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# I. ASSEMBLY

- When opening a clarinet case, the handle is usually on the bottom half, so make sure the case is right side up with the handle on the lower half of the case.
- Assemble clarinet from bottom to top to protect the reed and mouthpiece from damage.
- **Do not push. Twist pieces into place, especially with new clarinets where the cork is tough and sticky.**
- For the first two weeks have students apply cork grease to allow the parts to connect better.
    - Michelle Andersen suggests having students leave instruments assembled for a day or so, stored in a safe place to avoid damage from younger siblings or pets.
    - Students tend to apply a lot of pressure when trying to assemble the clarinet.
    - Have students put all that pressure on the back of the clarinet where there are not as many keys that are liable to be bent.
    - Get high quality cork grease because low quality cork grease will disintegrate the cork.
    - It can take anywhere from 5 to 15 minutes for a beginner clarinetist to assemble their instrument.
    - *Always check the first couple class periods to make sure they are assembling the clarinet correctly, especially with the bridge keys.*
- To connect the top and bottom joint of the clarinet, press the last ring on the top joint to open the bridge key. The two bridge keys on the joints are supposed to align, with the top joint's bridge key on top. Opening the top bridge key will allow for minimal damage to the clarinet and the bridge key. If the bridge key is broken, it will be very difficult to play anything.
- Put the mouthpiece and barrel on before reed and ligature.
- Make sure the hole in the mouthpiece lines up with the register key in the back of the clarinet.
- The tip of the reed is **fragile.**
- **Demonstrate to students how the reed works and how it vibrates.**
- Reeds vibrate better when wet.
    - Use the analogy of a fragile popsicle stick.
    - Most students soak the reed with their mouths/spit, but it is acceptable to have little cups of water like oboists do.
- Line up the tip of the reed with the tip of the mouthpiece and make sure the reed is centered.
- There are two possible ways to put on the reed and ligature.
    - 1. Reed first, ligature second
        - Allows for more flexibility with where the reed is placed – higher chance of the reed being put on straight.
        - If not careful, the ligature can cut into the tip of the reed and break the reed.
    - 2. Ligature first, reed second
        - Allows for a more secure placement when tightening the ligature
        - It will be instinct for kids to push down on the reed to place it. Don't do that! Push with the **edges of the reed** on the sides to **wiggle** the reed into place.

- Do **not** screw the ligature on as tight as it goes, allow the reed to breathe. However, do not screw the ligature on too loosely, in that case the reed will be loose and not be straight.

# *II. HANDS ON THE CLARINET*

## A. LEFT HAND

- Thumb over back hole and overlapping with register key at a 45-degree angle.
- Fingers should naturally fall into position over top holes.
- Fingers should be angled downward slightly as to allow easy access to the A and Ab keys.
- Smaller hands may need to be more horizontal/perpendicular to compensate.
- Pinky hovers over the low E key when not in use.
- Fingers should be curved like holding a tennis ball (a slightly flattened "C")
- Motion comes from back knuckle, maintaining that curvature in the fingers.

## B. RIGHT HAND

- Fingers should lay perpendicular/horizontal to instrument
- Slightly curved, palm open, like holding a tennis ball.
- Thumb contacts the thumb rest on the back side of the instrument, between the end of the thumb and first knuckle).
- Pinky over the low F key
- Motion is from the back knuckle, maintaining that curvature in the fingers.

## C. BAD HABITS

- Do not allow students to support clarinet with right index finger using the side keys/rod.
- Do not allow students to tuck pinkies under the side keys (like low F and low E).

# III. EMBOUCHURE

- Say “oo” with lips and “ee” with tongue.
- Firm upper lip pressed down on mouthpiece with teeth.
- ½ of lower lip curls over bottom teeth.
- Mouthpiece should enter at about a fingernail’s length.
- It is more common to play single-lipped than double-lipped (like an oboe).
    - Double lip gives it a more open sound.
- Embouchure does not move when pitch changes.
- Throat is relaxed (like saying “ho”)
- Tongue should be arched in the middle (saying “ee,” hissing, or whistling a high note).
- Cheeks should NOT puff out.
- Upper lip is firm, rolled up against the teeth.

## A. STEP 1: BOTTOM LIP AND CHIN

- Blow air across the reed, allowing it to vibrate.
- The better the reed vibrates, the better tone the instrument will produce.
- Reed rests on bottom lip
- Roll the inside of the lip (the “pink” part) over the bottom teeth and pull down the chin.
- Teach pulling the chin down by having the student push the chin down with one hand while holding the clarinet with the other.

## B. STEP 2: TOP TEETH AND MOUTHPIECE

- Top teeth are to be anchored down directly on the mouthpiece, they should be about where the reed and the mouthpiece meet.

## C. STEP 3: CORNERS OF THE MOUTH

- Corners should wrap around the mouthpiece like a drawstring bag, allowing no air to leak through the sides.
- Horn should enter the mouth at a 35-degree angle
- It is good to practice this in front of a mirror

# *IV. AIR*

- Air should move like water from a garden hose – small, fast, focused air.
    - Hissing – represents very compressed air.
    - "Cold, fast air."
    - If the air is too slow, the note will sound mushy/airy.
- Right thumb goes under the bottom joint thumb rest.
- **Problem 1: No Sound**
    - Is the reed on correctly?
    - Is the student biting down on the reed and closing the reed?
    - Is the student allowing air to leak out of the corners of the embouchure?
    - Is the student's mouth too open?
- **Problem 2: Squeaking**
    - Are they biting down on the reed and closing the reed?
    - Round the corners (like a drawstring bag) and drop the jaw.
    - Put less mouthpiece in the mouth.
- **Problem 3: Air is too warm**
    - Warm air gives a weak sound.
    - You will hear hissing in the instrument if the air is too warm. Colder, faster air!

# V. MEMBERS OF THE CLARINET FAMILY

- **Chalumeau –** Predecessor to the clarinet.
  - It has an A key, but no other keys.
  - It has a limited range of low notes and throat tones.
  - Died out around 1780.
  - The low register of the clarinet is called the Chalumeau register.
- In 1690 **J.C. Denner** invented the clarinet by adding a register key to the chalumeau.
- The clarinet did not catch on for about 100 years after its invention.
  - There is no Baroque literature
  - Mozart frequently wrote for clarinet and Beethoven used it in all 9 of his symphonies.
  - Classical Period – The clarinet only has 5 keys
    - Clarinets were built in different keys to improve tone and quality per key signature.
  - In the early 1800s keys were added to improve sound and facilitate technique.
  - Around 1839, **Klose and Buffet** applied acoustical principles to the clarinet that were previously applied to the flute by Boehm.
    - This led to the design of the modern French clarinet and it is still used everywhere today except in German speaking countries because… Germans like to be different.
      - German clarinets are built slightly different and have a different fingering system. They have different bores, mouthpieces, reeds, etc.

**A Sopranino –** Highest pitch-sounding clarinet but is rarely used or written for.

- **Eb Clarinet –** Pitch is a 4th above the Bb clarinet. **Sounds a minor 3rd higher than the written pitch.**
  - Written in treble clef.
  - Has the same fingerings as Bb clarinet and is commonly used in clarinet choir, orchestra, and Romantic Period pieces.
  - If you are in need of an Eb clarinet player, have one of your advanced Bb clarinet students play it. This will challenge them to play more in **tune**, work on **alternate fingerings in the high register,** use **more precise fingerings,** work on emphasis in the **higher octaves,** and work on **intonation issues.**
  - Not commonly used in chamber works, and not a part of standard quartets.
  - Has a smaller mouthpiece, reed, and ligature. Some people trim Bb reeds down to fit Eb mouthpieces, however Isabella Motzney says it has better tone quality to just by an Eb reed, so you might just wanna do that. But if you are in dire need, trim down a Bb reed.

- **D Clarinet –** This clarinet is obsolete, used in Romantic period literature.
  - Modern practice is just to use an Eb clarinet and transpose down a half step.
- **C Clarinet –** Mostly obsolete, called for in some classical and romantic literature.

- Modern practice is to play on Bb and transpose up a Major 2nd.

- **Bb Clarinet –** Standard for band and most solo/chamber works.
  - Pitch is a Major 2nd lower than written.
- **A Clarinet –** Is commonly used in orchestra.
  - Written C is an A
  - Has a slightly darker tone than Bb
  - Is a minor 3rd lower than written.
  - Has the same mouthpiece and reed as a Bb clarinet.
  - Is never used in a band setting – is sometimes used in chamber or solo literature.
- **Alto Clarinet –** Pitched in Eb, sounds a Major 6th lower than written (same as alto saxophone).
  - Has the same range as Bb clarinet, except there is an addition of a low Eb.
  - Typically has a metal bell and has a crook instead of a barrel, requiring a different mouthpiece.
  - Mouthpiece, reed, and ligature are larger than Bb. Alto saxophone reeds can be used in an emergency.
  - The mechanisms of the clarinet are more complex.
  - They are sometimes used in band, but most schools do not use them today.
  - There is no important solo or ensemble repertoire except for Solo & Ensemble quartet repertoire.
  - Commonly used in clarinet choirs.
  - Not used in orchestra at all.
  - Has two bridge keys/connecting levers.

- **Bass Clarinet –** Pitched in Bb, though an octave lower than Bb clarinet.
  - Sounds Major 9th lower than written.
  - Notated in treble clef.
  - Goes to low Eb or C.

  - Low Eb Bass Clarinet is shorter than the one the one that goes to C.
  - Low Eb Bass Clarinet is cheaper and fine for repertoire.
  - Low C is needed for orchestra, contemporary works, and modern wind ensemble.
  - Lowest sounding note is the same as bassoon.
  - Need different mouthpiece, reed, ligature, etc. than Bb clarinet. Reed is similar to tenor saxophone reeds
    Mechanisms are more complex than Bb.
  - No open holes and many pinky keys.
  - Low C Bass Clarinet has right hand thumb keys.
  - Has a double key mechanism for improved throat B and register key function.
  - Has several mechanical connections from lower to upper joint.
  - Was used in the Romantic period for orchestra pieces (Rite of Spring, the Nutcracker, Sorcerer's Apprentice).
  - Band – has always been in band music, all but the smallest of bands have bass clarinets – however must students do not own their own.

- Always called for in clarinet choir. Frequent in solos, duets, trios, and quartets. Does not have many original works written for it – any that are original are contemporary.
- Many students start on Bb clarinet and move to Bass Clarinet.

- **Contralto Clarinet –** An octave lower than Alto clarinet, is played in Eb. It is a Major 6th and an octave lower than Bb clarinet.
  - Written in treble clef.
  - **Range depends on the model –** Eb, D, and C are the lowest note options.
  - Written in music, contrabass could be referring to **contralto or contrabass.**
  - Has a bigger mouthpiece, reed, ligature, etc. but is interchangeable with contrabass clarinet.
  - Many small schools do not have one.
  - Very important for a clarinet choir.

Never used in orchestra and has very little solo repertoire.

- **Contrabass Clarinet –** Pitched in Bb, two octaves lower than the standard Bb clarinet. Sounds a major 2nd and 2 octaves lower than written.
  - Notated in treble clef

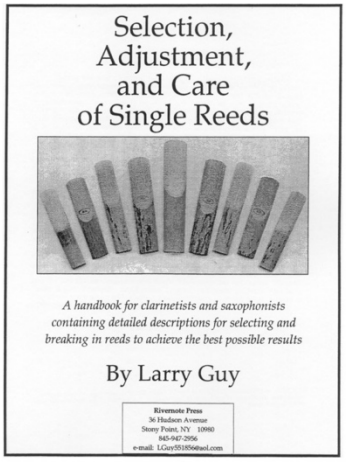
  - Range depends on model.
  - Needs its own mouthpiece, reed, ligature, etc, though can be interchangeable with contralto clarinet.
  - May be wood or metal
  - May be straight or have a “paper clip” design.
  - Is sometimes used in band with an alternate part for contralto, though many small high school programs do not have either the contralto or contrabass.
  - Is rarely used in chamber music except for clarinet choir.

Extremely rare in orchestra and has almost no solo material other than “festival” pieces and transcriptions.

- Traditional clarinets are made from granadilla wood.
- If the money is there, go ahead and move from beginner to professional. But if the money is not there, it is good to go from beginner to intermediate.

# VI. FAMOUS CLARINETISTS AND METHOD BOOKS

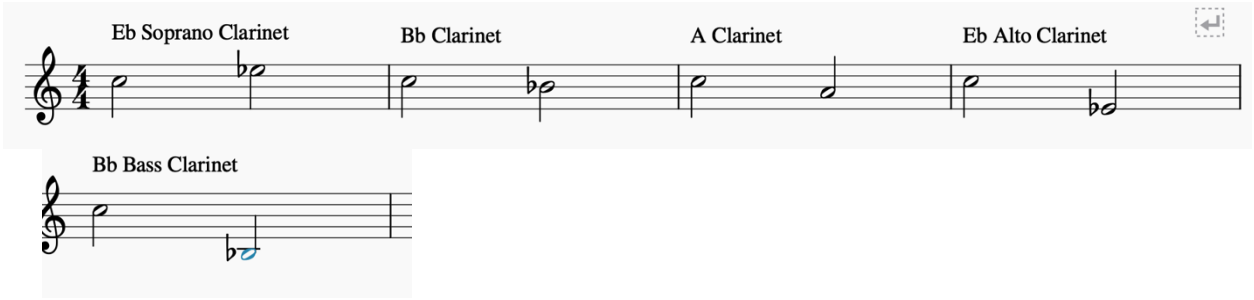
- **Martin Fröst –** Famous Swedish clarinetist who specializes in classical, contemporary, and chamber music.
- **Benny Goodman –** Famous jazz clarinetist and a Big Band superstar. Has commissioned work from Copland, Burtole, etc.
- **Julian Bliss –** British clarinetist and clarinet designer. Specializes in chamber, classical, and jazz clarinet.
- **Anthony McGill –** First African American principle clarinetist of the New York Philharmonic.
    - ***"Do your best in every moment… Don't always think you're the best, there is always room to improve… Make sure to set goals… You have to give it your all… Stay focused, don't let negativity overcome you."***
- **Paul Meyer –** Famous French clarinetist who specializes in contemporary and classical clarinet.
- **Eddie Daniels –** Famous American clarinetist who specializes in jazz and classical music.
- **Richard Morales –** Works for and sponsors Backunn Clarinets, started by **Morrie Backunn.** B.C. makes clarinets out of exotic woods.
- **Klosé Method Book –** famous method book
- **Karl Nielson Clarinet Concerto –** One of the most famous clarinet concertos.
- **Larry Guy's Book on Reeds –** A great guidebook to clarinet reeds.




*Left to right: Martin Fröst, Paul Meyer, Julian Bliss*

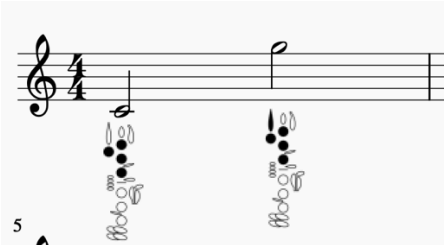
# VII. TRANSPOSITION AND RANGE

- Clarinets were historically built in different keys to overcome the technical limitations of early instruments that could not reach high and low ranges.
- Instruments in different keys have different tonal qualities
- Some clarinets survived, some did not.
- **Name = Sounding Pitch when playing a written C.**
  - **Bb Clarinet = Bb (Half step below)**
  - **A Clarinet = A (minor third below)**
  - **Eb Soprano Clarinet = (Eb minor third above)**
  - **Eb Alto Clarinet = Eb (major sixth below)**
  - **Bb Bass Clarinet = Bb (major second and octave below)**

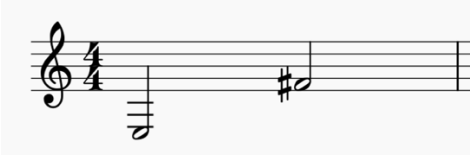



***In each case, the note will be fingered as a C, the note written on the page, but it will sound different (fingers C, plays Bb)***

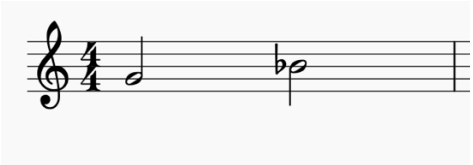
- If all clarinets were in concert pitch, it would be more complicated than it needs to be. There would be many different fingerings. Clarinets are built for convenience – you only need to think about 1 fingering system across all the French clarinets.
- G is ideally the highest note; however, an A is achievable.
- Adding the register key jumps the pitch up a 12th.



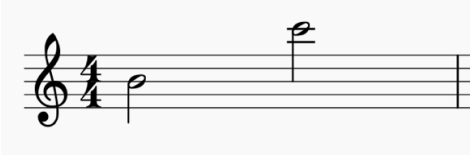

- **Never slide** if you can avoid it.
  **Low register to Chalumeau register is Low E to F#**



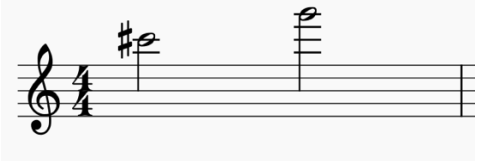
  **Throat tones are from G to Bb**



**Clarion Register is from B to C**



**Altissimo Register is from C# to high G**



# *VIII. CONTINUING MUSIC AFTER HIGH SCHOOL*

- Universities **require** players be **strong performers on Bb clarinet** if they are bass clarinet players.
- Students who want to pursue music in a higher education should start taking **private lessons.**
- They should work towards a music education degree even if they want to pursue a performance degree.
- Buy/update their equipment.
- Do more solo work
- Attend events such as the CMU Summer Institute and other camp events.
- Talk about course load and what it's like being in college as a music major. Encourage them to meet their future professors.
- Give theory/sight singing and ear training/piano lessons to give them a head's start.
- Research audition requirements
- Listen to professional recordings
- Have students know all fingerings and alternative fingerings.
- Need to audition on Bb, cannot just audition on bass.
- The college scene is competitive.
- You don't have to be a music major to continue in music. There are options such as University Band, Marching Band, music fraternities, taking lessons from music majors or professors, etc.

# IX. MAINTENANCE, BUYING AND REPAIR

## A. BUYING A CLARINET

- Plastic clarinets are good for beginners. They can be used in marching band in high school, but a better horn should be bought for concert season.
- Professional clarinets are about $3,000-$4,000.
- Most professionals use a Buffet R-13.
- Other good name brands include:
  - Selmer
  - Yamaha
  - Backunn, though less common.
- Each instrument varies dependent on brand and type.
- Some Buffet R-13's can be found used and can be cheaper than new.
- **Do not march with a wooden clarinet.**
- **Do not play on a Buffet mouthpiece. Get a new one.**

## B. MAINTENANCE

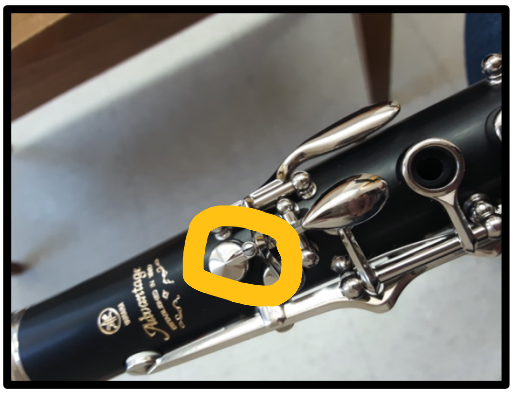
- **Swabbing –** Keeps water out of tone holes, protects the wood, prevents water buildup, and so it doesn't get moldy.
- There is a register key extension inside the clarinet that students need to be aware of when swabbing, the swab can get stuck on it when swabbing.
- Swab from the bell to the barrel.
- Spread the swab out before pulling it through so it can swab the entire interior of the horn.
- Beginners should swab out each part individually.
- Swabs can damage the inside of the mouthpiece, so don't swab through the mouthpiece, wash with warm water and soap at least once a week.
  - To do a deep clean, wash with water and 2 tablespoons of vinegar/lemon juice, soaking for an hour or two.

## C. REPAIR

- Check suction to make sure all keys are sealing.
  - Finger lower C on the top joint, cover the bottom, and suck from the top. Try pressing different keys to find the leak.
  - Finger all keys with the low E key to test for leaks on the bottom joint.
- **Leaks –** leaks result from keys not sealing correctly. They can cause squeaking, hissing, resistant playing, and the instrument being out-of-tune.
- Check the crow's foot adjustment – Two pads open and close at the same time will cause problems if not closing at the same time. Problems can be

identified by playing Clarion D through left B.

- **Connecting lever –** The bridge key makes it possible to play E, Eb, and Bb and B in the Clarion register.
- **Tenon Socket –** When the cork is not thick enough, it tends to wobble and is useless because then it will shift out of adjustment. This means you need a new cork.
    - **If this is out of adjustment, pads will not close and the sound will be resistant.**
- **Screw on G# key (Left) –** Do NOT screw it too tightly or else it will cause squeaking because it raises the key and will not seal it.



# X. EXTENDED TECHNIQUE

- **Smearing/Glissando –** Pulling fingers off key and doing a lot of voice action in the throat – is used in jazz and some modern music.
- **Slap tongue –** Non-air slap against reed using suction.
- **Flutter tongue –** Rolling your tongue (like rolling r's) to create a different sound (can also try gargling).
- **Multiphonics –** More than 1 pitch played at a time – played with special fingerings, embouchure, and finger use.
- **Lower Joint Only –** Put mouthpiece on lower joint and you only have to use the lower joint. People have written to play lower and upper joint separately, but at the same time.
- **Mouthpiece barrel alone or teeth pressed against reed –** Composer Maslanka wrote for mouthpiece and barrel only.
- **Key clicks –** Pressing keys without any air.
- **Tambar Trill –** Sound change without pitch change – high G then tapping pinky keys, for example.
- **Microtones –** Quartertones or intervals that are only a ½ step or less apart.

## A. CROSSING THE BREAK

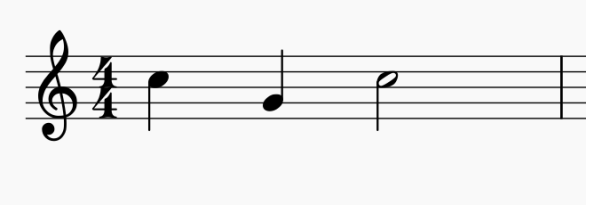
- Crossing the break is going from the throat tone range to the clarion register.
- To make it easier to cross the break…
    - Covering vents – using residence/vent fingerings to throat tone fingerings (usually in the right hand)
        - We do this to ease technique, intonation, and lower pitch. Allows for better tone quality.
        - Beginners use this cheat to ease technique, but advanced players do it for intonation and tone and ultimately make the piece harder to play.
        - Only do this with **true throat tones (G through Bb).**

# XI. INTONATION AND TUNING

## A. INTONATION

- **Flat = cold (lower)**
- **Sharp = warm (higher)**
- Since the clarinet is made of wood/plastic, it takes longer to warm up than a metal/brass instrument.
- Be aware that students may need to adjust during performance to stay in tune.
- To achieve good intonation, one should have the following;
    - Good tone quality
    - Good breath support
    - Good embouchure
    - Updated equipment
- **Dynamics**
    - **Soft = Sharp**
    - **Loud = Flat**
        - (These are the opposite in comparison to flute).
        - Compensation is found in adjusting embouchure, tongue position, and fingerings.
- **Lips**
    - **Firm = Raises pitch**
    - **Loose/ Drops Jaw = Lowers pitch**
- **Fingerings**
    - Add fingers to throat tones in order to lower pitch.
    - High notes vary and have alternative fingerings to help with intonation.

## B. TUNING



- Tune C and G.
- Tune C first, adjusting by pulling out the barrel joint. Pulling out the barrel joint tunes the short-tubed notes more so than the long-tubed notes.
- Sometimes it helps to adjust the distance between the upper and lower joint.
- Tune G to make sure it is not flat. If **open G is flat, tune at the barrel, then retune the C**.
- High F and F# are typically flat.
- High G is often sharp
- Throat tones vary but are often sharp.
- 12ths are too wide at either end of the tube.
- **Soft Reed** = Plays flat in high register or when played loudly.
- **Hard Reed** = Plays sharp when played softly
- **Length affects the overall pitch.**
- Shape of the bore also affects the relative intonation (and tone/response).
- To improve intonation, be aware of
    - Instrument tendencies

    - How temperature, dynamics and length adjustment affect your intonation
    - Practice with a tuner
    - Practice with a partner
- The Electric Tuner
    - Is a good place to start with intonation for any musician.
    - It is more useful to work with a piano.
    - Many ensembles play a little higher than A=440, so determine where the group plays before practicing with a tuner.
    - Highest notes need to be a bit sharp to sound correct.
    - When playing with a tuner…
        - Play octaves slowly. Don't look at the tuner until the note has sounded for 1 or 2 seconds.
        - Adjust the note (with lips) as needed. At first, settle for a move in the right direction. You do not need to get the needle down on zero every time.
        - Practice intervals with a drone pitch from tuner, keyboard, or friend.
        - First do unisons, then 5ths, 4ths, 3rds, 6ths, 2nds, and 7ths. Pick one interval per day to work on and do it in all keys and registers.
    - Avoid using the tuner to blame others
    - The correct solution is what sounds good in the passage, not what the tuner says.
    - It is each player's responsibility to…
        - To know what to do to play in tune with the group
        - Be able to play each note above or below pitch if required
        - Play with good tone and good fundamentals

# XII. LIGATURE, REEDS, AND MOUTHPIECES

## A. LIGATURE

- If the ligature is not holding the reed firmly, it will squeak, produce a thin, harsh tone, and will cause trouble when articulating.
    - Makes a huge different if the ligature is damaged.
- Differences on proper working ligatures are small and only noticeable to the performer.
- Is definitely less important than the mouthpiece, reed, instrument, barrel, and player.
- Early ligatures were made of string and later became metal or a mix.
- Most recently are made of composites.
- Some professionals still use string, but that is rare.
- **Standard ligatures** – the screws are on the bottom of the mouthpiece, on top of the reed.
- **Inverted ligatures** – Screws are on top of the mouthpiece.
    - **Screws always face right**!
    - Inverted ligatures wrap around the mouthpiece rather than press against the reed.
- **Metal Ligatures –** more traditional and claims a more brilliant sound.
- **Non-metal ligatures –** Has become popular in the last twenty years or so, gives a darker sound and allows more reeds to work. Is typically made of neoprene (impregnated polyester). An example brand that makes non-metal ligatures is Rovner.
- **Rovner –** A recommended brand for students. They are inexpensive, not easily damaged, and fit all mouthpieces.
    - **Check after a while to make sure it is still keeping the reed in place.** They tend to stretch and wear out after a long time.
    - Has been used since the 1960s and is used by many professionals today.
- Other Brands
    - The Bonade – metal, inexpensive, named after Daniel Bonade.
    - Bay – metal, fancy, very expensive, designed by Charles Bay
    - **Vandoren Optimum –** metal, standard, has 3 different tone plates to allow player to alter characteristics of sound. Is solidly constructed and tone plates press evenly against reed. They are moderately expensive and last a while.
- **High school students should be playing on name-brand ligatures that are in good condition.**

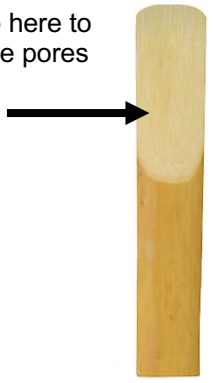
## B. REEDS

- Strength = thickness and quality of cane.
- Are rated on a numerical scale of 2 to 5 and these ratings depend on the brand. Typically, **2 is softest** and **5 is hardest**.
- Can be affected by the dimensions of the mouthpiece.
- **Soft Reed –** Gives a thin, buzzy sound.
    - Has little breath/embouchure pressure.
    - Plays flat when loud.
    - Is unable/difficult to play high notes.
- **Hard Reeds –** Has a heavy, coarse tone in the chalumeau register.
    - Requires lots of embouchure and breath pressure.
    - Difficult to play clearly.

- Sharp when played softly.

- **Brands**
  - **Beginners –** 2.5 (Rico, Lavoz, or Vandoren)
  - **Intermediate –** 2.5, 3, and 3.5 (Rico, Lavoz, Mitchell, Lurie, or Vandoren)
  - **Professional –** 3, 3.5, 4 (Vandoren, then Mitchell or Lurie for less-advanced players).
  - **Do not allow high schoolers to play on Rico reeds.**
    - **D'Addario Reserve –** Used to be Rico Grand Concert Reeds)
    - **Gonzalas**
    - **Handmade Reeds –** a very small number of professionals make and play on their own reeds.
    - **Legere Sythetic –** Is increasingly popular today ( http:www.legere/com/index.php?page=15 )

Rub here to close pores



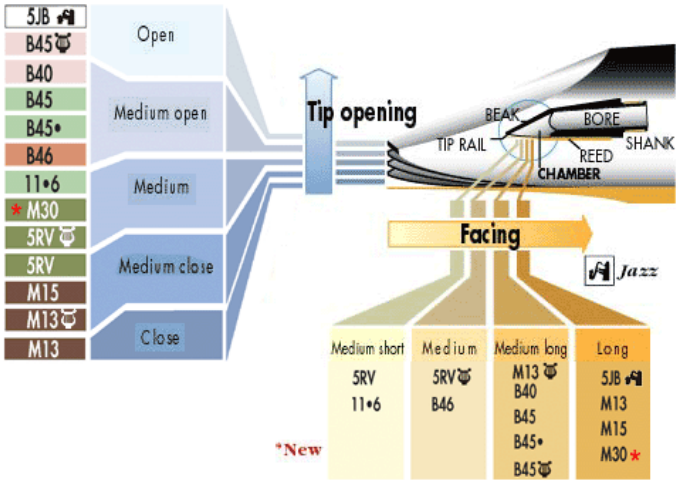
- **Breaking in Reeds –** Do not play so much at first (play for like 5 minutes, then put away).

An option is to flatten back and seal pores.

- Keep the reed clean!
- Rotate reeds – do not play on the same one over and over. Have about 4 good reeds at a time.
- Reeds last about 3 weeks.

## C. MOUTHPIECES

- The type of mouthpiece you have will impact tone, intonation, response, ease of playing, ability to find reeds, and flexibility.
- A good mouthpiece allows…
  - Full range performance
  - Good tone
  - Easy to play
  - Plays all dynamics
  - Plays in tune
- Materials – clarinet mouthpieces can be made from hard rubber, plastic, crystal or glass, and wood (though rare). Beginner mouthpieces are typically made of plastic and advanced mouthpieces are made of hard rubber.
- Dimensions of the mouthpiece are determined by the tip opening and bore.
  - Open facing (large tip opening) requires a softer reed to play.
  - Close facing (small tip opening) requires a harder reed to play.




- **Commercial Mouthpieces –** High school students should be playing on a name brand mouthpiece.
  - Vandoren is very popular
    - The Vandoren M-30 is recommended for beauty of sound.
    - Some people do well on a M-13 Lyre
    - B-45 is very hard to control.

        - Vandoren Series 13 mouthpieces are built to play in tune of the standard A=440 for American musicians. Other mouthpieces play slightly sharper than intended, around 442.
    - D'Addario Reserve is a relatively new brand with much potential.
    - Handmade Mouthpieces exist, they cost around $300.
    - Vintage mouthpieces like Kaspar and Chedeville exist and will sell for a lot on eBay.
    - **Beginners –** The plastic mouthpiece they play on when they first buy their clarinet is okay for several years (Yamaha 4C is fine).
    - Fobes, Hite, and other brands make good plastic mouthpieces for around $50.
    - Hard rubber mouthpieces such as the Vandoren M-30 (M-30 13 for lower pitch) are ideal for high school students, but the mouthpiece should be individually chosen by the student. **Not everyone plays the same brand or model.**