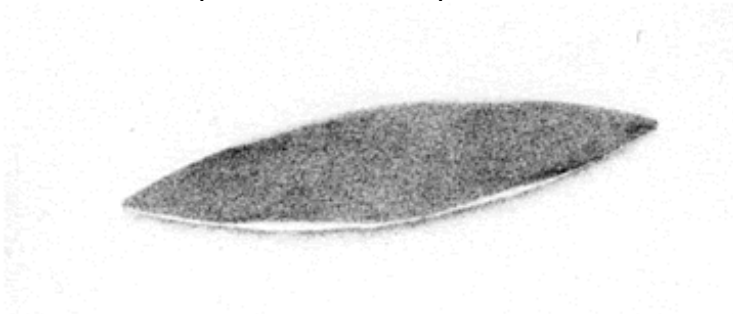
The mandrel is a piece of metal that is **round at the bottom, oval at the top, that is used to maintain the shape of the oboe tube while the cane is being tied onto it.** It helps if the mandrel fits the tubes exactly.



Oboe plaque

The oboe plaque is a very thin piece of steel that is long and pointed at the top which is used to protect the tip while you are scraping it. You place it in between the two blades of the reed while working on one side.

Plaques come in two basic styles, flat, and rounded. I personally prefer the flat ones. As we will discuss later, the round ones tend to force the sides at the top of the reed open.

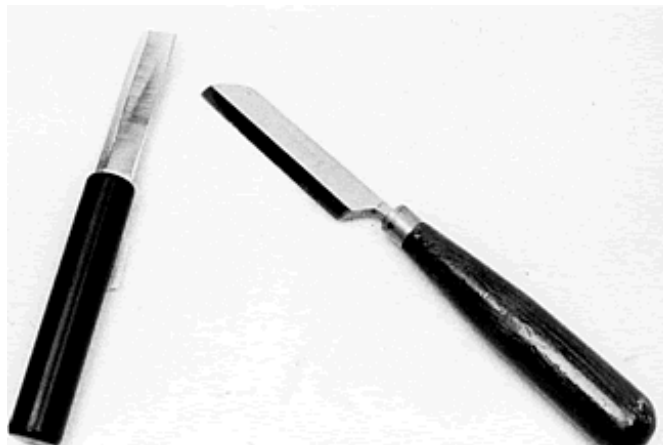


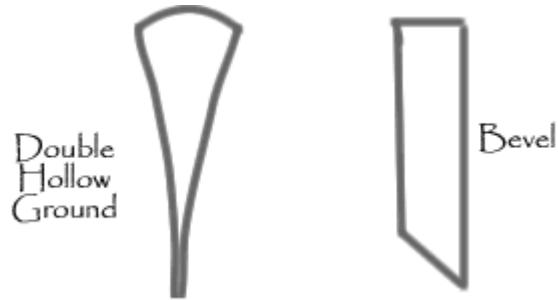
Oboe reed knife

This is perhaps the **most important tool that is used to make reeds**. It **must** always be sharp, (more on that later). As with the plaque, there are two basic kinds of reed knives.

The one that I use most often is called the **double hollow ground** knife. It is in general easy to sharpen, and keeps an edge pretty well. It is a good knife to use when taking off wood where accuracy is very important.

The other type of is called the **bevel knife**. They are fine, and many oboists use them. They are very easy to sharpen if you do it right. They feel bulkier than the double hollow ground knife. Use whichever feels more comfortable.





Sharpening stone(s)

The sharpening process and the tools that are needed will be discussed at length in the next section. The picture below shows three types of stones which are often used. They are the **carborundum stone**, **fine India stone**, and a **diamond stone**.

The carborundum stone is used to get the knife-edge “**ready**” for sharpening. The diamond stone is also used for this purpose. The India stone is used to **refine the edge**.



Thread

As with some of the other tools, **there are several kinds of reed thread**. The most popular is called **FF**, and the other type is called **F** or **EE**. The F is **thinner** than the FF.

Another option is to go to a car upholstery place and buy some “**bonded**” thread. This stuff is similar to the F, but it is not twisted. It is very good and strong.



Cutting block

The cutting block is nothing more than a round piece of very hard wood that is **flat on the bottom** and **curved at the top**. It is used to clip the tip of your reeds.



Single edge razor blades

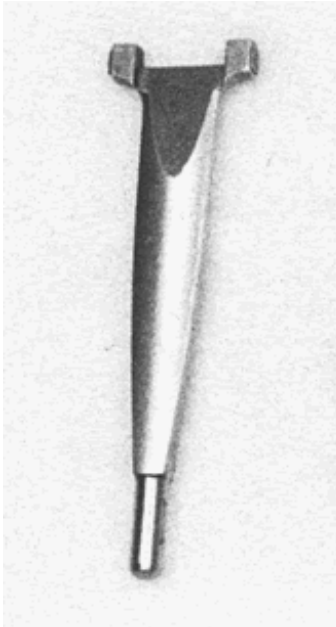
I prefer to clip my reeds with these, finding it better than using a knife. They can also be used to shape the gouged cane.

Optional Tools

These tools are to be purchased when you have more experience making reeds, and feel comfortable with the process.

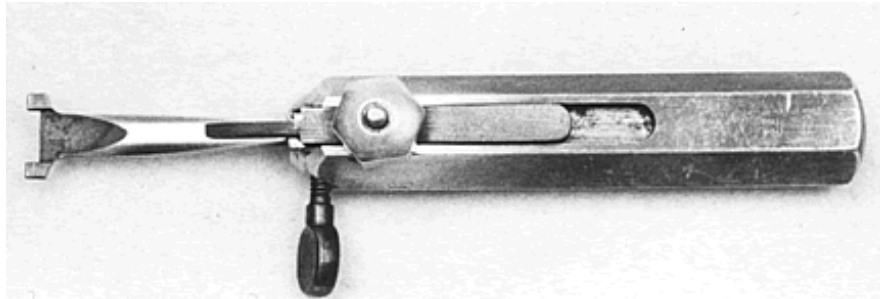
Shaper tip

This is used to **shape the piece of cane that is only gouged**. They are made of very hard metal, and can be expensive. They also have a nasty habit of shattering or breaking if accidentally dropped on the floor.



Shaper tip handle

The shaper tip fits into the handle, which has clips on it for holding the cane in place when you are shaping it.



Easel

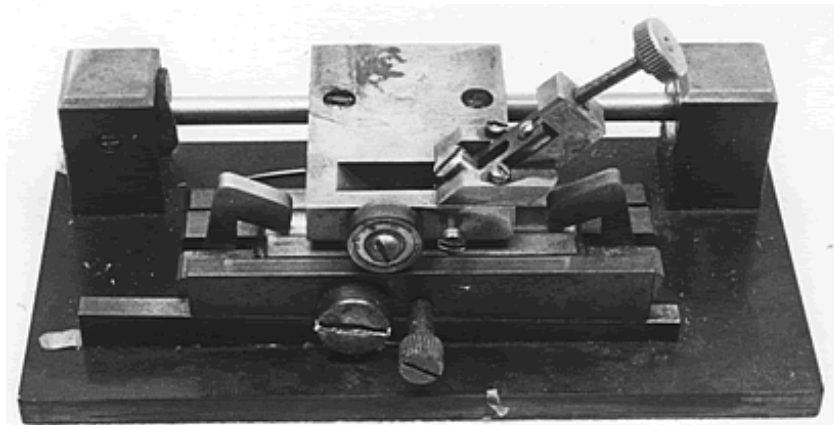
This is usually made out of a piece of wood, and is used to mark a line down the center of a gouged piece of cane so it can be folded over evenly.



Advanced Tools

Gouging machine

The gouging machine is used to cut the **inside of the piece of cane cut from a tube**. The measurements are very specific and must be a certain proportion of thickness from the center of the piece of cane to the sides. **They are an expensive investment, and must have an experienced person setting it up, but the cost of the machine is recovered quickly by the savings on cane.** Tube cane is cheaper than gouged or gouged and shaped cane in the long run.



Guillotine

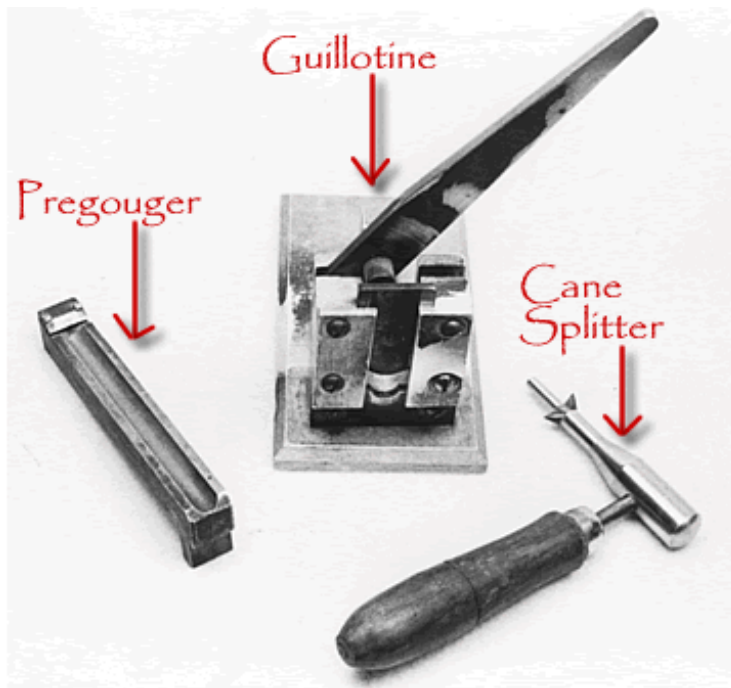
This is used to cut the pieces of the tube cane to the proper length.

Pregouger

This is used to plane the piece of cane so that it can be gouged in the gouger.

Cane Splitter

This tool is used to split the piece of cane into three pieces



Micrometer

This is used to measure the thickness of the cane.



Chapter Three

Knife Sharpening

This topic is so important, that a whole chapter has been devoted to it.

As my teacher in the Philadelphia Orchestra used to say, “There are two secrets to reed making:

- The **first secret** of reed making is “**Have a sharp knife.**”
- The **second secret** of reed making is, “**Have a sharp knife.**”

There seems to be a common theme to that statement.

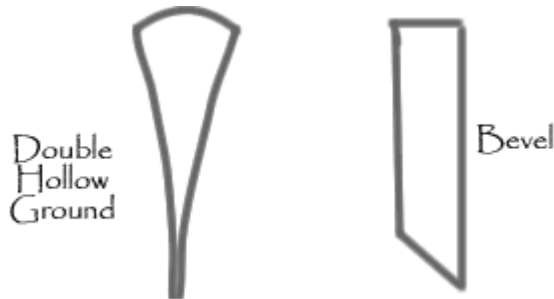
A sharp knife is **the most important tool** that you have. When using a properly sharpened knife, you **do not** have to push down on the cane when you scrape, so the wood comes off evenly, not ripped off. Only the **weight of the knife is needed.**

Here is a method of sharpening that I have been using the past two years or so. It comes from a very good book on the subject by Daryl Caswell of Landwell knives. Look in the resources section at the end of the book for the info of where you can buy the book.

The basic idea is that **first, an edge needs to be set up that is ready to be refined.** Here’s how you do it.

- **Step One**

This first step is for a **double hollow ground knife.** If you are starting with a new knife, you need to **set up the edge** so you can refine it.



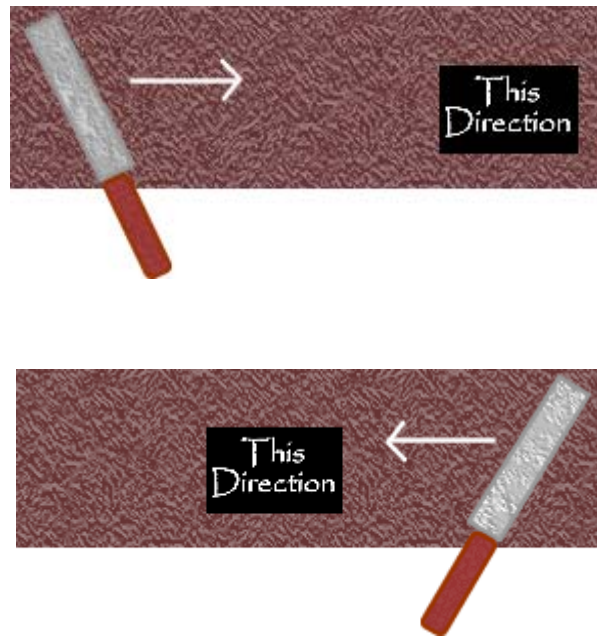
Hold the knife in your right hand and place it on the stone **with the edge away from you.** This step is probably better if used on a rough sharpening stone.

A note on holding the knife.

When sharpening the knife, make sure that all of the strokes are done holding the knife with both hands. The right hand holds the handle, and the left hand holds the end of the blade.

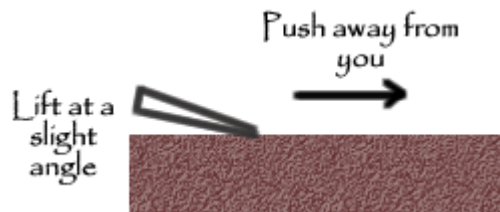
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Make sure that the complete blade is touching the stone at all times. It may have to be turned at an angle as shown in the graphic to accomplish this.



- **Step Two**

Lift the back of the knife slightly and **push the knife away** from you, **then bringing it back toward you**. Imagine that you are “**rubbing**” the stone with the knife. It is very important to try and keep the entire blade **on the stone** always.

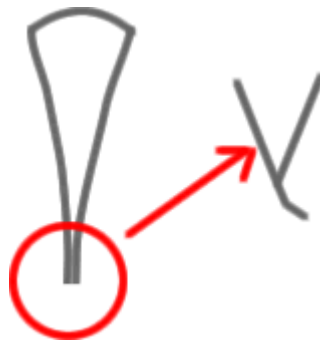
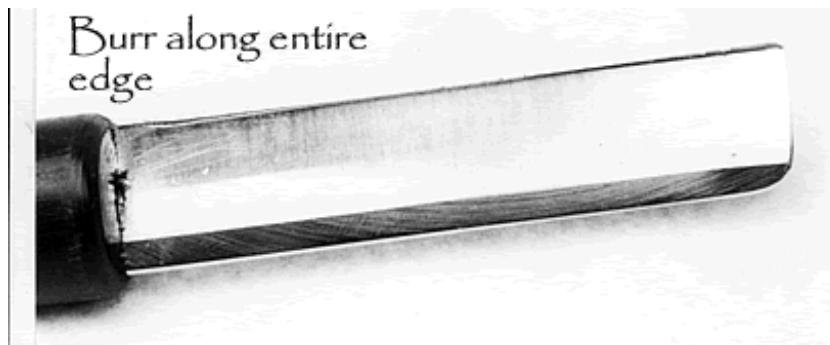


About 10-15 strokes.

- **Step Three**

Turn the knife over and place the **edge toward you**, using the same stroke, **but lifting the angle a bit more**. With even pressure, **bring the knife stroke toward you**. What you want to do is about 20-30 strokes. You want to be able to feel and see a large burr on the **wrong side of the knife. (The back)**

It should be very pronounced and rough, as well as being visible **on the entire blade**.



- **Step Four**

Now it's time to switch to the fine India stone. Keep the knife in its **same position**, laying flat on the stone with the back of the knife facing up and the edge of the blade toward your body. Lift it up about the same angle, and push the knife toward you about 6 to 8 strokes. This will polish the bur, and get it ready to be turned to the other side.

- **Step Five**

Once again, change the side of the knife so the edge faces away from you, and lift it at the same angle as before, 5 or 6 strokes this time. This will turn the bur over to the **correct side**.

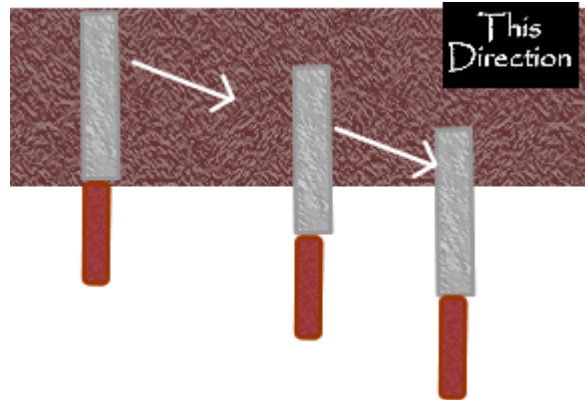
- **Step Six**

Now once again, turn the knife over and do about 5 or 6 strokes toward your body **at the same angle**.

By now, the bur should be ready to hone into an edge.

- **Step seven**

Now it's time to place the knife on the stone as shown in the following picture.



Using a very light stroke, **push the knife away from your body** about 3 or 4 times, turned up at an angle of about 15 degrees. Turn the knife over and **repeat the process, only this time at an angle of about 10 degrees.**

- Now repeat step seven, ending with the stroke **away from the body.**

The knife should be pretty sharp by now. You can check it by placing it on your thumbnail, and scraping very lightly as you would a reed. It should **grab your nail without pushing down.** Just the weight of the knife.

The knife should be sharpened often while making reeds. If it is necessary to push down on the cane, the knife needs sharpening. It is not necessary to start from step one. Step seven is fine.

Chapter Four

Cane Preparation

A reed is only as good as its weakest part. If the cane that is being used isn't very good, then the finished product won't be good either. Choosing the right piece of cane can save an enormous amount of time, by eliminating one of the factors that result in bad reeds.

If you are a beginning reed maker, you won't need to worry about the information in this particular section until you become more advanced. Read it so you can see all of the steps in the process, because if you decide to become a professional oboist, **you will need to learn this.**

Part One Tube Cane

Oboe Cane comes from a plant called Arundo Donax, which is grown in many places in the world. In general, cane can be found wherever grapes for wine are grown. France is the most popular place; however you can get cane from California, Argentina, Mexico, China, and Italy. Some of it is good, and some of it is not.

When the cane plant gets to a certain size, it is cut, and then laid out to dry in the sun a few years. It is then cut up and sold to oboists, bassoonists, and clarinetists around the world.

The process in actuality is much more complicated but that’s for another book.

Since the cane is a plant, **not all of the tubes you buy are going to be exactly the same.** They will vary from “great” to “unusable.” Care must be taken when learning how to choose the best pieces.

Again as with many things having to do with the oboe, personal preference is different from player to player.

Personally for me, I like something that is medium hard to hard. If the cane is too soft, then it affects the sound and the other qualities of the vibrations in the reed. Hard cane tends to give a nice opening in the reed, as well as good stability.

Avoid pieces that have a “**washboard**” look to the grain. That means that you can see the fibers on the bark. It should not be too white or pale.

Once the tubes have been chosen, they will need to be split. It is very important to find a straight piece of cane, as this is an important factor in making good reeds.

Many people have different ways of obtaining this. Some like to just split the tubes and hope for the best. Others prefer to measure the diameter of each part of the piece of cane to get a completely even piece.

My method for the last few years has been to roll the tube on a flat surface **until it stops**. Most of the time that part of the tube is flat and straight.

Once that spot has been found, use the cane splitter to split the tube into three pieces. A single edged razor blade could also be used for this process, **but watch out!** All you have to do is cut yourself once to convince yourself to go back to using the cane splitter.

The next step is to lay each piece on a flat surface and try to find a straight piece. Use the guillotine to cut the cane to the right length for the gouging machine. Make sure the piece of cane is **100% straight**. It should **not curve to the side, or bow in the middle**. All of these things can cause problems for the sides of the reed.

The next thing that is done is to put the piece of cane into the pregouger. This will take off the excess amount of cane so that it will be ready for the gouging process.

Part Two Gouging

Now that the cane has been pregouged, put it in the gouger bed and do 5 or 6 swipes, then turn the cane around and repeat. The cane needs to be turned so that it gouges evenly on both sides. When no more cane comes off, take the piece out of the gouger bed and measure it with your micrometer.

My gouger measurements are around **.60mm in the center** and about **.48mm on the sides** of what will become the shaped piece of cane.

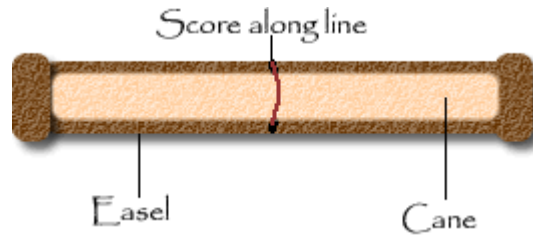
Again, this is a somewhat simplified explanation of the process. There is a lot more to the gouging process than this, but I’m afraid it is out of the scope of this book.

Part Three Shaping

Things you need.

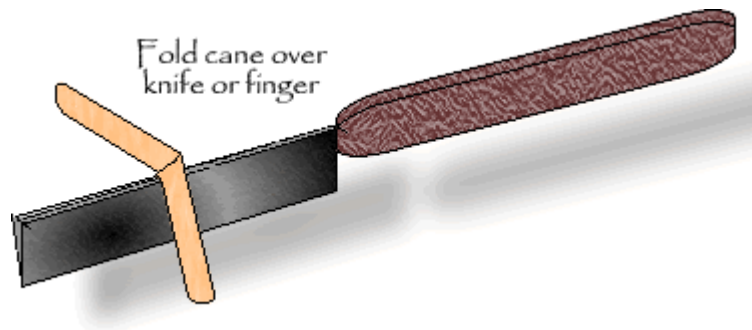
- A piece of gouged oboe cane
 - Shaper tip
 - Shaper tip handle
 - Easel
 - Single edged razor blade
-
- The first step is to soak the cane in some hot water for about 15 minutes. If it sinks to the bottom before this amount of time, it is ready.
 - Next, put the cane on the easel. You will notice that there is a line in the middle of the easel. Take your single edged razor blade and score the piece of cane along the line.

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Do not cut too deeply into the cane, or it will separate into two pieces. All that needs to be done is cut the **bark layer**.

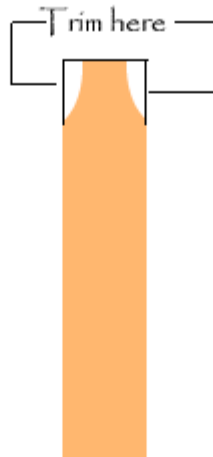
- After the cane has been scored, grab the two ends and fold them over your finger or a knife so the **two ends meet**.



You are now ready to place the cane on the shaper tip; however **one** word of caution.

You might notice that the width at the top of the piece of cane is too wide to fit into the shaper tip. All you need to do is trim a bit off with your razor blade as shown.

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- Place the cane on the shaper tip now. Make sure that the **same amount of cane showing on both sides of the shaper tip.**



If it isn't placed correctly, **one side will be thicker than the other** on the shaped piece of cane. That will cause problems later on.

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- Next, rest the shaper on the edge of a table and use a knife or razor blade to cut a small amount off the side **little by little** until you can't cut any more off.
- Reverse the shaper and cut the other side the same way. When no more cane comes off, check and make sure the shaped piece of cane is even all around, and exactly the same as the form of the shaper tip. If everything looks good, it is time to go on to the next step.

Chapter Five

Tying the Blank

It is a good time to review for a moment what has been learned so far. We have spoken about picking cane out, splitting, gouging, and finally shaping it.

Now we come to the one step of the reed making process that everyone has to do, **including the beginner reed maker**. This is also the one step that every reed maker **can control**.

Take the time to learn how to tie a blank properly. Do it slowly and correctly as problems at this step directly affect how the reed vibrates from stage forward.

The tools that will be needed are:

- An oboe tube (sometimes called a staple)
- Mandrel
- Shaped piece of oboe cane
- Nylon thread
- Beeswax
- Ruler in millimeters
- A desk with a hook to tie the thread to
- A good light source, preferably a desk lamp.

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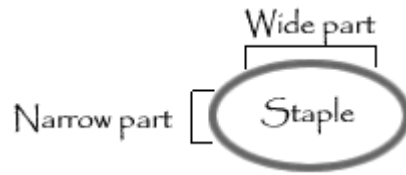
- The first thing that is done is to tie the thread to the desk either on the leg or a hook screwed into it. The leg of a beat up old table will also do.
- When the thread is secure, unravel about two to two and a half feet of the thread, and rub some beeswax on it. This will help make sure the reed won't leak.
- If you are right handed, hold the mandrel **in your left hand** and insert an oboe tube (staple) on it. Make sure not to force the tube on. Both have an oval shape at the end.
- Take the piece of shaped cane in your right hand and put about **10-13 millimeters on the tube**. This amount will vary, depending on which shaper tip is used.

If you buy cane that is shaped, ask the provider if they can tell you what shaper tip was used. If they can't, maybe you should look for another source for your cane.

If you know what tip was used, you can go to the back of this book and look on the chart for the tie length of the blank.

- The next step is to position the cane on the tube so that it is completely even on both sides – in other words, the same amount of cane is showing on both sides of the tube.
- Holding the mandrel with the tube and cane on it in the left hand, support the cane and tube by **pushing up with the left index finger, and down with your left thumb**.
- Fold the cane over and place your thumb over the folded end and squeeze. Hold the reed so that the **narrow part of the oval is facing up**.

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- After the cane is folded over, **check the final length with a ruler.**

I happen to use a shaper tip by Adams shaper tips called the “Ruth.” I find that my reeds work best when I tie the blank with a finished length of 73 ½ millimeters.

- Next, grab the spool of thread in the **right hand** and place the reed **over the string.**
- Wind the string by making **1 turn toward the tip of the reed.** Pull the string a bit, and check to make sure that both sides close evenly.

If one side closes before the other, move the cane a bit toward the side that isn’t closing.

- When everything seems even, pull the string a bit more.

If the sides of the cane are closing at the same rate but not closing all the way, put ½ to 1 mm. more cane **on** the tube. If the sides close evenly but way too fast, (before you wind to the end of the tube) take ½ to 1 mm. of cane **off** the tube.

- Now, the next step is tricky. What has to be done is to **displace the two blades of the reed by pushing down with your thumb and pushing up with your index finger.** This displacement will help the reed to seal better. We call this displacement, “**slipping the blades.**”

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- Pull the string tighter and wind **up toward the tip** until you are about **½ a turn from the end of the tube**.

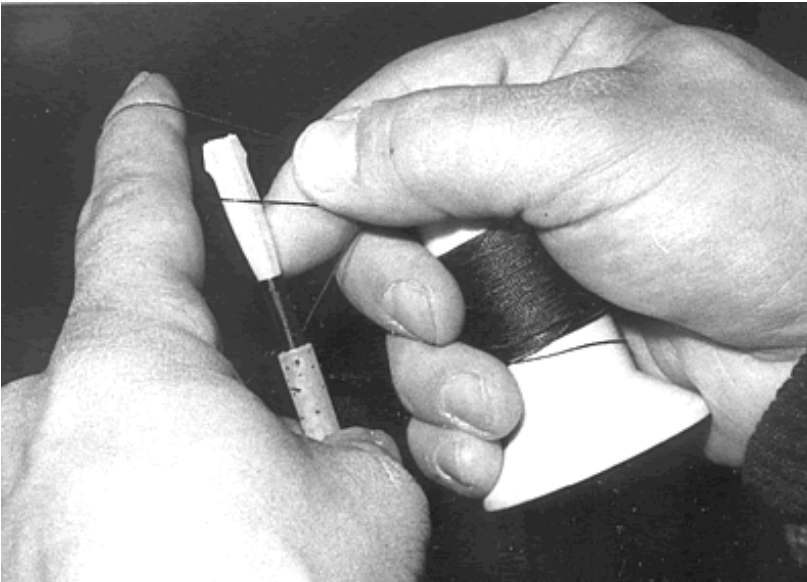
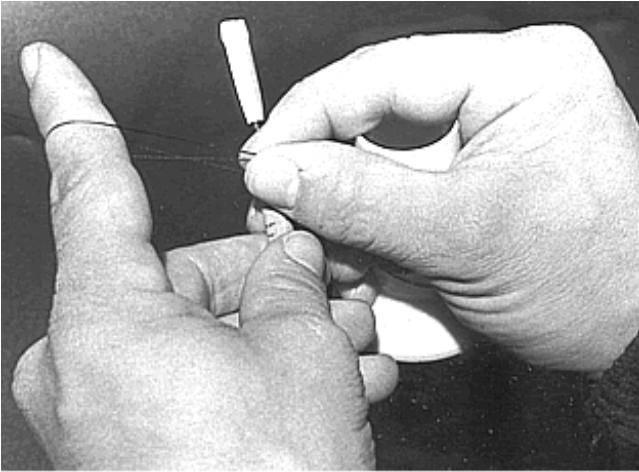
Caution! Be careful not to go above the end of the tube. This will kill the vibrations and as a result, kill the reed.

- When you arrive about ½ a turn from the end of the tube, it is time to cross the thread over. Now, what I want you to do is **cross the thread over the reed so your spool is now on the left hand side of the thread attached to your desk**.
- Wind all the way down to the bottom of the tube until you reach the cork.

Time to make a knot.

- Take the spool and place it **over the string going toward the tube creating a “hole”** or loop, bringing the spool under and up into the “hole.” Pull tight.
- You will need to make several knots. It really doesn't matter how you do it, just make sure you do 4 – 6 knots. The last thing you want is for your reed to begin unraveling in the middle of a concert.

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- Check to see how air-tight the blank is by putting it in your mouth up to the thread, and closing the opening at the bottom of the tube with your finger. Suck in some air and take the reed slowly out of your mouth. **It should feel like there is no air leaking.**

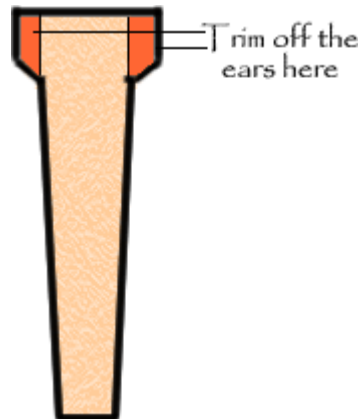
Making Oboe Reeds- “A basic guide to reed making.”

- If there is air leaking, you need to repeat the tying of the blank again from the beginning. **The blank should not leak.** Don't worry if the blank leaks at the top, but it must not leak at the bottom or up through the sides.

If all seems well with the blank, check to make sure that it is even. The cane should not be crooked at any angle that you see.

Trimming the Ears

Now it is time to trim the “ears” off the blank. Just take the knife and cut them off as shown. You can also use an emery board or sand paper.



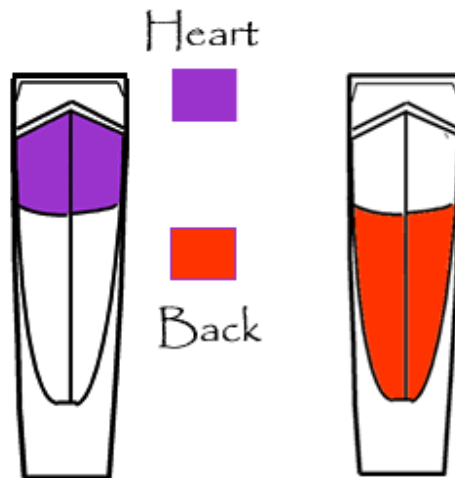
Now that the blank is finished and the ears are trimmed off, check for leaks again. If everything seems in order, the only thing left to do is open the blank.

Before doing that however; it is necessary to talk about the different parts of the reed.

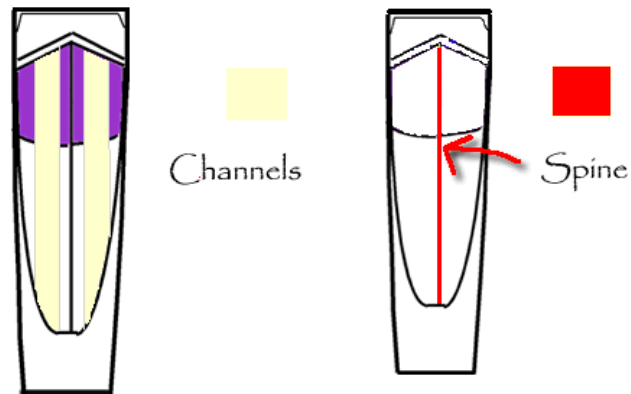
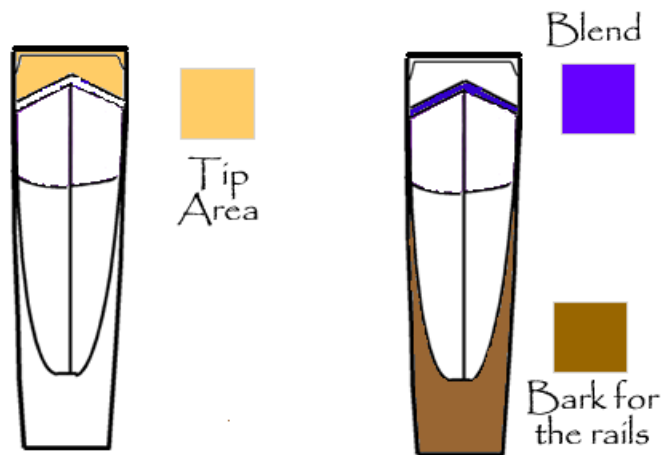
Chapter Six

Parts of the Reed

Since many oboists have slightly different vocabulary when talking about the parts of the reed, let's go over them so we agree on what to call them.



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Chapter Seven

Opening the Blank

- The first thing that needs to be done at this point is to open the blank. Scrape the channel from about the top 3rd or so of the reed to the tip. Keep a spine in the center and scrape until it is thin enough to clip.

When you scrape, have each knife stroke go off the end of the tip. Also, start each stroke a small amount in front of the previous stroke. This will make sure that the **end of the tip is thinner than the back of the tip**. Having the knife go off on to the plaque ensures that there will be **no bumps** on the tip.

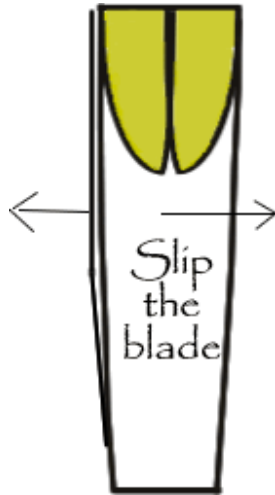
Look at the drawing below to get an idea of where to scrape.



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- Now that the blank is thin enough, clip a small amount off the tip using your razor blade and the cutting block.

At this point the blank is open and there are now two blades. What should be done now is to “slip” the blades to the right. That means that when you look at the reed, the blade facing you will be displaced a bit to the right hand side. This is very important in helping the stability, pitch and general structure of the reed.



If you want to take a break, now is a good time to do so. You have the blank made and opened. Let it dry out and then you can continue later in the day. (or evening)

Chapter Eight

Before You Begin Scraping

Scraping the reed allows it to vibrate which in turn produces our sound. In order to achieve the correct vibration you need to know what to listen for.

All of the information that is needed can be found in the crow.

But . . .

First you need to know how to crow the reed.

- Put the reed into your mouth a bit past the string. Start by blowing a small amount of air into the reed until it starts to sound. The first note that is heard should be a high C.



- When you blow a bit harder, the 2nd octave middle C will sound, and then maybe with more air, a 3rd octave C will sound.



If any other sounds enter the crow, for example something that sounds like “rattling” you need to filter it out.

To review, you want a crow that has 2 or 3 octaves and **no other sounds**. If this is achieved, the reed will probably have a good chance of working.

[Click here to listen to the crow](#)

A note on the first octave high C that sounds.

The pitch of the first high C that sounds in the crow is the pitch level of the reed. Dare it to be flat. Many times you can blow more air into the reed and the pitch will rise slightly. That will give the impression that the reed is actually up to pitch. If that first high C is not a true C, **then the reed is FLAT!** Use a tuner if you have to. It is not a C that is a bit low; **it is a B that is very high.**

Some of my best reeds crow a true C with very slow air and around a C sharp when I push more air into it. That is ok.

Some Theory

One of the first things to remember is that every time a reed is scraped on, the pitch will go down. The pitch is raised by clipping the reed.

Basically, this is called balancing the reed. When one part of the reed is scraped on, another part of the reed is made proportionally thicker. Once this concept is understood, it can be applied to what you are hearing from the crow. This will help in being more successful in making them.

Another point to learn is how the reed actually vibrates. When the air enters the reed, the first part to vibrate is the tip. The vibrations then are connected to the heart by the blend, and afterwards travel into the back of the reed. It basically vibrates from top to bottom, however it also vibrates from side to side, and with the spine keeping it from vibrating too much.

In an ideal world, if everything is working properly, (which it very seldom does) the reed will vibrate completely and you will be able to produce a very good sound with great response and stability. The octaves will be secure and you will be able to articulate low notes clean and crisp.

How to Use the Knife

There are two basic ways you can maneuver the knife over the reed.

- Think of the knife as a snow plow. It basically stays at the same angle, and it is actually “pushed” along the surface of the cane. This helps to ensure that the reed is scraped evenly and not more in one spot and less in another.



- The other option is to move the wrist when scraping. This will give a “pivot” action to the knife. When the blade is in the downward position, it cuts the surface of the reed. Be careful not to keep hitting the same place too often.



Chapter Nine

Scraping the Reed

There are as many ways to scrape a reed as there are oboists. Everyone has their different ways of going about it, including me. The following are three basic ways that I go about scraping. Each is slightly different. Because of external factors such as climate, sometimes I find it necessary to change methods, or combine methods.

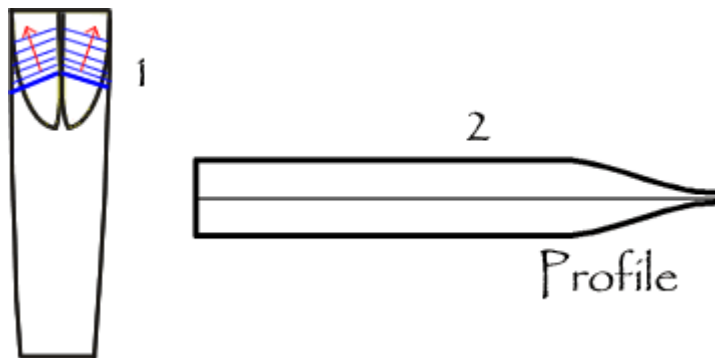
The other factor is that all of us run into reed problems now and then. For this reason, it is good to know all three so that in the event of reed problems, you can try something from one of the other methods to compensate for something which may be going wrong.

Method One

Soak up the blank for a few minutes. It must remain wet during the scraping process. Notice that the word “scraping” is used more than the word “cutting”. The reason for that is how the wood actually comes off the reed. Do not “cut” the wood. Think of scraping or scratching it off. Never press down on the reed with the knife as this is a sign it needs to be sharpened. This will make the wood “rip” off and ruin all of your work.

Making Oboe Reeds- “A basic guide to reed making.”

- To start the tip, first insert the plaque until the reed starts to “grab” at it. If the sides are too loose, this won’t happen. It is a good idea to start over again with a new blank.
- Now start on the left hand side of the reed near the channel of the tip and angle the knife about 15 – 25 degrees toward the corner of the reed.

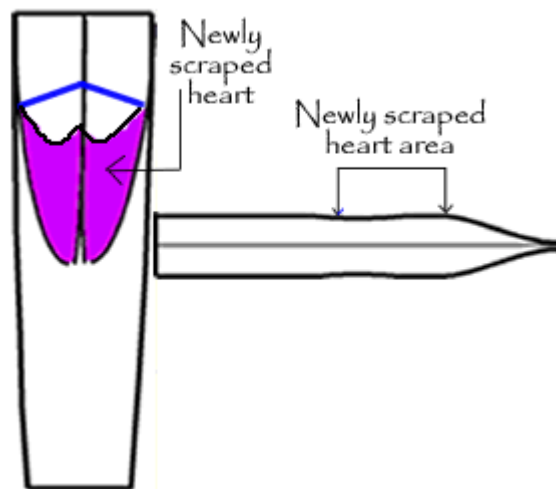


The blue lines on reed number one show the angle toward the corners that should work. Each knife stroke should start a bit in front of the last knife stroke and go off onto the plaque. The idea is to get the corners thinner than what comes behind it. Don’t try and define or separate the tip too much at this point.

Make sure that the knife is placed directly in the channel of the tip. It is very important to keep the center of the tip thicker than the sides. If this is done, then you should start to get a profile as shown in reed number two.

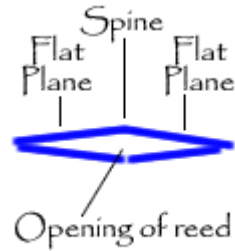
Making Oboe Reeds- “A basic guide to reed making.”

- Take the plaque out and crow the reed to check if there is any sound. Maybe, maybe not. It’s ok at this point. If there is no sound, keep going. Get the end of the tip very thin. **Don’t aim for the spine of the tip.** Let the wood come off that area naturally. Keep going for the middle of the channels.
- When you have some sound, you can extend your scrape a bit to form the heart.



There is one point to remember about the spine in the heart. The channels should be scraped flat like a single plane. The spine is where the two flat surfaces or planes meet. Let the spine come down naturally as you scrape. **Never directly take wood off the spine.**

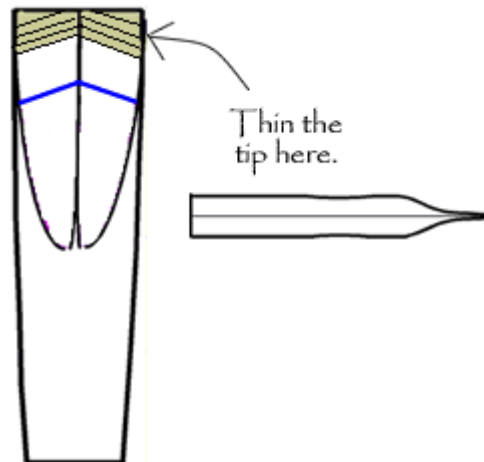
Making Oboe Reeds- “A basic guide to reed making.”



- Crow the reed. At this point there should be some good vibration and sound in the crow. It should have lots of pitches and noise.

[Click here to listen to the crow](#)

- The end and the corners of the tip must now be thinned as much as you can. The crow should be loose with lots of noise. The profile should look similar to the following graphic.



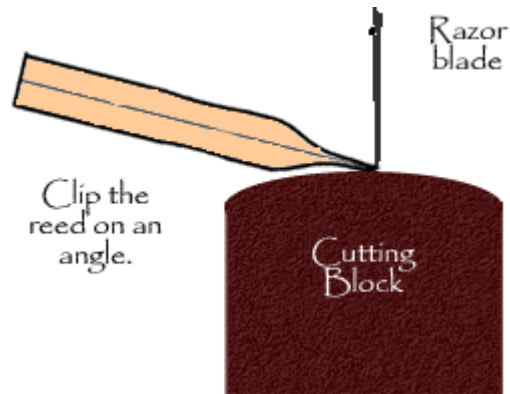
[Click here to listen to the crow](#)

Making Oboe Reeds- “A basic guide to reed making.”

- Now it is time to clip the reed. Lay it on the cutting block and clip a very small amount off with your razor blade. I feel I get a cleaner cut with the razorblade. Cut off less than a millimeter at a time. **Crow the reed after each clip.**

[Click here to listen to the crow](#)

- The pitch of the crow should be going up. Keep clipping until the reed crows a C



The graphic shows the reed being clipped on an angle. This will help with the response.

- Crow the reed. It should have gotten a bit harder and “tighter” feeling. It should be a C. If you’re not sure, **check it against a tuner.** The corners and end of the tip should be the thinnest part.

[Click here to listen to the crow](#)

Making Oboe Reeds- “A basic guide to reed making.”

- At this point the reed should “play” a bit in the oboe. It will not sound great, but it should make some noise. You can start to take some out of the back. Start by lengthening your scrape from the back of the heart until about 5-7 millimeters from the string.



Notice in the graphic above the different colors used in the back of the reed. The darker colors mean there is more wood left on the reed. As it gets lighter, there is a bit more taken out.

The upper back should be thinner than the lower back. Make sure that you **do not scrape directly down the center of the reed**. You need to have some spine left in there, as well as the rails so that the reed has a skeleton. If you take too much out at this point, the reed will die.

Here is an example of the profile at this stage. Remember not to take too much out because it can't be put back on. Take it off gradually.



- Crow the reed and see if the pitch dropped. Clip it back to a C

Click here to listen to the crow

One of the most important things at this stage is to make sure that the pitch floor or pitch cushion does not drop too much. Every time you crow the reed and it is below a C, clip it. Do not worry if it changes the reed. You must always have it crowing up to the C.

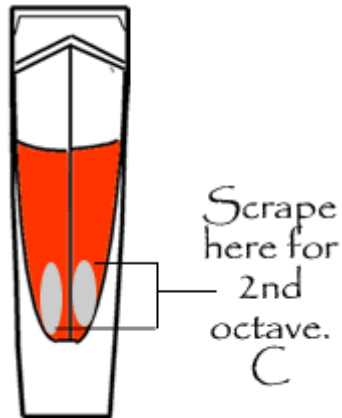
- Crow the reed to see if it has all of the octave C's. If the reed is crowing up to pitch, but you can hear other notes coming out, thin the tip as shown.



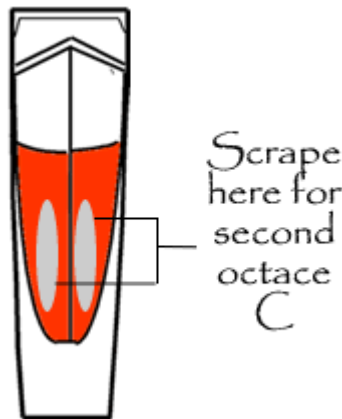
Making Oboe Reeds- "A basic guide to reed making."

Now it is time to make sure that the crow of the reed contains all of its octave C's.

- If only the top octave C is sounding, scrape the back of the reed slightly. This will help bring out the middle octave of the crow.

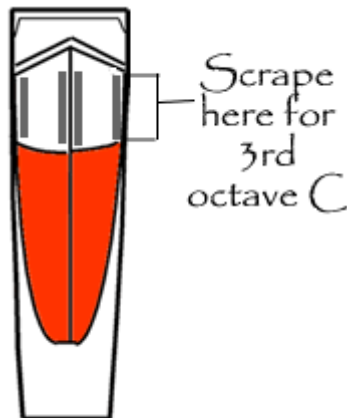


- If it still doesn't come out enough, try going up toward the upper back slightly.



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- If the 3rd octave C doesn't come out, don't worry too much. I personally don't seek it out. Some people do so if you would like to have it, try scraping ever so lightly here.



- The reed should by now contain only the octave C's in the crow. If any other pitches appear, thin the very corners and end of the tip the same way as before.
- Try the reed in the oboe. If it feels a bit hard and unresponsive, that's ok. Don't try and make a "finished" reed at this point because after it dries out, it will change and become very light. It is almost like the guts have been taken out of it. They also won't last very long either.

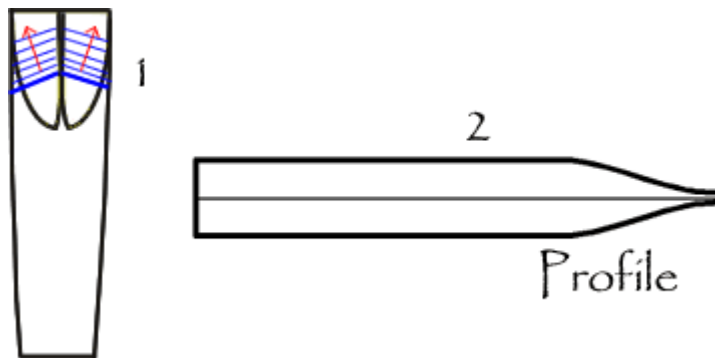
Actually, this is probably the only thing that is guaranteed at this stage of the game.

Take a break and you can go on to the next section when the reed has dried.

Method Two

Here is a variation of the first method.

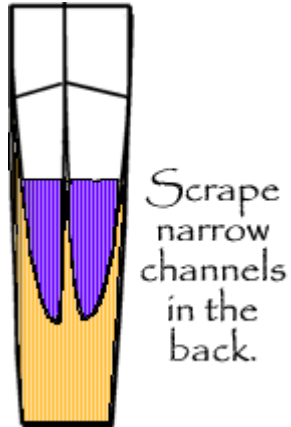
- Start with the same blank, opened up. The first step is to basically form the tip, just like before. Think of “scooping” out the cane from the channels of the tip. Start the tip up high, about 67.5mm from the bottom.



- Scrape the bark off of all of what will be the heart, making it just about finished thickness.

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- Then, scrape thin channels in the back up to the heart. This will help to stabilize the opening.



- Work on the tip to get some more vibration. Make sure that you always think of **blending the transition between the heart and the tip**. Aim toward the corners of the tip when you do this.



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- Now clip the tip until the reed crows a C. Try playing it on the oboe. It should feel very heavy and a bit unresponsive, but it looks like a reed.
- Now, take some out of the back to remove some of the bulk. Keep the transition from the back to the heart smooth at this point.
- Thin the tip some more, but this time a bit farther up the tip as shown.



Right about here is where all my students say, “How much should I take out of the back?”

In general, keep as much in the back as the reed will allow. That means that every reed might be a bit different. Remember to scrape the reed by listening to the crow, and how it works. Don't just scrape to make it “look good”.

One of the first things that can be noticed about the back is how much the reed will drop in pitch when you start cutting lots of wood from there. The first notes to get affected are the F# and G. They start to get real strange, real fast. **You want to scrape until those two notes are nice and centered.**

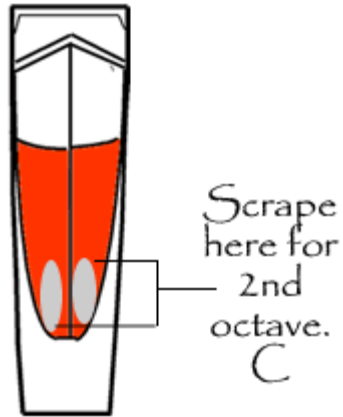
Another bad effect is the middle octave C will also start to sag. You can try this note with a somewhat loud attack. Play with the lowest pitch that the reed will naturally allow on this note.

- Take out little by little. You can always take more out.
- Clip the reed up to a C again.

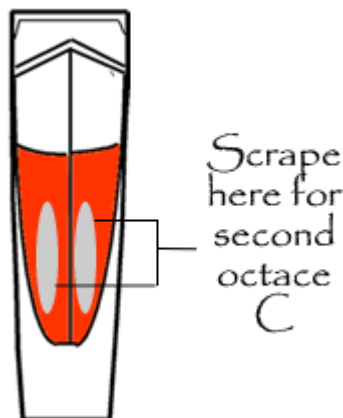
Now it is time to make sure that your reed has all of its octave C's in the crow. Here are the graphics from before so you don't have to scroll back and look for them.

Making Oboe Reeds- "A basic guide to reed making."

- If the reed only has one octave C, scrape the back of the reed slightly.

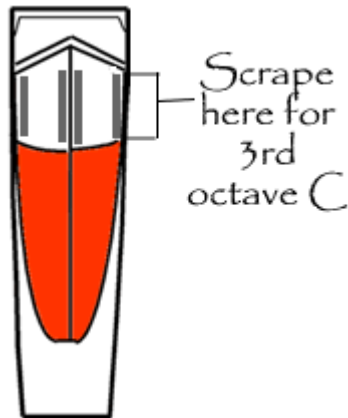


- If it still doesn't come out enough, try going up toward the upper back slightly.



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- If the 3rd octave C doesn't come out, don't worry too much. I personally don't seek it out. Some people do so if you would like to have it, try scraping ever so lightly here.



- As before, once the reed contains the correct amount of C's in the crown, let it dry out.

Method Three

There is still another way of going about this. Basically, keep the reed at a C **from the very start and don't let it drop ever** during the process.

- First, form the tip as you had done earlier, and then scrape the heart. As soon as the pitch starts to drop, clip it and maintain the pitch level throughout the process.

A word about the drop-off between the heart and the tip.

The heart and tip must work together. If the drop-off between them is not enough, the reed can wind up unstable with flat high notes. Below is a small example of what this looks like, but trust how the reed is feeling rather than what it looks like.



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If the transition is too much, the reed could wind up having a very chirpy and bright sound. If there is a bump or if the back of the tip at the corners is defined too much, it could be hard and tubby feeling. Playing on this kind of reed is like swimming in a pool while someone is pushing their finger against your forehead. This is not a very nice feeling, believe me.



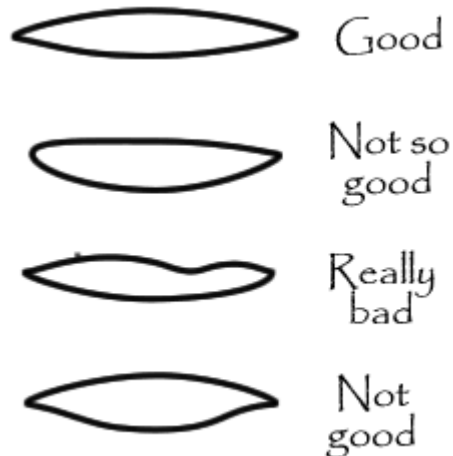
The reed should have something in between the two. Some people like to think of it as a stream rolling over some rocks. If you are old enough to remember the profile of the old Coca Cola glass bottles, (you can still get those where I live) it is kind of like that. The following graphic illustrates the basic shape.



And now a word about the opening of the reed

The opening of the reed is very important. If it is too open, then you might start biting, and if it is too small, you won't be able to put enough air through it. Make sure also that the tip opening is symmetrical.

Here are some good and not so good examples of what I am talking about.



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The first opening is good. It should be an oval. Not too big, a bit less than a millimeter. The other three examples show an uneven tip. The tip must be scraped as even as possible.

The sides of the tip must close before the center. If they don't, toss the reed.

Now, let the reed dry out as before, and then go to the next step which is. . .

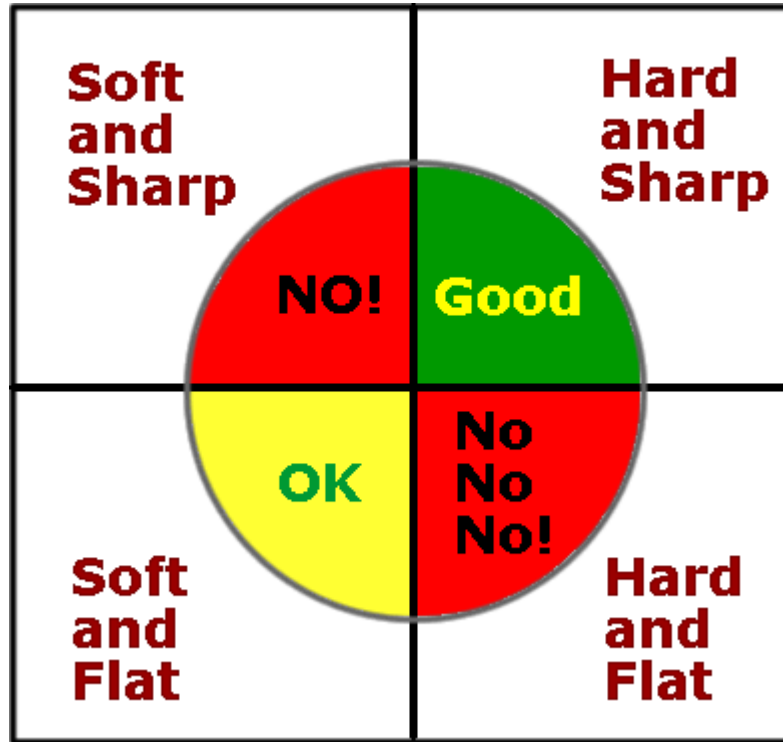
Chapter Ten

Finishing and Adjusting the Reed

As we see, there is more than one way to get the job done. No matter how you arrive to this point in the process, from here on out, it is basically the same.

- Soak up your reed that has dried, and crow it. It probably has dropped in pitch somewhat which is to be expected. The very first thing to do is to clip the reed back to a C.

Now that it is crowing a C, let's talk about what to look for from here. Below is a graphic that shows four different general possibilities that the reed will probably fall into.



Hard and sharp

Whenever wood is scraped off the reed, 98% of the time the pitch drops. Since wood needs to be taken off when the reed is hard, it helps to have it on the sharp or “high” side. This will give us the most flexibility when adjusting it. This also means that the pitch cushion that we talked about earlier is not too low.

This is the optimum goal to maintain through most of the reed making process.

Soft and Flat

When the reed is soft, one way to give a bit more pep and resistance is to clip it. It has a twofold effect.

- **One being it gets harder.**
- **The other one is that it gets sharper.**

Although the soft and flat reed at this stage isn't the best, you can work with it at least, and have a fighting chance at making a reed you can practice on. Don't give up on these as sometimes they make the best reeds.

Soft and Sharp

This kind of reed **will not work**, because wood has to be taken off of it to drop the pitch. It will only make the reed softer and eventually too flat. Not a good combination. Don't waste your time on these.

Hard and Flat

This is probably the worst combination of them all. When playing on a reed like this, the first impression is that it is a fantastic reed with a beautiful dark sound. You play on it feeling great about your skills, and then you try it with a tuner. Ooopps, flat, flat, flat! This is probably the most dangerous reed also. Since it is flat, it must be bitten up to pitch. We say to ourselves that it is not “too” flat because the sound is so pretty.

Don't fall into the trap. Throw it away!

Now play on the reed for a few minutes and see how it feels. Ask yourself the following.

- Is it too hard or too soft?
- Can the low notes be articulated easily?
- Does the low G and A sound centered and even?
- Do the high notes speak with ease?

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These are some of the most important questions that you need to ask yourself about your reed. The more you can pinpoint what it is about it that you don't like, the sooner you will be able to learn how to adjust it.

Here are some basic things that must be thought about while adjusting the reed. They can be broken down into the three main qualities.

- Response

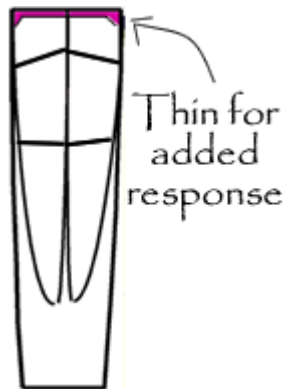
- Pitch

- Stability

Response

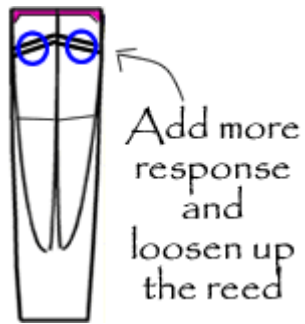
Basically response comes from the contrast between the tip and the heart. The vibrations start at the end of the tip, so naturally it should be the thinnest part.

- If the reed has problems starting, the first thing to do is to thin the end and corners of the tip.

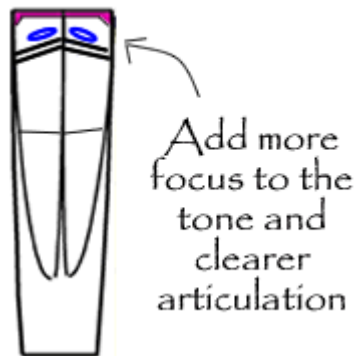


- Now go to the blend area. If the reed is too hard and unresponsive, it can be loosened up by scraping here.

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- To add more focus to the tone and clearer articulation, you should think of "scooping" the cane out of this area.

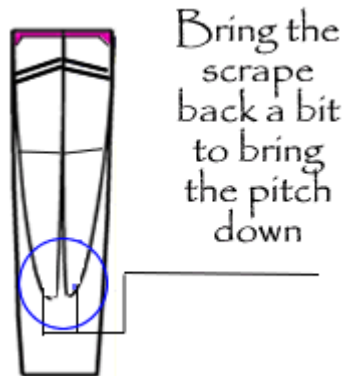


Pitch

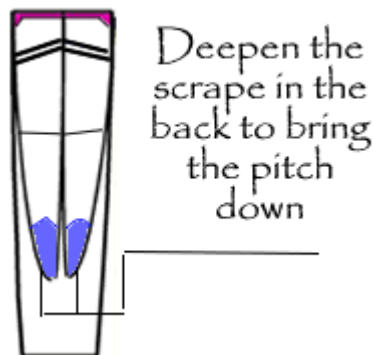
Crow the reed with strong air and weak air, trying to find the lowest part of the crow. That is the reeds pitch level. If the pitch floor is good and stable, the reed should play at a 440 pitch level **without any manipulation of the lips.**

If the reed is sharp, there are several things that can be done.

- The first one is to lengthen the scrape in the back of the reed.



- The second option is to deepen the scrape in the very back of the reed.

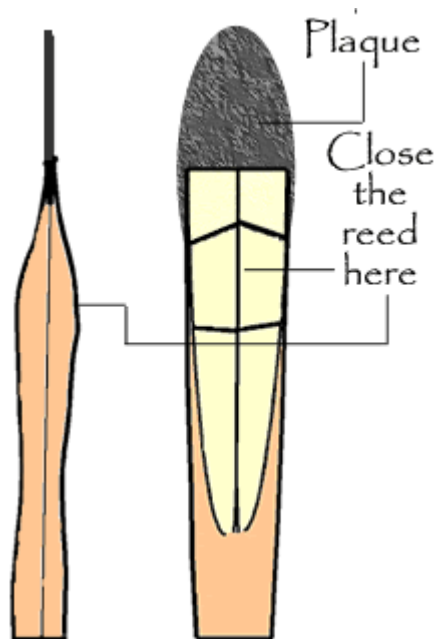


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- Another option is to make the next reed longer.

If the reed is too flat;

- First try squeezing the opening down. This can sometimes help a lot.



- Clip the reed and make sure it crows a C.
- You can also try narrowing the reed with a razor or a piece of sand paper.

In general, the best thing to do about a flat reed is just to throw it out and make another one. It will really save you time and frustration.

Stability

When the reed is truly stable, you can open your lips, relax your throat, and play a nice beautiful tone without manipulating your embouchure.

A good test to see if your reed is stable is to play the following exercise. Try it slowly, and then fast. You should not have to “bite” or adjust the reed to make the high C pop out.

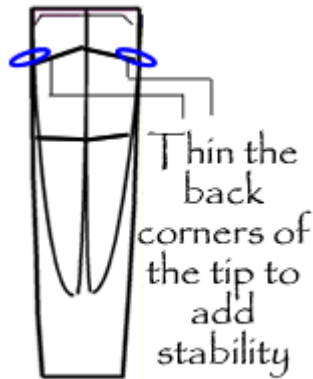


Now try it on the oboe. Make sure that you open up, and let the reed **sound as bad as possible**. You want to evaluate it honestly. Don't make it sound better than it is. If the high C popped out, then the reed has a fighting chance. If it didn't, try clipping it and separating the back corners of the tip.

Sometimes the crow has a tiny instability in it. Listen to the following example toward the end of the sound. You can hear it drop slightly.

[Click here to listen to crow](#)

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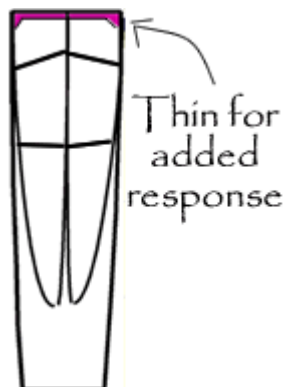


The graphic above shows how this was fixed. It made the reed more stable. Listen to it now.

[Click here to listen to the crow](#)

There are several other factors affecting stability. The first one was spoken about earlier, having too many other pitches in the crow. The crow should only have two or three octave C's, nothing more. If other noises appear in the crow, they must be cut out.

- First, make sure that the opening is not too big. If it is, use the method above to squeeze the opening down.
- Second, refine the extreme tip and corners as shown. This will help to clean up the crow. Remember to clip the reed if the pitch drops.



Another cause of an unstable reed, **are loose sides**. If the reed has this problem,

Throw it out!

It is not worth trying to fix.

The sides are loose when the plaque is **not “grabbed”** by the blades of the reed when inserted. It should definitely feel tight.

Chapter Eleven

Adjustments to the Sound

The word “sound” hasn’t been mentioned very much in this book when speaking about making reeds. The reason for this is that it is so important to learn about the functionality of the reed and not just how it looks or sounds.

If the reed functions properly, a good sound will be achieved as a result. The results of only trying to make a good sounding reed without worrying about its function first, will result most likely in a reed that is flat and hard.

Let’s say that everything possible has been done to the reed and it seems to work fine, but the sound needs improving. What can be done?

- First, make sure the tip is thin enough.
- Then take more out of the back of the reed by deepening the scrape. Start from the upper back, and move down to the lower back.

This will change the basic balance, so the reed might need adjusting in other areas such as clipping if it is flat, and refining the tip if it gets too thick.

Take your time and try and evaluate everything you do before you try something else.

A basic rule of reed adjustment is to first fix the tip, and then everything else.

One last reed adjustment to do

I saved this one for last, because the tendency is to do this step too early.

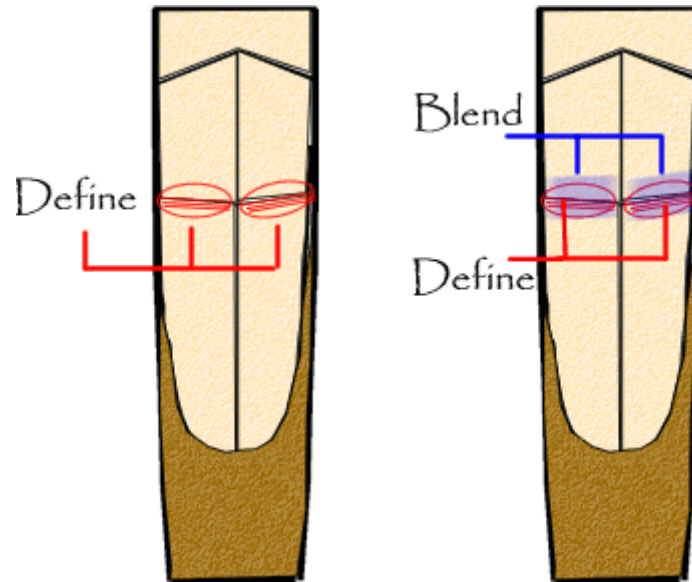
Separating the heart from the upper back.

Separating the upper back from the heart is an adjustment point. That is to say it might be different on every reed. Don't look at a reed that has lots of separation and automatically go and do the same to all of the other reeds. On some it will work, and on others it won't.

This is what I do to give the reed a bit more stability, and “zing” in the sound. Sorry about the word zing, it's the only word I can think of.

- Take the knife and define the point of transition between the upper back and the heart. Separate it, and then blend it, extending the blend slightly into the bottom of the heart. Look at the following graphic.

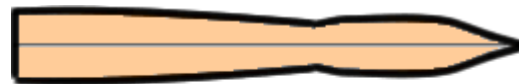
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Try and keep the spine in tact. The upper back will be a bit thinner than the heart which will give an "hourglass" look to it. Don't go too far or else your F# and G will start to sink. Be careful.

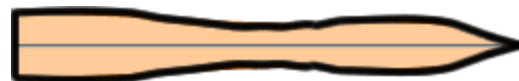
Below are two examples of how the profile can look.

In this example notice how there is less take out of the lower back. The scrape goes back farther to the string, about 4mm. above it.



Example of reed profile

In this example, the scrape actually does not go as far back. About 7mm. above the string, however the bark left on this area is to compensate for more taken out of the lower back.

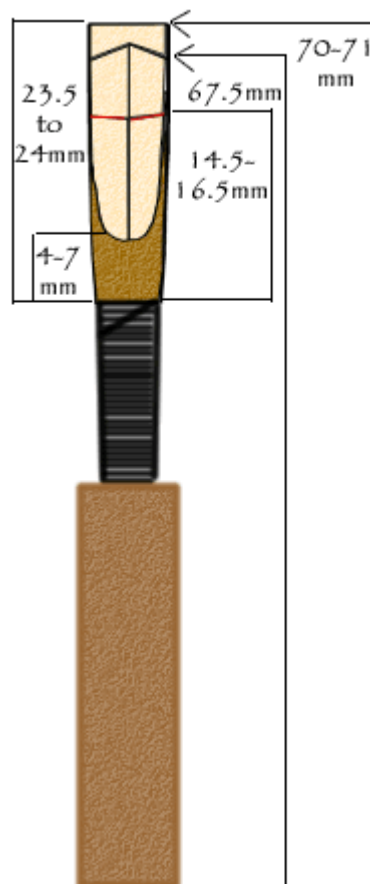


Example #2 of reed profile

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Both examples have the spine intact, although it is proportional to how much has been taken out. Don't leave a big chunk of wood up the center of the reed. It still has to vibrate.

Here is an example of a finished reed. Lengths are not absolute. They are approximate.



The only thing absolute about reeds is the fact that they will change overnight. =(

Chapter Twelve

Coda

What is the next step?

Having reached this stage, the reed should be almost finished. Let it dry out first and then just play on it. Some minute adjustments may have to be done to it every so often as it ages. This process is completely normal and should be expected.

Here is a list of some common problems and how to fix them.

The reed's pitch is sharp.

This can be caused by several things. The opening can be too small, too much wood left on the reed, or the reed could be too short.

Check for the following problems.

- The only thing you can do if the opening is too small, is soak it in hot water for 15 minutes. If this doesn't work, you need to throw the reed away and make another.
- If the opening is fine, there might be too much wood in the upper back. Try scraping more wood off that area.
- If the reed is still sharp, scrape all over the reed, being careful not take too much off.

The reed’s pitch is flat.

What has probably happened is too much cane has been taken out somewhere; usually the heart or back, or the opening is just too big.

There are not many things that can be done to fix it, however you can try the following:

- Fix the opening. Make sure it is not too big.
- Check to make sure the length of the reed is not too long.
- Clip the reed to a C. You may have to remake the reed slightly, because clipping the tip makes it proportionally thicker. Rescrape it if you have to.
- Overlap the blades of the reed slightly more.

If none of these things seem to work, it is best to just throw the reed away and make another one. Try and learn what went wrong and fix the next time around.

The low notes won’t come out.

This can be caused by any number of factors. First make sure your oboe is well adjusted and that you are not biting the reed closed. Then try the following:

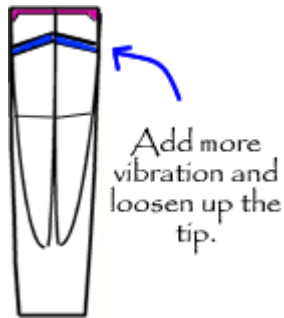
- Check that the opening is correct.
- Thin the end and corners of the tip.
- Loosen the reed up by scraping the blend between the heart and tip.
- Scrape some out of the upper back.
- Scrape some out of the lower back.

The reed is too hard.

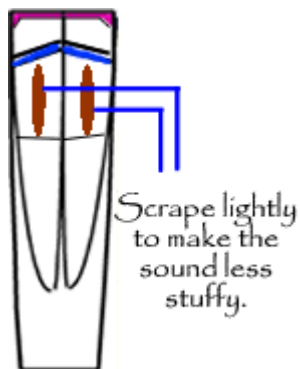
- Scrape the reed little by little starting at the tip and working back. Check the crow often and if needed, clip the reed back to a C.

The sound of the reed is too "stuffy".

- The first thing to do is to scrape as shown in the graphic.



- If that is not enough, scrape some very lightly out of the channels of the heart.



The sound needs to be more “focused”.

- Scrape as though you are scooping the wood out.

Scrape this part of
the tip to focus the
sound more.



General Comments

- Anything that is done to one part of the reed affects every other part. Always concentrate on fixing the tip of the reed first, then the heart and finally the back.
- Do not take any wood off of the reed until the opening is correct, and the reed is crowing a C. Do not try and fix the sound. Always try and fix the functionality of the reed first, as the sound is a result of that functionality.
- Never directly scrape the very center of the reed, especially in the heart and back.
- The spine is a direct result of taking wood off around the middle area. Remember the idea of two flat planes intersecting.
- Take your time.
- The transition from the tip to the heart must be smooth.
- Try not to spend hours scraping the reed. All this does is to weaken the sides especially at the top of the blades. Try and scrape the reed in about 15 to 25 minutes. Always keep it wet.

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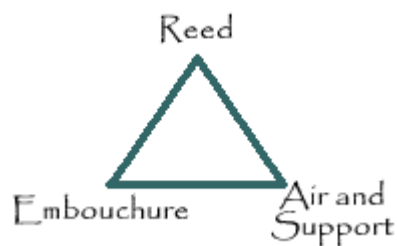
- Always use a sharp knife. Sharpen it often
- Don't be afraid to “practice” with some bad cane. **Learn what doesn't work as well as what does.**
- Don't be afraid to experiment. Learn from everyone and everything.
- **Make lots of reeds!** 😊😊😊

Chapter Thirteen

Breathing, Blowing, and Support

Now that you have a basic idea on how to make reeds, it is important to discuss how the reed interacts with the support of the air and embouchure.

As with everything else in reed making, a deficiency in one aspect affects everything else. Think of it as a triangle.



To explain it better, think back to the beginning of the book when the topic was about describing what a good reed is. If the reed has problems, it forces the embouchure to compensate, mostly by biting. This cuts the sound off, and the amount of air being able to pass through it.

Since the oboe produces a lot of back pressure as it is, the body naturally starts to force the air. The end result is a bad sound with bad pitch and bad attacks.

Let's take it a step farther. What happens if the perfect reed is used and the air support is not good? Basically the same result.

Probably the most critical corner of our triangle is the air and support. Most of the bad habits that people develop are due to the fact that the air is not moving at the proper speed.

This is due to either not supporting enough with the abdominal muscles, constricting the throat, or both. Which muscles are stronger, your abdominal muscles or your lips? Of course the answer is very obvious, so let's let them do all the work!

Anatomy of a Breath

Before a proper breath can be taken, it helps to understand physiologically what is happening. The biggest misunderstanding that everyone has is that you must use your diaphragm. The problem is this is an involuntary muscle. It can't be controlled.

So what can be controlled?

The abdominal muscles.

When a breath is taken, the lungs fill up with air. In order for them to fill up to capacity, more room must be made so they can expand. This is where the abdominal muscles come into play.

If these muscles are moved out of the way, the diaphragm can pull down farther giving the lungs more space to expand.

This is what a nice full breath is.

Martin Schuring, who is the oboe professor at Arizona State University, has an exercise that I have been using with all of my students. It seems to work well for them, so with his permission, I would like to mention it here.

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In his exercise, he has his students sit on the end of a chair, lean forward until their hands touch the floor, and inhaling. While taking the breath, the lower back should expand, with the belly also expanding against the legs.

The next step is taking several breaths. Then, slowly sit up, maintaining the feeling of the belly against the thighs. Practicing this will help you breath effectively and efficiently.

Once the air is inside your lungs, you are ready to blow it out using your abdominal muscles. This is done by pushing in a bit and slightly up. Never force this, and never force the breathing part of the process either.

Every note that you produce on the oboe should come from a point of relaxation. That is the key to producing a beautiful sound. The reed is only one part, and even the most perfect of reeds will not help if your breathing and support are not correct.

One last point that should be made is, don't ruin all of this hard work by constricting or tensing up the throat. It is the same as driving a car with the gas and the break. A misnomer that we often hear while studying the oboe is open your throat. You can't really do this physically, but you can relax it.

Practice it as it will be well worth it.

Embouchure

This is the last part of the triangle. The embouchure’s job is to support the reed and create a seal so air cannot leak through. It should be formed the same way the lips are formed when whistling.

The upper teeth should be as separate from the bottom teeth as possible, with the surface of the lips taught. In general, try and drop the chin also.

Do not bite the reed. Let it vibrate between the lips. Flexibility is the key.

Chapter Fourteen

High Altitude Reed Making

I have included this section of the book in case you find yourself playing in Colorado, Mexico, LaPaz Bolivia, or anywhere else that is way above sea level.

For the last 14 years, I have been playing in Mexico, in a city named Toluca, which is in the mountains about 8700 feet above sea level. It is not the most glamorous place in the world, but it is home.

If you happen to be a cyclist or boxer, it is a great place to train. It is also a great place to learn high altitude reed making. If you can make reeds where I live, you can make them anywhere.

One of the first things you should prepare for when you arrive at your destination is the fact that you will probably have to make new reeds. The ones that you bring with you will feel very closed and non-vibrant. The higher you get, the worse the reeds are.

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I am not a scientist, so I won't try and explain exactly what is going on; however there is a good example of what happens to a reed.

During our rehearsal breaks in the orchestra, many of us go to the store to buy some potato chips. Not the healthiest I admit, but that's life. One of the brands that are popular here is an oval shaped potato chip that comes in a can. I think you can guess what brand they are. The first letter in the name is a “P”.

The interesting thing about the can and the reason that I am telling you this, is that they are sealed up and packaged at sea level. When they reach this altitude, the pressure on the outside of the can is significantly less than the pressure on the inside. They look like they are going to explode, which they do if you don't open them slowly.

It is this pressure difference that affects reeds. Reeds naturally do not want to vibrate here at altitude. There are some things that can help though.

- The first thing that you should try is a wider shape. I used to use a Gilbert #1 shape, and then I switched to an Adams Shaper tips “Ruth” shape which is generally wider. This was one of the best improvements I have made to date.
- The other piece of advice is to really scrape the reed according to what the crow says to do, even if it seems to look strange. At altitude I need to scrape more toward the center of the reed.

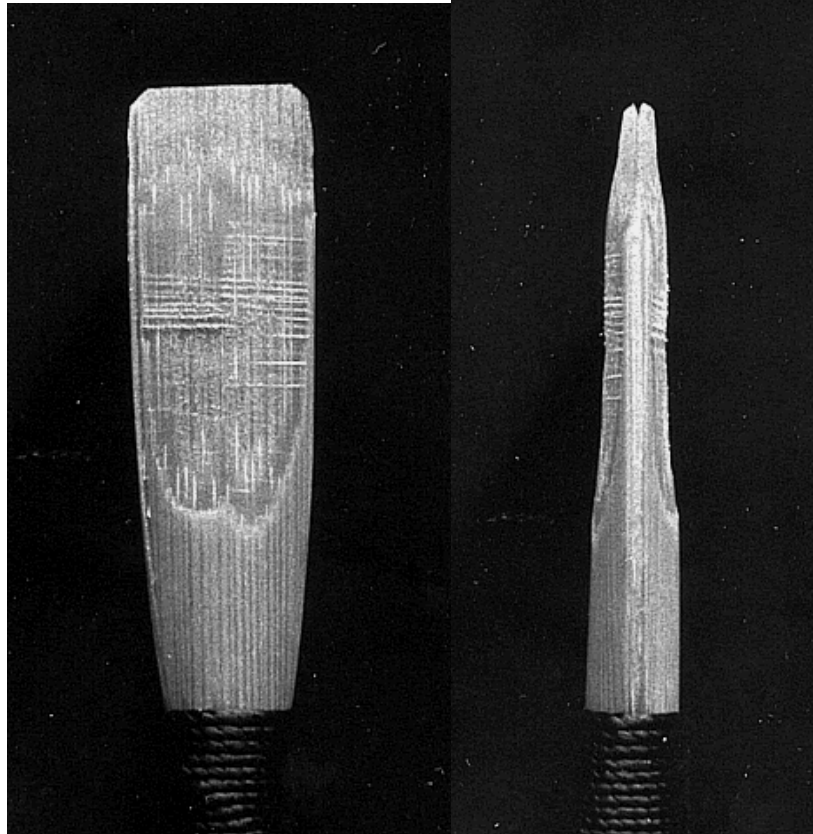
An example of this is scraping out the back of the reed. At sea level, you can't take that much wood out of the back, because the reed will be flat and collapse. At altitude, the reed will tend to stay open with much more wood removed.

Another thing to remember is that at sea level, the reeds vibrate so well, that you need to do things to control them such as more separation from the heart to the tip, or a bit more contrast between the heart and the back of the reed.

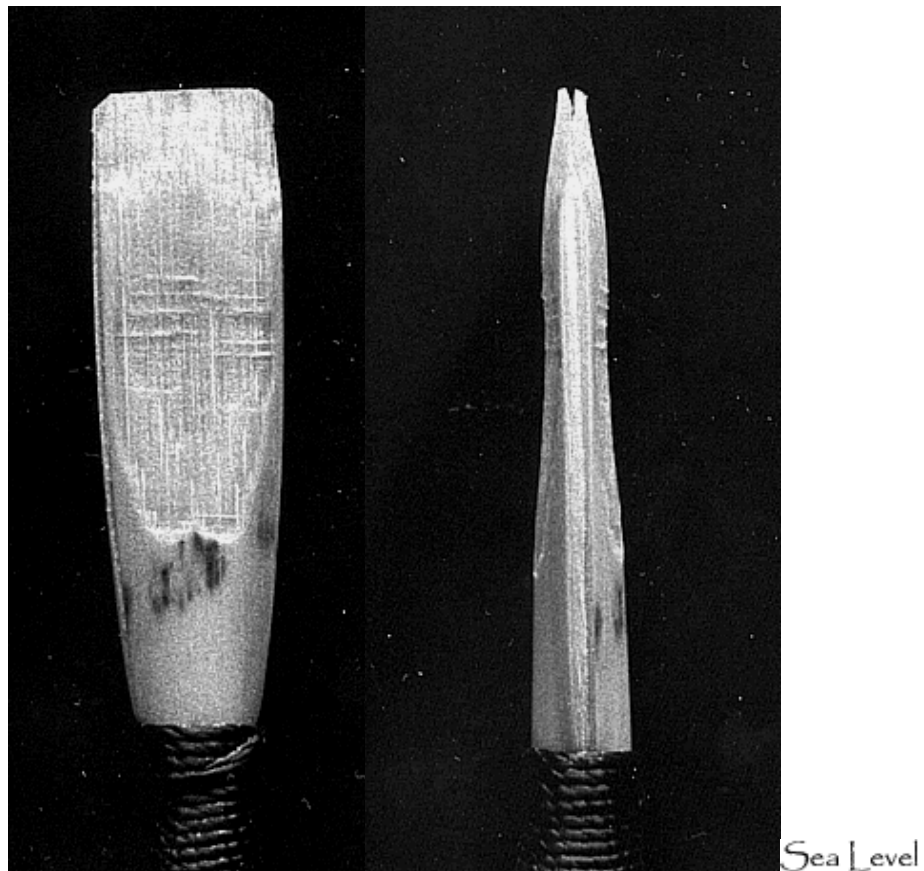
At altitude, everything you do has to have the goal of making the reed vibrate.

Here are two pictures of a reed that I made at altitude, and then two pictures of one made at sea level in France when my orchestra went on tour.

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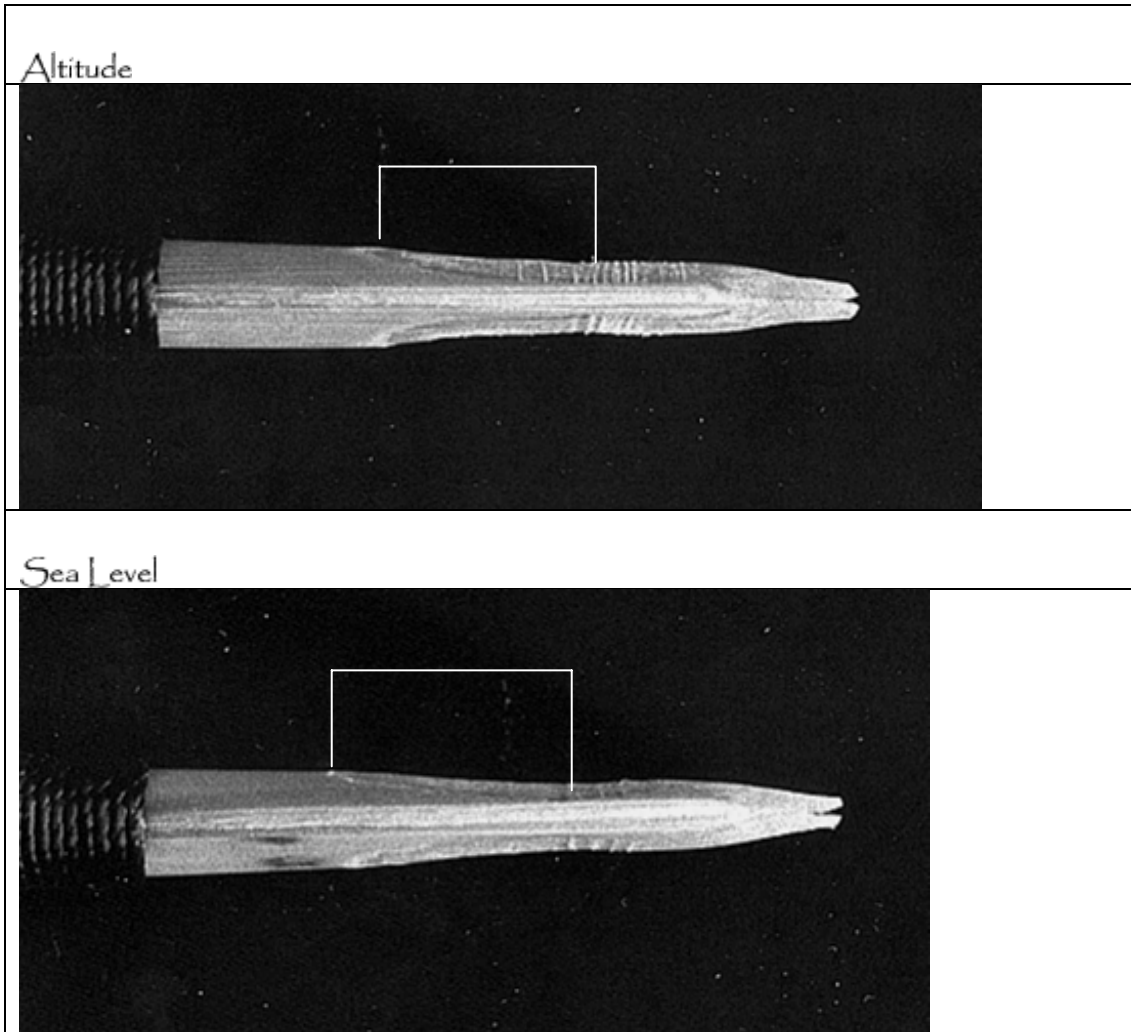
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Notice the profile of each one. What I am trying to show is the back of the reeds. Notice how the reed made at altitude has more wood taken out of the back.

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Here is another look with both of them together.



This difference may not look that drastic on these pictures, but the way these reeds vibrate is tremendously different. If I were to take the reed made at altitude back down to sea level, it would crow about an Ab. Part of that drastic difference is being at 8700 feet.

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In conclusion, bring blanks with you, or better yet, tie them there, and make the reed by the crow only. Do not let the appearance of the reed prevent you from scraping in an area that logically would not work if it were at sea level. If you can arrive at your destination a week before you play, even better.

Chapter Fifteen

How to get out of a Reed Slump

Every oboist in the world has problems making reeds now and then. The better ones don't let it affect their playing. Most of your playing life will be spent using less than perfect reeds.

If nothing is working, what you can do is:

- Stop and take a long breath and a step back.

Look to see if anything you are doing is not correct.

- Sharpen your knives. This can fix the problem right away sometimes.
- Make sure your oboe is sealing properly. Sometimes the oboe isn't right.
- Deal with it until the weather changes. I have that problem often here. We have a dry season half the year and a wet season the other half. It usually takes a few weeks to settle in. I often have serious reed problems during this time.
- Don't worry too much, that can make it worse.

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- Try using a reed chart to keep track of everything that is done on the reed. You can find an example of one in the appendix section of the book.
- Try different cane.
- Make a reed using a mix of the three methods that are in this book. Sometimes if I am taking too much wood out using one method, I will switch methods to help compensate for the mistake.

Additional Resources

Here are some extra's that will be of use. The first section is a list compiled by Brian Moses of shaper tip tie-off lengths, and I would like to thank him for allowing me to include it here.

He has a fantastic web site that is a tremendous resource for all of us. Thanks Brian. You can see his page by [clicking here](#).

The following are based on a 47mm. tube.

Shaper Tip	Tie – off length
Adam/Caleb	73.5 -74.5
Adam/Caleb+2	74.0
Adam/Joshua	72.0 – 73.0
Adam/Josua+2	72.5 – 73.5
Adam/Joshua+4	73.0 – 74.0
Adam/Miriam	72.0 – 73.0
Adam/Ruth (Kaplan)	73.5 – 74.0
Adam/Ruth-2	73.0 –

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	73.5
Adam/Sampson+1	72.0 -73.0
Adam/Sampson+3	72.0 – 73.0
Adam/Sara	72.0 – 73.0
Adam/Sara+2	72.5 -73.5
Angelo#1 or "A"	73.0
Bhosys Schulman	75.0
Brannen Bloom	72.5
Brannen Narrow	73.5
Brannen Wide	74.0
Brannen X-narrow	73.0
Dunkel	72.0
Harold Gomberg	74.0
Jeanné Standard	71.0
Jeanné X	73.0
Linx and Long	74.5
Pfeiffer Mack #1	72.0
Pfeiffer Schulman	73.5
Prestini #1	73.0
Prestini#2	73.0

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Prestini#3	73.0
RDG 1	73.5
RDG -1	73.0
RDG – 1N	73.5
RDG 2	74.0
RDG -2	74.0
Robinson-Barr	74.5
Weber 1-C	73.5

Here are some places you can get double reed supplies. If you can't find what you need, check Brian's page.

Midwest Musical Imports

[Click Here](#)

Davie Cane Company

[Click Here](#)

Stevens Double Reed

Tel. 925-684-9821

They have a very nice selection of affordable staples. Definitely worth checking out. Tell them you found them from the reed book.

Charles Double Reed Company

[Click Here](#)

RDG Incorporated

[Click Here](#)

Music Resources

If you need a new copy of the Barret Complete Oboe Method, give a [Click Here](#).

Gekeler Method for Oboe Book 1

[Click Here](#)

Gekeler Method for Oboe Book 2

[Click Here](#)

Oboe Classics for Beginner

This is a Music Minus One featuring Elaine Douvas. It's fantastic. Definitely worth it.

[Click Here](#)

Oboe Classics for the Intermediate Player

The second in this series.

[Click Here](#)

Here is a link to a wonderful online sheet music store called **Sheet Music Plus**. You can find pretty much anything there. Take a look.

[Click Here](#)

If you need any general music supplies from Music stands to Metronomes, here is a link to **Giardinelli's**. They guarantee the lowest price.

[Click Here](#)

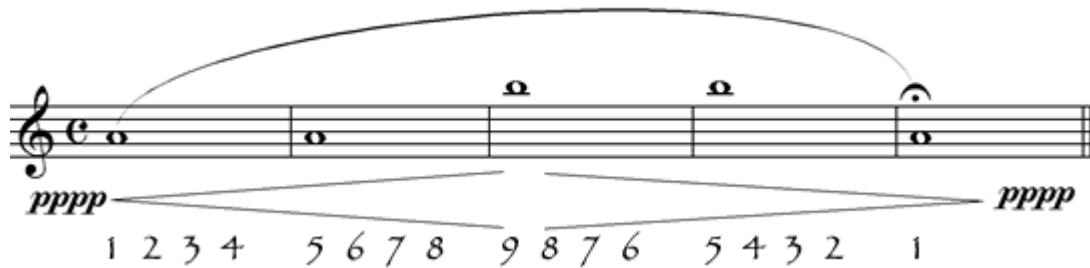
Since this is a digital ebook, if you need to upgrade your computer or components, here is a link to **Dell Computers**.

[Click Here](#)

Here is an exercise that can help you with testing your reeds, and loosening your embouchure.

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Put the metronome on quarter note equals 60. Count 3 2 on 1 start the note. It should be as though you are putting a knife through butter. When you reach 9, it should be the loudest you can play. Don't force it though. Return to 1 and hold the note.



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