WIND BASS: A GUIDE TO PLAYING BASS LINES ON THE TUBA

by

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To Mary Claire

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Preface

The tuba was one of the last instruments introduced to the symphony orchestra, with its invention in 1835. The first tubas were bass tubas (Key of F), followed by contrabass tubas (BBb, and later CC). Today, the modern tubist is expected to have fluency in both bass and contrabass tubas for the symphony orchestra repertoire. The tuba's use was widespread in other areas outside the orchestra, most notably in traditional polka, the American band tradition, traditional jazz music, Dixieland, and New Orleans style brass bands. The tuba was the main bass instrument for use in popular music genres, eventually being unseated by the string bass, followed by the current electric bass, synth bass, and other computer-based replacements.

I began playing music seriously at age 13, starting with the euphonium and electric bass, and eventually picking up the tuba. The techniques that I learned on the tuba as well as the electric bass have complimented each other; as a working musician I have been able to apply my approach to classical tuba to the electric bass, as well as my approach to commercial bass playing to the tuba. When the tuba and bass were employed in popular music, they maintained similar roles. Usually, a bass player was expected to be able to play the tuba, and vice versa. As specialization became more widespread throughout the 20th century, both instruments, through repertoire and available work, demanded that the player be virtuosic at a single instrument. While a tuba player is not expected or trained to have a mastery of multiple musical genres, a bass player who seeks to be flexible in a working environment is expected to have fluency in multiple genres, whether it be rock, funk, jazz, pop or more.

The working tubist today may find themselves in a wide range of musical situations, but most of the methods used to develop these skills for the tubist are focused mainly on classical and melodic playing. A tubist who finds non-classical music on their stand can usually "fake it 'til they make it", playing the music to the best of their ability. Due to the expansion of repertoire in both orchestral and chamber music including the tuba in the last few decades, the tubist will find themselves presented with more commercial music than previously expected. Tuba parts in orchestral pops music and brass quintet music will require the tubist to perform various genres convincingly. Unlike most other instruments, the tuba is unusual in the expectation to recreate music generated from a completely different musical tradition and instrument.

Some techniques listeners are used to hearing on bass (ghost notes, articulation, patterns) are idiomatic to the bass, while foreign to the tuba. This method seeks to bring those worlds together for the tuba player and have the ability and fluency to survive in any musical situation. The tuba's return to popularity has continued and risen in recent years with a resurgence in popularity of NOLA style brass band music, Banda music, Polka, and Dixieland. Having harmonic knowledge as well as technical knowledge of how bass players think and play can provide a path for the tuba player to explore other genres where a bass player may normally fill the role, including funk, rock, pop, and jazz.

The method of "Wind Bass" is designed to aid the tuba (or any other low wind) player in understanding the role of the bass in popular music, as well as mimic the techniques and patterns of the electric bass player, which has become the most ubiquitous instrument used today in commercial music. I believe this will open more doors for tuba players to be the bassline option in groups, as well as aid the classical tubist in filling out

bass voice roles in brass quintet, concert band, and other “classical” situations. The pedagogical benefits in understanding another instrument’s mode of operation is highly beneficial in a teaching environment, where analogy is vital for brass instrument instruction.

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Chapter 1: A Brief History and Analysis of Instrument Used As Bass Voice

The bass voice in any ensemble is vital for time and pitch reference. Due to the low frequency of low tones, a large instrument is needed to facilitate this role. The tuba found its home in orchestral music, dating to Hector Berlioz's Symphonie Fantastique.[1] Tubas were also important in band culture, making their way into military and civilian bands. These large acoustic instruments were eventually used to fill the role of the bass voice in military and concert bands that played in outdoor venues due to the ability to project sound at larger volumes. The modern concept of the marching band in the United States is derived from military bands which were prominent in the Civil War era. These bands served as a source of signaling as well as entertainment for troops and civilians. Brass bands eventually became a major social institution in American communities after the Civil War, notably in the birthplace of jazz: New Orleans.[2]

The popularity of these brass bands eventually led to the traditional jazz band. The instrumentation for the traditional jazz band consists of cornet, clarinet, trombone, tuba, bass drum and snare drum. The melodic instruments were considered the front line, while the rhythmic instruments the second line. This is directly related to marching bands using these instruments, and the tuba (sousaphone) being the bassline instrument capable of marching as well as appropriate volume.[3]

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[1] Berlioz revised Symphonie Fantastique to replace the original instrument playing the parts, the ophicleide.

[2] Gioia, Ted. *The History of Jazz.* (New York: Oxford University Press, 2011), 31.

[3] Bough, Thomas. "The Role of the Tuba in Early Jazz Music from 1917 to the Present: A Historical, Pedagogical, and Aural Perspective," 1998, 17-18.

The piano was the original instrument responsible for the bass line in recordings of early jazz; Steven Call notes in the *Tuba Source Book* that the "...earliest known jazz recordings using the tuba were made in 1923 by the New Orleans Rhythm Kings with Jelly Roll Morton playing piano. Recorded in Richmond, Indiana, they featured New Orleans tubist Chink Martin (Martin Abraham)."[4] The tuba was more easily heard on early recording technology than other options for the bass voice.

The tuba remained the foundation of these bands until the string bass became the preferred instrument as jazz bands moved to indoor venues, moving away from the New Orleans tradition. The string bass became more common with marching no longer being a requirement, as well as amplification technology developing. The bandleader and bassist Walter Page was a major force in change: "... he overpowered the bass, drawing out a stronger, more resonant tone than any of his predecessors. True, the shift away from using tuba or bass saxophone as the harmonic foundation for the jazz band was already well under way before the rise of the Blue Devils, but no one did more than Walter Page to legitimize this change, to assert the primacy of the string bass as the most flexible and expressive voice for the "walking line."[5] Gunther Schuller describes the approach of bass player John Lindsay in his analysis of Jelly Roll Morton's 1926 Victor recordings. Schuller notes the following:

> I think a very special lift is given to these 1926 Victor recordings by the string bass of John Lindsay. This raises the question of the bass instruments in early jazz, a problem that has not been dealt with as far as I know. The following remarks are based on the premise that the best bass instrument for

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[4] Morris, R. Winston., and Edward R. Goldstein. The Tuba Source Book. (Bloomington, IN: Indiana University Press, 1996), 529

[5] Gioia, Ted. *The History of Jazz*, 151-152.

> swinging is the pizzicato string bass. It has precisely the acoustical "attack and decay" pattern that provides the essence of swing.[6]

Schuller goes on to describe the differences between the pizzicato technique of jazz and classical players, using Ray Brown as the standard for jazz technique.[7] Schuller describes the sound of swinging pizzicato bass technique as giving the "*illusion* of sustaining the note. The natural, gradual decay pattern of a plucked note...*fades* into silence…"[8] This technique gives the music its signature feel. He makes the claim that the tuba cannot provide this same swinging feel as the string bass: "At best, in the hands of an exceptional player it can create the illusion of a pizzicato".[9] Schuller lists Bass Edwards, Walter Page, and John Kirby asl examples of important tubists who achieved this style and feel in early jazz. It is interesting to note how the basis of swing music may have rested in the idiomatic capabilities of the string bass, being the driving force of the rhythm section.

The double bass also was capable of more facility over longer periods of time compared to the tuba, which facilitated the shift from a 2 beat style into 4 beat swing and beyond. Walking bass lines developed with the idiomatic capabilities of the string bass, as opposed to the tuba's 2 beat style, which was close to the upper limit of the tuba's capability at the time. Bernie Moten's band, which was one of the first jazz bands recorded, is an example of the New Orleans instrumental line-up changing as time passed, turning into the modern big band, using the string bass as opposed to the

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[6] Schuller, Gunther. *Early Jazz: Its Roots and Musical Development*. (New York: Oxford University Press, 1986), 159.
[7] Ibid.
[8] Ibid, 160 (Emphasis author's)
[9] Ibid.

traditional tuba.[10] The tuba eventually found itself in melodic roles in cool and modern jazz, such as *Birth of the Cool,* released in 1957.[11] Players like Howard Johnson, Rich Matteson, Ray Draper, and Bill Barber defined their careers by melodic playing. Because of these developments, tuba players today in modern music tend to embrace either the melodic or the bassline role in an ensemble, depending on the genre.

The gradual evolution of the modern big band saw more change in instrumentation, putting emphasis on sections of instruments as opposed to the individual voice, and the rhythm section developing their own role, with the string bass becoming the main instrument in rhythm sections as opposed to the tuba.[12] As music developed in the 20th century, the string bass remained the standard instrument in jazz, and was used in early rock groups (such as Elvis Presley's bassist Bill Black, who eventually was pivotal in the electric bass guitar's popularity).[13] Monk Montgomery was the pioneer of using the electric bass guitar as a legitimate instrument in jazz, joining Lionel Hampton's band in 1952. Hampton was gifted an electric bass guitar by its inventor, which was then played by Roy Johnson. When Montgomery joined the band, it was under the encouragement of Hampton that he switched to electric bass guitar from string bass.[14]

The modern electric bass guitar was invented by Leo Fender in 1951 with the introduction of the Fender Precision Bass. This instrument had a 34" scale length, which made it much more manageable to play than the large string bass (usually around a 40-

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[10] Gioia, Ted. *The History of Jazz,* 160.
[11] Ibid, 280.
[12] Ibid, 106.
[13] Wright, Brian F. "How the Electric Bass Became the Norm: An Alternative History of American Popular Music, 1951-1964", 2018, 77.
[14] Roberts, Jim. *How the Fender Bass Changed the World*. (San Francisco, CA: Backbeat Books, 2001), 36-37.

43” scale length). The Precision Bass also had frets like a guitar, which allowed for precise intonation. The electric bass was first conceived as an alternate instrument for guitar players, allowing them to double on a bass instrument without having to learn string bass when band sizes became smaller, causing fewer gigs for non-doublers.[15] The combination of amplification, shorter scale length, and frets created an entirely new instrument with unique capabilities. The electric bass guitar became more than a doubler’s instrument, bringing an entirely new group of virtuosos into the music scene. Examples of well known electric bass players who created signature sounds include Paul McCartney (The Beatles), Jaco Pastorius, and Larry Graham (Sly and the Family Stone). The electric bass was used in many popular genres, players like Carol Kaye and James Jamerson became well known sounds on the radio.[16] Motown players like Jameson and Jeremy Jemmott were highly influential on the following generation of musicians, including electric bass virtuoso Jaco Pastorius, arguably the electric bassist that fully legitimized the instrument as a true musical voice in his 1976 self-titled solo debut record, similar to Walter Page’s legitimization of the string bass as the standard bass instrument half a century earlier.[17] [18] The electric bass became a standard instrument in rock “guitar” bands in the 1960’s such as The Beatles, The Who, Cream, and well into the 1970’s with bands such as AC/DC, Pink Floyd, Yes, and The Police. Funk bands of the 1970’s including Parliament, The Meters, Tower of Power, and Sly and the Family Stone all feature unique bass sounds that ultimately shape the overall sound of the group.

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[15] Roberts, Jim. *How the Fender Bass Changed the World,* 31.

[16] Wright, Brian F. “How the Electric Bass Became the Norm: An Alternative History of American Popular Music, 1951-1964”, 139.

[17] Roberts, Jim. *How the Fender Bass Changed the World,* 129.

[18] Jaco Pastorius. Jaco Pastorius. CD. New City, New York: Bobby Colomby, 1976.

The sound of the electric bass guitar has become standardized in the ear of the average music listener. Through the use of different equipment and techniques, each one of these players were able to curate their own unique sounds, all of which are a part of the modern electric bass player's lexicon. The electric bass is perhaps the most ubiquitous instrument used in the bass voice's role in music today, covering a wide range of genres.

Chapter 2: INSTRUMENTAL AFFORDANCES

Considerations must be made of the tuba and the electric fretted bass guitar's idiomatic capabilities. The tuba, being a fully chromatic brass instrument, by the nature of its mechanics is bound to certain limitations set forth by the instrument itself. The bass guitar is also limited by its own inherent capabilities. The tuba is essentially limitless in its pitch capabilities depending on the skill level of the performer. The bass guitar is limited to its tunings, unless other equipment is used to accommodate such as effect pedals, alternate tunings, drop tuners, and extended fretboards. The standard bass guitar is a four string, fretted instrument; this will be the version of the instrument used for this discussion. The key is the tuba is pitched in makes for a different experience for the player, but does not limit which pitches can be played, only what their timbre may be. Things like the tuba's size as well as the mouthpiece can all have timbre and pitch differences. The bass guitar tuned in standard EADG tuning binds the player to a limited range, such as the low open E string, and the highest fret on the G string, but other effects can be attained such as natural harmonics and artificial harmonics to attain pitches otherwise unavailable to the musician.[1]

How a musician learns to play music, including which specific instruments they study, can have a great effect on how they conceptualize music. Jonathan de Souza describes this process in Beethoven's improvisational process being related to how Beethoven learned the piano. The physical action of playing with the resulting sounds

[1] Jaco Pastorius "Portrait of Tracy" https://youtu.be/IqndXUPBjIo.

eventually build themselves into schemas codified in both player and listener.[2] The line between purely conceptual thinking of music (such as pitches or sounds of harmonies) becomes blurred with the physical action itself, where the end goal of a musical result cannot be divorced from the means in which to complete it.

Figure 2.1. showing 1978 Fender Musicmaster Bass Guitar and Meinl Weston "Baer" 6450/2 CC Tuba.

This idea can carry over to the capabilities of both the tuba and bass guitar; there are compositional and improvisational ideas which are idiomatic to the tuba, as well as the

[2] De Souza, Jonathan. *Music at Hand* (Oxford Studies in Music Theory Oxford University Press. Kindle Edition), 10.

bass guitar, which are born of the physical capabilities of the instrument and the palette of the player.

De Souza also discusses the concept of affordances in objects, or what the object seems to offer for its uses. Tools are made to complete specific tasks, but at the same time tools can also be used to complete tasks that they were not originally made for. This changes how someone can see a tool, its affordances, and its capability to accomplish an end. Souza uses the example of the chair:

> The chair affords sitting for me because of my abilities and because of its size and shape relative to my body. It would not afford sitting for a newborn baby or, to take an extreme example, for a humpback whale. Affordances and abilities, then, are essentially codefined.[3]

One can see how this can apply to instruments: a clarinet to someone untrained in playing the clarinet may not be a useful tool for accomplishing an artistic end, but to a clarinetist the object of the clarinet becomes something teeming with possibility. For a composer, the instrument used to compose the music (such as the piano) is influential in the compositional process. How a composer would compose music for an instrument they play or are studied in versus one they are less familiar with can change the compositional process. When a musician composes music for themselves to play on their main instrument, there is the possibility that the affordances the instrument offers are the creative bounds in which the musician composes.

How a musician visualizes music while playing an instrument is also to be considered. This is also highly influenced by the mechanics of the instrument; the mechanics of the tuba and the bass guitar are very different though they may fill similar

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[3]Ibid, 12.

roles in musical ensembles. De Souza uses the example of the introduction of Beethoven's "Pathetique" Sonata, which has a large sweeping descent.[4] He compares this to other instruments which do not have the same capabilities as the piano, such as chromaticism. Playing this passage on another instrument would then fundamentally change the experience of this music, both for player and listener. Using the word "descent" to describe the passage is an analogy highly dependent on the instrument playing the passage. The player can see and feel descent on an instrument such as a piano or guitar (down the keyboard or fretboard).[5] On wind instruments, such as the tuba, descending is purely a sonic concept, we cannot see descent in our physical inputs while playing a tuba. Wind playing pedagogy is more abstractly metaphorical due to this issue, as opposed to other instruments where the mechanics of the physical inputs can visually correlate with the sounds.

De Souza describes what he calls an instrument's *place-to-pitch mapping*, or the network of pitch locations in relation to the instrument.[6] For instance, on a piano the spatial awareness between different keys is a very physical experience than playing a brass instrument which has many pitches for a fingering combination (*one-to-many mapping)*, or a woodwind instrument which may have multiple fingerings for the same pitch (*many-to-one mapping).*[7] The electric bass guitar, due to standard tuning, has multiple places where the same pitch can be played (*many-to-one mapping*) such as E2,

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[4] Ibid, 13.
[5] Idem.
[6] Ibid, 58.
[7] Ibid.

which can be played on the 12th fret of the E string, the 7th fret of the A string, and the second fret of the D string.

Figure 2.2 showing different placement of E2 on electric bass. Top photo: 12th fret on E string. Middle photo: 7th fret on A string. Bottom photo: 2nd fret on D string.

Some notes on the electric bass guitar, such as the low E string or the highest notes on the G string can only be played in one place. Contrastingly, the tuba can play multiple notes in one valve combination (*one-to-many mapping*); on the CC tuba, the 1st and 2nd valve

combination has the entire harmonic series of A0 (A0, A1, E2, A2, C#3, E3, A3, B3, and so on).

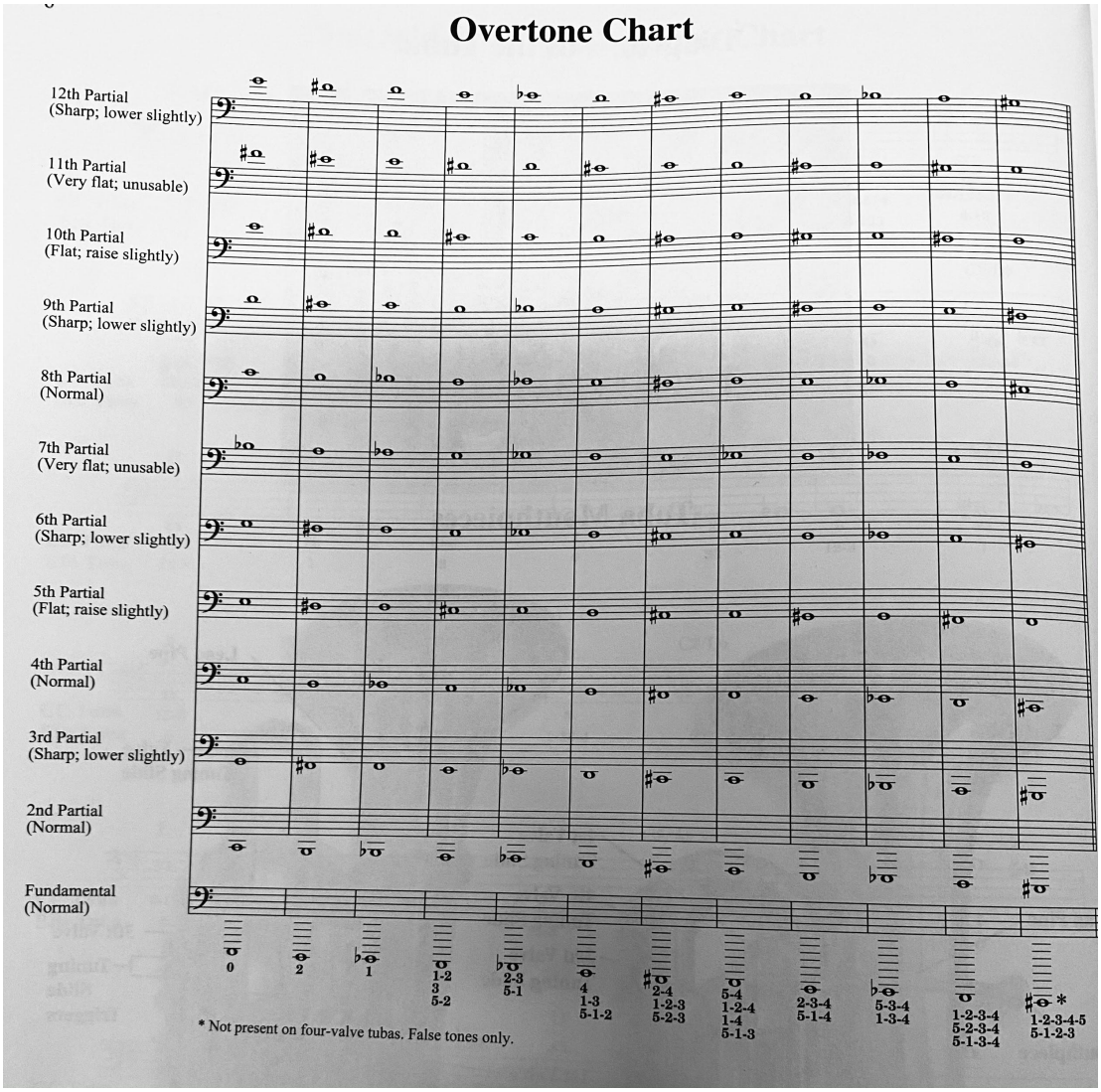

Figure 2.3. Overtone series of CC tuba. Mike Roylance Arban Method.

The tuba is also capable of playing certain notes with alternate fingerings, which means it also has elements of *one-to-many- mapping*. How the bassist and the tubist visualize spatial movement on their instrument, I would argue, plays a role in performance, improvisation, and harmonic understanding. Instrumentalists who play instruments that are more what we might term “visual” (such as the piano or guitar) may have an

advantage in harmonic awareness, being able to see where they are leaving and going to. They can also visualize the mechanics of their instrument as the harmonic system itself. Wind players have the advantage of being able to play in a singing style, more easily mimicking the human voice, but at the disadvantage of not having a mental map built into the instruments.

De Souza draws on the differences between "mobile" instruments (such as those who can bend pitches; wind instruments like the trombone, and fretless instruments like the cello) and "stable" instruments (those with mainly fixed pitch sets, like the piano or xylophone).[8] The tuba falls somewhat between these two categories; while the correct valve combination can provide an in-tune pitch, it is regularly required of the player to adjust pitches to be in tune. The tuba is not fixed in just or equal temperament in a permanent fashion, the player has the ability to raise and lower intonation based on the musical need. This, however, can be a double-edged sword: the tubist has the risk of playing out of tune with the option of pitch adjustment at their disposal.

The electric bass is more of a fixed instrument: open strings are tuned in relation to each other, and the frets are not adjustable. The common type of electric bass is technically out of tune with itself due to its mostly equal temperament, but the human ear is somewhat forgiving to this shortcoming. There have been manufacturing innovations such as fanned frets and varying scale lengths which solves the problem.[9] It is possible to bend strings to adjust pitch on the electric bass, but this is usually for effect rather than precise intonation. The electric bass affords itself to being an instrument that can be

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[8] Ibid, 62.

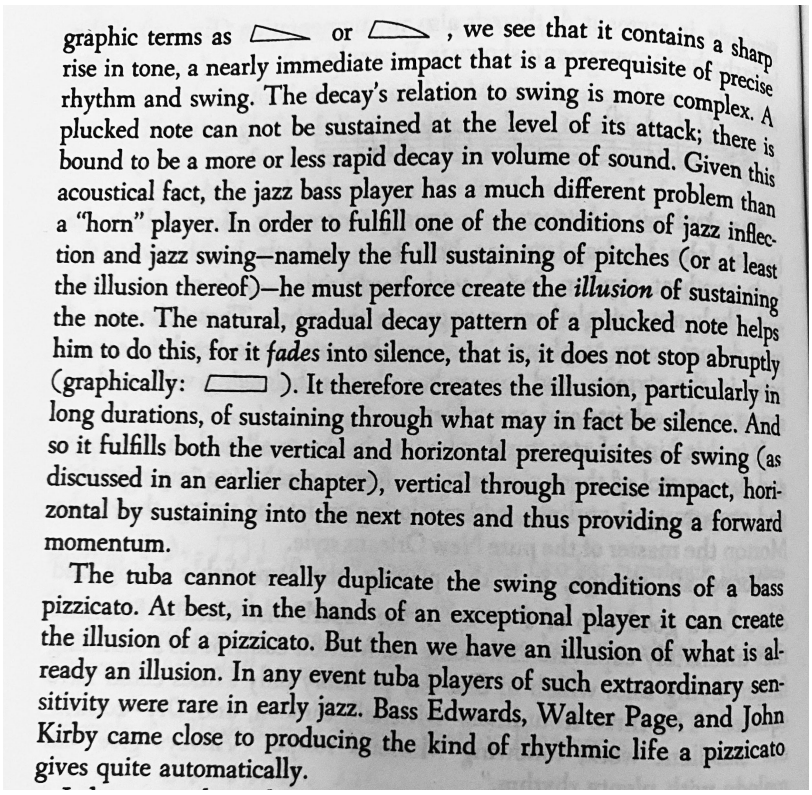
[9] Instrument manufacturers such as Dingwall Instruments and Kiesel Guitars manufacture fanned fret electric instruments.

played with great muscle memory, while the tuba in its more mobile state has aspects of muscle memory, the pitches are not as fixed and therefore require more attention. This distinction is worth keeping in mind for the tubists when replicating bass lines originally for another instrument. The technique required is much greater to sound like a “fixed” instrument while actually being “mobile”.

It is worth considering how an instrument entering into genres that itself was not present in developing could present issues with musical performance. The method in which a player approaches, visualizes, and performs are all tied to the musical education of the player, the instrument they are playing, and how well they can apply their knowledge to the specific performance. Taken to its logical end, it may not be fully possible to sound like an electric bass on the tuba, and vice versa, but there is also the possibility that a tubist who has knowledge and upbringing in other music can create new possibilities and colors to add in varying genres of music. I find this to be the most promising aspect of ideas such as embodied cognition and instrumental affordances: an instrument like the tuba, which is limited in its original repertoire in comparison to other instruments, can find a new voice in playing transcriptions and adapting to new situations. This in turn can create an entirely new landscape for the tuba as an instrument, and its affordances can bring more possibility to the musical world, rather than being seen as limitations.

The most efficient approach for a tubist playing bass lines may be picking up a bass, experiencing how the instrument produces sound, and mimicking those sounds on their own instrument. As music theorist Andrew Mead writes: “We speak, sometimes cavalierly, about 'musical gesture,' but we should never forget that there is some reality to

the notion that much music is indeed produced through physical gesture. It doesn't seem unreasonable that we might index those physical gestures through the music they produce, and then imitate them."[10]



graphic terms as or , we see that it contains a sharp rise in tone, a nearly immediate impact that is a prerequisite of precise rhythm and swing. The decay's relation to swing is more complex. A plucked note can not be sustained at the level of its attack; there is bound to be a more or less rapid decay in volume of sound. Given this acoustical fact, the jazz bass player has a much different problem than a "horn" player. In order to fulfill one of the conditions of jazz inflection and jazz swing—namely the full sustaining of pitches (or at least the illusion thereof)—he must perforce create the *illusion* of sustaining the note. The natural, gradual decay pattern of a plucked note helps him to do this, for it *fades* into silence, that is, it does not stop abruptly (graphically:). It therefore creates the illusion, particularly in long durations, of sustaining through what may in fact be silence. And so it fulfills both the vertical and horizontal prerequisites of swing (as discussed in an earlier chapter), vertical through precise impact, horizontal by sustaining into the next notes and thus providing a forward momentum.

The tuba cannot really duplicate the swing conditions of a bass pizzicato. At best, in the hands of an exceptional player it can create the illusion of a pizzicato. But then we have an illusion of what is already an illusion. In any event tuba players of such extraordinary sensitivity were rare in early jazz. Bass Edwards, Walter Page, and John Kirby came close to producing the kind of rhythmic life a pizzicato gives quite automatically.

Figure 2.4. Gunther Schuller's graphical description of the string bass pizzicato in *Early Jazz*, 160.

As discussed earlier, Gunther Schuller believed that the tuba was not capable of providing the same feel of the walking bass line to jazz music when compared to the string bass. One can see how swing music itself is idiomatically built upon the physical limitations and sound of the pizzicato string bass.[11] I personally find that having a working knowledge of other instrument mechanics not only has pedagogical benefits,

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[10] Mead, Andrew. "Bodily Hearing: Physiological Metaphors and Musical Understanding." Journal of Music Theory 43, no. 1 (1999), 11.

[11] Schuller, Gunther. *Early Jazz: Its Roots and Musical Development*, 160.

such as the use of visual metaphor, but may be the most convincing method to play styles originally written for other instruments. Well known bass line tubists such as Sam Pilafian and Matt Perrine both studied and performed on the bass. Perhaps the mechanical makeup of the electric bass guitar fretboard or the piano keyboard would be advantageous for visualization tools for the tubist, or other wind instrumentalist. This would provide a harmonic map of note relations to visualize. The wind instrumentalist can also use the right hand technique of the electric bass guitar as a visual tool to accomplish various articulation styles. The next chapter will discuss applying electric bass guitar techniques to the tuba. A working knowledge of these techniques will allow the tubist to have full capability of being a bass line instrument.

Chapter 3: ELECTRIC BASS GUITAR TECHNIQUES FOR THE TUBIST TO CONSIDER

The electric bass guitar, like other amplified solid body electric guitars, is capable of different sounds by both electronic manipulation and physical technique by the player. Together, these give a large tonal landscape to the bassist. A general understanding of what these techniques and how they work is vital for the tubist to begin to "think" and sound like a bass player. String instrumentalists can physically see, and then visualize, not only what their arms, fingers, and hands are doing, but also can see where notes are on the fretboard or fingerboard, as well as seeing how changes to the right hand technique can manipulate sound. Additionally, how the instrument is constructed provides another variable to consider.

The first electric basses were usually equipped with one electronic pickup (coiled microphone), located in the neck position. The Fender Precision Bass features a one neck pickup style setup. The Fender Jazz Bass, introduced in 1960, featured a two pickup configuration, one in the neck position and one in the bridge position.[1] The electronics were wired with the ability to play with both pickups on, or turning off one to favor the other. Many electric bass players' signature sound and techniques are defined not only by the instrument they play, but how they use the electronic configurations, as well as their amplifier choice. Jaco Pastorius was most famous for his use of a 1962 Fender Jazz bass, whose frets he pulled from the neck. Making his instrument "fretless", Pastorius was able

[1] Wright, Brian F. "How the Electric Bass Became the Norm: An Alternative History of American Popular Music, 1951-1964", 104.

to make the electric bass sound more like a string bass. Pastorius also favored the bridge pickup, both in electronic configuration and right hand playing position. He exclusively used an Acoustic 360 bass amplifier.

Figure 3.1. ***Left*** **Jaco Pastorius bridge pickup right hand technique[2] (Jaco Pastorius, Jazz at the Opera House, San Francisco CA 2/22/82. Photo: Brian McMillen).** ***Right*** **Paul McCartney with Hofner Bass, plectrum in picking hand. [3]**

Another well known example of bass guitar equipment is Paul McCartney and his use of the Hofner Violin "Beatle" Bass. The Beatles also exclusively used Vox brand amplifiers in their touring years. McCartney also rarely played fingerstyle, and mostly used a plectrum (pick) to strike the strings. The Hofner bass was also a shorter scale than the Fender basses (30 inch versus 34 inch scales), lowering the string tension, which gives the instrument a less aggressive sound and more low overtones. McCartney played left handed instruments, therefore reversing the more typical right and left hand

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[2] Jaco Pastorius, Jazz at the Opera House, San Francisco CA 2/22/82. Photo: Brian McMillen
[3] https://www.thebeatles.com/photo-album/paul

techniques. These techniques are the same on both right and left handed instruments. The combination of all these techniques, combined with their musical choices, give each player their signature voice.

Right hand technique on the electric bass guitar affords sound variance. Typically, the electric bass guitarist will use two or more fingers to pluck the strings with the right hand, striking the string at a 90 degree angle with the body of the instrument, following through into a rest position on the lower string, rather than plucking straight up like a classical pizzicato. Where the electric bass guitarist strikes the strings can vary just as much as how they strike them. When playing closer to the neck (Figure 3.2), the sound becomes more like a string bass, the fronts of notes are not as clear, giving a wide low frequency filled sound. This technique is used for great sustain and subtle, but present support in the bass voice.

Figure 3.2. Left, neck position right hand technique. Right, bridge position right hand technique.

Right hand position towards the bridge of the electric bass guitar gives a tighter sound, with more treble and less sustain. The sound is more aggressive and present. Players like Jaco Pastorius are well known for playing in this position. It gives more control and accuracy for virtuosic technique. This technique in combination with using

the bridge pickup exclusively gives the signature “Jaco” sound. Palm muting is another technique used by electric bass guitarists for a more choked sound. Bassists such as Carol Kaye or Paul McCartney are well known for this sound. The player can either use their right hand thumb or a pick to pluck the strings.[4] Controlling the variables of where to pluck the strings, and electronic configuration provides a large soundscape to the electric bass guitarist.

Figure 3.3. Palm muting, note palm of hand resting on strings near bridge.

Left hand techniques can also contribute to sound control, especially in muting or “ghost notes”. Ghost notes are of particular importance in genres such as jazz fusion, rock, and funk.[5] Rocco Prestia of Tower of Power is well known for his sixteenth “fingerstyle funk” technique with ghost notes, as well as James Jamerson and Jaco Pastorius. This style of funk playing is named in contrast with the “slap bass” technique. The “slap” technique is also widely used on electric bass in funk styles, which features a striking down with the bone of the thumb onto the string, and pizzicato pulling up of another or the same string with the index finger. The thumb motion is called the “slap” or

[4] Example https://youtu.be/Qjya5JXsKdg Carol Kaye
[5] Example of ghost notes in Tower of Power Soul https://youtu.be/OSCz31lcSxI

“thump” and the pull is called the “pop”. This style of playing gives great rhythmic agency to the bassist, using a variety of hammer-ons, pull-offs, and octave techniques. Larry Graham of Sly and the Family Stone is credited with inventing this technique. Other well known bassists who use this technique are Louis Johnson, Victor Wooten (Bela Fleck and the Flecktones), Mark King (Level 42), and Flea (Red Hot Chili Peppers). The method will address how the tubist can recreate both the fingerstyle and slap techniques on the tuba.

Figure 3.4. Slap bass technique.

The tuba and electric bass all have different sonic properties that a musician must be aware of in performance. Music written for and by certain instruments will have to be approached in various ways to have successful and convincing performances on a different bass instrument (tuba playing electric bass music, electric bass playing string bass music, etc). The following figures will demonstrate the differences inherent in the electric bass and the tuba. The method will address applying electric bass technique to the tuba, allowing the tubist to fill in the role convincingly. The following figures will show the soundwave of the same note played on an electric bass (1978 Fender Musicmaster

Bass, custom Stonewall Pickups), versus a tuba (2013 Meinl Weston 6450/2 CC tuba). The soundwave examples were generated in Garage Band by the author.

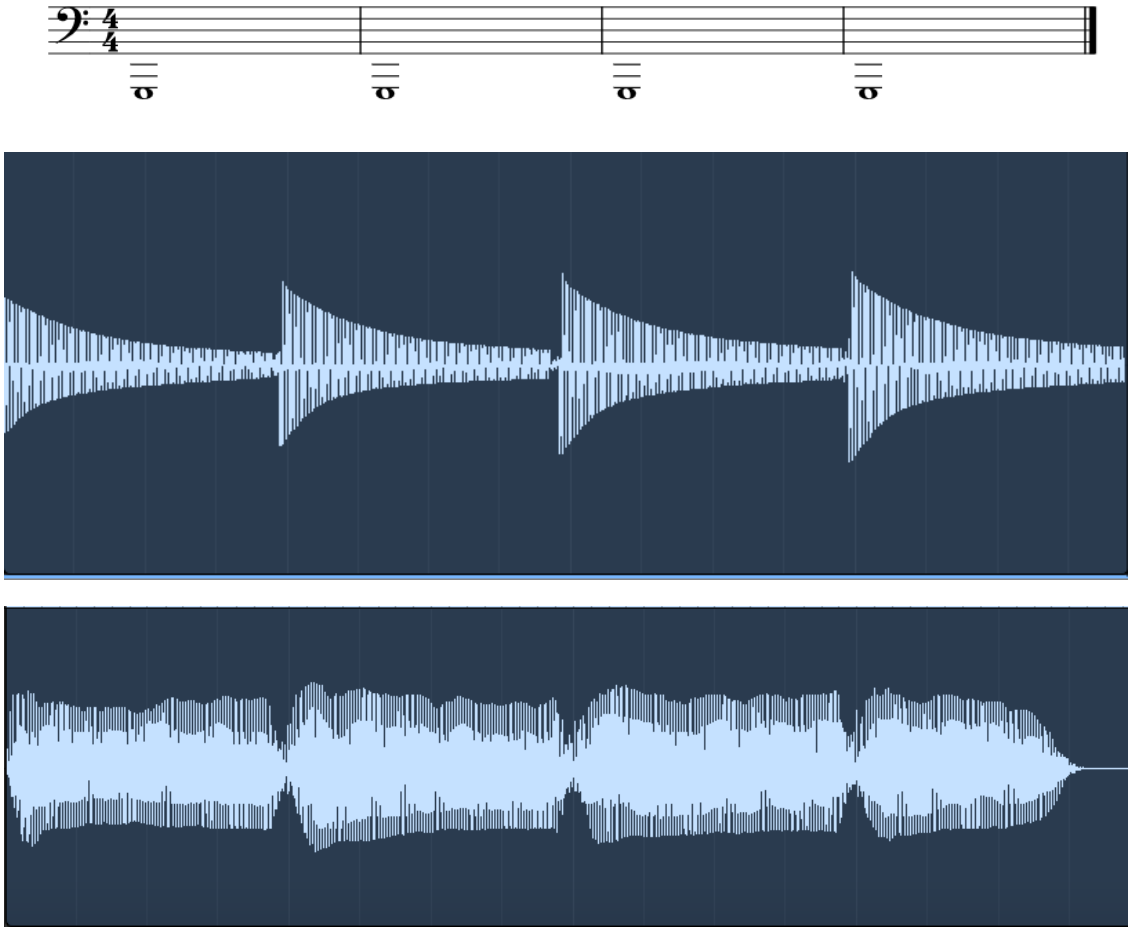

Figure 3.5. Actual sounding pitch G1 whole notes, Electric Bass Low whole notes G1 120 BPM, Tuba Low whole notes G1 120 BPM

Note the visual difference in the attack and decay between the two instruments. In order to mimic the sound of the electric bass, the tubist will need to use more decay in a controlled fashion. Playing in this style also affords the tubist space to breathe while playing “bass” whole notes. This controlled decay technique can provide the illusion of no space between notes, similar to the idea in Gunther Schuller’s discussion of the decay of the string bass.

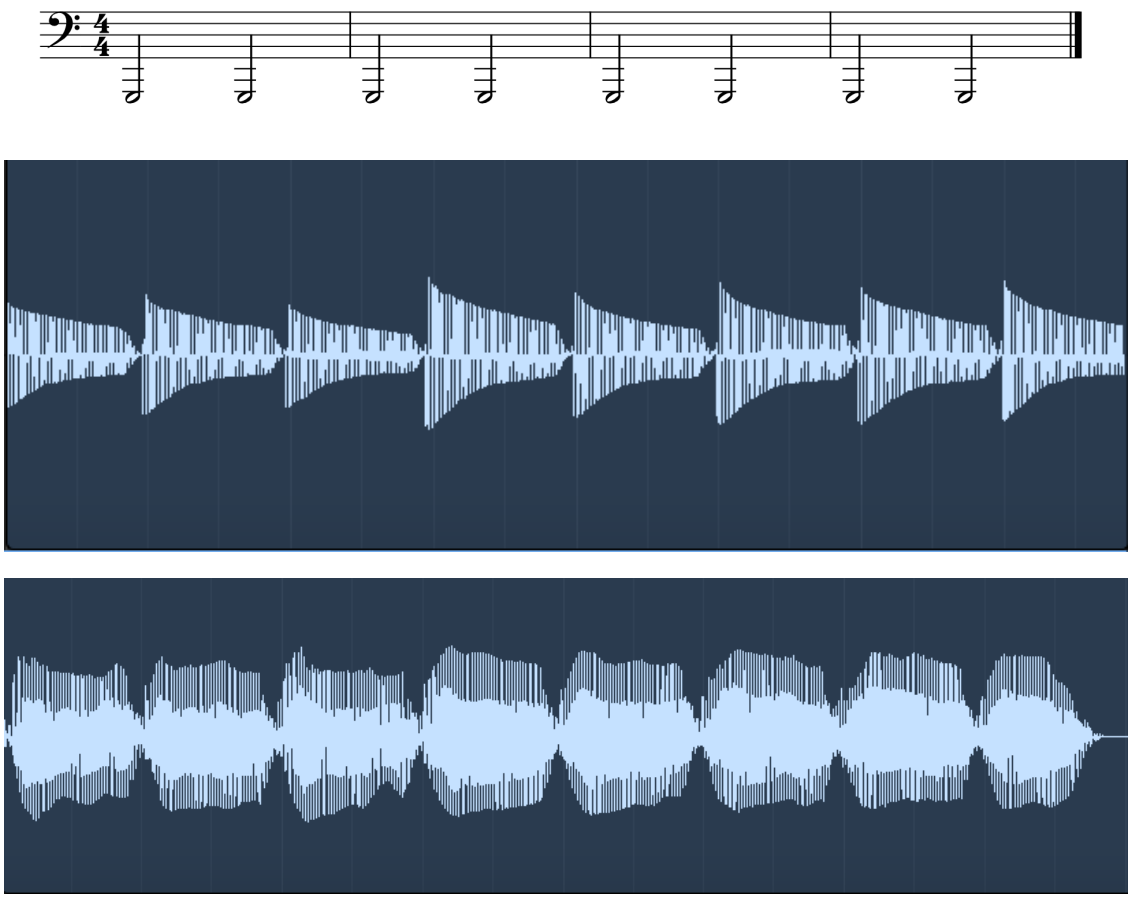

Figure 3.6. Actual sounding pitch Half Notes G1, Electric Bass Half Notes G1 120BPM, Tuba Half Notes G1 120 BPM

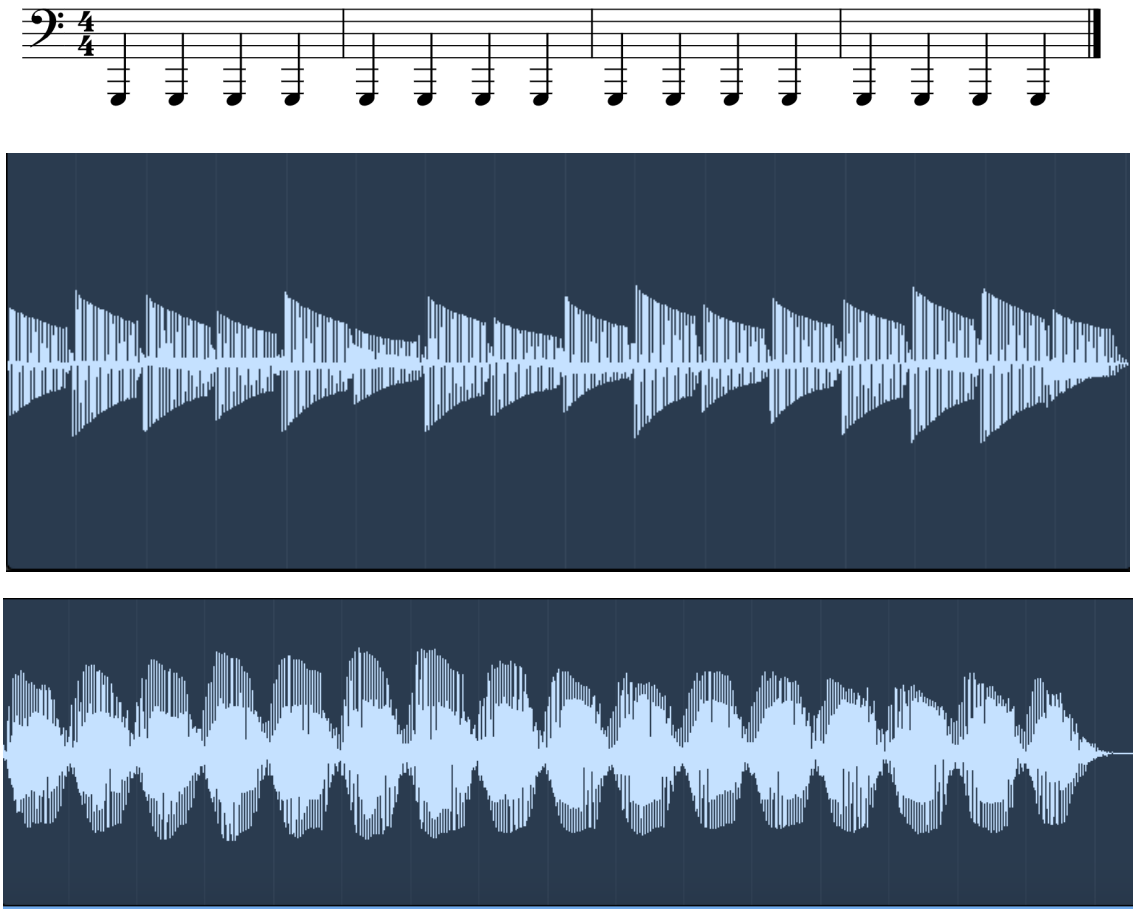

Figure 3.7. Actual sounding pitch Quarter Notes G1, Electric Bass Quarter Notes G1 120 BPM, Tuba Quarter Notes G1 120 BPM.

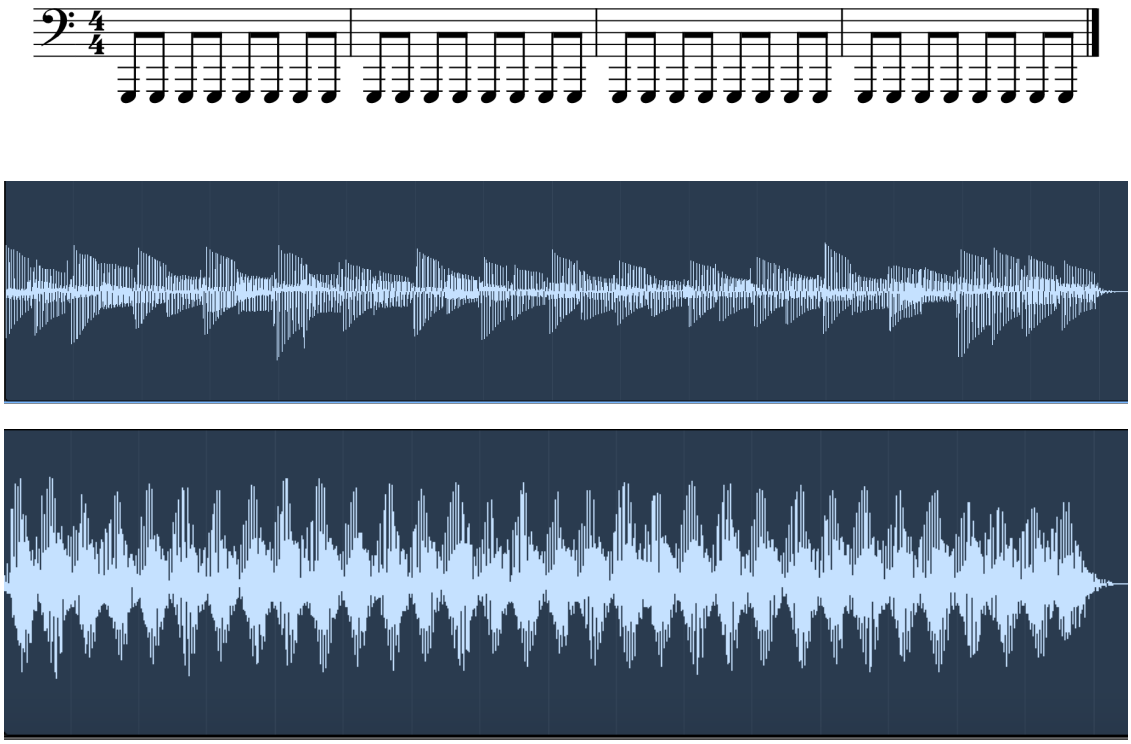

Figure 3.8. Actual sounding pitch Eighth Notes G1, Electric Bass Eighth Notes G1 120BPM, Tuba Eighth Notes G1 120BPM

How the tubist or the bassist would interpret the written musical notation would highly depend on the genre and context. A string instrument that is plucked (rather than bowed) will necessarily have an attack that is stronger at the front of the note, and decay. A wind instrument will be able to control the outcome of a held note, either decaying or holding seamlessly into the next note front. The tubist should consider genre and context when reading unmarked music, which will influence the articulation, note lengths, and space between note.

Chapter 4: Review of Related Materials

A primary motivation of this project was the lack of tuba literature that revolves around being the bass voice in an ensemble. Tuba pedagogy borrows materials from other brass instruments that have a longer history, including trumpet, horn, and trombone. These methods include the Arban Method, Rochut, Kopprasch, Clarke Studies, Flow Studies, and Concone. Etudes originally written for tuba, including the Snedecor Low Etudes, Blazhevich, Grigoriev, Tyrell, also have something in common with the materials borrowed from the other instruments: they are mainly melodic studies. There is an emphasis on tubists studying how to be effective soloists on their instruments, as well. Solo playing is considered highly virtuosic for tuba players, who are usually playing a supportive role in ensemble situations. The study of etudes, solo literature, and orchestral excerpts are the main canon of conservatory and university study. Immanuel Claude Shuford has assessed fifty applied tuba syllabi across the United States, showing a high emphasis on solo literature, scales, and orchestra excerpts as the main materials studied in university tuba studios, as well as a lack of creative or non classical methodologies.[1]

Tuba players who are just starting their instrument in band class may never have the chance to play the melody, and the more difficult studies for higher level players are important to learn musicality and how to phrase. However, eventually at the college level, almost all of the material being studied is melodic, while the tuba's role in an ensemble is usually as a support instrument, a driving force of time and pitch. The missing link in tuba pedagogy is a resource for tubists to study how to be an effective ensemble player as

[1] Shuford, Immanuel Claude. "Cultivating Hybridity: An Interdisciplinary Philosophy of Applied Tuba Instruction," 2016.

a supportive instrument, especially when the repertoire for ensembles where the tuba assumes this role may be transcriptions or adaptations from literature originally written for the string or electric bass guitar.

Methods that specifically address playing basslines on the tuba are Bob Stewart's book *Breathing Bass Line*[2] and Jon Sass' book *The Jon Sass Bass Line Book*[3]. Both of these methods are written from the point of view of what the tubist would need to consider when playing basslines, such as time, breathing, rhythm, and playing in multiple keys. Both also include CD accompaniment, which can give the tubist the ability to practice along with the pre-recorded tracks. Each book also includes considerations of learning harmonic structures of basslines, chord changes, and creativity on the part of the student. Stewart's method also directly addresses issues tubists will have when breathing and playing basslines:

> The Tuba, like swimming, is something you can't do any longer than you can hold your breath. In order to maintain a steady beat while playing in the rhythm section I have developed a system of breathing called Pant Breathing. Using this method, the player can maintain a steady beat within the rhythm section, without losing time while taking deep breaths.[4]

Stewart outlines quarter note patterns with no rest to demonstrate the reality of what a modern bassline part would look like for the modern tuba player, something that a string or electric bass could play with ease, while the tubist must consider where and when to breathe. Sass's method uses basslines that are featured in his original compositions, which include jazz, funk, and rock basslines. Genres such as funk are distinctive in their

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[2] Stewart, Bob. *The Breathing Bass Line for Tuba, Trombone, & Baritone*. New York, NY: EM1 Dist. Charles Colin Publications.

[3] Sass, Jon. *The Jon Sass Bass Line Book*. Vuarmarens, Switzerland: Editions BIM, 2007.

[4] Stewart, Bob. *The Breathing Bass Line for Tuba, Trombone, & Baritone*, 3.

sense of space, allowing a tubist to easily adapt with space to breathe. This is to say, some styles of music can be more easily adapted for the tubist, while others such as straight ahead jazz and rock basslines will be more difficult.

Turning now to the bass literature, there are many methods written for bass players when learning how to play various genres of music. A main focus for bass players is learning and mastering the walking bass line, both in note choice and feel. The tubist can learn much from listening to great bass players' walking lines both regarding both note choice and time. Instrumentalist's sense of time is determined by their internal rhythm, and how they can translate that to playing their instrument. In Jim Stinnett's *Creating Jazz Bass Lines* the author describes the importance of these two aspects of bass playing: "Playing jazz requires two general capabilities: the ability to physically play your instrument, and the knowledge of what to play."[5] This will be paramount for the tubist to consider when learning how to play bass lines due to the tuba's large size and inherent response, in addition to being familiar with harmonic structure across key patterns. Overall, the function of the bass instrument undergirds every musical genre. As bassist Rufus Reid writes: "Bass players also have the unique ability to sabotage any and all ensembles if their concentration of rhythm or harmony fails to be where and what it should be. As a bassist, one should develop the 'mind set' that you are the only harmonic and rhythmic substance there is."[6]

A resource to address this role of the tuba in ensembles can be beneficial for orchestra, concert band, brass quintet, and an infinite number of contemporary and

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[5] Stinnett, Jim. *Creating Jazz Bass Lines*. (Candia, NH: Stinnett Music Publications), 1988.

[6] Reid, Rufus. *The Evolving Bassist: A Comprehensive Method In Developing A Total Musical Concept For The Aspiring Jazz Bass Player.* (Millenium ed. Teaneck, NJ: Myriad Limited, 2000), 5.

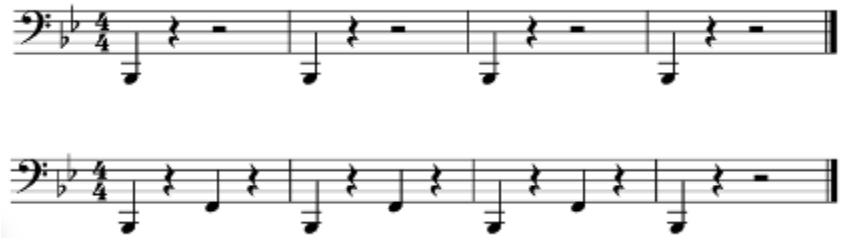
popular music settings. Tubists with a strong command of this role in a musical ensemble will have a skillset to use for a wide range of musical work.

Chapter 5: METHOD

The method for Wind Bass will be focused both on the physical technique required of the tubist, as well as a harmonic pattern recognition and memorization. The electric bass guitar is a very visual instrument in the sense that players can see where they are coming and going while playing. As discussed in Chapter 2, the affordances of both instruments differ. To bridge electric bass guitar technique to the tuba, the method will combine exercises that will develop physical and musical techniques simultaneously. The method will also be accompanied by video examples by the author to demonstrate what the ideal sound should be, first on the electric bass guitar, and then the tuba.

Due to the tuba's large size, keeping strict time can be a challenge to the student tubist. The first exercises of this method will provide the student with a path to overcoming the physical limitations of the instrument in order to have success in the role of the bass voice. The student can then apply various physical techniques to musical examples to achieve success in mimicking varying styles of bass playing in multiple genres. Additionally, knowing what markings in a bass part mean will also inform the student of how and what to play, whereas a normal tuba part may not provide this information, as discussed in Chapter 3. Playing any other genre of music is equally an aural tradition as playing the music of Mahler, Wagner, and Shostakovich. The printed music only gives the musician partial information for musical performance. Musical examples from the collected discography and mentioned recordings will also be included. With this approach, the student should have complete immersion into the musical genre, and be able to attain their musical goals.

To establish these exercises from their foundation, a review of the relevant musical examples is required. Walter Page's Blue Devils – Blue Devil Blues[1], recorded in 1929, is an early example of the tuba in the 2 beat style of blues. From this concept, exercises can be comprehensively written to work from one, two, and more beats to guide the player into the concept of time. Listening first to examples is critical, then imitating. Some examples can include these patterns and variations.



Building upon the most basic rhythmic scaffolding of the bass line will reinforce the sense of time for the tubist, allowing growth into more nuanced playing. The method will advance from basic exercises that are the forms idiomatic to the tuba, eventually becoming more advanced to apply technique required to recreate electric bass guitar technique.

Supplemental Material- Link to video examples:

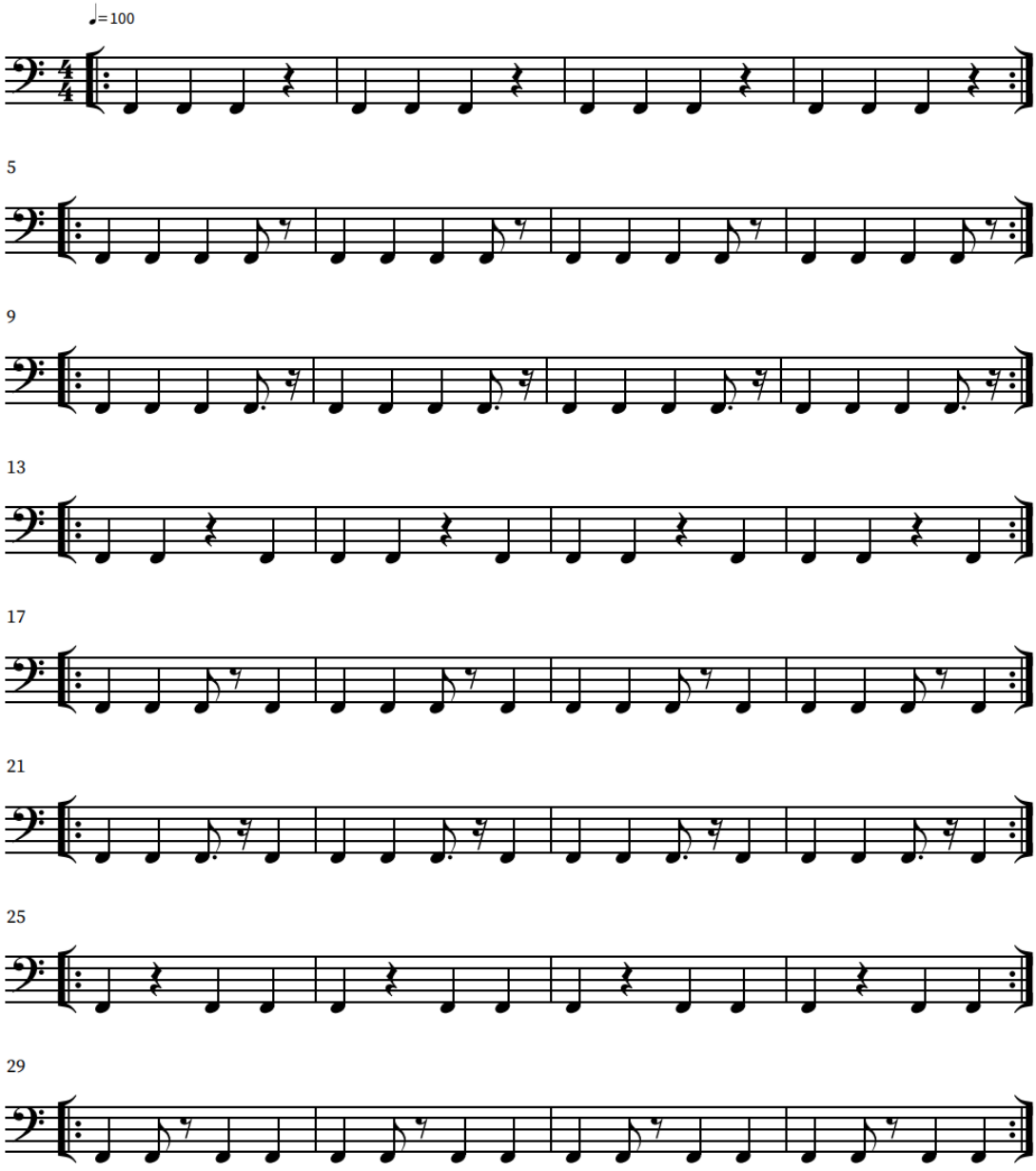
https://drive.google.com/drive/folders/1iPAaU-LSRh9jtNfdcNN8A83sTmHpk8do?usp=sharing

1 https://www.youtube.com/watch?v=4VAfXPzR82c

Part 1: Breathing Bass Line Exercises

Quick breathing is essential in being a rhythm section tuba player. Most music the tubist will find themselves playing in a commercial music group will be a bass part not originally written for the tuba, but for the bass. It is up to the tubist to adapt and sound like a bass as much as possible. The first issue is breathing. Inspired by Bob Stewart's method of the *Breathing Bass Line*, work through these first few exercises to develop quicker breathing skills. Set metronome to subdivide sixteenth notes to make sure the breath is exact during the shorter rests.

Exercise 1a. (Demonstration video included)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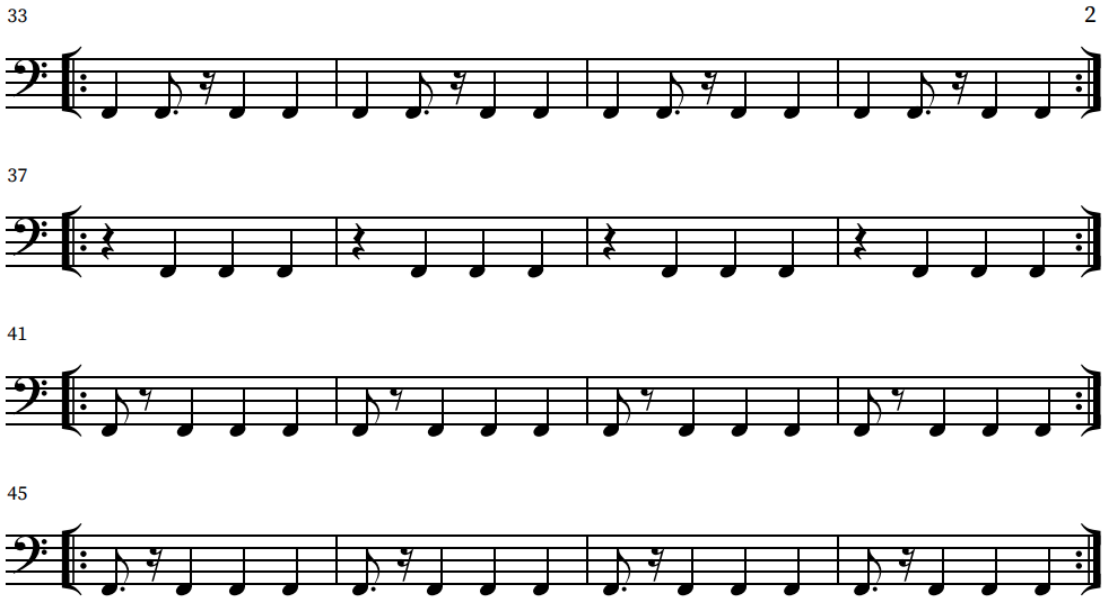
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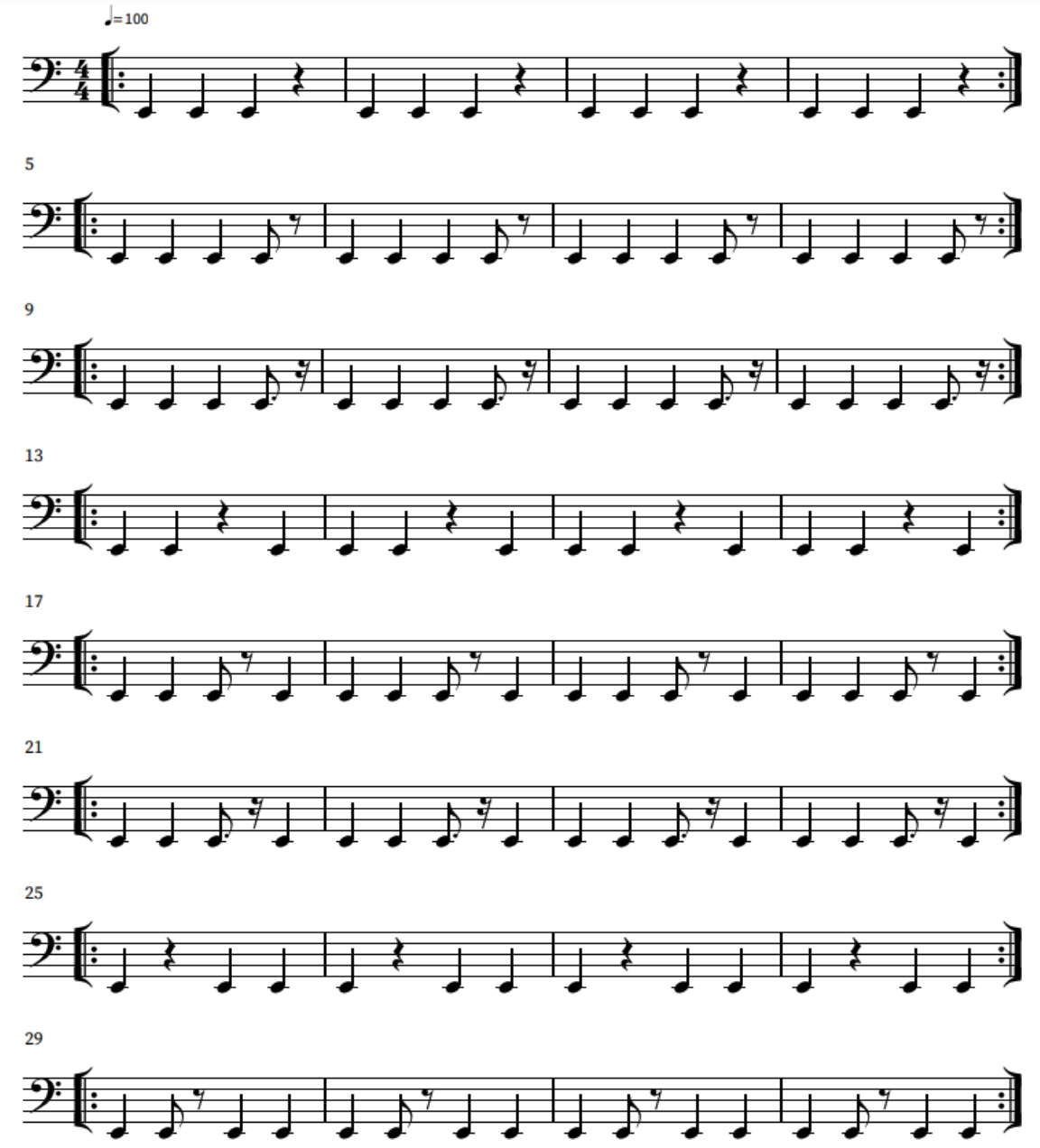
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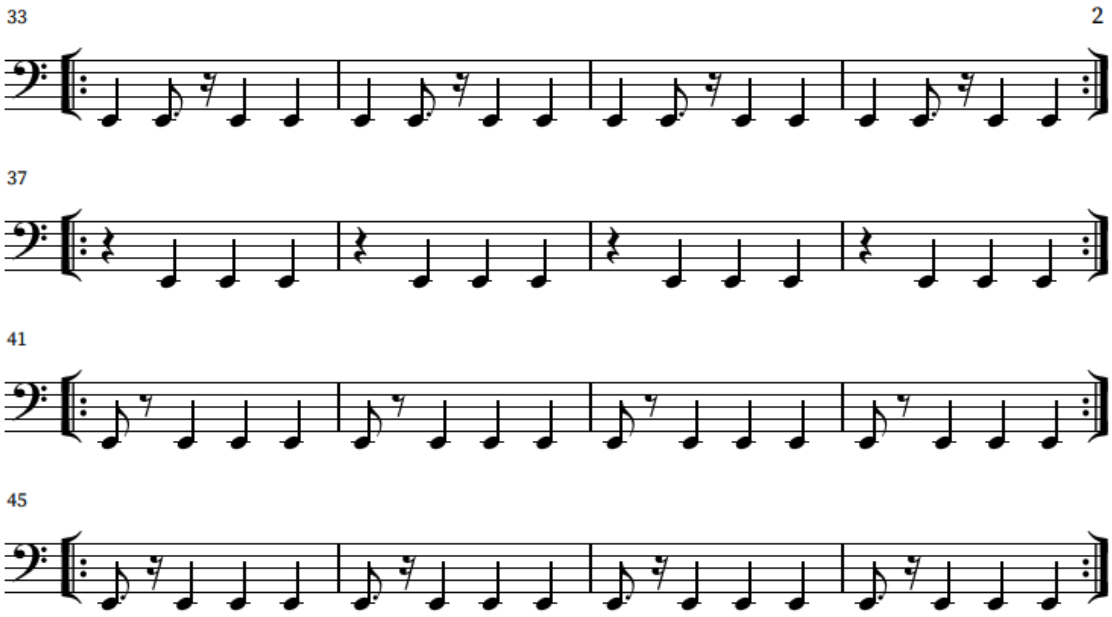
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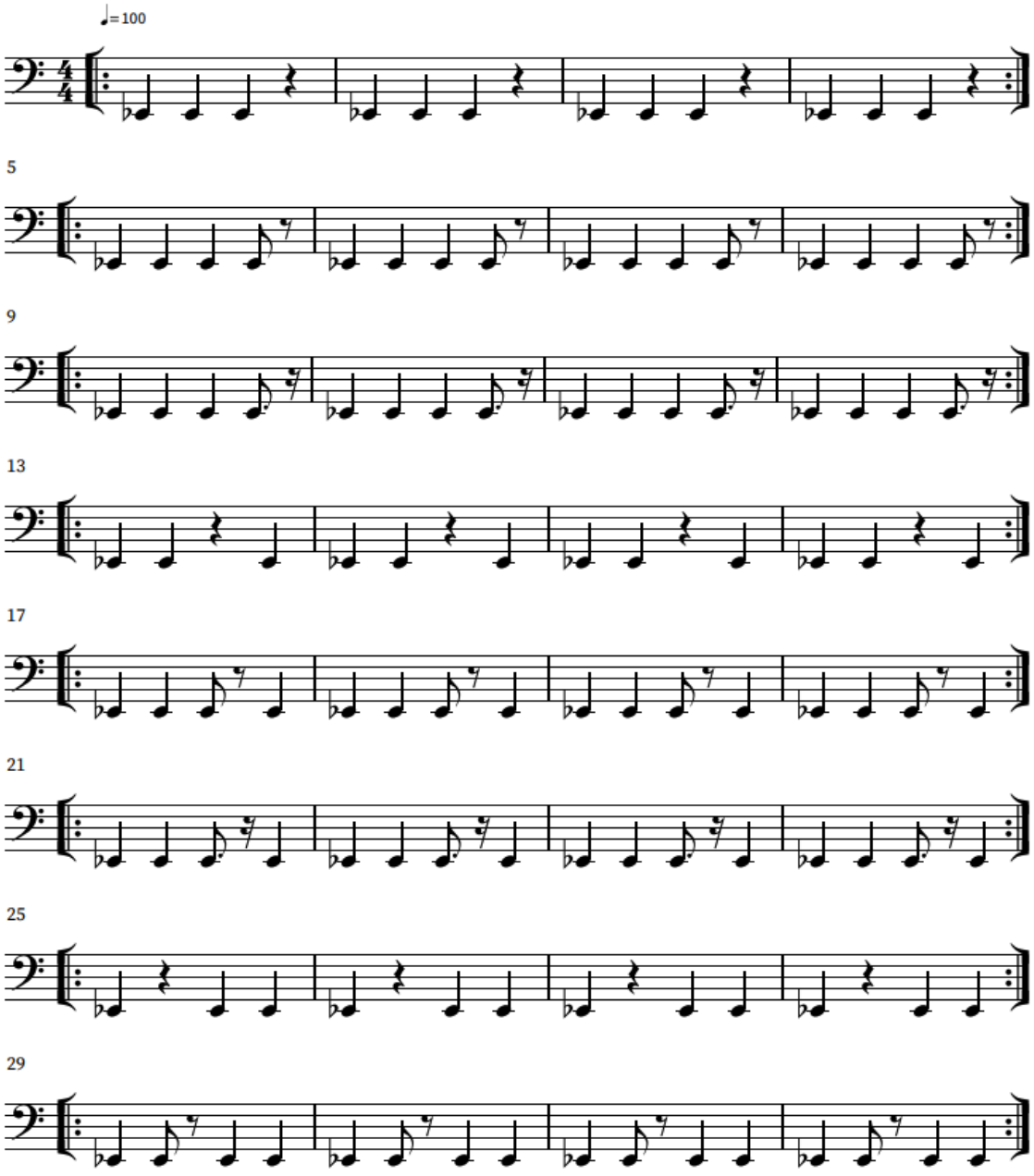
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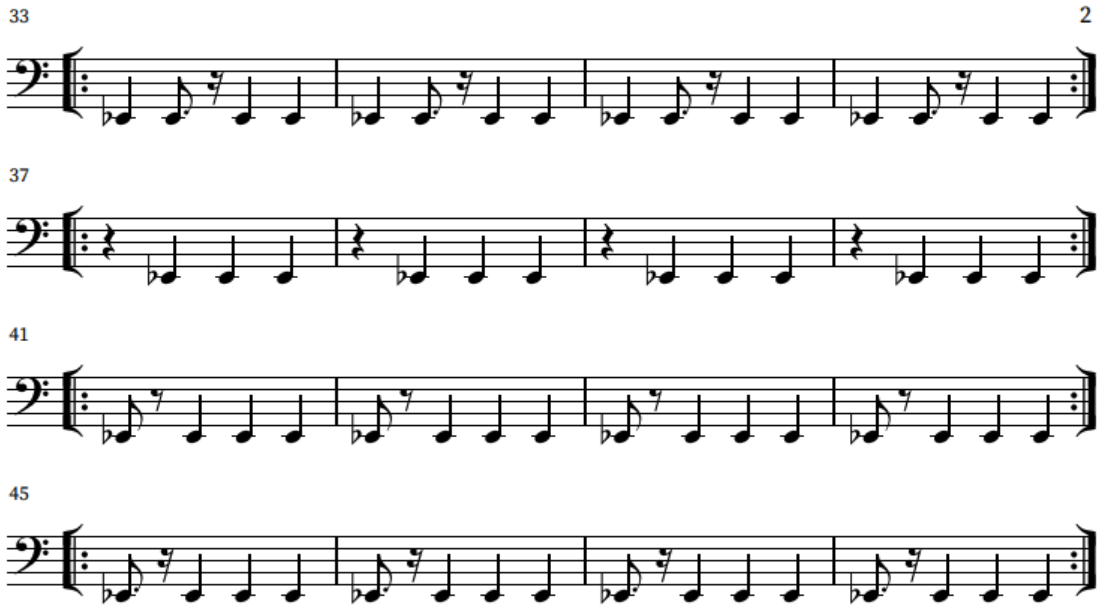
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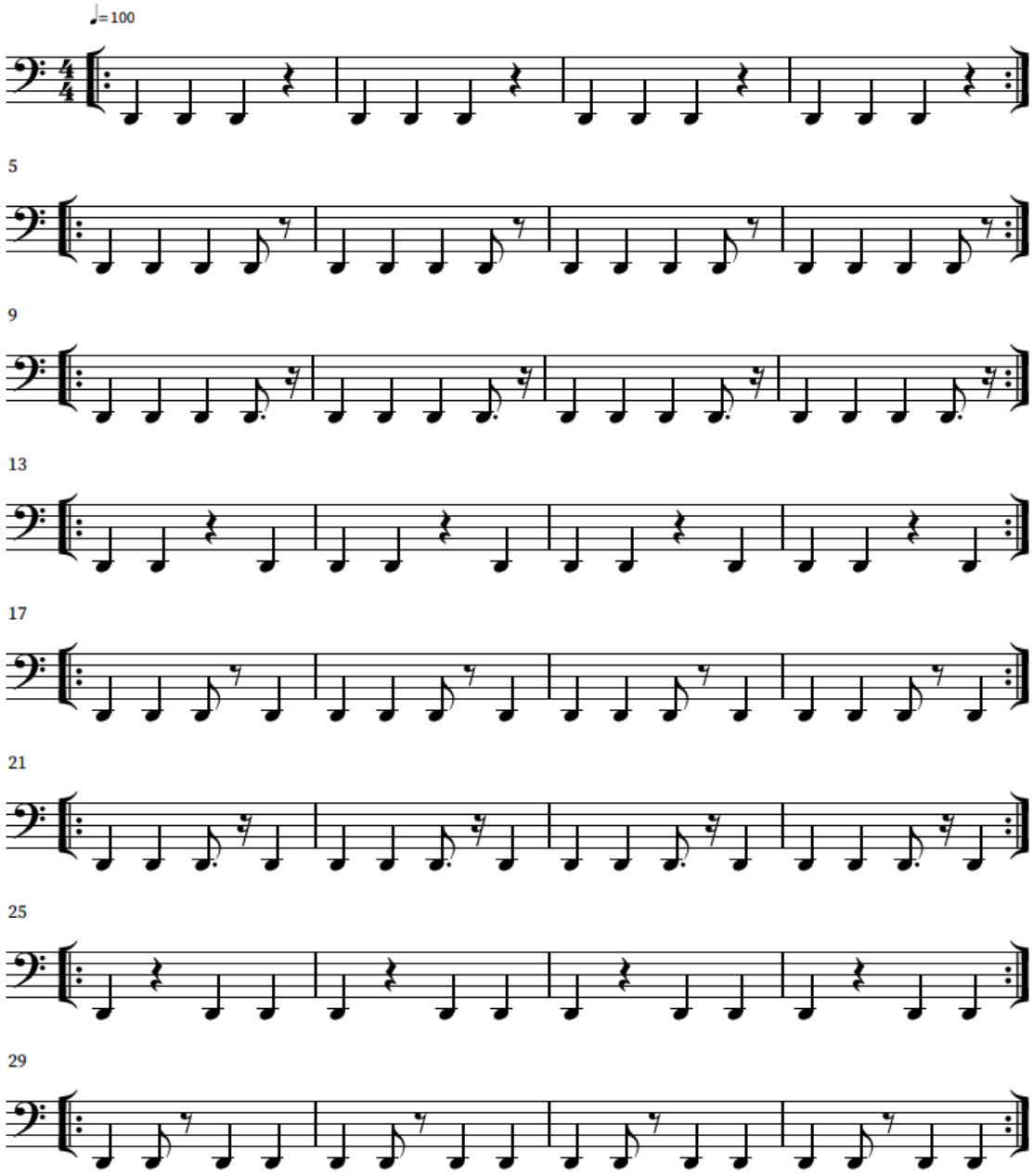
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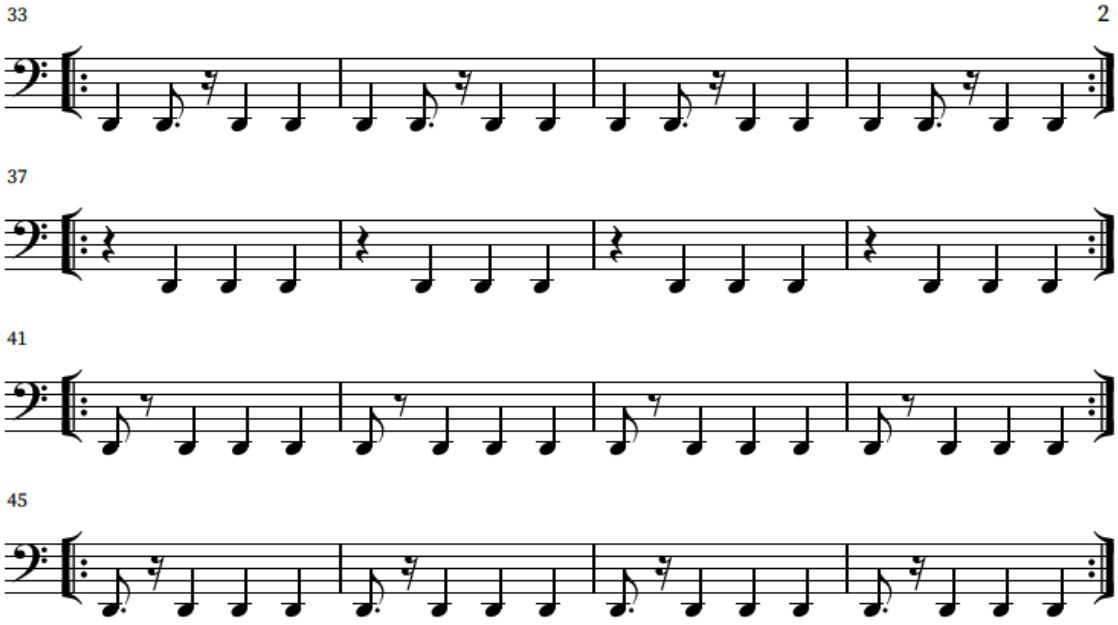
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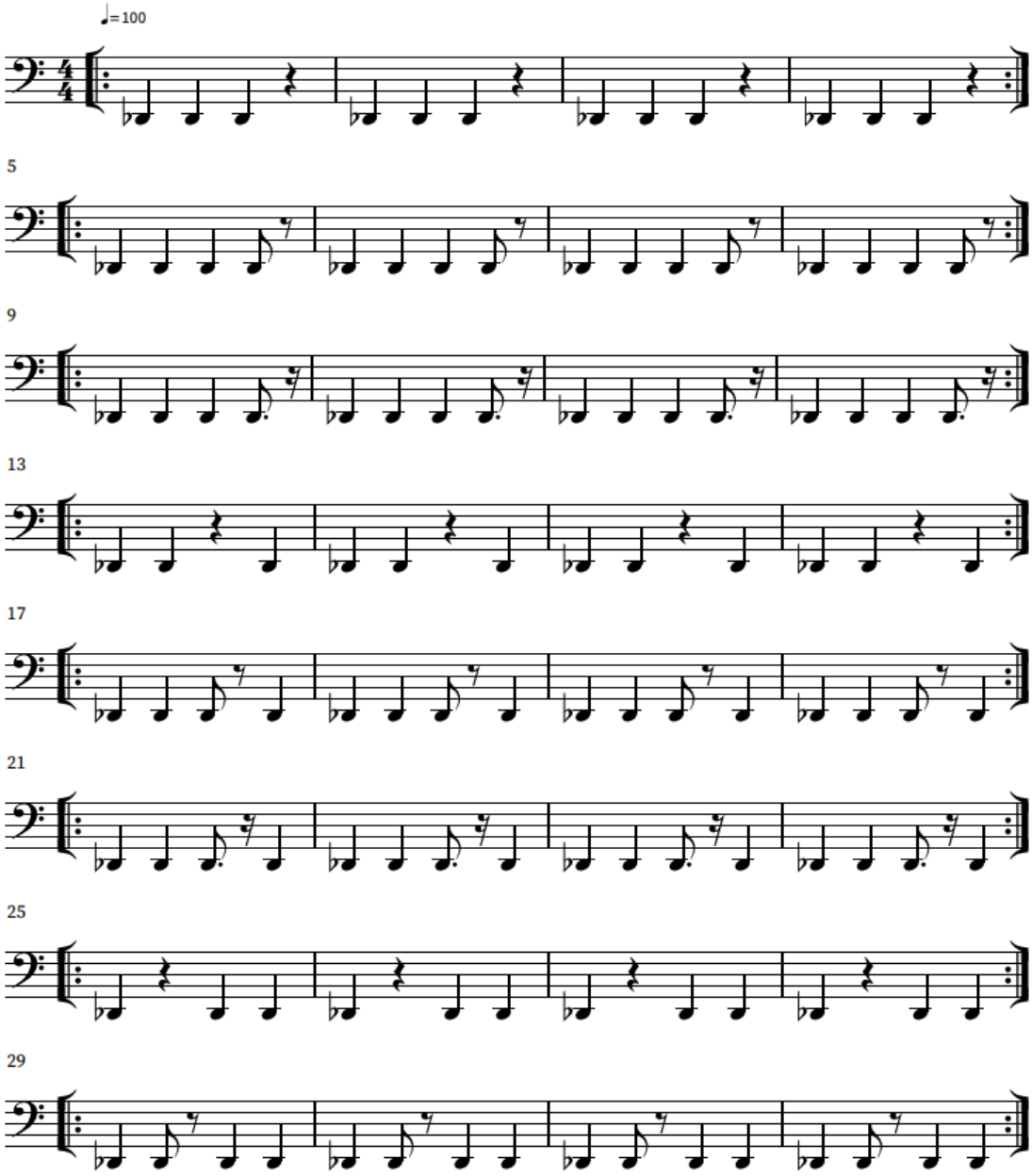
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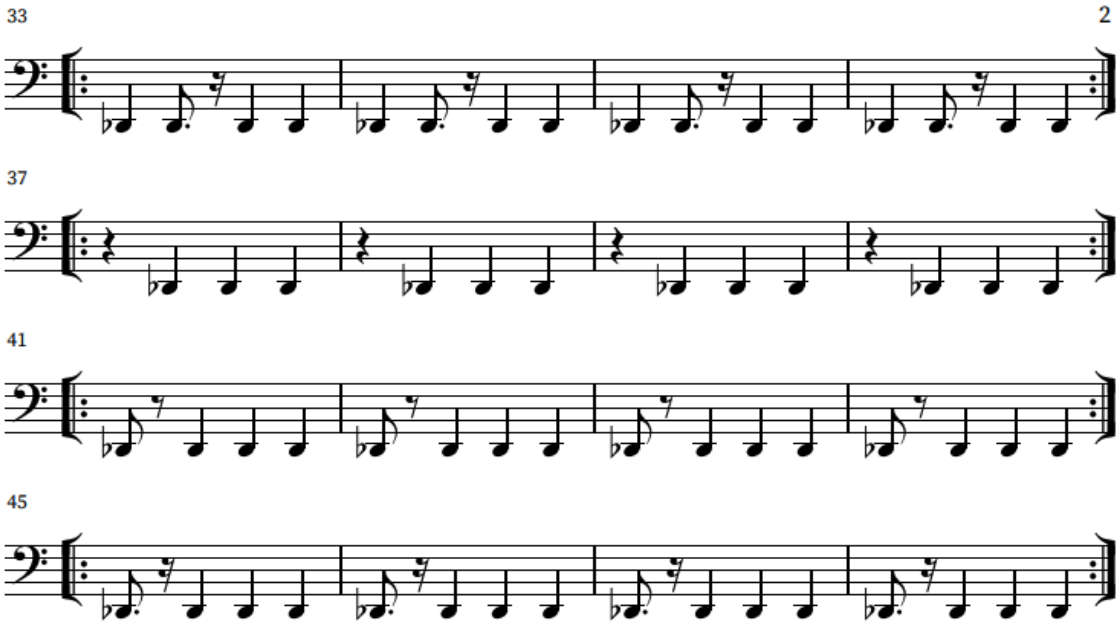
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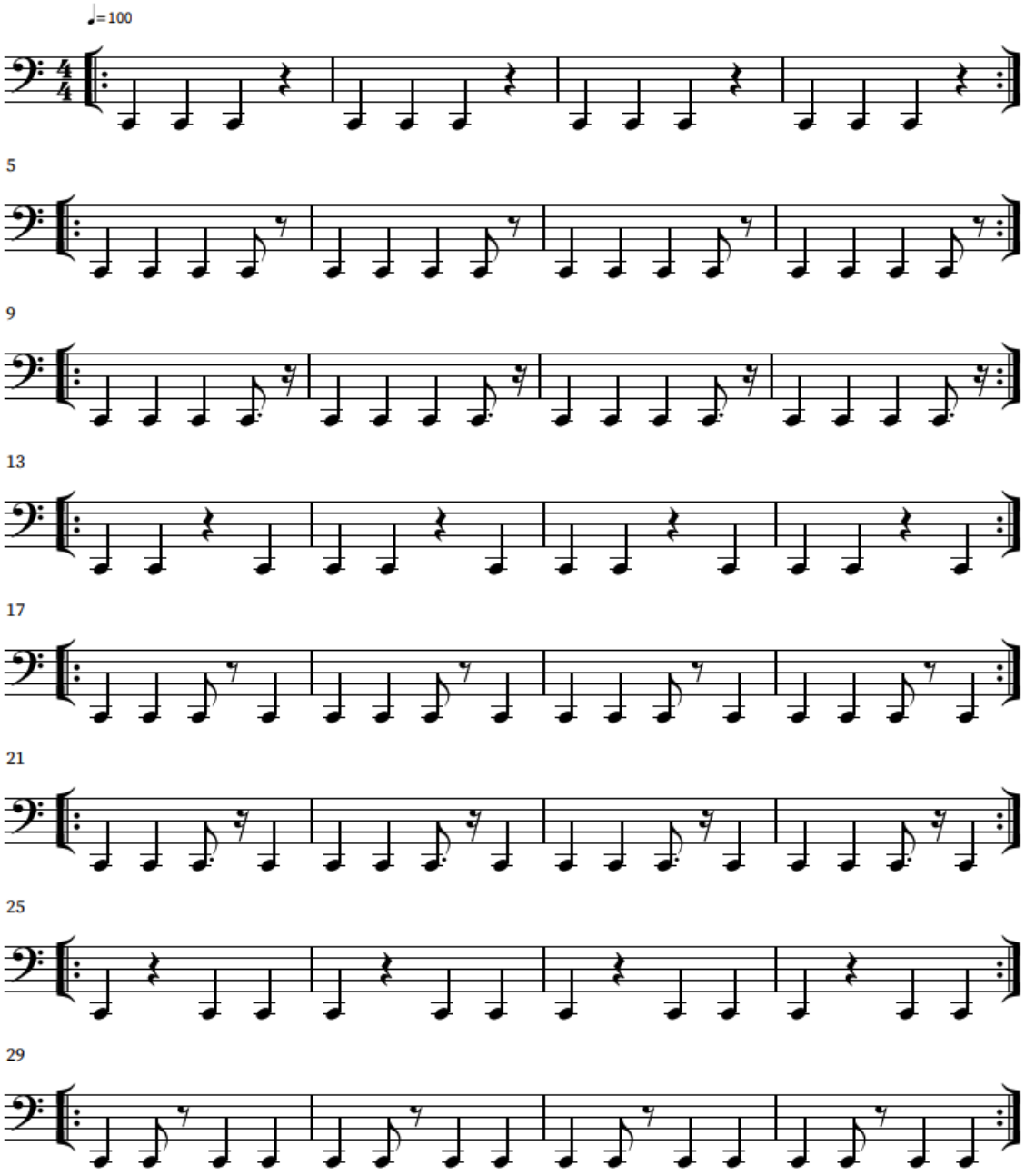
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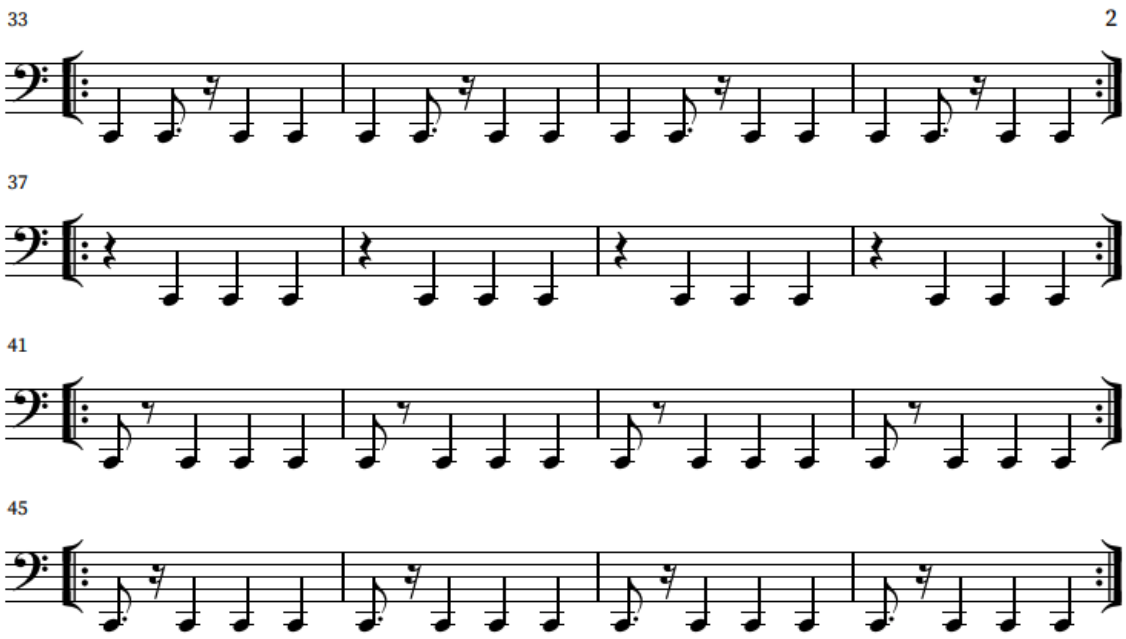
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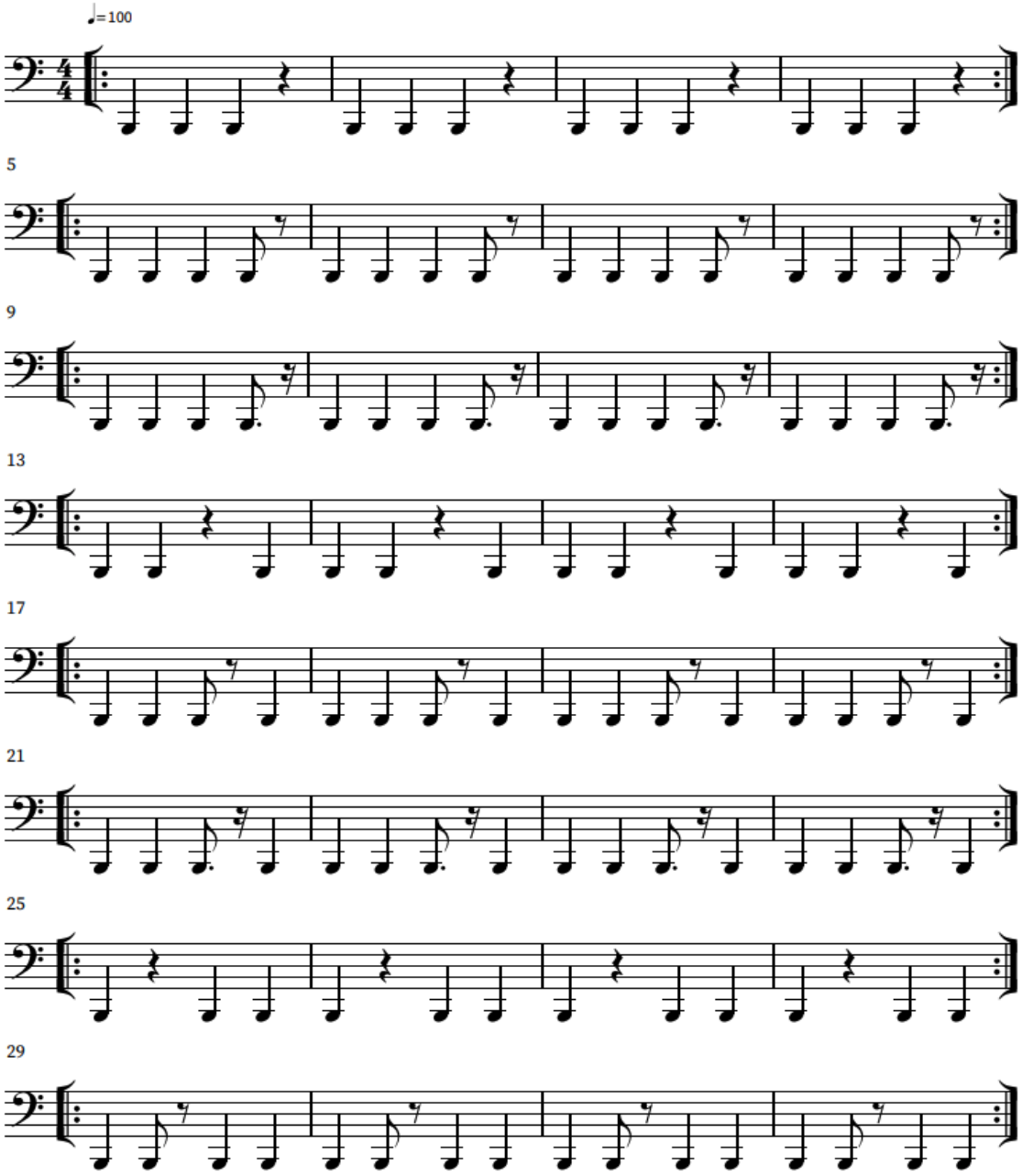
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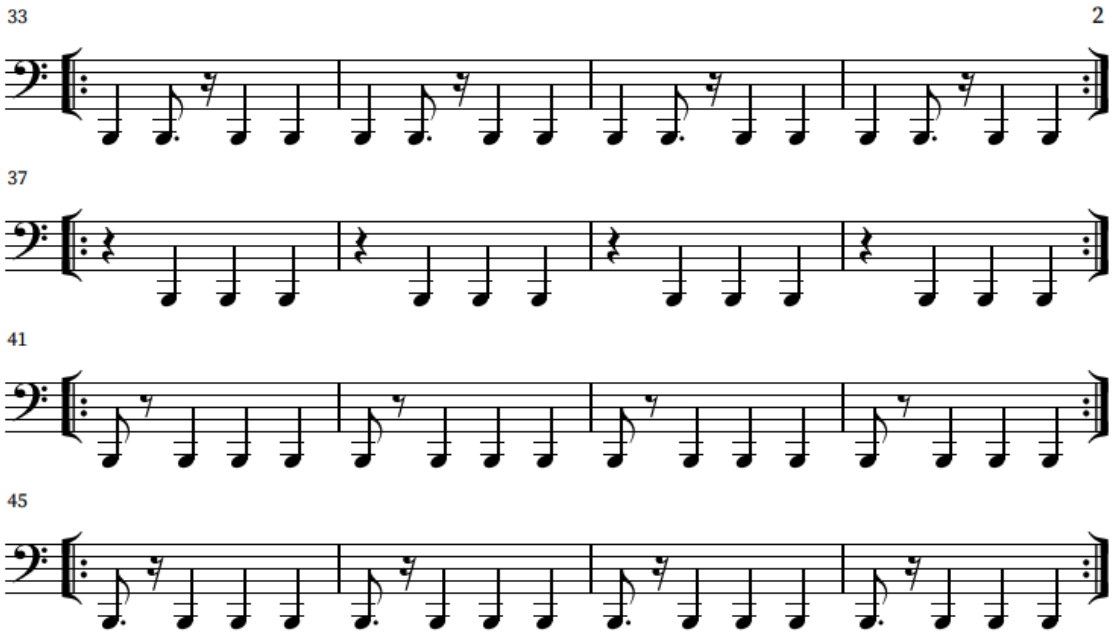
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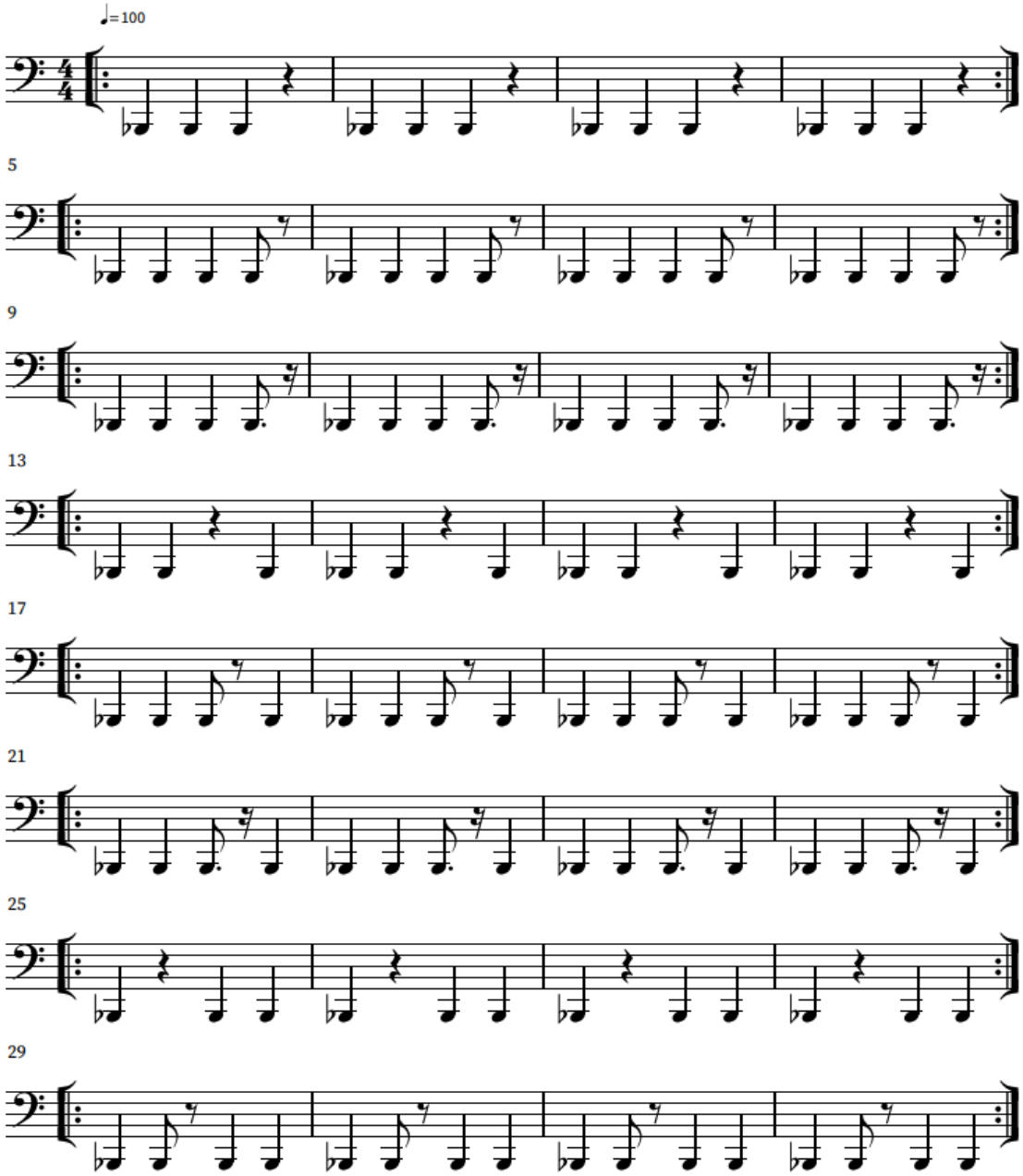
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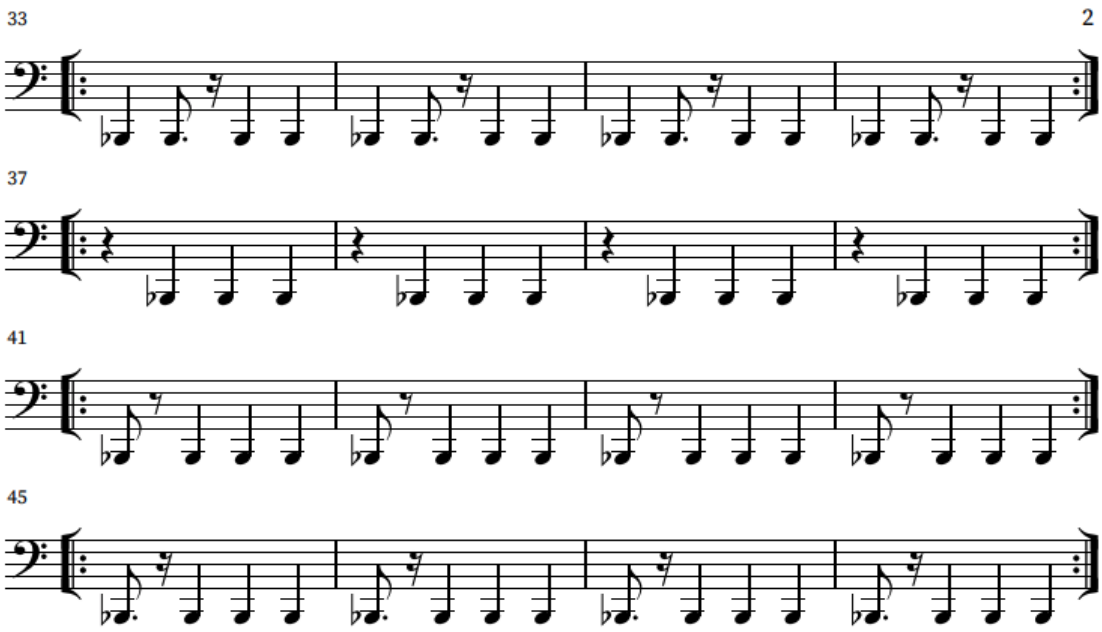
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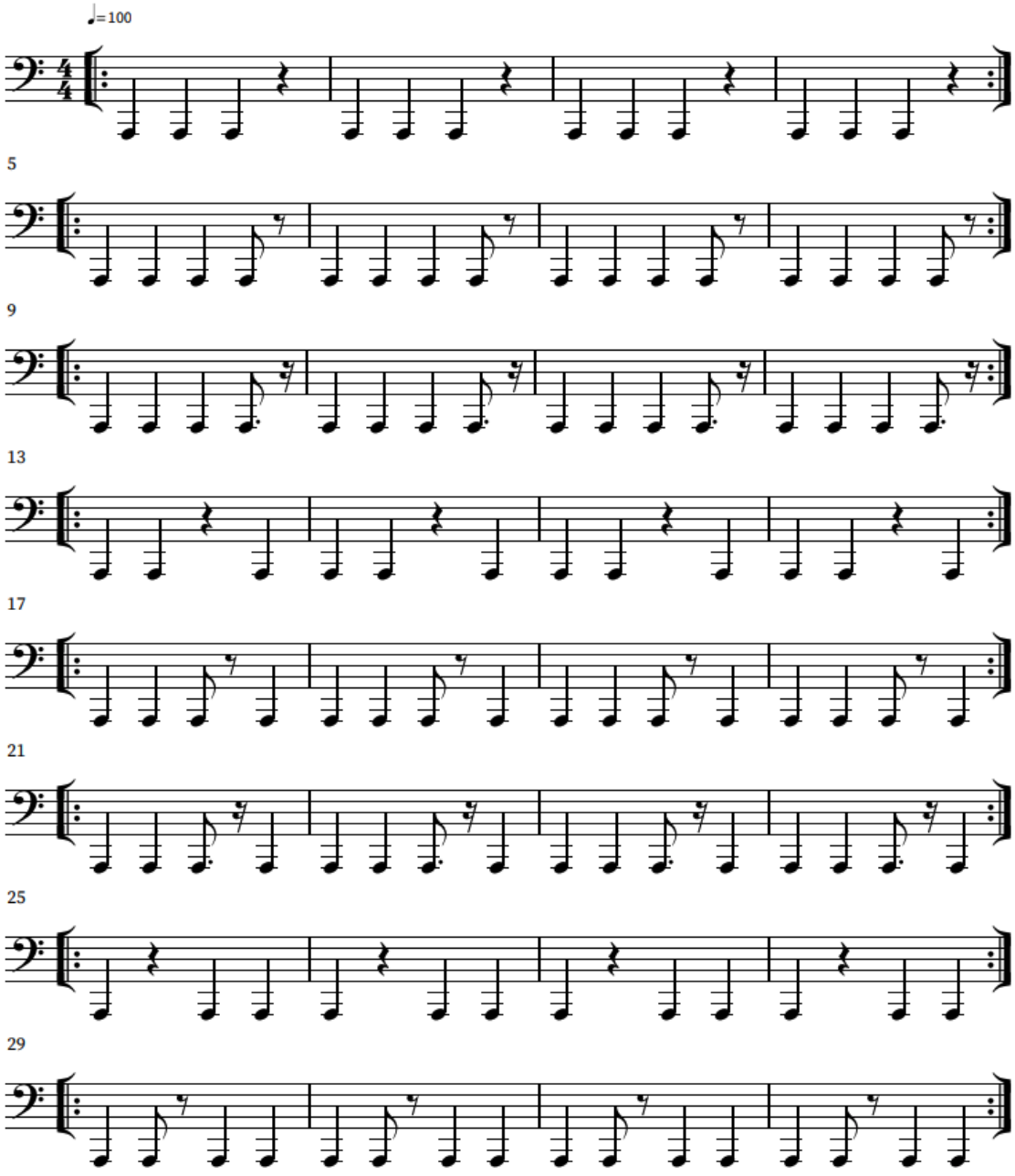
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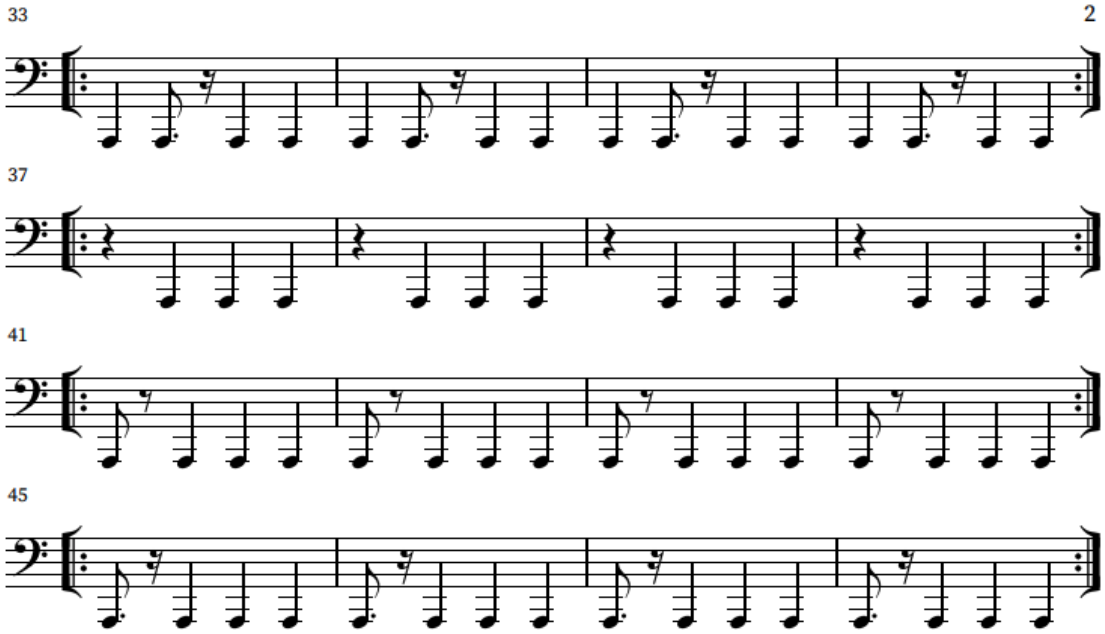
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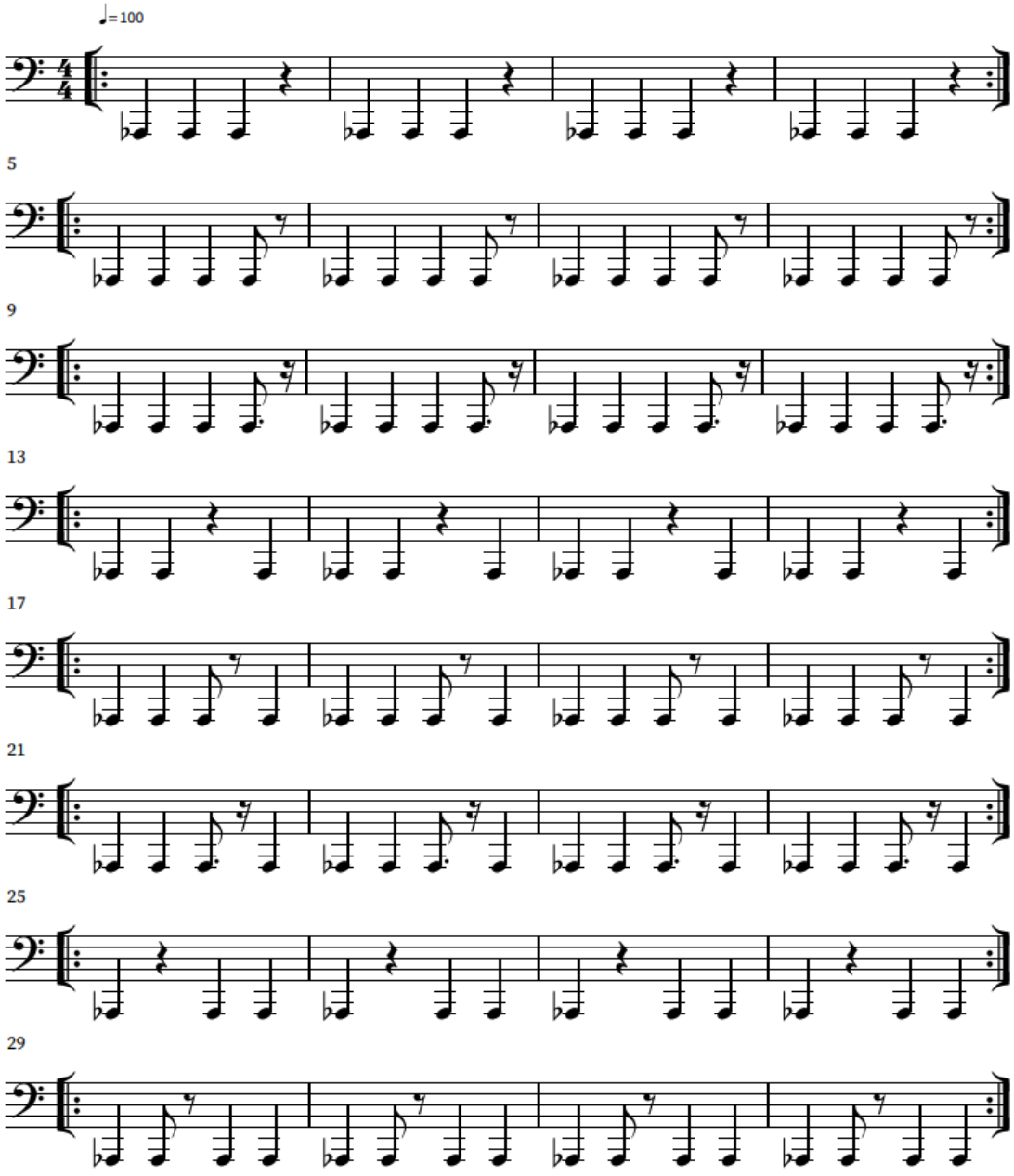
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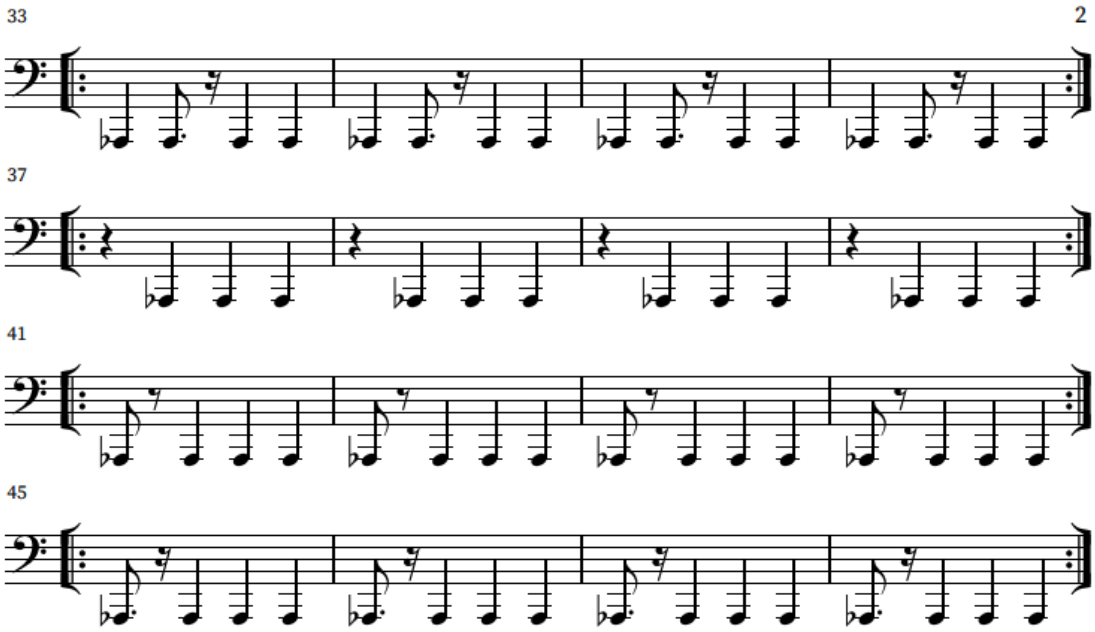
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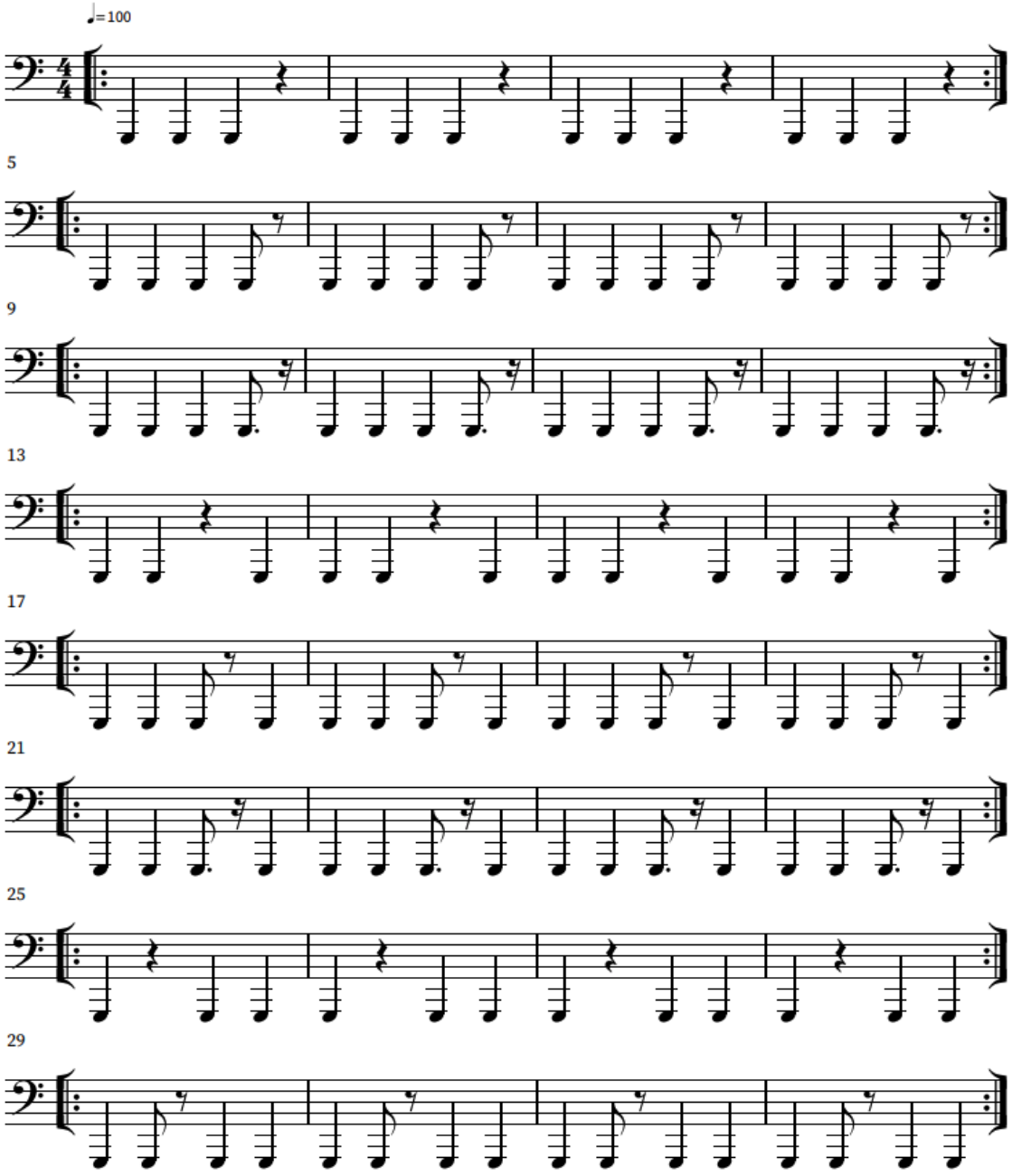
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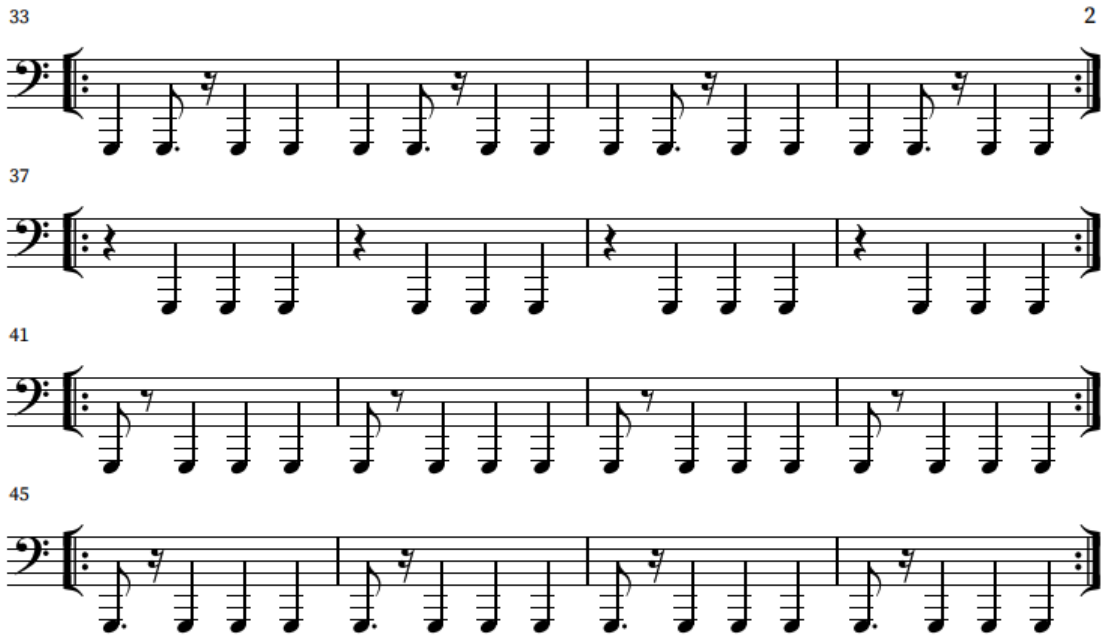
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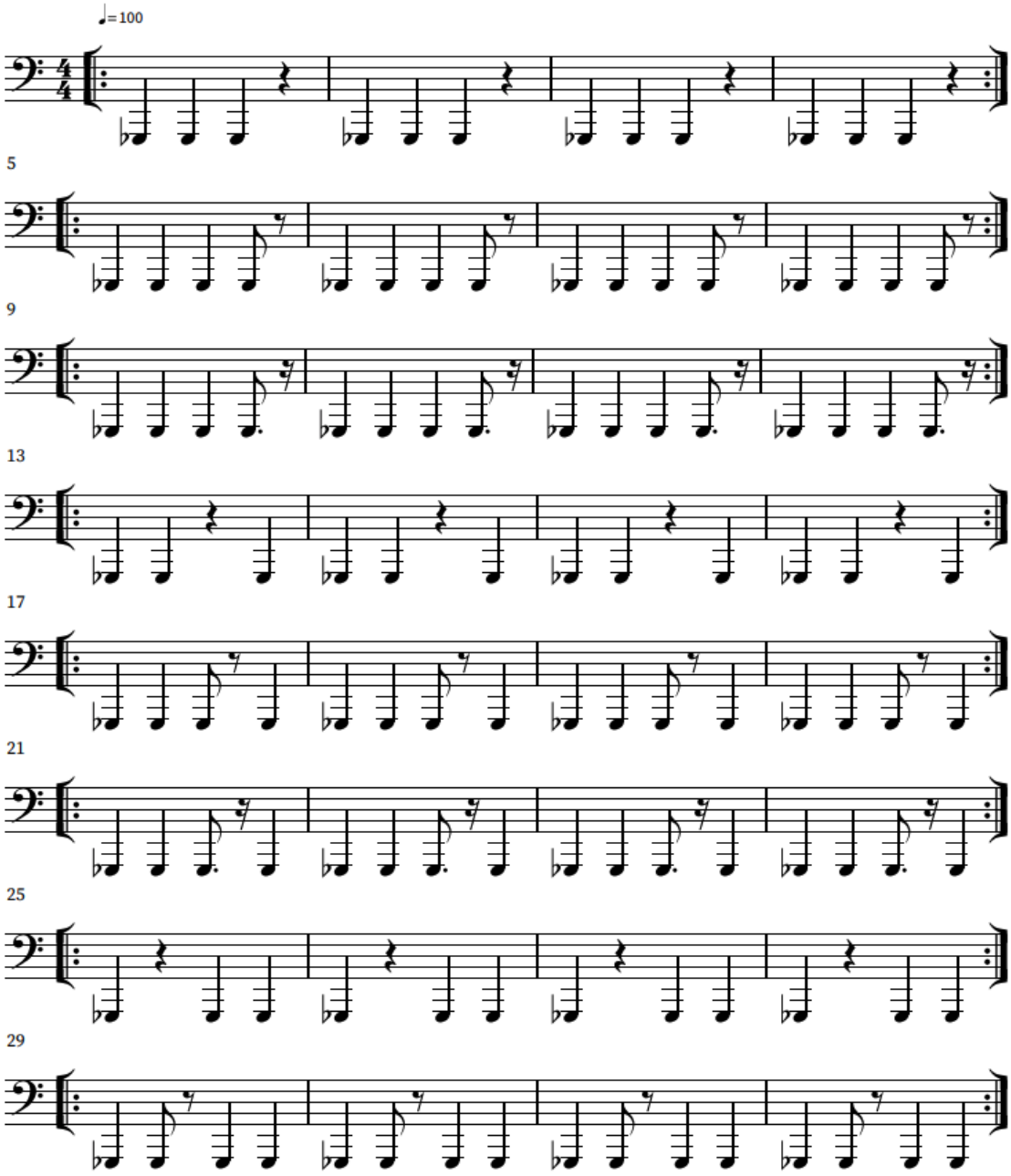
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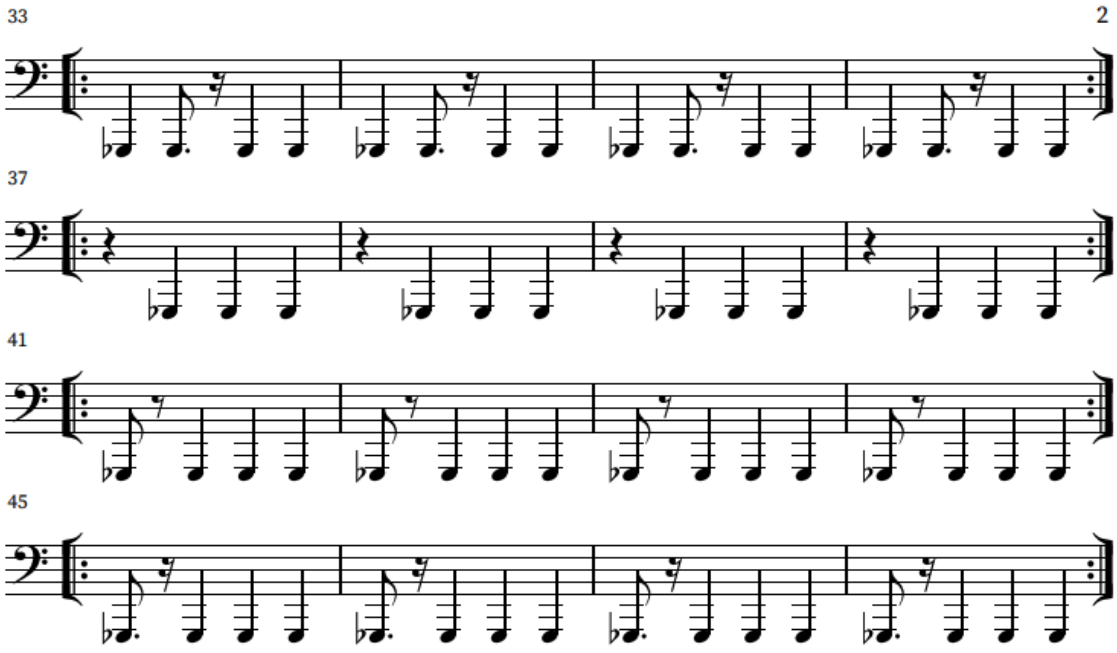
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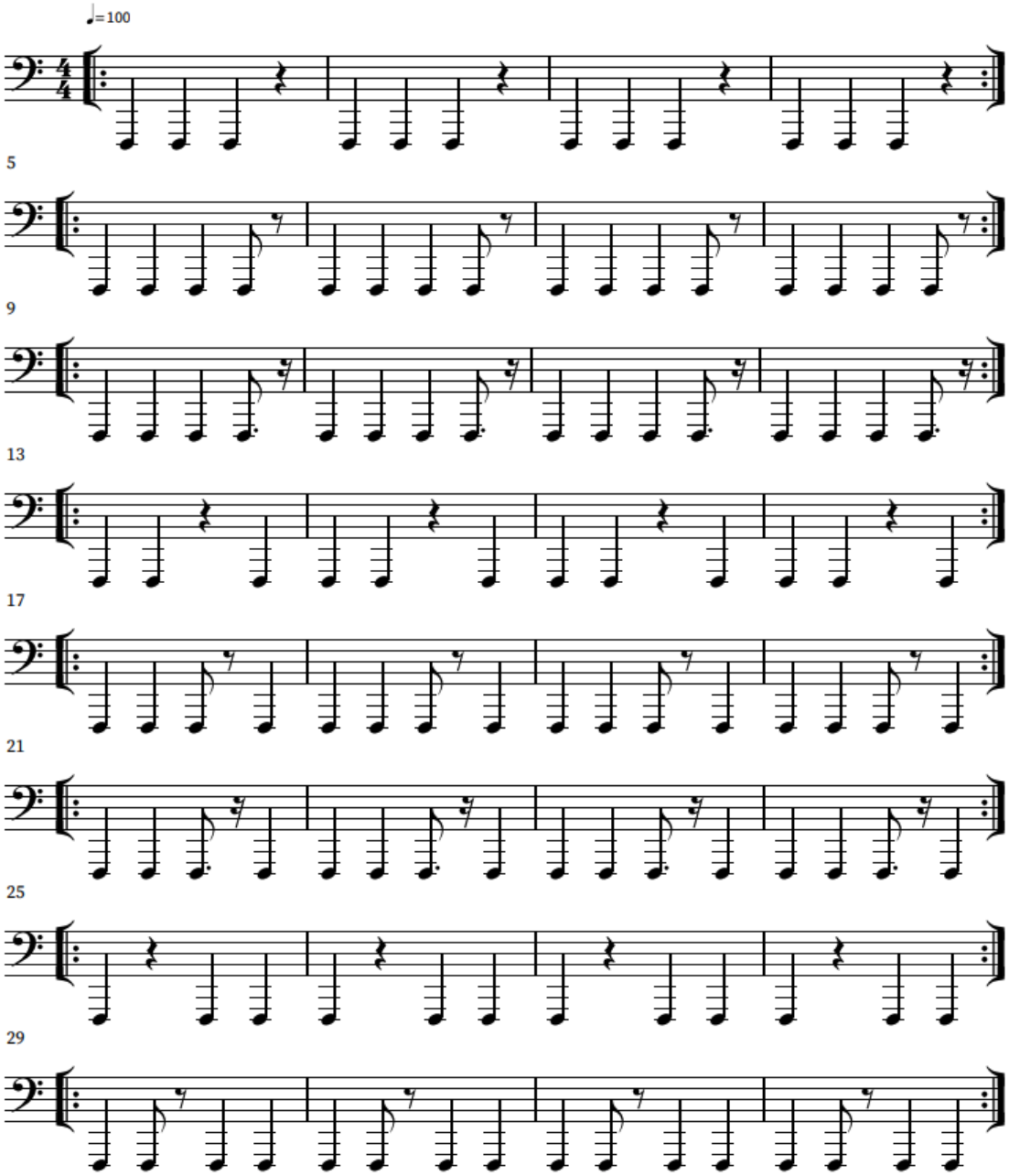
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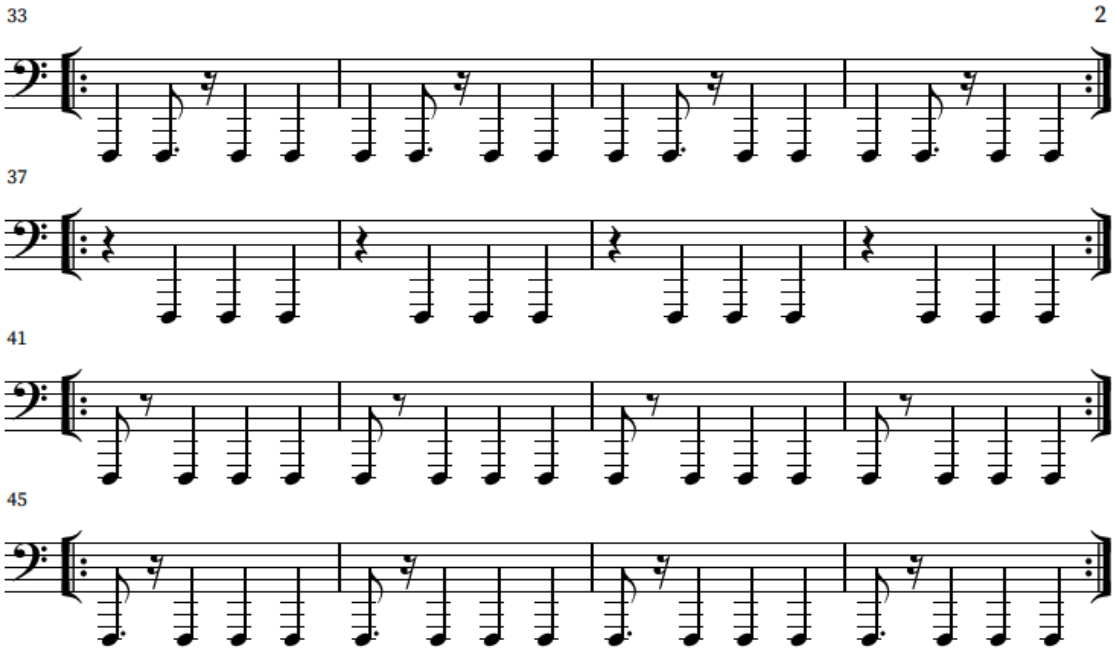
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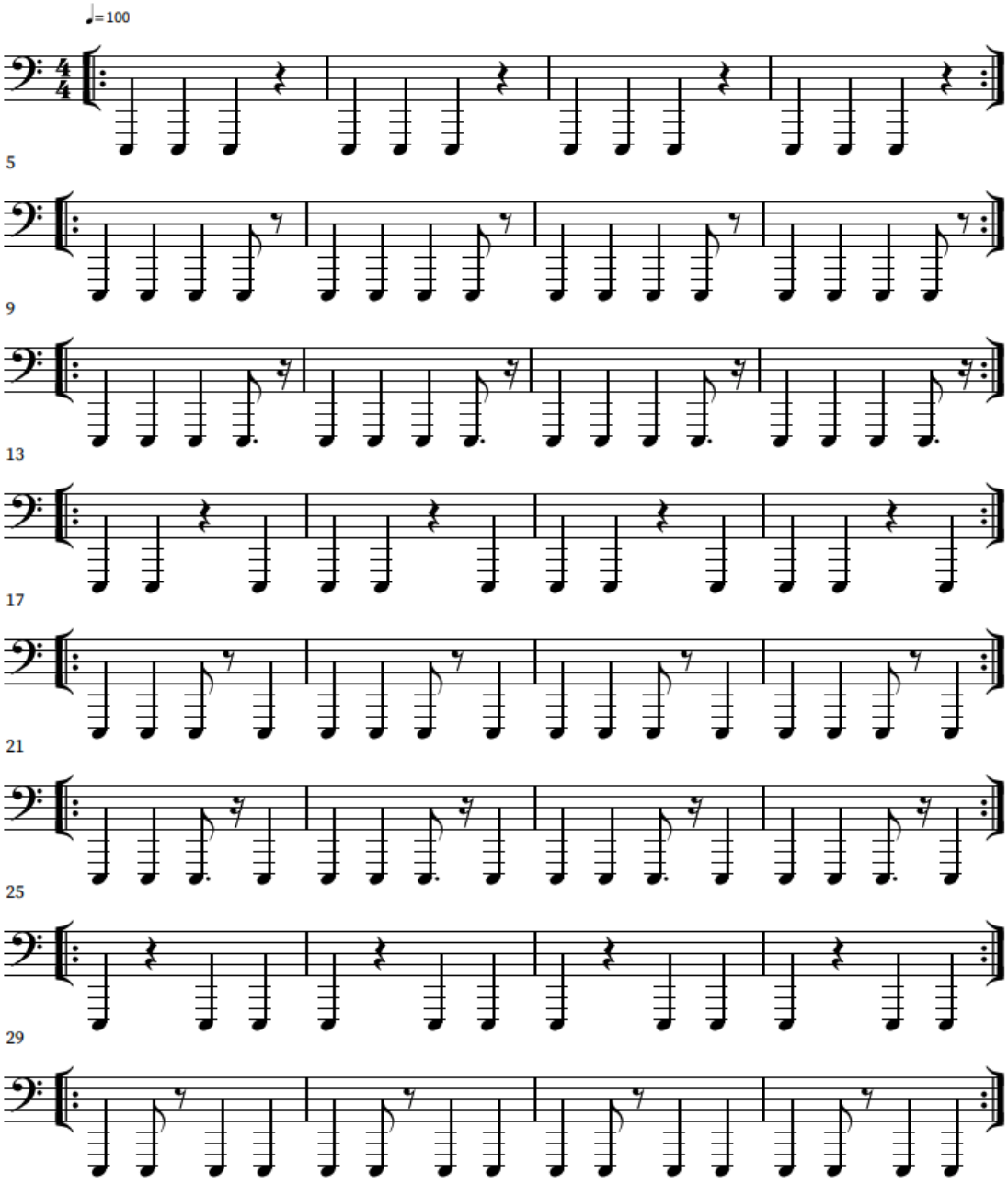
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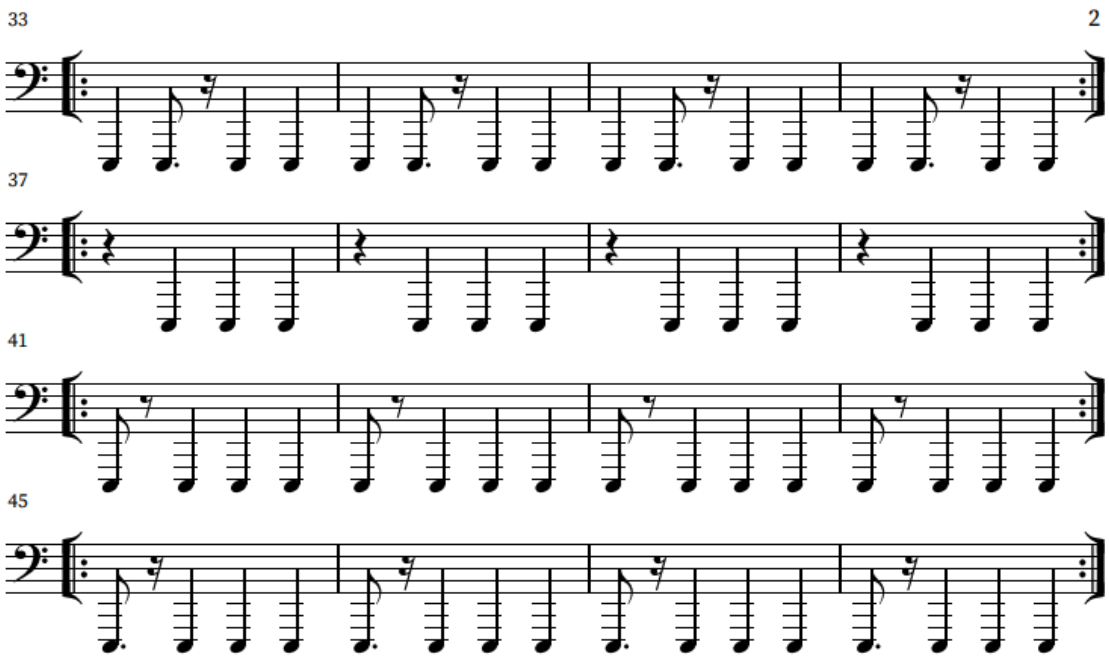
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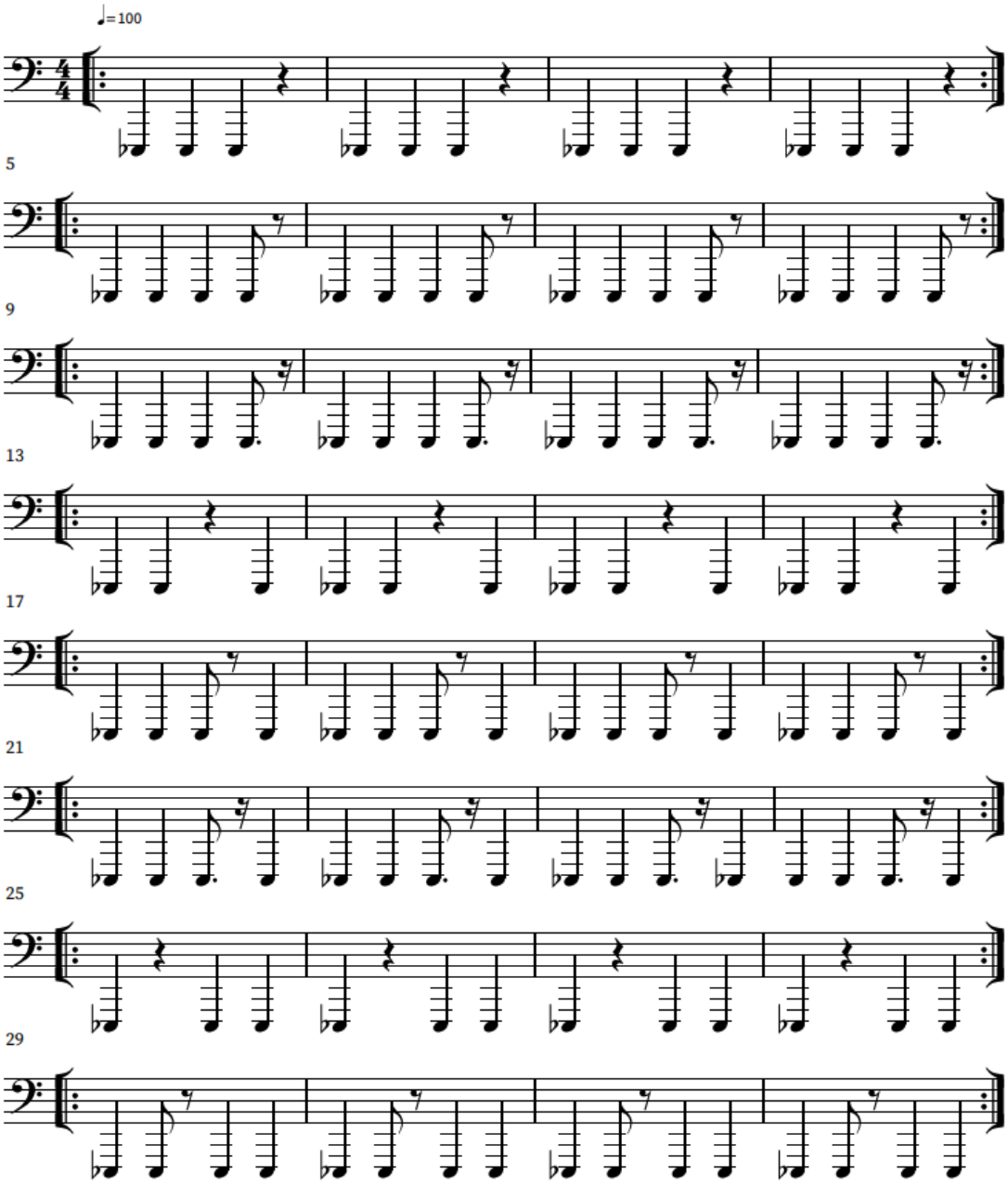
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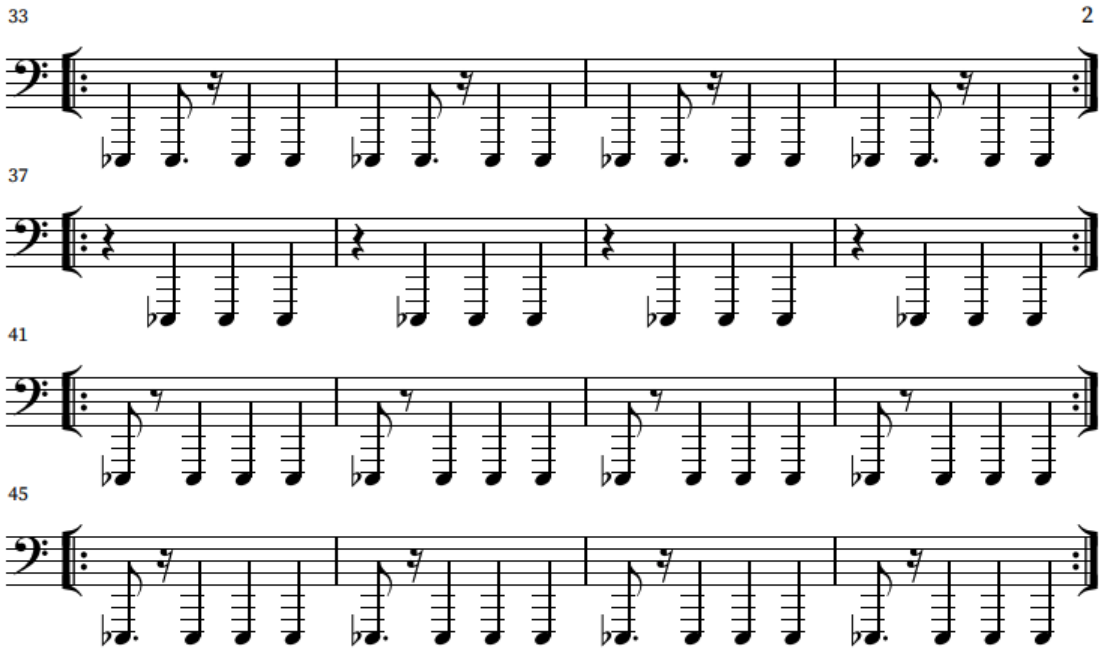
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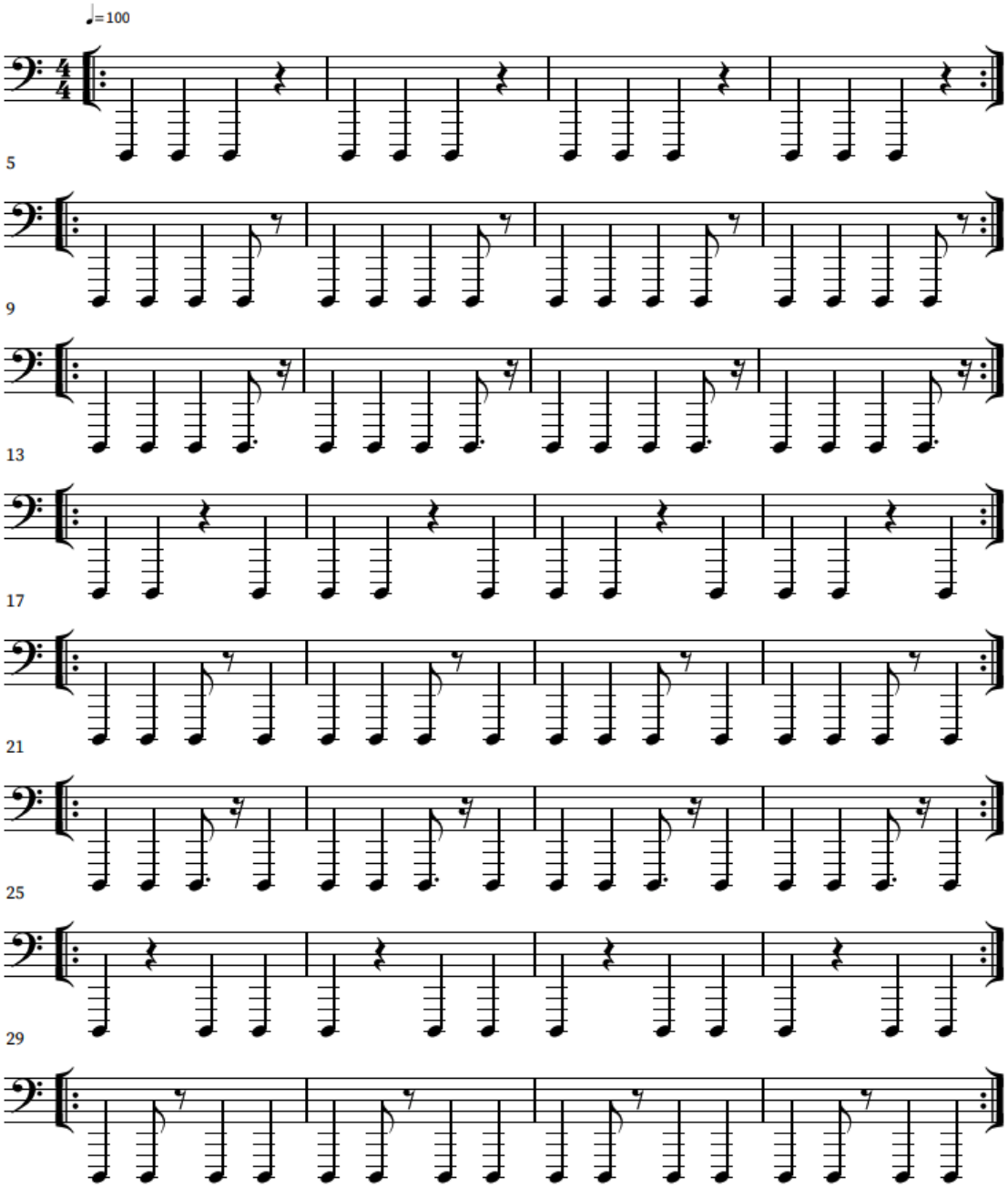
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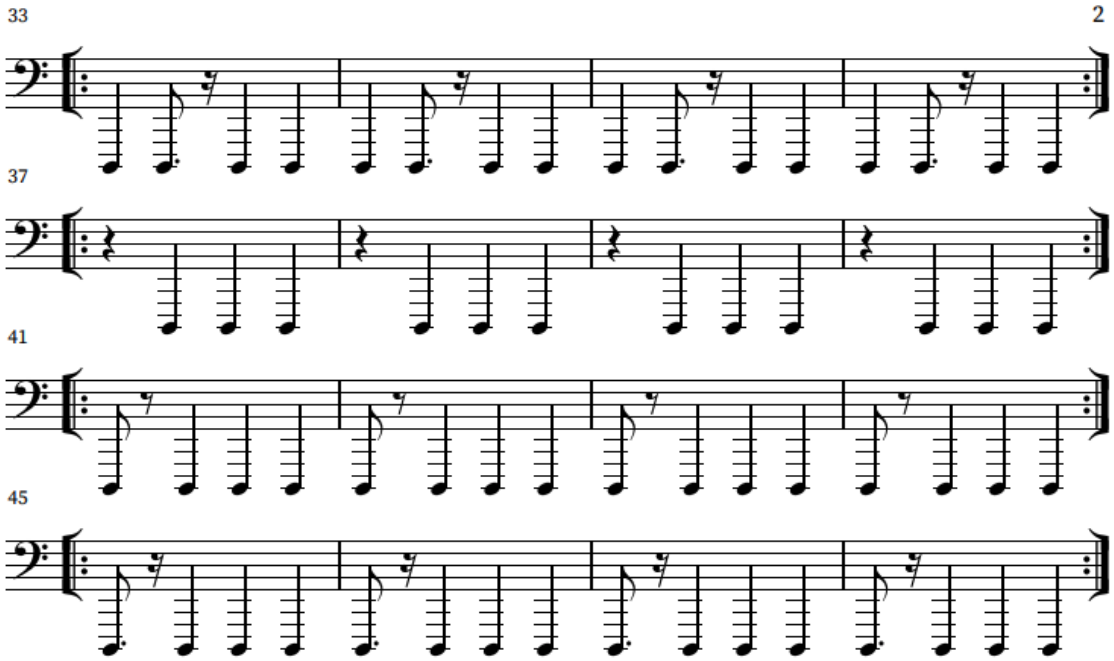
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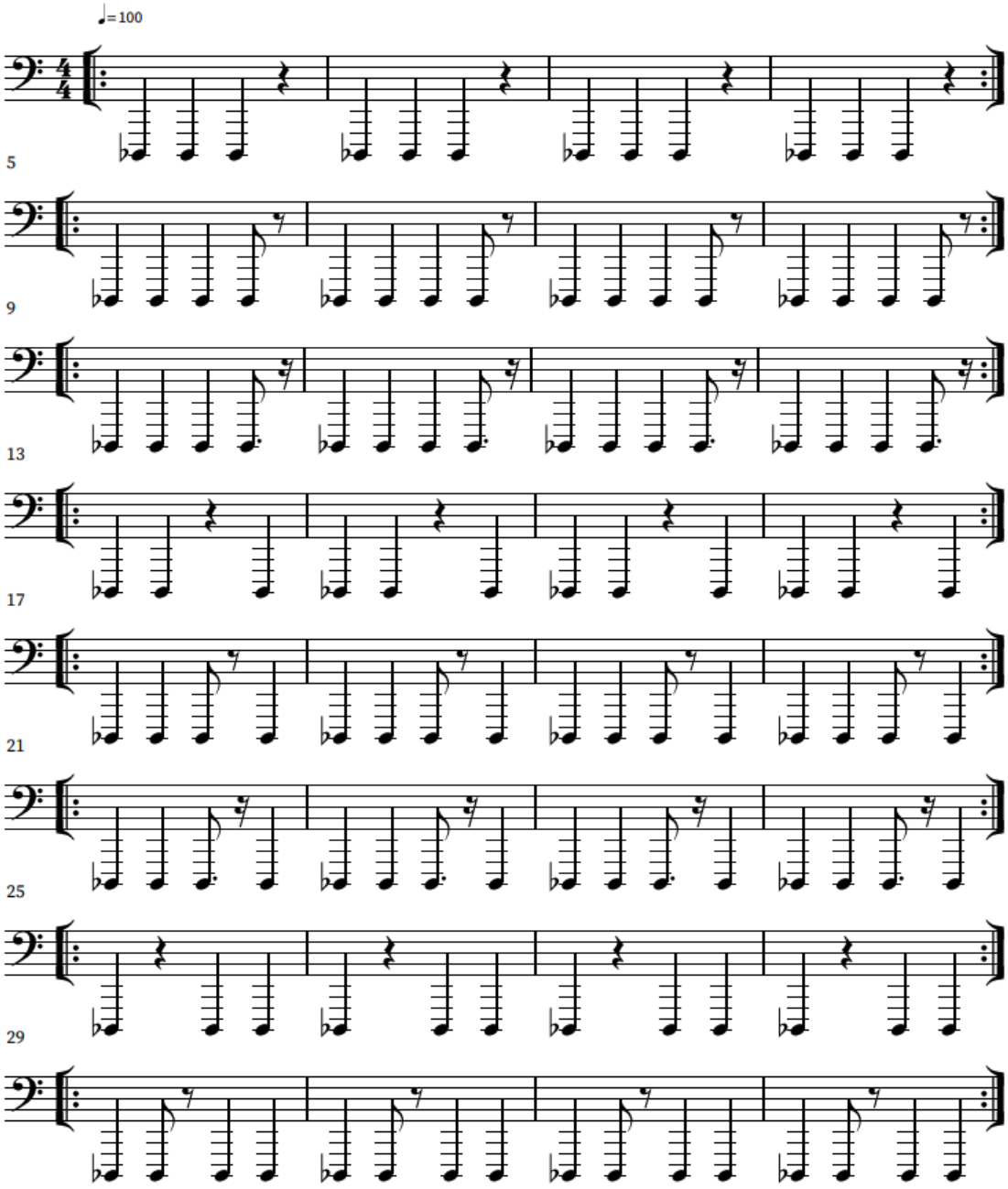
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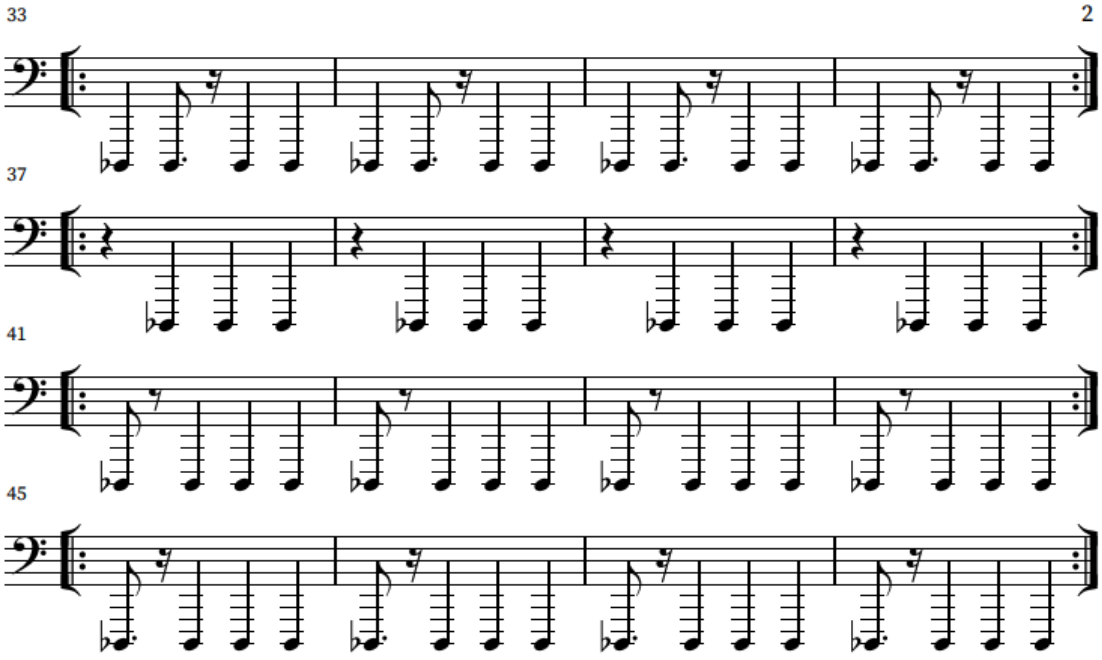
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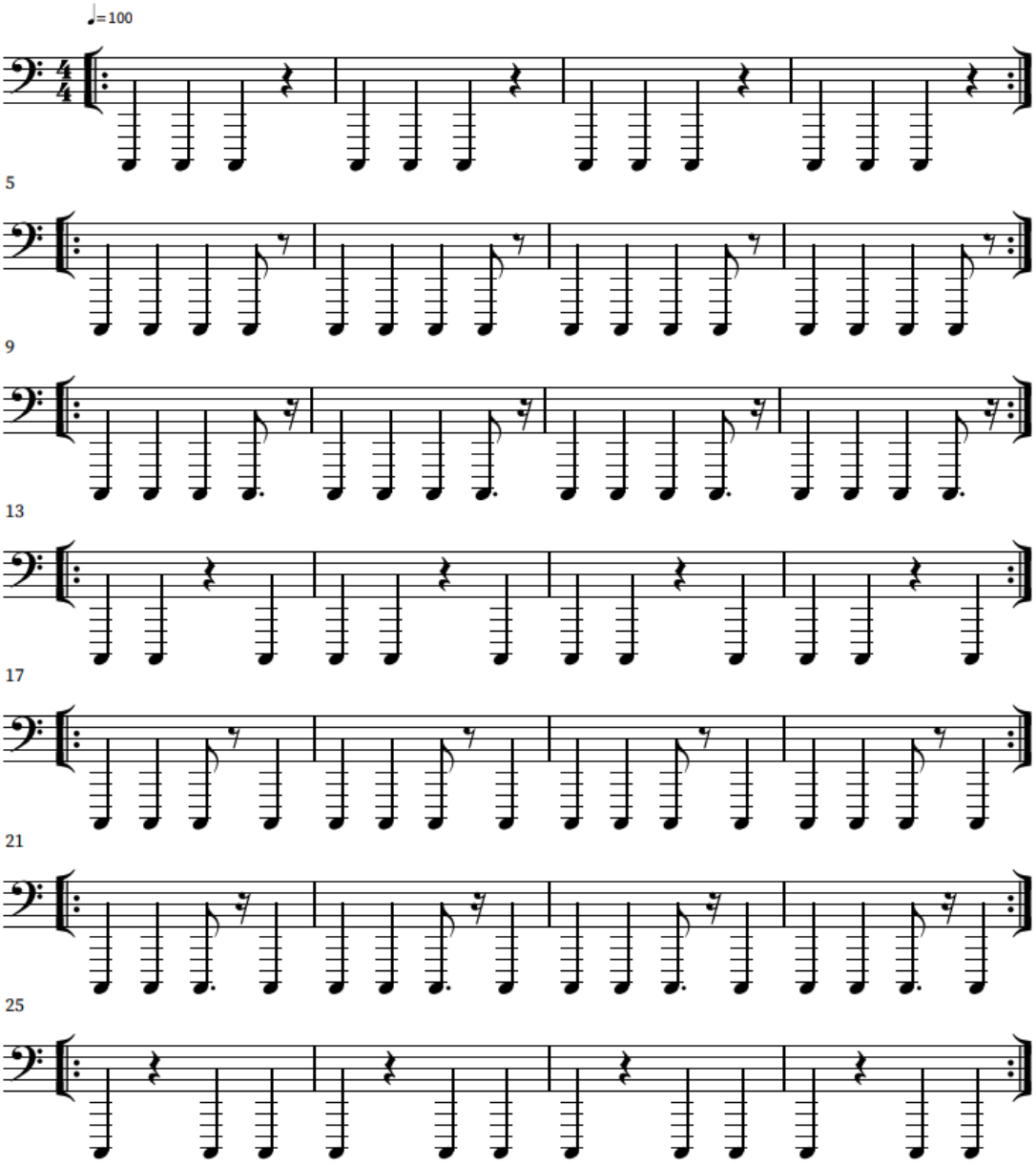
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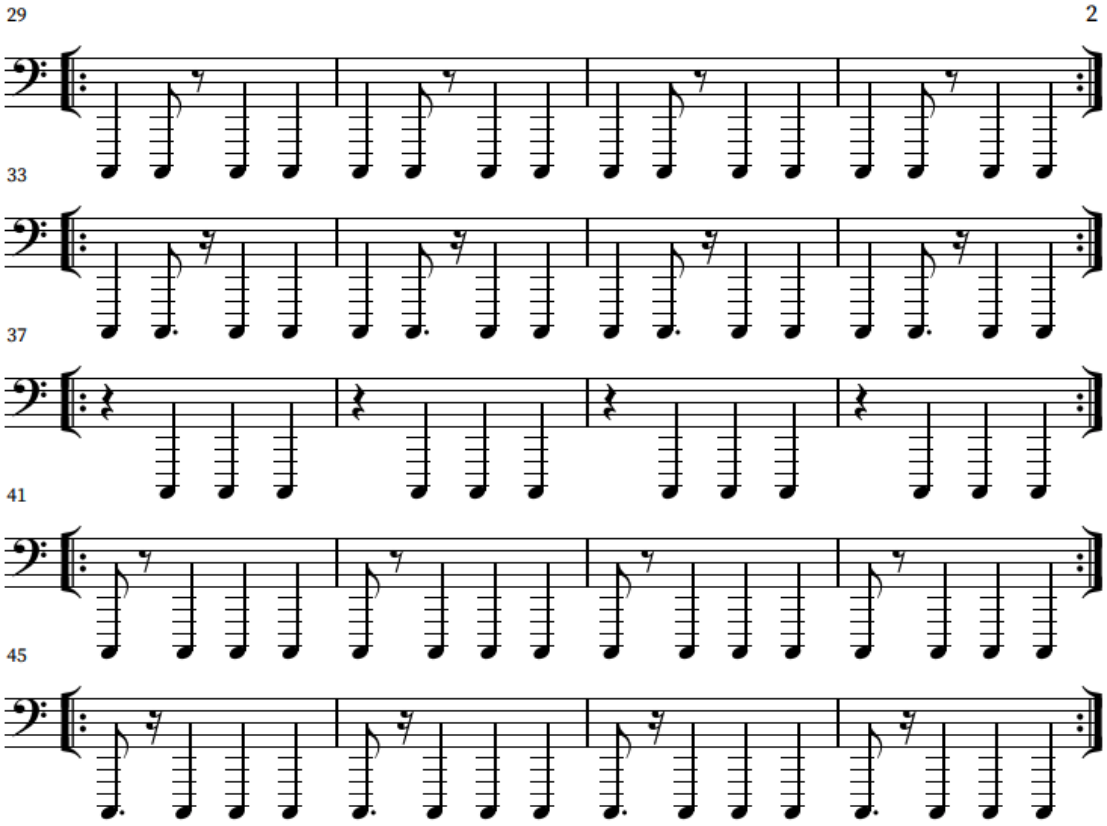
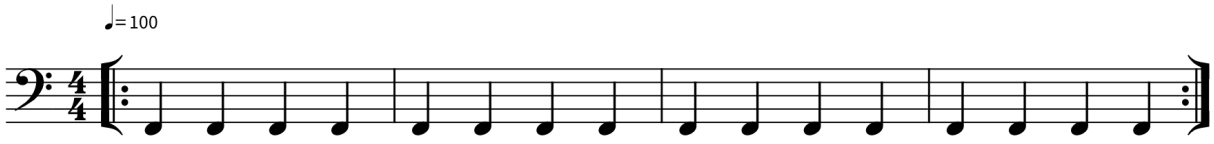


Exercise 1b.



Try with different starting notes, play with a metronome or drum machine. Strict time is important- fit into the groove!

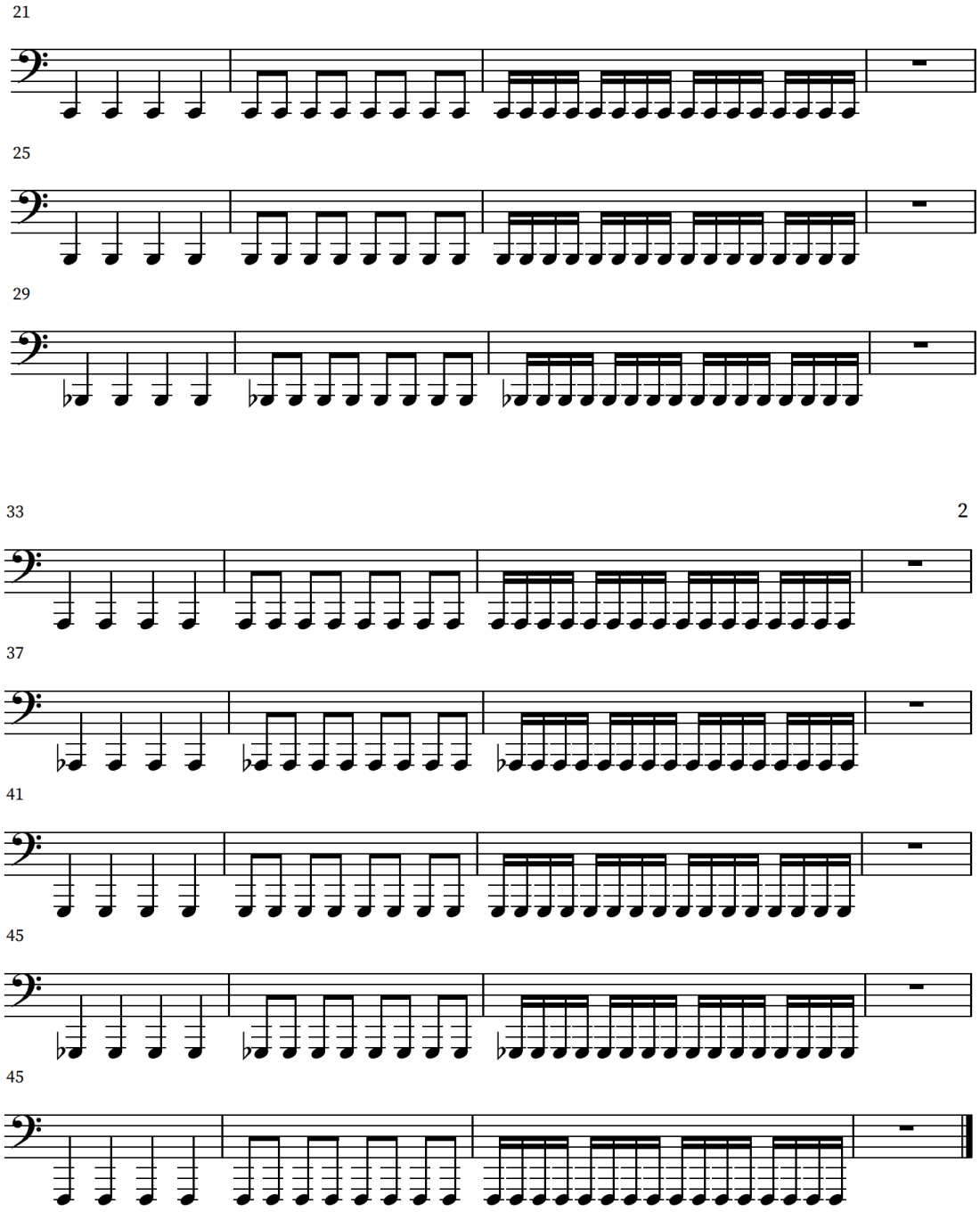
Part 2: Articulation Studies

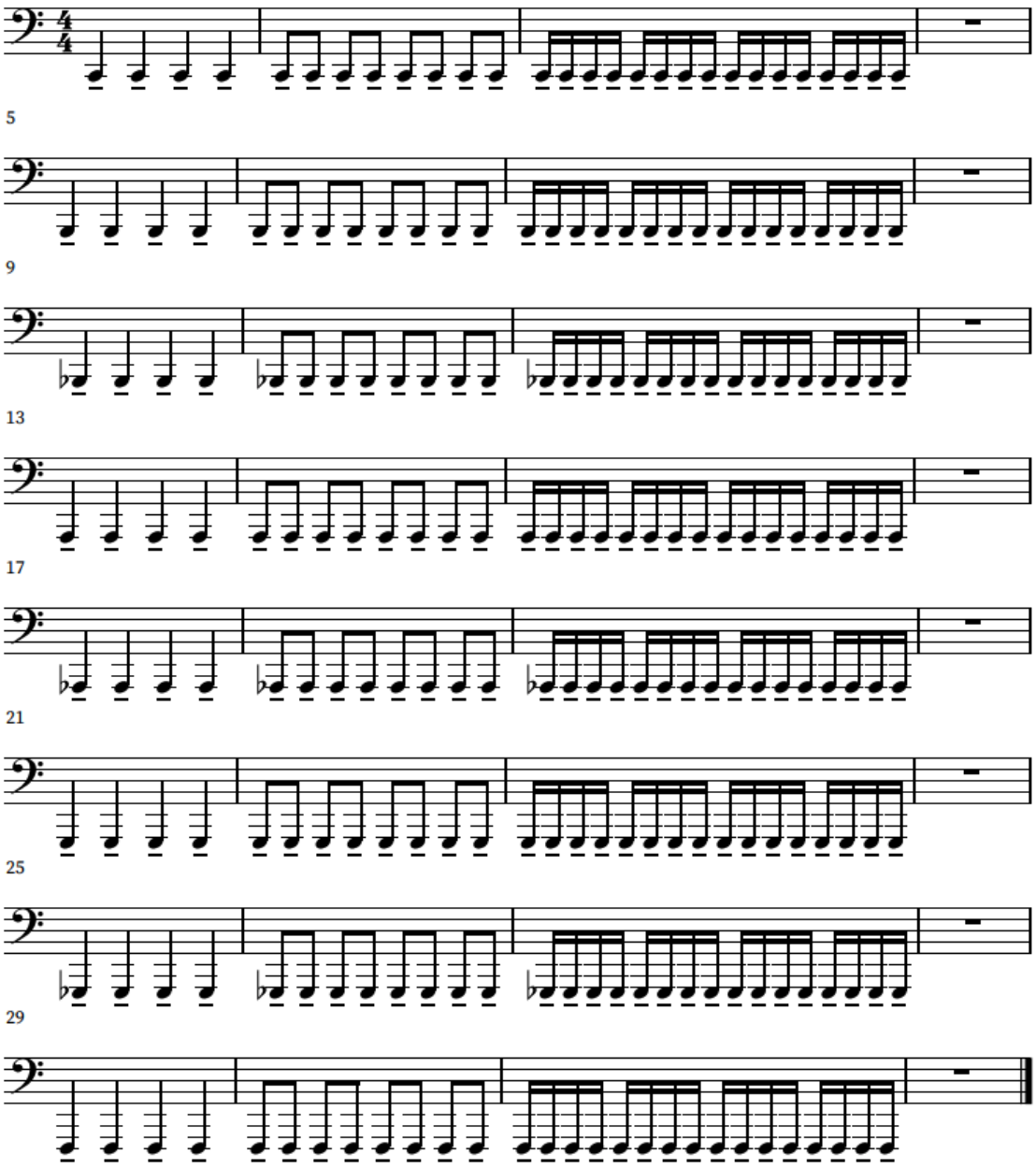
Electric bass guitarists can greatly vary their articulations depending on right and left hand techniques. The goal of these exercises is to mimic these techniques with solutions on the tuba. The bassist will usually use a two finger style technique in the right hand, which provides for fast up tempo playing found in funk styles, as well as consistent eighth notes in a driving rock style. The next exercise will train the single and double tonguing techniques that the tuba student will already know to these styles of music. Related exercises are in the Brass Gym: Tongue Coordination.[2] Play each exercise in varying dynamics and articulations.

- Dynamics
    - pp, p, mp, mf, f, ff
- Articulations
    - Legato (_) connected
    - Marcato (>) normal accent, with decay (think of a how a bass would sound)
    - Staccato (.) short, more percussive, but with pitch
    - Staccatissimo (almost lacking pitch)
    - Ghost notes

[2] Pilafian, Sam, and Patrick Sheridan. *The Brass Gym: A Comprehensive Daily Workout for Brass Players.* (Fort Wayne, IN: Focus on Excellence, 2007), 22.

Exercise 2b.

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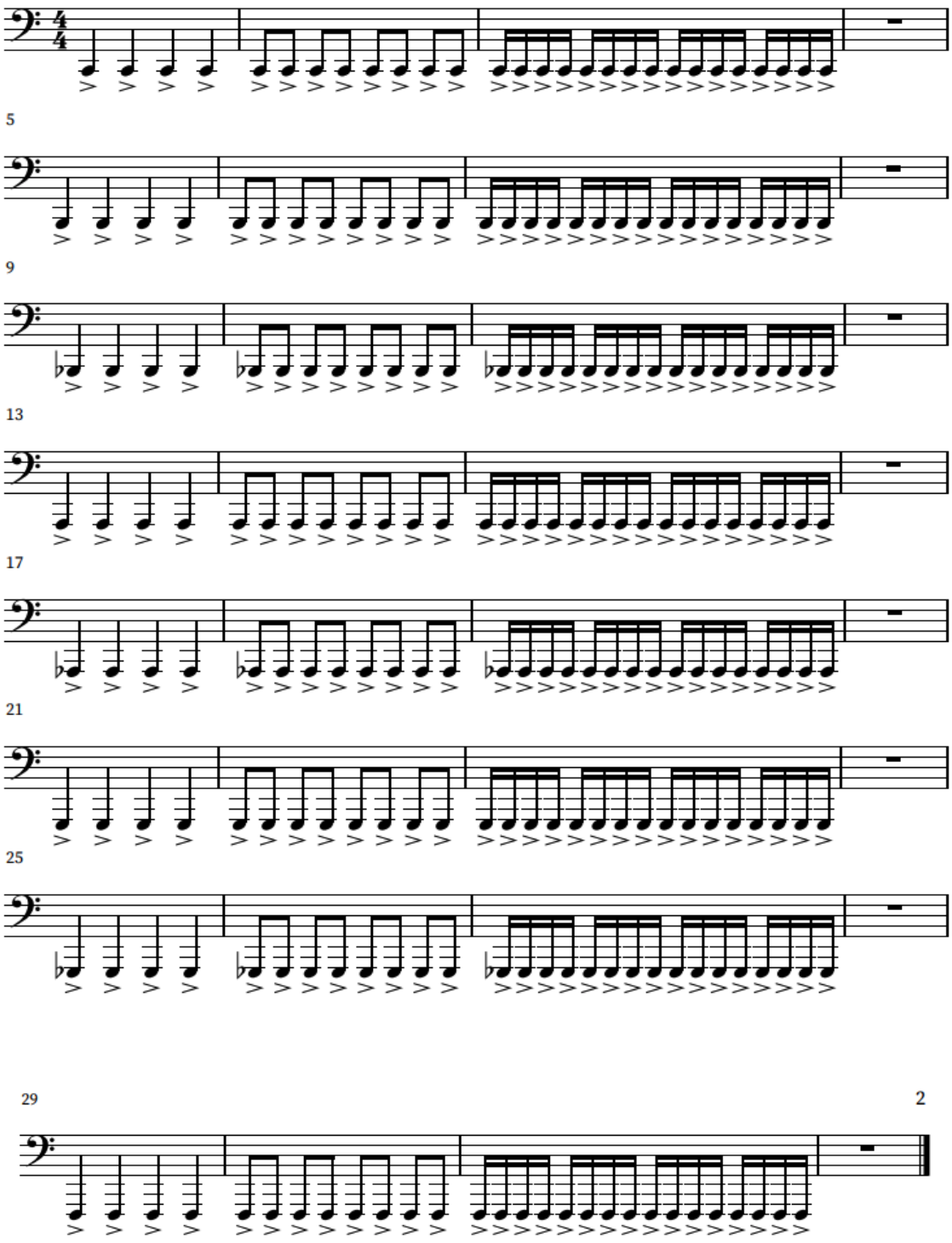
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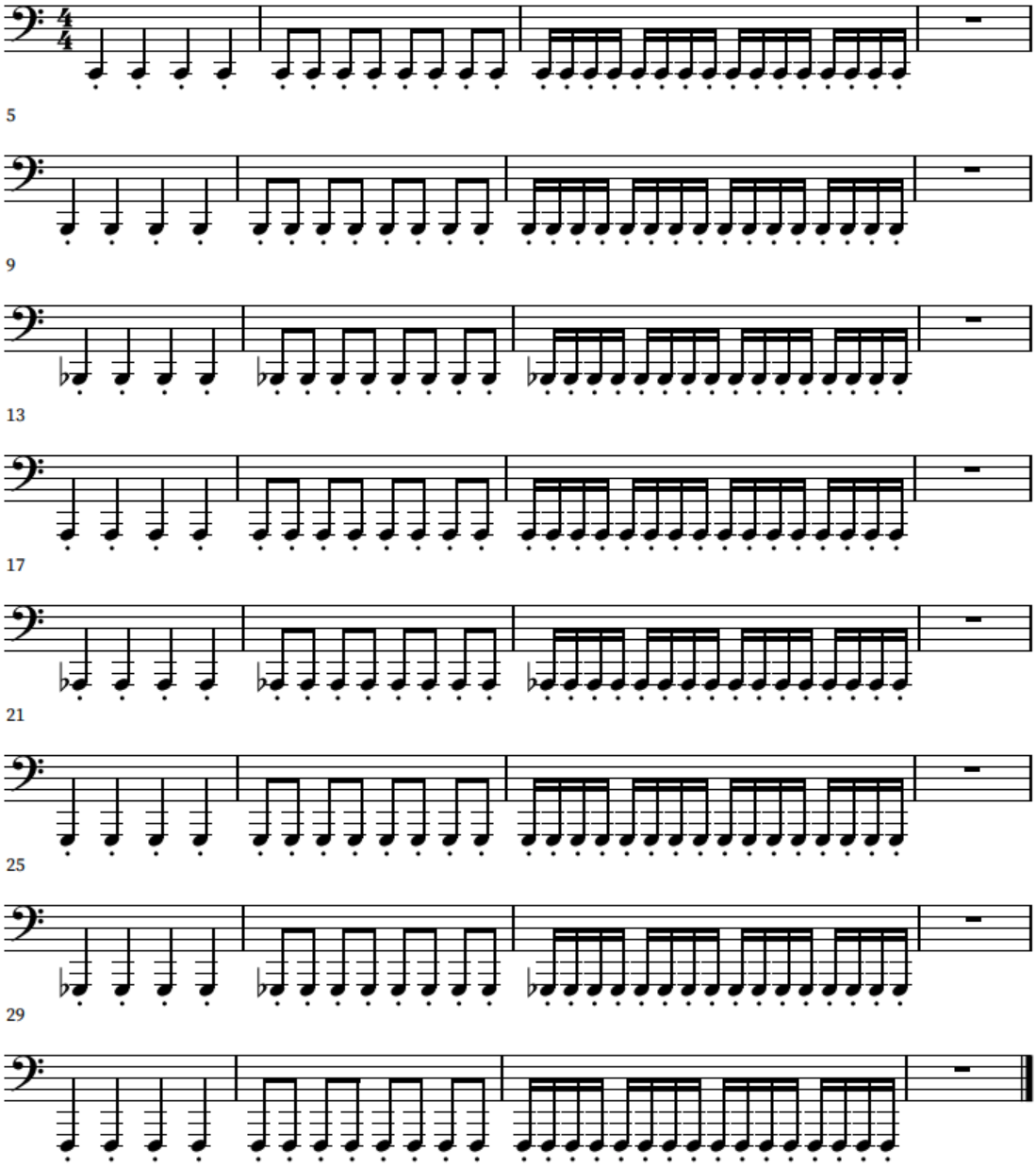
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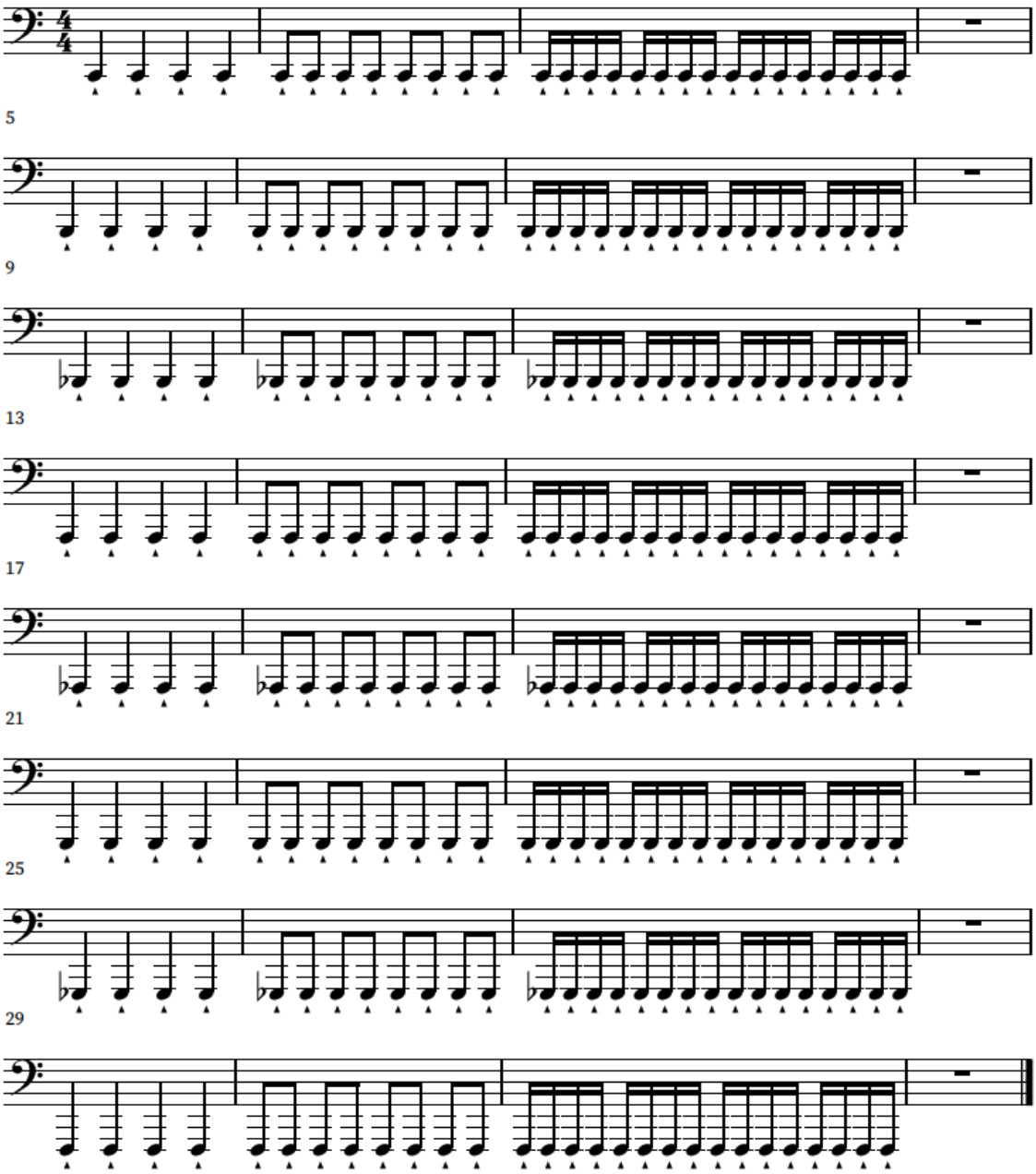
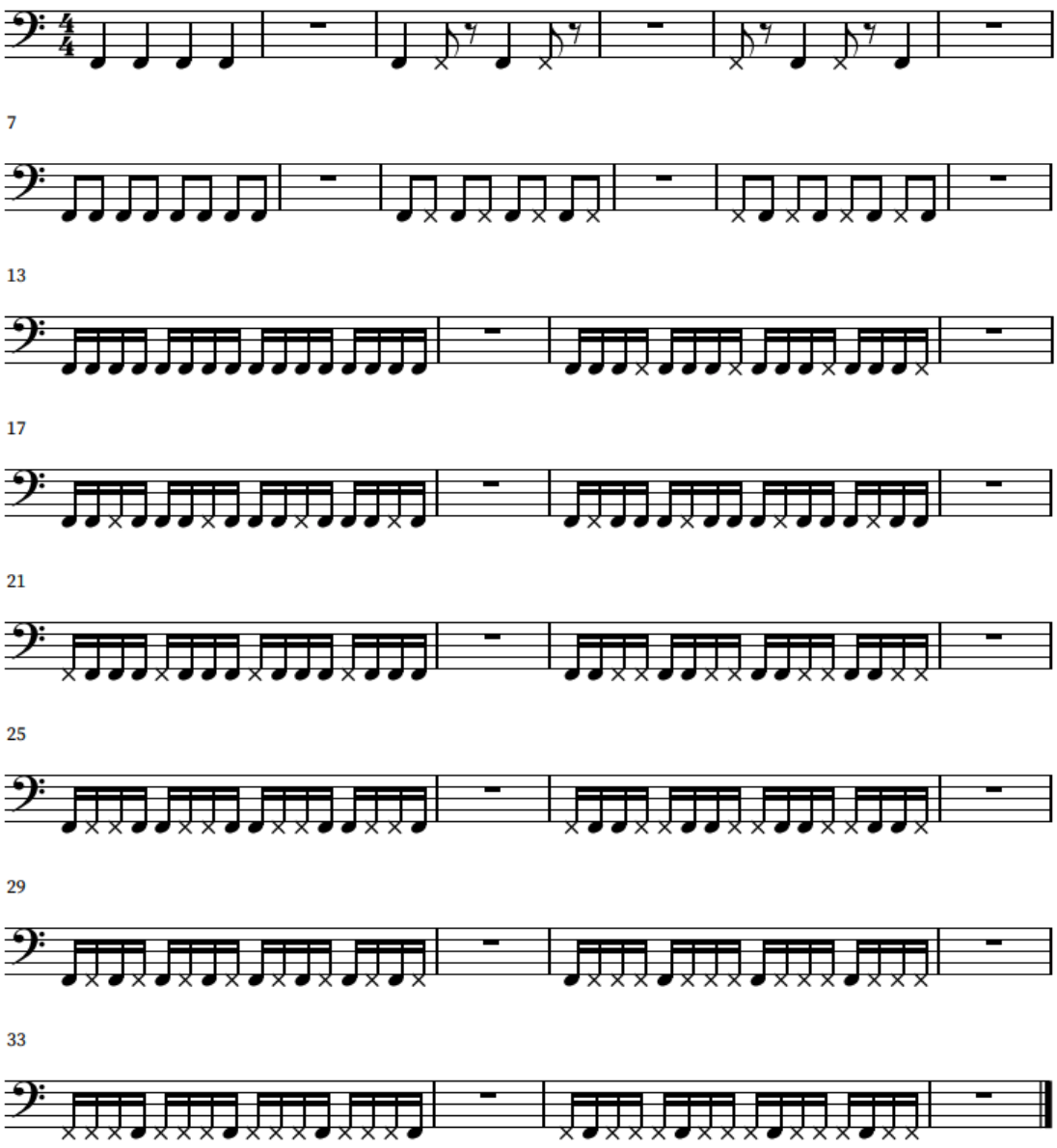
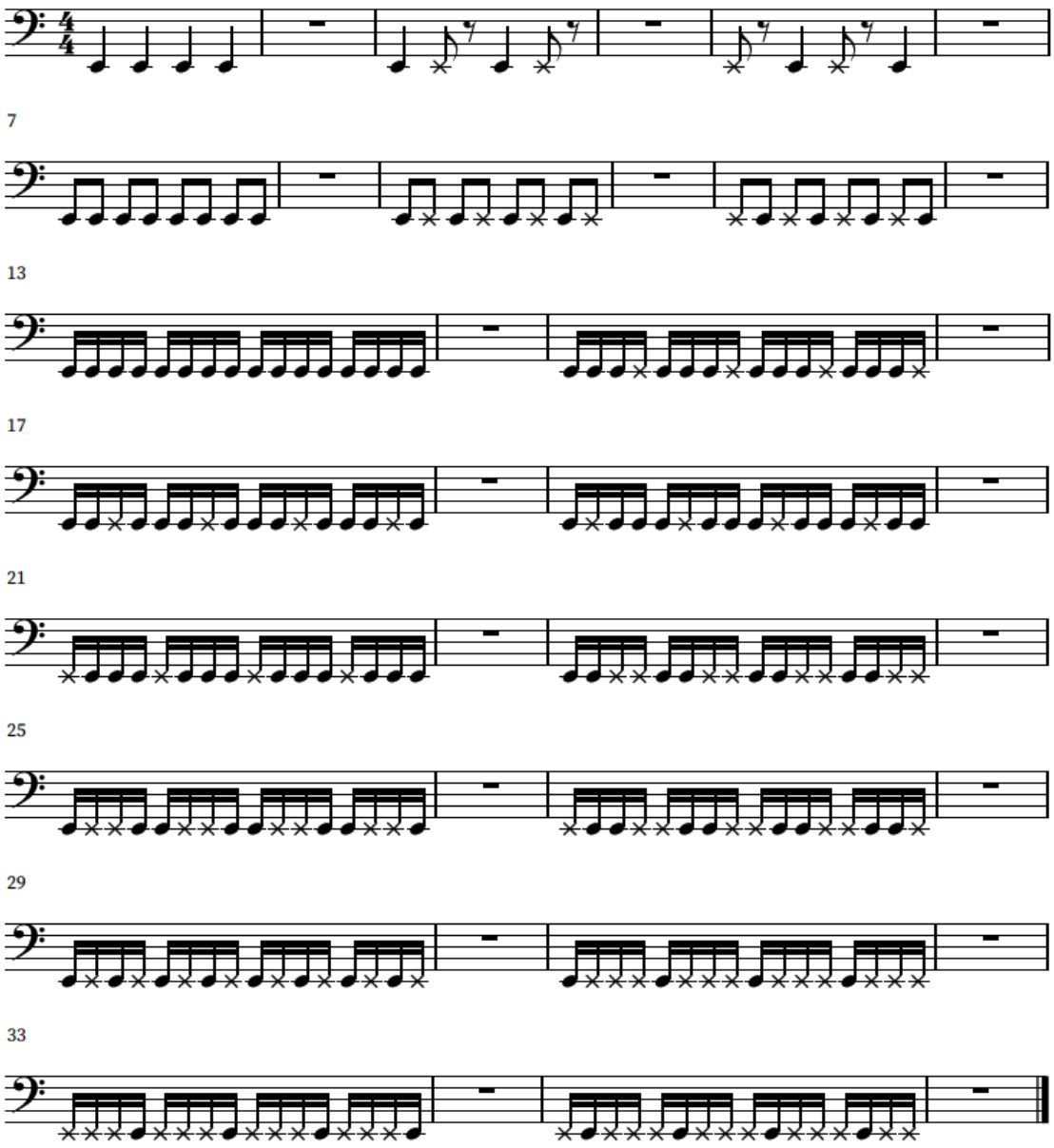


Building from this exercise, start adding ghost notes into the study. Ghost notes can be achieved on the tuba using a very staccatissimo attack, making the note somewhat pitchless. Ghost notes are notated as a note with an “x” in the notehead. Practice this pattern on every note, using single tongue and double tongue at increasing speeds.

Exercise 2c. (Demonstration video included, both tuba and bass)

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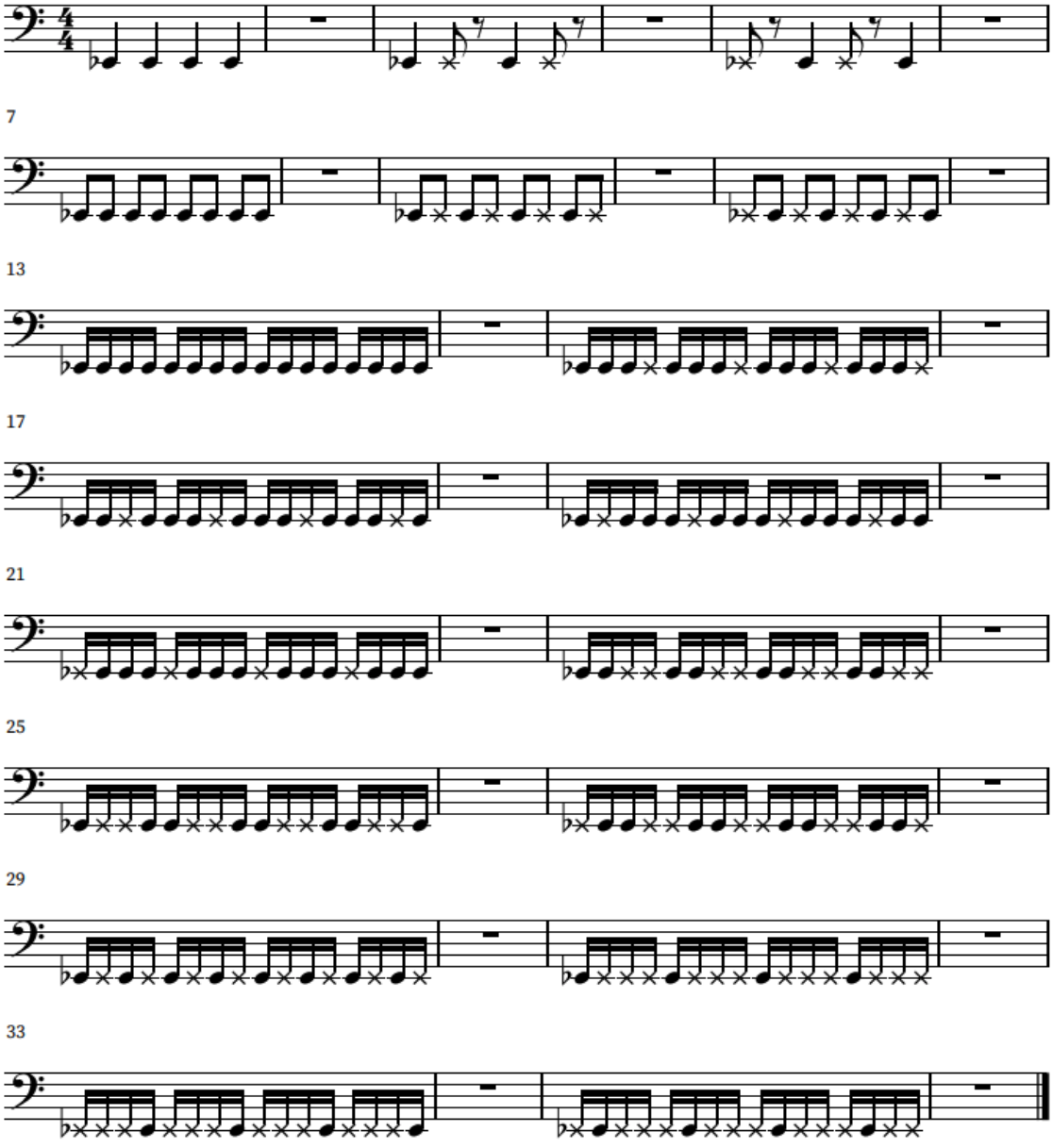
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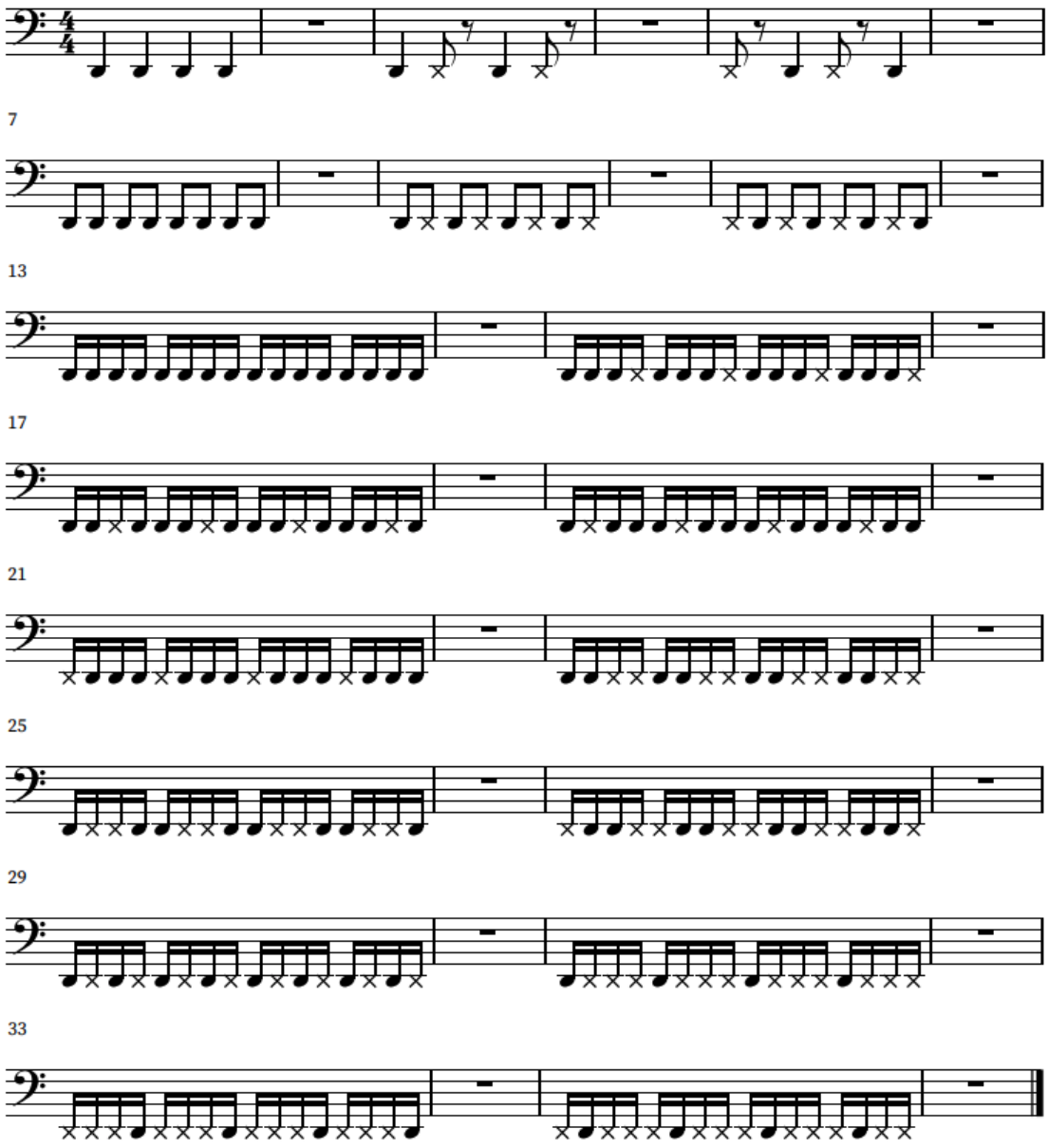
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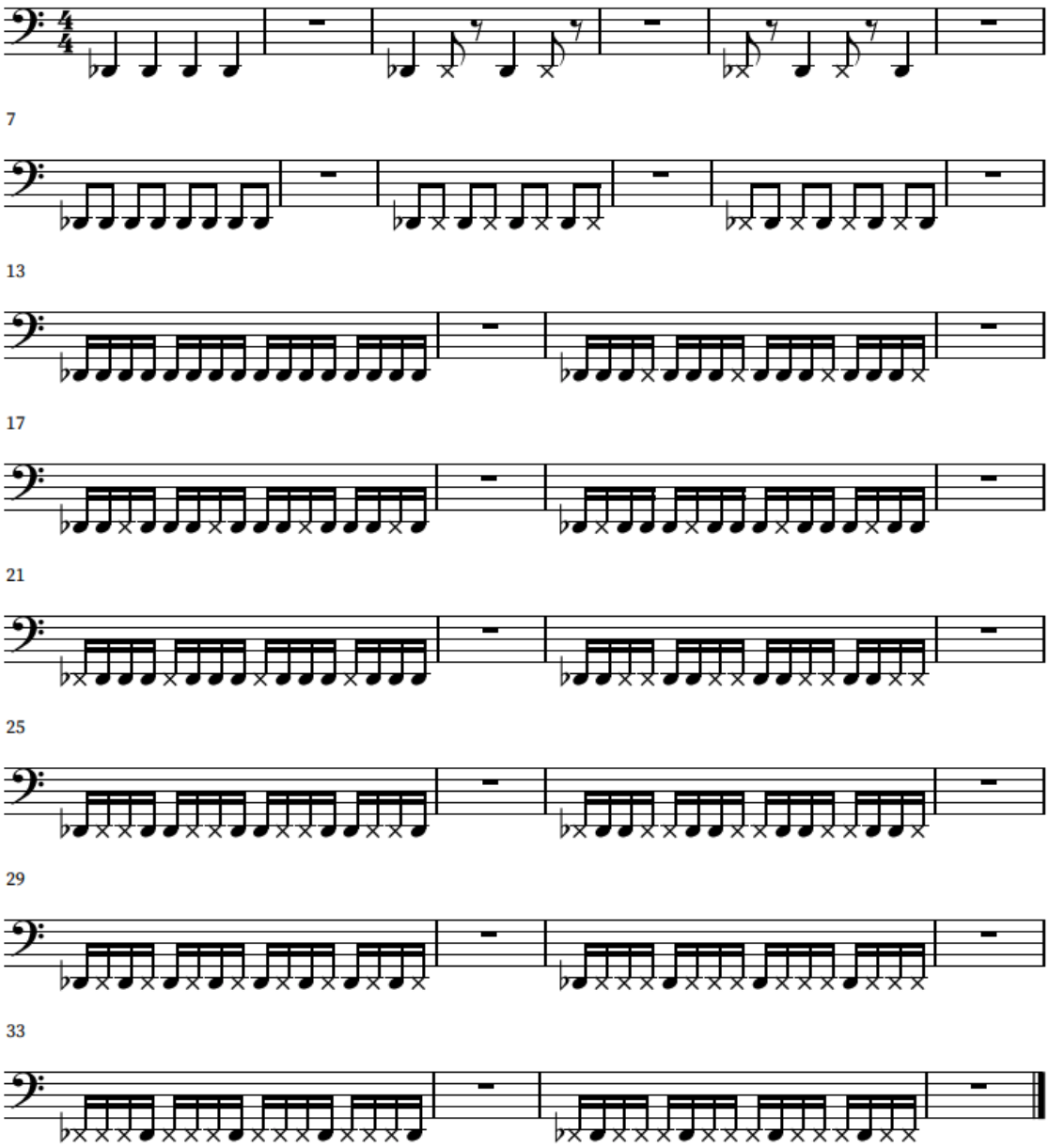
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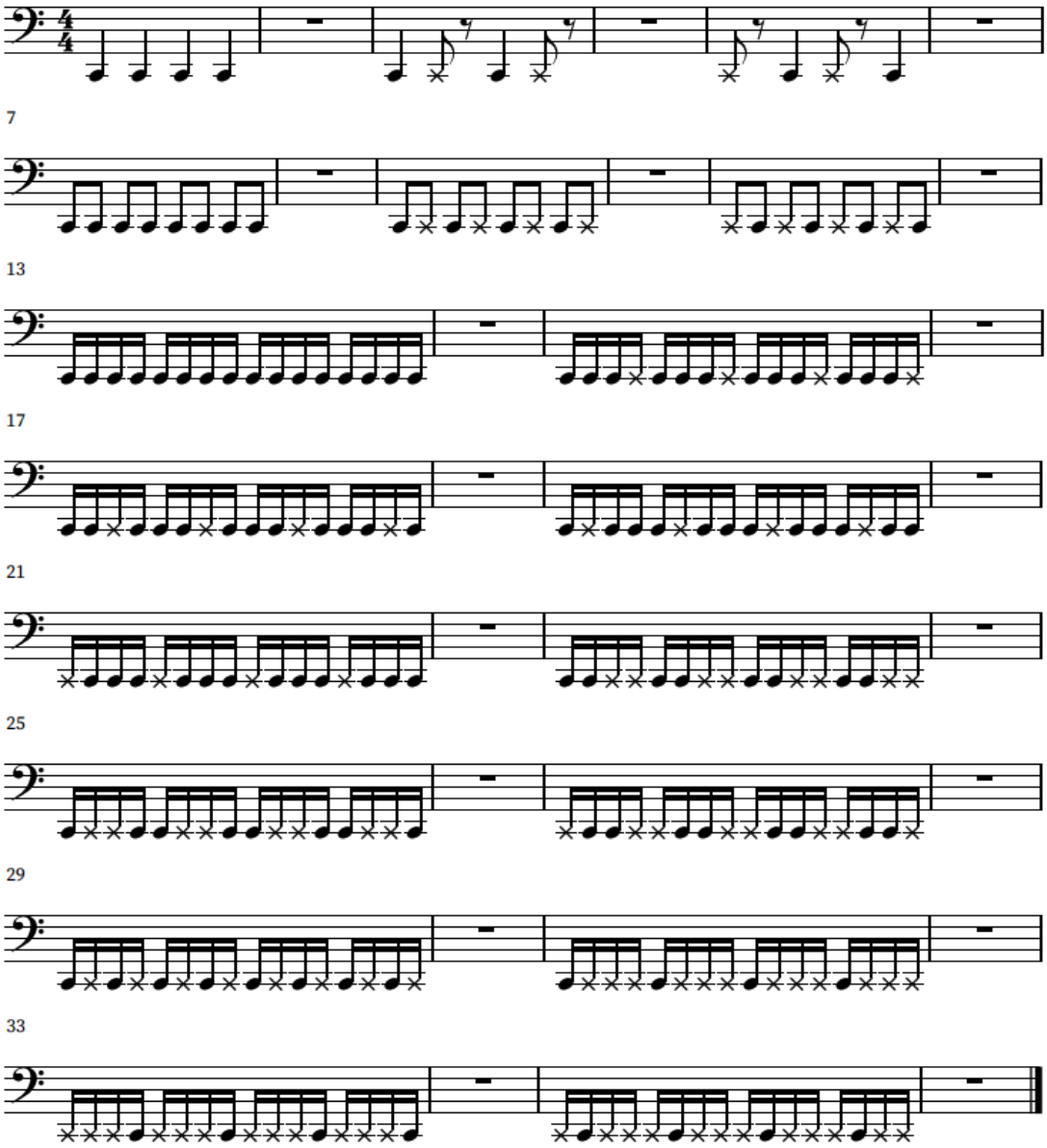
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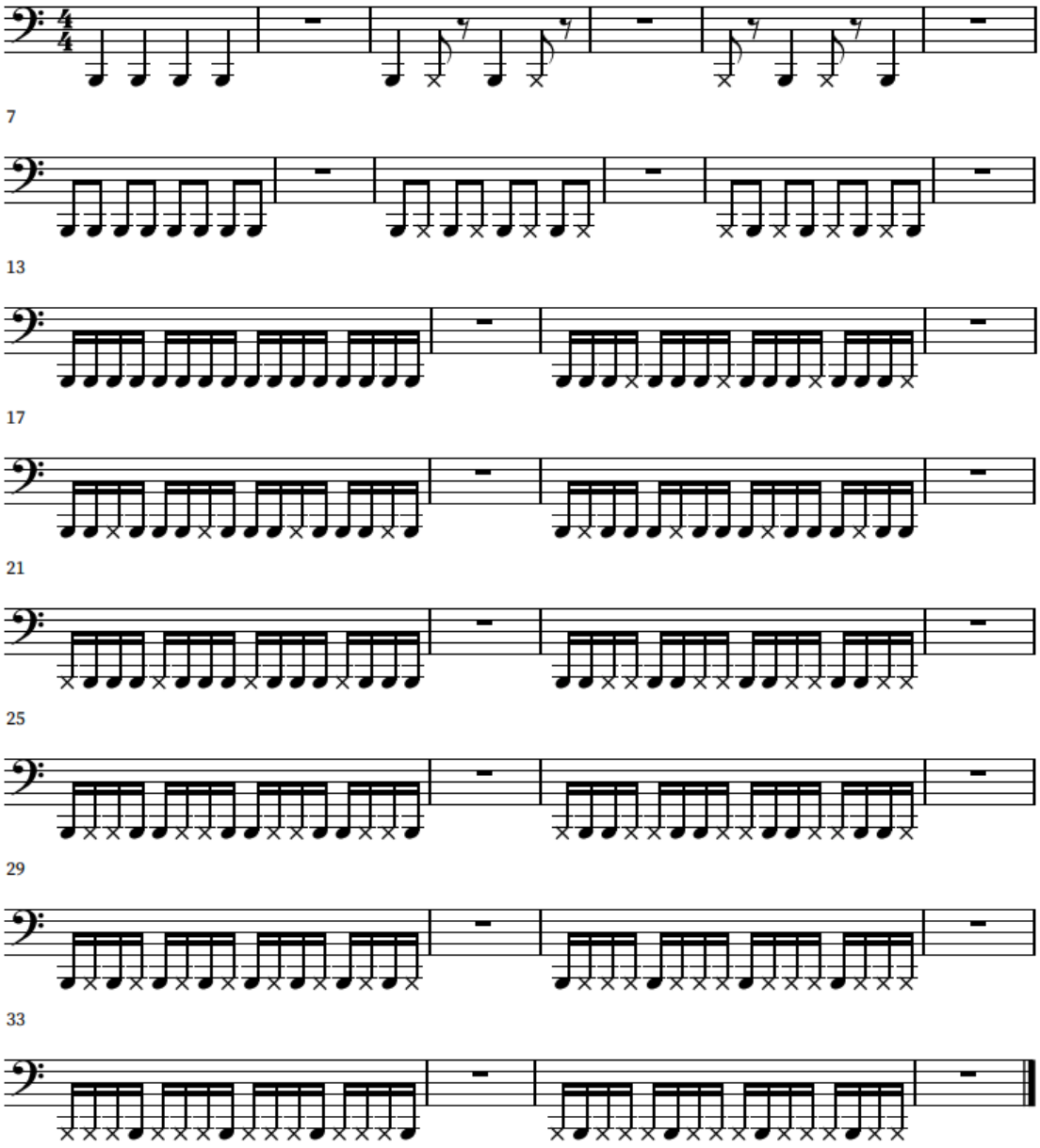
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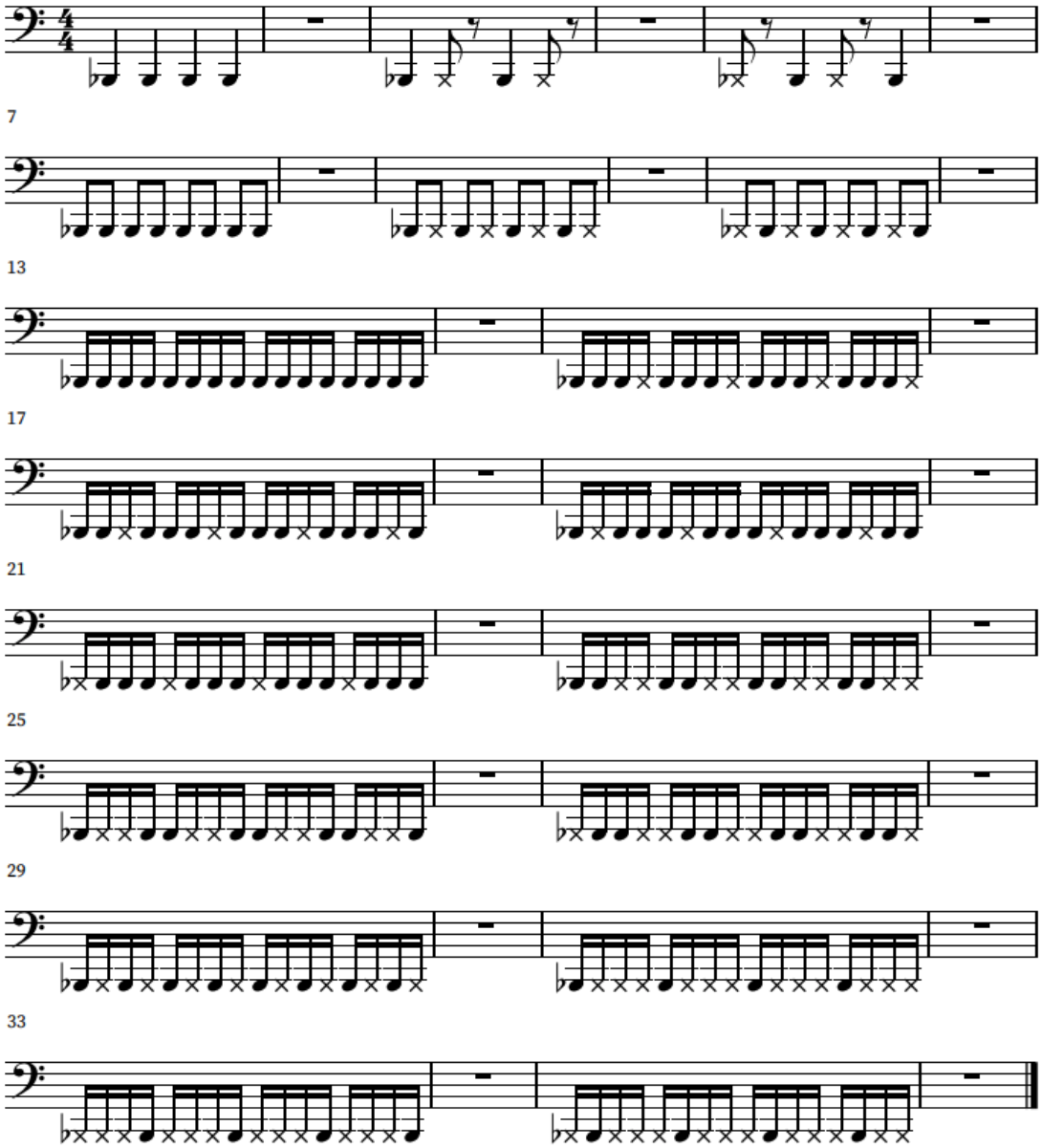
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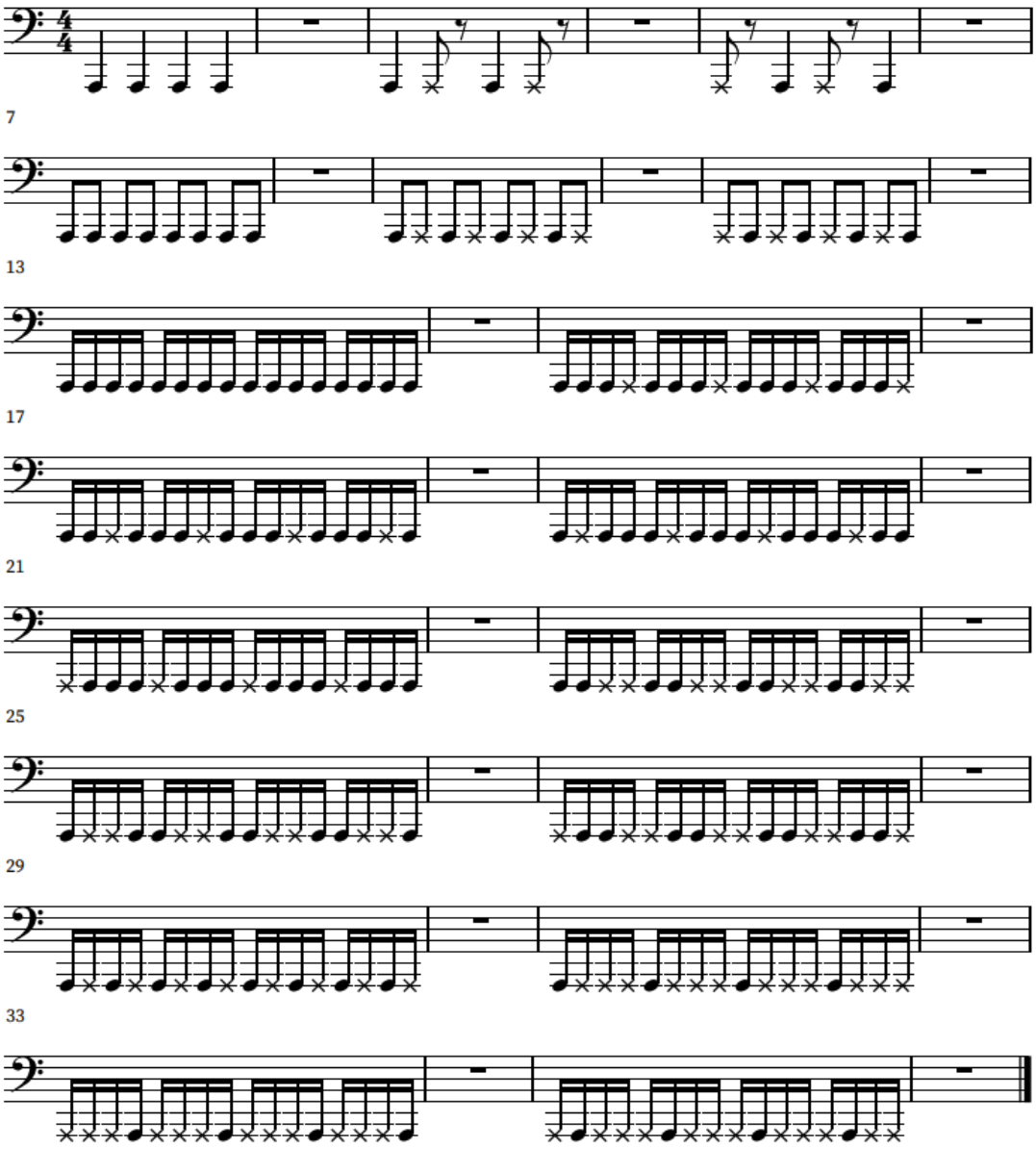
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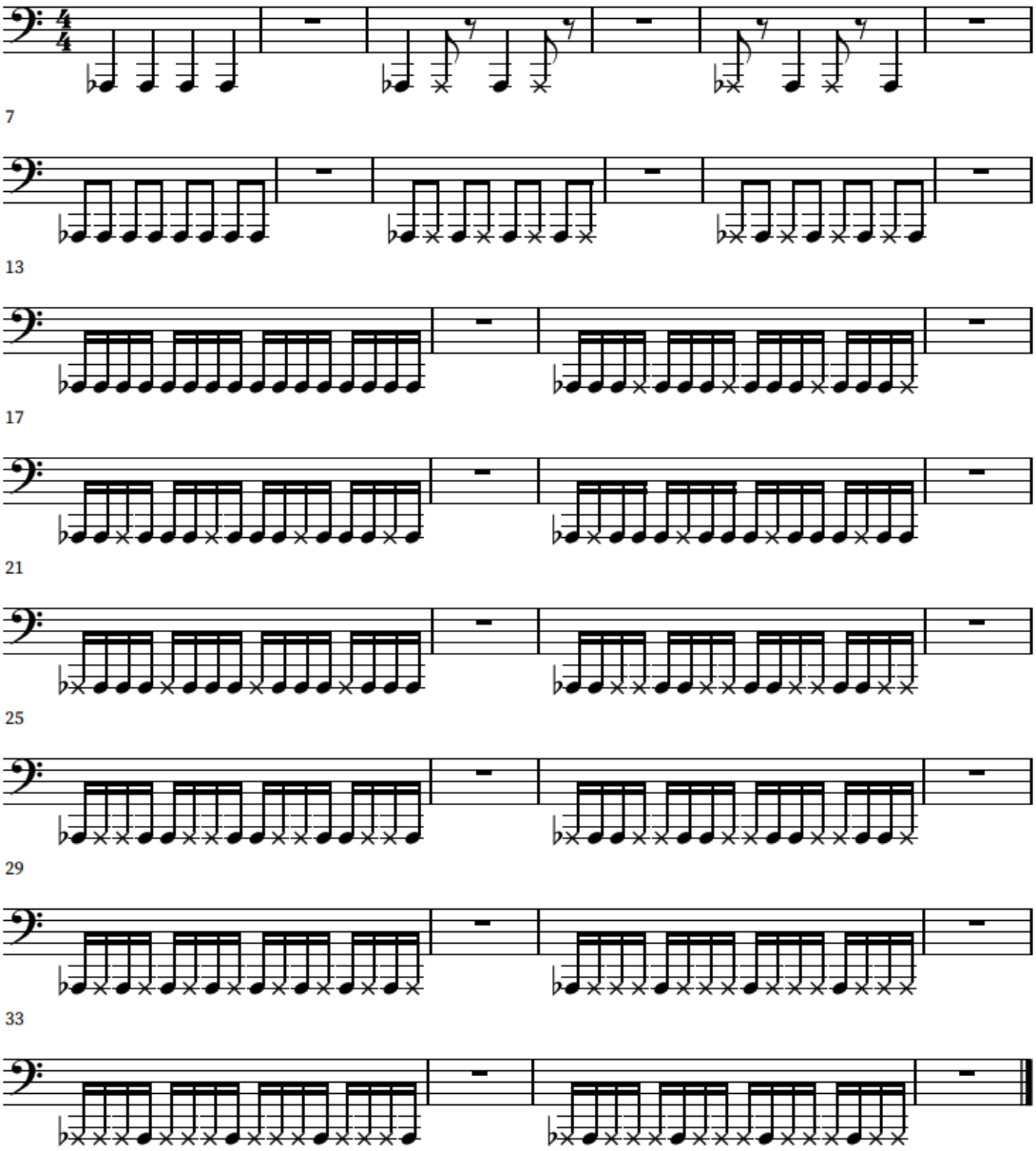
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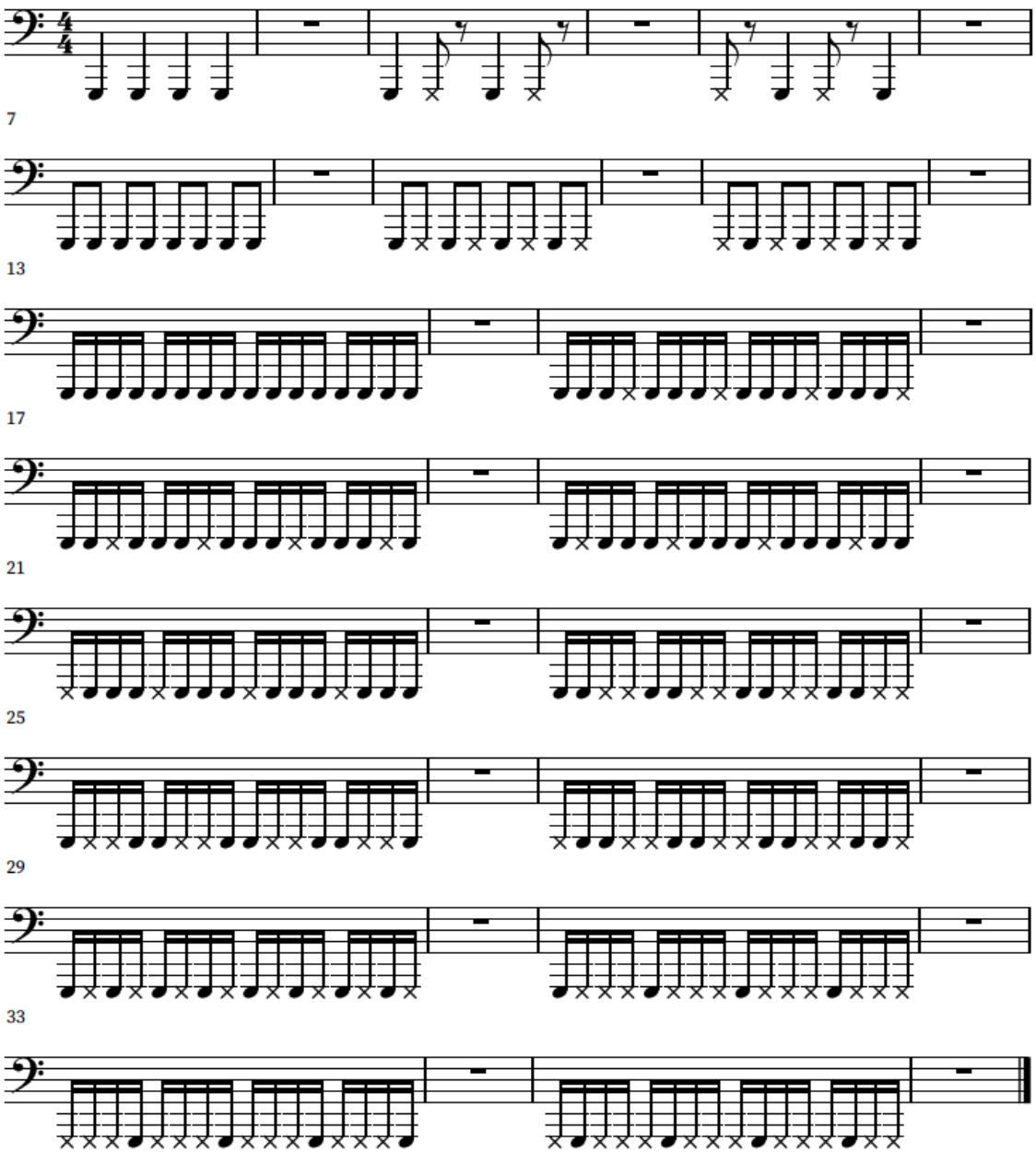
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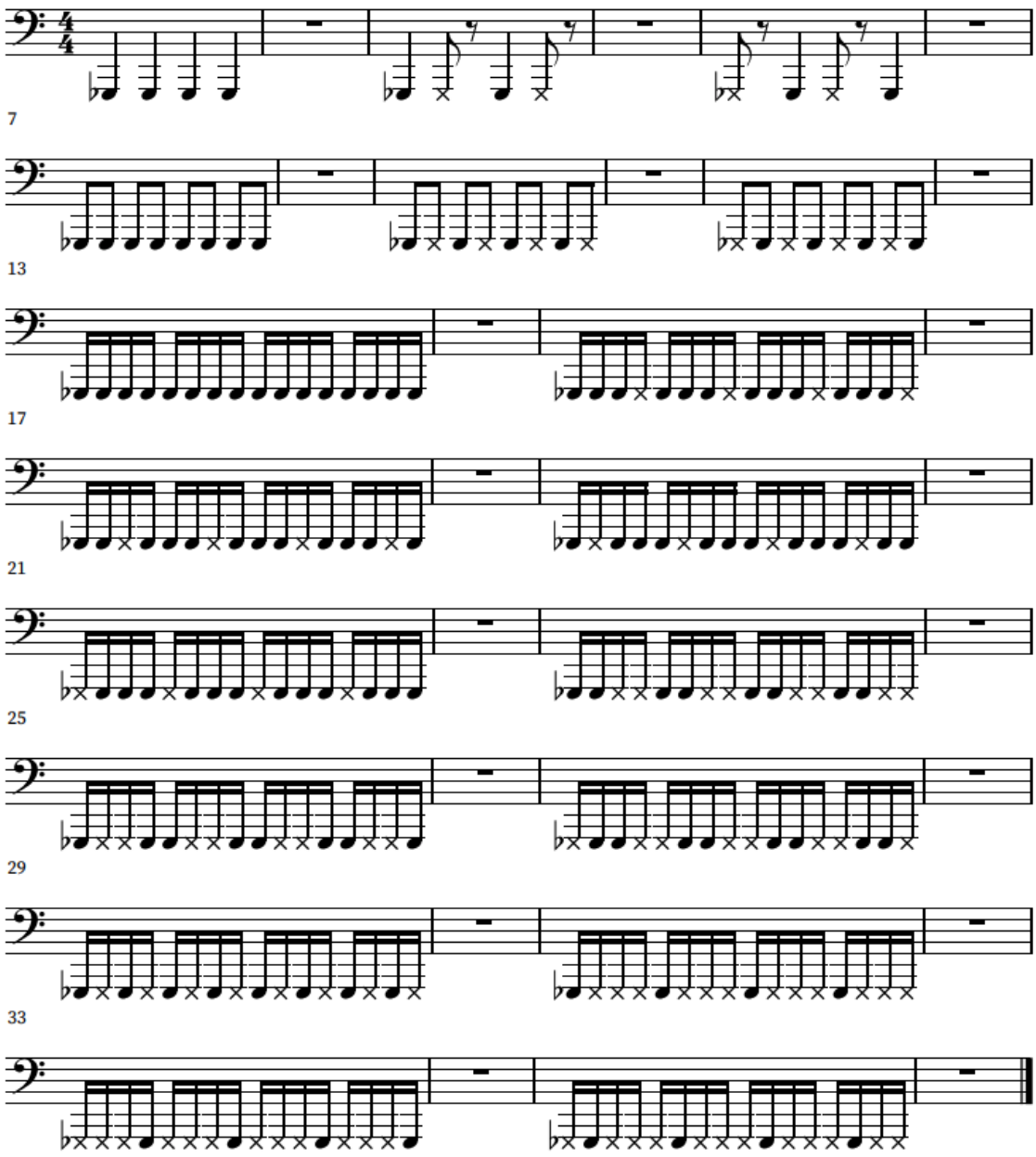
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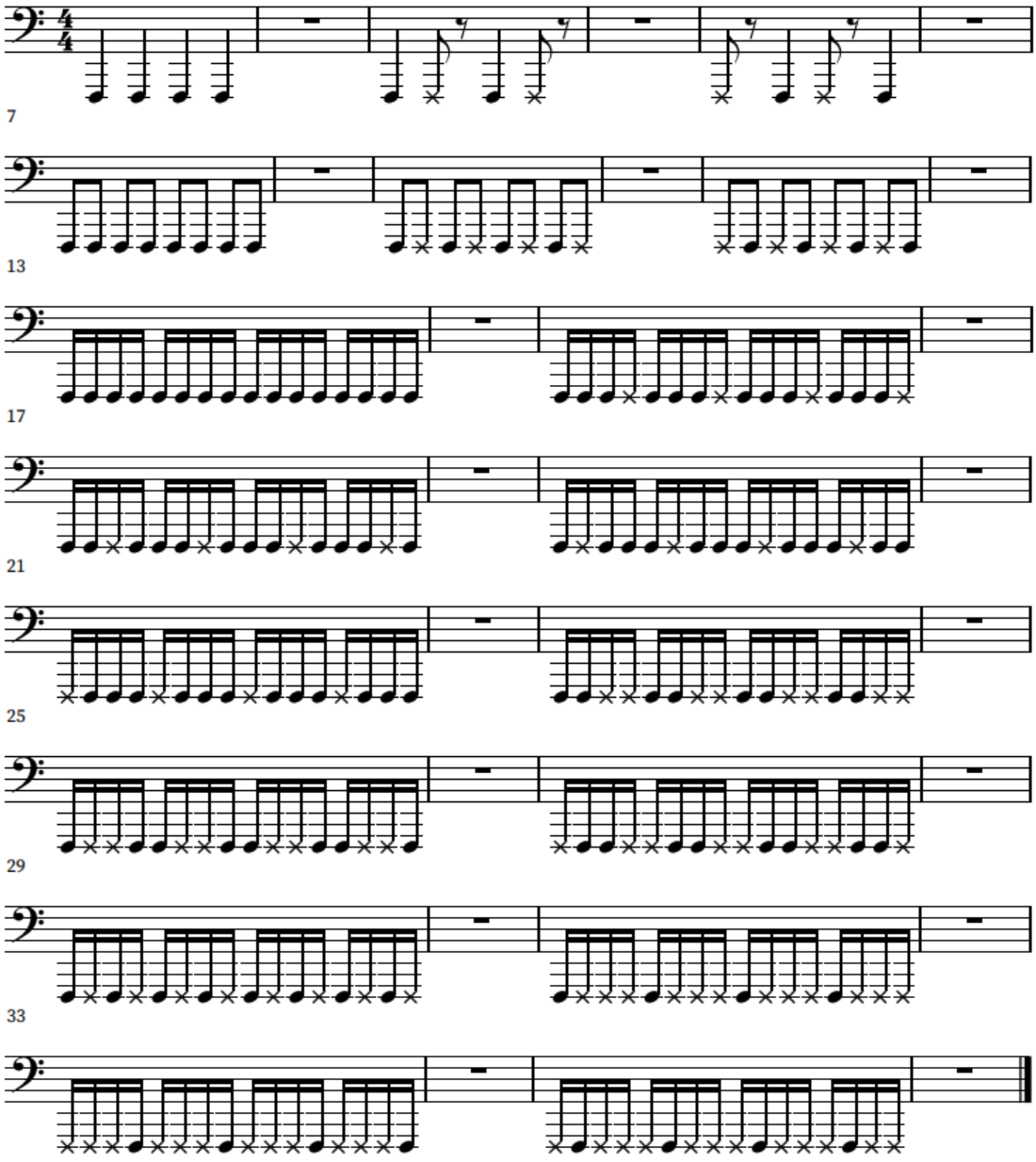
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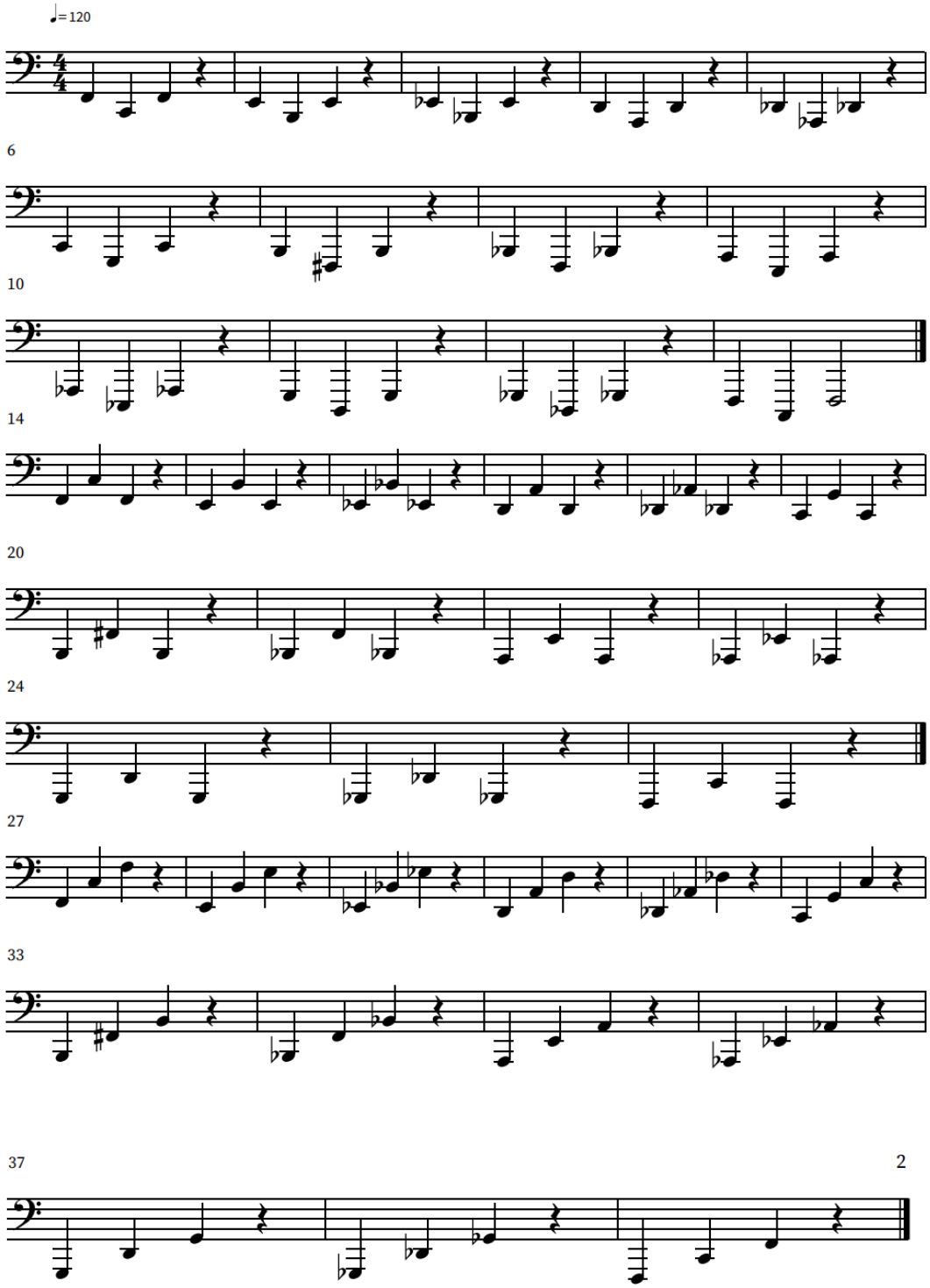
Part 3: Learning Harmonic Structure and Patterns

The purpose of these harmonic exercises is to begin to associate note relationships with muscle memory. The bass is tuned in fourths, allowing for patterns to be applied across the instrument in all keys. The tuba has unique patterns depending on the key center, therefore the tubist must be aware of many different patterns. These patterns should be familiar musically as well as on the instrument itself. Practice these patterns with the articulations learned in earlier lessons.

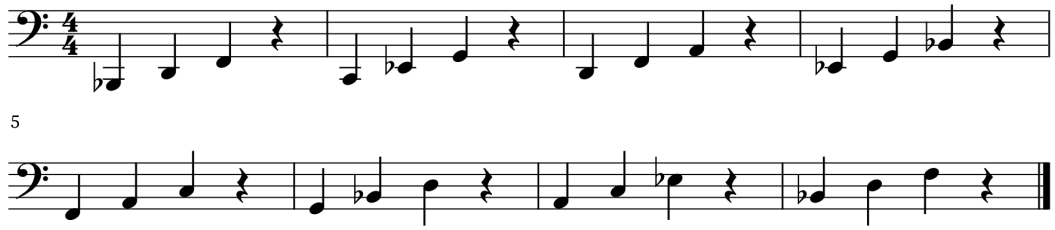
I-V-I Patterns

Exercise 3a. (Demonstration video included)



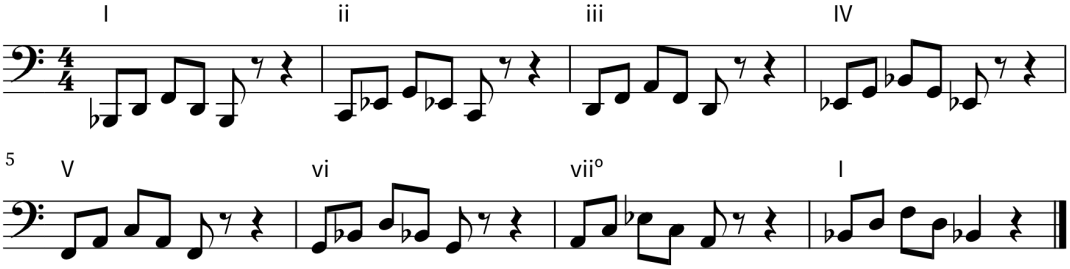
Exercise 3b. (Demonstration video included)

Outline the basic chord tone triads. Memorize the fingering patterns, play in all keys. Practice in the varying articulations discussed in earlier studies.



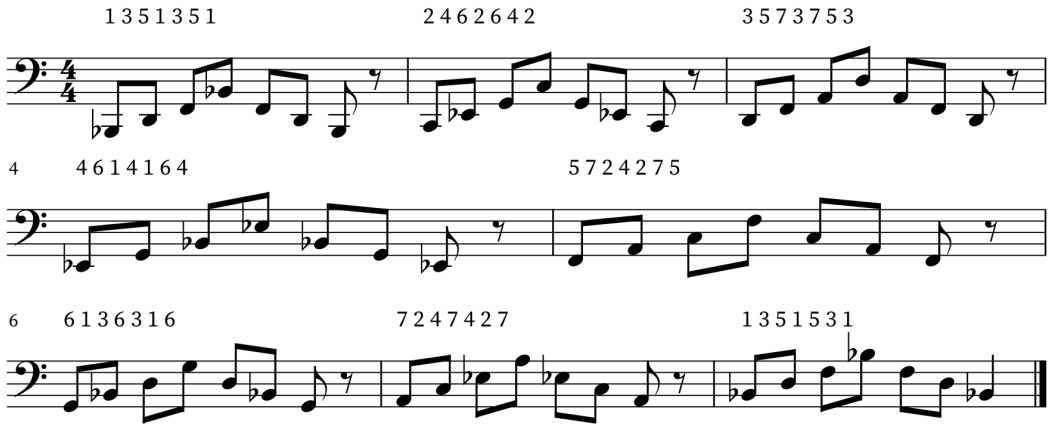
Exercise 3c.

Think of the harmonic relationships in diatonic triad outlines. This next exercise is written in a way for the player to memorize and the notes that make up each diatonic triad. As familiarity increases, try in every key. Follow the chord symbols:

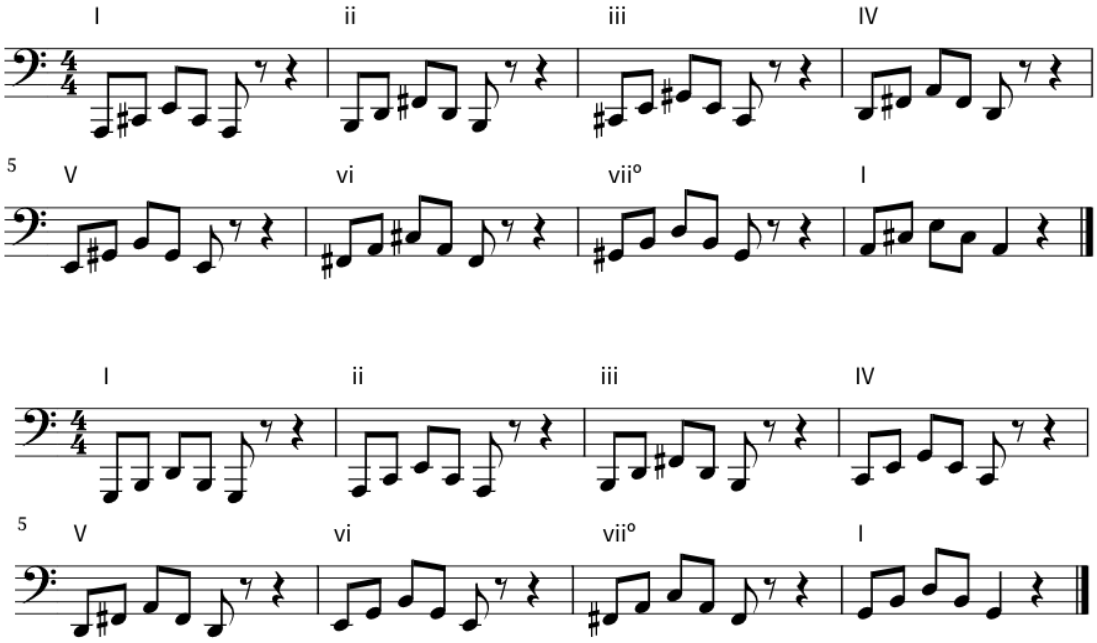


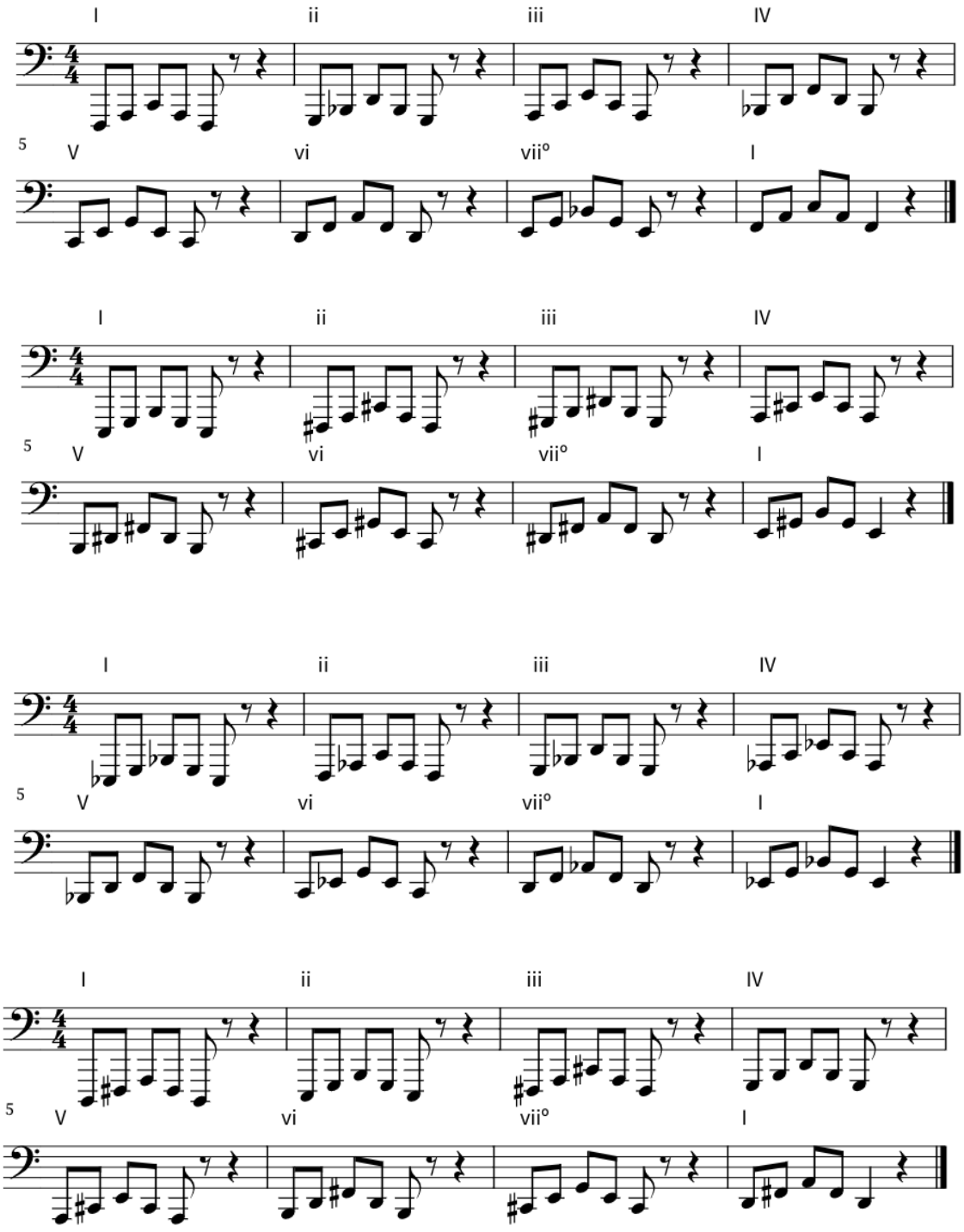
Start to think about the notes in each diatonic chord tone relationship as scale degrees, or numbers. This will allow you to better know where each scale degree in context of chords, rather than in scales. This will be very helpful later in improvising and creating basslines when considering voice leading.

Exercise 3d.



Play in all keys:

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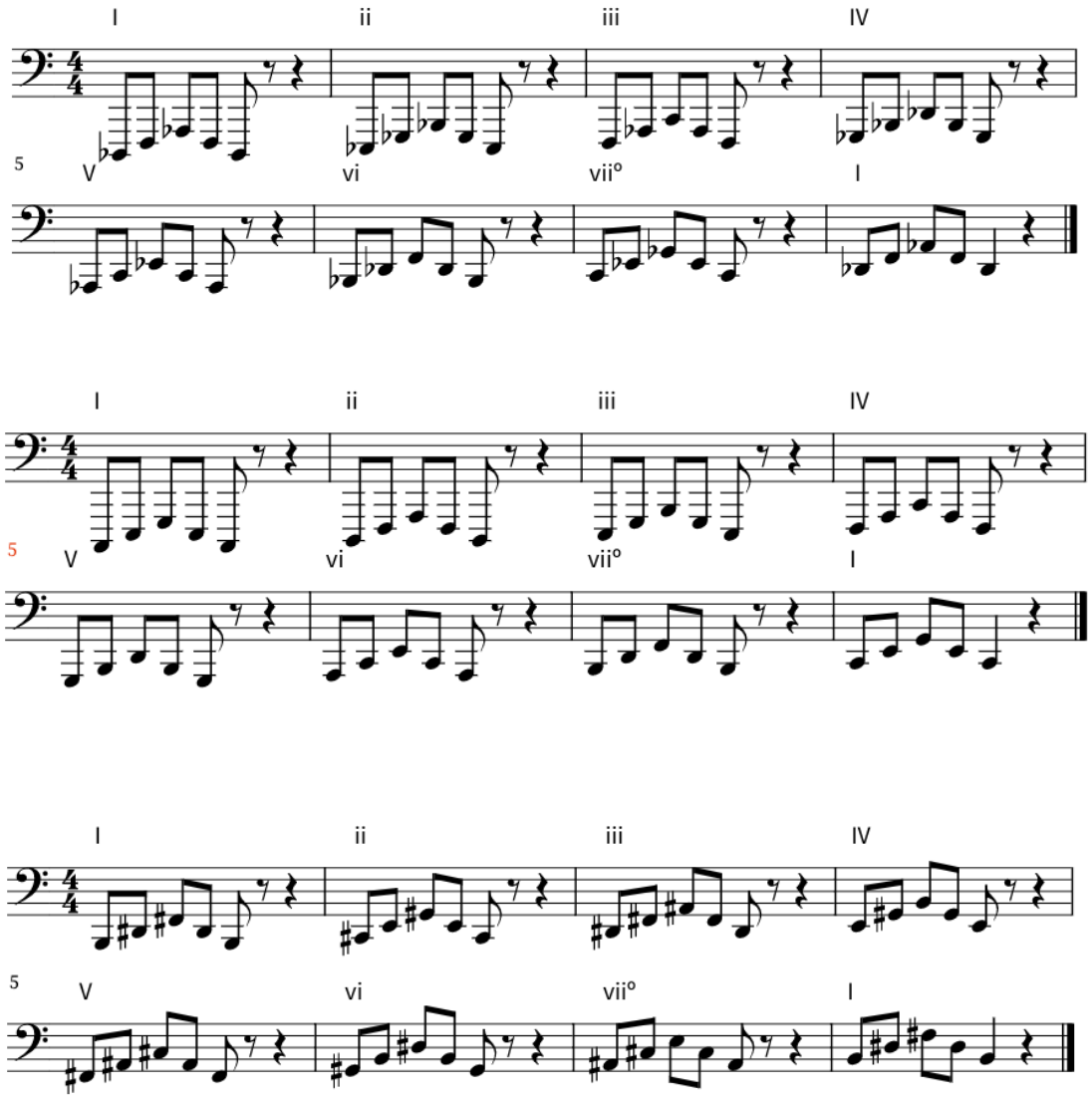
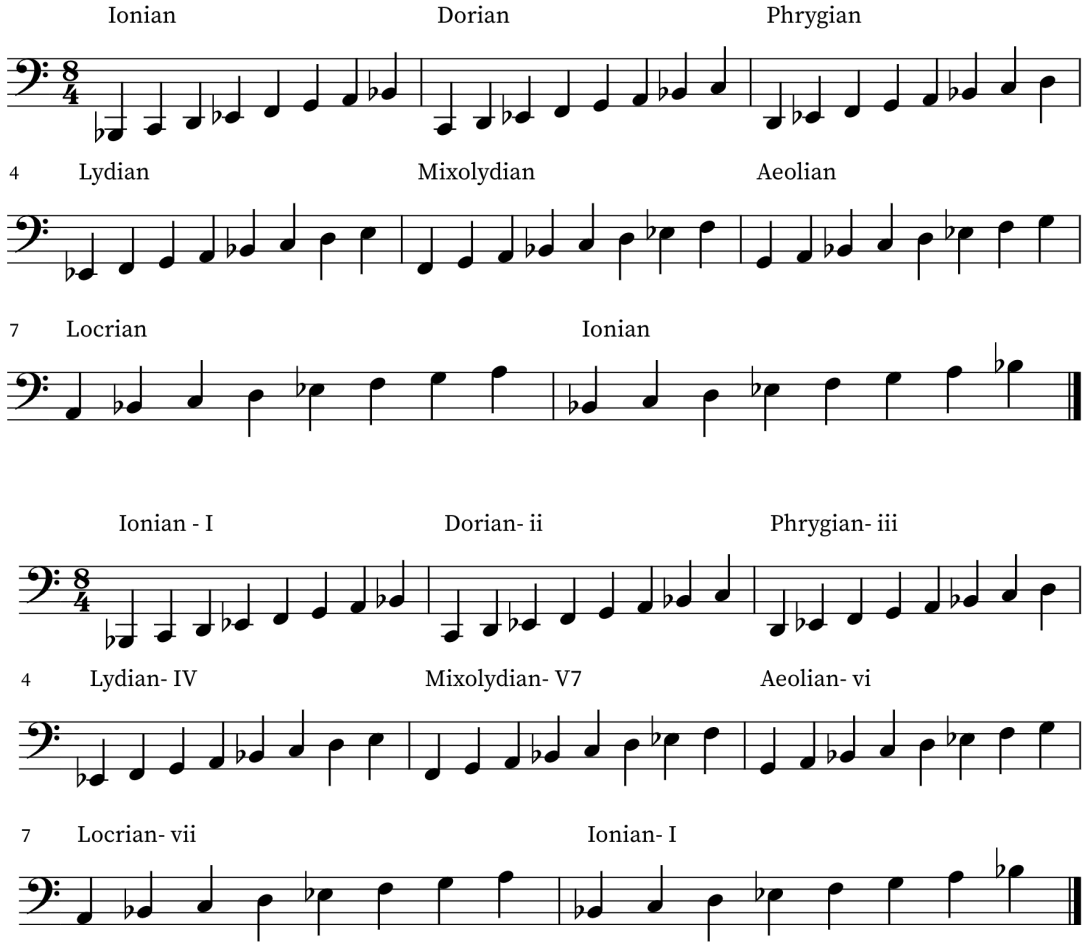
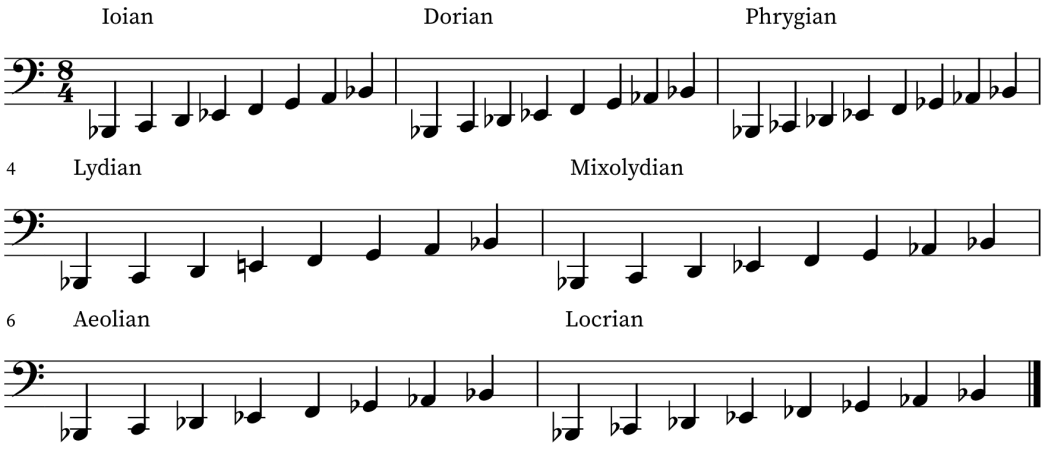


Play through the modes starting on each scale degree, using the breathing techniques discussed in Chapter 1. Then play through each of the modes starting on the same note. Think of the modes as the relationship between scale degrees rather than in the context of a key center.

Exercise 3e. Modes



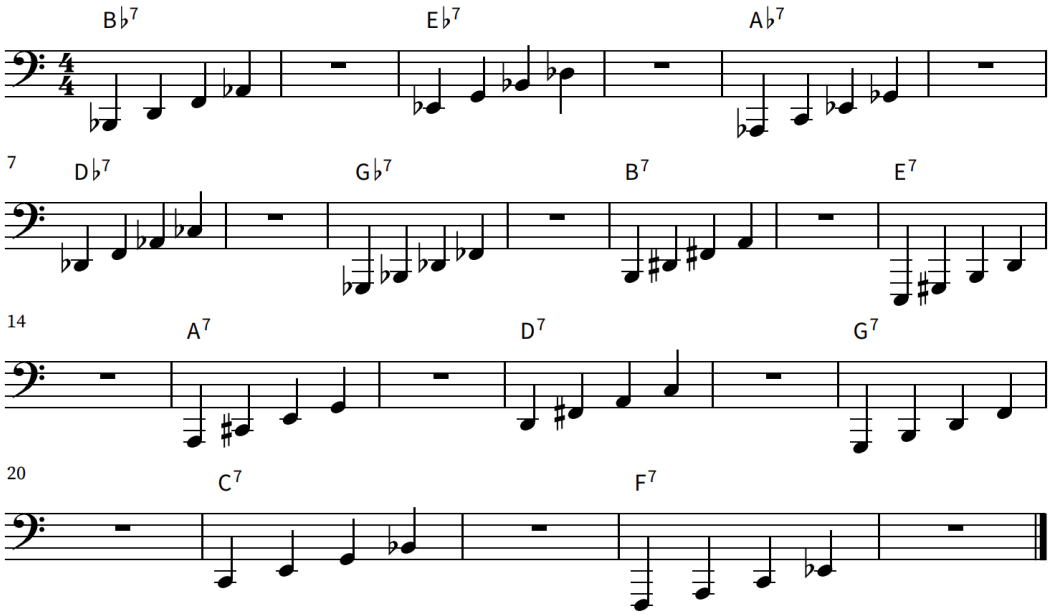
An important aspect for learning modes is not only learning them in relation to diatonic key centers, but also as the relation between half and whole steps. Practice the modes beginning on the same starting note and memorize the stepwise motion between each pitch.



Dominant 7 chord outlines

Dominant 7 chords are frequently used in jazz and more modern genres of music. Knowing how each of these chords works harmonically and as well on the instrument will provide a foundation for any playing situation. Play through each of these arpeggiated dominant seventh chords, and breathe for four beats on the whole rest. Getting a full, 4 beat breath during the rest measure will allow focus on the music during the playing portion. Play this exercise with different articulations, and with the metronome. Memorize the patterns of these outlines.

Exercise 3f.



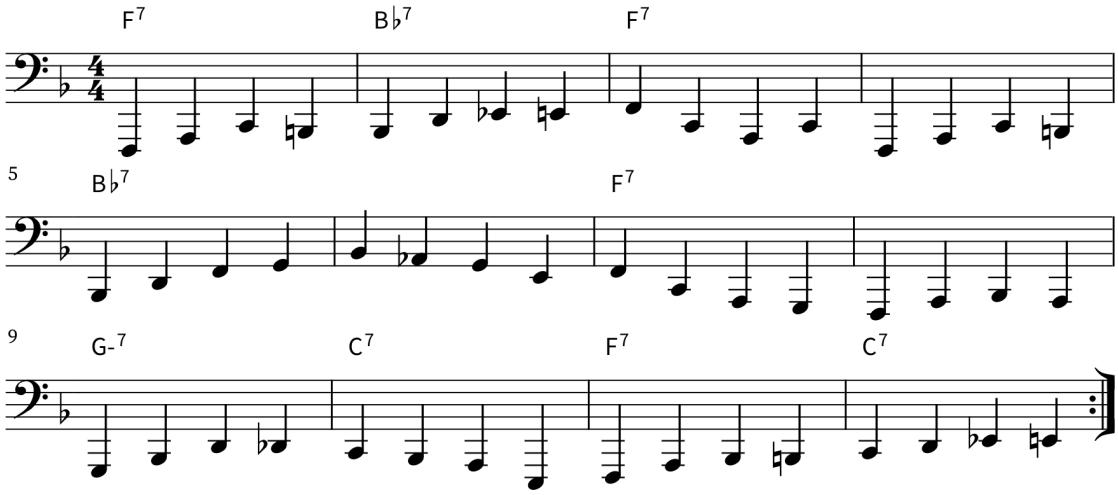
As with triads, we can think of the relationships between the notes of each dominant 7th chord, 1 3 5 b7.

Part 4: Combining Articulation and Rhythmic Studies

The approach to rhythm and style can vary depending on the genre. This section will feature basic rhythmic figures featured in various genres including jazz, funk, rock, and Latin.

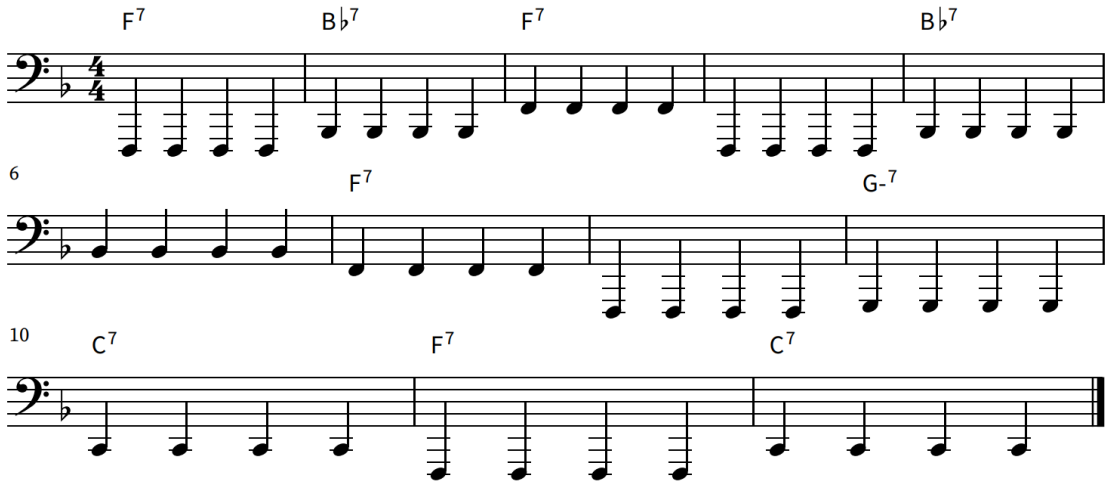
Here is an example of a 12-bar Jazz Blues walking bass line:

Exercise 4a. (Video demonstration on bass)



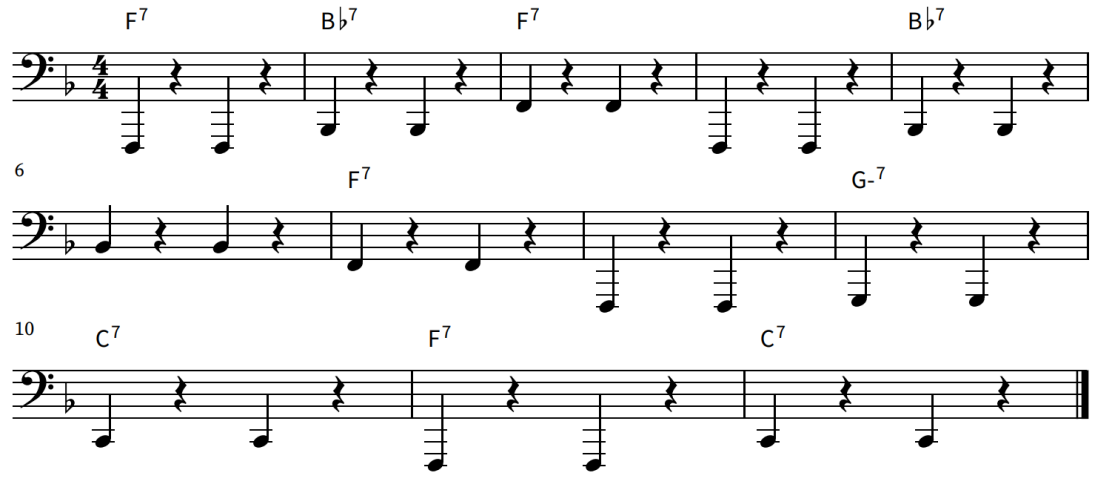
Applying the decaying note style, as well as the “Breathing Bass Line” exercises included earlier in the method will develop an evenness to each note, even when having to breathe. To start, break down the bassline into just root notes to master the style of articulation and decay.

Exercise 4b. (Video demonstration included)



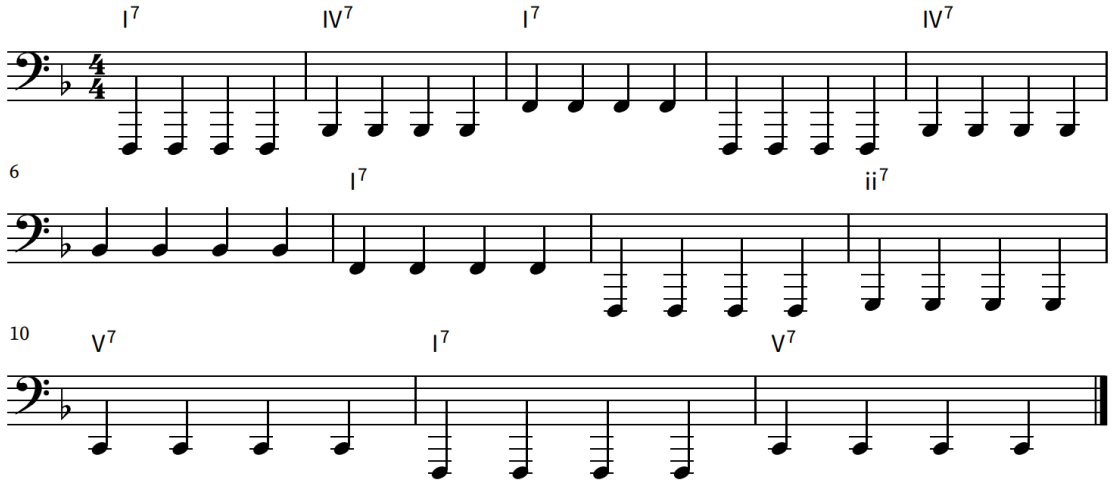
To break it down even further, we can move to a 2 beat feel, with the same chord progression. This style of bassline is also very important in traditional jazz (refer to recordings by Sam Pilafian/Travelin' Light outlined in the discography).

Exercise 4c. (Video demonstration included)



When working on these exercises, begin to notice the harmonic and tonal relationships between the chords, this will aid in applying it to other key centers. For example:

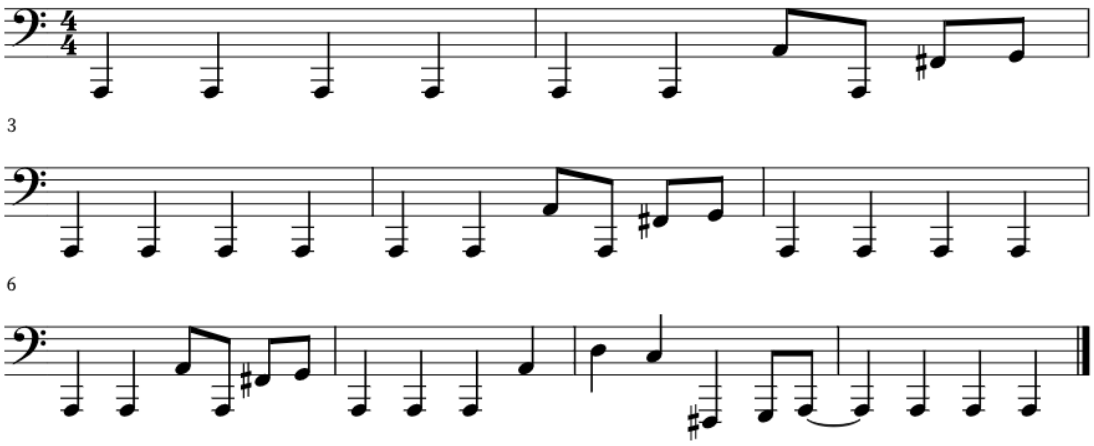
Exercise 4d. (Video demonstration included)



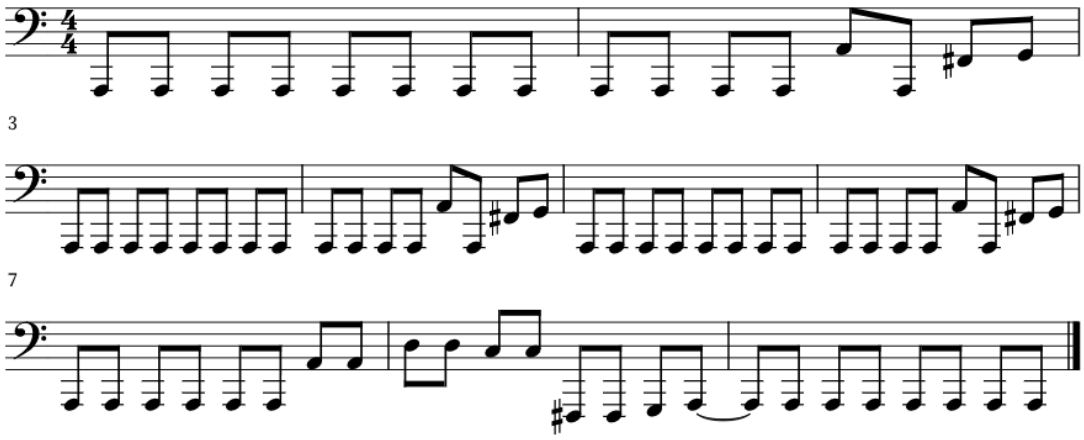
Rock Lines

This next set of exercises is based on the verse riff from the Journey song “Dead or Alive”. This song has elements of driving classic rock. For the tubist, practicing running even eighth notes is the key to this style of music. These exercises will be most closely related to the two finger style pizzicato electric bass guitar technique. The first exercise breaks down the riff into quarter notes with some eighth notes. First, practice getting the quarters perfectly in time, similar to the earlier walking bass line exercises from earlier lessons. Then, strive for the evenness of attack (with a single or double tongue). The goal tempo will be quarter note = 186.

Exercise 5a. (Video demonstration included)



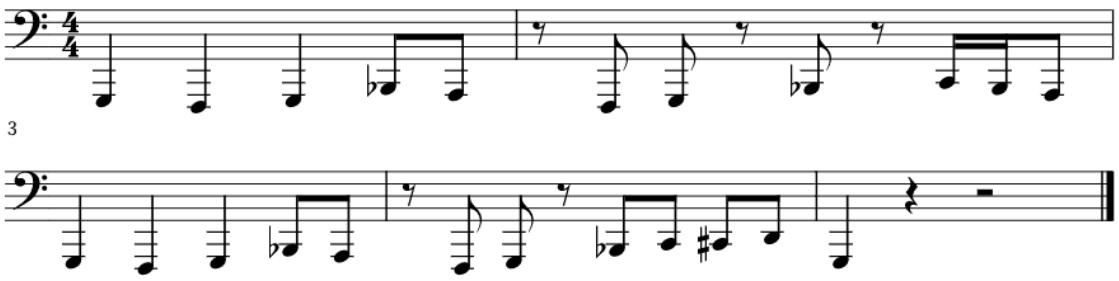
Exercise 5b. (Video demonstration on tuba and bass included)



Funk Lines

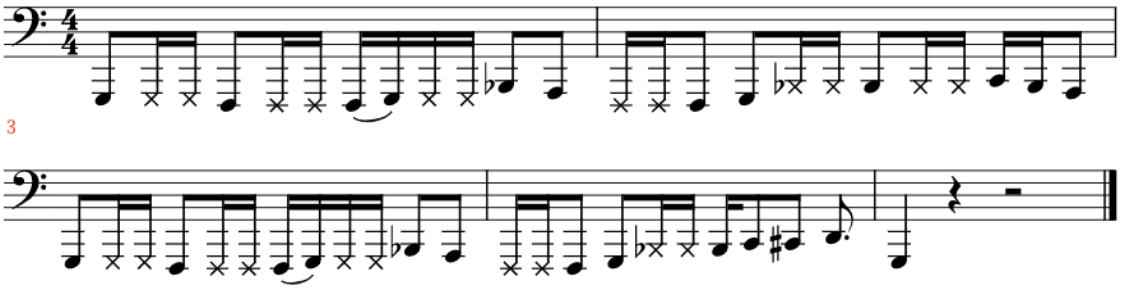
These exercises are based on the Red Hot Chili Peppers song “Charlie”. The bassist in the band, Flea, is highly influenced by funk, infusing it into the band’s rock sound. This bass line is a great example of those elements. The original recording is fingerstyle pizzicato with ghost notes. The first exercise again breaks down the bass line to its main rhythmic elements, and then adding ghost notes. The second exercise features the ghost notes and which pitch to play them on. The third exercise is a variation of this bass line as if it was played in a “slap” style, which usually has octave patterns with ghost notes. The basic rhythm is paramount in this style, with the ghost notes adding a subdivided feel. The ghost notes should not get in the way of the overall rhythmic drive.

Exercise 6a. (Video demonstration included)



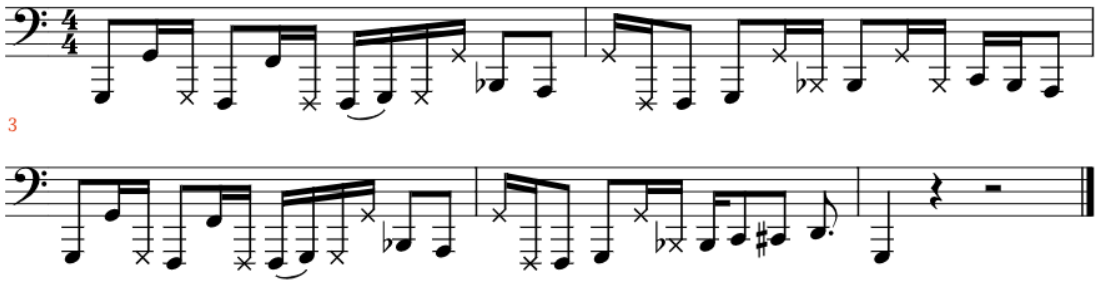
Exercise 6b. (Video demonstration included on bass and tuba)

Finger Style



Exercise 6c.

“Slap” Style (Video demonstration included)

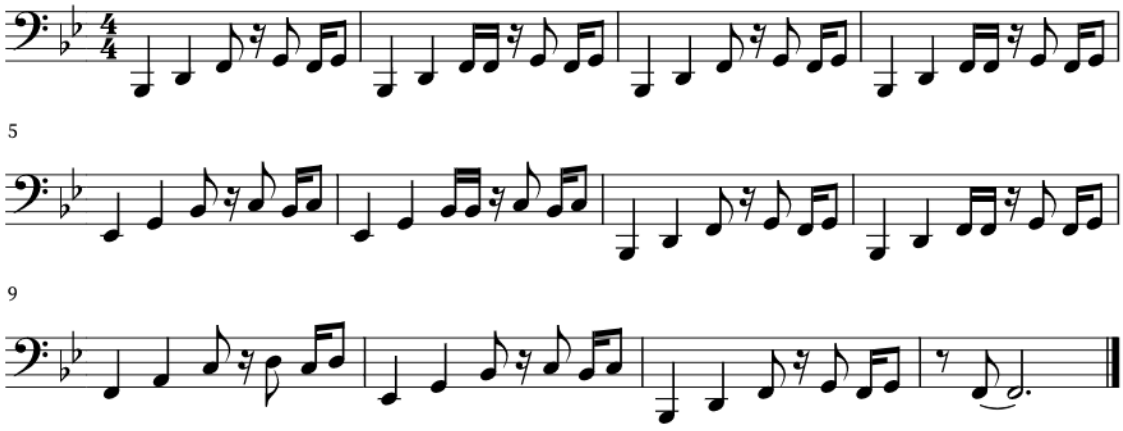


Because of the aggressive nature of this style of music, a brighter tone should be considered. The sound should emulate the bridge style sound of the electric bass, a tighter sound with quick accuracy. In the slap style, the octave jumps are almost always accented and dry on the higher note.

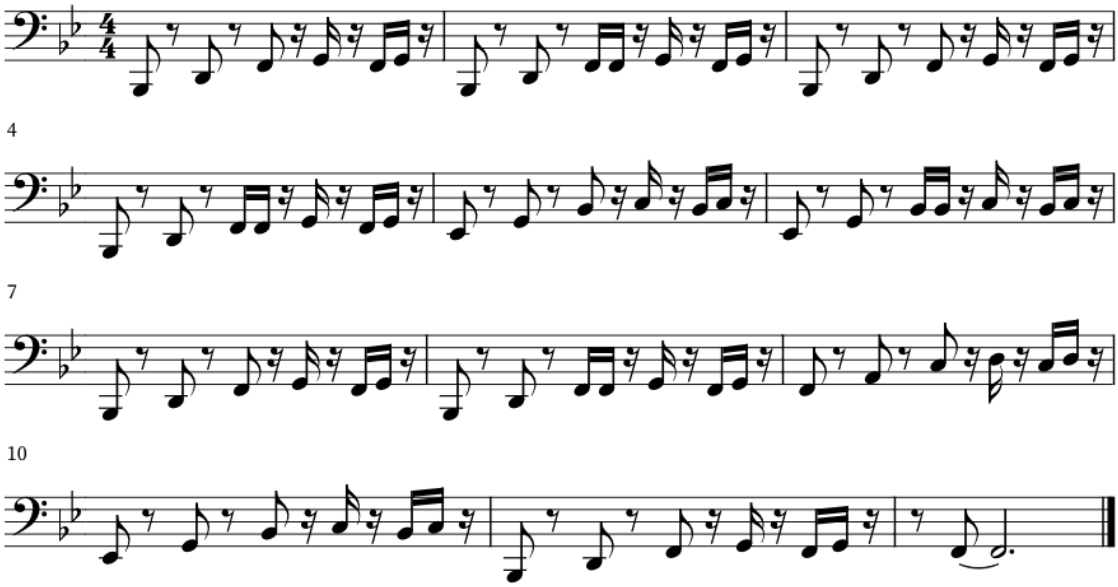
New Orleans Jazz Style

This bass line is inspired by The Dirty Dozen Brass Band's song "It's All Over Now". Though a tuba part originally, the style is very dry and closer to a bass sound than how a tubist unaware of the New Orleans tradition would approach this printed music. The second exercise in this unit is written how it exactly sounds versus how it would most likely be notated.

Exercise 7a. (Video demonstration included)

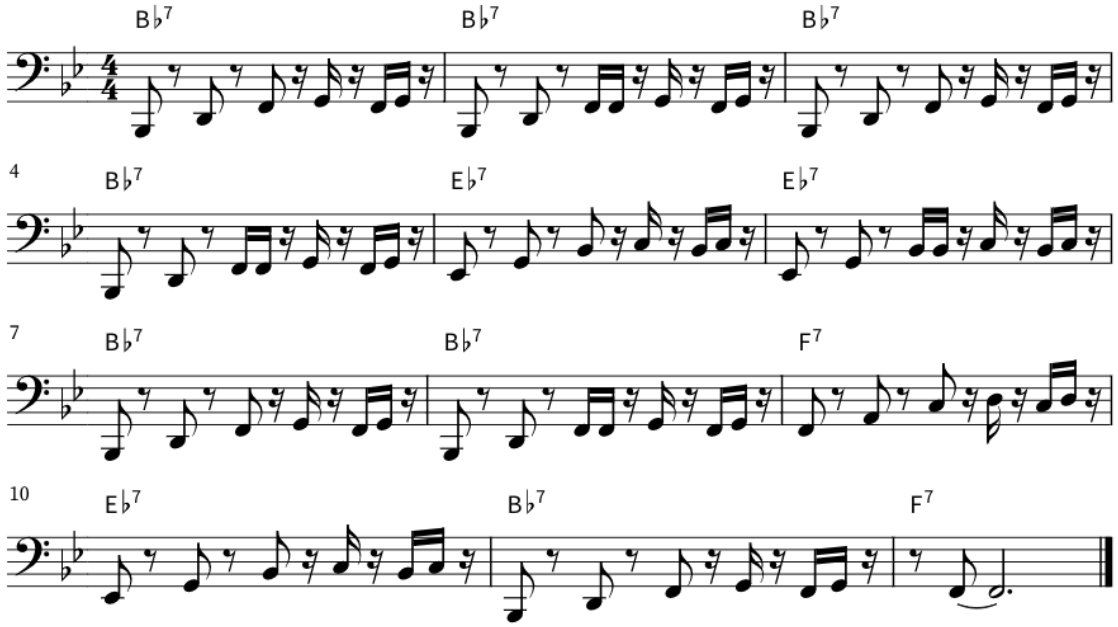


Exercise 7b.

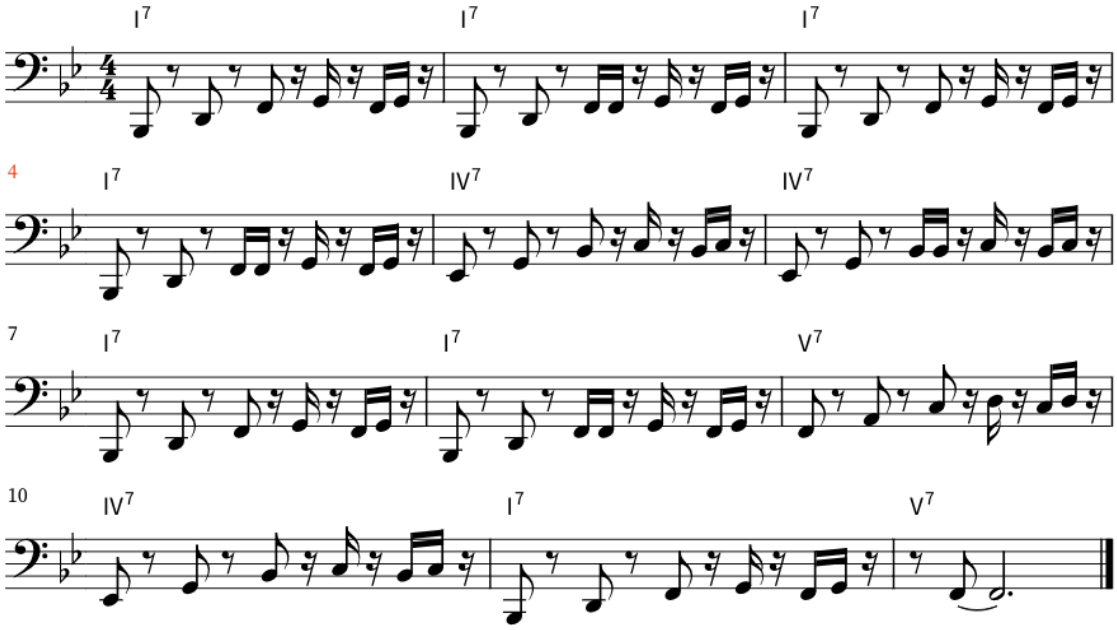


Be aware of the key center and chord changes. Start to think of the chord changes and their relations:

Exercise 7c.



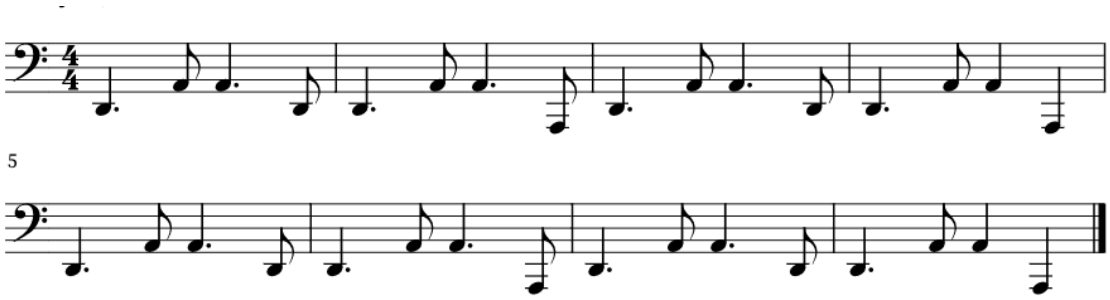
Exercise 7d.



Bossa Nova

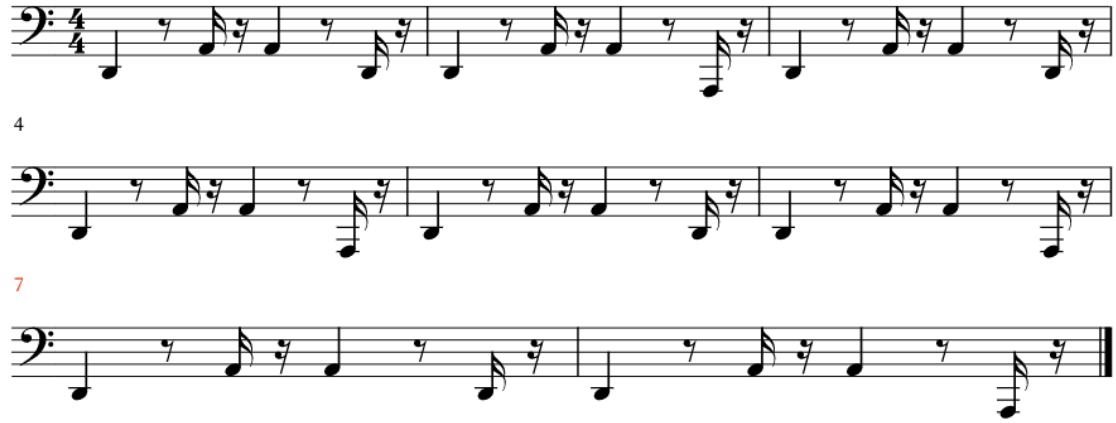
Bossa Nova style bass lines are a common rhythmic pattern in music. A bass part may look like this rhythm:

Exercise 8a. (Video demonstration included on both tuba and bass)



This is another genre where there is more to play than on the page. The space involved would sound something more like how this is written:

Exercise 9a.



This genre of music requires the neck position right hand technique on the electric bass guitar. The tubist should be aware, while there is space between the notes, the bass sound

is supportive and not aggressive. Muting in the right and left hand is a common technique for bassists in Bossa Nova. The rhythm is the driving aspect of this genre.

Chapter 6: CONCLUSION

Understanding the historical context, musical function, and physical application of style are all important aspects of a successful musical performance. A musician in the 21st century must be flexible with the skills they possess and master. Studying different playing styles across genres can also provide a fuller picture of performer's originally preferred musical tradition and language. By using the methodology in this book, a student can explore beyond the material covered and expand their musical palette.

Emulation is a key component of learning a music style. Musicians should immerse themselves in the musical environment they wish to master, even if in the beginning it is playing by ear. Structural components of the music will reveal themselves with continued practice and interaction with "native speakers" of the genre. Familiarity with the affordances of instruments (as discussed in Chapter 2) provides an empathetic pathway to understanding musical execution. A tubist who wishes to learn basslines would greatly benefit from learning to play the electric bass (an instrument that is much more affordable in comparison to the tuba), to experience how sound is made and how the instrument is organized.

Explore more advanced techniques on the electric bass, such as fretless bass technique, slides, and chord shapes. A new technique can be broken down into a step wise process, built upon the foundation covered in this method. Experimentation, playing along with recordings, and recording yourself will be the key components in improvement. With this approach, a tubist can expect to have the skills they need to work in any musical situation they may find themselves in.

SELECTED DISCOGRAPHY

Tubist	Album	Release Date	Label	Ensemble/Artist
Joseph, Kirk	My Feet Can't Fail Me Now	1984	Concord	Dirty Dozen Brass Band
	Live: Mardi Gras in Montreux	1985	Rounder	
	Voodoo	1989	Columbia	
	The New Orleans Album	1990	Columbia	
	Open Up: Whatcha Gonna Do for the Rest of Your Life?	1992	Columbia	
	Jelly	1993	Columbia	
	Ears to the Wall	1996	Mammoth	
	Buck Jump	1999	Mammoth	
	Another Joyous Occasion	2000	Widespread Records	
	Medicated Magic	2002	Ropeadope	
	We Got Robbed: Live in New Orleans	2004	Videoarts	
	Funeral for a Friend	2004	Ropeadope	
	What's Going On	2006	Shout Factory	
	Twenty Dozen	2012	Savoy	
Frazier, Phillip "Tuba Phil"	Here to Stay	1983	Arhoolie	Rebirth Brass Band
	Feel Like Funkin' It Up	1989	Rounder Select/ Rounder	
	Rebirth: Kickin' It Live	1991	Rounder	

			Select/ Rounder	
	Take It to the Street	1992	Rounder Select/ Rounder	
	Rollin’	1984	Rounder Select/ Rounder	
	From New Orleans	1995	Arhoolie	
	We Come to the Party	1997	Shanachie	
	Do Whatcha Wanna	1997	Mardi Gras Records	
	The Main Event: Live at the Maple Leaf	1999	Louisiana Red Hot Records	
	Hot Venom	2001	Mardi Gras	
	25th Anniversary	2008	Rebirth Brass Band	
	Rebirth of New Orleans	2011	Basin Street Records	
	Move Your Body	2014	Basin Street Records	
	Live at the New Orleans Jazz & Heritage Festival 2019	2019	Munck Music	
Perrine, Matt	Tom McDermott and His Jazz Hellions	1995	Jazzology	Tom McDermott and His Jazz Hellions
	New Orleans Nightcrawlers	1996	Rounder Select	New Orleans Nightcrawlers
	Funkicity	1997	Rounder Select	New Orleans Nightcrawlers
	The Grand Old Circus Band	1997	Laserlight	The Grand Old Circus Band

	All Kooked Out!	1998	Fog City Records	Stanton Moore
	Where Home Is	1999	Enja	Ray Anderson Pocket Brass Band
	Louisianthology	1999	STR Digital Records	Tom McDermott
	Greyhound Afternoons	2000	TVT	Royal Fingerbowl
	New Orleans Trumpet	2000	Summit Records	Kevin Clark
	Funky New Orleanians	2001	Storyville	Funky New Orleanians
	Heaven on a Half Shell	2001	Orchard	Jeff Naideau
	Home	2001	Binky Records	Mike West
	Live at Cafe Bopa	2001	Orchard	WonderBrass
	Live at the Old Point	2001	Bonerama	Bonerama
	Piano Face	2002	Rabadash Records	John Autin
	Vidacovich	2002	Paw Maw Music	Johnny Vidacovich
	Lovebites	2003	Traumton	Erika Stucky
	New South	2003	Squirrel/ Binky	Mike West
	Ragtime Gal	2003	Bluesette Records	Mary Flower
	Super Great Music for Modern Lovers	2003	Corrugated	The Tin Men
	Bywater Dance	2005	Yellow Dog Records	Mary Flower
	The Joys of New Orleans	2005	Arbors	Jackie Coon

			Records	
	Bringing It Home	2007	MTP Records	Bonerama
	Instrumental Breakdown	2007	Yellow Dog Records	Mary Flower
	Is It News	2007	Yep Roc	Doyle Bramhall
	Dance Like There's No Tomorrow	2008	Hyena Records	John Ellis
	Trombone Tribe	2009	Soundscape / Sunnyside Communications	Roswell Rudd
	American Standard	2010	Kismet Records	Dayna Kurtz
	Puppet Mischief	2010	Oblique Sound	John Ellis & Double Wide
	Horses and High Heels	2011	Naive	Marianne Faithfull
	All About Everything	2012	Boutte Works	John Boutte
	Sweet Chicago Suite	2012	Intuition	Ray Anderson Pocket Brass Band
	And the Great Ones	2013	Storyville	Ole "Fessor" Lindgreen
	Something New	2018	Linus	Michael Kaeshammer
Pilafian, J. Samuel	Travelin' Light	1991	Telarc Distribution	
	Makin' Whoopee	1992	Telarc Distribution	Sam Pilafian and Frank Vignola
	Gettin It Together	1995	Summit	Travelin Light

			Records	
	Meltdown	1998	Summit Records	The Pilafian Project
Rojas, Marcus	Too Much Sugar For a Dime	1993	Axiom Records	Very Very Circus
	Carry the Day	1994	Columbia	Henry Threadgill
	David Byrne	1994	Sire	David Byrne
	Mountain Passages	2005	Koch	Dave Douglas
	Sonic Tonic	2009	Mack Avenue	Ron Blake
	Brownstone	2007	Blue Jazz	Jeff Newell
	Faith, Trust, and Pixie Dust	2008	PS Classics	Kerry Butler
	Declaration	2009	Cam Jazz	Donny McCaslin
	Spirit Moves	2009	Greenleaf Music	Dave Douglas Brass Ecstasy
	Wicked Knee	2011	Amulet	Billy Martin/Wicked Knee
	United Front: Brass Ecstasy at Newport	2011	Greenleaf Music	Dave Douglas Brass Ecstasy
	Joe Fielder's Big Sackbut	2012	Yellow Sound	Joe Fielder
	Love This Giant	2012	4AD	David Vyrne, St. Vincent
	Older Than My Man Now	2012	2nd Story Sound/ Storysound Records	Loudon Wainwirght III
	Heels Over Head	2013	Amulet	Billy Martin/Wicked Knee

	Introducing Musette Explosion	2014	Aviary	Musette Explosion
	Brass Bang!	2015	Bonsai/Tuck Music	Steven Bernstein / Paolo Fresu / Gianluca Petrella / Marcus Rojas
	5	2019	Hip-Bone Music	Michael Davis
Sass, Jon	Faces-Live	1994	ATS Records	Heavy Tuba & Jon Sass
	Sagenhalf	1998	ATS Records	Heavy Tuba & Jon Sass
	At Montreaux Jazz Festival	2000	ATS Records	Heavy Tuba & Jon Sass
	Sassified	2005	ATS Records	Jon Sass
	Breeze of Life	2017	ATS Records	Jon Sass' SoulTuba Band
Stewart, Bob	Happy Just To Be Like I Am	1971	Columbia	Taj Mahal
	Crystals	1974	UMG	Sam Rivers
	Fast Last	1974	Muse	Lester Bowie
	Bush Baby	1977	Adelphi	Arthur Blythe
	Metamorphosis/The Grip	1977	India	Arthur Blythe
	Lenox Avenue Breakdown	1978	Columbia	Arthur Blythe
	Illusions	1980	Columbia	Arthur Blythe
	Elaborations	1982	Columbia	Arthur Blythe
	Rambler	1985	ECM	Bill Frisell
	I Only Have Eyes For You	1985	ECM	Lester Bowie's Brass Fantasy

	Avant Pop	1986	ECM	Lester Bowie's Brass Fantasy
	It Just So Happens	1987	ENJA	Ray Anderson
	Twilight Dreams	1987	Venture	Lester Bowie's Brass Fantasy
	First Line	1988	JMT	Bob Stewart
	Goin Home	1989	JMT	Bob Stewart
	Shades of Bud Powell	1988	JMT	Herb Robertson Brass Ensemble
	My Way	1990	DIW	Lester Bowie's Brass Fantasy
	Hipmotism	1991	Enja	Arthur Blythe
	Blue Bells	1992	CMP	Christof Lauer
	The Fire This Time	1993	In and Out	Lester Bowie's Brass Fantasy
	Then & Now	1996	Postcards	Bob Stewart
	Night Song	1997	Clarity Recordings	Arthur Blythe
	Odyssey of Funk & Popular Music, Vol 1	1999	Atlantic	Lester Bowie's Brass Fantasy
	The Sidewalks of New York: Tin Pan Alley	1999	Winter & Winter	Uri Caine
	Spirits in the Field	2000	Savant	Arthur Blythe Trio
	The Goldberg Variations	2000	Winter & Winter	Uri Caine
	Cherry	2001	Enja	Josh Roseman Unit
	Dear Louis	2001	Verve	Nicholas Payton

	Play It Cool	2001	Warner Brothers	Lea DeLaria
	Exhale	2003	Savant	Arthur Blythe
	When the Spirit Returns	2003	Dreyfus Records	Lester Bowie's Brass Fantasy
	Rainbow Country	2006	Dewerf	Chris Joris/Bob Stewart
	Work Songs and Other Spirituals	2008	Ray Anderson & Bob Stewart	Heavy Metal Duo

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