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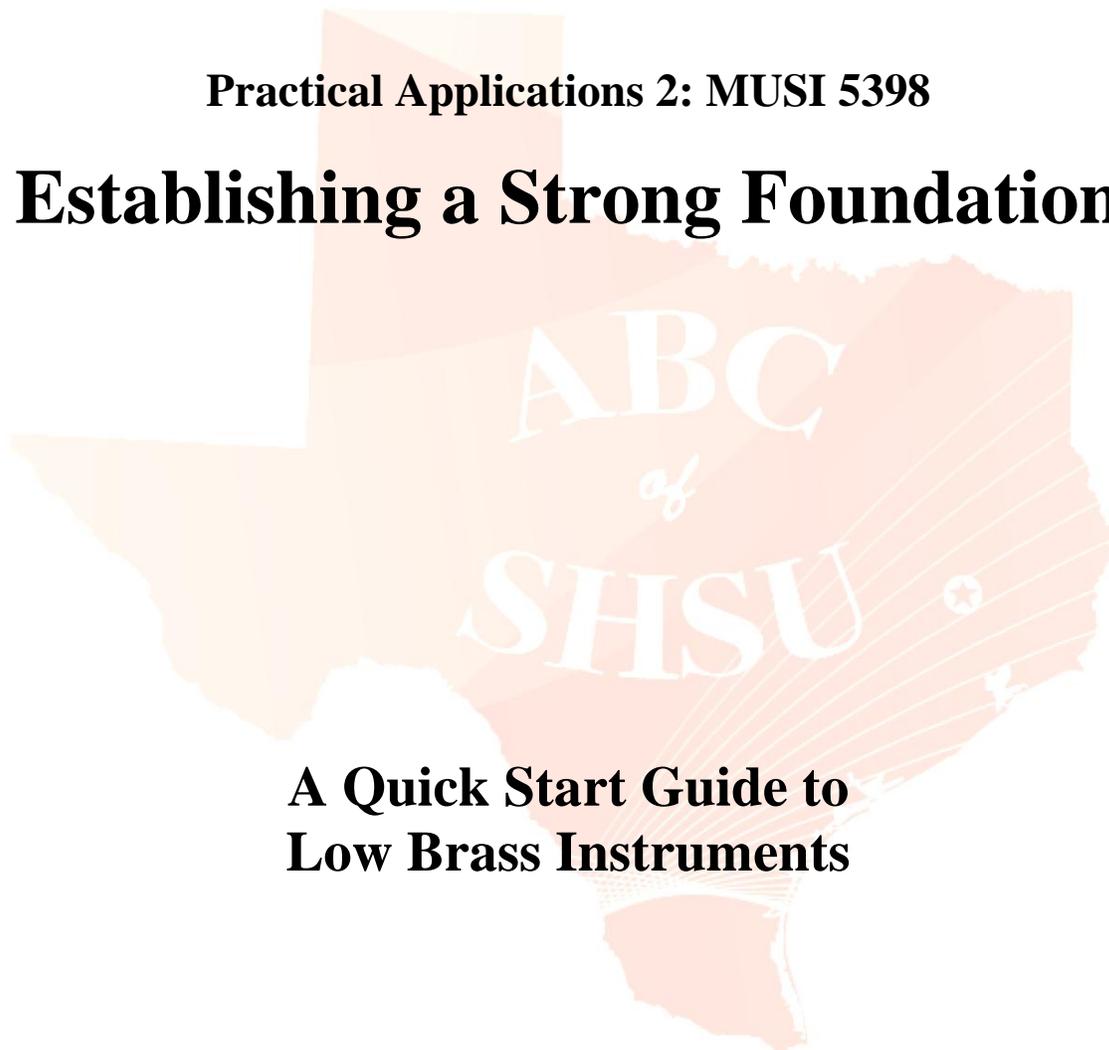
Another ABC Presentation

American Band College of
Sam Houston State University



Practical Applications 2: MUSI 5398

Establishing a Strong Foundation



A Quick Start Guide to Low Brass Instruments

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Project Overview and Table of Contents

This manual was written with the beginning low brass player in mind. It is designed to serve as an instructional resource, as well as a support system, to the developing player that can be used outside of the classroom. The manual has been created with the assumption that the student has a working knowledge of basic musical concepts such as rhythm, key signatures, etc. As a high school teacher, most of my new low brass players are switchers from other instruments. Therefore, it makes sense to begin the journey with an introduction of the bass clef.

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Bass Clef Note-Reading

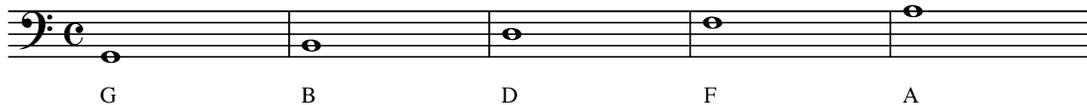
Congratulations on your choice to play a low brass instrument! The first thing we need to do is learn how to read notes on the bass clef. Learning the bass clef notes is very simple. The notes are organized on a graphic system of 5 lines and 4 spaces, just as they are on the treble clef. Line notes are those with a line running directly through the note head. Space notes are those that are centered between two lines, with no line running through the note head. As you advance in your study of the bass clef, you will also encounter notes on ledger lines. We will cover ledger line notes in the next section.

The musical note vocabulary is limited to the letters A through G. If desired, these notes can then be modified by adding a sharp sign or a flat sign. A sharp sign **raises** the pitch by one half-step, while a flat sign **lowers** the pitch by one half-step. These symbols are called accidentals. This explains how we end up with notes such as B-flat or C-sharp. The other common accidental is the natural sign. This symbol restores the note to its original pitch.

Accidentals are always placed before the note on the music staff. Here are the 3 most common types of accidentals:



Let's start with the line notes.



There are a few phrases that may help you when learning the names of the line notes. Here are a few that I like to use:

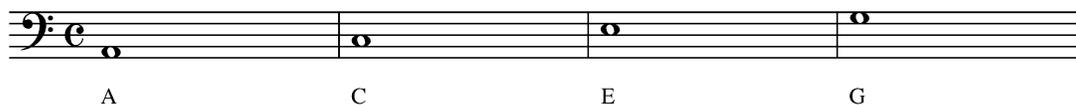
Great **B**ig **D**ogs **F**ight **A** lot

OR

Good **B**urritos **D**on't **F**all **A**part

Lines are always numbered from the bottom up. Therefore, "G" would be line 1, "B" would be line 2, and so forth. This information becomes very helpful if the director asks you to play a "4th line 'F'".

Let's move on to the space notes.

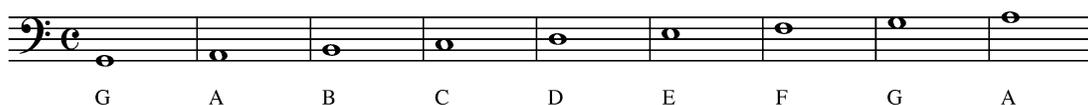


The two phrases that work well for the space notes are:

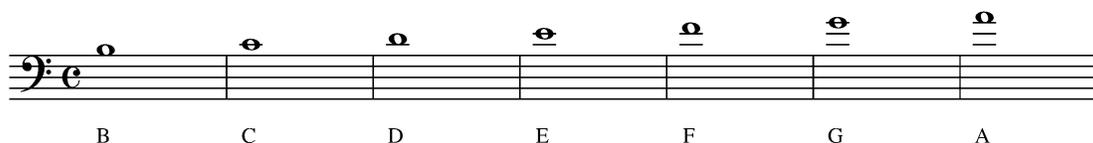


As is the case with line notes, space notes are always numbered from the bottom up. Therefore, "A" would be space 1, "C" would be space 2, and so forth. This information becomes very helpful if the director asks you to play a "3rd space 'E'".

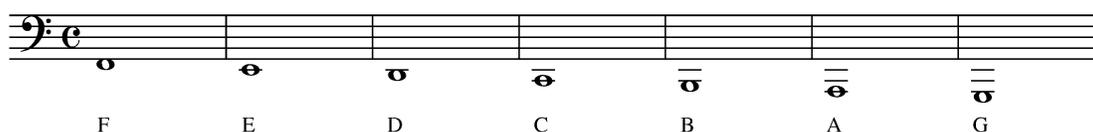
The notes on a music staff are organized very logically. They work like a ladder. Just as you climb a ladder one rung at a time, the same is true of the layout of the music staff. Moving up one line or space gets you to the next letter in the alphabet. Once you reach "G", it starts over again at "A".



Notes can also be written above and below the staff. Ledger lines are used to extend the staff beyond its allotted number of lines and spaces. You can remember this term if you imagine the small lines as a "ledges", or shelves on which the notes sit. The first example shows notes above the staff. Trombone and euphonium parts will utilize these notes, but the tuba parts will not. Notice how the note names move "up" the musical alphabet.



As mentioned above, notes below the staff are most common in tuba parts. However, these notes are also playable on trombone and euphonium. Notice how the note names move "down" (or backwards) through the musical alphabet as the notes descend.



Note Spelling Game: Version 2

For Tuba



The note patterns below have been combined to form simple words. Due to the vocabulary of notes used on this page, this activity is most appropriate for tuba players. Grab a piece of scratch paper and a pencil, and see if you can figure out these 3-letter words!

Activity #1:

Now, let's try some 4-letter words. Good luck!

Activity #2:

Answers for Activity #1:

2. BEG 2. ACE 3. BAG 4. CAB 5. FED 6. BAD

Answers for Activity #2:

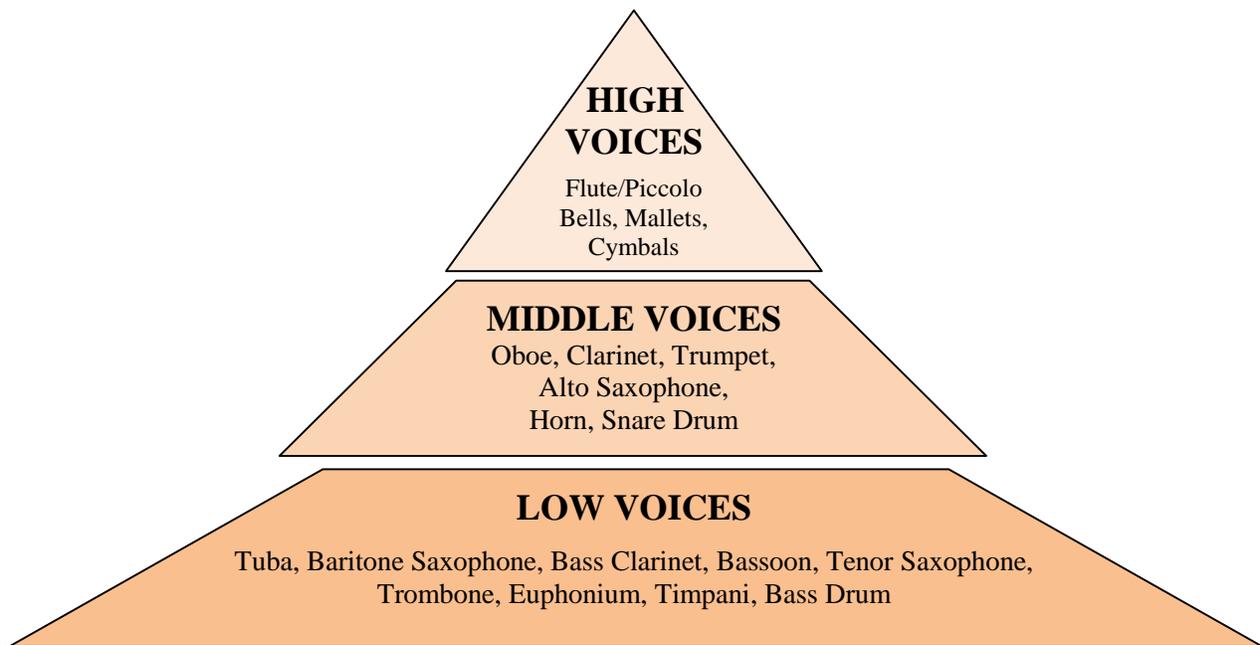
2. FADE 2. BEAD 3. FEED 4. BEEF 5. EDGE 6. FACE

Note: For additional note identification practice, please visit <http://www.musictheory.net/exercises>.

The “Pyramid of Sound”

Sam Houston

The “Pyramid of Sound” is a term that is used frequently by music directors. It is a term that, by its very nature, evokes a vivid image of a pyramid shape. This concept is used to teach, as well as reinforce, balance concepts within a musical ensemble. The goal of this structure is to have the low voices form the foundation of the full band sound. The middle voices will balance down to the low voices. Lastly, the high voices balance down to both the middle voices and the low voices.



For most full ensemble situations, the hierarchy of voices shown above is most desirable. The low voices in the band should have the strongest presence in the sound. They are the foundation on which the band’s tonal structure is built. Achieving this balance is important for a few different reasons.

- ❖ It gives the ensemble sound warmth and depth.
- ❖ It provides a pitch reference and a tonal center for the band.
- ❖ It allows lower voices to be heard, since lower frequencies are more difficult for the human ear to detect than higher frequencies.

As you can clearly see by looking at the diagram, low brass players are major contributors to the foundation of the “Pyramid of Sound”. You are an extremely valuable component in the overall band sound. As a low brass player, you should take pride in your contributions to the group and play with a confident sound. After all, can you imagine listening to music on a stereo with the bass turned all the way down? It would most certainly sound empty and hollow without the bass frequencies there to support the sound.

Brass Instruments & The Overtone Series



The one major thing that sets brass instruments apart from woodwind instruments (other than the obvious differences in shape and structure) is the fact that brass players can play several different notes with the same fingering or slide position. Woodwind players have numerous keys on their instrument. Generally speaking, a specific fingering played on a woodwind instrument will result in a specific pitch. Of course there are a few exceptions to this, but this generalization is made primarily to illustrate my next point.

Brass players who play valve instruments are limited to just 3 or 4 valves. On the trombone, there are only 7 slide positions. Therefore, brass players must develop a strong sense of control with their embouchure and air speed in order to move freely between the various partials in the overtone series.

The fundamental pitch of a brass instrument is determined by the length of its tubing. The characteristic sound of the instrument comes from the size of the opening in the tube, as well as the shape of the conical tubing or flare. (Williams, King)

All brass instruments have a combination of conical and cylindrical tubing. Conical tubing is that which gradually increases in diameter prior to reaching the instrument's bell, at which point the tubing flares out dramatically. The conical shape of the tubing helps to create a warm, mellow-sounding brass instrument. The euphonium and tuba are constructed in this manner, along with the horn.

Some brass instruments are primarily cylindrical in shape. This means that the diameter of the tubing remains relatively constant until it reaches the bell. This results in a brighter, more penetrating sound. The trombone is made this way, as well as the trumpet.



Euphonium



Tuba

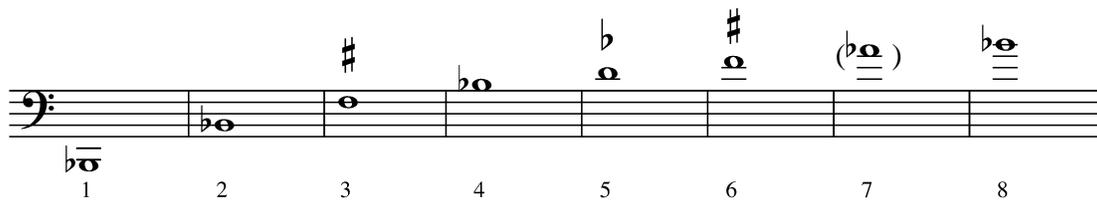


Trombone

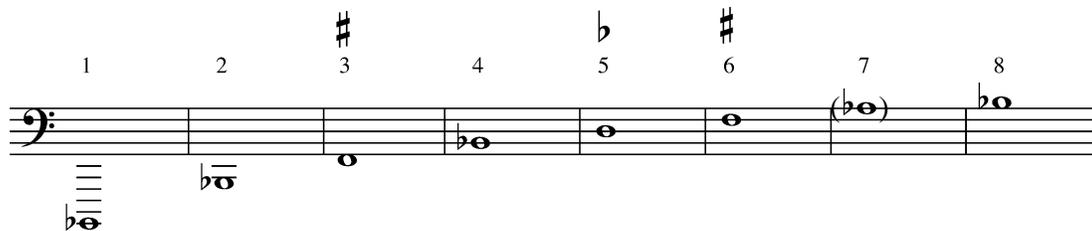


A natural overtone series is produced when the vibration of the lips causes air to enter the tubing of the instrument. The player can move higher or lower in the overtone series, without changing the fingering or slide position, by simply making adjustments in lip tension and/or air speed. This concept brings to the light the value of lip-slur exercises for all brass players.

Theoretically, the harmonic series is relatively endless. Therefore, we will look at notes that extend up to the 8th partial (or harmonic). This represents the most common range used in standard band literature. The diagram below shows the notes in the overtone series for an open valve combination on the euphonium. The series is the same for 1st position on trombone.



Here are the first 8 partials of the overtone series for the open valve combination on the tuba. Notice that the note pattern is identical. However, everything is written and played an octave lower.



There are a few pitch tendencies listed on the charts printed above. These tendencies are natural pitch tendencies. In other words, they are the way they exist in nature as part of the overtone series. The 3rd and 6th partials are, naturally, slightly sharp. The 5th partial is, naturally, moderately flat. The 7th partial is extremely flat and, for the most part, should be avoided. Simple pitch correction techniques can be used by the player to bring these partials into tune.

Hopefully, this gives you a nice concept of how brass instruments work. Of course, there are many more notes available to us beyond the notes shown above. In fact, there are six additional basic valve combinations or slide positions that we can explore. With each descending half-step move away from concert B-flat, we begin to unlock new overtone patterns by essentially lengthening the tubing on our instrument.

Breathing

As a wind player, you must realize that air is your most valuable commodity. Of course, there are several other physical factors involved with playing your instrument. But without a doubt, the single most important element in great tone quality is air.

Here is a great quote about the importance of breathing as a wind player.

“The number one musical reason you breathe is for your tone. Any other reason is secondary. This doesn’t mean the other reasons aren’t important, just that without your tone you have nothing else. No phrase, no crescendo, no forte, no legato, no staccato.....nothing. Develop your tone first and then learn to phrase, etc. Without a great tone, no one will really want to listen to you anyway, so breathe as often as you need for a great tone.”

Norlan Bewley - Low Brass Teacher, Performer, & Composer

It should come as no surprise, based on the emphasis placed on breathing for wind players, that there have been numerous writings on the subject over the years. There are numerous theories, techniques, and methodologies pertaining to the subject. Therefore, I will present just a few key points that will help simplify the topic for you.

- 1. Breathe through your mouth, not your nose.** This is a common symptom of players with a small, under-supported sound. Breathing through your nose results in a small, shallow breath – just the opposite of what you need for low brass playing.
- 2. Fill your lungs from the bottom up.** Picture the act of filling a glass with water. The water goes into the bottom of the glass first, and the top portion of the glass is filled last. The same principle applies when taking a full breath. A good way to practice this is to lay flat on your back. Take a sequence of deep breaths through your mouth. You should be able to see your stomach rise. If you continue to inhale until you are full of air, your upper lungs will also fill. You can then apply this breath from a seated position. Remain free of tension when you breathe, and avoid having an excessive amount of shoulder movement. A little shoulder movement is natural, but too much may be the result of unnecessary tension.
- 3. Control the exhale with your lower abdominal muscles.** This addresses the issue of breath support, and how we manage our breath. If we engage our core muscles, we can create a way to leverage the air out of our body as we exhale. We can effectively manage the amount of air we exhale, as well as the speed, when we have sufficient and steady support from the lower abdominal region.

The Trombone

Basic Instrument Facts

- ❖ Pitched in B-flat, an octave above the tuba (pitched in B-flat) and an octave below the trumpet (pitched in B-flat).
- ❖ Uses a slide to allow the player to change pitches by altering the length of the tubing.
- ❖ Cylindrical bore – tubing diameter remains relatively constant.
- ❖ Music generally written in concert pitch.
- ❖ Length of tubing – 9 feet.

Anatomy of the Trombone

For a detailed diagram of the trombone and its components (with and without the “F” trigger attachment), please refer to Appendix A.

Mouthpiece

Most beginners start with a Bach 12C mouthpiece. It has a medium cup with a medium-wide rim shape. It allows the player to produce a brilliant, crisp tone. It corresponds well with trombones that have small bore sizes.

After playing for a year or two, many players switch to a Bach 6.5 AL. This is the suggested mouthpiece for trombone and euphonium players in the SDA band program. The 6.5 AL has a medium-deep cup and a medium-wide, well-rounded rim shape. This slightly larger mouthpiece will facilitate better tone and more flexibility for most players. It is recommended for players who “desire a round, mellow tone of great carrying power and substantial volume.” (<http://www.bachbrass.com>)

While the 6.5 AL mouthpiece works well for most players, it may not be the perfect mouthpiece for you. Everyone’s lip and dental structures are unique. Therefore, certain mouthpieces may or may not be ideal for a given student. There are several mouthpiece manufacturers that produce quality alternatives to the Bach 6.5 AL. Make sure that the mouthpiece you are using is a comfortable fit for you. If this is the case, consult your teacher or a knowledgeable music dealer in the area.

The Main Slide

The slide is the main thing that differentiates the trombone from the rest of the wind instruments in the band. While most players only have to move a key a short distance, trombone players must deal with a slide whose length is virtually identical to that of a cello fingerboard. As you move from one slide position to the next, the distance increases slightly. Trombone players must do careful, meticulous practice to learn exactly where each slide position is located.

It is critical to ensure that the slide is moving freely. A slide that has dents, or is out of alignment, will make playing very difficult.

“Playing with a poor slide is like riding a bike with a flat tire.”
Michael Levine, Dallas Brass Trombonist

It is important to be very careful when holding and carrying the trombone. The slide is made out of the lightest metal of any musical instrument, ranging from .007 to .012 of an inch thickness. This is only 3 or 4 times the thickness of a human hair!

A good way to test the slide is to hold it with the water key facing the ground. Make sure that you always hold the slide by the second brace (the one closest to the slide). With your other hand, open the slide lock. Guide the slide downward, letting gravity do its thing. If it makes a smooth, uninterrupted descent, your slide is most likely in great shape for playing. If it sticks a bit, try a slide lubricant such as “Slide-O-Mix”.



The Tuning Slide

The tuning slide is located at the top of the instrument. It is important to make sure that the tuning slide is always able to move freely. Apply a small amount of slide cream, as needed, with your finger. Move the tuning slide in and out a few times to spread the lubricant.

When tuning, use a 4th line concert “F” pitch. Make sure that you play with a full, centered sound. If your pitch is sharp, pull the main tuning slide out. If it is sharp, push the main tuning slide in.

The Water Key

Press the water key to open the valve. Hold your instrument in such a way that gravity will allow most of the condensation to drip out of the water valve. If necessary, use some air to get rid of any excess condensation in the instrument's tubing.

The "F" Trigger Attachment

Some trombones have an "F" trigger attachment. These instruments have an additional 3 feet of tubing. This extends the low range of the instrument. When this rotary valve attachment is used, the instrument's fundamental pitch is lowered from B-flat to F. Notes played with the trigger will sound a perfect 4th lower than written. Trigger positions are available in your method book.

Forming the Embouchure

- ❖ Corners of the mouth firmed exactly where they are on an expressionless face. Lips should be somewhere between a smile and a kiss.
- ❖ Degree of tension in corners remains the same in different registers; corners do not move once they are set.
- ❖ Place mouthpiece on center of lips, with approximately one half on the upper lip and one half on the lower lip. *Note: Many trombone players play with a bit more upper lip than lower lip in the mouthpiece.*
- ❖ Mouthpiece pressure should be enough to establish the area that will be vibrating. Excess pressure will cause several different problems, such as:



- Reduced range and endurance.
 - Strained, edgy tone quality.
 - Aperture that is too open, making it difficult to play in the upper register.
- ❖ Throat will be open, in an "O" shape. A good tonal concept for low brass players will sound a lot like singing an "O" vowel. Strive for a dark, round, resonant tone.

Mouthpiece Buzzing

In basic terms, brass instruments serve as amplifiers for what happens on the mouthpiece. You should work hard to get comfortable with your mouthpiece, and develop a solid buzz. Work to find your “sweet spot”. Play various melodic patterns on your mouthpiece. Even short, periodic practice sessions on your mouthpiece will go a long way. Here are a few ideas:

- ❖ Make up songs.
- ❖ Play lip-slur exercises in your book.
- ❖ Bend notes up or down by changing the size of your aperture (hole between the vibrating lips that the air passes through)

How much mouthpiece buzzing is necessary in a day or practice session? It is probably best to limit your continuous buzzing activity to 3 minutes at a time. However, you can repeat your buzzing activities throughout the day in short spurts to see big gains in your progress.

Assembling the Trombone

- ❖ Place the case on the floor, not on a chair.
- ❖ Pick up the slide section first. Hold it in your left hand.
- ❖ Gently place the bell section on the slide and bring to proper width from slide – carefully! The two sections should form a 90-degree angle.
- ❖ Screw the two sections together.
- ❖ Gently set the mouthpiece into the mouthpiece receiver and turn until it is secure.

Holding the Trombone

- ❖ Left hand – Make a “gun” with the left hand. Index finger should rest over the top of the trombone. Thumb should rest over the brace of the bell, or on the trigger if available. The other fingers should grasp the first brace of the slide. Support the entire weight of the trombone with the left hand.
- ❖ Right hand – Hold the bottom of the brace of the slide with two fingers and the thumb. The third and fourth fingers should be curled into your palm. Make sure that the palm faces in.



Left Hand

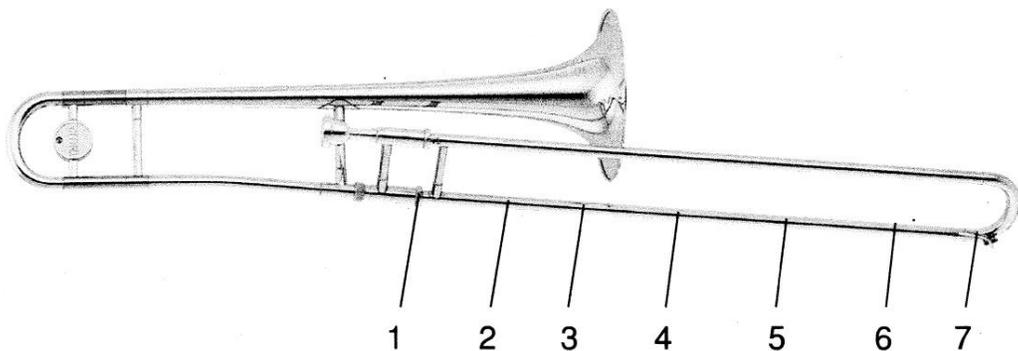


Right Hand

- ❖ Bring the instrument up to the “sweet spot” of your embouchure. NEVER move your head or body to meet the instrument.
- ❖ Elbows should be held out slightly away from the body.
- ❖ The trombone will probably have a slight downward angle.
- ❖ Do not lean the head off to one side.
- ❖ Sit up straight at the edge of your chair; chin level, feet on floor.
- ❖ Music stand should be to right of your slide AND bell. Every trombone player must have his/her own stand.



Slide Positions



Slide Position Practice

The following information is provided courtesy of Michael Levine’s clinic, presented on July 20, 2011 at the American Band College of Sam Houston State University. The information has been paraphrased in an effort to present the information in a concise manner.

Most students who struggle with a piece of music are probably not comfortable with the slide positions. There are some activities that students can do, both away from the trombone as well as with the trombone, to prepare the brain to handle the music. If the brain knows what to do, the arm will then be able to respond accurately and as desired.

Practicing Positions Away from the Trombone:

Step 1a: Say the positions out loud in even time (ignore the rhythm). Do this slowly enough so that there is NO HESITATION!

Step 1b: Repeat this step with the note names (in even time, ignoring rhythm, no hesitation).

Step 2: Say rhythms out loud, using counting syllables.

Step 3: Say positions with correct rhythm. It is even more beneficial if the student can SING the pitches while saying the numbers.

Step 4: Repeat step 3 and move hand to general position (“ghosting positions”). This can be incorporated throughout from Step 1, if desired.

Practicing Positions with the Trombone:

Step 5: Add the slide. Student should now hold the trombone and move the slide while repeating Step 3.

Step 6: Play.

Syncing the Slide

This segment is also provided courtesy of Michael Levine’s trombone clinic at the American Band College in 2011. The information below is presented in its entirety, exactly as it was presented in the clinic.

Syncing the Slide:

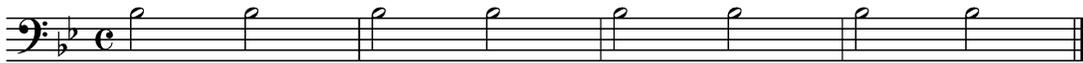
Often with younger players the slide is **late** getting to the position, and as a result a glissy sound is produced. Have the student separate the slide movement from the note. In other words, practice getting to the position *before* playing the note, as in the following exercise:

Play Move Play Move Play Move Play Move Play Move Play Move Play Move Play Move

One benefit of this exercise is that the student will begin to hear the notes played cleanly (without a gliss). Once the exercise has been mastered, the student should take out the rests, so that the slide movement and the articulation are once again simultaneous.

Sustained playing is the *most* challenging for the young trombonist, because we only have as long as it takes to tongue the next note to move the slide to the next position.

First, take the slide out of the mix and have the student play:



One of the great analogies – used by many great teachers – is to think of flicking your finger through a stream of water pouring from the faucet. If a sink or drinking fountain is convenient, have the student do this!

Next, begin adding slide moves of just ONE position. Be sure the student matches the sound from STEP ONE. No gliss!



Continue with 2nd to 3rd; 3rd to 4th; etc.

Here are a couple of great exercises to expand the slide movement. Do both tongued and slurred.



Basic Exercises

The next sequence of exercises has been excerpted from Gail Wilson's article "So You Want More Low Brass Players: Starting Low Brass Students", published in *Bandworld* magazine in 2008.

These versions of "Mary Had a Little Lamb" provide an easy way for a beginning trombonist to practice slide positions. They are also good for practicing intonation and pitch center because the melody is very simple.

Notes in 6th position can be played in 1st position with the trigger. Similarly, notes in 7th position can be played in 2nd position with the trigger. If you have a trigger, it is a good idea to practice the exercises with and without the trigger. That way, you will be able to handle a glissando that goes down to a 6th or 7th position note.

Version 1: "1-3-5 Song"

Two staves of musical notation in bass clef, 4/4 time. The first staff contains the first four measures of the exercise, and the second staff contains the next four measures. Fingerings are indicated by numbers 1, 3, 5, and 3 below the notes.

Version 2: "2-4-6 Song"

Two staves of musical notation in bass clef, 4/4 time. The first staff contains the first four measures of the exercise, and the second staff contains the next four measures. Fingerings are indicated by numbers 2, 4, 6, and 4 below the notes.

Version 3: "3-5-7 Song"

Two staves of musical notation in bass clef, 4/4 time. The first staff contains the first four measures of the exercise, and the second staff contains the next four measures. Fingerings are indicated by numbers 3, 5, 7, and 5 below the notes.

Note the C-flat on beat 3. This is enharmonically the same as B-natural. Enharmonic notes are those that sound the same, but are spelled differently.

Additional Practice Exercises

It is important to practice long-tones, lip-slurs, and scales with regularity. There are several such exercises in the method book. Be sure to practice these with a full sound. Don't worry too much about dynamics when you are in the process of developing a characteristic tone on the trombone. There will be plenty of time for that later!

It is also important for low brass players to play melodies. Low brass parts do not carry the melody very often. If you can find a series of simple melodies written for your instrument, play those melodies. You can also develop your ear training skills by attempting to figure out melodies for popular songs. This can be a fun way to break up your practice sessions.

Instrument Maintenance

It is important to do regular maintenance on your trombone. There are many different things that can adversely affect the performance of your instrument. For detailed information on maintenance, please refer to Appendix A.

The Euphonium

Basic Instrument Facts

- ❖ Pitched in B-flat, an octave above the tuba (pitched in B-flat) and an octave below the trumpet (pitched in B-flat).
- ❖ Uses 3 or 4 valves (usually piston valves) to allow the player to change pitches by altering the length of the tubing.
- ❖ Conical bore – tubing diameter increases gradually.
- ❖ Music generally written in concert pitch.
- ❖ Length of tubing – 9 feet.



Anatomy of the Euphonium

For a detailed diagram of the euphonium and its components, please refer to Appendix B.

Euphonium vs. Baritone

For the most part, the euphonium is very similar to the baritone horn. The primary difference exists in the tubing diameter, which is slightly smaller on the baritone. The baritone's tubing is primarily cylindrical, while the tubing on the euphonium is primarily conical. The bell may also be slightly smaller on the baritone. Both instruments are pitched the same way. Some baritone parts are written in treble clef, a very common practice in British brass bands. The euphonium pictured above is slightly different than those used in the SDA band program. The compensating 4th valve is positioned on the side of the instrument, rather than next to the 3rd valve. It is played with the left index finger rather than the right pinky finger.

Mouthpiece

The preferred mouthpiece for euphonium players in the SDA band program is the Bach 6.5 AL. The 6.5 AL has a medium-deep cup and a medium-wide, well-rounded rim shape. This mouthpiece will facilitate better tone and more flexibility for most players, in contrast to smaller alternatives. It is recommended for players who “desire a round, mellow tone of great carrying power and substantial volume.” (<http://www.bachbrass.com>)

While the 6.5 AL mouthpiece works well for most players, it may not be the perfect mouthpiece for you. Everyone's lip and dental structures are unique. Therefore, certain mouthpieces may or may not be ideal for a given student. There are several mouthpiece manufacturers that produce quality alternatives to the Bach 6.5 AL. Make sure that the mouthpiece you are using is a comfortable fit for you. If this is the case, consult your teacher or a knowledgeable music dealer in the area.

Valves

The euphoniums in our program have 4 valves, while our baritones have 3 valves. The valves are played with the right hand. The 4th valve on the euphonium allows for some alternate fingerings, the most common being the substitute of 4th valve for the 1 and 3 combination for intonation purposes. It also extends the low range of the instrument by adding additional tubing.

The valves are all piston valves that move in an up and down motion. The air is then redirected through additional tubing, thereby lengthening the amount of tubing. This allows the player to reach the notes of various harmonic series. The order of valve tubes, from shortest to longest, is as follows: 2, 1, 3, 4.

Here is the sequence of valve combinations, in descending chromatic order. The pattern is presented in this order to demonstrate how the instrument's tubing length is gradually expanded.

0 2 1 1 2 2 3 1 3 1 2 3

The Water Key

Press the water key to open the valve. Hold your instrument in such a way that gravity will allow most of the condensation to drip out of the water valve. If necessary, use some air to get rid of any excess condensation in the instrument's tubing.

Forming the Embouchure

- ❖ Corners of the mouth firmed exactly where they are on an expressionless face. Lips should be somewhere between a smile and a kiss.
- ❖ Degree of tension in corners remains the same in different registers; corners do not move once they are set.
- ❖ Place mouthpiece on center of lips, with approximately one half on the upper lip and one half on the lower lip. *Note: Many euphonium players play with a bit more upper lip than lower lip in the mouthpiece.*



- ❖ Mouthpiece pressure should be enough to establish the area that will be vibrating. Excess pressure will cause several different problems, such as:
 - Reduced range and endurance.
 - Strained, edgy tone quality.
 - Aperture that is too open, making it difficult to play in the upper register.
- ❖ Throat will be open, in an “O” shape. A good tonal concept for low brass players will sound a lot like singing an “O” vowel. This keeps the tongue down, thereby preventing the obstruction of air flow. Strive for a dark, round, resonant tone.

Mouthpiece Buzzing

In basic terms, brass instruments serve as amplifiers for what happens on the mouthpiece. You should work hard to get comfortable with your mouthpiece, and develop a solid buzz. Work to find your “sweet spot”. Play various melodic patterns on your mouthpiece. Even short, periodic practice sessions on your mouthpiece will go a long way. Here are a few ideas:

- ❖ Make up songs.
- ❖ Play lip-slur exercises in your book.
- ❖ Bend notes up or down by changing the size of your aperture (hole between the vibrating lips that the air passes through)

How much mouthpiece buzzing is necessary in a day or practice session? It is probably best to limit your continuous buzzing activity to 3 minutes at a time. However, you can repeat your buzzing activities throughout the day in short spurts to see big gains in your progress.

Getting Ready to Play

The euphonium is ready to play, right out of the case. Essentially, there is no assembly required to get going. However, here are a few important things to consider:

- ❖ Place the case on the floor, not on a chair.
- ❖ Be sure to pick up the instrument by the thickest sections of tubing. Avoid grabbing the instrument by the valve casings, as these tend to be more fragile and susceptible to damage.
- ❖ Gently set the mouthpiece into the lead pipe and turn until it is secure.

Holding the Euphonium

- ❖ From a seated position, bring the euphonium up to you so that the mouthpiece rests in the “sweet spot” of your embouchure.
- ❖ **Never** adjust your head or body to accommodate the instrument. You may need to use a small, folded towel to allow the instrument to reach the proper height.

- ❖ Left hand - The job of the left hand is to hold the instrument in place. You can reach all the way across the front of the instrument, as if you are hugging the instrument with your left arm. If your arms are on the shorter side, you can support the instrument by holding the near side of the instrument. In each case, the hand should be placed on the outside of the instrument. Use a firm grip that is free of tension.
- ❖ Right hand – The valves are played with the index, middle, and ring fingers (pinky also for 4th valve). Fingers should be comfortably and naturally curved. The pads of the fingertips should remain on the valve caps when in the resting position. Avoid playing with flat fingers. This limits technical facility, as well as causing uneven wear on the valve mechanism.



Fingering Practice

There are some great practice techniques that can be used away from the instrument. Here are few exercises you can do to train your brain, while resting your chops.

- ❖ Name the notes on your part, while doing the fingerings with your right hand.
- ❖ Count the rhythms in the music using rhythm syllables, while doing the fingerings with your right hand.
- ❖ Sing your part while doing the fingerings with your right hand.

Additional Practice Exercises

It is important to practice long-tones, lip-slurs, and scales with regularity. There are several such exercises in the method book. Be sure to practice these with a full sound. Don't worry too much about dynamics when you are in the process of developing a characteristic tone on the trombone. There will be plenty of time for that later!

It is also important for low brass players to play melodies. Low brass parts do not carry the melody very often. If you can find a series of simple melodies written for your instrument, play those melodies. You can also develop your ear training skills by attempting to figure out melodies for popular songs. This can be a fun way to break up your practice sessions.

Instrument Maintenance

It is important to do regular maintenance on your euphonium. There are many different things that can adversely affect the performance of the instrument. For a detailed handout on maintenance, please refer to Appendix B.

The Tuba

Basic Instrument Facts

- ❖ Pitched in B-flat, an octave below the euphonium and trombone (pitched in B-flat), and 2 octaves below the trumpet (pitched in B-flat).
- ❖ Uses 3 or 4 valves (usually piston valves) to allow the player to change pitches by altering the length of the tubing.
- ❖ Conical bore – tubing diameter increases gradually.
- ❖ Music generally written in concert pitch.
- ❖ Length of tubing – 18 feet.



Anatomy of the Tuba

For a detailed diagram of the tuba and its components, please refer to Appendix B.

Mouthpiece

There are 2 preferred mouthpieces for tuba players in the SDA band program. They are the Bach 18 and the Bach 24AW. The Bach 18 has a deep cup with a medium-wide rim shape. This mouthpiece is recommended for its volume and versatility. It is a great mouthpiece for all-around work. It has an even high register, and allows for a “substantial tone of excellent carrying power.” (<http://www.bachbrass.com>)

The 2nd option is the 24AW. This mouthpiece has a deep cup with a wide, well-rounded rim. It is “an excellent mouthpiece whenever a sonorous, dark tone quality of enormous volume is desirable.” (<http://www.bachbrass.com>)

While the options presented here are very common in school band programs, they may not be the perfect mouthpiece for you. Everyone’s lip and dental structures are unique. Therefore, certain mouthpieces may or may not be ideal for a given student. There are several mouthpiece manufacturers that produce quality alternatives to the models described above. Make sure that the mouthpiece you are using is a comfortable fit for you. If this is the case, consult your teacher or a knowledgeable music dealer in the area.

Valves

The tubas in our program have 4 valves. The valves are played with the right hand. The 4th valve allows for some alternate fingerings, the most common being the substitute of 4th valve for the 1 and 3 combination for intonation purposes. You can also use 2 and 4 as a substitute for 1, 2, and 3. Essentially, the 4th valve extends the low range of the instrument by adding additional tubing to the instrument.

Piston valves that move in an up and down motion are the most common in our instrument library. We have one tuba that uses rotary valves. When a valve is pressed down, air is redirected through additional tubing, thereby lengthening the amount of tubing. This allows the player to reach the notes of various harmonic series. The order of valve tubes, from shortest to longest, is as follows: 2, 1, 3, 4.

Here is the sequence of valve combinations, in descending chromatic order. The pattern is presented in this order to demonstrate how the instrument's tubing length is gradually expanded.

0	2	1	12	23	13	123
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The Water Key

Press the water key to open the valve. Hold your instrument in such a way that gravity will allow most of the condensation to drip out of the water valve. If necessary, use some air to get rid of any excess condensation in the instrument's tubing.

Forming the Embouchure

- ❖ Form an “oh” shape with your mouth. Gradually change this to an “oo” shape. This will put the lips in the correct position.
- ❖ Grasp a small pen in the center of your lips. This will form a focal point for the aperture (hole through which the air will pass through the vibrating lips), and bring the corners of the mouth to a firm set position.
- ❖ Corners of the mouth firmed exactly where they are on an expressionless face.
- ❖ Degree of tension in corners remains the same in different registers; corners do not move once they are set.
- ❖ Place mouthpiece on center of lips, with approximately one half on the upper lip and one half on the lower lip.
- ❖ Mouthpiece pressure should be enough to establish the area that will be vibrating. Excess pressure will cause several different problems, such as:
 - Reduced range and endurance.
 - Strained, edgy tone quality.
 - Aperture that is too open, making it difficult to play in the upper register.
- ❖ Throat will be open, in an “O” shape. A good tonal concept for low brass players will sound a lot like singing an “O” vowel. This keeps the tongue down, thereby preventing the obstruction of air flow. Strive for a dark, round, resonant tone.
- ❖ Do not puff your cheeks out when playing. Puffing the cheeks will result in a loss of embouchure set and control.



Mouthpiece Buzzing

In basic terms, brass instruments serve as amplifiers for what happens on the mouthpiece. You should work hard to get comfortable with your mouthpiece, and develop a solid buzz. Work to find your “sweet spot”. Play various patterns on your mouthpiece. Even short, periodic practice sessions on your mouthpiece will go a long way. Here are a few ideas:

- ❖ Make up songs.
- ❖ Play lip-slur exercises in your book.
- ❖ Bend notes up or down by changing the size of your aperture.

How much mouthpiece buzzing is necessary in a day or practice session? It is probably best to limit your continuous buzzing activity to 3 minutes at a time. However, you can repeat your buzzing activities throughout the day in short spurts to see big gains in your progress.

Getting Ready to Play

The tuba is ready to play, right out of the case. Essentially, there is no assembly required to get going. However, here are a few important things to consider:

- ❖ Place the case on the floor, not on a chair.
- ❖ Be sure to pick up the instrument by the thickest sections of tubing. Avoid grabbing the instrument by the valve casings, as these tend to be more fragile and susceptible to damage. Pulling the instrument up gently by the bell is OK.
- ❖ Gently set the mouthpiece into the lead pipe and turn until it is secure.

Holding the Tuba

- ❖ From a seated position, bring the tuba up to you so that the mouthpiece rests in the “sweet spot” of your embouchure.
- ❖ **Never** adjust your head or body to accommodate the instrument. You may need to use a small, folded towel to allow the instrument to reach the proper height.
- ❖ Left hand - The job of the left hand is to hold the instrument in place. You can accomplish this by curling your arm around the outside of the instrument, while placing your left hand on the first valve slide. That way, you can pull the first valve slide on notes that are sharp.



- ❖ Right hand – The valves are played with the index, middle, and ring fingers (pinky also for 4th valve). Fingers should be comfortably and naturally curved. The pads of the fingertips should remain on the valve caps when in the resting position. Avoid playing with flat fingers. This limits technical facility, as well as causing uneven wear on the valve mechanism.

Fingering Practice

There are some great practice techniques that can be used away from the instrument. Here are few exercises you can do to train your brain, while resting your chops.

- ❖ Name the notes on your part, while doing the fingerings with your right hand.
- ❖ Count the rhythms in the music using rhythm syllables, while doing the fingerings with your right hand.
- ❖ Sing your part while doing the fingerings with your right hand.

Additional Practice Exercises

It is important to practice long-tones, lip-slurs, and scales with regularity. There are several such exercises in the method book. Be sure to practice these with a full sound. Don't worry too much about dynamics when you are in the process of developing a characteristic tone on the trombone. There will be plenty of time for that later!

It is also important for low brass players to play melodies. Low brass parts do not carry the melody very often. If you can find a series of simple melodies written for your instrument, play those melodies. You can also develop your ear training skills by attempting to figure out melodies for popular songs. This can be a fun way to break up your practice sessions.

Instrument Maintenance

It is important to do regular maintenance on your tuba. There are many different things that can adversely affect the performance of the instrument. For a detailed handout on maintenance, please refer to Appendix B.

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