Fall 12-2019

Developing Musicians Out of Instrumentalists: A Comprehensive Guide to Improve Intonation Skills in Intermediate Band

Andrew Bryant Smith

DEVELOPING MUSICIANS OUT OF INSTRUMENTALISTS: A COMPREHENSIVE GUIDE TO IMPROVE INTONATION SKILLS IN INTERMEDIATE BAND

by

Andrew Smith

Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Music Education
at
Lindenwood University

Andrew Smith

Author

Dr. Ryan Curtis

Committee chair

Professor Pam Grooms

Committee member

Dr. Katherine Herrell

Committee member

DEVELOPING MUSICIANS OUT OF INSTRUMENTALISTS: A COMPREHENSIVE GUIDE TO IMPROVE INTONATION SKILLS IN INTERMEDIATE BAND

A Thesis Submitted to the Faculty of the Music Department
in Partial Fulfillment of the Requirements for the
Degree of Master of Music Education
at
Lindenwood University

By

Andrew Bryant Smith

Saint Charles, Missouri

December 2019

Abstract

This project will focus on the fundamental skills taught in an intermediate band program and assess skills needed to enhance their musicianship. One of the primary musical components studied is the development of individual and group intonation by utilizing a more concrete focus on the development of fundamental skills associated. The final deliverable focused on the fundamental skills needed to improve intonation. The guide will also include a compilation of instrument-specific strategies and tendencies having to do with the development of the skills outlined.

Acknowledgements

First of all, I would like to thank my family for their support in my adventures in pursuing this degree. They have been patient with my late nights at school and have been flexible with time I spent at home on my research and project. I would also like to thank the entire music staff at Lindenwood University (past and present) that helped guide me along the way, from undergrad to now. As a student, you don't realize what you learn will benefit you at some point in your career. I appreciate you pushing me to my fullest potential even when I wasn't so successful in doing so. I learned a great deal from my pitfalls and struggles.

I would also like to specifically thank my advisor and committee members (Dr. Herrell, Dr. Curtis, and Professor Grooms) that helped guide me through my graduate studies. Lastly, I would like to thank my Grandma and Grandpa Myers, who passed away during my undergrad. Without their love and support throughout my musical journey, I wouldn't be doing what I am today. They taught me that anyone can be anything they set their mind to, even if your path has already been set.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

Introduction

In my experience as a middle school band director, there are certain areas of musicianship that my students struggle with year after year. Most band method books I have come across teach the basics of playing an instrument. The books teach note reading, fingerings or slide positions, rhythm, style, and a few other fundamental skills, but that is the basis of a method book. In my experiences as an educator, there has not been a book that teaches all of the fundamental skills required to become a musician. The method books are teaching students how to be instrumentalists rather than teaching our instrumentalists to be musicians. Knowing how to play an instrument in an ensemble or sing in a choir, is only part of the equation. In my experiences, one skill that separates a musician apart from an instrumentalist is their ability to listen and make changes to enhance the sound of themselves or others.

Developing a musical ear is a skill that, when well developed, can enhance the quality of any music program. By developing the ear, musicians will be able to use their ears to fix common problems regarding intonation with themselves and others as well as develop skills that can be applied to almost any aspect of playing a musical instrument.

The purpose of the research is to identify common issues regarding intonation, how to fix those problem areas, and develop exercises for improving intonation in an intermediate band setting. According to Merriam-Webster, intonation is "the ability to play or sing notes in tune." Intonation is one of the areas musicians struggle to get right. Colson (2012) stated "Intonation will be an ongoing concern for most bands" (p. 446). According to Geringer et. Al. (1999), "Learning to play in tune is of paramount importance in instrumental music education" (p. 135). By developing a comprehensive approach to teaching tuning and intonation, students will understand what it means to be in tune not just as an individual, but also as a whole. It is a goal

of music educators to teach all the skills necessary for their students to be able to play in tune. Many experts in the field of music education believe that the development of fundamental skills and the training of our ears are vital components that lead to better intonation (Jagow, 2012; Pearson and Nowlin, 2011).

This project will use guides, exercises, and warmups geared towards improving intonation in novice instrumentalists. Directors can improve the intonation of their ensembles using a variety of methods. These methods include, but are not limited to, individual and group tuning exercises using unison pitches, as well as common intervals, singing and aural training, development of fundamental skills, and knowledge of instrument tendencies (Ward and Hancock, 2016; Juchniewicz et al., 2014; Singletary, 2018). Based on the research conducted, focusing on some basic fundamentals daily can help improve tuning and intonation of individuals and the ensemble.

Literature Review

The question many band directors ask is, "how can I get my band to play in tune?" Both Fraser Linklater (1995) and Ronald Kearns (2011) believe, in order to have good musicianship and band performances, intonation is one of the most important skills to learn. It starts with a basic the ability to listen. Students need to know what they are listening for and how to adjust (Jagnow, 2012; Rush et al., 2014). One of the biggest factors that affects intonation in younger ensembles is the ability to control their individual tone on their instrument (Rush et al., 2014, Colson, 2012, Jagow, 2012, and Garofalo, 1996).

Fundamental Skills

It goes without saying that fundamental skills are necessary in order to produce a musical sound whether instrumentally or vocally. Teaching and focusing on these fundamental skills sets

the foundation for formulating a great blended sound when done properly. According to Singletary's (2018) research, the top three fundamental skills taught in middle school band are posture/instrument carriage, tone quality, and air/breathing. While the pool for the research was from thirty middle schools, it reflects the core skills needed in order to produce a fundamental sound on an instrument (Jagow 2012, 2007; Garfalo 1996; Singletary 2018; Rush, Scott, Wilkinson 2014).

Breathing and air support.

Breathing is an essential part of playing and singing, as it is in everyday life. Breathing and posture work hand-in-hand when playing or singing. Correct posture leads to more controlled breathing, which in turn leads to better tone and intonation (Millican, 2013; Shoebridge, 2017). As cited in Sehmann's study (2000, pg. 137), Dennis Wick, a professional trombonist, stated "the respiration process is mentioned as the most important physical aspect of playing an instrument." "Breathing directly affects intonation, articulation and diction, vibrato, dynamic level and intensity of the tone as a well as phrasing, accents, and other aspects of musical expression" (Kohut, 1985, pg. 163).

In 2000, a conducted a study on the effects of breath management on the performance of elementary brass players aimed at collecting data based on their lung capacity and breathing technique. Sehmann chose to test 61 students, grouped by instrument class, and assigned them to control and experimental (breath management instruction) groups. Each group received a thirty-minute lesson once a week for sixteen weeks. The first week for each group consisted of preliminary testing. The experimental group received a total of ten weeks of breath management instruction which was grouped in 5-week increments, with a 4-week period of solo and ensemble preparation in between, and ending with post testing.

During the first phase of breathing instruction, the instructors taught techniques related to posture. The following lesson included the teaching of the diaphragmatic/abdominal breathing. The second phase included lessons to help improve the exhale portion of the breathing process. Only 5-7 minutes of breathing instruction was used in a 30-minute lesson per week for the control group. The results of this study showed "breath management instruction was effective in improving both breathing and performance aspects of brass playing" (Sehmann, 2000, pg. 144).

As Shelley Jagow expressed (2012), one of the many causes for poor intonation is a lack of breath support. In order for any given pitch to be sounded, a proper breath must be taken. A proper breath, as explained by Arnold Jacobs (teacher, musician), is produced by inhaling with the shape of an "Oh" or "Ah", which will help induce a relaxed breath while avoiding a gasping sound (Reynolds, 2013). One of Jacobs' teaching principles was, "One must take a sufficient quantity of air into the lungs and make efficient use of it when blowing" (Irvine, 2009, pg. 87).

Posture.

According to Mark Laycock (2012), "Correct posture and position are essential if students are to play in tune" (p. 29). Posture goes way beyond just playing in tune though. There is a reason it was the number one fundamental skill in Singletary's research. According to Ann Shoebridge, "Posture influences music technique, and poor posture is associated with performance-related problems in musicians" (p. 811). Sitting with proper posture allows musicians the ability to play with an open and relaxed airway. Proper posture helps establish a foundation for skills such as clear tone, phrasing, intonation, and focus. Chad Criswell (2008) believes proper posture and breathing should be the core fundamental in any intonation program. Criswell also stated, "Without good breath support, posture, and embouchure control, dealing with the nuances of intonation is not possible" (p. 65).

In Scott Rush's book, his take on basic set-up for good posture when seated is as follows:

- Students should have their feet flat on the floor approximately shoulder width apart.
- Students should be seated on the front part of the chair.
- Students should have their backs straight, with shoulders down and relaxed.
- Students should feel a bit lifted as if someone had a string on top of their head and was gently pulling it up and slightly forward; this allows for relaxed breathing and reinforces the notion of getting the ribs off of the lungs.
- Students should bring the instrument to their embouchure from this posture and should not manipulate their body to fit the instrument; this means that the instrument may need to be adjusted.
- Students should be looking at the center of the music stand; if a lead pipe is involved, it should point directly to the center of the music stand.
- Students should adjust the music stand so they can see the conductor over the top of the stand without doing any other manipulation; this usually means raising the stand (Rush, Scot, Wilkinson, 2014, p. 84).

According to Jagow (2007), poor posture is a culprit of musical skills such as tone quality, pitch accuracy, and intonation. Poor posture leads to poor tone, which in turn leads to poor pitch, and intonation (Jagow, 2012).

Embouchure.

In *The Musical Instrument Desk Reference* "embouchure refers to the position of the lips and facial muscles when playing a wind instrument" (Pagilaro, 2012, pg. 28). Each instrument requires a certain shape and position of lip and facial muscles in order to produce a good quality sound or tone quality. The embouchure can directly affect intonation and pitch accuracy of a

note (Colson, 2012). Without a solid embouchure, good intonation and tone can-not be achieved. "On any wind instrument, an embouchure too tight will cause the pitch to play sharp, and an embouchure too loose will cause the pitch to play flat" (Jagow, 2012, pg. 99).

Woodwind instruments. Sound on a woodwind instrument is produced one of two ways. On flute, air is blown across the head joint and is then amplified as it enters the tone hole. On instruments such as the clarinet and saxophone, a reed is fixed onto the mouthpiece and the player produces sound by blowing air through the mouthpiece which allows the reed to resonate (Pagliaro, 2012). "A correctly developed embouchure is imperative for the progress of quality tone and centered pitch" (Jagow, 2012, pg. 72). On woodwind instruments specifically, the development of the embouchure can be checked by monitoring what pitch is sounded on their mouthpiece or head joint (see Table 1). Jagow recommended that woodwind instrumentalists should check the pitch of their mouthpiece frequently.

Recommended Pitch Production

Instrument	Concert pitch on mouthpiece/reed alone
Flute	A on stopped or open head joint
Clarinet	C on mouthpiece
Bass Clarinet	F# on mouthpiece
Alto Saxophone	A on mouthpiece
Tenor Saxophone	G on mouthpiece
Bari Saxophone	D or D# on mouthpiece

Table 1. Recommended pitch production on mouthpiece/reed Alone. From Developing the Complete Band Program, by Shelley Jagow, 2007.

Brass instruments. Forming an embouchure on brass instruments is different than that of a woodwind instrumentalist. "To produce a tone on a brass instrument, buzz moistened lips into a cup-shaped mouthpiece with the upper lip producing the primary buzz" (Pagliaro, 2012, pg.

88). While there are many opinions on the placement of the lips on the mouthpiece, it is an agreement among experts that placement is unique to each embouchure and is determined by player (Pagliaro, 2012).

Tone quality.

Beth Bronk (2010), stated, "the fastest way to make an ensemble sound better is to teach each student to perform with good characteristic tone quality" (p. 15). Tone is essentially the quality of sound that is produced by an instrument. When tone development is paired with singing and ear training, pitch and other musical concepts fall into place (Linklater, 1995).

When it comes to tone quality, each student and ensemble is different. Students must first create their own individual idea of tone according to Arnold Jacobs (Irvine, 2009). Jacobs also believed that a musicians' tone is only as beautiful as the sound they create in their head. Listening to and modeling their sound after the greats on their particular instrument is a good way to develop your ideal tone (Irving, 2009). "Taking the time to define a band's tone improves the chances of satisfaction with the product" (Fonder, 1998, pg. 24). By defining a band's tone, the director then has the chance to challenge the ensemble, and set goals for the students and the ensemble. According to J. Si Millican's research (2014), the top two causes of sound or tone quality problems, as identified by participants, were the result of a weak embouchure, or lack of air support.

Singing and Ear Training.

One method of teaching intonation is by developing their pitch recognition using singing and ear training exercises (Colson, 2012). Shelley Jagow (2007) believes establishing a routine with singing in rehearsal is an effective method to not only improve tone and intonation, but also pitch recognition when the same passage is played after it is sung. In Jagow's findings,

instrumental groups who make singing a part of their routine have a more mature tone quality and enhanced intonation recognition than those who do not sing as part of a routine. Robert Garofalo (1996) recommends singing with your ensemble as a warm-up for three to five minutes daily. According to Garofalo, "Singing is without question the single most powerful way to develop good intonation and musical expression" (p. 75).

In relation to singing in rehearsals, Colleen Conway (2003) and Warren Haston (2016) believe students should learn the auditory skills aligned with playing an instrument before students make their first sound. Haston aligns singing his students' first sound with a moveable *do* in relation to the pitch a particular instrument starts. He then has them sing and finger along the exercise, as if the sound were coming out of their instruments. "The goal (of singing in rehearsal) is to connect ears and fingers and eyes" (Haston, 2006, p.27).

According to a study conducted by Laura Singletary (2018), band directors interviewed ranked singing and aural training in the bottom third of skills deemed as "fundamental" (p. 60). One struggle instrumental music teachers may have when developing a singing and aural routine is a fear of teaching it (Dalby, 1999). Dalby (1999) believes, "The goal is to play the instrument as an extension of the mind's inner audiation instrument" (p. 22). Audiation is a term coined by Edwin E. Gordon, and is the process of hearing a sound or a series of sounds in your mind, before it is played or sung. It is simply translating sound into music mentally. He suggests instrumental music teachers approach audiation one step at a time and gradually add elements to your routine. Exercises for such a routine might include singing a line out of their method book on a moveable *do,* or teaching a familiar song by ear (Wolbers, 2002; Dalby, 1999).

Interval training is another way to develop good intonation (Garofalo, 1996). Garofalo believed, "teaching students to play, sing, hear, write, and visually recognize all 12 intervals within a

scale" can help develop better intonation habits in musicians (pg. 70). An exercise he believes is one of the best ways to teach students to hear the 12 intervals is by singing and playing the major scale exercise in Figure 1. While this figure is based on C major, he suggests bands start in the key of Bb major or work their way through the scales they know. His reasoning for using this exercise is that it creates four major and three perfect intervals when played ascending and when descending, it produces four minor intervals along with the three perfect intervals.

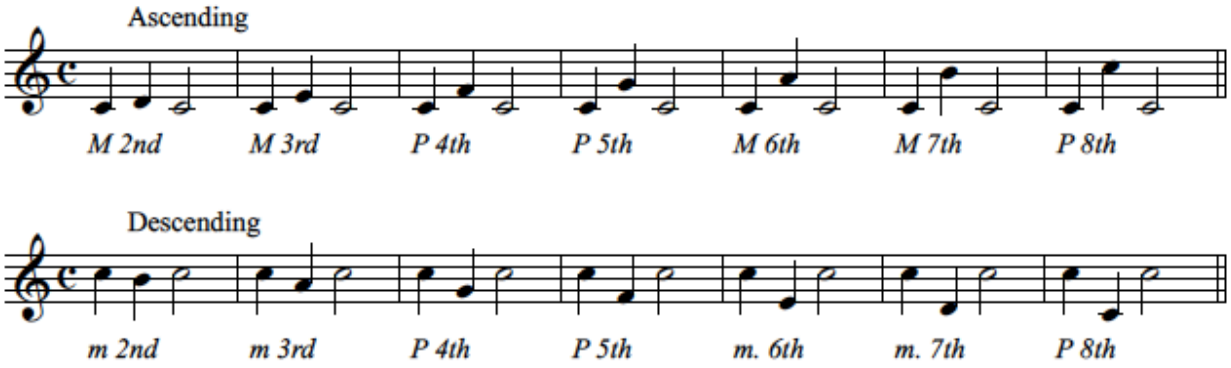


Figure 1. Interval exercise for ear training ascending and descending. From Improving Intonation in Band and Orchestra Performance, by R. Garofalo, 1996.

Balance and blend.

Music educators often ask their students to use their ears in rehearsal, but what exactly are the students listening for? First, educators need to differentiate between balance and blend. When training the ear in an ensemble, students must listen from the bottom of the band up (Jagow, 2007). The concept of listening down (to the bottom part of the pyramid), as Jagow explains is a process that works in large and small group settings. This process is shown in Figure 2, is a concept developed by Francis McBeth (Garofalo, 1996). This figure shows that, at any given dynamic level, the higher pitched instruments (top of the pyramid) should be softer, and balance to the lower pitched instruments (bottom of the pyramid). According to Jagow (2012), this helps the musicians hear the bottom note of the chord and tune appropriately. James Kalyn (2014), on

the other hand suggests a different type of balance theory. He suggests using the percentage method of adjusting for the balance of his ensembles. Instead of telling his groups to listen to other sections, he might say something like, "I hear ninety percent saxophones and ten percent clarinets. Can you adjust so we hear thirty percent saxophones, and seventy percent clarinets" (p. 36)? According to Scott Rush et al. (2014), balance is an incredibly important concept to instill into middle school musicians.

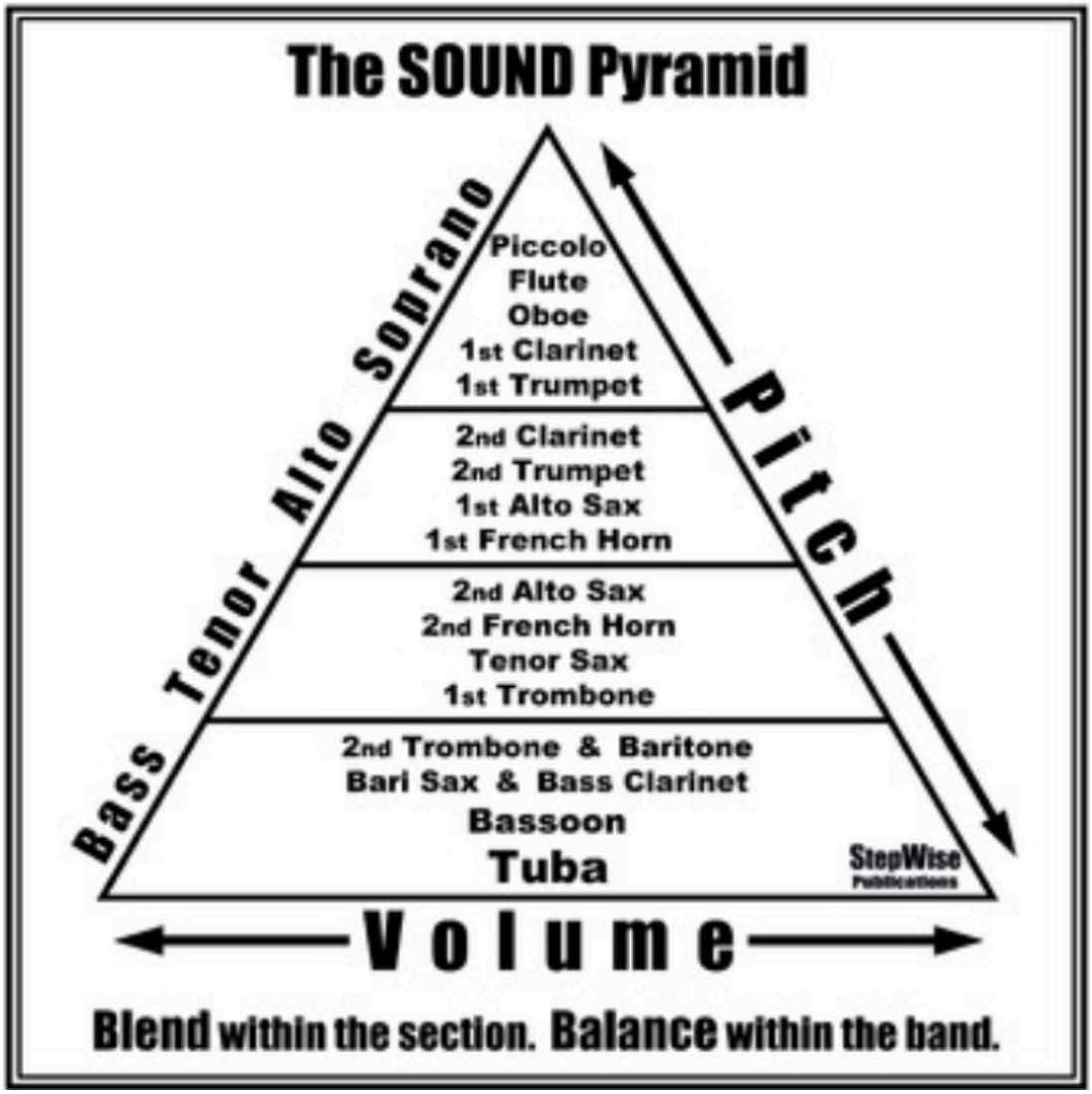


Figure 2. Balancing the band using Macbeth's Sound Pyramid, Retrieved from Improving Intonation in Band and Orchestra Performance, by R. Garofalo, 1996.

Methodology

A good percentage of the research conducted was from articles written in scholarly journals. Some researchers conducted experiments to test their theories with a test group and a control group of musicians. One such researcher, Christian Berhnard III (2006), focused on the impact tonal training had on the ear and intonation of beginning and advanced instrumentalists, just to find there was no impact, while other supporters of tonal training, such as Aaron Wilson (2018), are firm believers of aural skills in rehearsal.

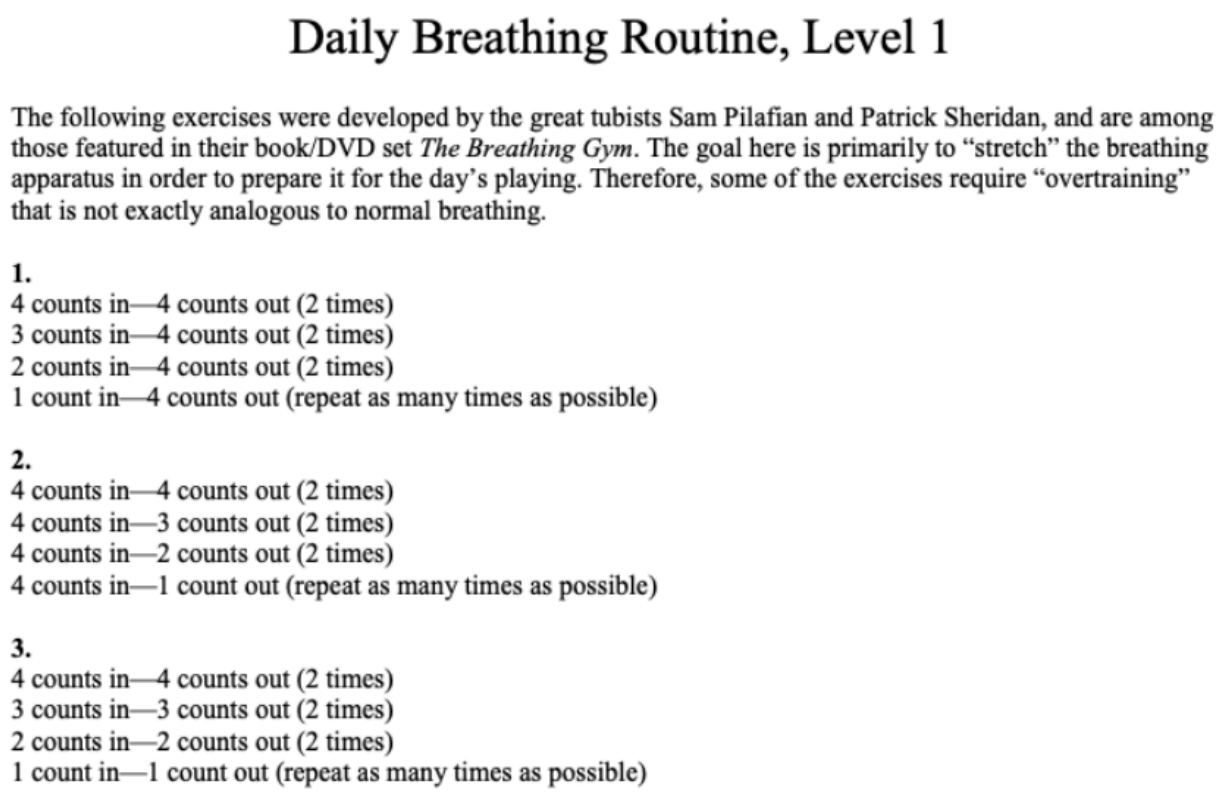
Breathing Exercises

The *Breathing Gym* (2001) has become a popular resource of many band directors across the country (Alsop, 2013). There are three different types of exercises included in this method: (1) stretches; (2) flow studies; (3) and strength and flexibility. According to the authors of *The Breathing Gym*, Sam Pilafian and Patrick Sheridan, playing any type of wind instrument or singing uses more lung capacity than we normally use every day (2001). The exercises used in this method can be used individually, with or without instruments as a warm-up routine, as a focus on different aspects of fundamentals of playing or singing, and also, as focus exercises.

Beginning with the basics, performers must use the correct technique when breathing. When you breathe in, as Pilafian and Sheridan describe, “it should look like you are saying the word “woh” (2001). During the flow studies, students should breath in as much air as they can in the given amount of counts. They should think of filling up their gas tank to go as far as they can. On the exhale, students should empty their lungs in the given amount of counts. The flow study exercises are used to build correct technique and endurance. The strength and flexibility

exercises can be used to teach better technique and build stronger endurance. Breathing exercises will then be incorporated into the other exercises in this guide.

Figure 3 shows an example breathing exercise from the project. At a slow tempo (quarter note=60), progress through each exercise in the level, making sure proper breathing technique is being utilized. Learning to properly take a musical breath is one of the first steps in developing better tone and intonation (Jagow, 2012).



Daily Breathing Routine, Level 1

The following exercises were developed by the great tubists Sam Pilafian and Patrick Sheridan, and are among those featured in their book/DVD set *The Breathing Gym*. The goal here is primarily to "stretch" the breathing apparatus in order to prepare it for the day's playing. Therefore, some of the exercises require "overtraining" that is not exactly analogous to normal breathing.

1.
4 counts in—4 counts out (2 times)
3 counts in—4 counts out (2 times)
2 counts in—4 counts out (2 times)
1 count in—4 counts out (repeat as many times as possible)

2.
4 counts in—4 counts out (2 times)
4 counts in—3 counts out (2 times)
4 counts in—2 counts out (2 times)
4 counts in—1 count out (repeat as many times as possible)

3.
4 counts in—4 counts out (2 times)
3 counts in—3 counts out (2 times)
2 counts in—2 counts out (2 times)
1 count in—1 count out (repeat as many times as possible)

Figure 3. Daily Breathing Routine. Adapted from Ole Miss Low Brass Studio, Dr. M. Everett, Retrieved from https://olemiss.edu/lowbrass/studio/routines/breathing/breathinglevel1.pdf

Singing and Ear Training Exercises

Singing and ear training helps improve ensemble intonation (Jagow, 2007, Garofalo, 1996, Colson, 2012). Incorporating singing and ear training exercises into any warm-up routine should be a standard practice in instrumental music. The singing and ear training exercises in

this guide are used with a moveable *do* and can be sung in any key. They can be intertwined to fit whatever skill needed at any given time.

Appendix A shows one of the singing and ear training exercises developed for this project. This exercise can be used as a vocal warm-up singing with solfege; an ear training exercise where the piano plays the tonic (bottom pitch), and the musicians either sing or play the given interval; or as an instrumental exercise using intervals. Using solfege paired with a piano at first, students should work through each exercise as a group starting with the simplest of intervals (*do-re; do-me; do-fa; do-sol*). The director should emphasize proper breathing technique as well as proper vocalizing of the syllables.

The next exercise requires the use of a "drone" pitch. The director should play the root of which ever key and students must sing different intervals only being given the root note. As students progress through that exercise, they start breaking apart from unison parts and start incorporating harmony with the use of the drone. Many experts in music education believe if a musician can hear and sing a pitch, the chance of them playing in tune is more likely than one who does not hear or sing the pitches.

Tone Development Exercises

In order to achieve consistent results when developing intonation within the ensemble, individual instrumentalists must obtain a consistent and clear tone throughout the range of his or her instrument. To develop individual tone, the exercises included in this guide are both unison and customized to the particular instrument.

The first lesson on tone development is incorporating correct posture, breathing, embouchure, and air support to sustain long tones on the instrument. When playing long tones, the musician's air stream must be constant and the pitch should not waver in and out of tune. It

is recommended to use a tuner or a drone when performing long tones on the instrument. Long tones do not just consist of sustaining a note for a long period of time. It is the pinnacle of all fundamental skills applied to one long note. Focus should be on five main parts: the breath; articulation (how a note is attacked); sustaining the air; tone; and release.

One of the exercises used in this guide is the Remington Flow Study, developed by Emory Remington. This exercise uses long tones descending in half steps and return to the starting pitch each series. The Remington exercise can be done starting on any note and can be either played or sung. The overall benefit of playing long tones is to develop the inner ear with different intervals as well as build endurance and stamina while playing an instrument (Colson, 2012; Linklater 1995; Ward, 2016; Wilson, 2018). Appendix B is an example of a Remington Flow Study that could be performed as an ensemble or individually.

Lip slurs and range extension exercises are two other methods included in this guide. While each exercise does not have to be applied to each lesson; combining a few exercises from each will help build better tone.

Individual Tuning Exercises

In order to improve intonation within the ensemble, individual instruments must be in tune. After a proper warm-up routine, instruments must be individually tuned to the desired frequency (A=440 is the preferred frequency). Another important concept instrumentalists must grasp is that no instrument is created equal, and will have different tuning tendencies throughout the range of the instrument. Using a digital tuner or app is a good reference point for individual tuning of an instrument. Included in the guide for each instrument is a tuning tendency chart which should be completed to gain useful knowledge of the individual instrument (Appendix C). Instruments are made to be adjusted and, likewise, no instrumentalist will play the same as

another. It is important to know the tendencies of each note of the instrument so you can adjust accordingly (Appendix D).

Ensemble Tuning Exercises

The main focus of tuning in this project will be based on of equal temperament. Equal temperament is a tuning system in which the frequency between adjacent notes is the same. Jagow (2012) explains equal tempered tuning as, "a system that evenly divides the 12 half step intervals in an octave. The system provides a basis for comprehending the measurement of a cent, which is equal to $1/100^{th}$ of an equal-tempered semitone (pg. 7). It is important, when tuning notes and chords in an ensemble, to work slowly and methodically. Tuning is a process that continues throughout the rehearsal (Jagow, 2007). Some chord studies focus on unison first, while others start with open 5ths. Jagow explained that the band directors should tune the simplest and purest intervals first (roots and octaves; Perfect 5ths and 4ths), then move on to tune more complex intervals (Major and minor 3rds, Major and minor 7ths). The exercises chosen for this guide reflect multiple approaches to tuning including unison notes, open 5ths, and major and minor chords in the keys of Bb, Eb, F, C, and Ab and ending with ensemble chorales in each key. The reason for choosing these five keys was based on middle school band curriculum in the author's school district.

The exercises presented in this project reflect the research provided in the literature review. By implementing all of these exercises into a weekly routine, younger students should have the skills needed to improve individual and group intonation. Each exercise is not meant to be used daily and should be used in conjunction with other exercises in the book.

Implementation

Start slowly and work to incorporate as many of these skills weekly as possible to establish good routine and technique. A sample lesson might look like this:

Sample 1- Breathing exercise, Remington Exercise in Bb (sing and play), Drone Concert Bb (Bb scale in whole notes), Tune

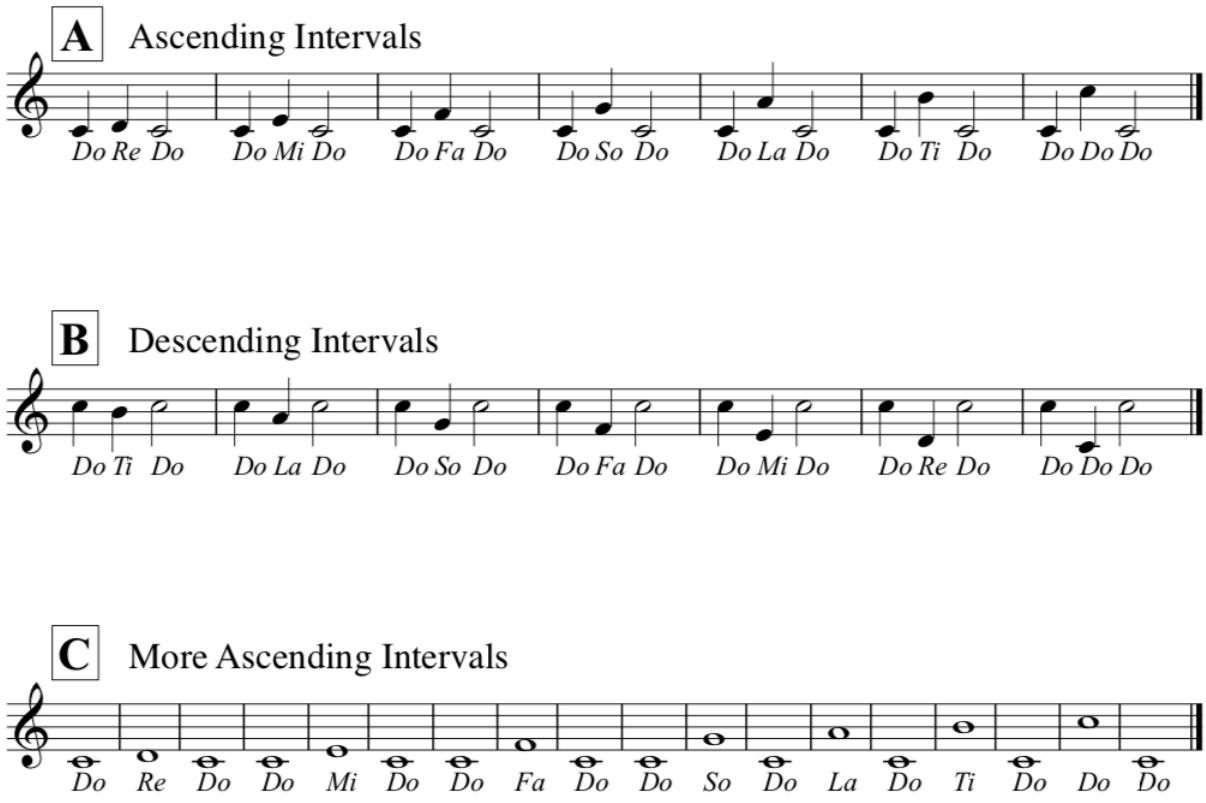
Sample 2- Breathing exercise, Ear training (Drone Root and sing M 3rd), Long tones, Lip slurs and range extension, chord tuning (Major triad; start with bottom voices and work up)

Sample 3- Breathing exercise, Long tones (sing/play every other note), Tune using a drone (unison/octaves, M 3rd, M 5th, Major triad)

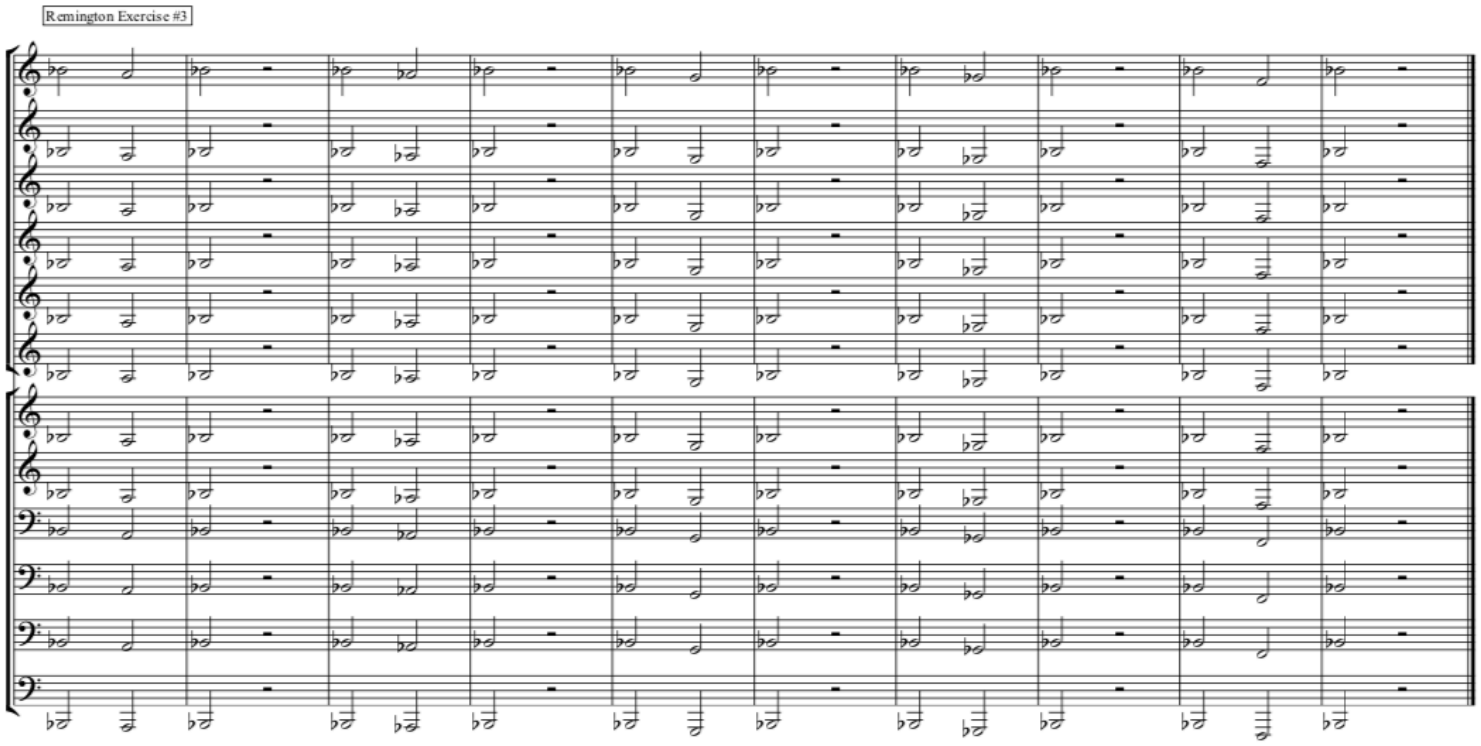
Conclusion

When developing the exercises for this project, the researcher compared and contrasted several exercises from various programs and method books, then compiled and re-created exercises to fit the overall goal of this project. This guide's main focus was to make instrumentalists better musicians by developing skills at an early level and applying them to daily instruction or practice. This method is designed to be used year-round, and can be modified as the director sees fit. The keys represented in this project (Bb, Eb, Ab, F, C) are the major keys in which students learn throughout their beginning and intermediate stages of instrumental music in the author's school district.

Appendix A


A
Ascending Intervals
Do Re Do
Do Mi Do
Do Fa Do
Do So Do
Do La Do
Do Ti Do
Do Do Do
B
Descending Intervals
Do Ti Do
Do La Do
Do So Do
Do Fa Do
Do Mi Do
Do Re Do
Do Do Do
C
More Ascending Intervals
Do Re Do Do Mi Do Do Fa Do Do So Do La Do Ti Do Do Do

Appendix B



Appendix C

Pitch Tendency Chart

Name _____ Instrument _____

Begin the process by making sure that you are in tune with the tuner. Then select a note in the middle register of the instrument, and proceed by alternating down a half step, up a half step, down a whole step, etc. Have a partner write in your tendencies. The instrument name indicates the lowest written pitch to be checked.

DATE	FLUTE	HORN				CLARINET	BASSOON	TRUMPET			SAXOPHONE		OBOE				TROMBONE / EUPHONIUM TUBA				
	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G	G♯ A♭	A	A♯ B♭	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G	G♯ A♭

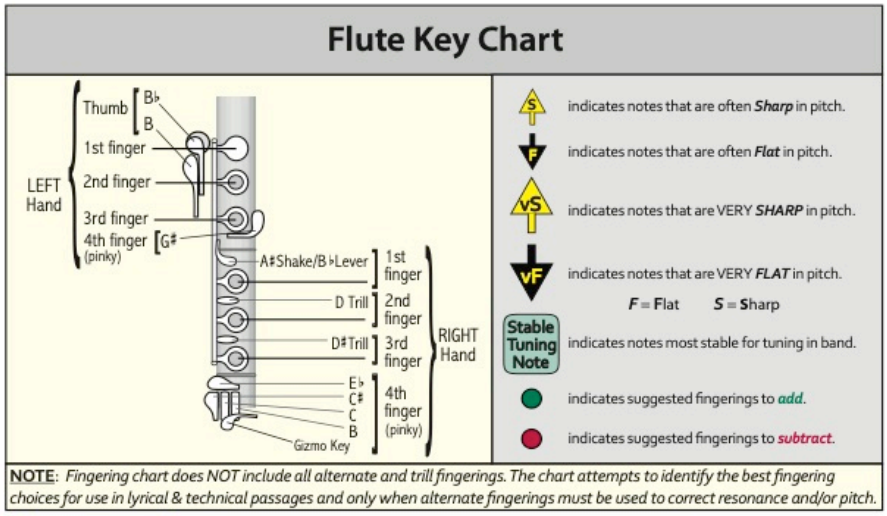
A	A♯ B♭	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G	G♯ A♭	A	A♯ B♭	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G

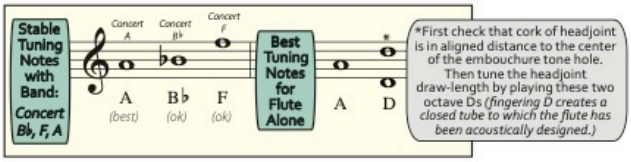
Very sharp	++
Sharp	+
In tune	•
Flat	—
Very flat	— —

List the logical bad notes. Provide a solution for fixing them. Include alternate fingering.					

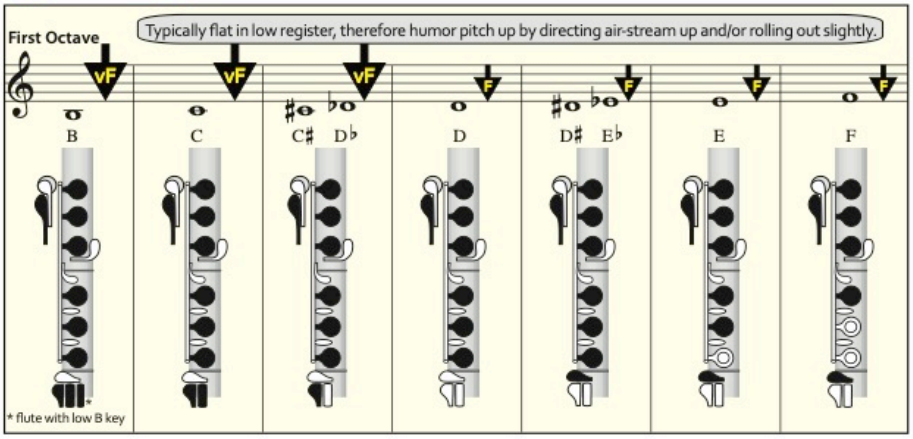
Appendix D

Fingering and Intonation Charts





Tune instrument with headjoint by pulling out if sharp or pushing in if flat.
Headjoint cork should be 17 -17.3 mm from center of embouchure hole.
Use notch in cleaning rod to check distance. Headjoint should not be pulled out any further than 1/4" (A442 pitched flutes can be pulled out as far as 5/8")



REFERENCES

Alsop, M. (n.d.). Breathing instruction of successful high school marching band directors. doi: 10.18297/etd/2970

Berhnard III, H. C. (2006). The Long-Term Effect of Tonal Training on the Melodic Ear Playing Achievement of Beginning Wind Instrumentalists. *Journal of Band Research*, *42*(1), 70–79. Retrieved from https://search-ebscohost-com.ezproxy.lindenwood.edu/login.aspx?direct=true&db=a9h&AN=22876190&site=ehost-live

Colson, J. F. (2012). *Conducting and Rehearsing the Instrumental Music Ensemble: Scenarios, Priorities, Strategies, Essentials, and Repertoire*. Lanham, Md: Scarecrow Press. Retrieved from https://search-ebscohost-com.ezproxy.lindenwood.edu/login.aspx?direct=true&AuthType=sso&db=nlebk&AN=477192&site=ehost-live

Conway, C. (2003). Good Rhythm and Intonation from Day One in Beginning Instrumental Music. *Music Educators Journal*, *89*(5), 26. https://doi-org.ezproxy.lindenwood.edu/10.2307/3399916

Criswell, C. (2008). Brass and Woodwinds. *Teaching Music*, *16*(1), 65. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=asn&AN=34231599&site=ehost-live

Dalby, B. (1999). Teaching Audiation in Instrumental Classes: An incremental approach allows teachers new to Gordon's music learning theory to gradually introduce audiation-based instruction to their students. *Music Educators Journal*, *85*(6), 22–46. https://doi.org/10.2307/3399517

Fonder, M. (1998). Defining and Realizing Your Band's Ideal Tone: Quantifying the key components of tone-balance, blend, a coustics, sonority, and chord voicing-can contribute to consistent, high-quality sound from year to year. *Music Educators Journal*, *85*(3), 22–25. https://doi.org/10.2307/3399141

Garofalo, R. J. (1996). *Improving intonation in band and orchestra performance*. Ft. Lauderdale, FL: Meredith Music Publications.

Haston, W. (2016, January). Pre-instrument activities for beginning instrumental instruction. *Teaching Music*, *23*(3), 24+. Retrieved from https://link.gale.com/apps/doc/A440715280/PPFA?u=sain20269&sid=PPFA&xid=b1d0dccf

Jagow, S. (2008). *Teaching instrumental music developing the complete band program*. Galesville, MD: Meredith Music Publ.

Jagow, S. (2012). *Tuning for wind instruments: a roadmap to successful intonation*. Galesville, MD: Meredith Music Publ.

Juchniewicz, J., Kelly, S. N., & Acklin, A. I. (2014). Rehearsal Characteristics of "Superior" Band Directors. *Update: Applications of Research in Music Education*, *32*(2), 35–43. https://doi.org/10.1177/8755123314521221

Kalyn, J. (2014). Balancing the Band: the Percent Technique. *Canadian Winds / Vents Canadiens*, *12*(2), 36–37. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=asn&AN=114307288&site=ehost-live

Kearns, R. E. (2011). *Quick reference for band directors*. Retrieved from https://ebookcentral.proquest.com

Laycock, M. (2012). Here Comes the Judge. *American String Teacher*, *62*(3), 28–32. https://doi.org/10.1177/000313131206200305

Linklater, F. (1995). Instrumental Warm-ups to Improve Skills: Warm-ups are common in rehearsal as a means of relaxing muscles or tuning, but they can also be used to improve students' performance skills. *Music Educators Journal*, *82*(3), 31–34. https://doi.org/10.2307/3398898

Millican, J. S. (2013). Describing Instrumental Music Teachers' Thinking: Implications for Understanding Pedagogical Content Knowledge. *Update: Applications of Research in Music Education*, *31*(2), 45–53. https://doi.org/10.1177/8755123312473761

Pagliaro, M. J. (2012). *The Musical Instrument Desk Reference : A Guide to How Band and Orchestral Instruments Work*. Lanham, Md: Scarecrow Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=nlebk&AN=478348&site=ehost-live

Rush, S., Scott, J., Wilkinson, E., & Lautzenheiser, T. (2014). *Habits of a successful middle school band director*. Chicago: GIA Publications.

Shoebridge, A., Shields, N., & Webster, K. E. (2017). Minding the Body: An interdisciplinary theory of optimal posture for musicians. *Psychology of Music*, *45*(6), 821–838. https://doi.org/10.1177/0305735617691593

Singletary, L. (2018). Instructional Content and Frequency in the Beginning Band Setting: Defining the Fundamentals. *Journal of Band Research*, *54*(1), 49–68. Retrieved from https://search-ebscohost-

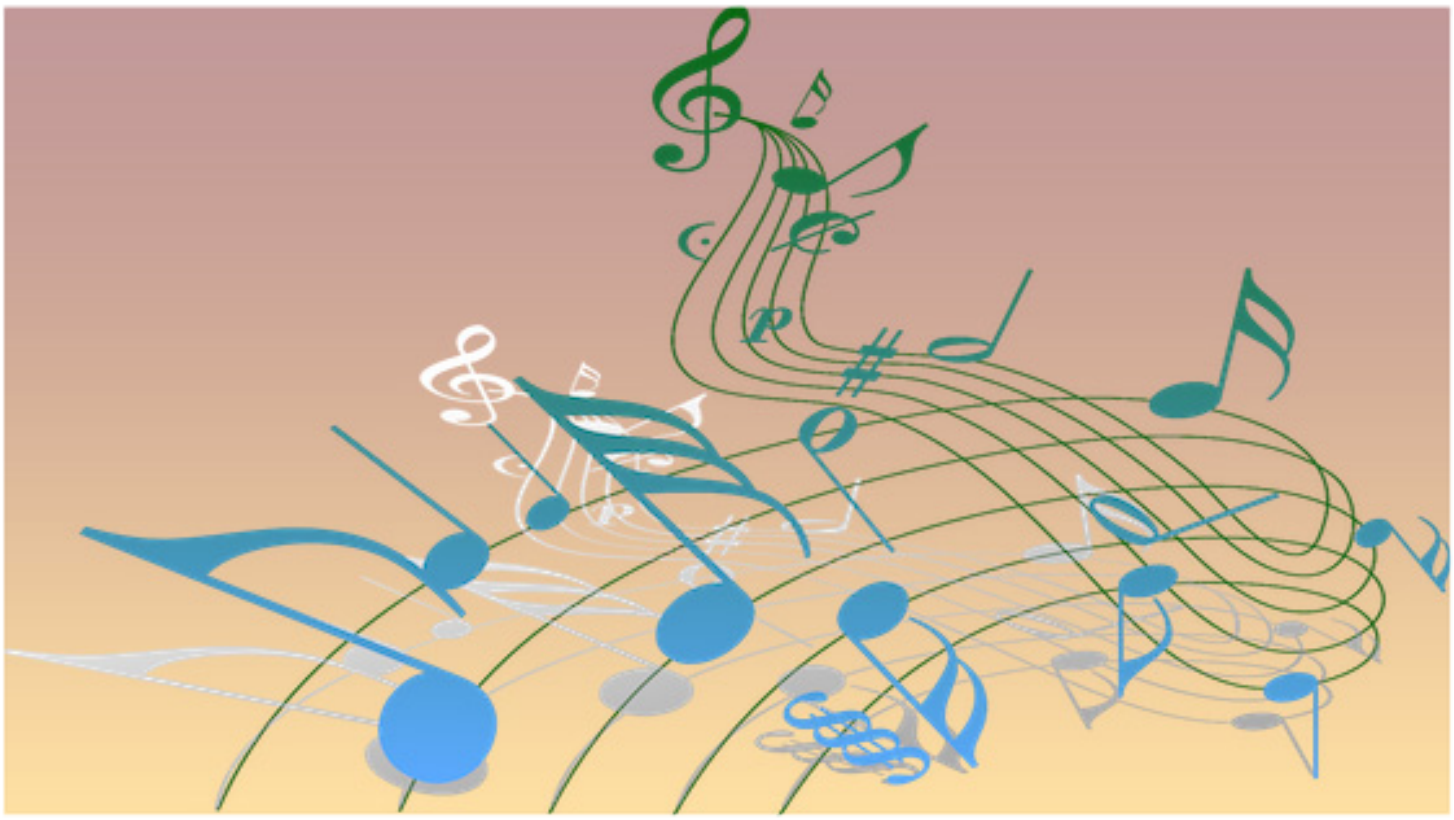
com.ezproxy.lindenwood.edu/login.aspx?direct=true&db=asn&AN=133409417&site=ehost-live

Ward, J. P., & Hancock, C. B. (2016). Warm-Up Activities of Middle and High School Band Directors Participating in State-Level Concert Band Assessments. *Update: Applications of Research in Music Education*, *34*(2), 29–36. https://doi.org/10.1177/8755123314548045

Wilson, A. (2018). Aural Skills for Making Music: Incorporating Ear Training into Rehearsal Settings. *Canadian Winds / Vents Canadiens*, *17*(1), 32–35. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=asn&AN=138021158&site=ehost-live

Wolbers, M. (2002). Singing in the Band Rehearsal. Music Educators Journal, 89(2), 37. https://doi-org.ezproxy.lindenwood.edu/10.2307/3399840

Intonation Exercises



CONDUCTOR SCORE

Table of Contents

Tips for Using this Book

In order to achieve better intonation on an instrument, the musician must practice fundamentals daily. The fundamentals outlined below are instrumental in achieved the highest quality of musicianship.

I. TONE

A. Embouchure

1. Flutes

a) Tight corners
b) Flat chin
c) Loose lips
d) Small aperture

2. Single reeds

a) Tight corners
b) Flat chin
c) Lips tight against teeth
d) Lower lip slightly over lower teeth
e) Upper teeth on the mouthpiece

3. Brass

a) Tight corners
b) Flat chin
c) Lips relaxed enough to vibrate

B. Breath Support

1. Posture

a) Sit as if standing from the waist up
b) Sit on the edge of the chair
c) Both feet on the floor
   (1) Trumpets in a concert band should be held with their bells in the stand.
   (2) Trombones should always be held with their bells above the stand.
   (3) Flutes should be held parallel to the floor.
   (4) Clarinets should be held at a 45 degree angle.

2. Abdominal Breathing

a) Tighten abdominal wall pushing out and down
b) Produce fast-moving, compressed air

3. Well maintained quality instrument

a) **Brass**
   (1) All slides and valves working properly
   (2) Proper lubricants, i.e., valve oil, slide cream, slide grease, etc.
   (3) At least one lukewarm bath per quarter
b) **Woodwinds**
   (1) Four good reeds. (Oboes and bassoons at least two)
   (2) Proper cleaning equipment, i.e., swab, soft cloth, etc.
   (3) All pads and springs working properly
c) **Percussion**
   (1) At least one pair of drum sticks permanently marked with your name
   (2) A practice pad or drum to practice on at home.

II. INTONATION

A. Three steps to good intonation

1. Hold a steady pitch
2. Recognize the Beats
3. Eliminate the Beats

B. Slogan: "Sound Like One"

C. Key: "Listen, Listen, Listen"

III. TECHNIQUE

A. Precision: "Attack, Sustain, Release"

B. Articulation

1. Tonguing and Slurring
2. Staccato, Legato, Marcato

C. Correct Notes

1. Chromatic Scale
2. Major and Minor Scales

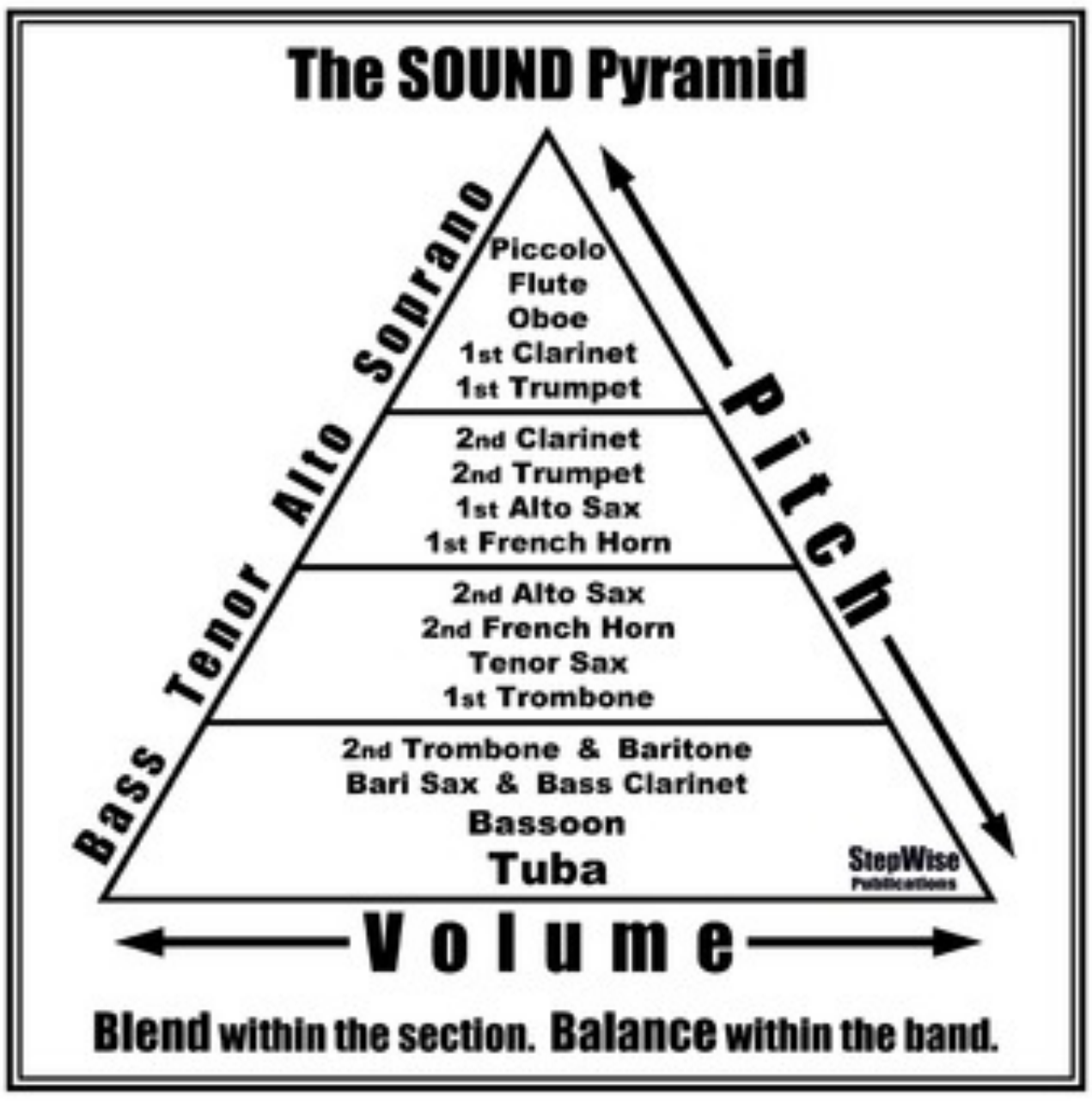
IV. BALANCE

A. General Balance (refer to Francis MacBeth's Sound Pyramid below)

1. In a well-balanced band the low instruments should be played the strongest; the middle instruments should be second strongest; and the high instruments should be the softest.
2. In a well-balanced clarinet or trumpet section the third part should be played the strongest; the second part the second strongest; and the first part should be played the softest.
3. Members of a good-sounding section listen carefully to each and match tone quality, pitch, and dynamics.

B. Tuning and Balancing Chords

1. To balance a **Triad**, play the 1st note (tonic or root) the strongest; the 3rd the second strongest, and the 5th the softest.
2. To balance a **7th chord**, play the 1st note (tonic or root) the strongest; the 3rd the second strongest, and the 5th the third strongest, and the 7th the softest.



Breathing Exercises

Use these exercises paired with The Breathing Gym DVD (if available)

Pick one Daily Breathing Routine Level to use as a warm-up daily

Daily Breathing Routine, Level 1

The following exercises were developed by the great tubists Sam Pilafian and Patrick Sheridan, and are among those featured in their book/DVD set *The Breathing Gym*. The goal here is primarily to "stretch" the breathing apparatus in order to prepare it for the day's playing. Therefore, some of the exercises require "overtraining" that is not exactly analogous to normal breathing.

1.
4 counts in—4 counts out (2 times)
3 counts in—4 counts out (2 times)
2 counts in—4 counts out (2 times)
1 count in—4 counts out (repeat as many times as possible)

2.
4 counts in—4 counts out (2 times)
4 counts in—3 counts out (2 times)
4 counts in—2 counts out (2 times)
4 counts in—1 count out (repeat as many times as possible)

3.
4 counts in—4 counts out (2 times)
3 counts in—3 counts out (2 times)
2 counts in—2 counts out (2 times)
1 count in—1 count out (repeat as many times as possible)

Daily Breathing Routine, Level 2

The following exercises were developed by the great tubists Sam Pilafian and Patrick Sheridan, and are among those featured in their book/DVD set *The Breathing Gym*. The goal here is primarily to "stretch" the breathing apparatus in order to prepare it for the day's playing. Therefore, some of the exercises require "overtraining" that is not exactly analogous to normal breathing.

1.
4 counts in—4 counts out (2 times)
3 counts in—4 counts out (2 times)
2 counts in—4 counts out (2 times)
1 count in—4 counts out (repeat as many times as possible)

2.
4 counts in—4 counts out (2 times)
4 counts in—3 counts out (2 times)
4 counts in—2 counts out (2 times)
4 counts in—1 count out (repeat as many times as possible)

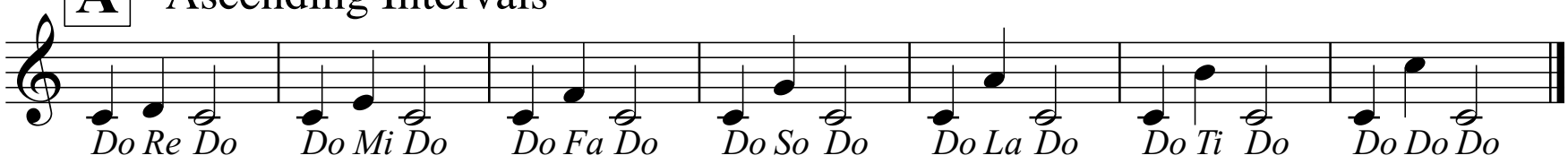
3.
4 counts in—4 counts out (2 times)
3 counts in—3 counts out (2 times)
2 counts in—2 counts out (2 times)
1 count in—1 count out (repeat as many times as possible)

4.
Inhale for four counts, blow (push!) everything out in 1 count, and then push out 2 extra breaths.

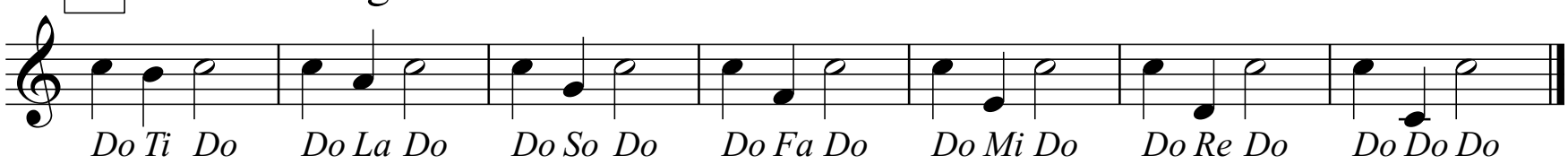
Singing and Ear Training Exercises

Sing or play using any key signature
Can be used as both a singing, playing, or ear training
To use as an ear training tool, use a drone to play the root

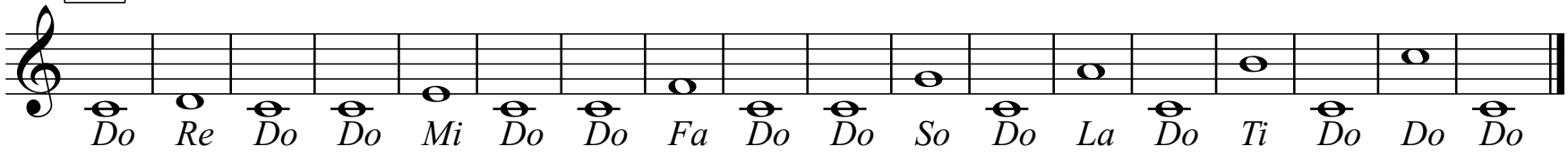
A Ascending Intervals



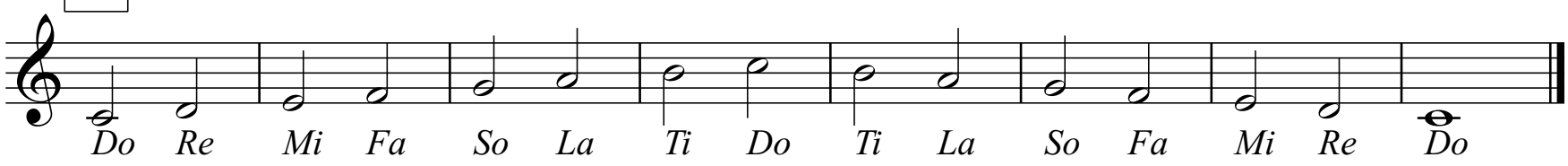
B Descending Intervals



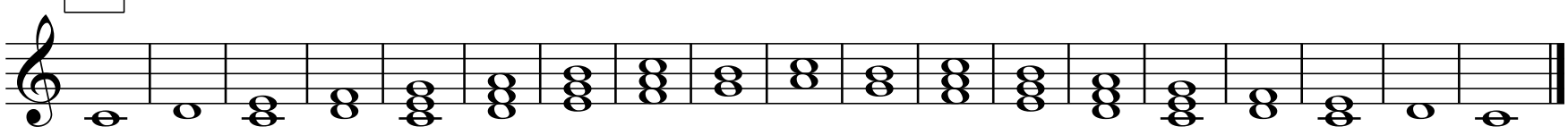
C More Ascending Intervals



D Scale



E Scale in a Round



1 2 3

Remington Interval Exercises

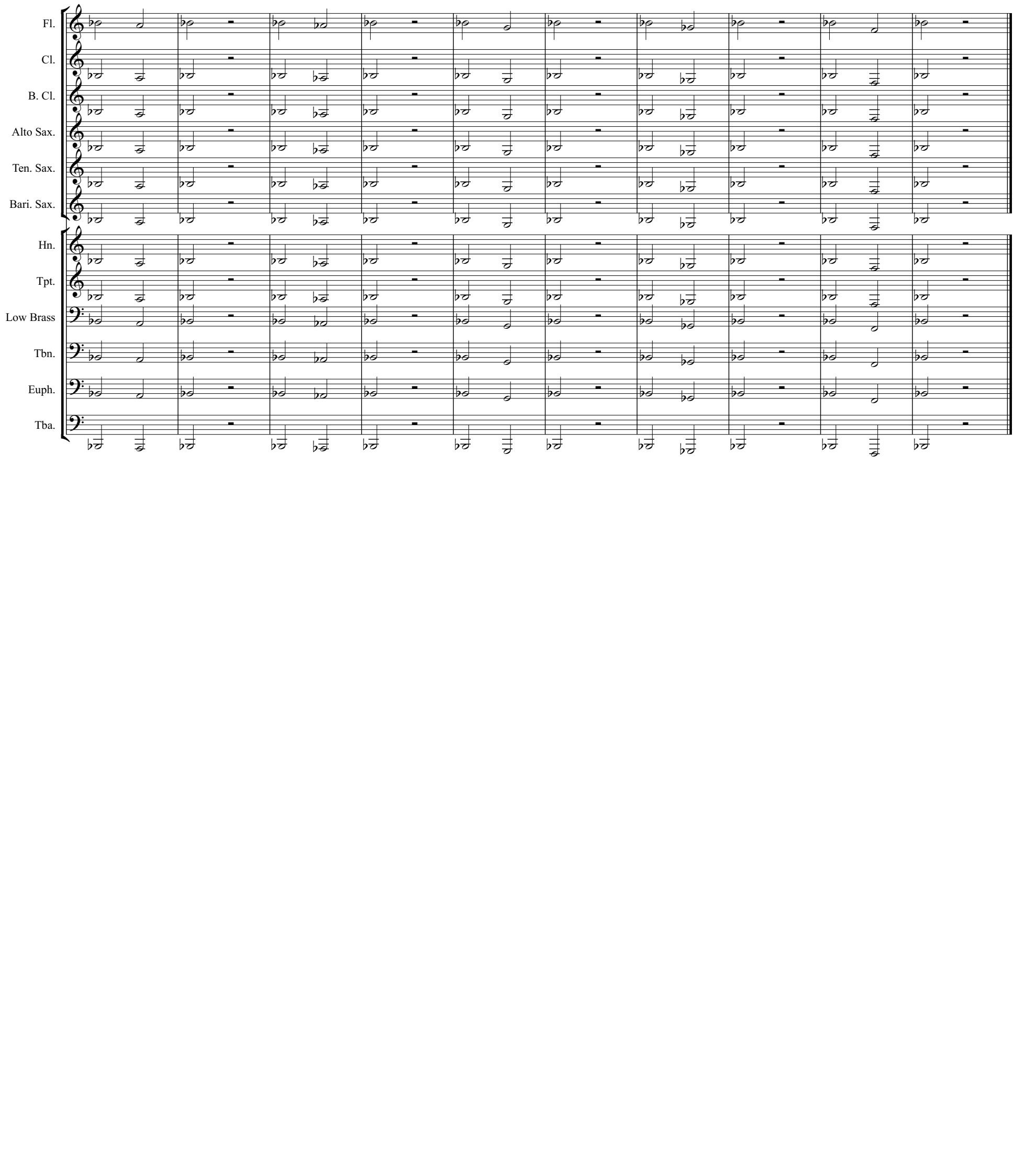
Remington Exercise #1

Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Horn in F
Trumpet in B♭
Low Brass
Trombone
Euphonium
Tuba

Remington Exercise #2

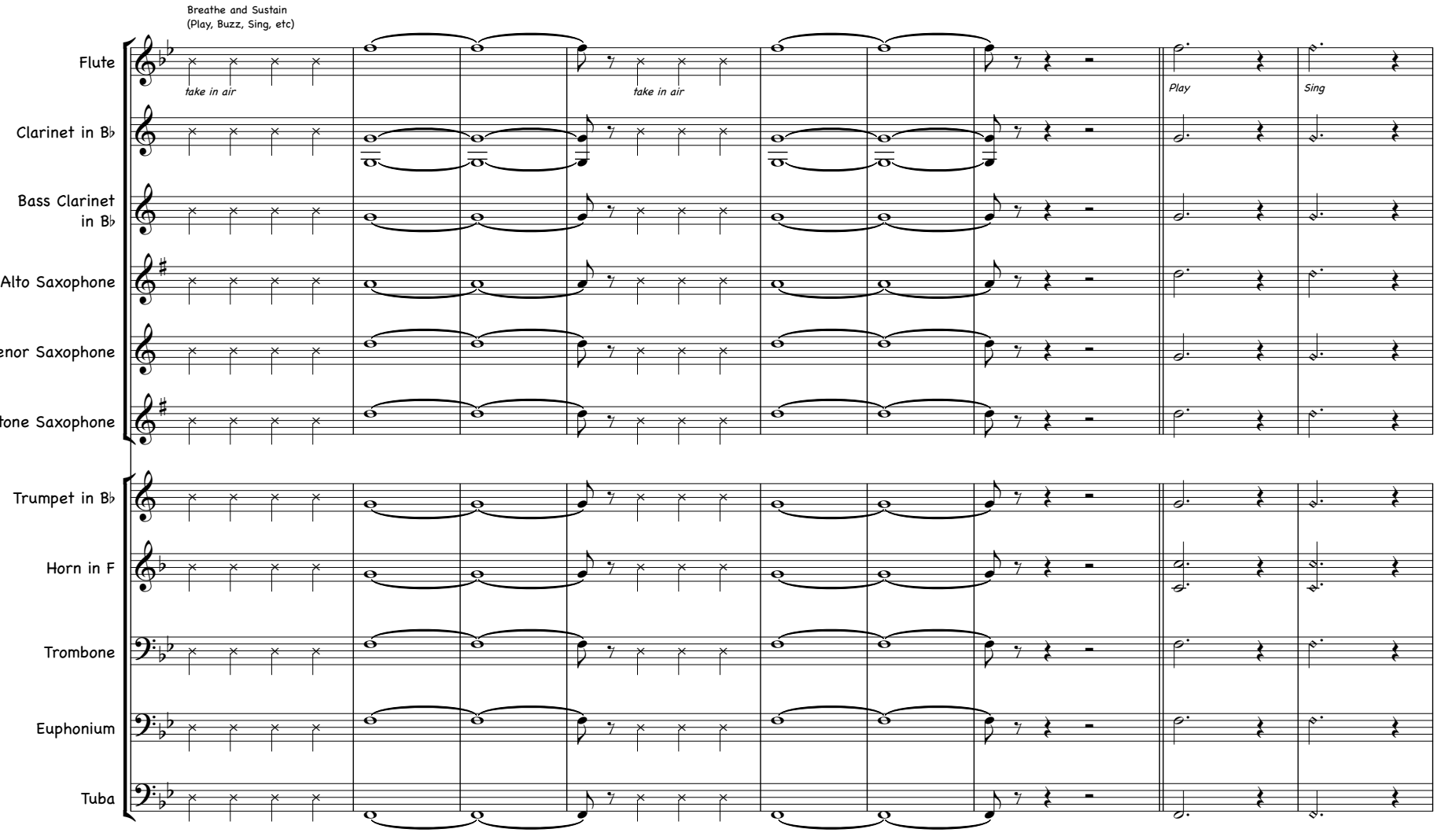
Fl.
Cl.
B. Cl.
Alto Sax.
Ten. Sax.
Bari. Sax.
Hn.
Tpt.
Low Brass
Tbn.
Euph.
Tba.

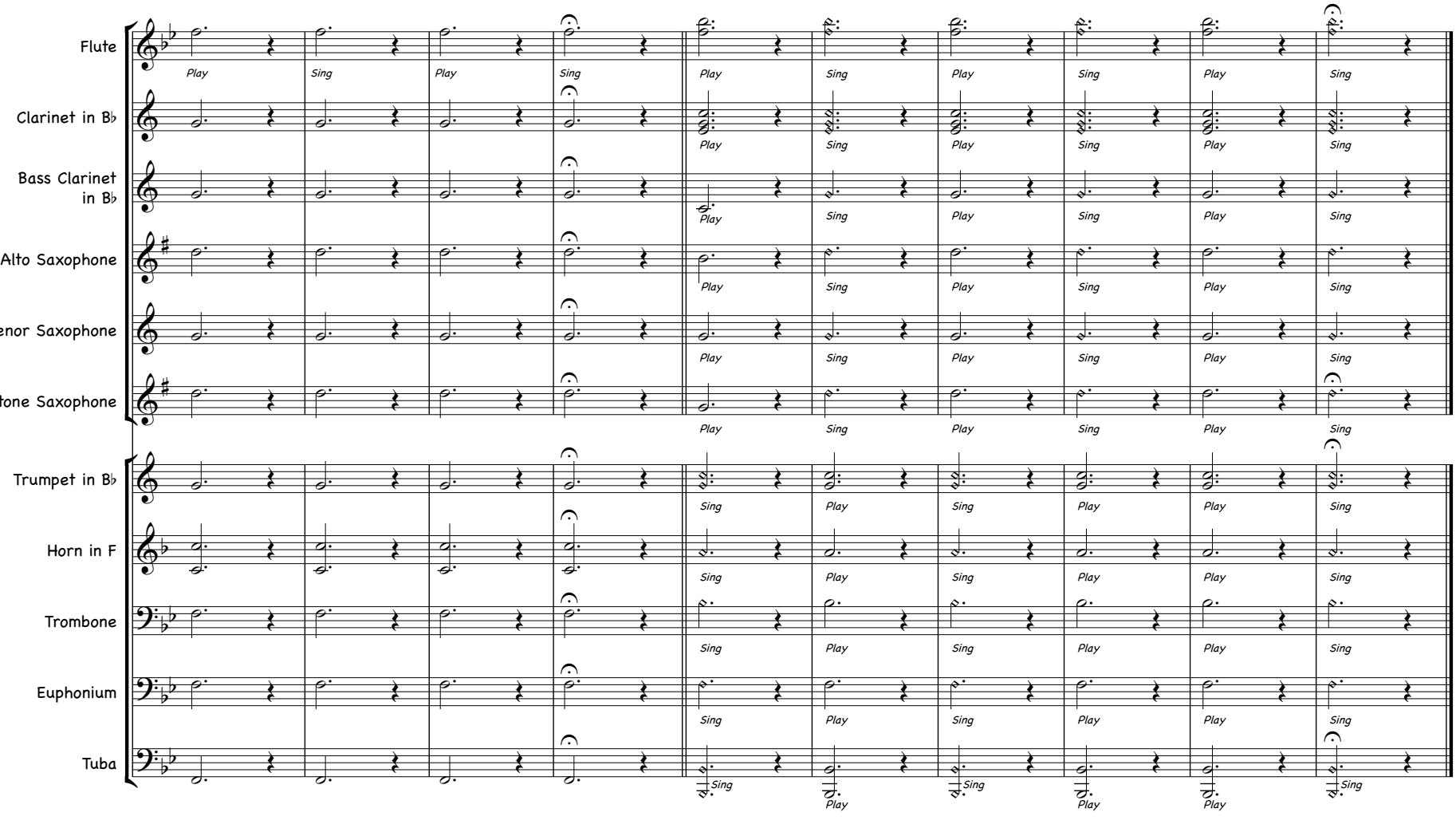
Remington Exercise #3



Tone and Interval Studies

Concert Bb





Long Tone #1

Long Tone #2

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Breathe in

Breathe in

Breathe in

Breathe in

Flexibility

Breathe in

Breathe in

Interval Study on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 5ths

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Interval Study in 5ths

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 3rds

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning Unison Notes

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Intervals on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning the 5th

breath in

Tuning the 3rd

breath in

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Bb Major Chord

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

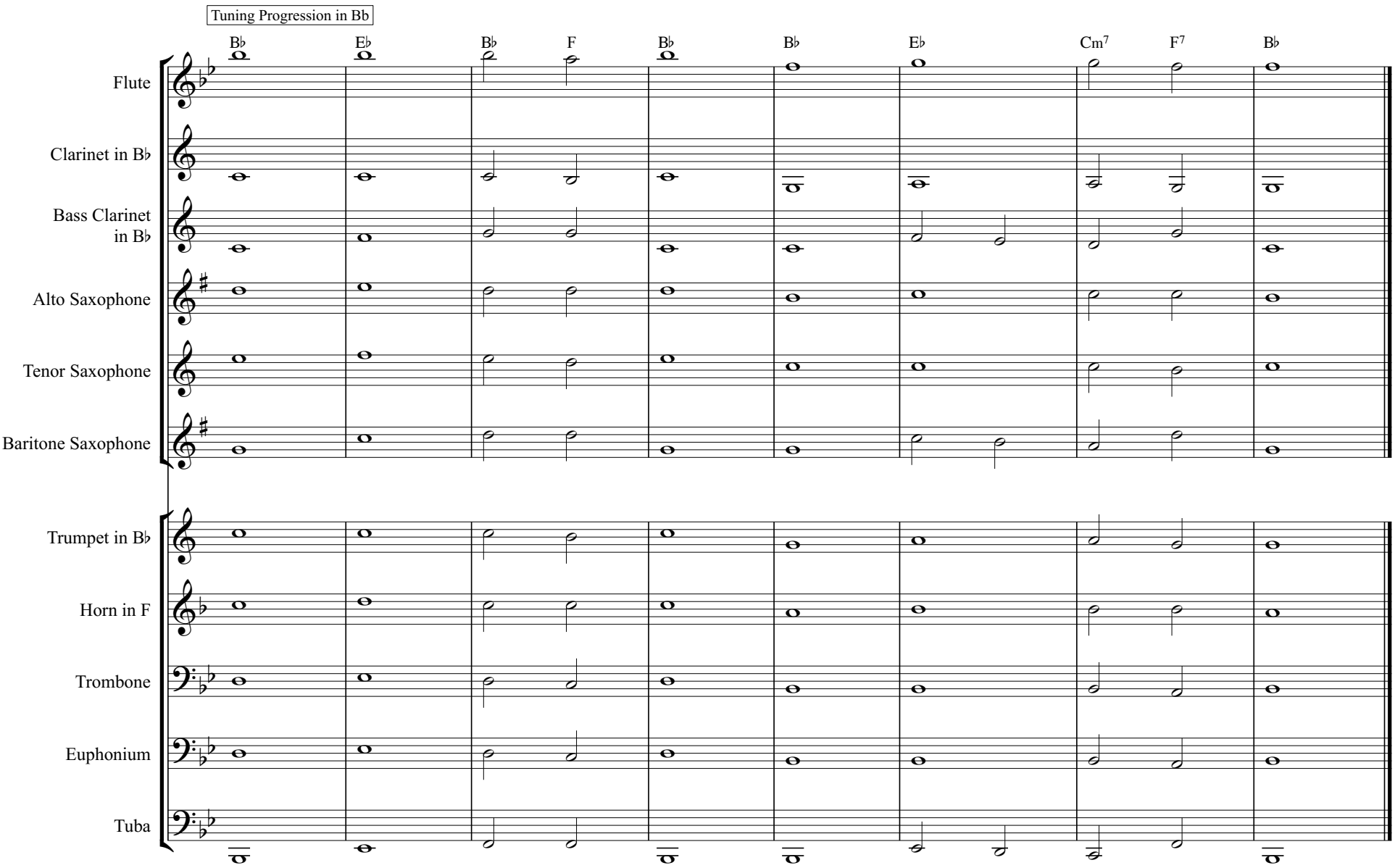
Trumpet in B♭

Horn in F

Trombone

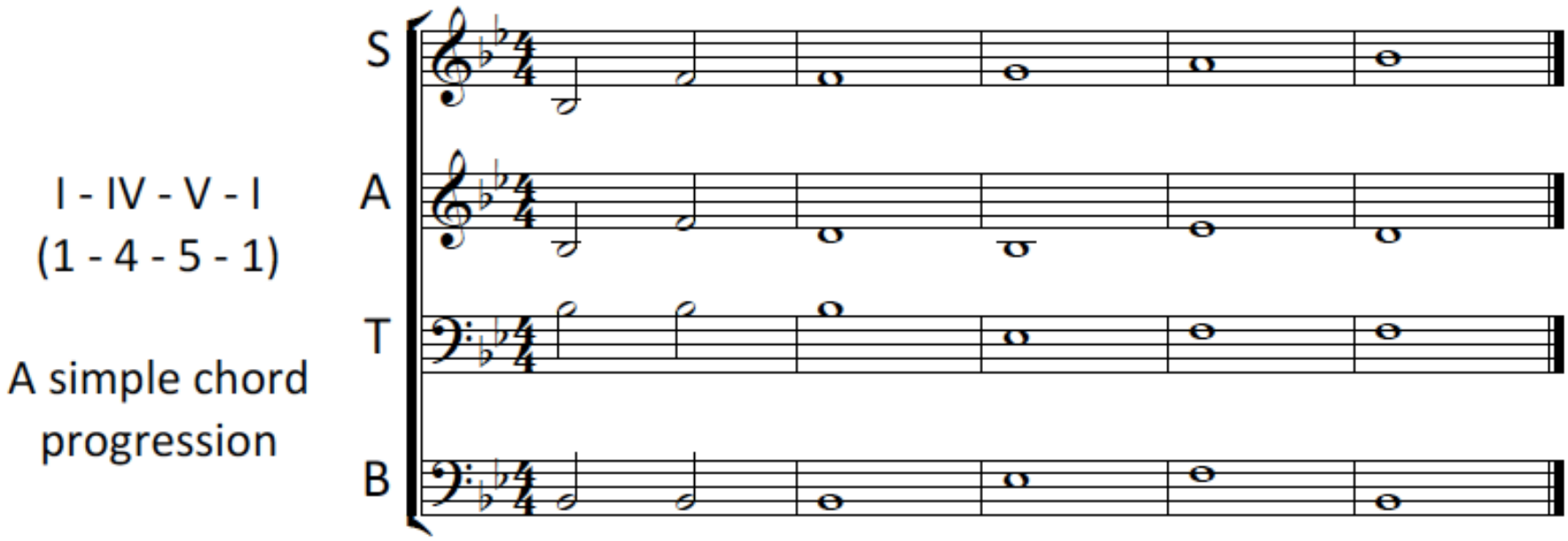
Euphonium

Tuba

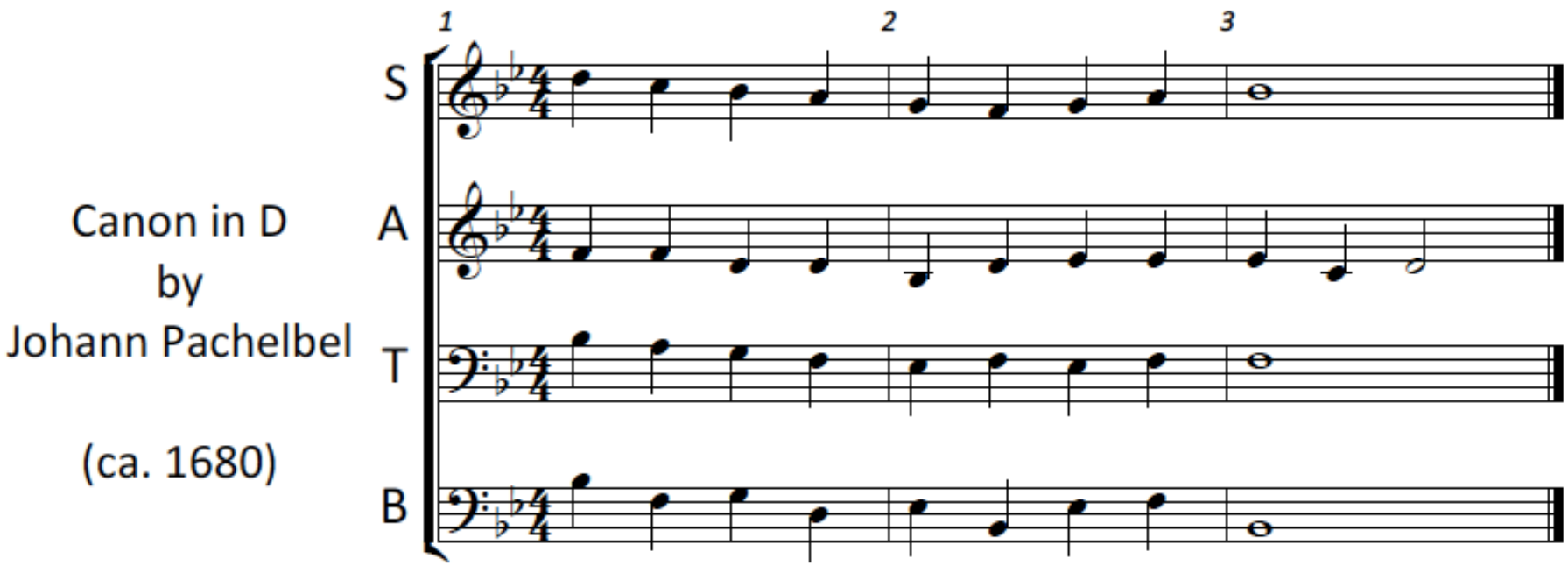

Tuning Progression in Bb
B♭ E♭ B♭ F B♭ B♭ E♭ Cm7 F7 B♭
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba

Chorales in Concert Bb

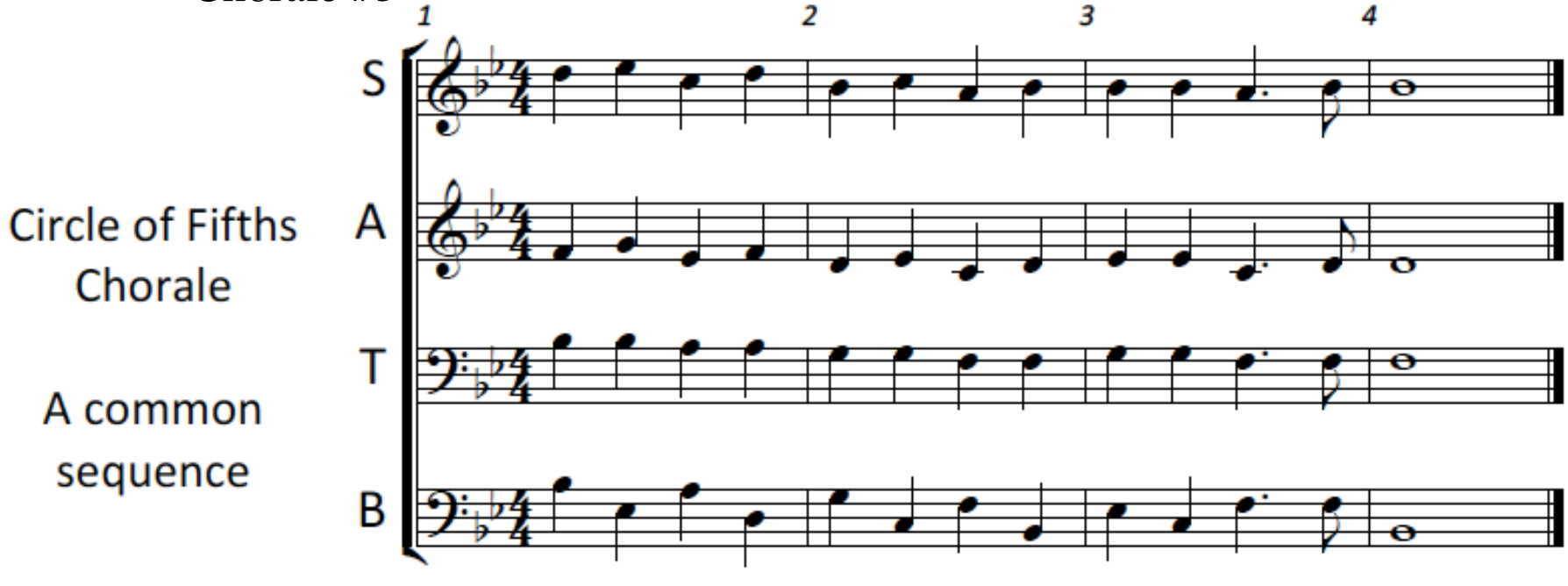
Chorale #1



Chorale #2



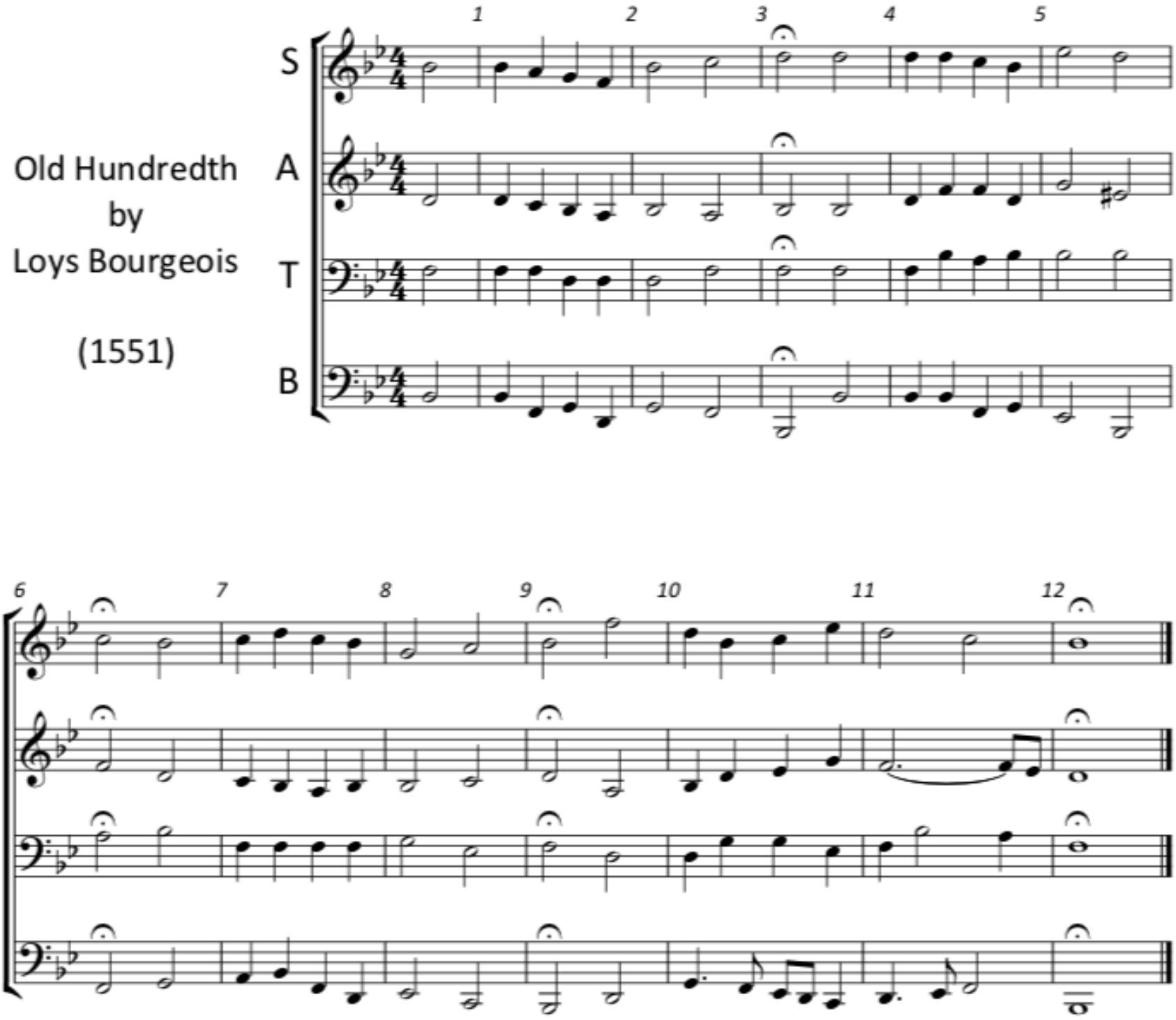
Chorale #3



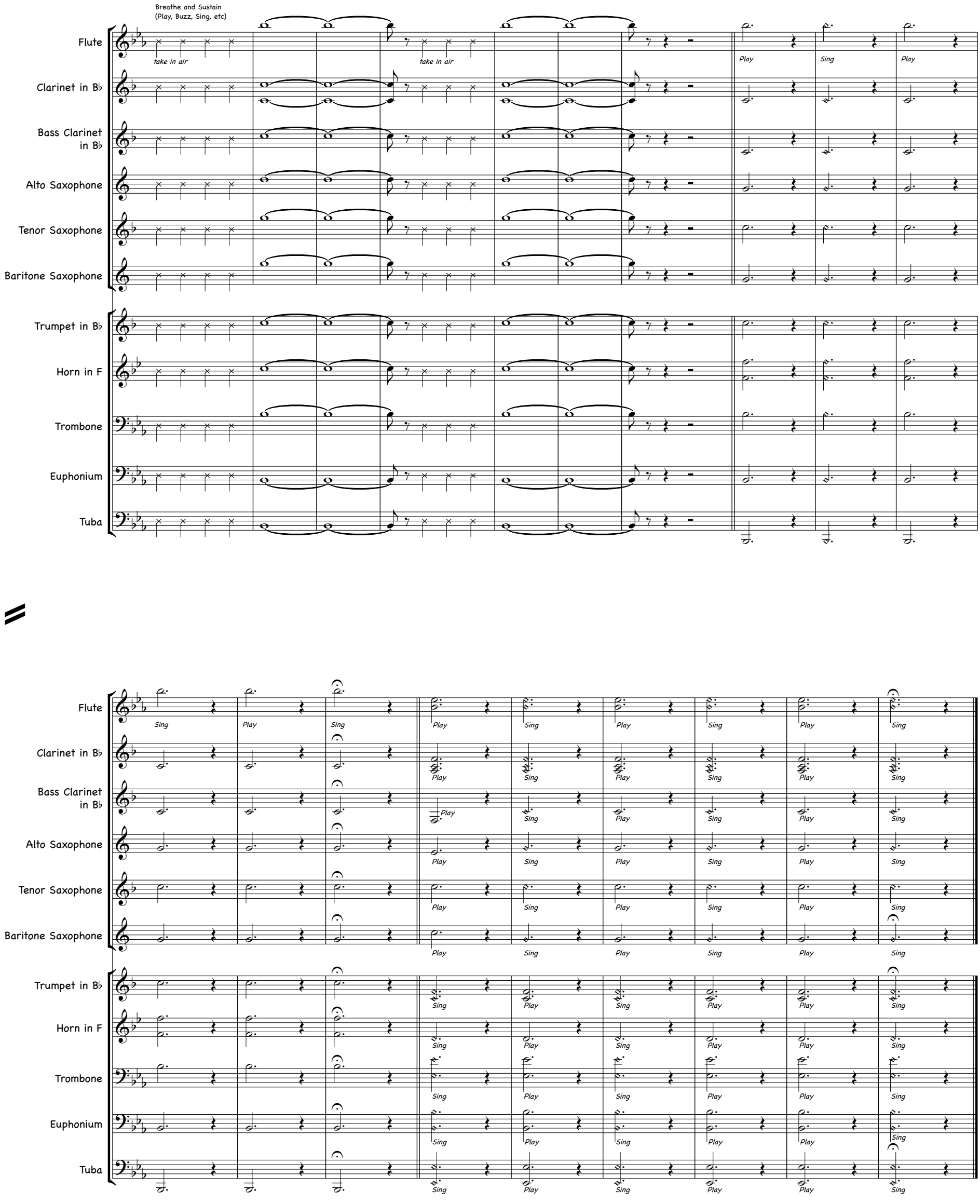
Chorale #4

Old Hundredth
by
Loys Bourgeois

(1551)



Concert Eb


Breathe and Sustain
(Play, Buzz, Sing, etc)
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba
take in air
take in air
Play
Sing
Play
Sing
Play

Long Tone #1

Long Tone #2

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Breathe in

Breathe in

Breathe in

Breathe in

Flexibility

Breathe in

Breathe in

Interval Study on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 5ths

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 3rds

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning Unison Notes

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Intervals with a Drone

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning the 5th

breath in

Tuning the 3rd

breath in

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Eb Major Chord

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

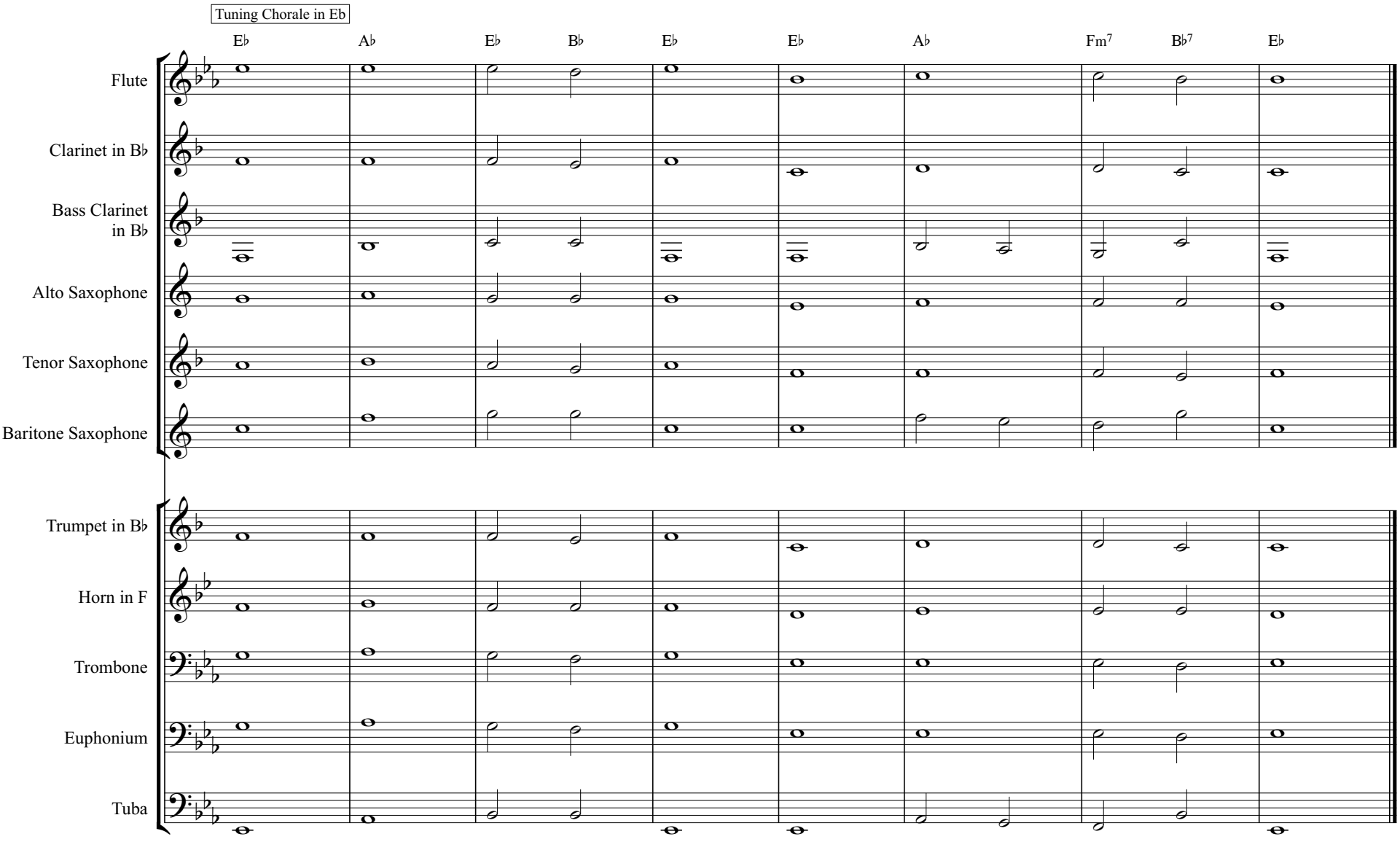
Trumpet in B♭

Horn in F

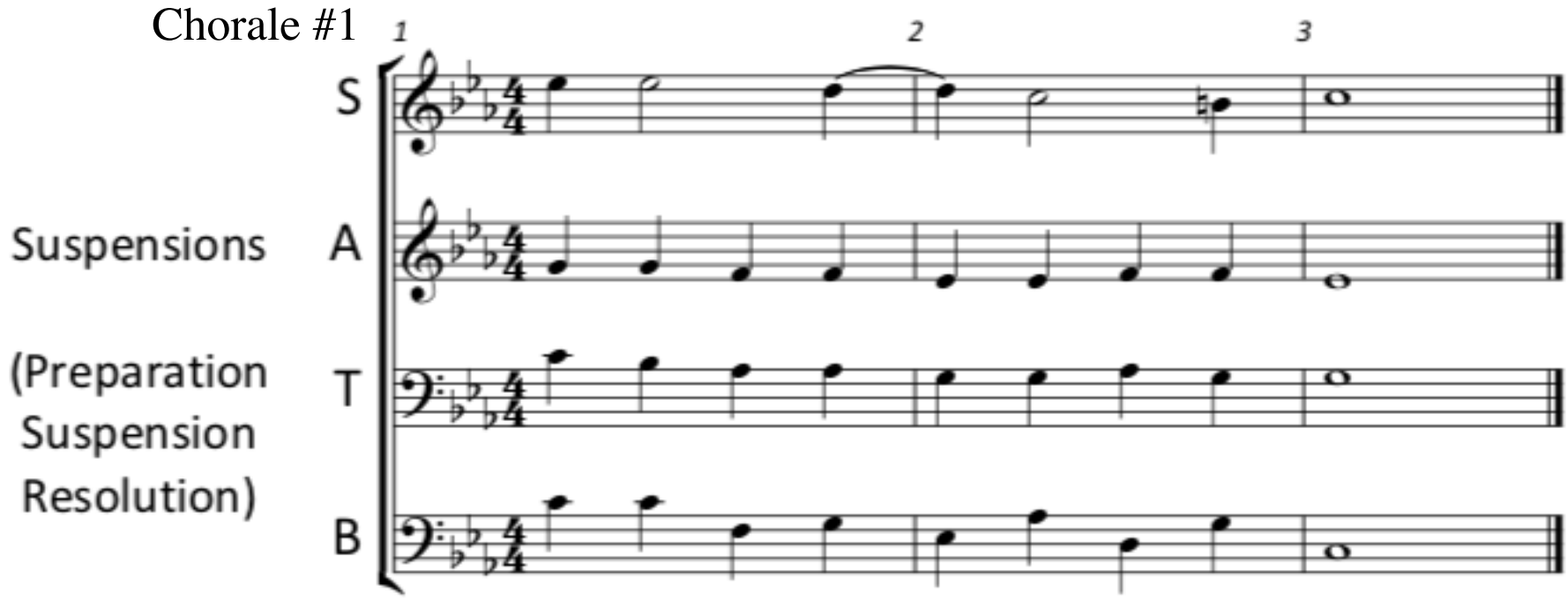
Trombone

Euphonium

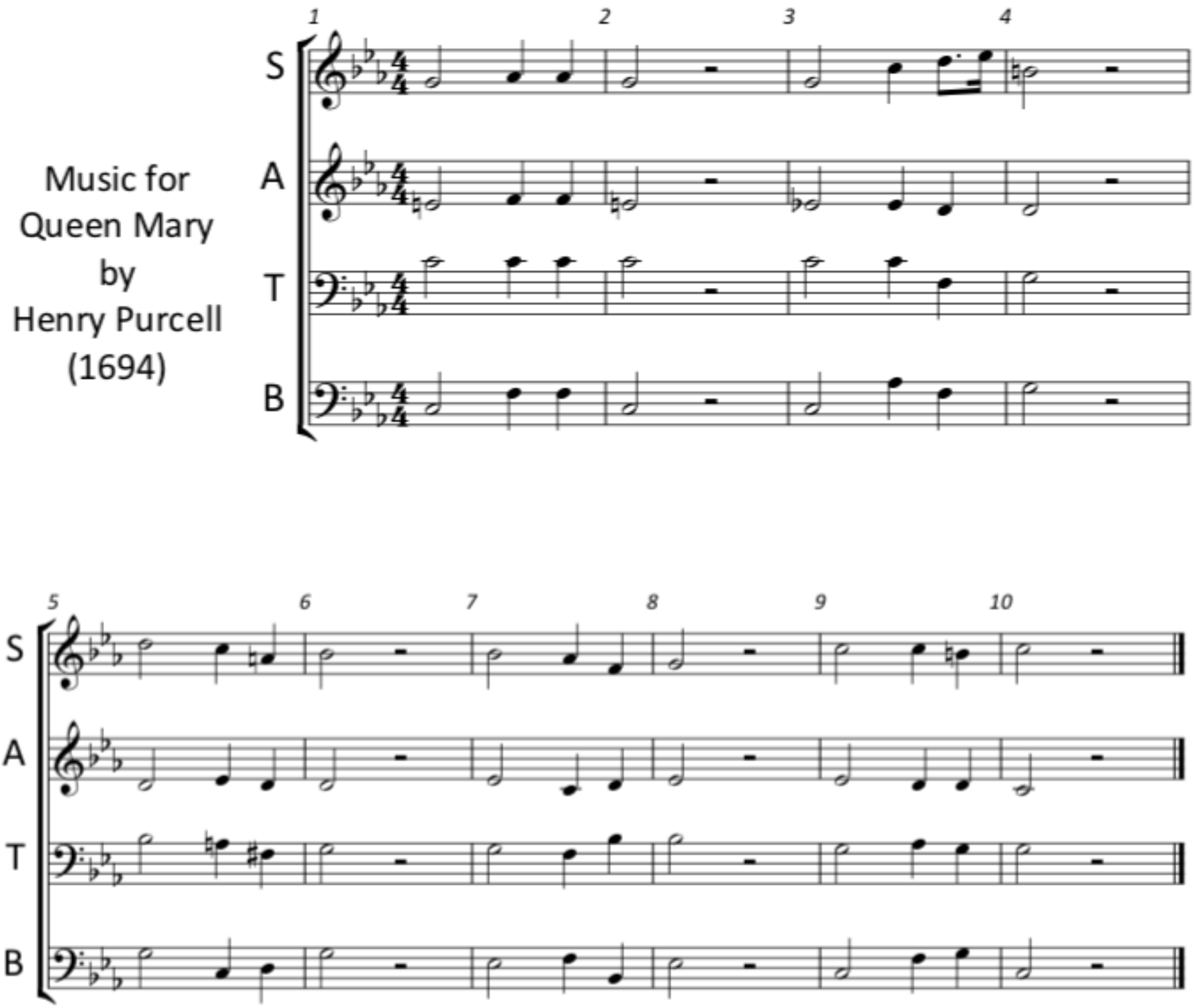
Tuba


Tuning Chorale in Eb
E♭
A♭
E♭
B♭
E♭
E♭
A♭
Fm7
B♭7
E♭
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba

Chorale #1



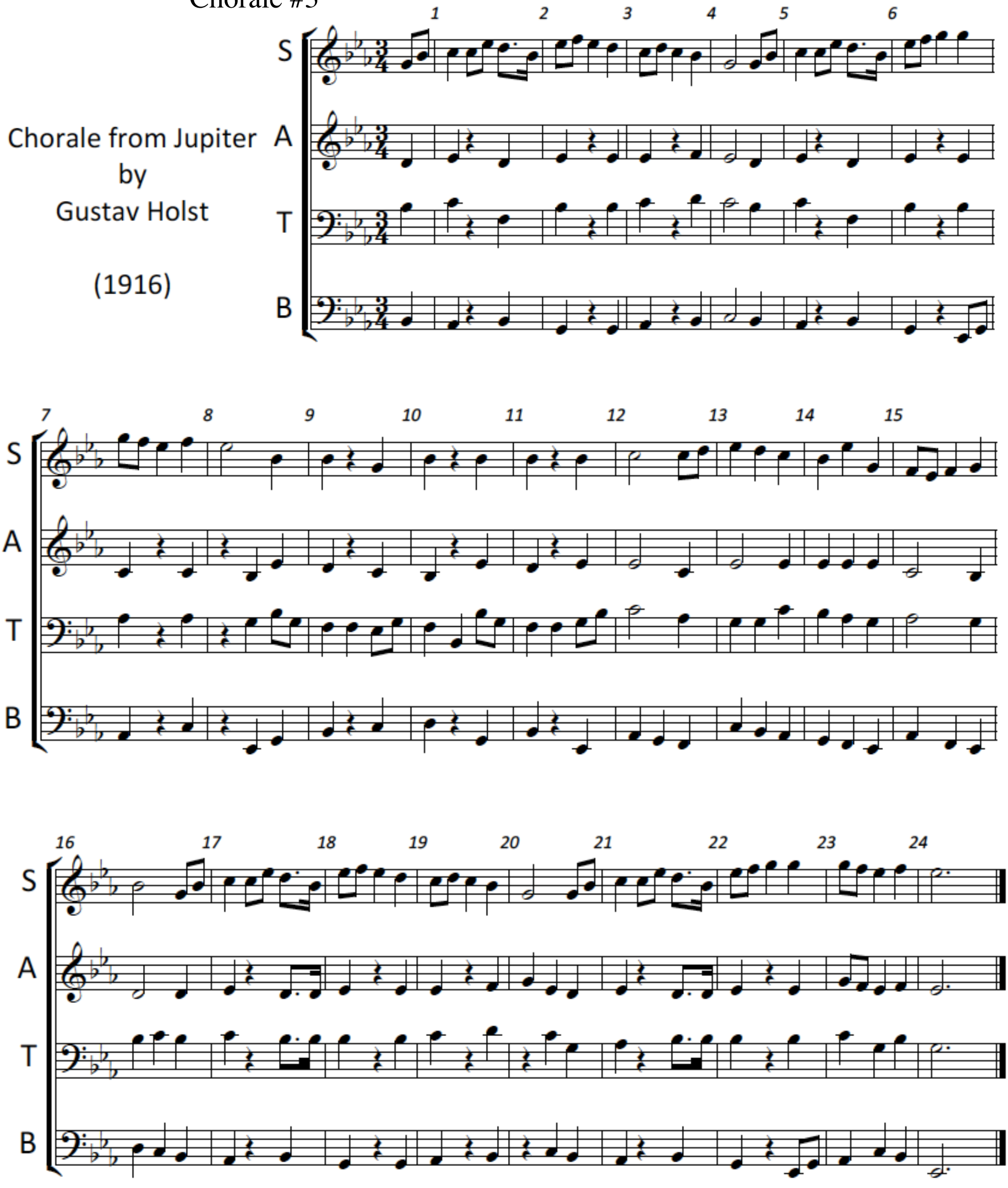
Chorale #2



Chorale #3

Chorale from Jupiter
by
Gustav Holst

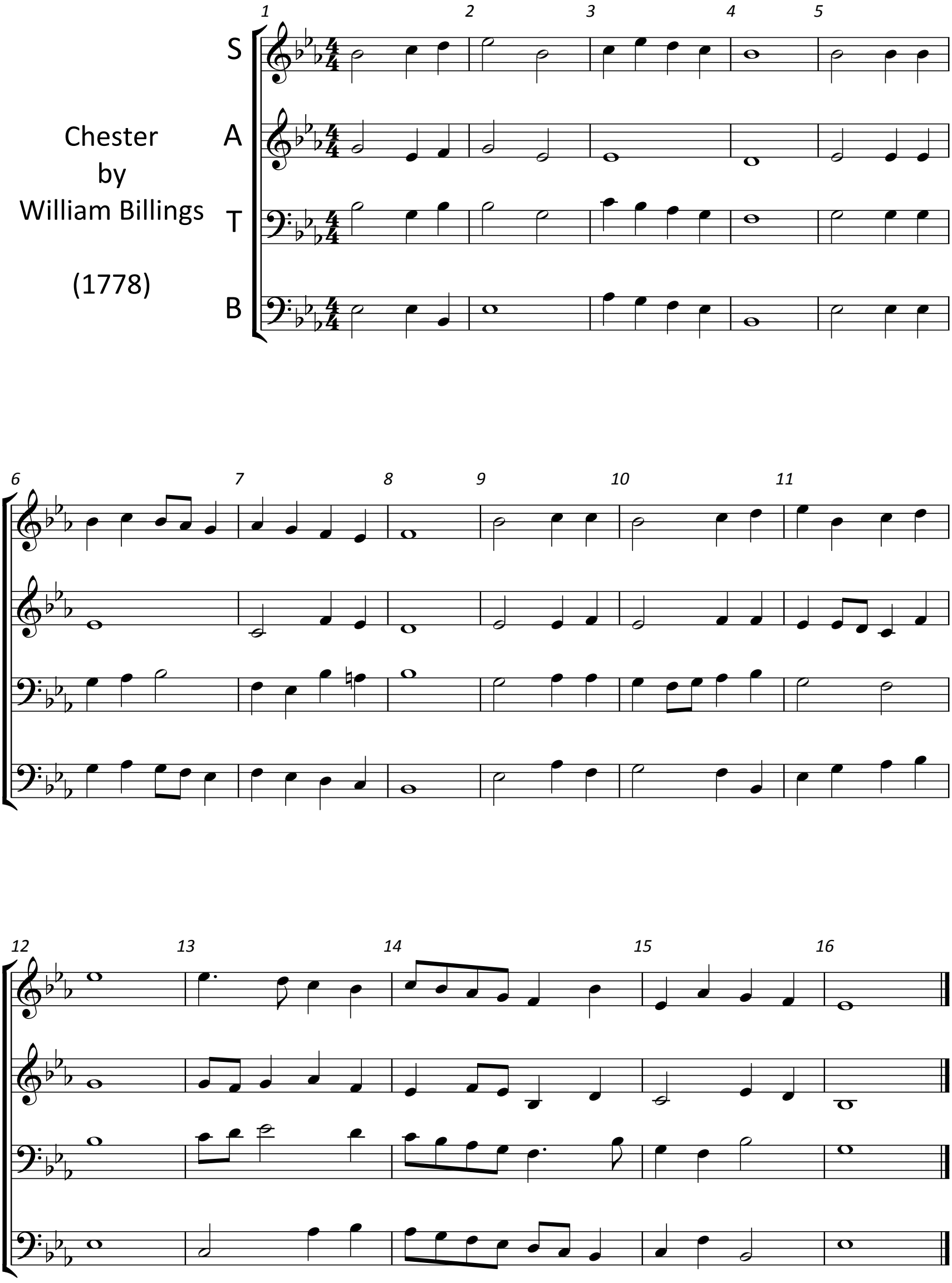
(1916)



Chorale #4

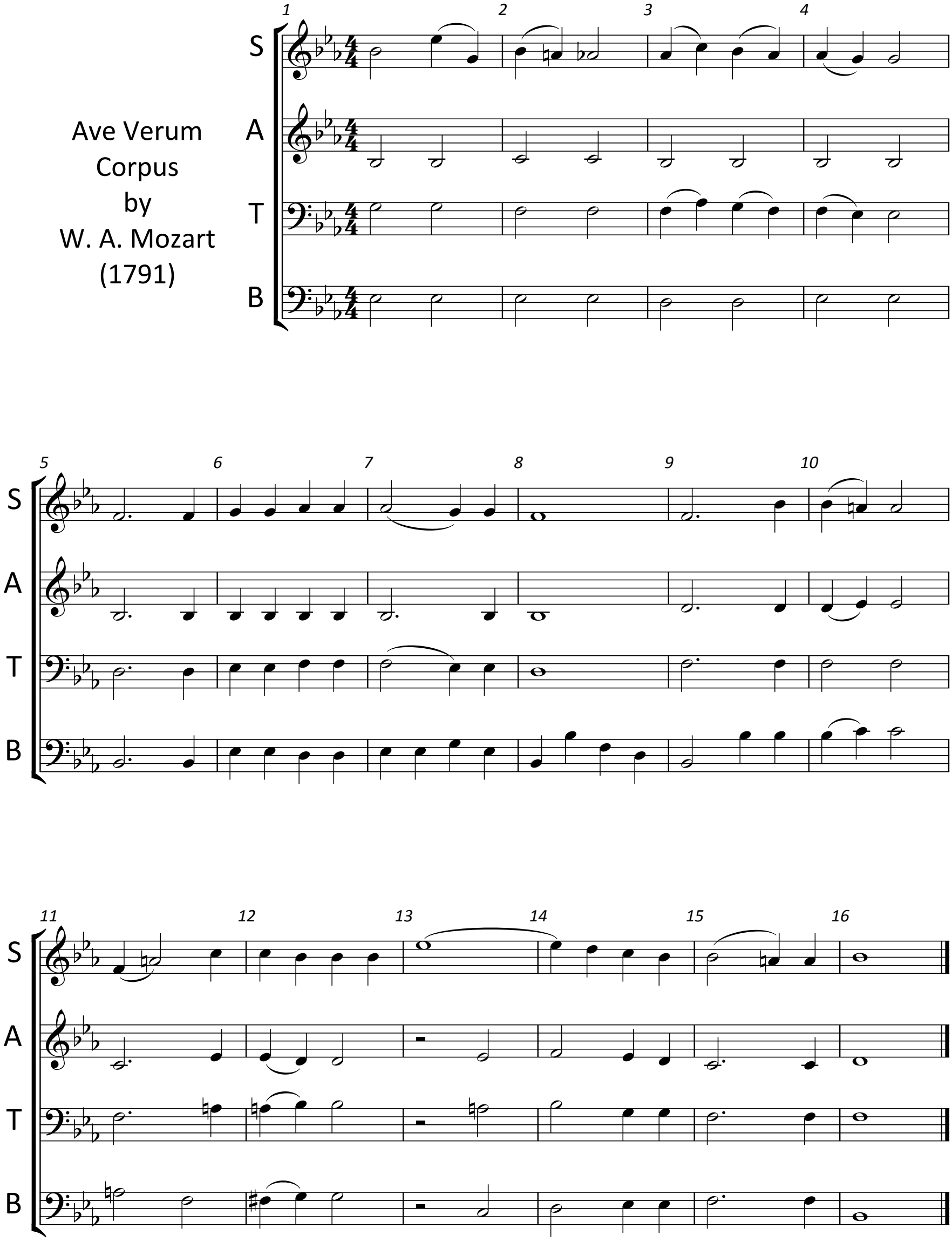
Chester
by
William Billings

(1778)



Chorale #5

Ave Verum
Corpus
by
W. A. Mozart
(1791)



Concert F

Long Tone #1

Long Tone #2

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Breathe in

Flexibility

Breathe and Sustain
(Play, Buzz, Sing, etc)

Flute
take in air
Play
Sing
Play

Clarinet in B♭
Play
Sing
Play

Bass Clarinet in B♭
Play
Sing
Play

Alto Saxophone
Play
Sing
Play

Tenor Saxophone
Play
Sing
Play

Baritone Saxophone
Play
Sing
Play

Trumpet in B♭
Play
Sing
Play

Horn in F
Play
Sing
Play

Trombone
Play
Sing
Play

Euphonium
Play
Sing
Play

Tuba
Play
Sing
Play

Interval Study on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 5ths

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Interval Study in 5ths

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 3rds

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning Unison Notes

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Intervals with a Drone

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning the 5th

breath in

Tuning the 3rd

breath in

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

F Major Chord

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

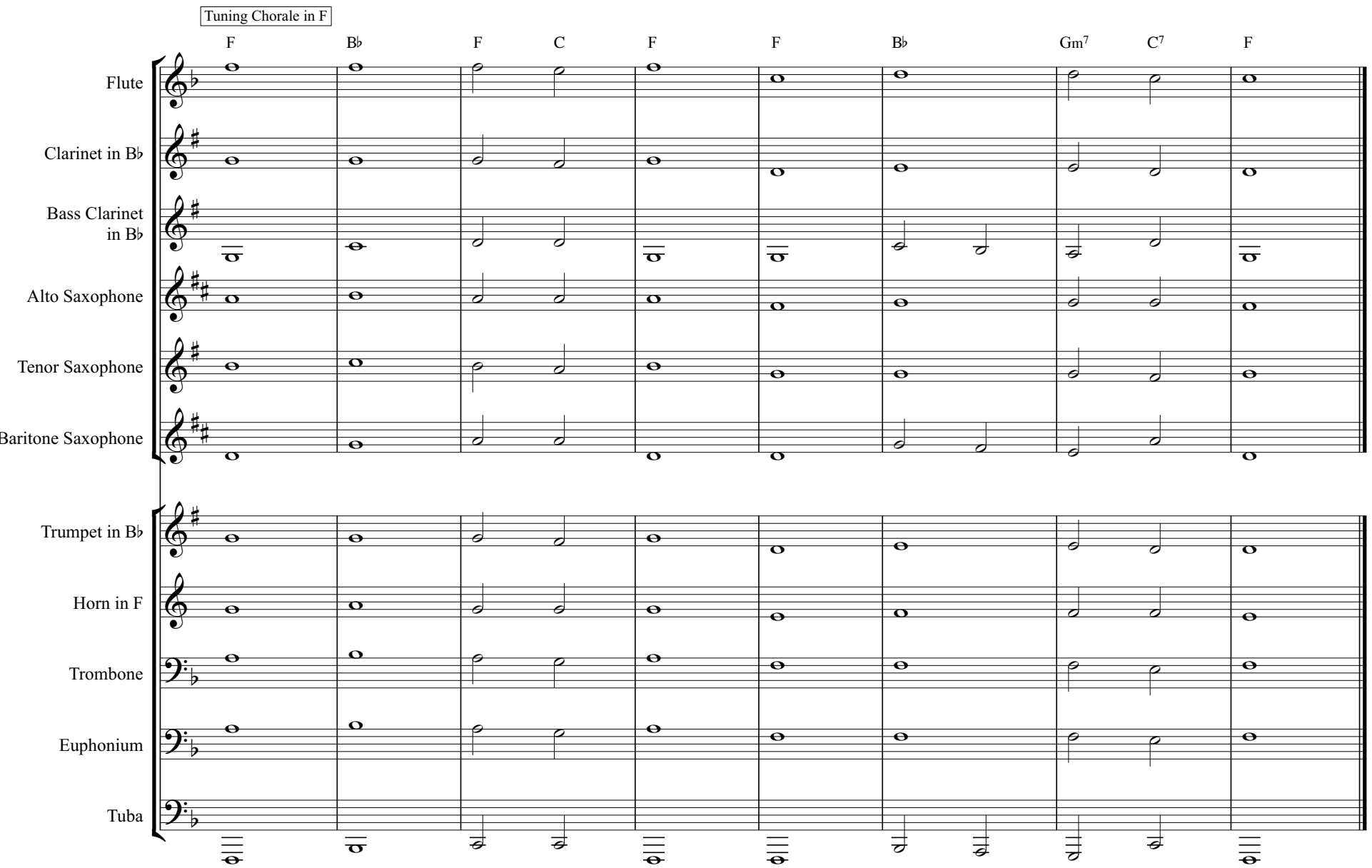
Trumpet in B♭

Horn in F

Trombone

Euphonium

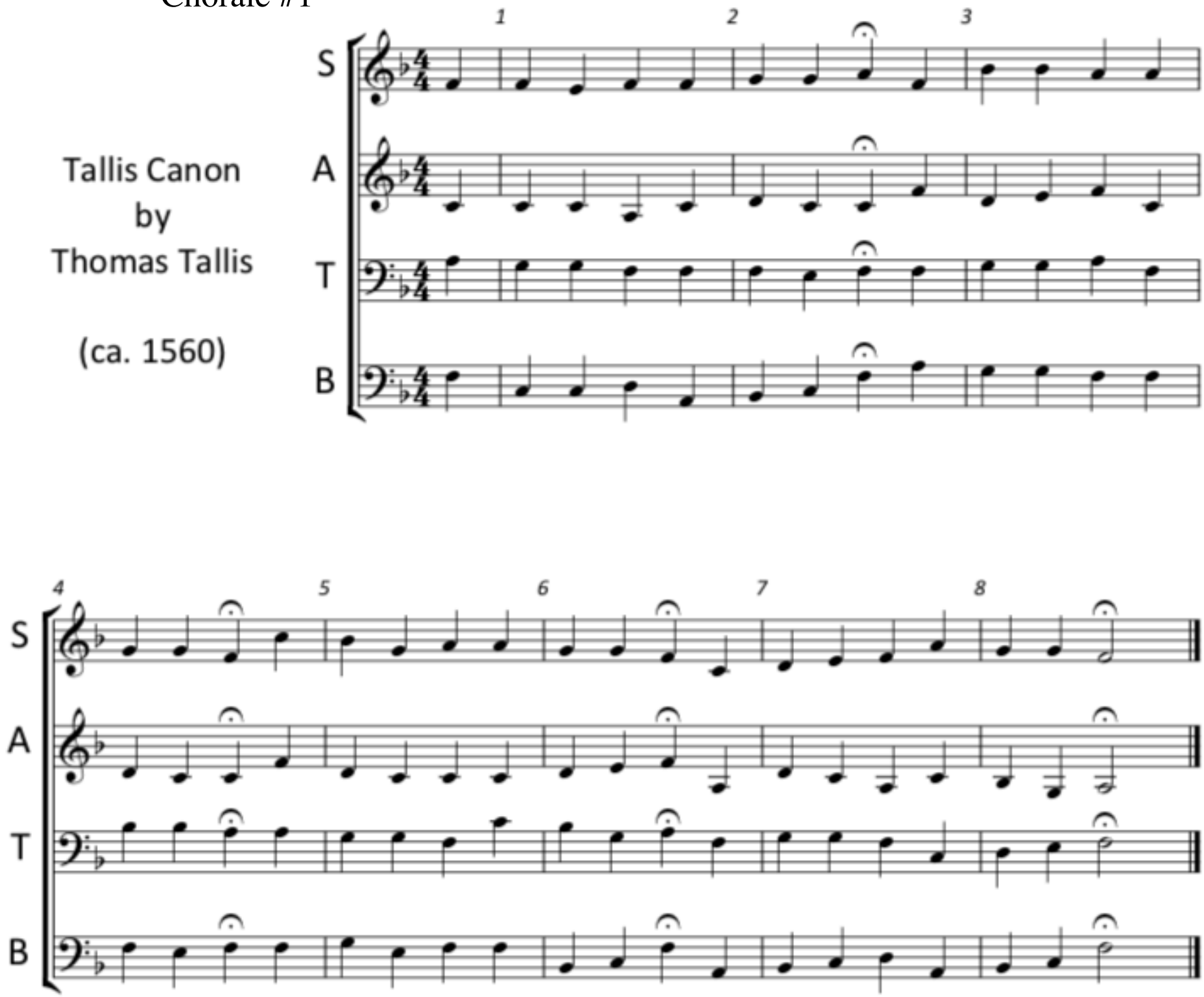
Tuba


Tuning Chorale in F
F
B♭
F
C
F
F
B♭
Gm7
C7
F
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba

Chorale #1

Tallis Canon
by
Thomas Tallis

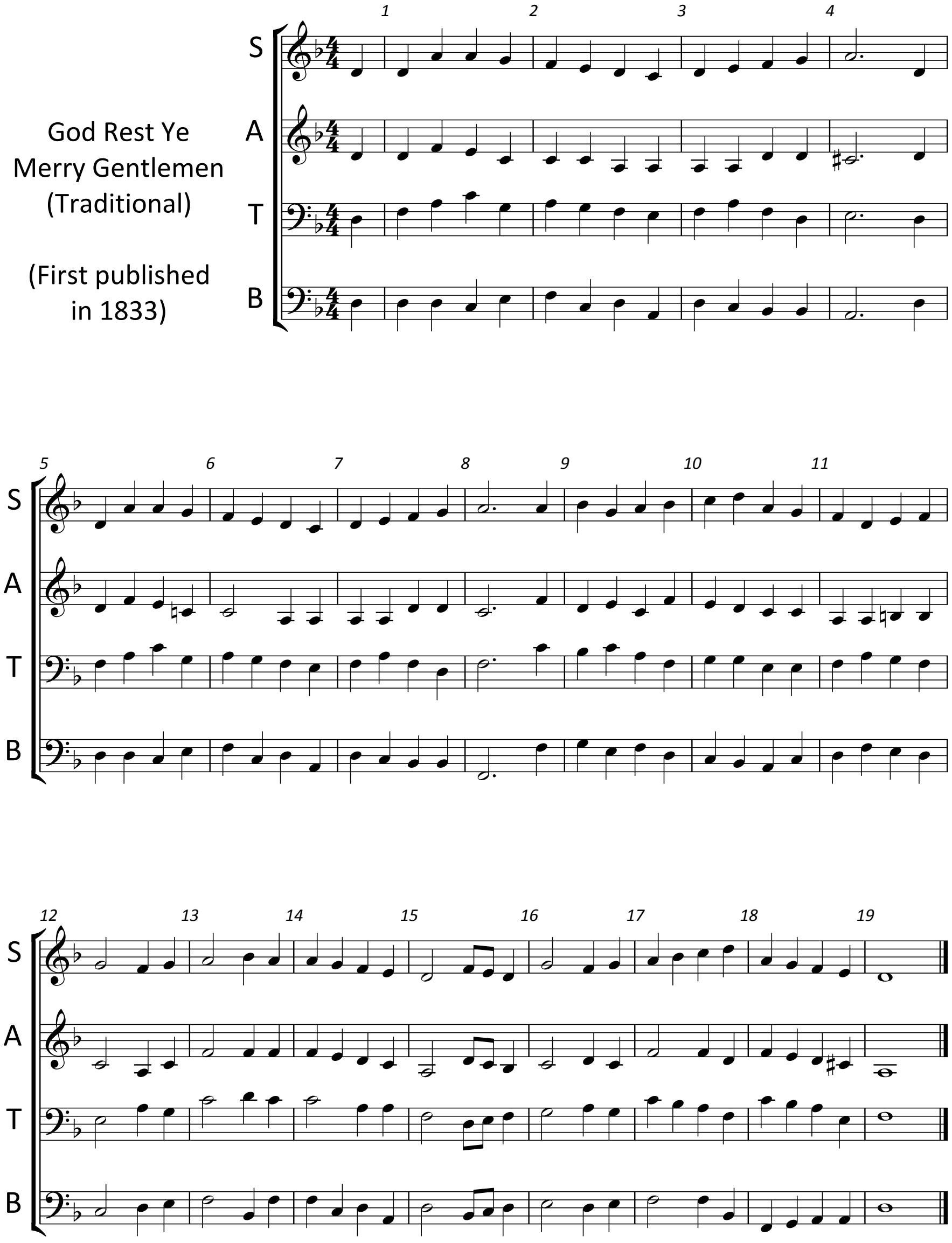
(ca. 1560)



Chorale #2

God Rest Ye
Merry Gentlemen
(Traditional)

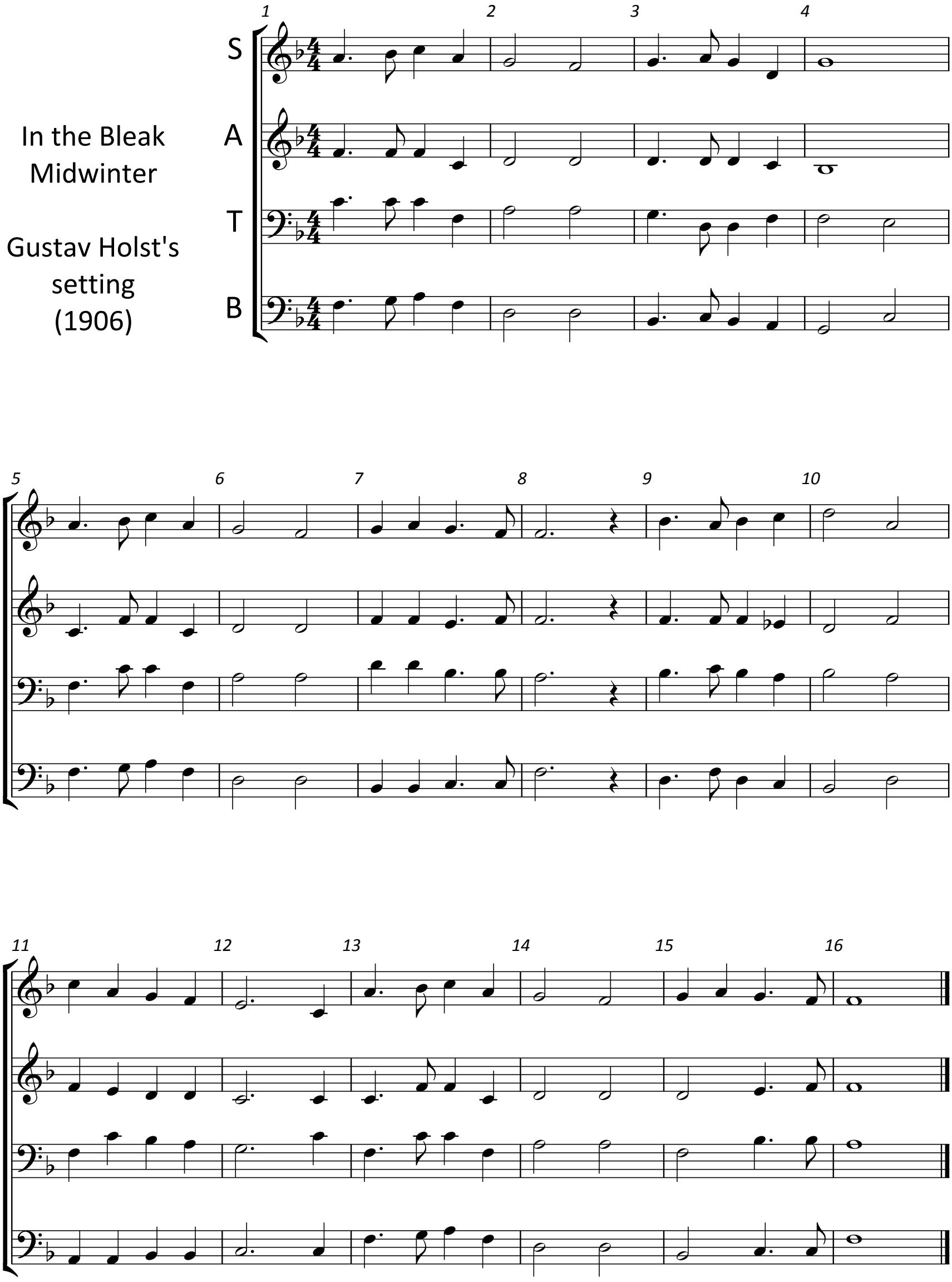
(First published
in 1833)



Chorale #3

In the Bleak Midwinter

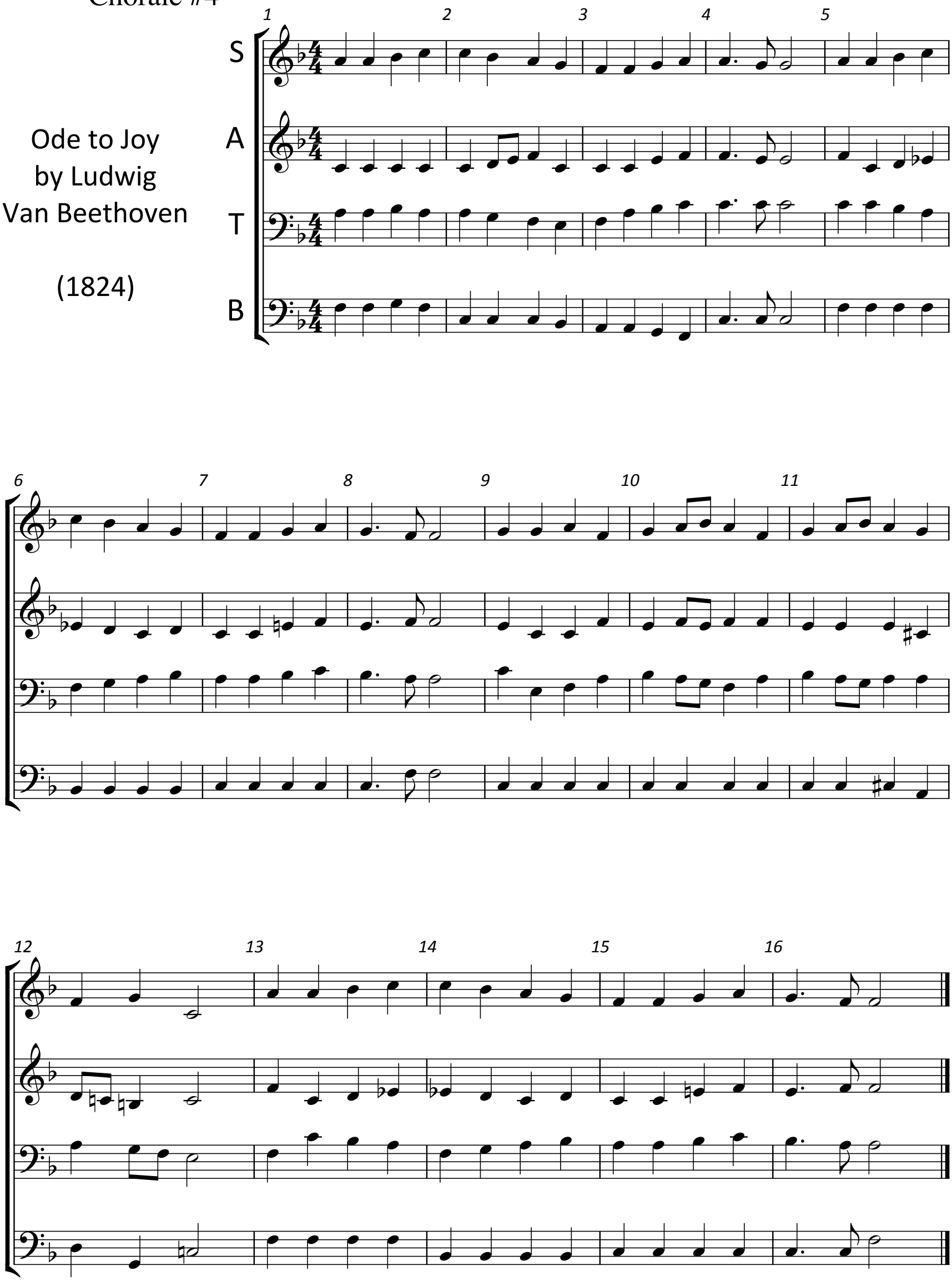
Gustav Holst's setting (1906)



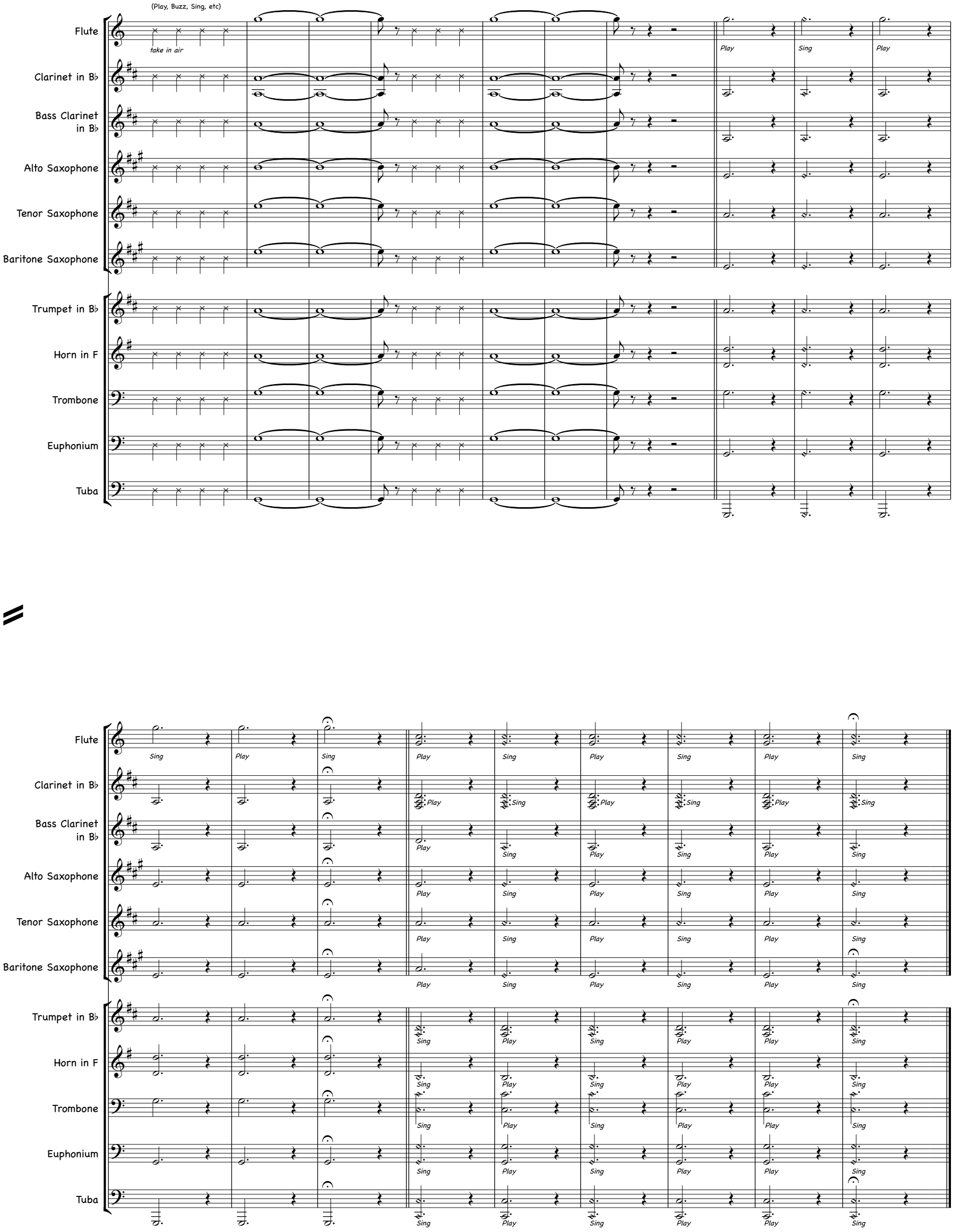
Chorale #4

Ode to Joy
by Ludwig
Van Beethoven

(1824)



Concert C


(Play, Buzz, Sing, etc)
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba
take in air
Play
Sing
Play

Long Tone #1

Long Tone #2

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Breathe in

Breathe in

Breathe in

Breathe in

Flexibility

Interval Study on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 5ths

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 3rds

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning Unison Notes

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Intervals on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning the 5th

breath in

Tuning the 3rd

breath in

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Bb Major Chord

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

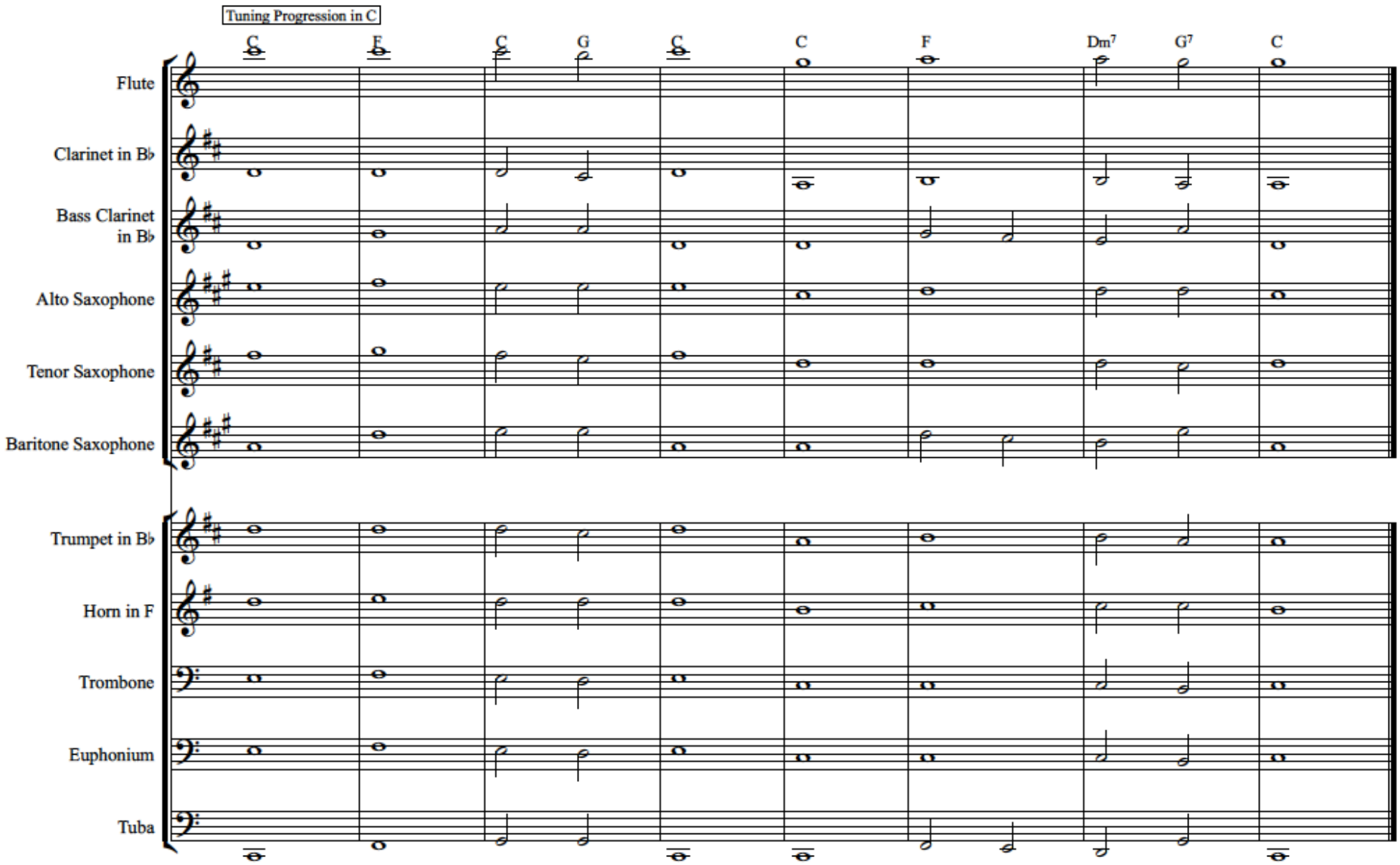
Trumpet in B♭

Horn in F

Trombone

Euphonium

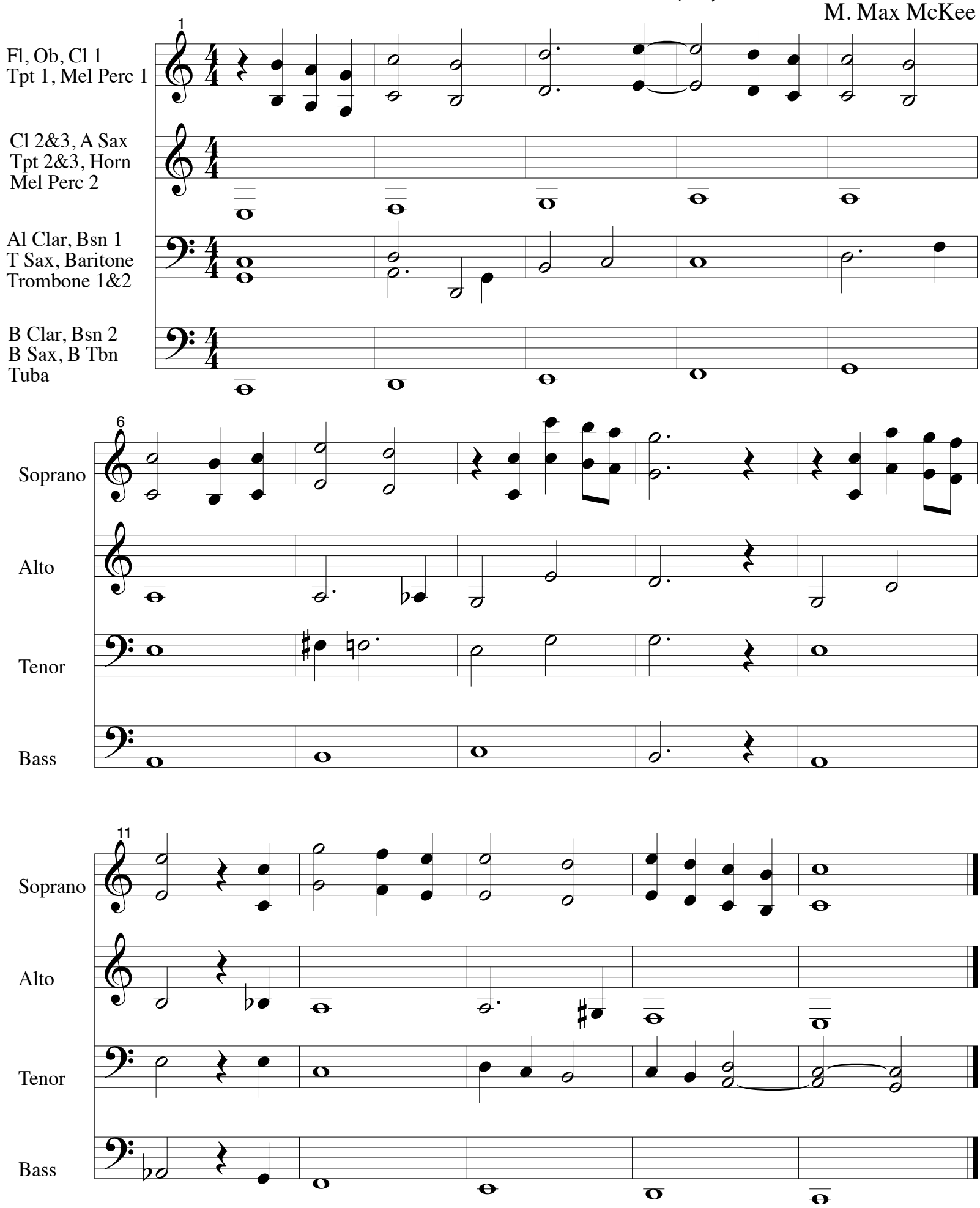
Tuba


Tuning Progression in C
C
E
C
G
C
C
F
Dm7
G7
C
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba

Score

Chorale on a Scale (C)

M. Max McKee



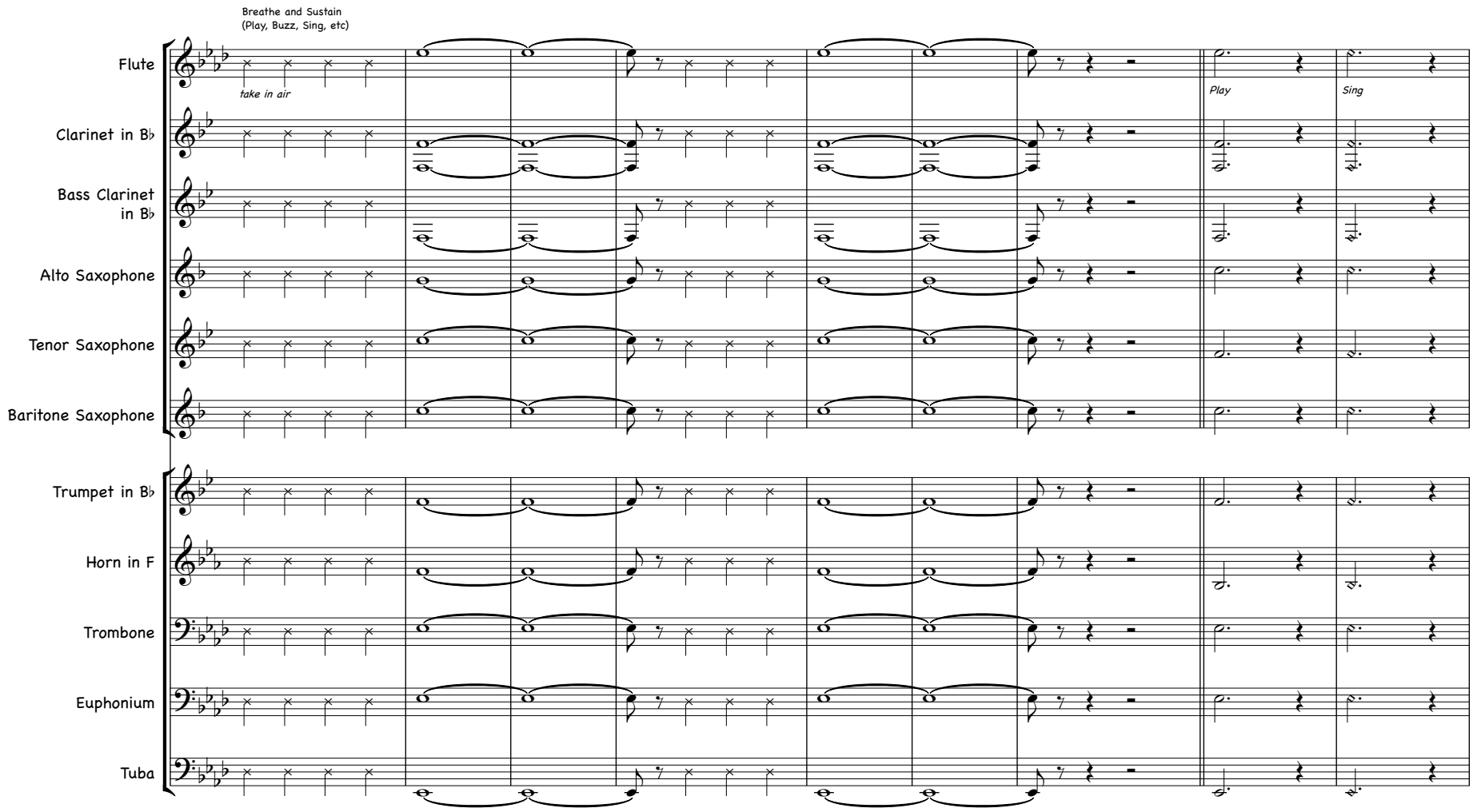
The music on these pages are excerpts from the new American Band College/Bandworld Magazine band book:

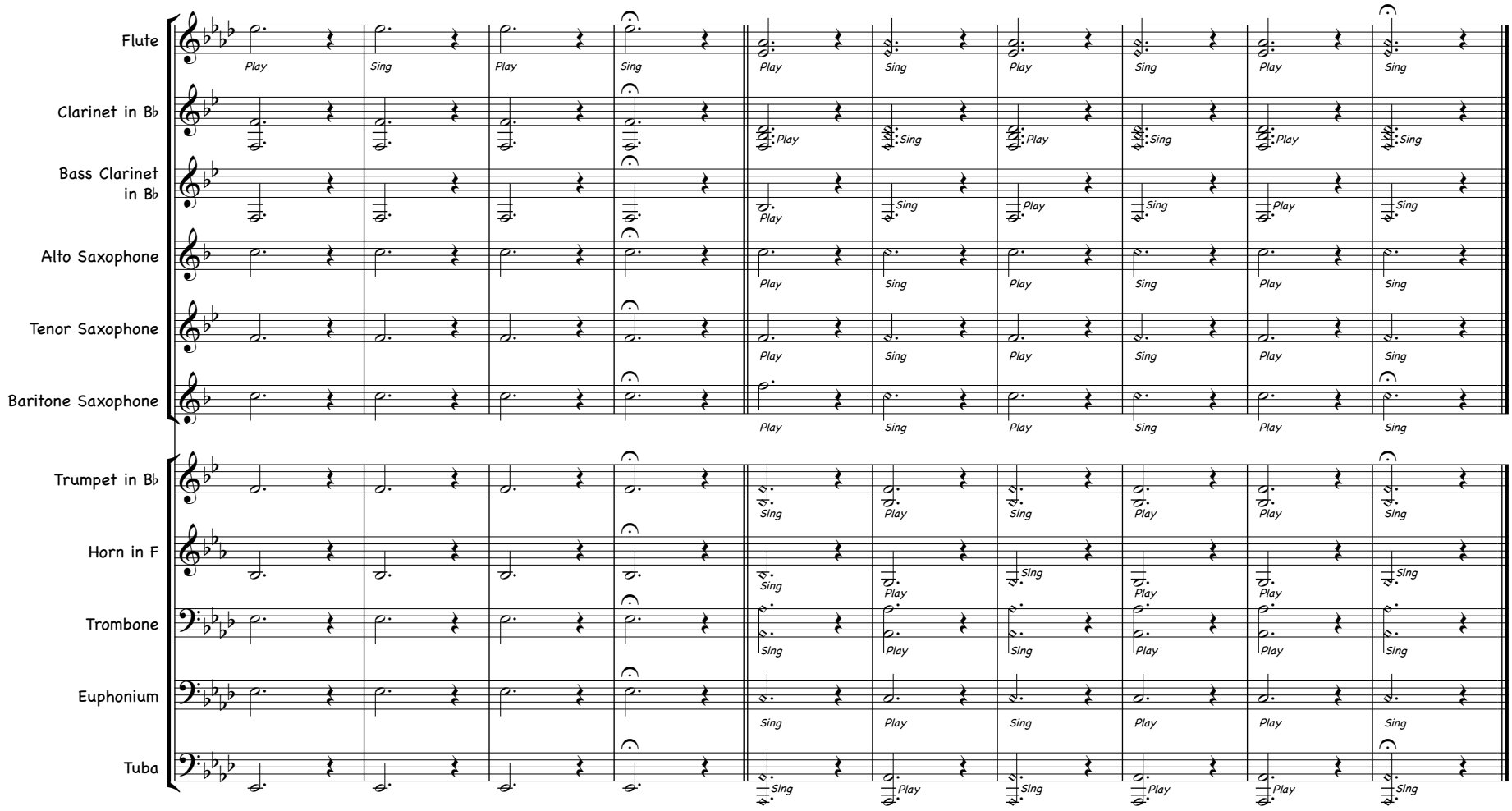
Warm-ups That Work

Including dozens of technical exercises, scales, intonation trainers, and chorales by famous composers.

Available through: WIBC Publishing • 407 Terrace Street • Ashland, OR 97520

Concert Ab


Breathe and Sustain
(Play, Buzz, Sing, etc)
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba
take in air
Play
Sing


Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba
Play
Sing

Long Tone #1

Long Tone #2

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Breathe in

Breathe in

Breathe in

Breathe in

Flexibility

Breathe in

Breathe in

Interval Study on a Scale

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 5ths

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Interval Study in 5ths

Horn in F

Trombone

Euphonium

Tuba

Interval Study in 3rds

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning Unison Notes

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Intervals with a Drone

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Tuning the 5th

breath in

Tuning the 3rd

breath in

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

Ab Major Chord

Flute

Clarinet in B♭

Bass Clarinet in B♭

Alto Saxophone

Tenor Saxophone

Baritone Saxophone

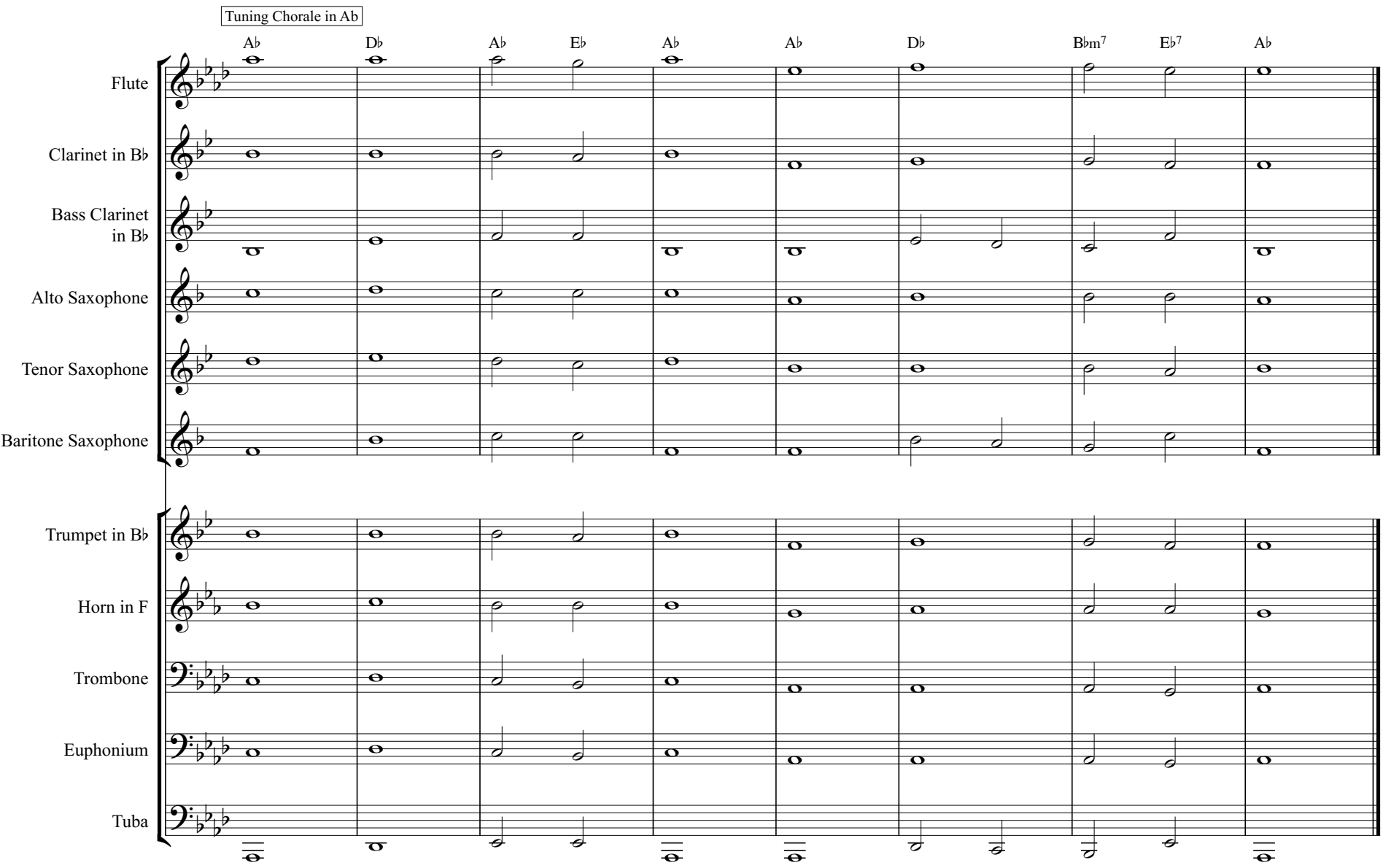
Trumpet in B♭

Horn in F

Trombone

Euphonium

Tuba

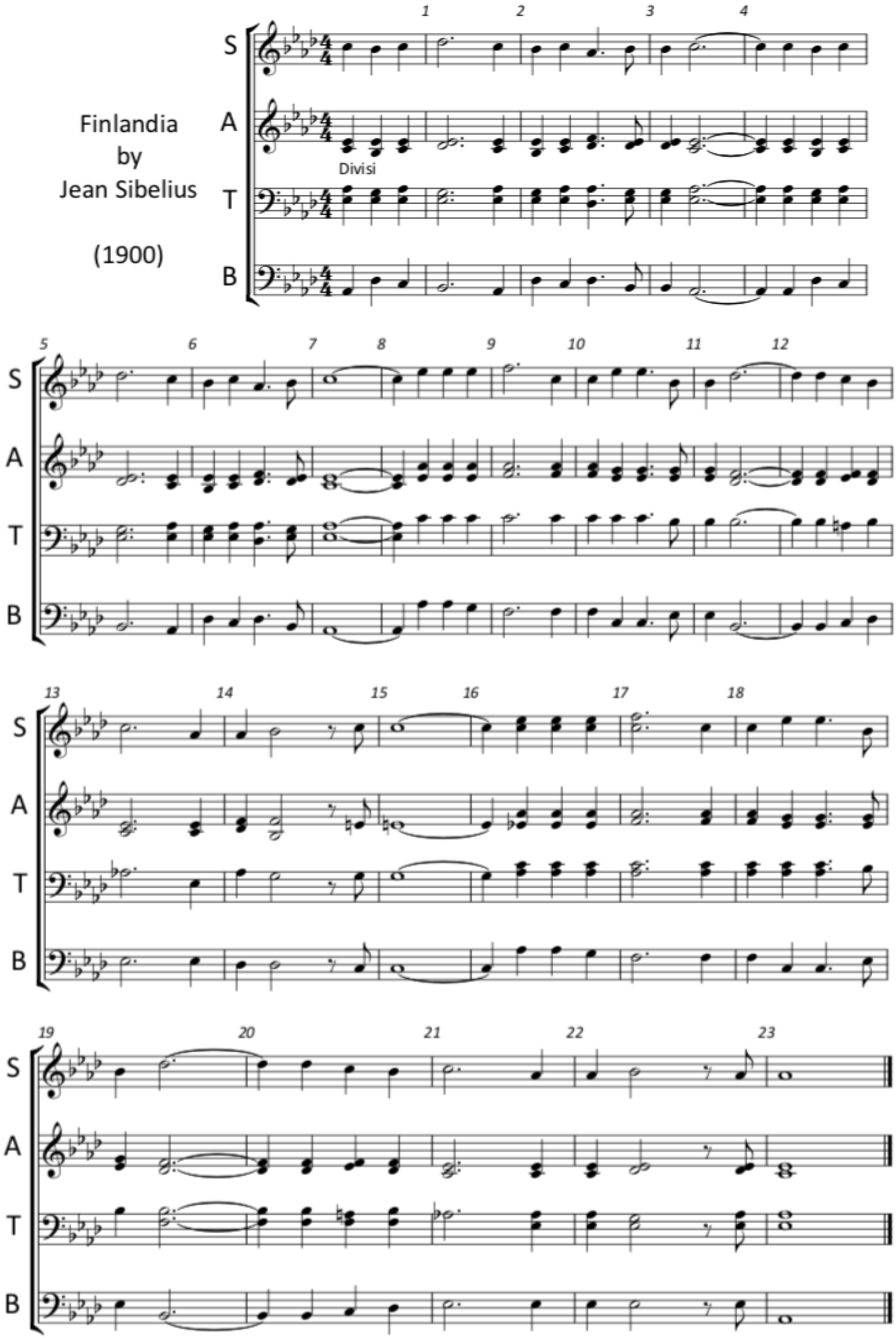

Tuning Chorale in Ab
A♭
D♭
A♭
E♭
A♭
A♭
D♭
B♭m7
E♭7
A♭
Flute
Clarinet in B♭
Bass Clarinet in B♭
Alto Saxophone
Tenor Saxophone
Baritone Saxophone
Trumpet in B♭
Horn in F
Trombone
Euphonium
Tuba

Chorale in Concert Ab

Chorale #1

Finlandia
by
Jean Sibelius

(1900)



Best Tuning Notes for Instruments

Woodwinds		
Instrument	On Mouthpiece	**On Instrument**
Flute	A on stopped or open head joint	Bb, F, A
Clarinet	C on mouthpiece	G, C
Bass Clarinet	F# on mouthpiece	G, C
Alto Saxophone	A on mouthpiece	F#, G
Tenor Saxophone	G on mouthpiece	F#, G
Bari Saxophone	D or D# on mouthpiece	F#, G

Brass	
Instrument	**On Instrument**
Trumpet	C, G, B
French Horn	C, F
Trombone	Bb, F
Euphonium	Bb, F
Tuba	Bb, F

Pitch Tendency Chart

Name _____ Instrument _____

Begin the process by making sure that you are in tune with the tuner. Then select a note in the middle register of the instrument, and proceed by alternating down a half step, up a half step, down a whole step, etc. Have a partner write in your tendencies. The instrument name indicates the lowest written pitch to be checked.

DATE	FLUTE	HORN				CLARINET		BASSOON TRUMPET				SAXOPHONE		OBOE				TROMBONE / EUPHONIUM TUBA				
	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G	G♯ A♭	A	A♯ B♭	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G	G♯ A♭

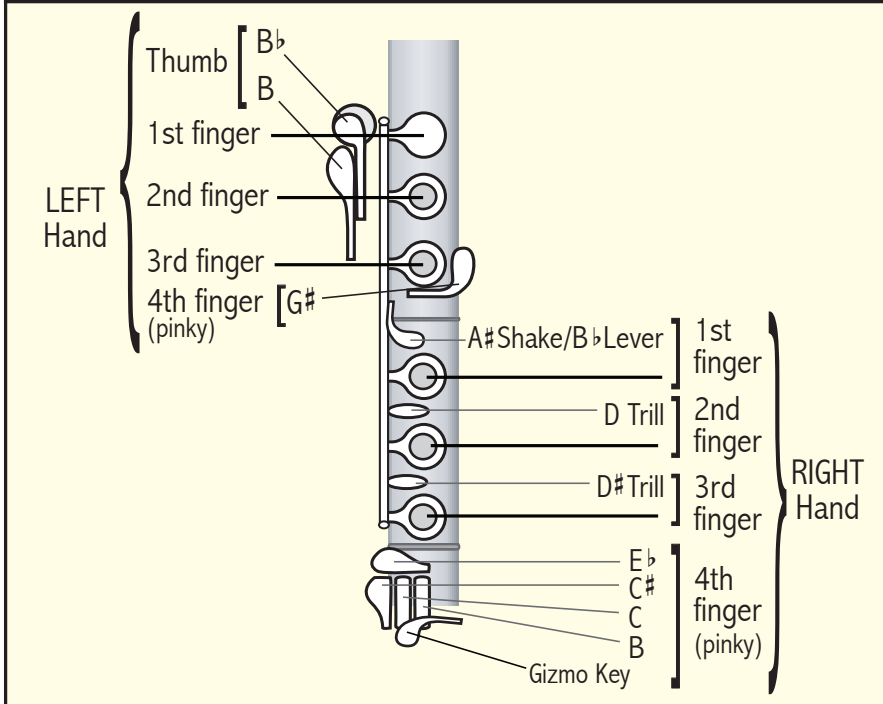
A	A♯ B♭	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G	G♯ A♭	A	A♯ B♭	B	C	C♯ D♭	D	D♯ E♭	E	F	F♯ G♭	G

Very sharp	++
Sharp	+
In tune	•
Flat	—
Very flat	— —

List the logical bad notes. Provide a solution for fixing them. Include alternate fingering.					

Fingering and Intonation Charts

Flute Key Chart



S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

F = **F**lat ***S*** = **S**harp

Stable Tuning Note — indicates notes most stable for tuning in band.

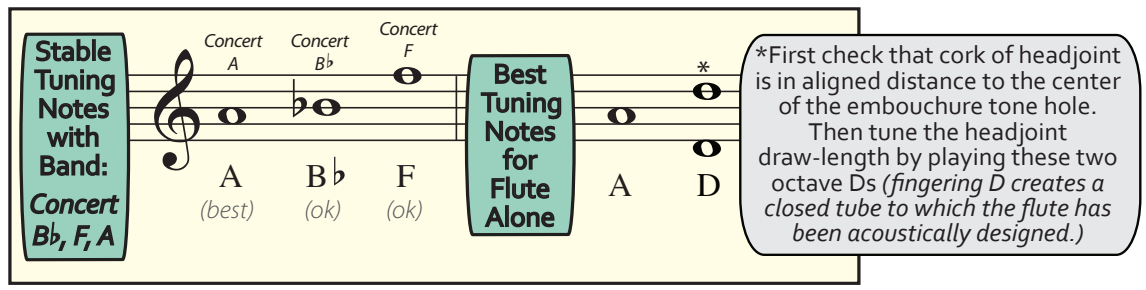
indicates suggested fingerings to ***add***.

indicates suggested fingerings to ***subtract***.

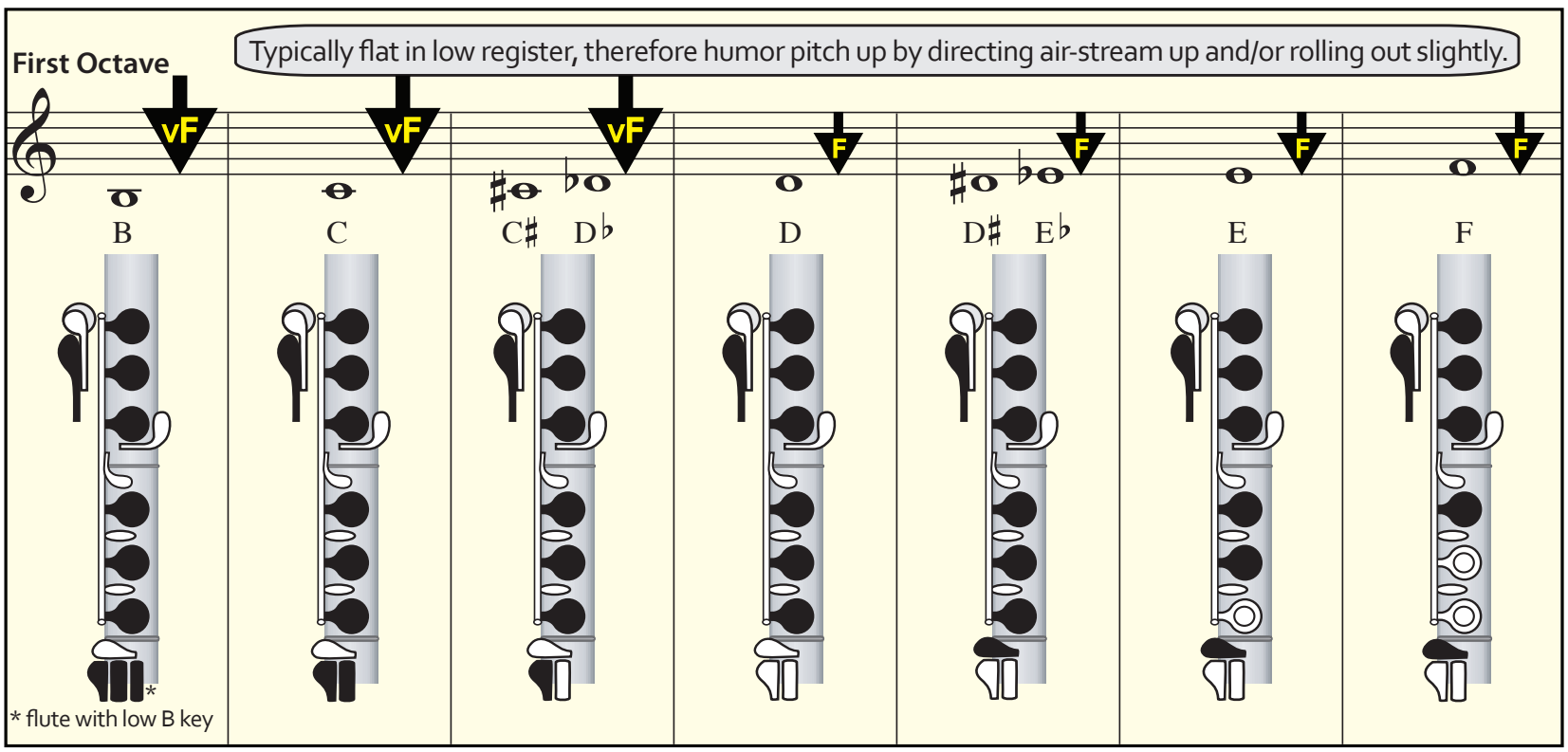
NOTE: *Fingering chart does NOT include all alternate and trill fingerings. The chart attempts to identify the best fingering choices for use in lyrical & technical passages and only when alternate fingerings must be used to correct resonance and/or pitch.*

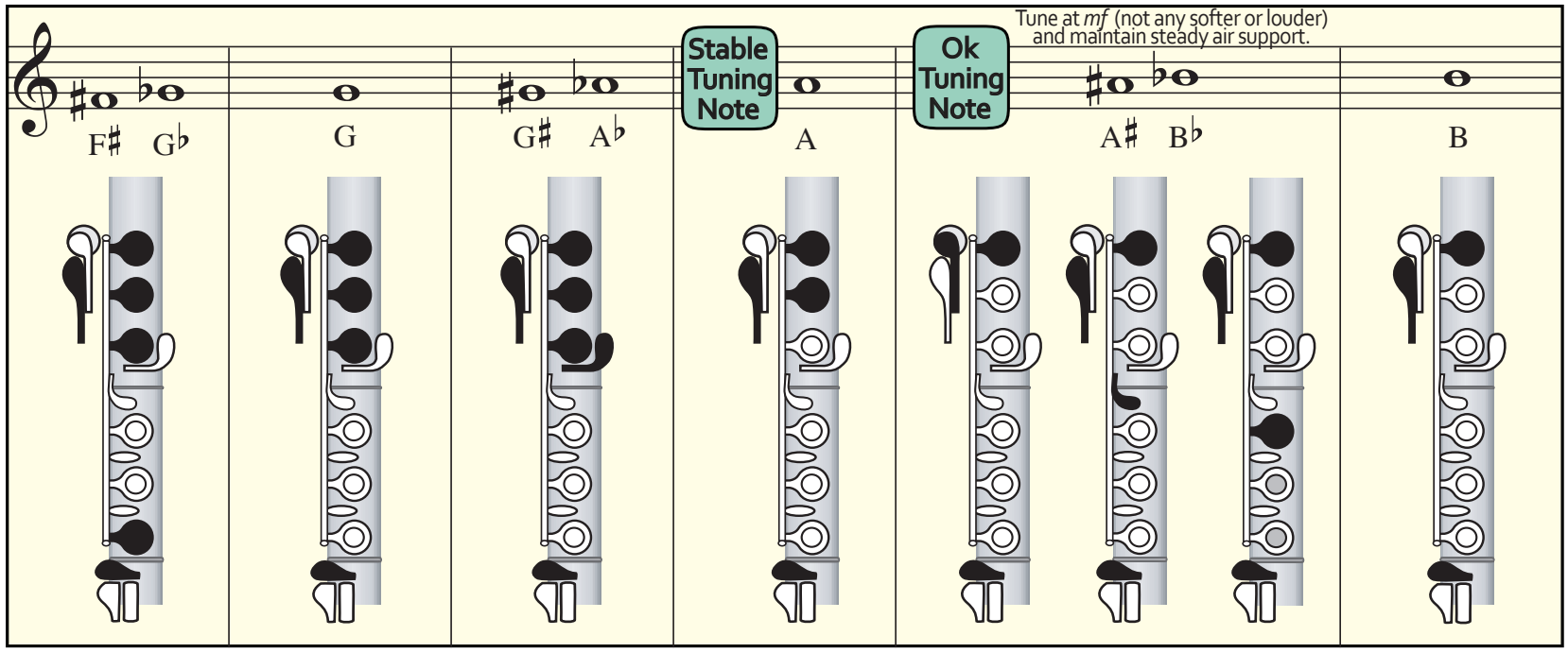
! CAUTION !

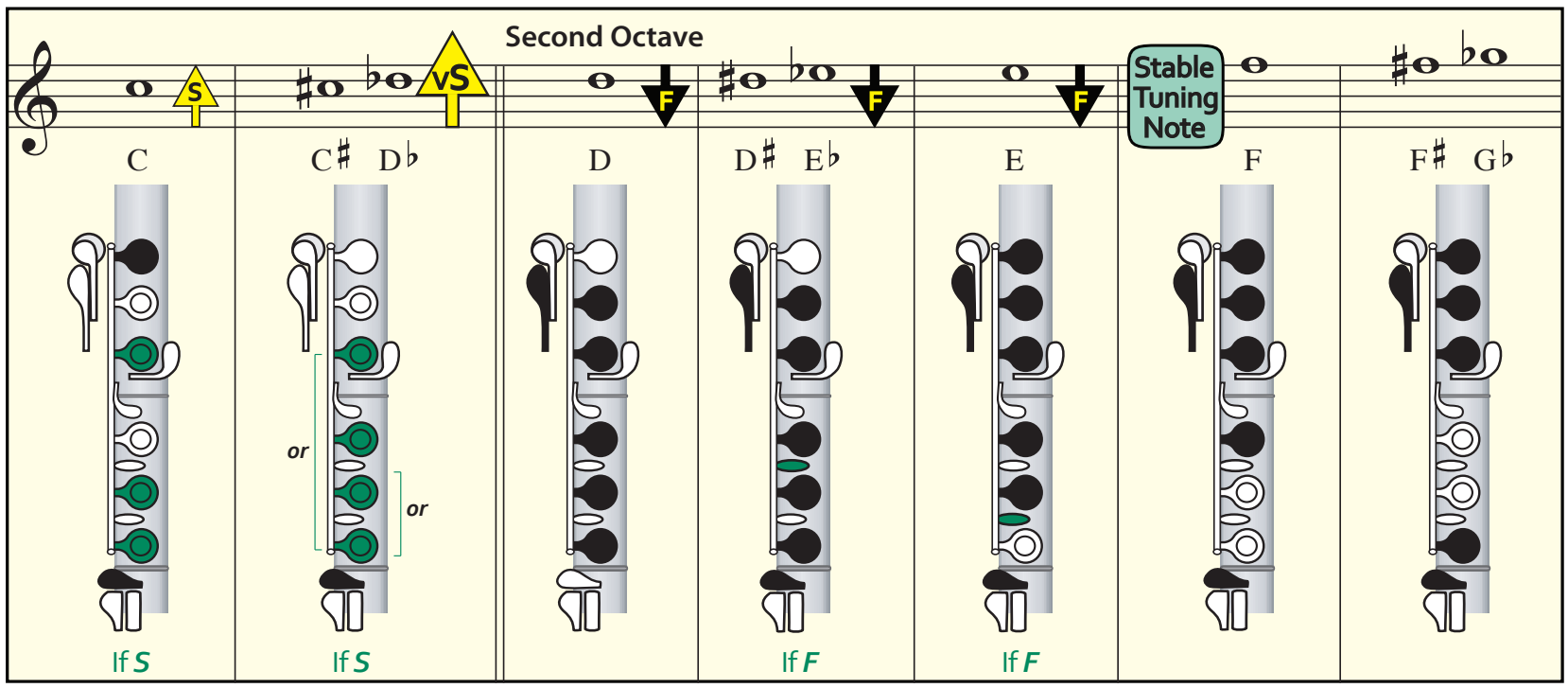
Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / place / lip*** every note in tune. Use alternate fingerings only when necessary!

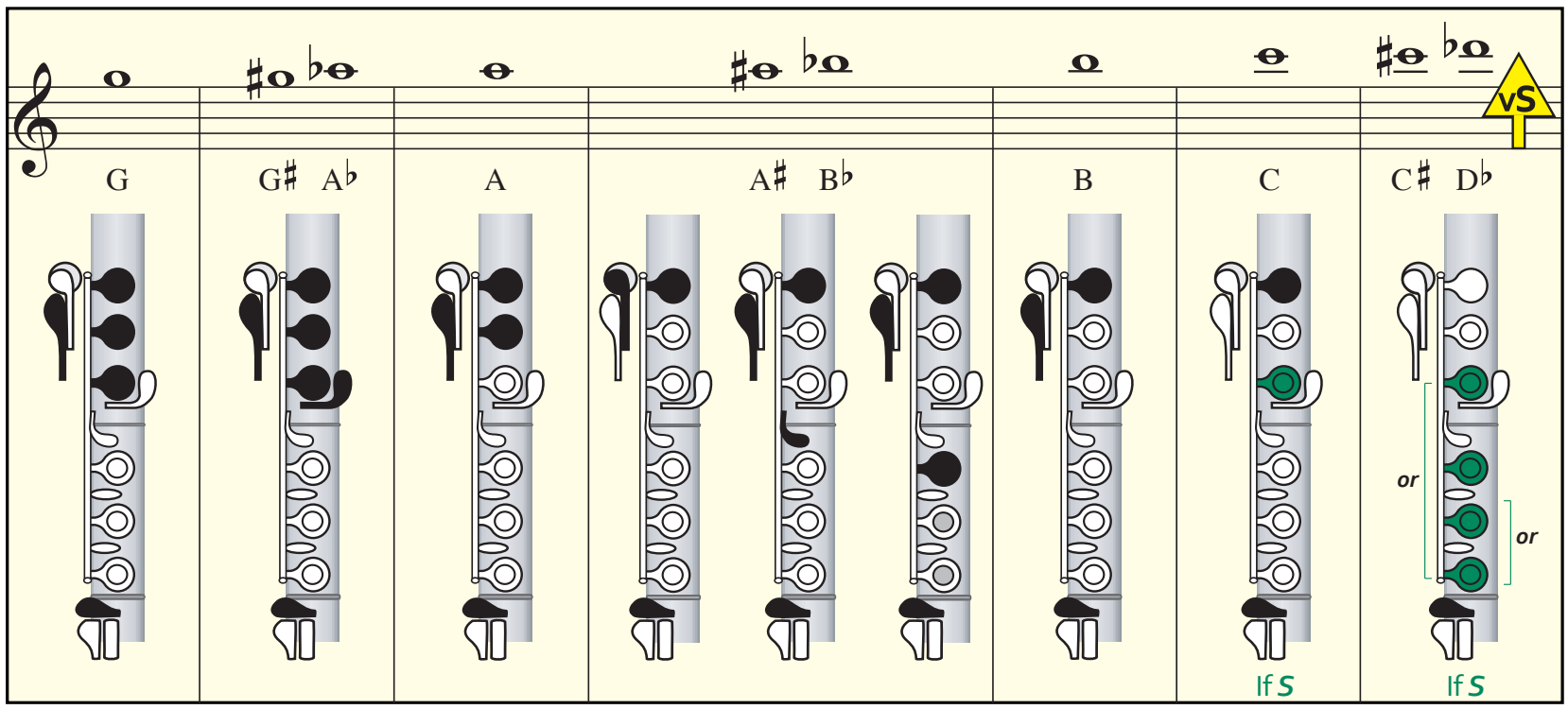


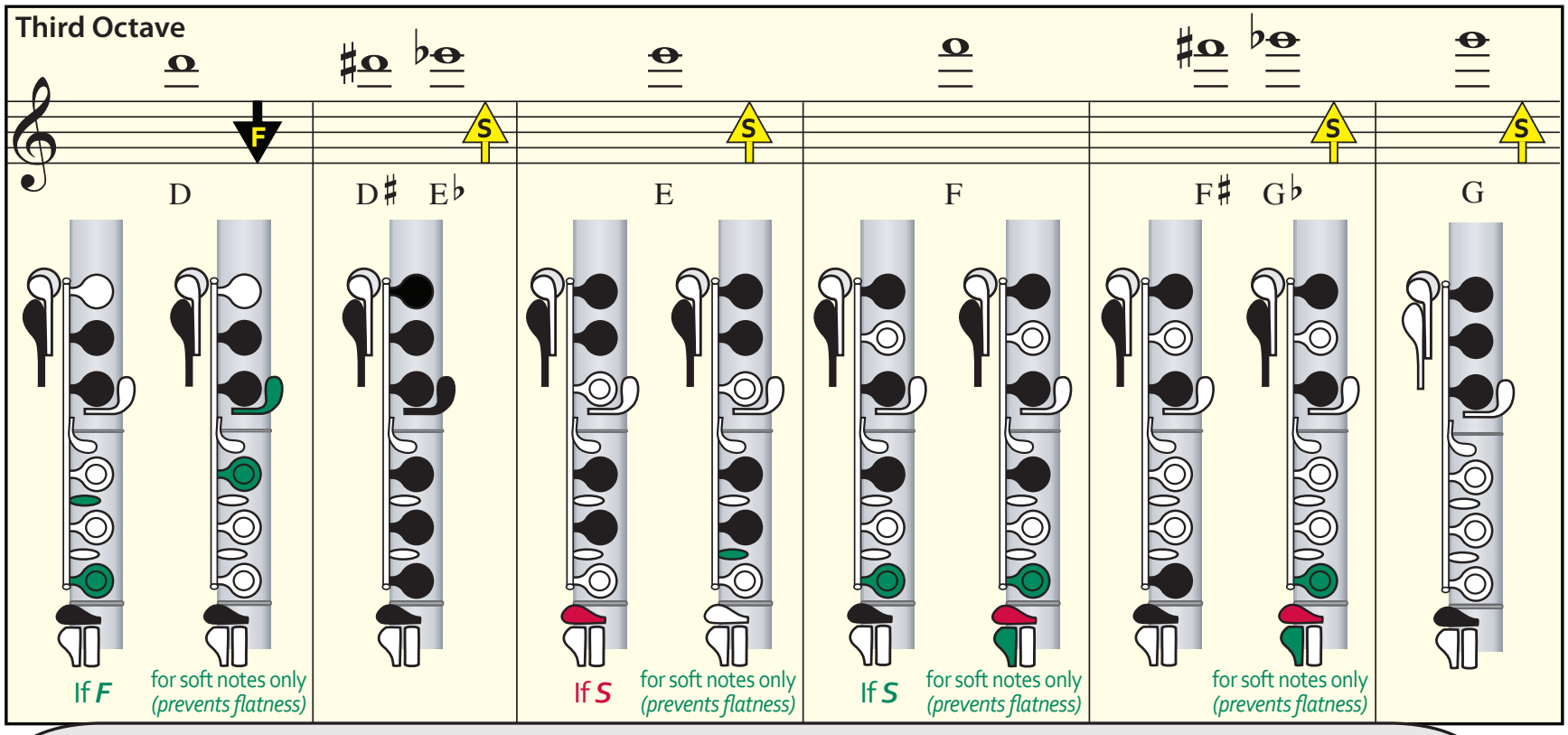
Tune instrument with headjoint by pulling out if sharp or pushing in if flat.
Headjoint cork should be 17 -17.3 mm from center of embouchure hole.
Use notch in cleaning rod to check distance. Headjoint should not be pulled out any further than 1/4" (A442 pitched flutes can be pulled out as far as 5/8")



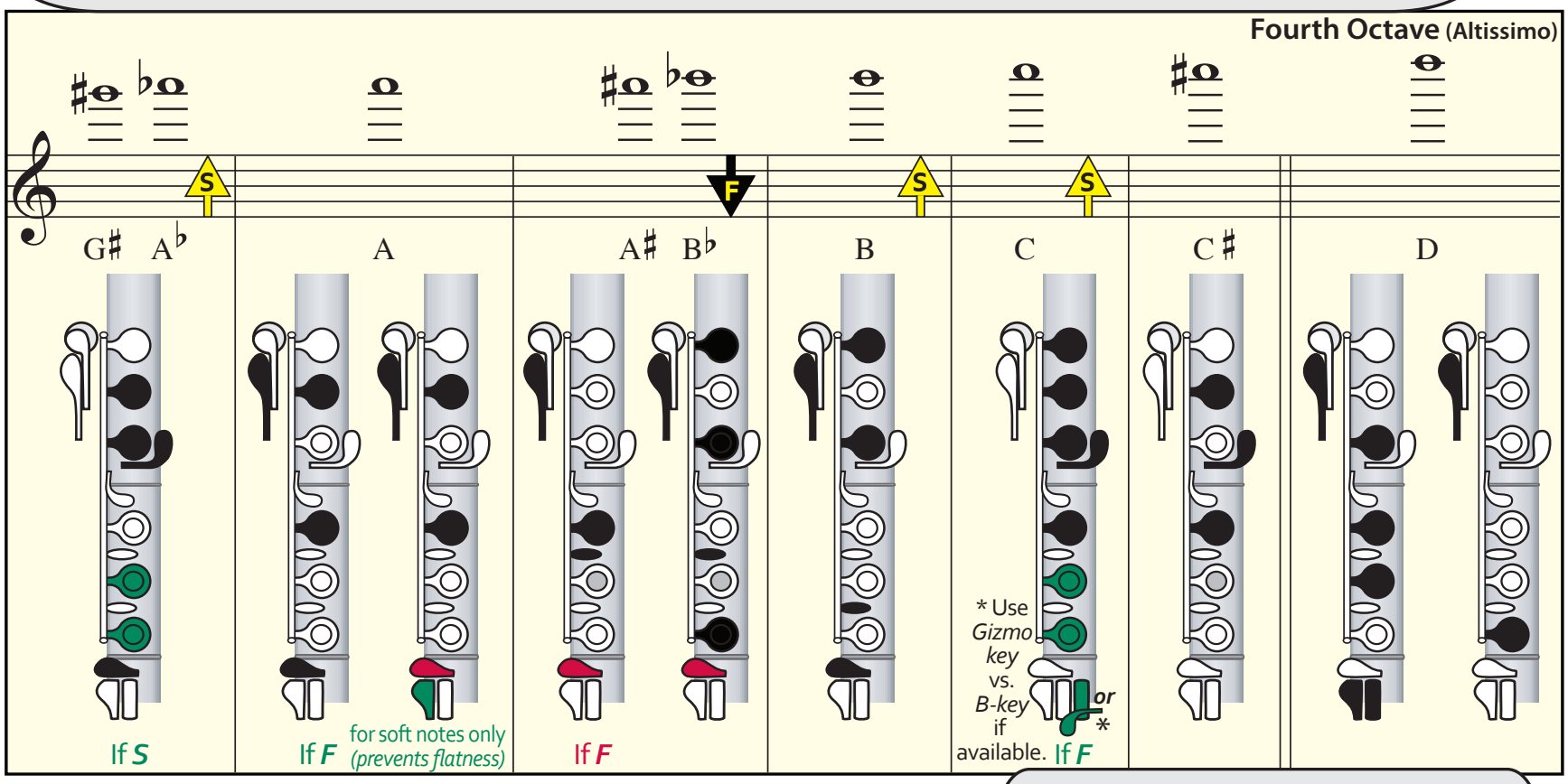








The flute is an *open tube*.
The first octave is produced by the fundamental (first partial) vibration of the pipe; vibrates in *one part.*
The second octave is produced by the second partial; vibrates in *two parts*, and
the third octave is produced by by the third and fourth partials; vibrates in *four parts.*



General Note:

The more fingers *down* on a regular fingering, the *flatter* the pitch.

The more fingers *up* on a regular fingering, the *sharper* the pitch.

To F pitch, one can ***add*** any finger, after the first open hole, in first two octaves.

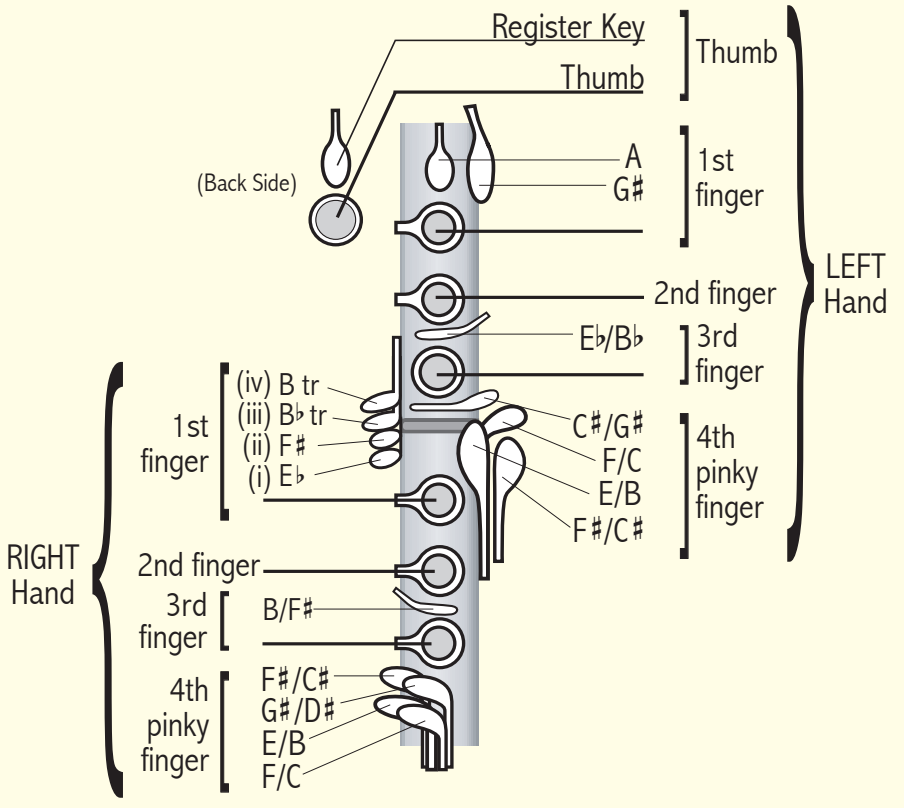
To S pitch, one can ***come off*** to just the ring of the key (on an open-hole flute).

Gizmo Key

A small raised lever mounted on the low B key arm to facillitate the individual closing of the low B key. Also known as "high C facilitator"; this lever helps in producing clearer 4th octave C.

Harmonic Fingerings

If harmonic fingerings are used to play notes in the higher register the pitch will be flat. It is suggested to only use harmonic fingerings when conventional fingerings are impractical.



Clarinet Key Chart

S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

F = **F**lat ***S*** = **S**harp

Stable Tuning Note — indicates notes most stable for tuning in band.

indicates suggested fingerings to ***add***.

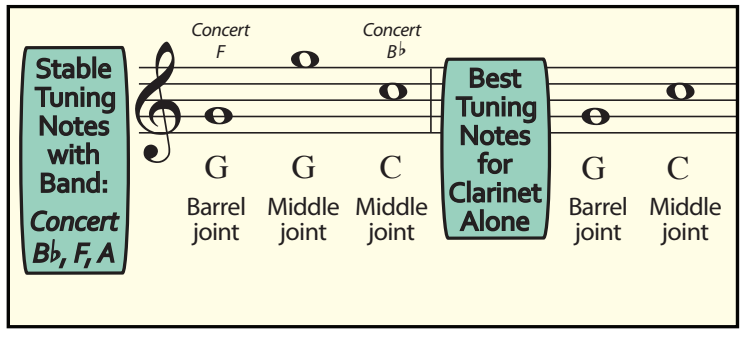
indicates suggested fingerings to ***subtract***.

NOTE: *Fingering chart does NOT include all alternate and trill fingerings. The chart attempts to identify the best fingering choices for use in lyrical & technical passages and only when alternate fingerings must be used to correct resonance and/or pitch.*

General Note: The clarinet will play ***sharper*** in pitch as one plays ***softer***.
The clarinet will play ***flatter*** in pitch as one plays ***louder***.
To F pitch, one can ***close*** selected tone holes and keys to a regular fingering.
To S pitch, one can ***open*** selected tone holes and keys to a regular fingering.

! CAUTION !

Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / lip / place*** every note in tune. Use alternate fingerings only when necessary!

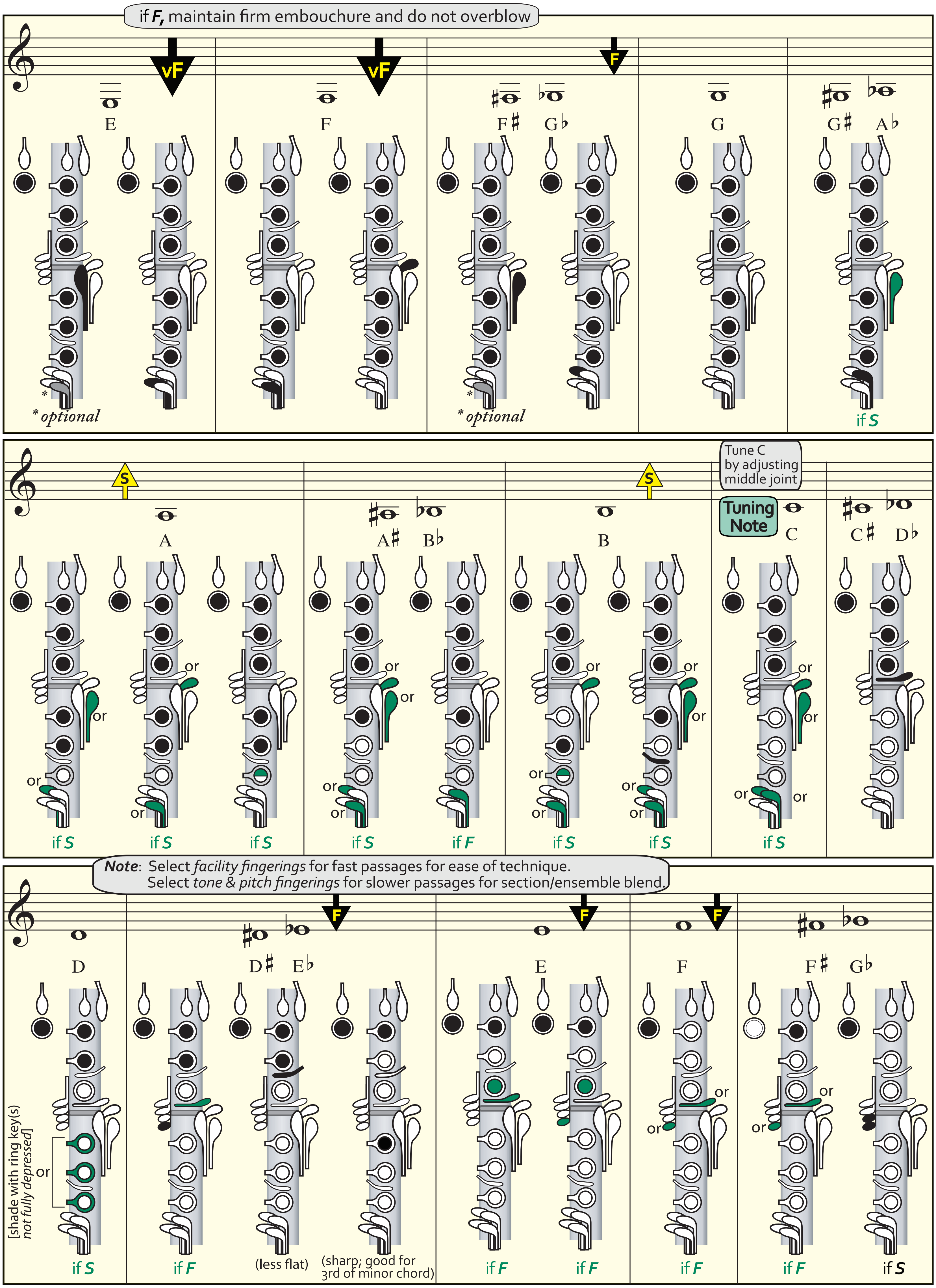


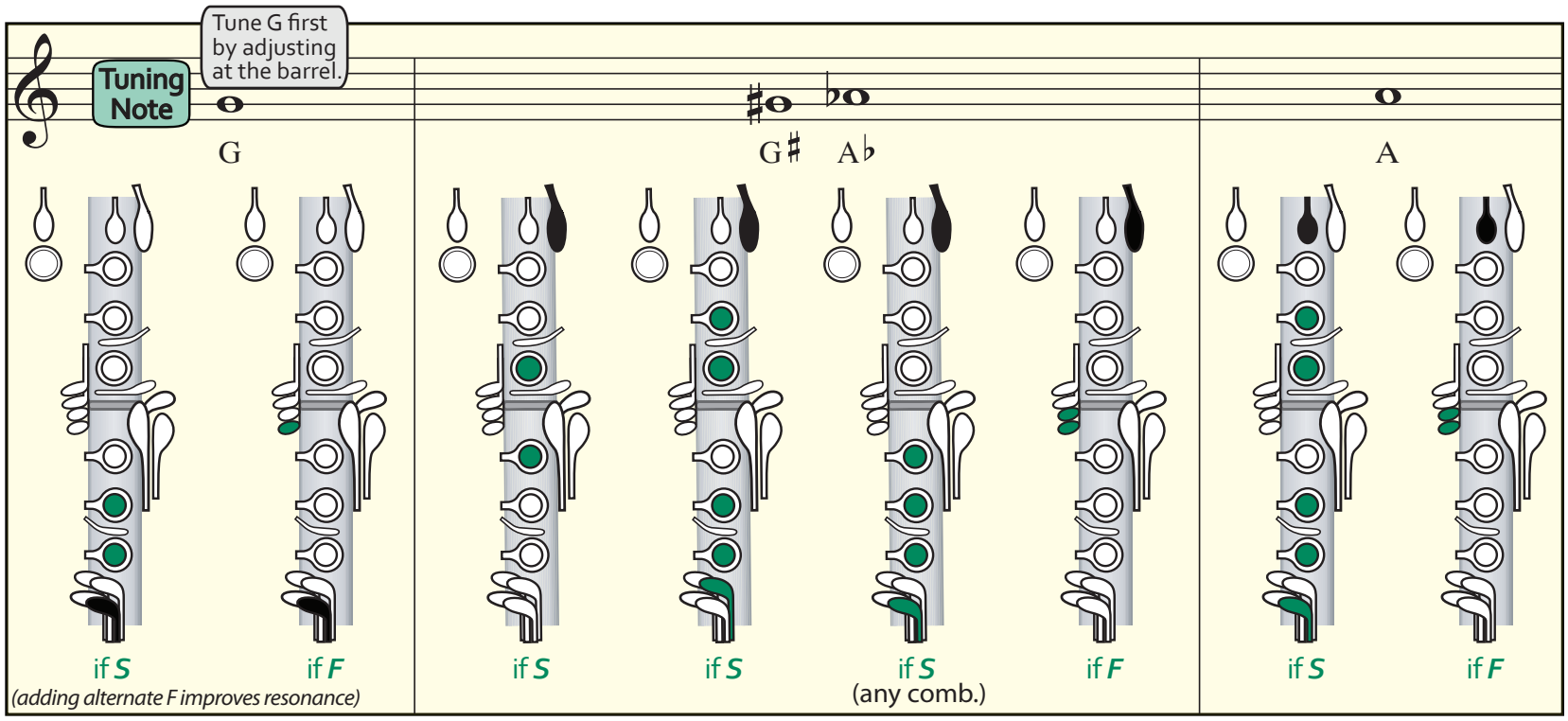
If *consistently* sharp in pitch:
1. Is embouchure too tight?
2. Is reed strength too hard?
3. Is barrel length too short?

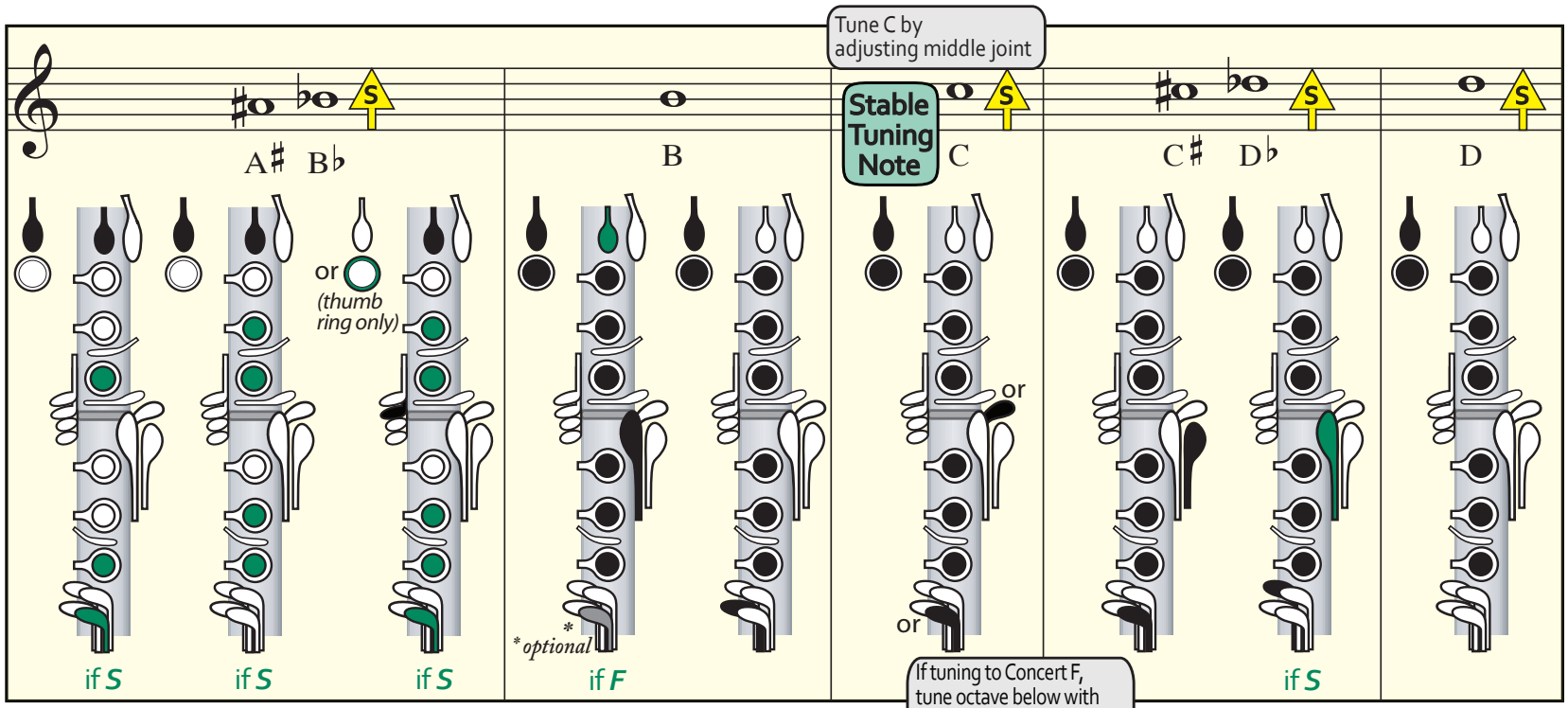
If *consistently* flat in pitch:
1. Is embouchure too loose?
2. Is reed strength too soft?
3. Is barrel length too long?

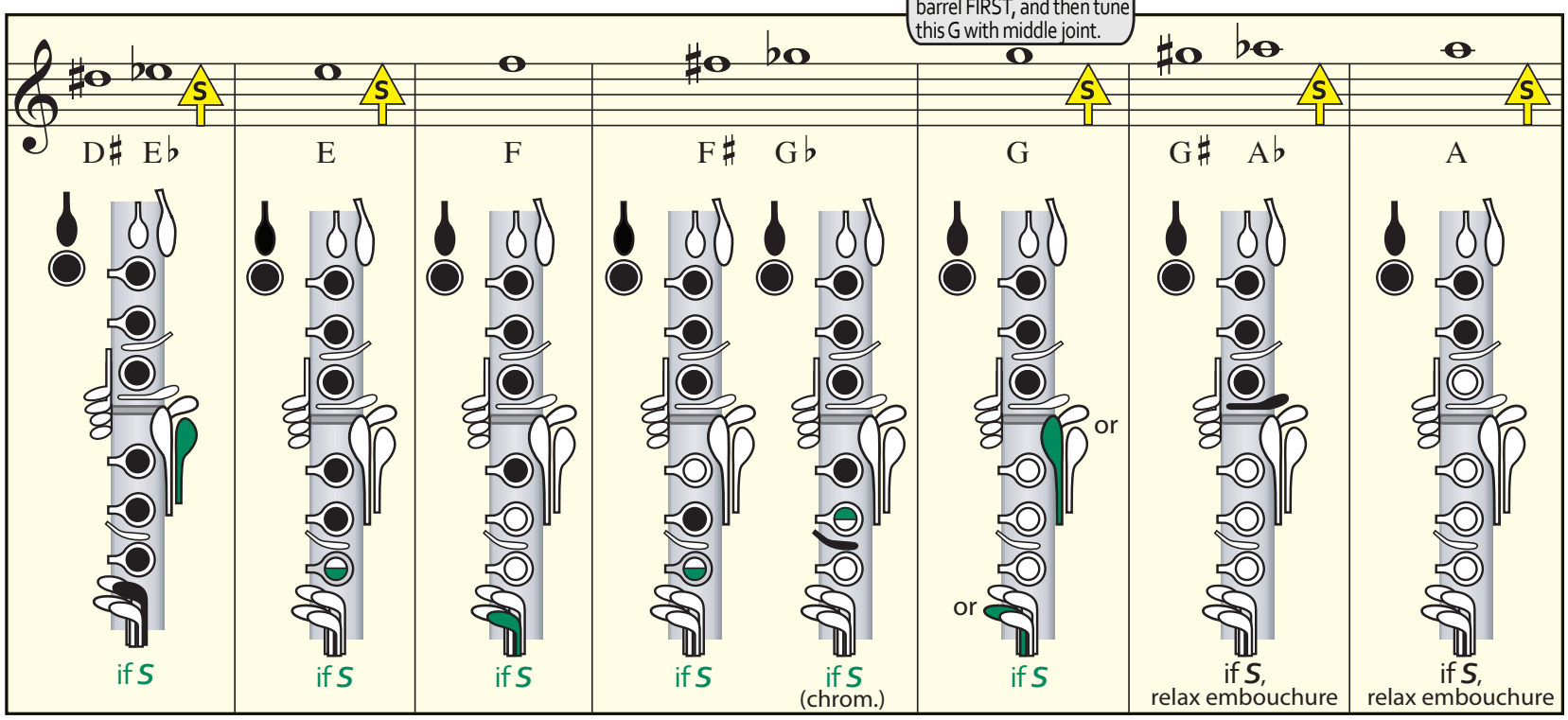
To correct sharpness in pitch:
1. Relax embouchure; pull chin muscles downwards, and bring corners of mouth in toward mouthpiece.
2. Open up the inside of mouth; [Analogies: a) drop floor of mouth,
   b) stretch nostrils downward as if trying to push upper lip into top of mouthpiece.

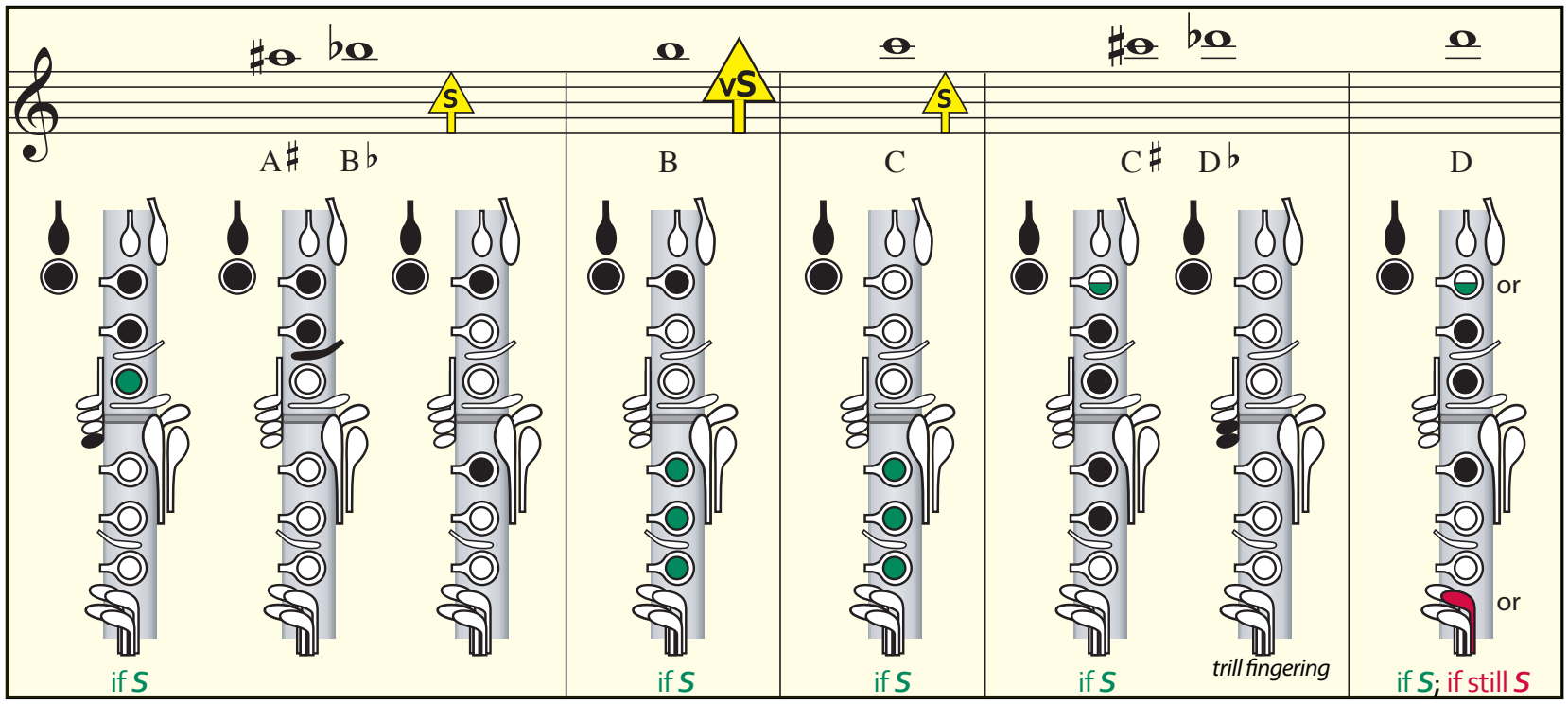
To correct flatness in pitch:
1. Firmer embouchure; more lower lip compression by bringing lower jaw forward.
2. Focus air with energy; increase air support and aim air forward and higher in mouth.

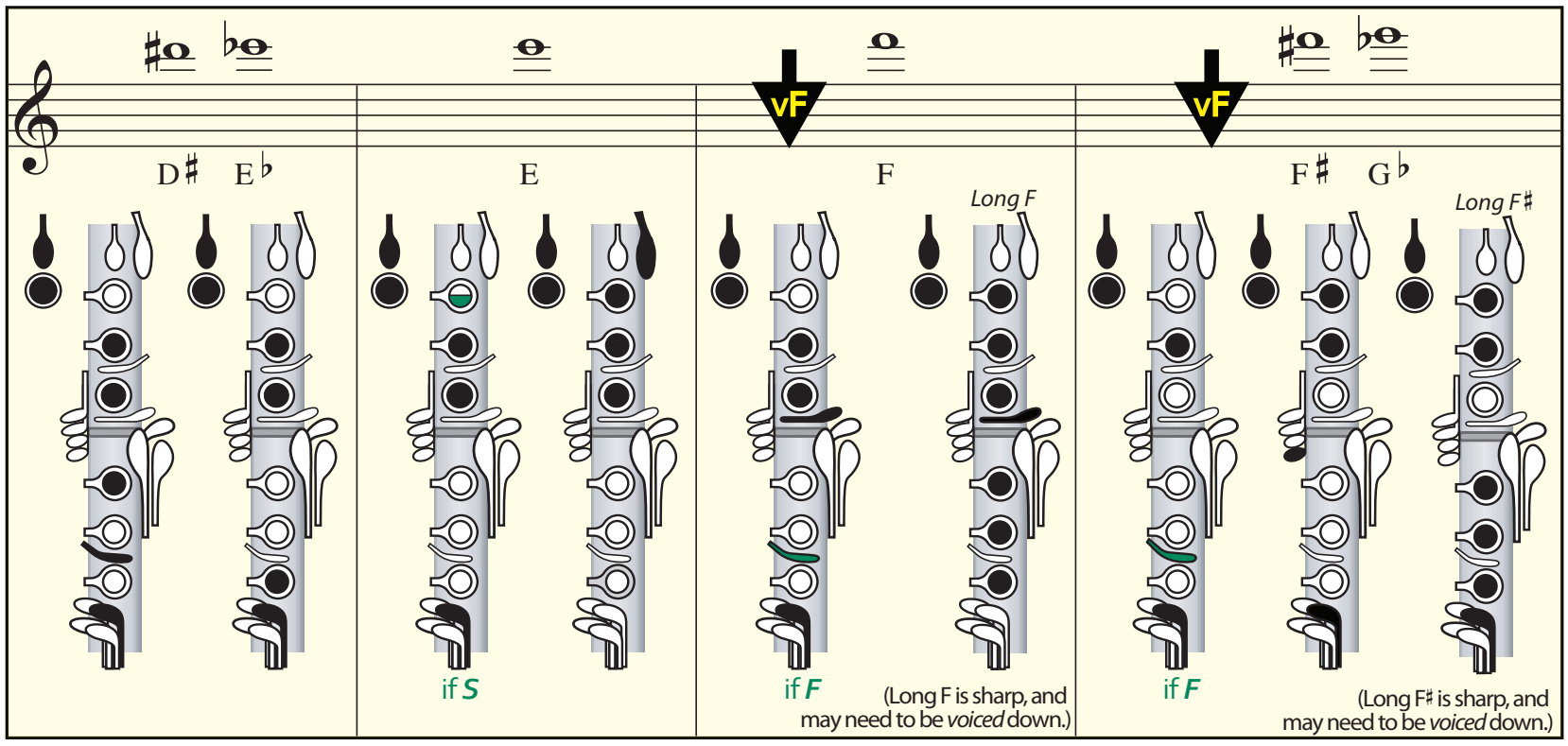


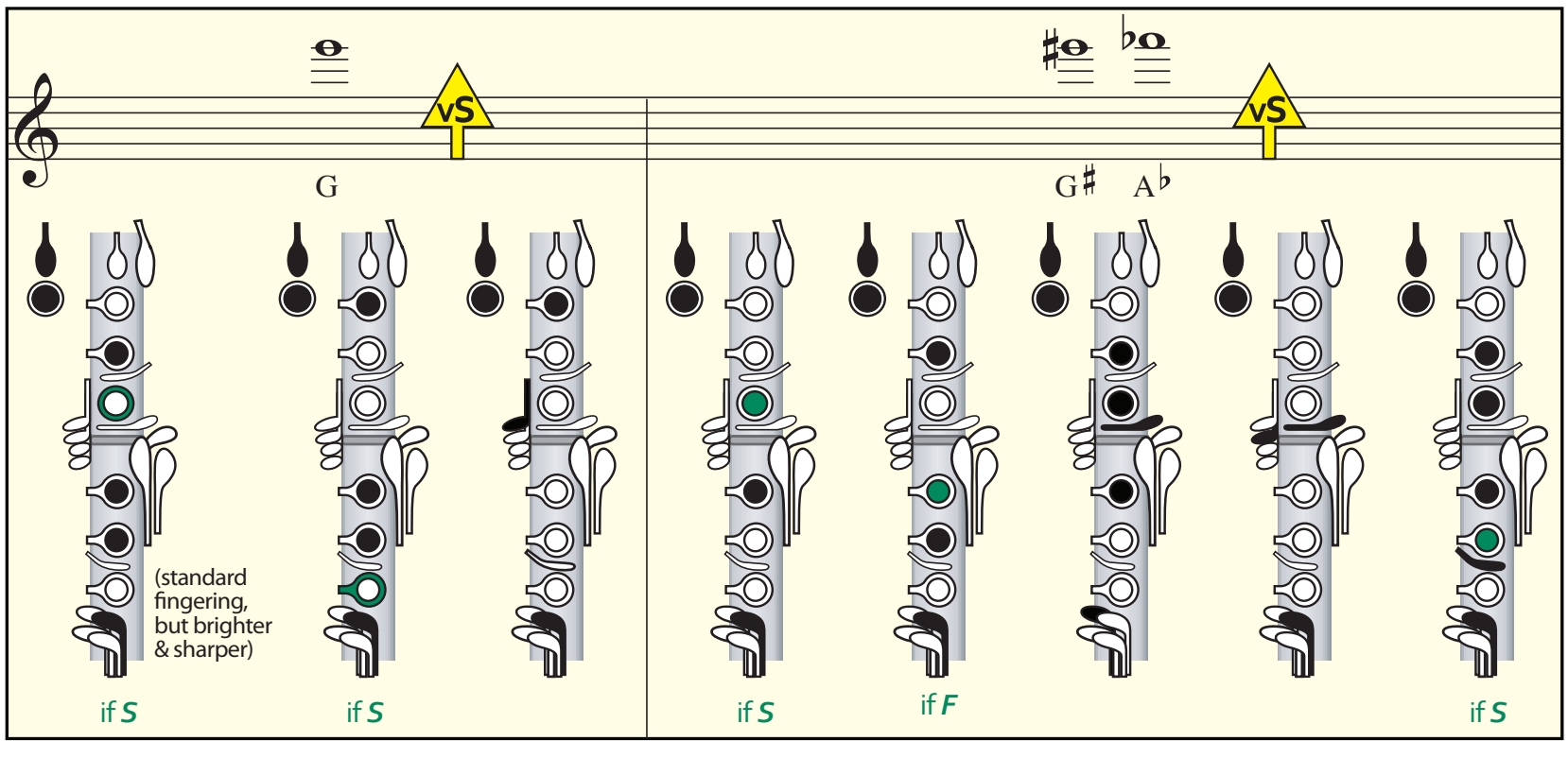




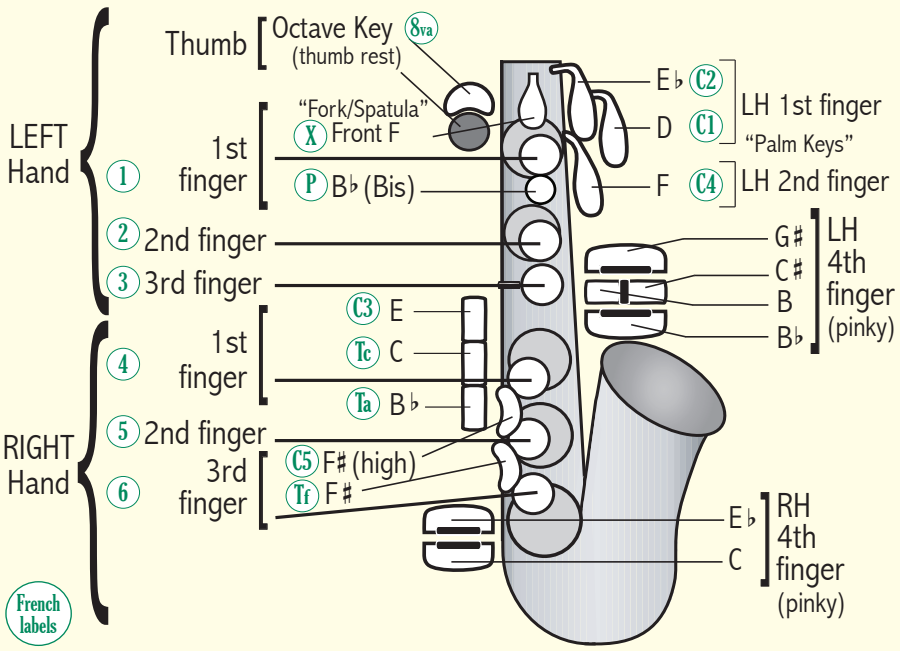








Saxophone Key Chart



S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

F = **F**lat ***S*** = **S**harp

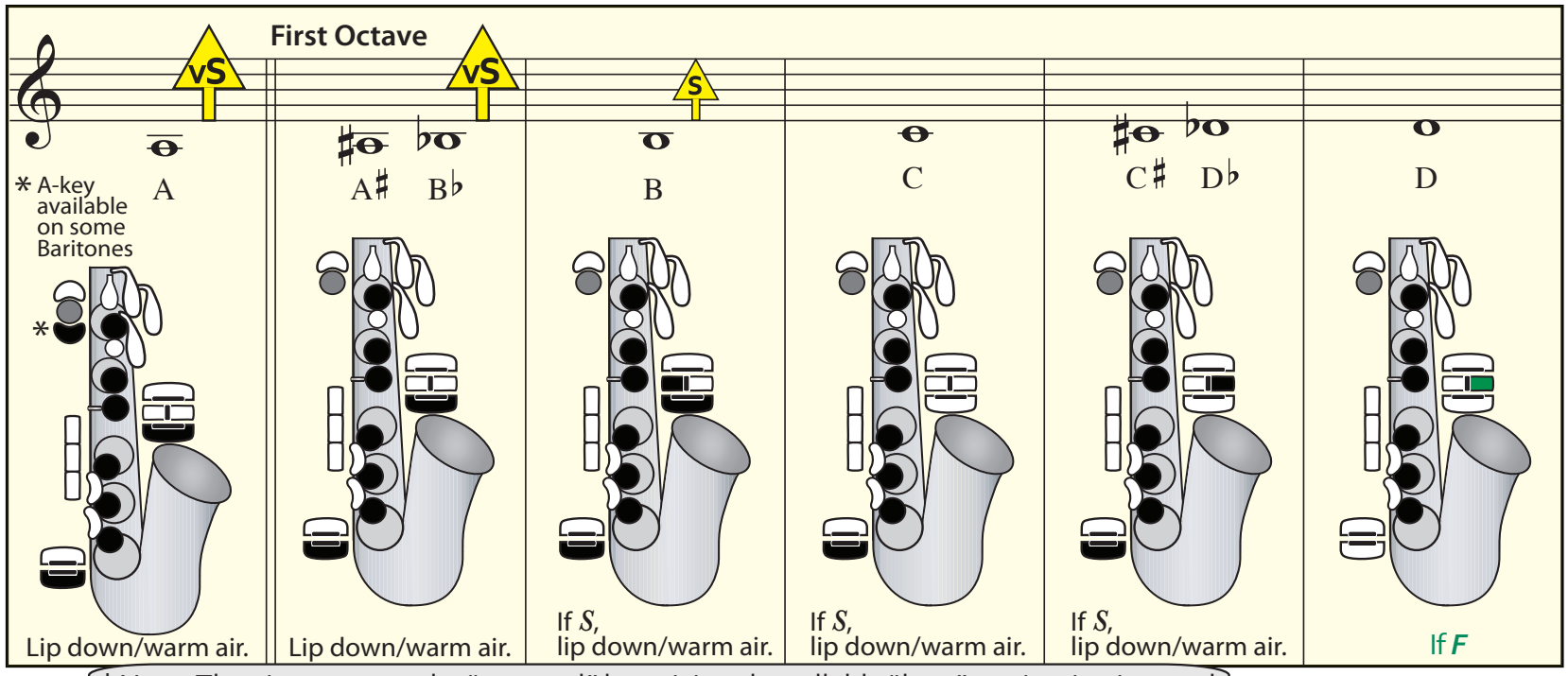
Stable Tuning Note — indicates notes most stable for tuning in band.

indicates suggested fingerings to ***add***.

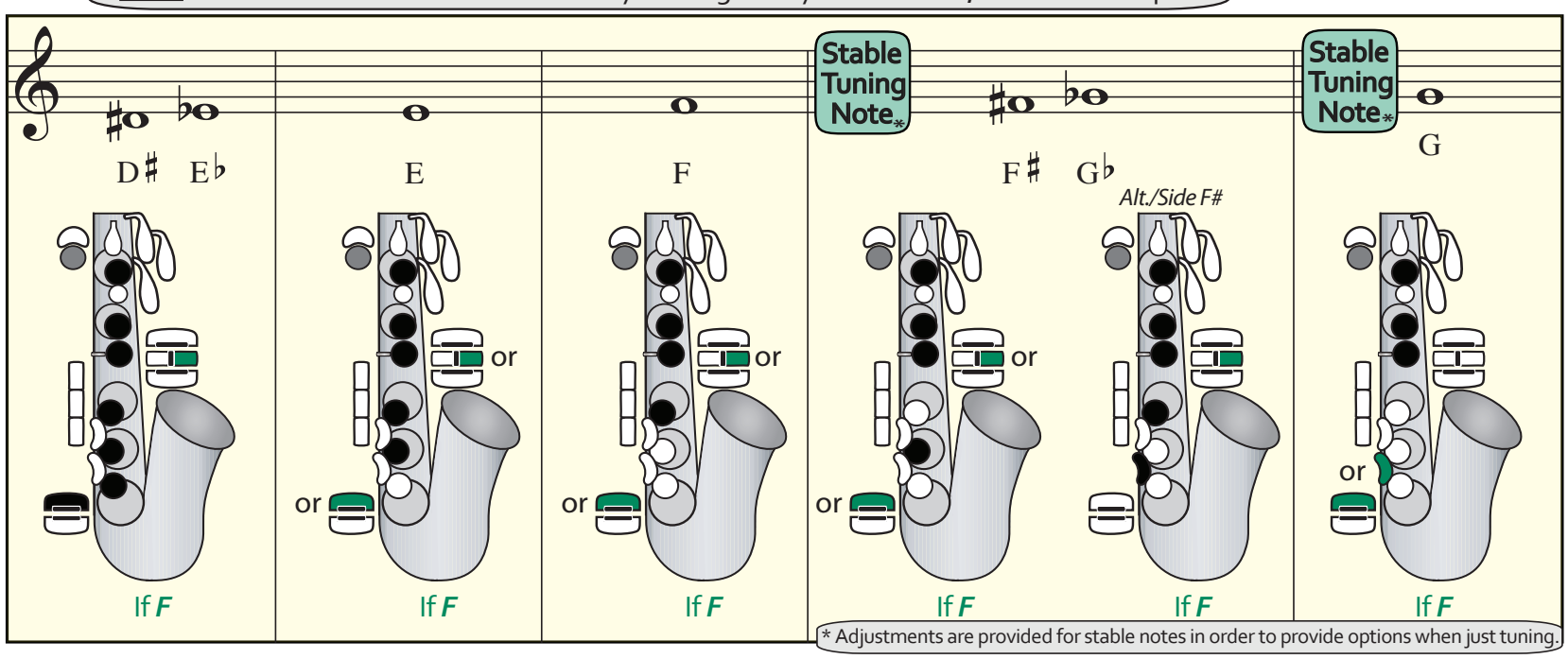
indicates suggested fingerings to ***subtract***.

NOTE: *Fingering chart does NOT include all alternate and trill fingerings. The chart attempts to identify the best fingering choices for use in lyrical & technical passages and only when alternate fingerings must be used to correct resonance and/or pitch.*

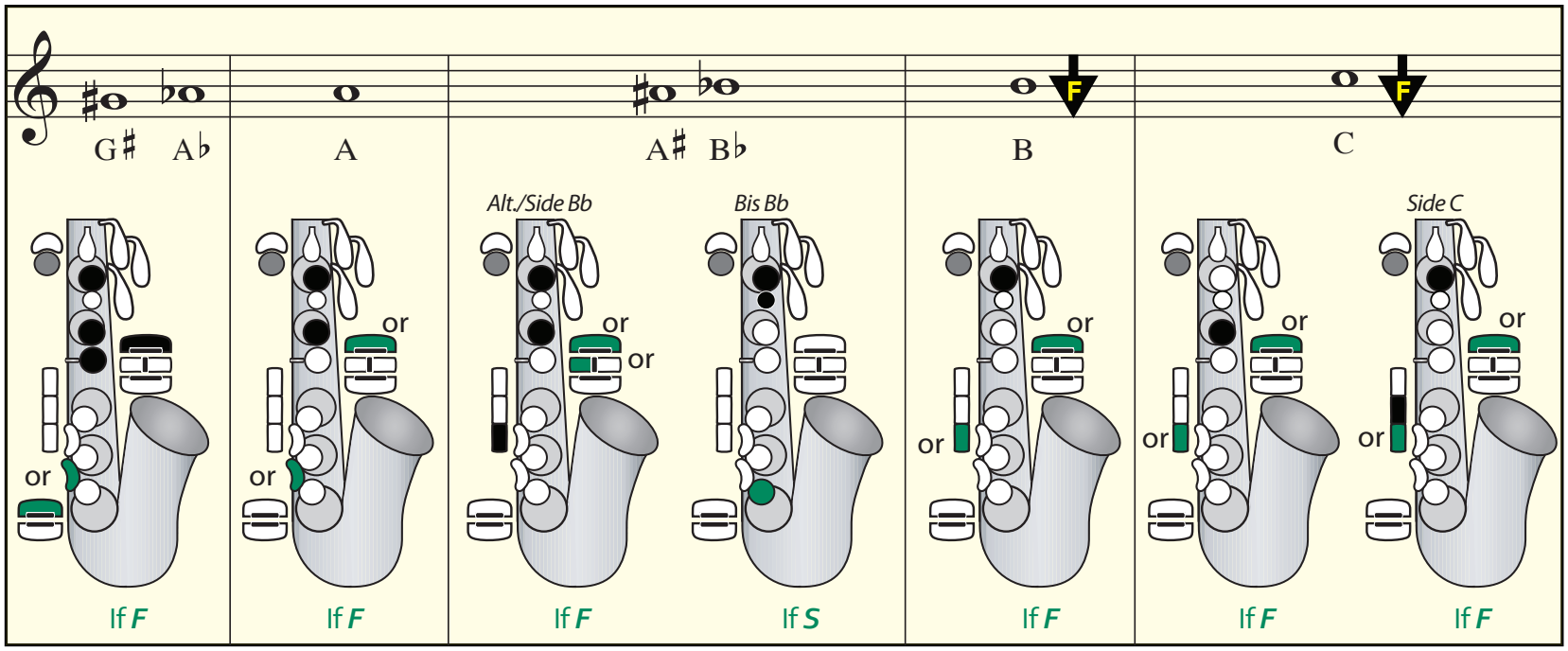
First Octave

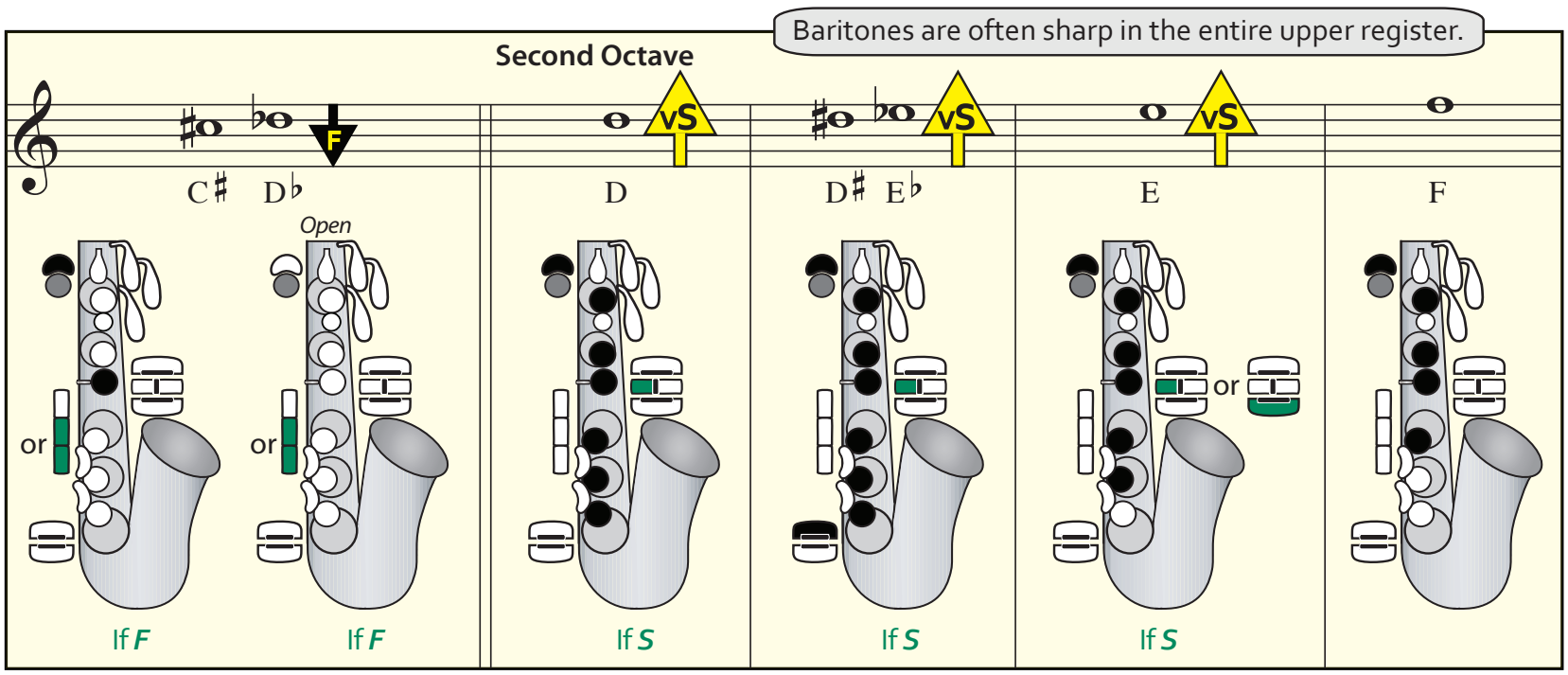


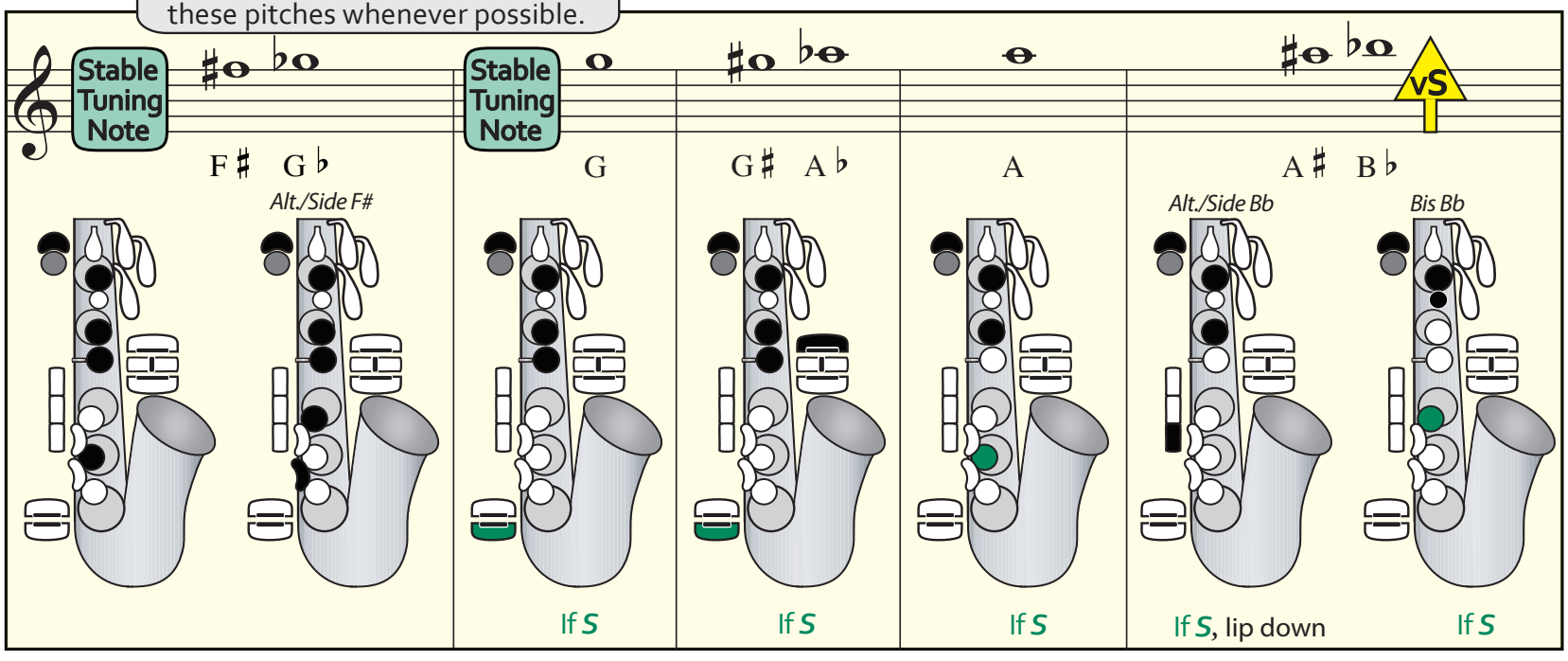
*Note: The airstream can be "warmed" by voicing the syllable "haw"; maintain air speed.

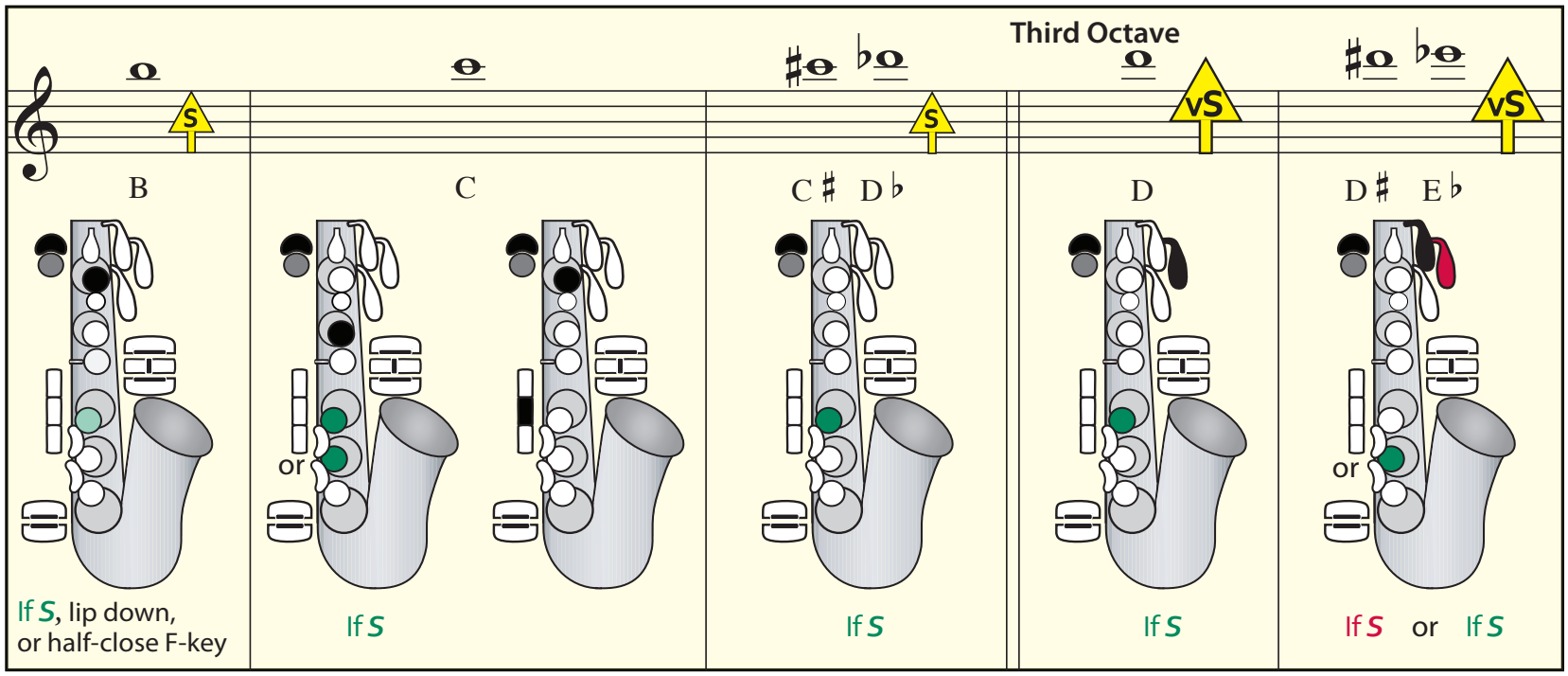


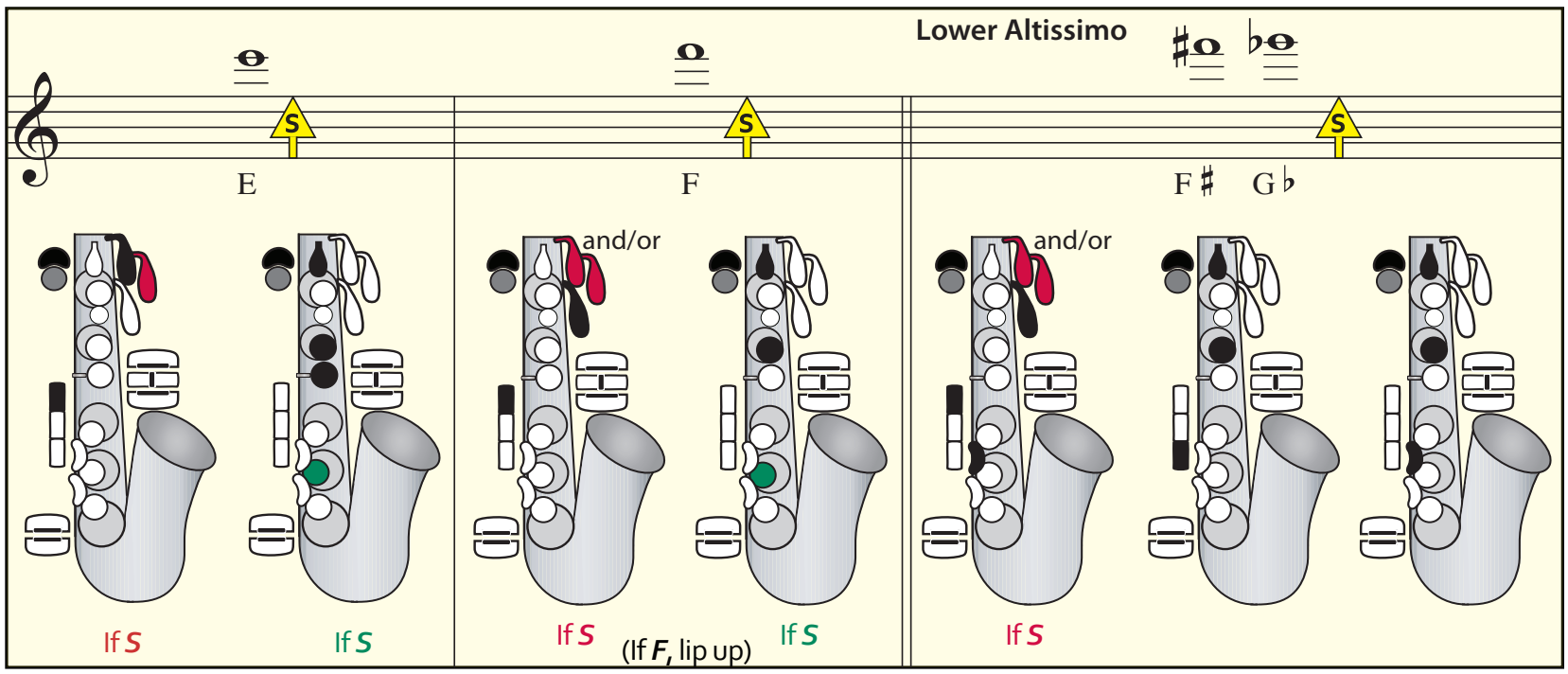
* Adjustments are provided for stable notes in order to provide options when just tuning.











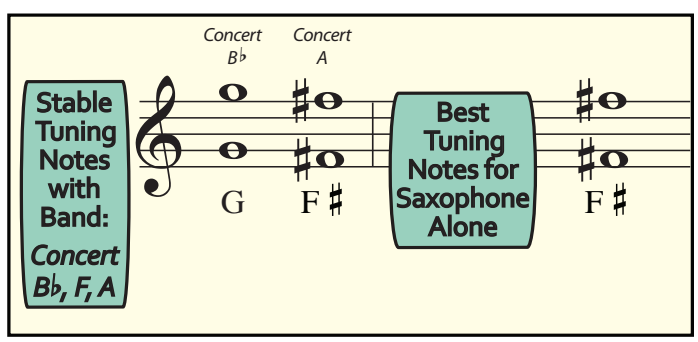
General Note: The saxophone will play ***sharper*** in pitch as one plays ***softer***.
The saxophone will play ***flatter*** in pitch as one plays ***louder***.
To ▼ pitch, one can ***close*** selected tone holes and keys to a regular fingering.
To ▲ pitch, one can ***open*** selected tone holes and keys to a regular fingering.

CAUTION

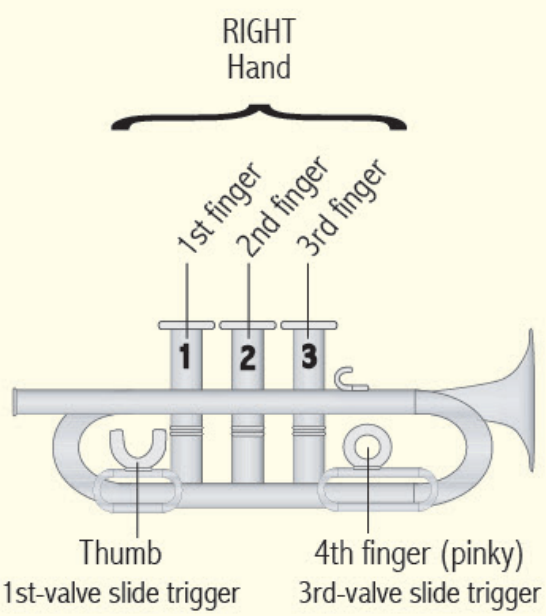
Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / place / lip*** every note in tune. Alternate fingerings are simply one option.

If *consistently* sharp in pitch:
1. Is embouchure too tight?
2. Is reed strength too hard; biting?
3. Is mouthpiece pushed in too far?

If *consistently* flat in pitch:
1. Is embouchure too loose?
2. Is reed strength too soft?
3. Is mouthpiece pulled out too far?



Trumpet Key Chart



S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

F = Flat ***S*** = Sharp

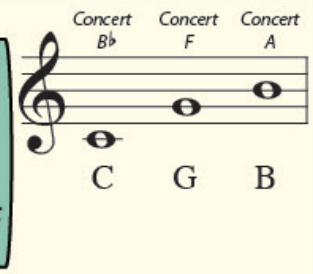
Stable Tuning Note — indicates notes most stable for tuning in band.

● indicates suggested ***alternate*** fingerings.

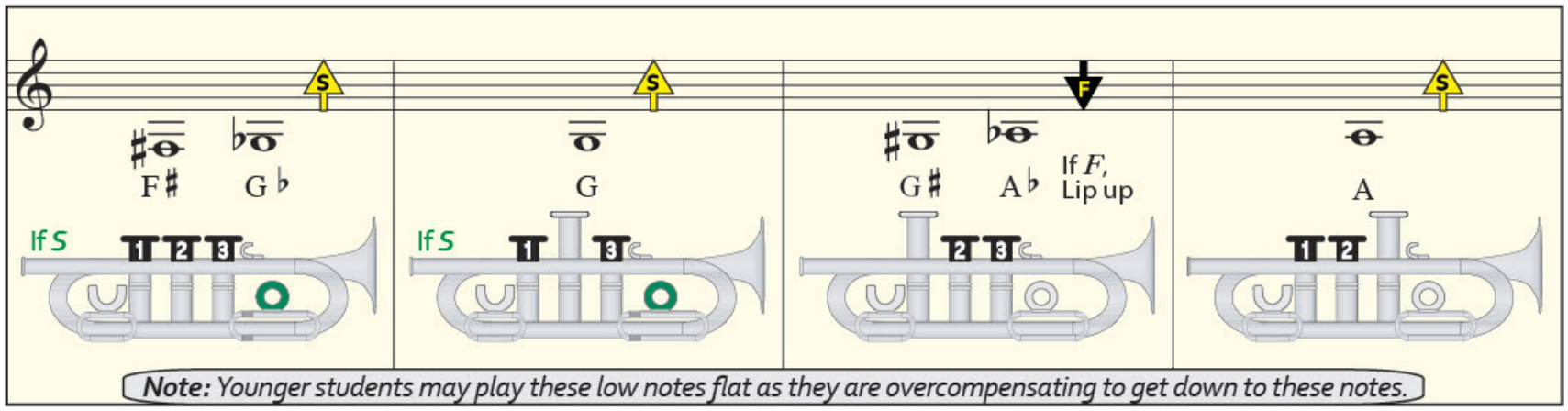
! CAUTION !

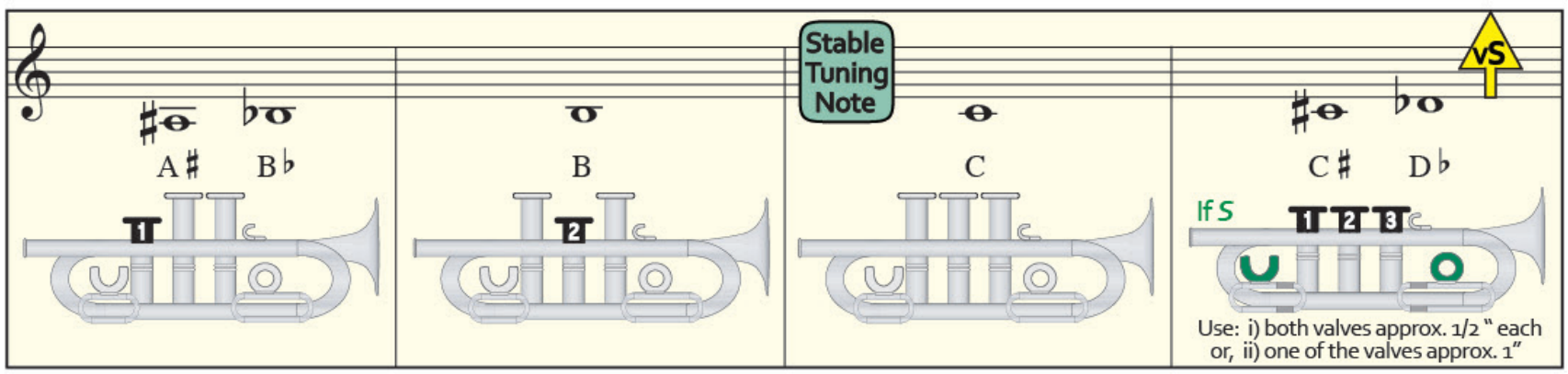
Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / place / lip*** every note in tune. Use alternate fingerings only when necessary!

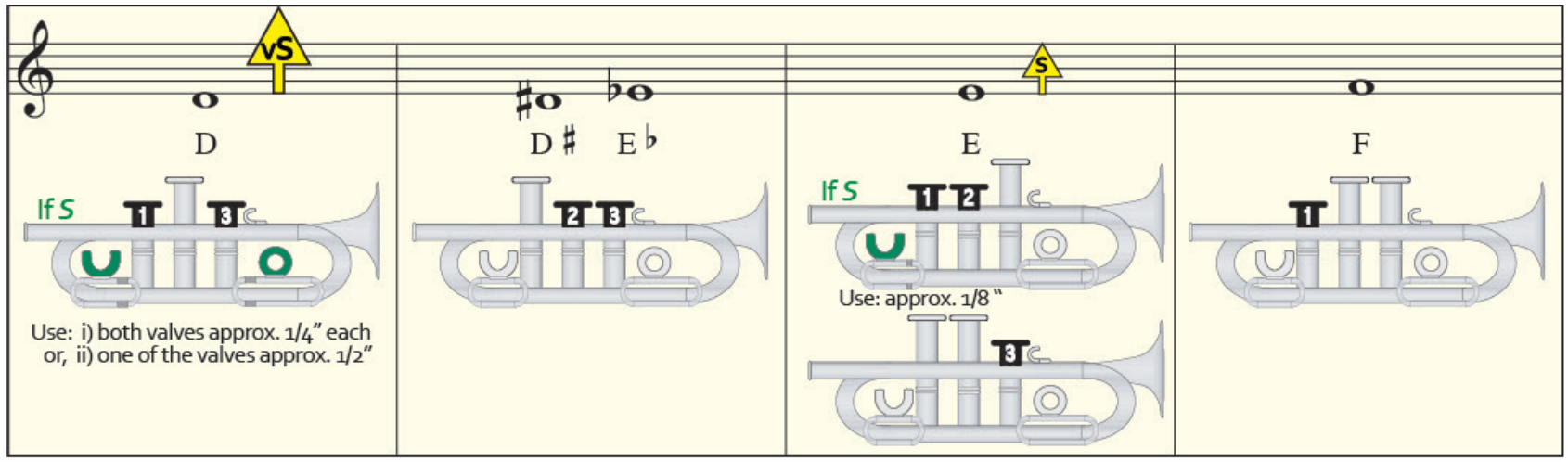
Stable Tuning Notes with Band: *Concert B♭, F, A*

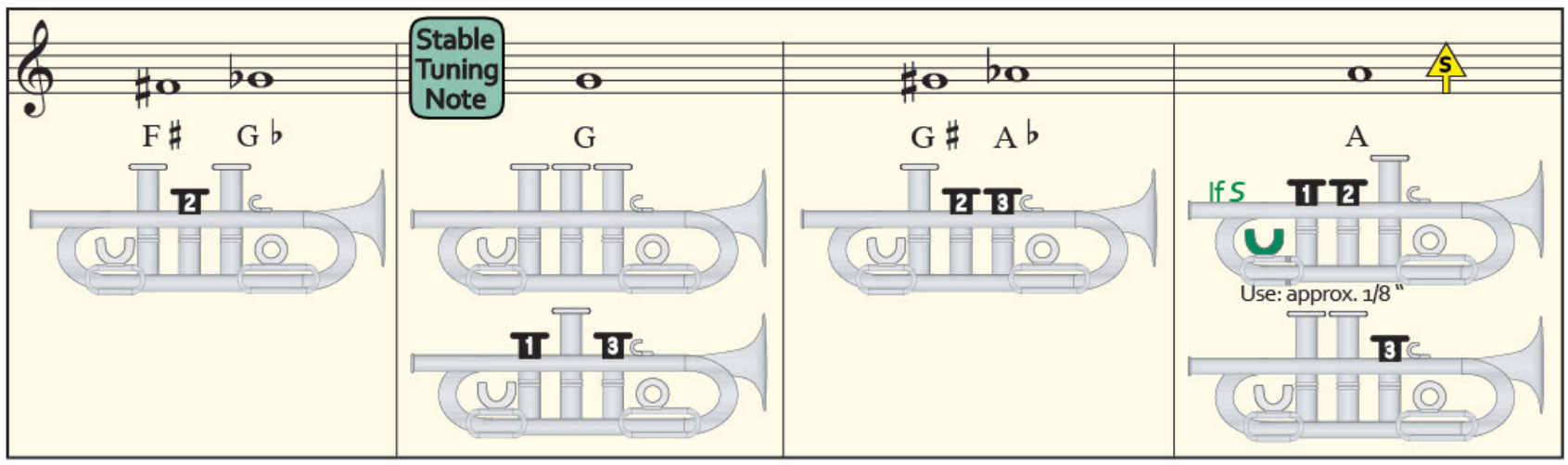


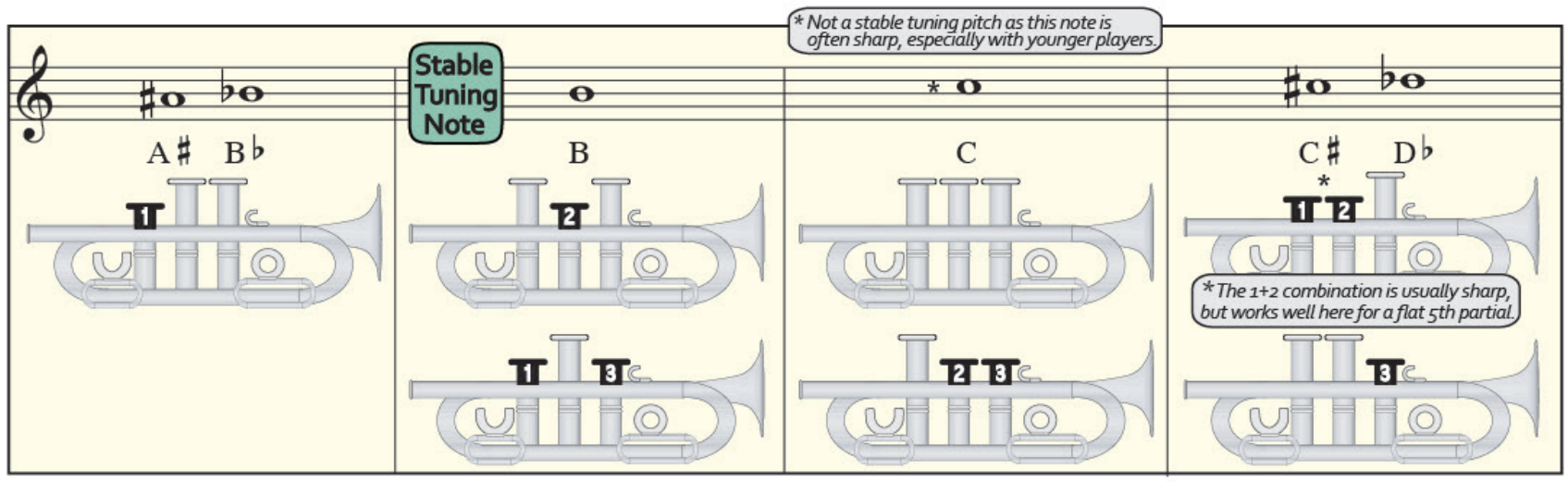
Tuning the Slides:
Only adjust the length of the main tuning slide when tuning; it should be pulled at least a 1/2 inch.
Valve slides should remain pushed all the way in.

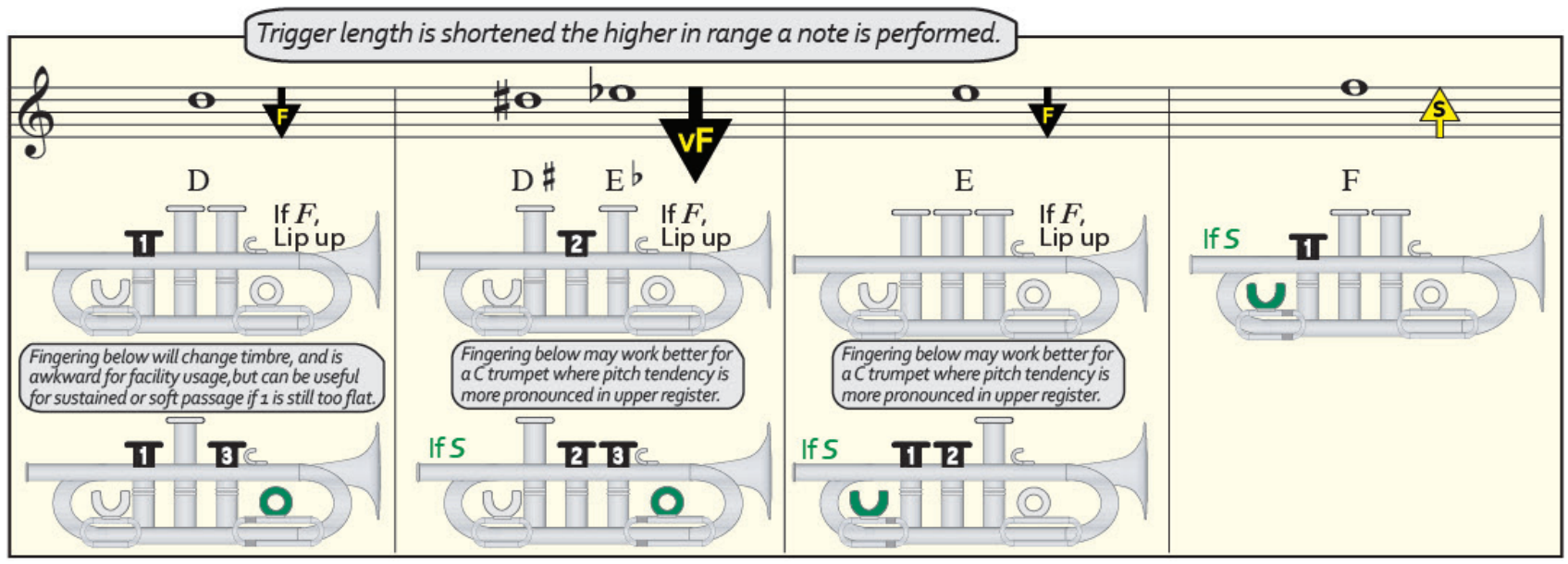


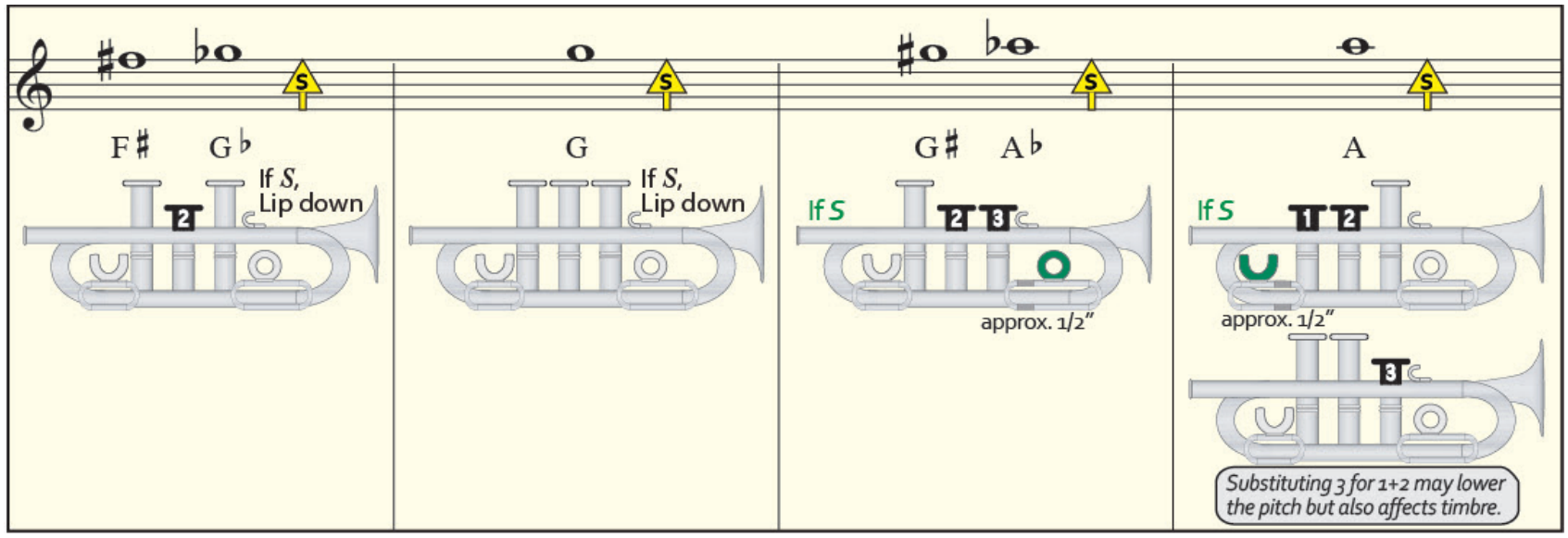




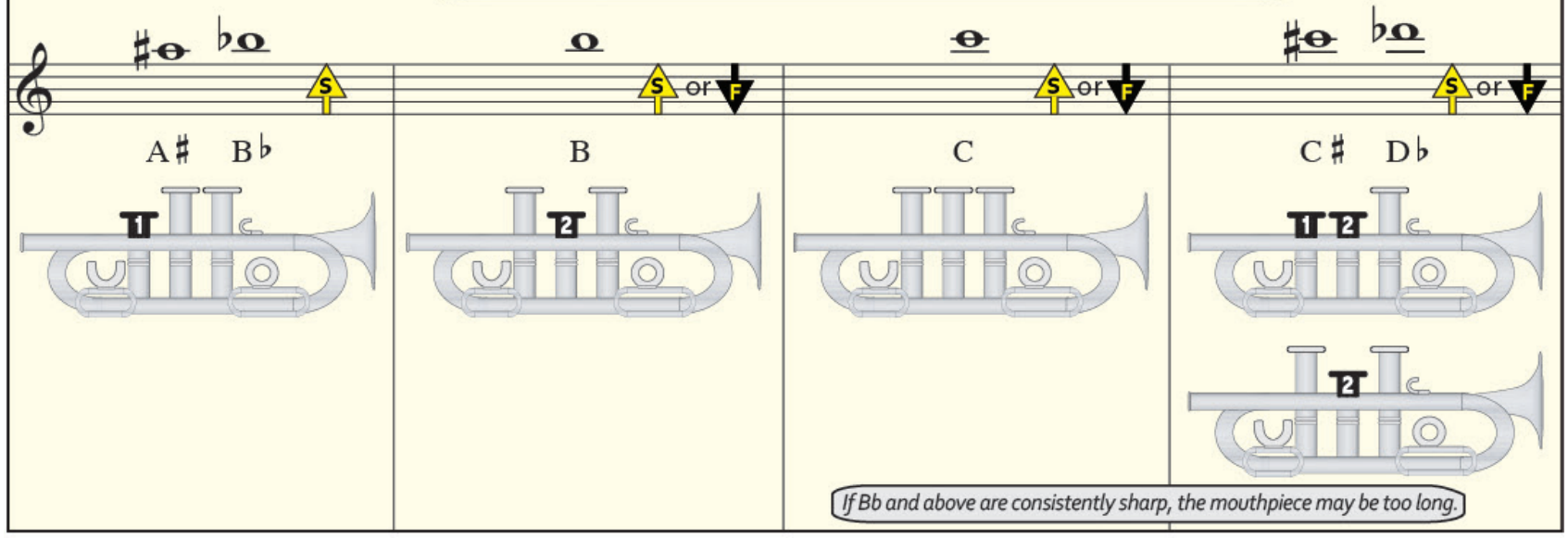


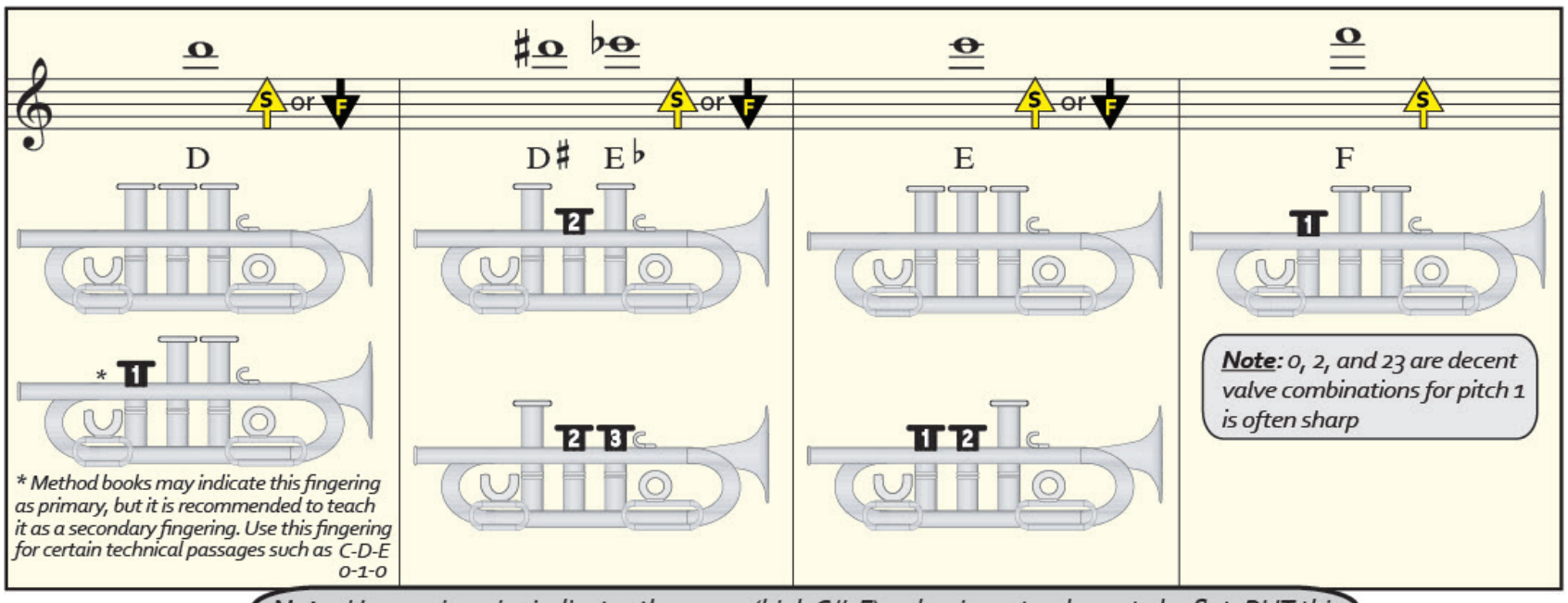






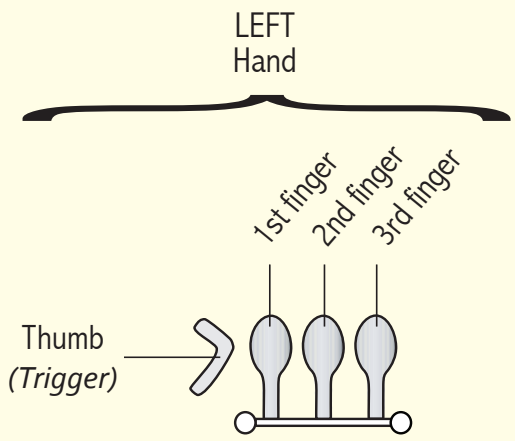
High B and above can be sharp or flat.
Pitch greatly depends on mouthpiece, proper equipment, and maturity of player.





Note: *Harmonic series indicates the range (high C#-F) as having a tendency to be flat, BUT this range is often sharp due to players tensing the breath/embouchure to get the notes to sound.*

Horn Key Chart



S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

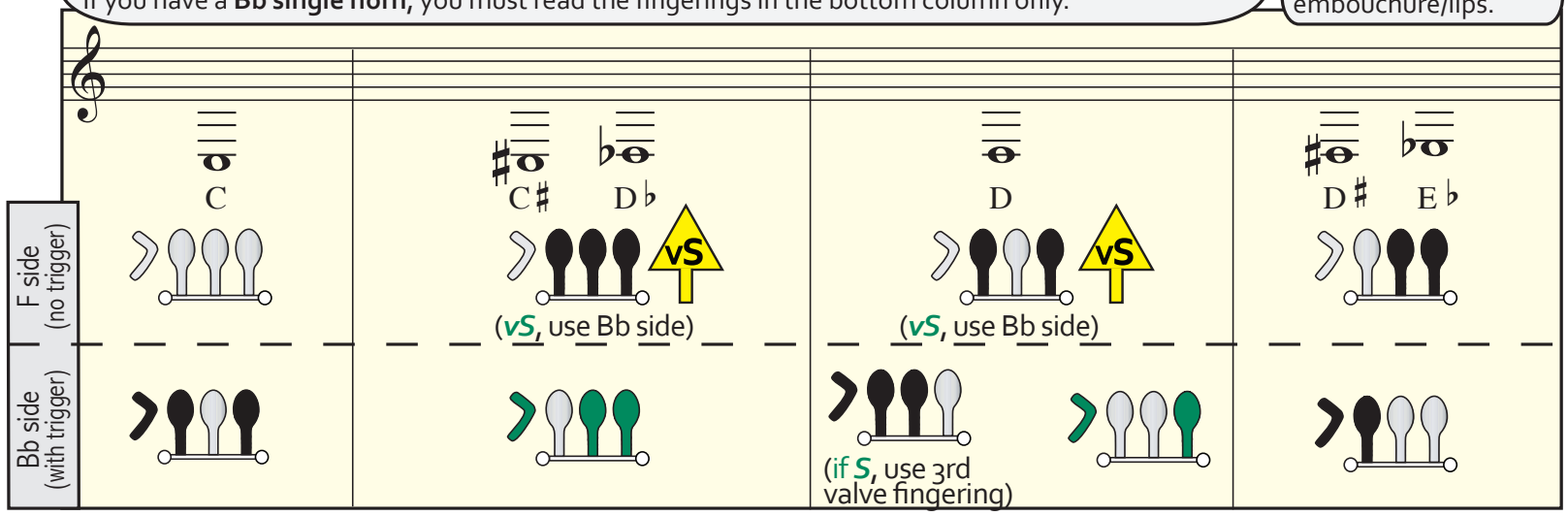
F = **F**lat ***S*** = **S**harp

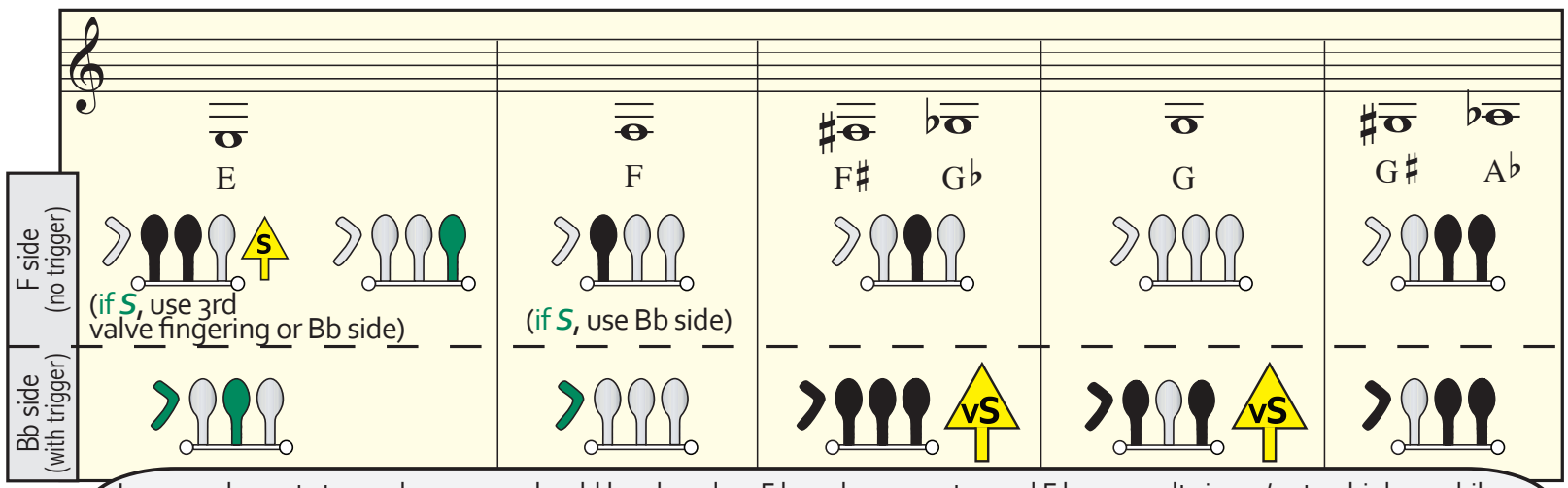
Stable Tuning Note — indicates notes most stable for tuning in band.

indicates suggested ***alternate*** fingerings.

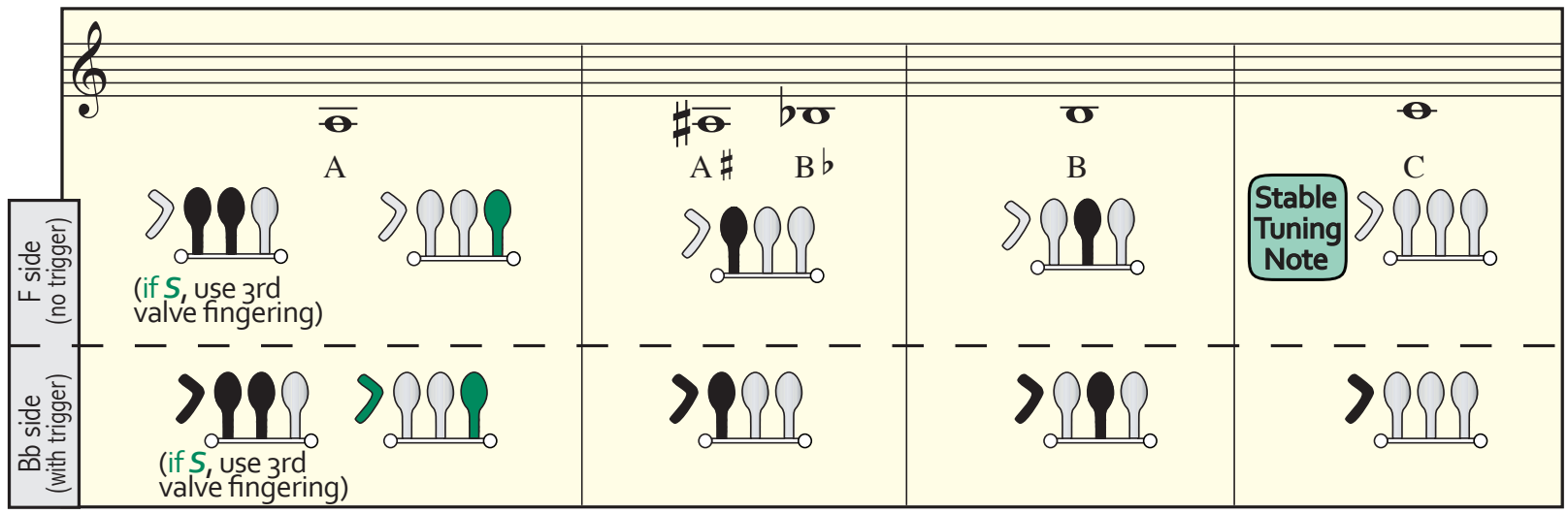
If you have an **F/Bb double horn,** you should read the fingerings in the top column (F-side; no trigger) until 2nd-space G# where you will read fingerings in the bottom column (Bb-side; with trigger).
If you have an **F single horn,** you must read the fingerings in the top column only.
If you have a **Bb single horn,** you must read the fingerings in the bottom column only.

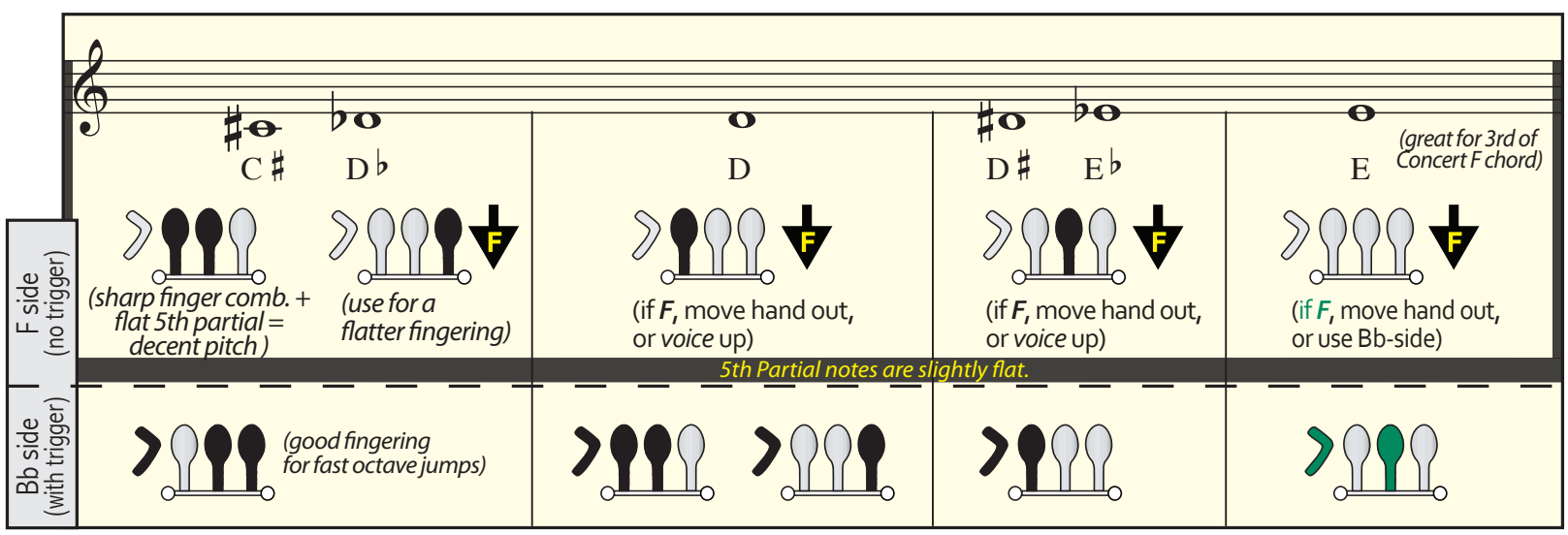
Pitch may be adjusted with the hand and/or embouchure/lips.

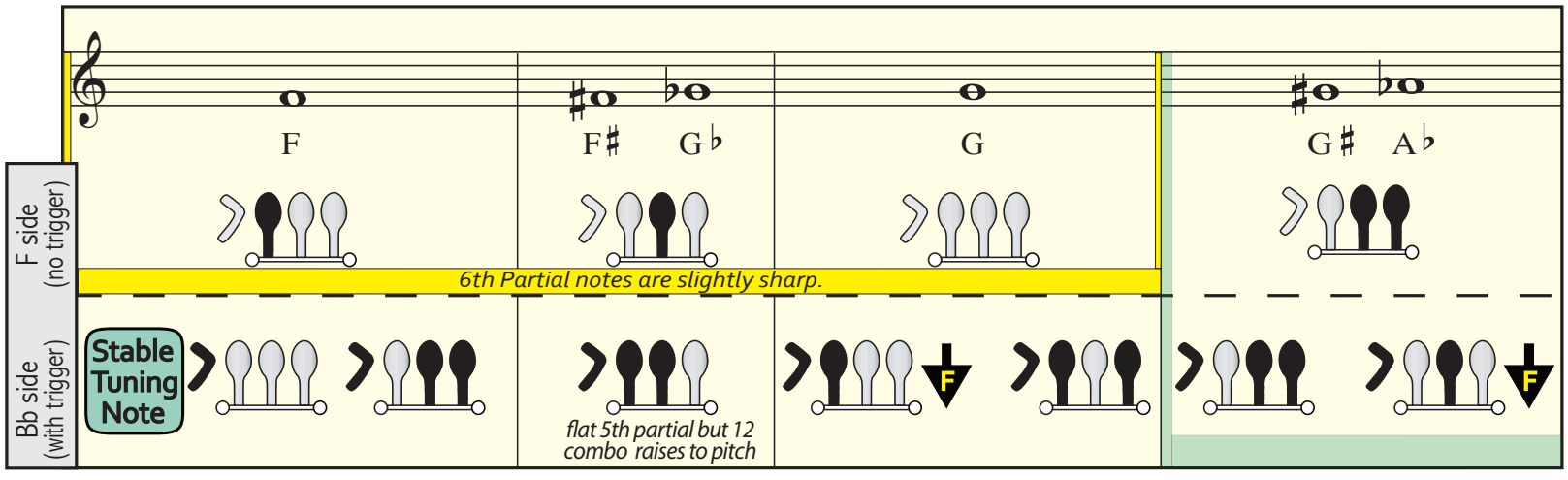


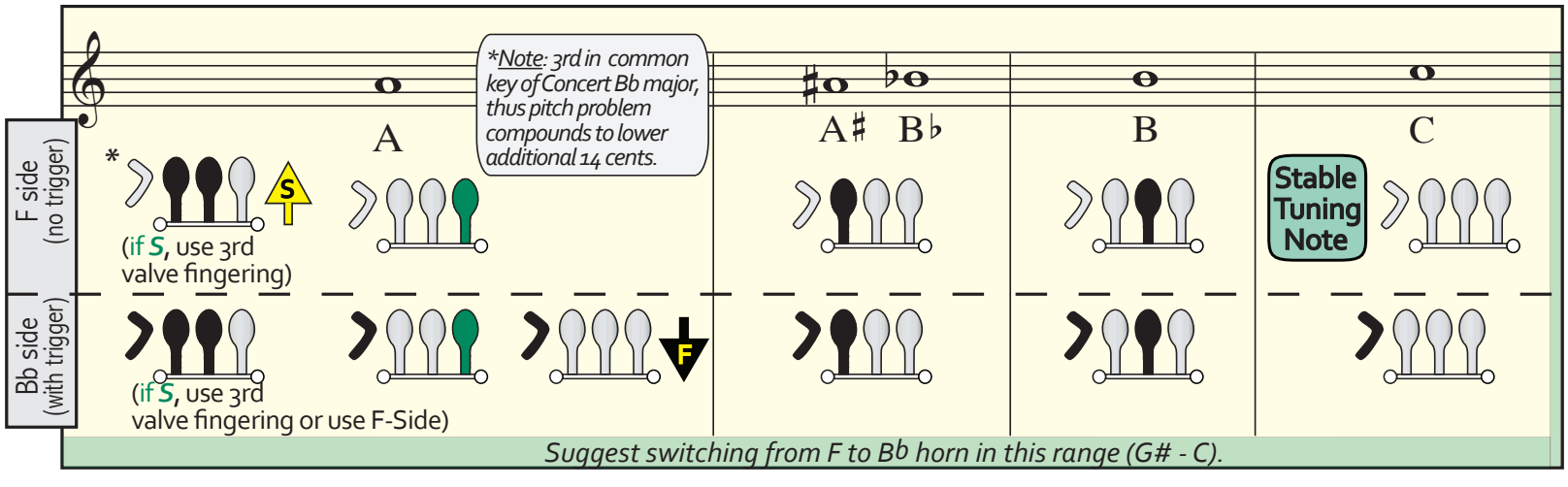


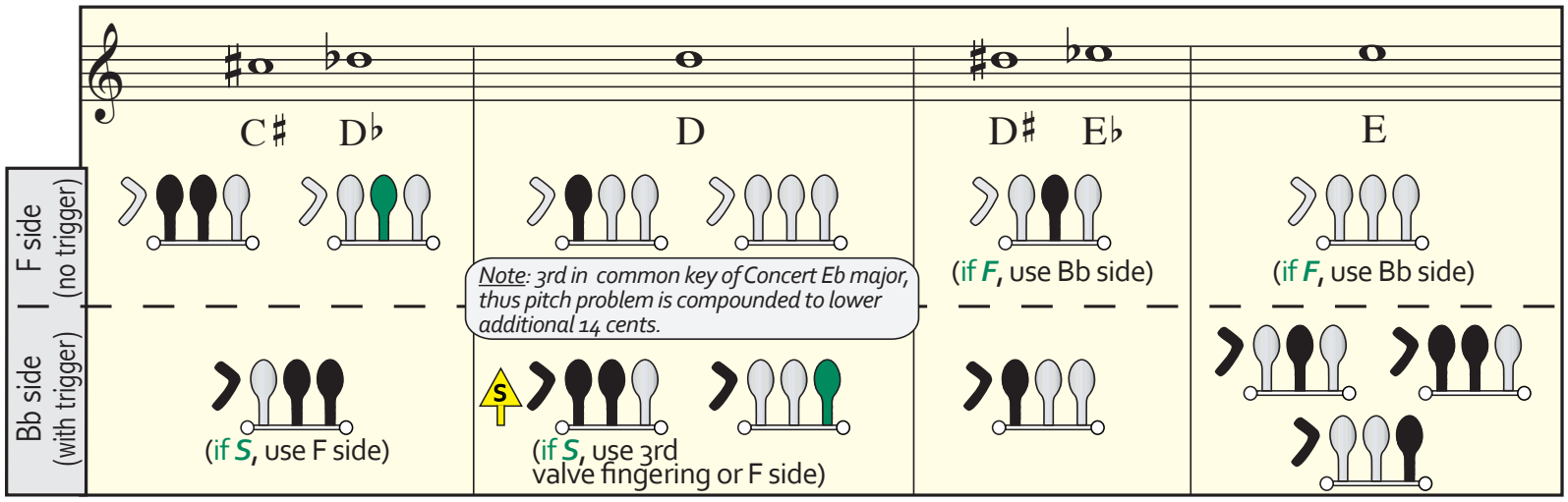
In general, most stopped passages should be played on F horn because stopped F horn results in a 1/2 step higher; while stopped Bb horn results in a 3/4 step higher. BUT, you may find that Bb stopped horn in the upper half of the treble staff can be played up a 1/2 step, and above the treble staff can be played up a whole-step. (Also depends on size of your hand.) Because completely closing the bell with the right hand raises the pitch, it is good to experiment to find the most efficient hand position that will accomplish the most secure pitch placement.



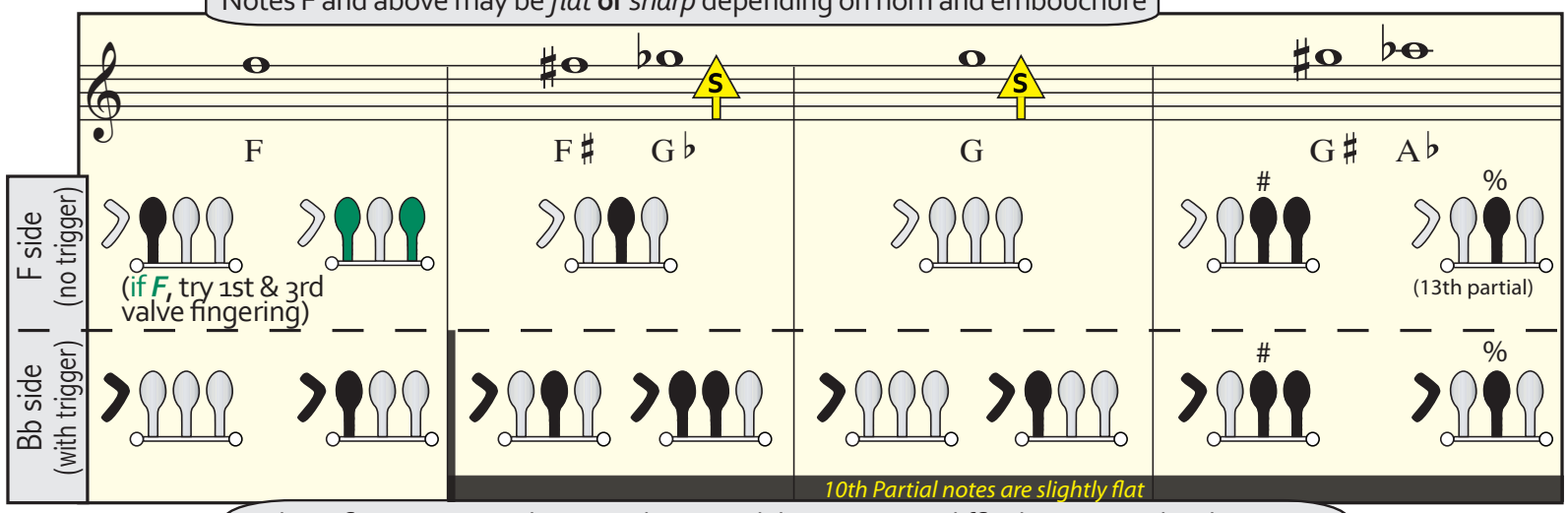




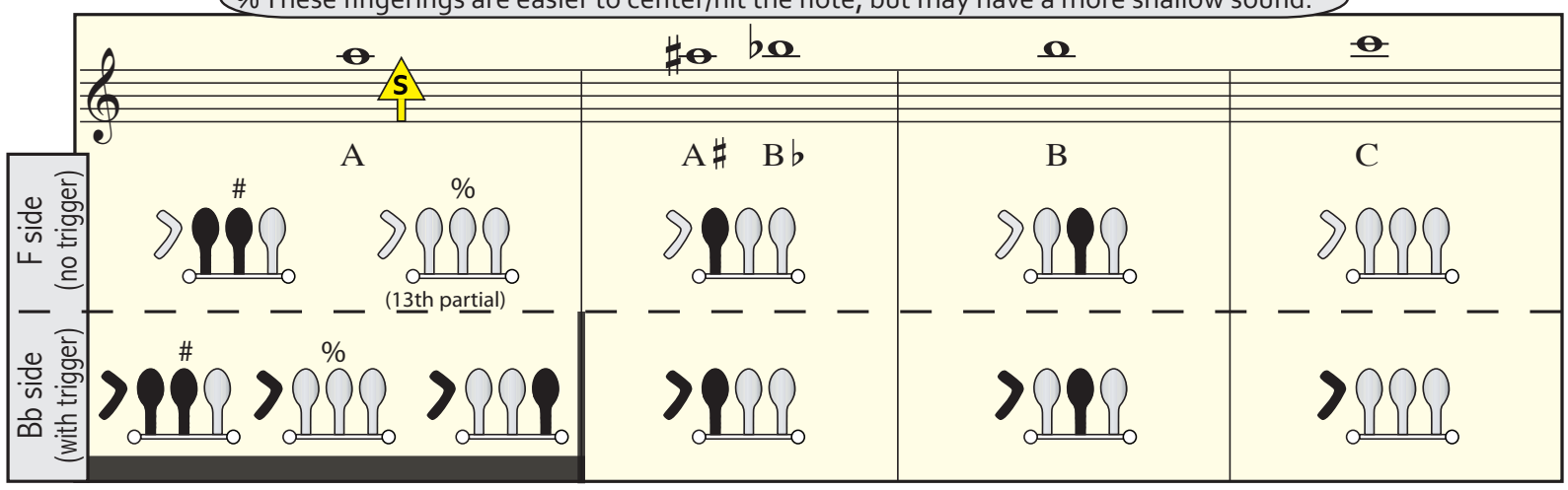




Notes F and above may be *flat* **or** *sharp* depending on horn and embouchure

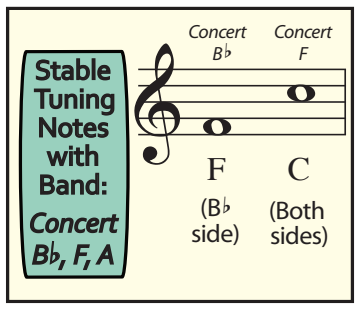


These fingerings may have a richer sound, but it is more difficult to center/hit the note.
% These fingerings are easier to center/hit the note, but may have a more shallow sound.

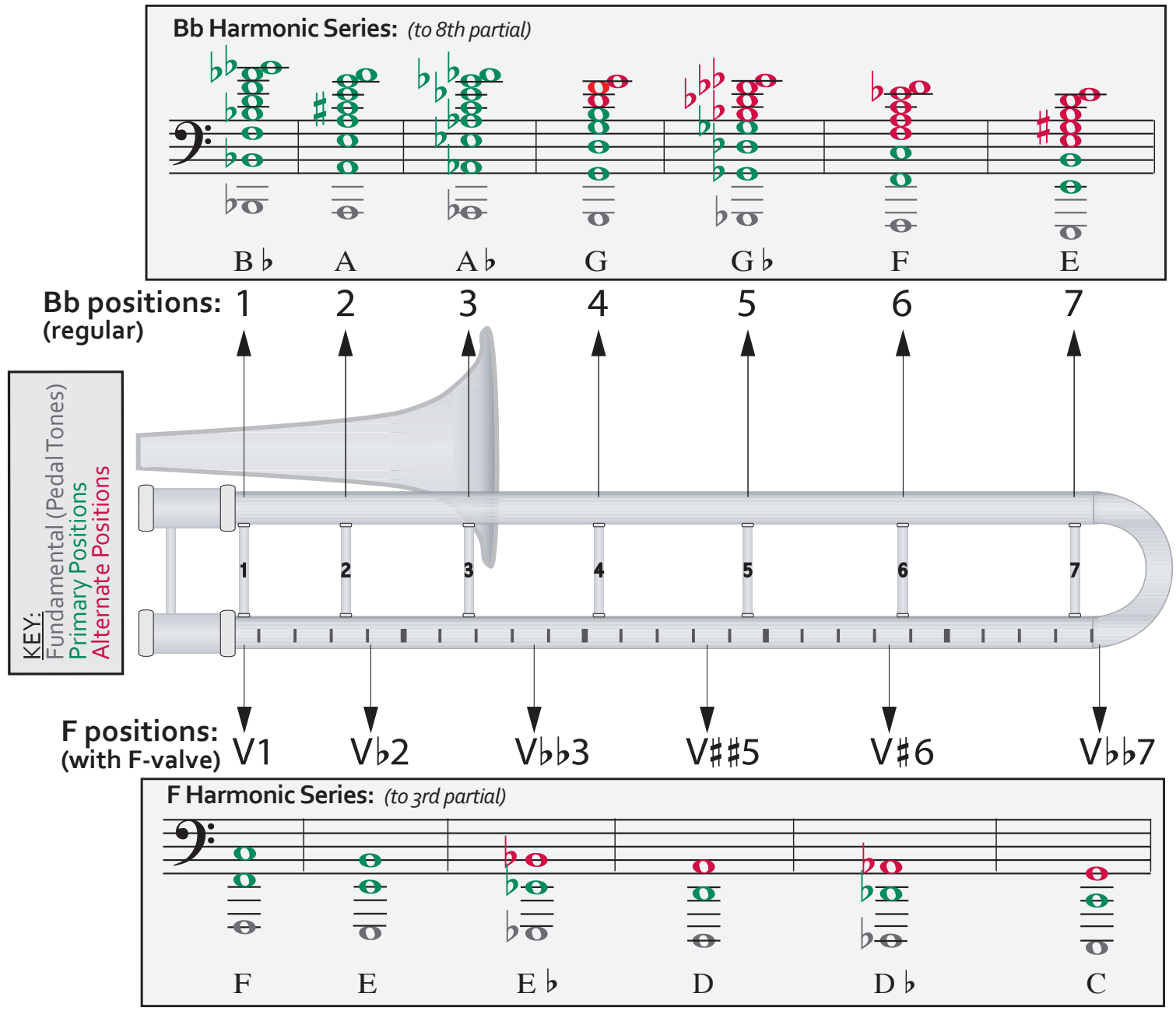


! CAUTION !

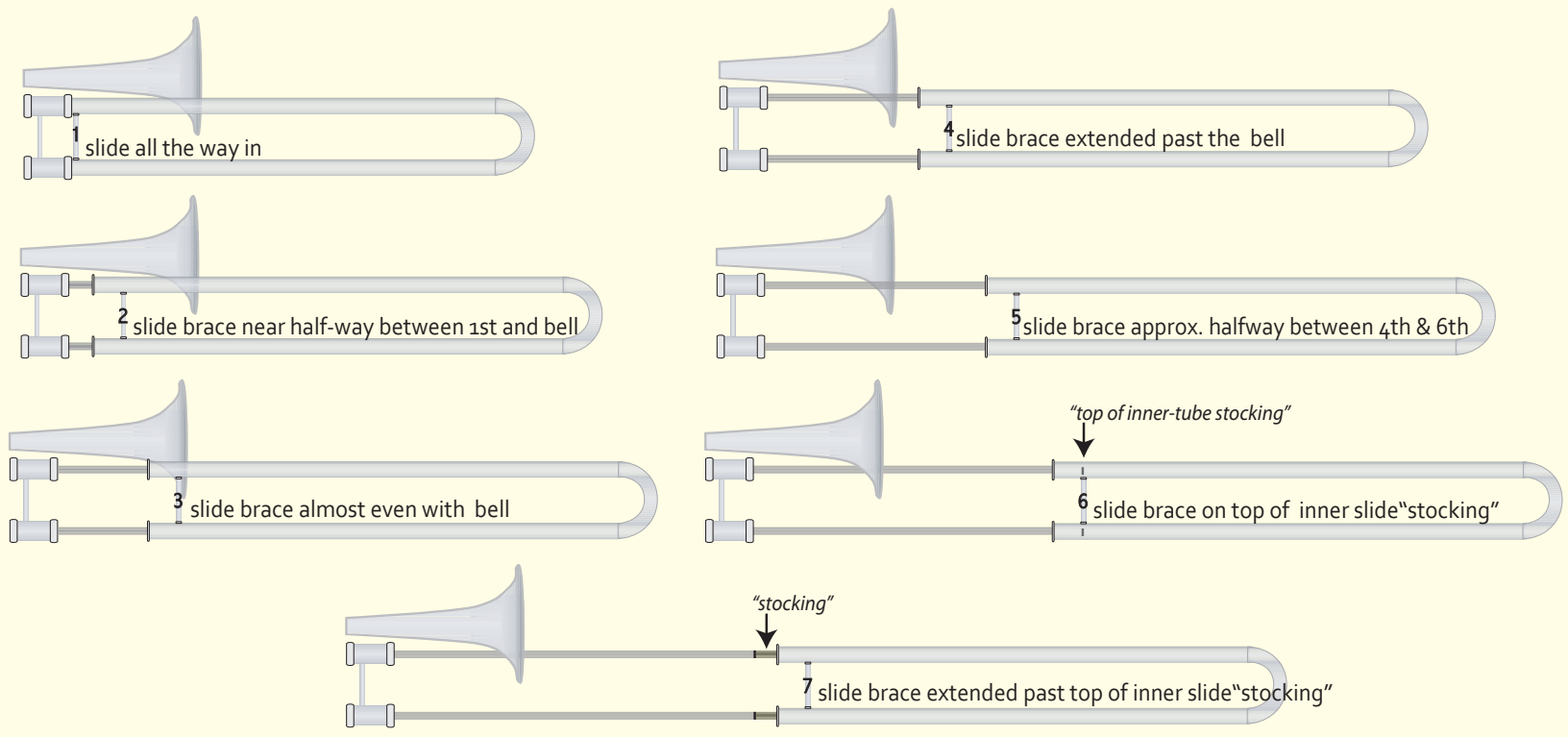
Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / place / lip*** every note in tune. Use alternate fingerings only when necessary!



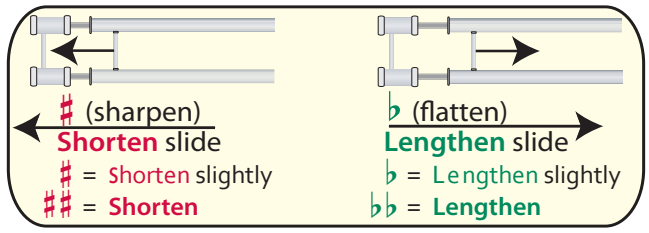
Hand position, size of hand, and size and shape of bell is a key factor in intonation. Carefully monitor these issues until you find the "sweet spot" where minimal hand movement has the most effect on pitch.



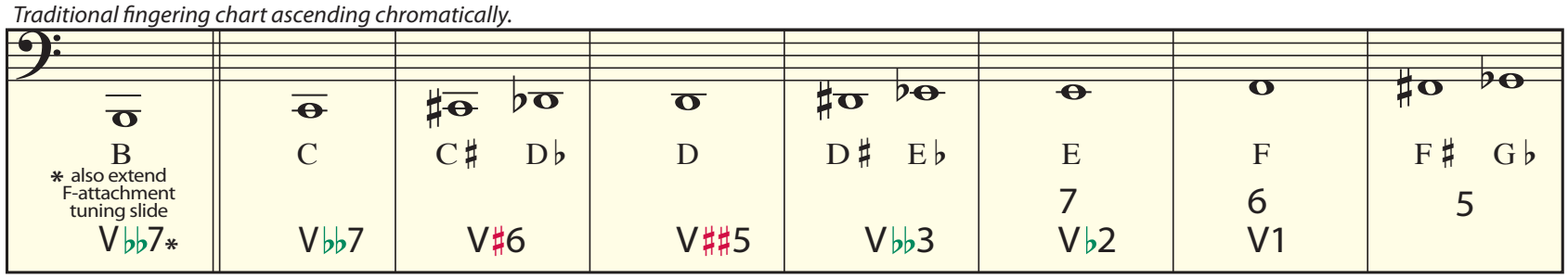
Trombone Key Chart

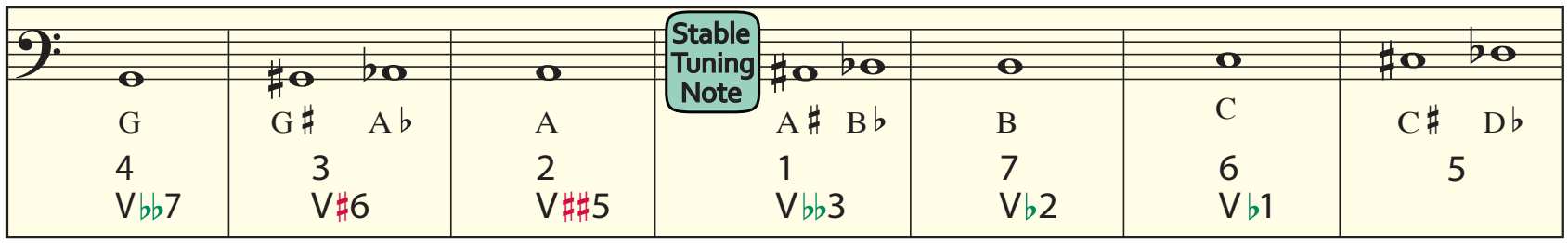


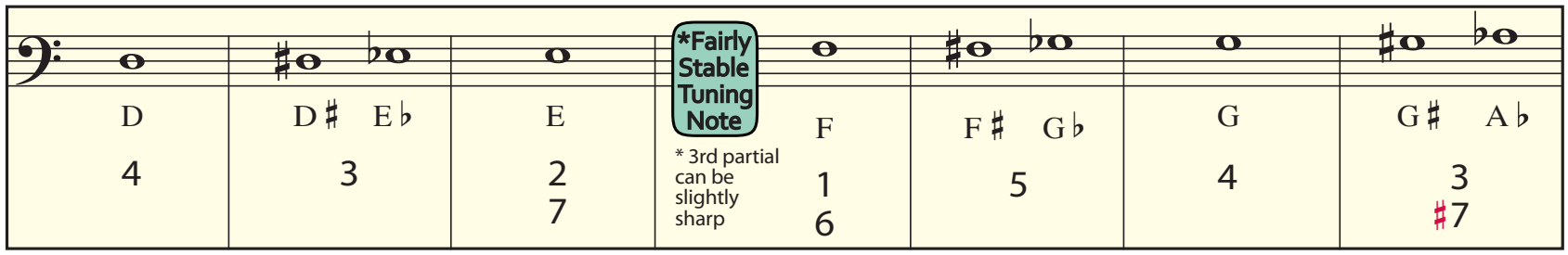
NOTE: Resources and teachers vary in how they notate slide placement in relationship to the position.
For clarity, this chart uses ♯ = Shorten and ♭ = Lengthen.

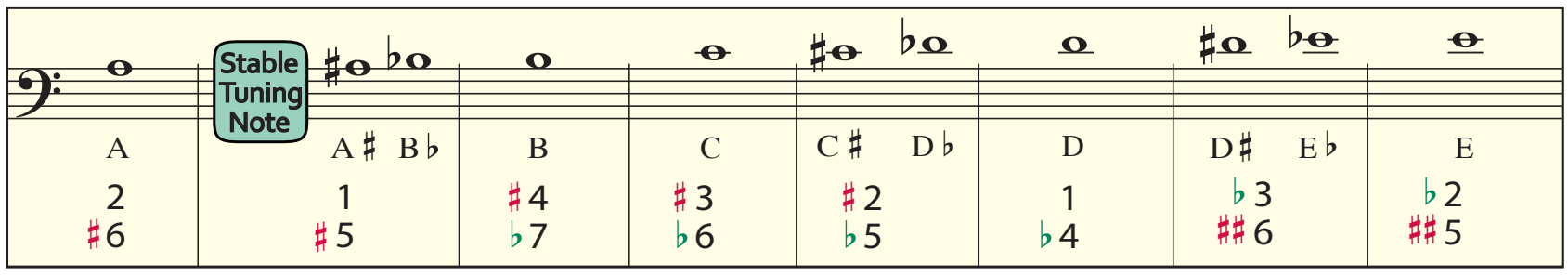


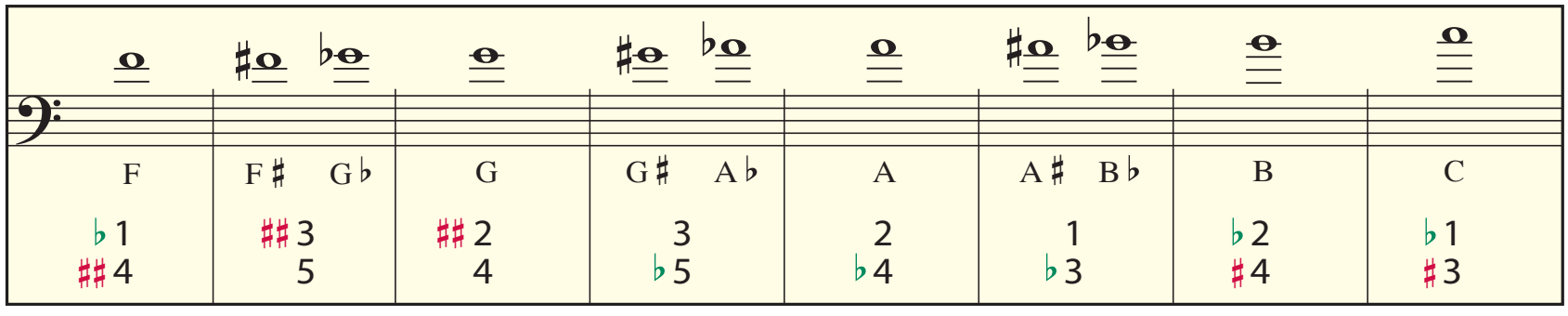
Traditional fingering chart ascending chromatically.









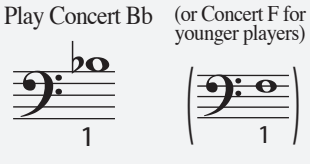


Trombone F-Attachment Tuning

- The main tuning slide should be pulled out slightly (1/2”-1”) before you start to tune.
- Depress the F-attachment trigger when moving the F-Main Slide.

STEP 1

Play Concert Bb (or Concert F for younger players)

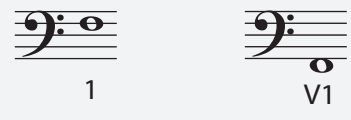


Tune with main tuning slide:

If flat, push in.

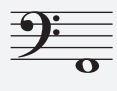
If sharp, pull out.

…then match your tuned F to the F an octave lower with F-trigger depressed.
Tip: Younger players should tune only to high F until embouchure is more developed.

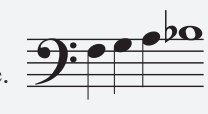


STEP 2

Play Concert F with the ***F-attachment***

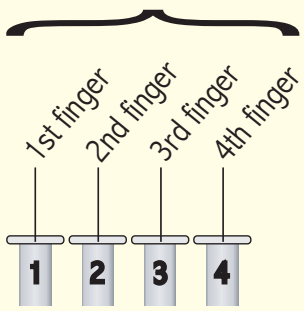


Tip: It is easier to hear the pitch approached from below. This also assists players to hear various positions in tune.



Key Chart

RIGHT Hand



S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

F = **F**lat ***S*** = **S**harp

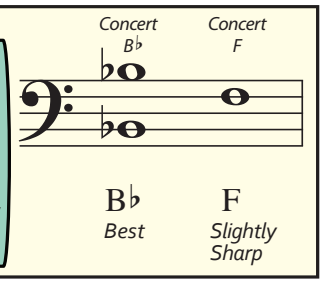
Stable Tuning Note — indicates notes most stable for tuning in band.

indicates suggested ***alternate*** fingerings.

! CAUTION !

Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / place / lip*** every note in tune. Use alternate fingerings only when necessary!

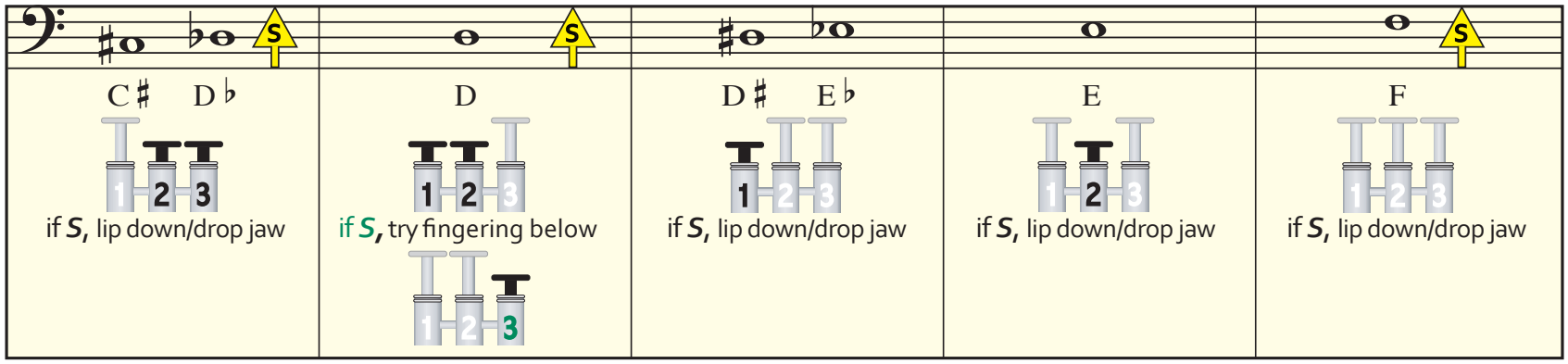
Stable Tuning Notes with Band: *Concert B♭, F, A*

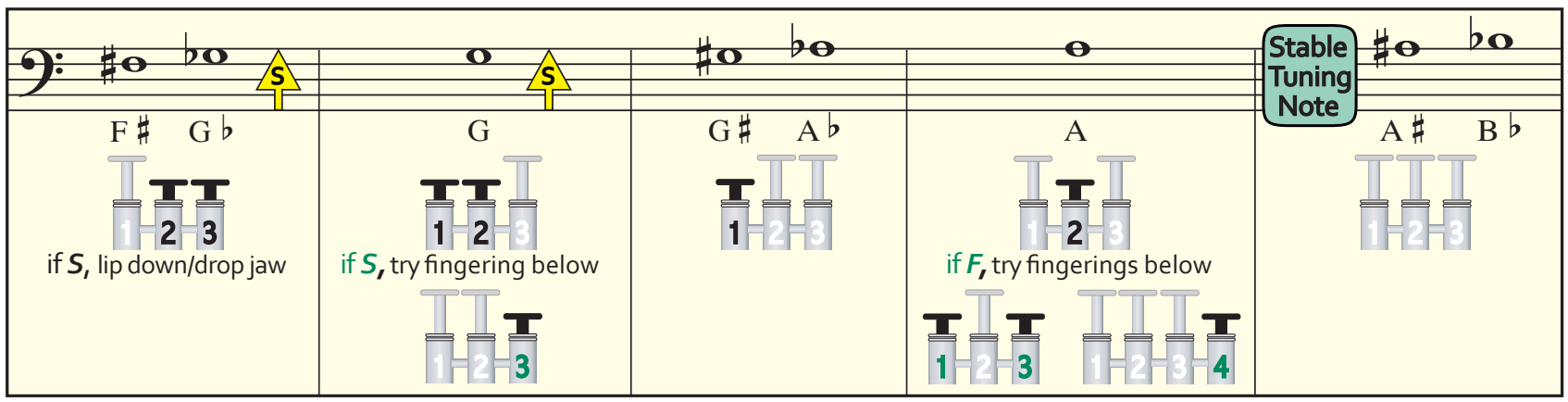


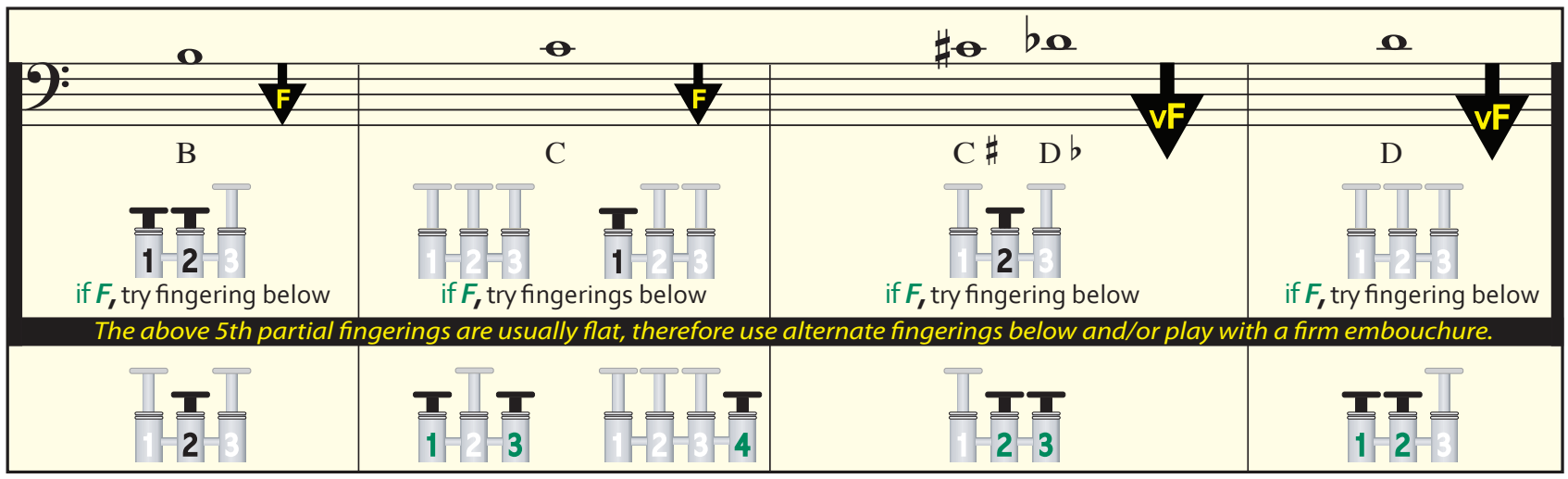
A♯ B♭	B	C	C♯ D♭	D
1 2 3 4	1 2 3 4 *compensating* if ***S***, lip down/drop jaw	1 2 3 4 *compensating*	1 2 3 4 *compensating*	1 2 3 4 *compensating*
		Using the above *compensating* fingerings on a *non-compensating* horn will be very sharp.		
		1 2 3 4 *non-compensating*	1 2 3 4 *non-compensating*	1 2 3 4 *non-compensating*

D♯ E♭	E	F	F♯ G♭	G
1 2 3 4 *compensating*	1 2 3 4 *compensating*	1 2 3 4 *may be slightly sharp*	1 2 3 *may be slightly sharp*	1 2 3 if ***S***, try fingering below
F 1 2 3 4 *non-compensating*	vS 1 2 3 lip down/drop jaw	vS 1 2 3 if ***S***, lip down/drop jaw		1 2 3
vS 1 2 3 4 *non-compensating* ***S***, pull 4th valve slide	vS 1 2 3 4 *non-compensating* ***S***, pull 4th valve slide	1 2 3		

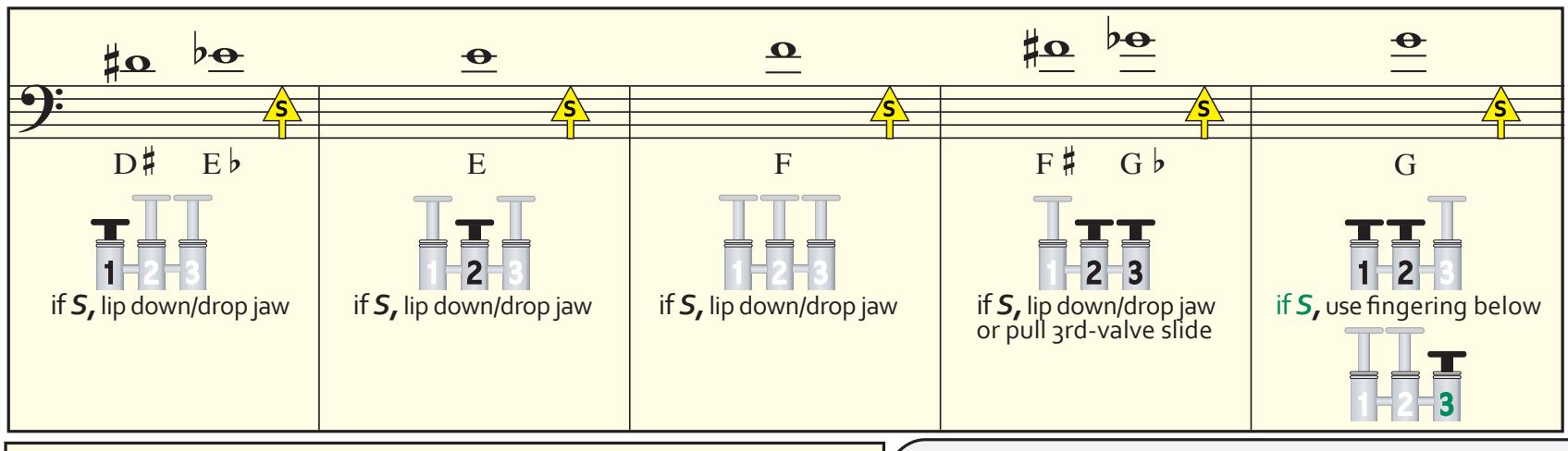
G♯ A♭	A	A♯ B♭	B	C
1 2 3	if ***F***, try fingering below 1 2 3	* May play sharp with younger players due to lack of lower range development.	1 2 3 4 *compensating*	1 2 3 4
			vS 1 2 3 lip down/drop jaw	vS 1 2 3 lip down/drop jaw
			S 1 2 3 4 *non-compensating* ***S***, pull 4th valve slide	

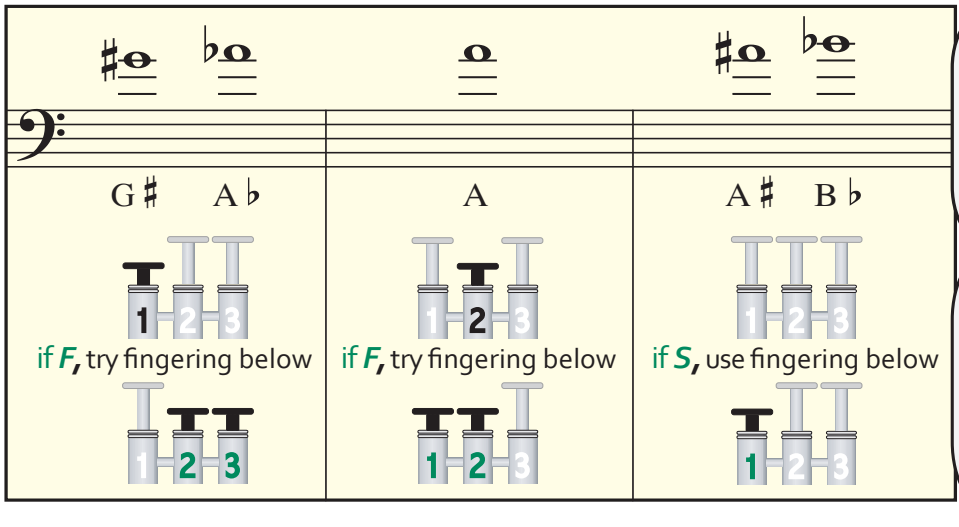






The above 5th partial fingerings are usually flat, therefore use alternate fingerings below and/or play with a firm embouchure.





<u>To correct sharpness in pitch</u>:
1. Relax embouchure; pull jaw/lower teeth down & back.
2. Open up the inside of mouth; drop floor of mouth.

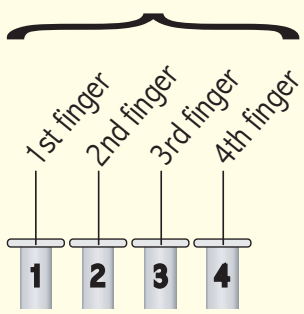
<u>To correct flatness in pitch</u>:
1. Focus air with more energy; increase air support and aim air forward and higher in mouth.
2. Firmer embouchure; more lip and air compression.

<u>If *consistently* sharp in pitch</u>:
1. Is embouchure too tight/tense?
2. Are all slides pushed all the way in?
3. Best mouthpiece for instrument/student?

<u>If *consistently* flat in pitch</u>:
1. Is embouchure too loose?
2. Are all slides pulled too far out?
3. Best mouthpiece for instrument/student?

Key Chart

RIGHT Hand



S — indicates notes that are often ***Sharp*** in pitch.

F — indicates notes that are often ***Flat*** in pitch.

vS — indicates notes that are VERY ***SHARP*** in pitch.

vF — indicates notes that are VERY ***FLAT*** in pitch.

F = **F**lat ***S*** = **S**harp

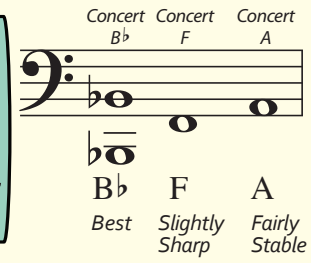
Stable Tuning Note — indicates notes most stable for tuning in band.

indicates suggested ***alternate*** fingerings.

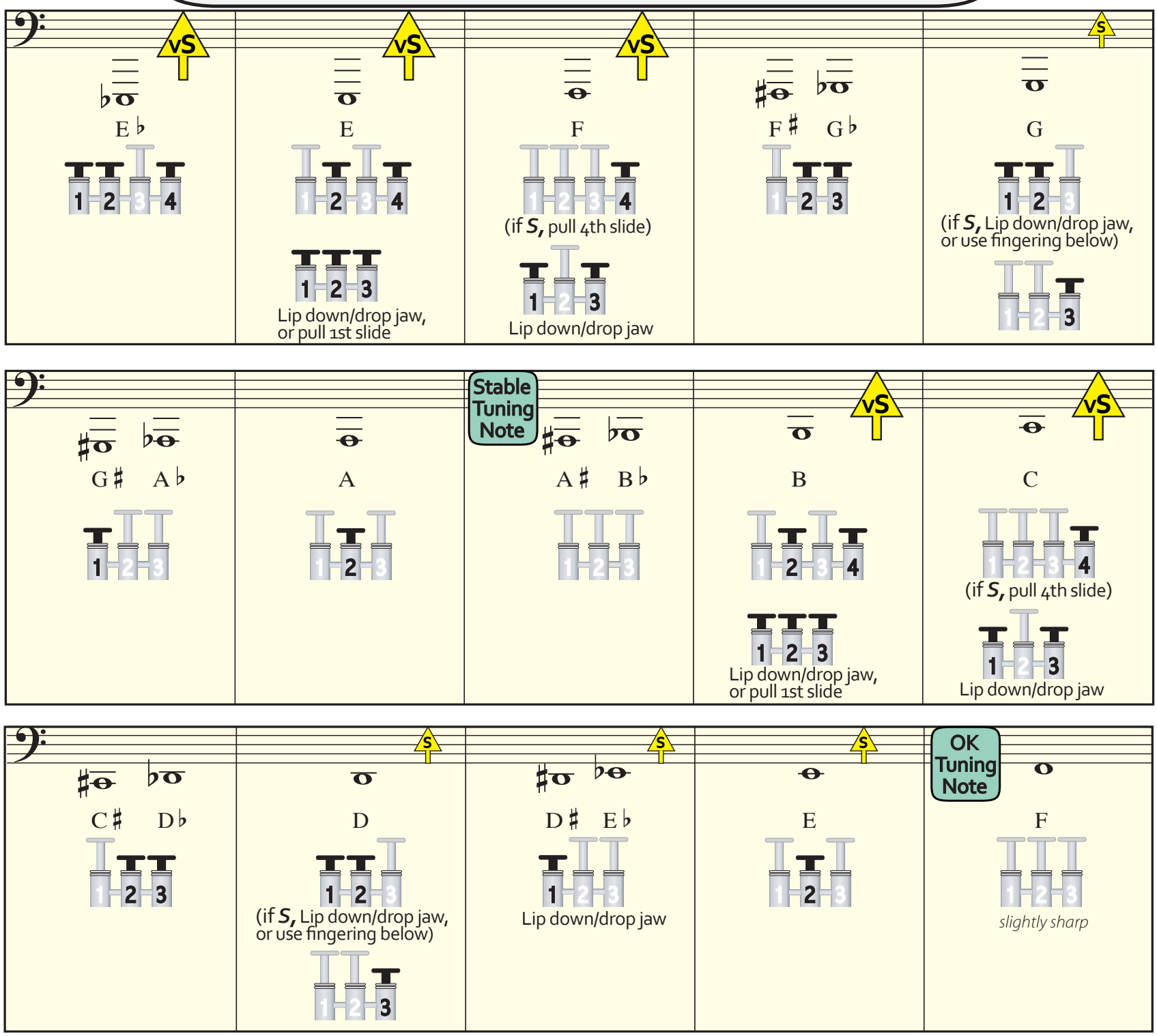
! CAUTION !

Every instrument, even identical models, can have varying pitch tendencies. Learn the pitch of your instrument and advance your skills to ***voice / place / lip*** every note in tune. Use alternate fingerings only when necessary!

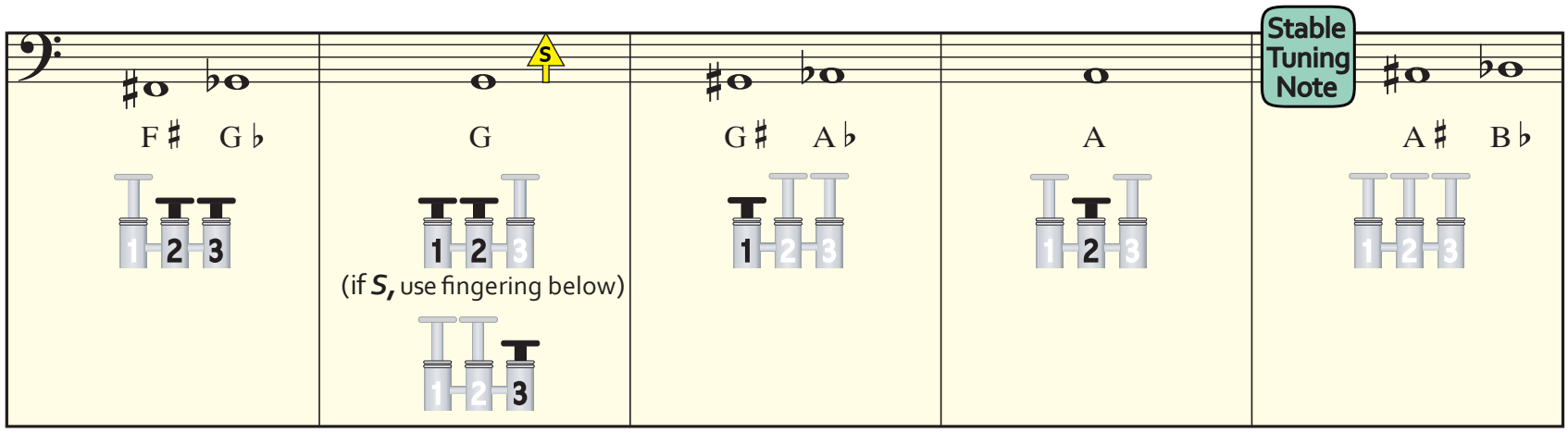
Stable Tuning Notes with Band: *Concert B♭, F, A*

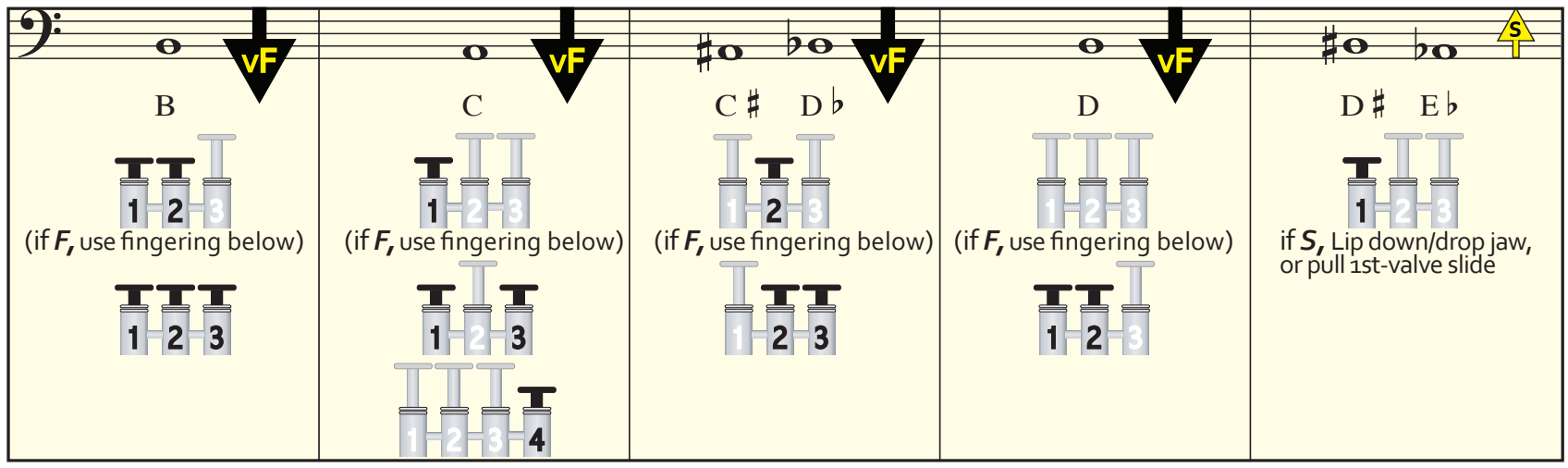


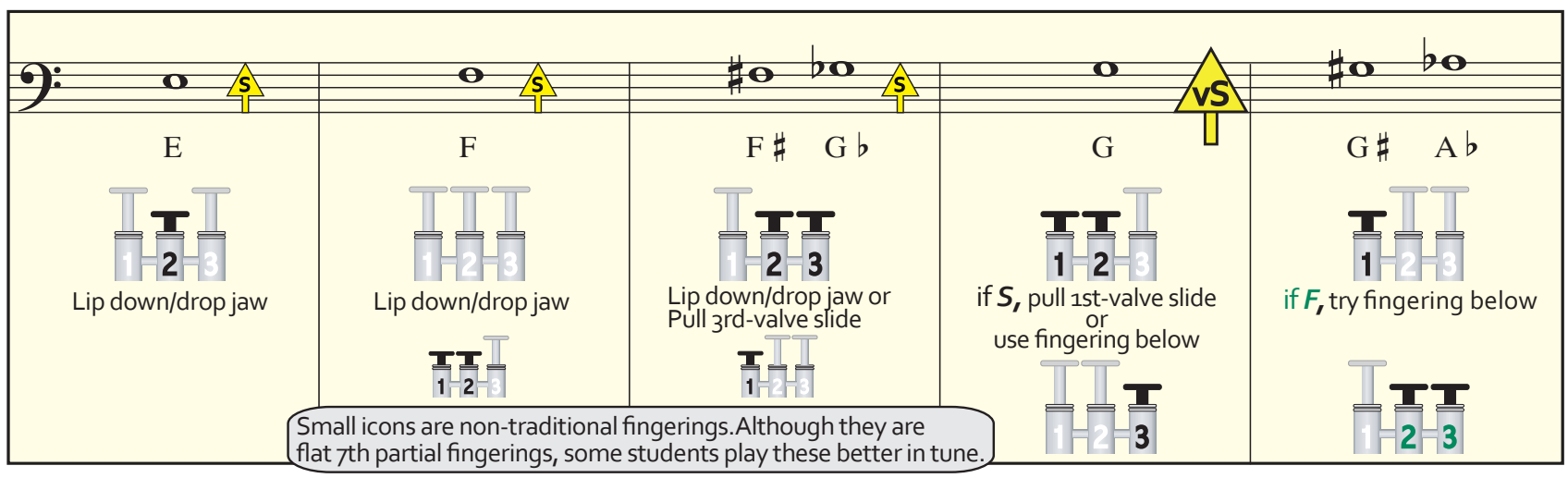
* If a note has more than one fingering choice, then recommended fingerings are listed first. However, if your horn has a 4th-valve, the 4-valve positions are recommended as 1st choice.

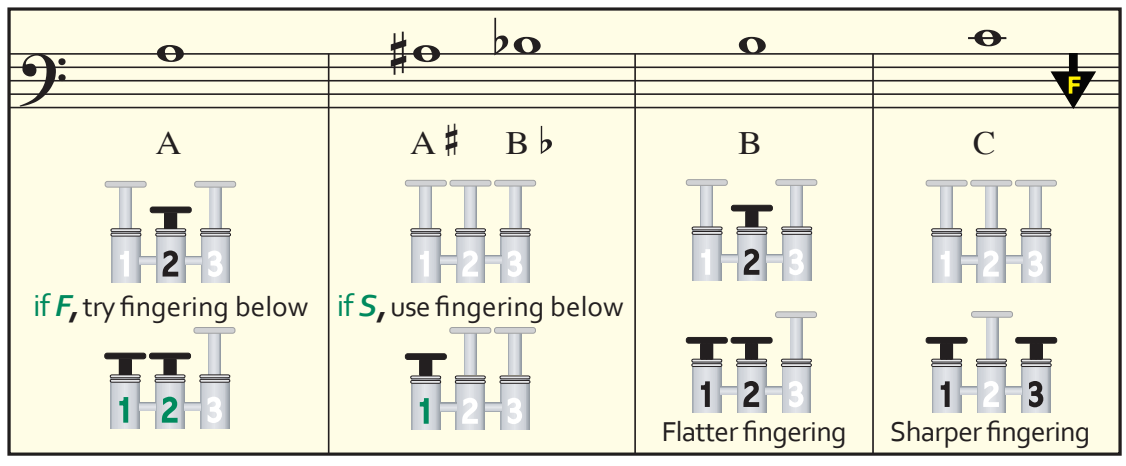


BB♭- Tuba (3- and 4- valve)









To correct sharpness in pitch:
1. Relax embouchure; pull jaw/lower teeth down and back.
2. Open up the inside of mouth; drop floor of mouth.

To correct flatness in pitch:
1. Focus air with more energy; increase air support and aim air forward and higher in mouth.
2. Firmer embouchure; more lip and air compression.

	Pitched Tubas
BBb	Most popular for school wind band use at all playing levels.
CC	Better for advanced playing levels and orchestral performance. Has a brighter/clarity sound than BBb.
Eb	More popular for advanced solo, chamber and orchestral performance.
F	More popular for advanced solo, chamber and orchestral performance. Has a smaller bore.

If *consistently* sharp in pitch:
1. Is embouchure too tight/tense?
2. Are all slides pushed all the way in?
3. Best mouthpiece for instrument/student?

If *consistently* flat in pitch:
1. Is embouchure too loose?
2. Are all slides pulled too far out?
3. Best mouthpiece for instrument/student?

Resources

Balmages, B., & Herrings, R. (2018). *Tuned In: A Comprehensive Approach to Band Intonation*. FJH Music Company.

Boonshaft, P. (2016). *Sound innovations for concert band: ensemble development for young concert band*. Alfred Publishing Company.

Cole, A. M. (n.d.). 36 Chorales for Band. Retrieved from http://aaronmcole.com/chorale.html

Everett, M. (n.d.). Daily Breathing Routine. Retrieved from https://olemiss.edu/lowbrass/routines.html.

Garofalo, R. J. (1996). *Improving intonation in band and orchestra performance*. Ft. Lauderdale, FL: Meredith Music Publications.

Jagow, S. (2008). *Teaching instrumental music developing the complete band program*. Galesville, MD: Meredith Music Publ.

Jagow, S. (2012). *Tuning for wind instruments: a roadmap to successful intonation*. Galesville, MD: Meredith Music Publ.

McAllister, J. (n.d.). Warm-Ups. Retrieved from https://www.johnmcallistermusic.com/warm-ups.html.

Pilafian, S., & Sheridan, P. (2001). *The Breathing gym: excercises to improve breath control and airflow*. Mesa, AZ: Focus On Music.