

RED MITCHELL:  
TUNING IN FIFTHS AND THE WALKING BASS LINE

STEPHEN THOMAS BRIGHT

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## **Abstract**

In 1966, Red Mitchell began tuning his bass in fifths to meet the demands of film composers who required a low C. Having played in fourths for approximately twenty years, Mitchell required only nine days to adapt to fifths tuning. This thesis examines the changes that fifths tuning had on his walking bass lines through the transcription, analysis and comparison of three blues from each of Mitchell's tuning periods. The analysis will probe changes in pitch, range, intervals and motives. Other chapters include a biography of Mitchell's career and one that discusses why he chose fifths. Included in this section are brief summaries of other bassists who have adopted fifths tuning. The chapter on bass line grammar discusses those elements that were affected when Mitchell changed tunings. The concluding chapter discusses the findings showing that tuning in fifths did have an effect on Red Mitchell's walking bass lines.

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## **Introduction**

Two bassists have left a lasting impression on my playing. Hearing Ray Brown for the first time made me want to play jazz. Classical bassist Joel Quarrington, perhaps the world's leading proponent of tuning the double bass in fifths inspired me to play orchestral music and ultimately to tune my double bass in fifths. In July of 2007, I attended the first of six, double-bass master classes taught each summer by Quarrington in Orford, Quebec. This is where I first heard his reasons for choosing this tuning. He needed the low C2 to meet the demands of orchestral repertoire but ultimately it was the improved intonation between the bass tuned in fifths and the other orchestral instruments that compelled Quarrington to play in fifths.

The first prominent bassist to pioneer tuning in fifths however was Red Mitchell, who began tuning in fifths in 1966. In *Cats of Any Color*, Mitchell recounts to author Gene Lees how he learned fifths tuning in nine days. That anyone could learn to play an instrument in a different tuning in nine days seemed incredible to me, yet Mitchell did it without affecting his job as principal bassist of the MGM Orchestra.

At that time, I was considering tuning in fifths, and wondered how the new tuning affected Mitchell's walking lines as well as my own. The purpose of this study is to examine Red Mitchell's bass lines and determine what effect tuning in fifths had on his walking bass lines.

I chose to examine only Mitchell's walking bass lines, not his solo playing. Walking bass lines in jazz are improvised, yet still follow certain predetermined conventions. These conventions provide a more consistent model than solo playing on which my research is based.

The focus of my research is to examine how Mitchell's walking bass lines were affected when he switched to fifths tuning. Transcriptions were made of blues bass lines with the same key of F major and similar tempi from Mitchell's fourths period and from his fifths period. The blues is also well represented in Mitchell's recorded repertoire throughout his entire career. The analysis will look for changes in melodic and harmonic intervals, pitch, open strings, range, and use of motives that can be attributed to playing in fifths.

In April 2011, I changed the tuning of my bass to fifths. My intention was not to duplicate Mitchell's process but to understand it and use it in my research. The relearning of the note positions on the fingerboard and reading music presented the greatest challenges.

Applying this new tuning to my research, I played through the three transcriptions in fifths tuning, then tuned the bass to fourths and played through the three transcriptions in fourths tuning. The purpose of this exercise was to make note of fingerings, left-hand positions, and use of open strings in both tunings.

I extrapolated and notated Mitchell's left hand positions by using photographs and film footage of his playing as a model as well as from my own experience as a bassist. My research found no film footage of Mitchell playing in fourths tuning therefore my notation of his left hand positions is based on photographs of Mitchell playing and from the bass pedagogy method books he referenced in his interview with Tricia McGarvin.

The double bass is a transposing instrument, meaning that the instrument sounds an octave lower than written. The notation of examples and transcriptions throughout my

analysis will show the bass lines as written in the bass clef and where Mitchell's lines go into the upper registers of the bass I have used the treble clef.

The notation of positions was borrowed from the concept presented in Dennis Masuzzo's book, *Playing the Double Bass Tuned in Fifths CGDA*. This concept uses tablature as a visual reference where positions are comparable to frets on a bass guitar. These findings were used to produce a chart that gives a visual representation of each performance.

The evidence shows consistencies and trends in the three blues in fifths tuning that do not appear in fourths tunings. This is due to the increase in the range of notes that fall under the left-hand in a single position. The rearrangement of notes and the new positions required to access them made Mitchell adopt new shifting strategies resulting in lines that encompassed more of the upper range of the bass fingerboard. This in turn expanded Mitchell's use of open strings to facilitate these shifts.

In addition to the analysis of Mitchell's work, I have included a biographical sketch of Mitchell's life that details specific events that impacted his musical development relevant to this thesis.

The chapter entitled *Reasons for Tuning in Fifths* is an examination of the events that led to his decision to retune the bass. The chapter also relates the experiences of other jazz and classical bassists who also tune in fifths. I have included a chapter called *Bass Line Grammar* that discusses the conventions used by jazz bassists in the creation of a walking line. This is intended to give the reader an understanding of what would be considered in the analysis of Mitchell's bass lines that could be affected by the change in tuning systems.

Most of the literature I found on Mitchell is biographical in nature, with an emphasis on his expatriation to Sweden. Several authors have written about Mitchell's melodic, horn-style soloing. John Goldsby, David Hunt, and William H. Grimes have contributed articles on Mitchell's playing, providing transcriptions and analyses of his unique style. Dr. Chris Budhan and Diane Mitchell have developed the website, [www.redmitchell.com](http://www.redmitchell.com), featuring recorded interviews with Mitchell, a comprehensive discography and transcriptions of Mitchell's solos by Budhan.

Although the majority of literature written about Mitchell is concerned with his soloing, the research presented here is the first to explore not only Mitchell's bass lines but also the subject of tuning the double bass in fifths and its effect on walking bass lines. It is hoped that the reader will gain an insight into Mitchell's remarkable ability as an accompanist and through his original, innovative approach to playing the double bass.

## Chapter I

### Biography

Keith Moore "Red" Mitchell was born on September 20, 1927 in New York City. Four years later the family moved from Brooklyn to Radburn, a mostly white town in New Jersey.<sup>1</sup> His father, William Davis Mitchell studied engineering in Hoboken and later became an executive at AT&T. As a boy, Mitchell shared his father's curiosity for how things worked and wanted to be an inventor. During this time Mitchell was also studying classical piano, which he did for nine years. His father, an opera enthusiast, had season tickets to the Metropolitan Opera in New York for over forty years. He studied singing and learned several languages in order to sing the operatic parts in the original language. His father's role in Mitchell's development would be important in two aspects. First, his father's love of music exposed Mitchell to music at an early age and supported Mitchell's interest with piano lessons. Secondly, his engineering and scientific background would impart a scientific approach in Mitchell, which, in later years, would ultimately influence Mitchell's decision to change tunings.<sup>2</sup>

Mitchell had nine years of piano lessons and four years of clarinet and alto saxophone lessons before his introduction to jazz. Mitchell's discovery of jazz came one day after hearing Count Basie on the radio which for him was an epiphany. "*I've gotta do something like that*" (Lees 1995). Mitchell would later cite the bassist he had heard on that recording, Walter Page, as one of his first influences.

At age sixteen, he and his younger brother Gordon "Whitey" began taking the twelve-mile bus trip to New York City to hear jazz in the clubs of 52<sup>nd</sup> Street and Harlem.

Mitchell quickly identified with the jazz community and appreciated the comradery he felt there, having described his hometown of Radburn as predominantly White Anglo Saxon Protestant and strange. *"When I started going into New York as a teenager, going to 52<sup>nd</sup> Street and to Harlem, meeting some of those giants I'd heard on the records, they made me feel more welcome there than I had felt in my home town"* (Lees 1995).

While still intent on becoming an inventor, Mitchell, with help from his father, received a four-year scholarship to Cornell University to study electrical engineering. Mitchell's first experience with playing jazz began with the piano. While at school, he would practice bebop on the piano and played clarinet in the marching band as well as his own trio. He went to Cornell for only one year, from 1945 to 1946, before being drafted into the army.

Mitchell was stationed overseas in Germany and played piano in the U.S. Army's big band that played jazz exclusively with weekly Sunday concerts. While in the band, Mitchell made the decision to take up the double bass and acquired his first bass in a trade for fifteen cartons of cigarettes.

Mitchell returned to New York from the service in 1947 and made the decision to become a professional jazz musician. At this point he had been playing bass only three months. With funding from the G.I. Bill and the full support of his parents, he attended the Julliard School of Music in New York where he studied with Frederick Zimmerman, but left after three months possibly because the school did not have a jazz program. Mitchell also cited some personal differences with Zimmerman.<sup>3</sup>

After leaving Julliard, Mitchell moved to New York to become part of the jazz community where he quickly garnered attention. Charlie Parker asked Mitchell to sit in

with his group one night and Mitchell was later approached by Miles Davis to rehearse with his group. This same group would go on to record *Birth of Cool*. Mitchell, however, did not end up on that recording date. Mitchell had his first steady gig in 1948 at the Onyx on 52<sup>nd</sup> Street, playing opposite Parker's quintet. He went on to work with Jackie Paris, Mundel Lowe, Charlie Ventura and Chubby Jackson before going on the road with Woody Herman in 1949.<sup>4</sup> The tour with Herman consisted mostly of one-night performances over thirteen months and took its toll on Mitchell's health. In 1951, he contracted tuberculosis and was forced to stop playing for a year to recuperate.

While recovering at home, Mitchell experimented with a new playing style. He lowered the bass's strings closer to the fingerboard and played with a softer legato style. With lower strings, the speed with which he could articulate notes increased. It also allowed him the ability to play articulations with the left hand.<sup>5</sup> He developed a two finger pizzicato technique allowing him to play faster but the lower string height decreased the volume and sacrificed some of the percussive nature of his bass sound. The new sound did not project very well in larger ensembles.

In 1952, Mitchell had relocated to the West coast and began playing with Red Norvo and Tal Farlow. His recent sickness persuaded him to limit the kind of rigorous touring he had done with Herman and he sought out work in the Los Angeles studios. His association with Norvo took him to Sweden with Billie Holiday.<sup>6</sup>

Mitchell struggled to balance his studio career with his jazz career. The studio scene was very competitive and when Mitchell refused to cancel a rehearsal with Harold Land, the studio contractor replaced him, costing Mitchell a TV series.

In 1955 Mitchell began a two-year association with bebop pianist Hampton Hawes

that was an overwhelming artistic success and that led to Mitchell and Hawes as being regarded as one of the premier bass and piano pairings in jazz (Hunt 2010). The scaled-down trio gave Mitchell the vehicle to further develop and hone his unique horn influenced solo style. In all, Mitchell would make eight records with the Hawes trio which included the *Hampton Hawes Trio Vol.1*, *This Is Hampton Hawes: The Trio Vol.2*, *Everybody Likes Hampton Hawes: The Trio Vol. 3* and the *All Night Sessions 1955*, which added guitarist Jim Hall.

Conductor and pianist André Previn employed Mitchell in his trio The André Previn Trio Jazz, and used him on eleven different recordings which included *Pal Joey* (1957), *André Previn's Trio Jazz: King Size!* 1958, *West Side Story* (1959), *Gigi* (1958). This was another successful trio in Mitchell's career and exemplifies a trend that saw Mitchell favouring smaller groups such as trios and duets.<sup>7</sup> Another well received group that Mitchell was part of was his quintet with tenor saxophonist Harold Land from 1961 to 1962 producing *Hear Ye!!!! Hear Ye!!!!* (1961). The brief collaboration with Land would result in a unique vision that partnered the string bass with trumpet and tenor saxophone, playing themes and melodies (Feather 1961).

In 1961 Mitchell led a recording entitled *Rejoice* where he played cello. On this recording, Mitchell played a fourths tuned cello where he is featured as a soloist. The bassist was Jimmy Bond (Discogs.com n.d.).

Mitchell found work in the TV and film studios of Los Angeles through a recommendation by guitarist Barney Kessel. In 1959 he became the principle bassist for the MGM orchestra, owing to his ability to play both electric and double bass and his familiarity with rock and roll.

In 1966 Red Mitchell changed the tuning of his bass from the standard fourths tuning to fifths. Henri Mancini had composed a chase scene for the *Peter Gunn Show*. He approached Mitchell and told him that the bass part went down to a low C. This would lead to Mitchell changing the tuning of his bass from fourths to fifths.

With so much of his time consumed by his studio work, Mitchell was beginning to become dissatisfied. He found himself having to turn down jazz dates with artists he wanted to play with in favour of keeping his studio career. The breaking point came when, after playing a six-week club date with Dizzy Gillespie, Mitchell had to turn down Gillespie's invitation to join the band and go on tour. "*...He wanted me to stay with him and tour. I heard myself telling him, 'Diz, I've got this big house.' That's what I said. To pay for the house I've got to stay in the studios. Suddenly I thought, how did I get here from there? This is what I've always wanted to do, play with Dizzy*" (Lees 1995).

When Red Mitchell decided to move to Sweden, there was more to the decision than the desire to play jazz. He was becoming increasingly dissatisfied with what he referred to as the institutionalism of violence and racism in America. Mitchell objected to the violent themes of the film and television shows that he played on. The turbulent political climate in America during the 1960s saw a number of events that left Mitchell deeply disturbed, such as the assassinations of John F. Kennedy, Robert Kennedy, and Martin Luther King. He became politically active with affiliations to the National Association for the Advancement of Colored People, Congress of Racial Equality, and the American Civil Liberties Union.

In 1968 Mitchell left the United States and settled in Stockholm, Sweden intent on pursuing the creative life style playing jazz that had become secondary to the studio work

he had left behind in Los Angeles. He started working almost immediately in Copenhagen with Phil Woods, then Lucky Thompson.

His playing opportunities increased and he found himself performing and recording with visiting American jazz musicians who were touring through Europe such as Dizzy Gillespie, Jim Hall, Jimmie Rowles, Wayne Marsh, Joe Beck, Clarke Terry, Hank Jones, Joe Pass and Roger Kellaway.

Mitchell was not the only musician to expatriate himself from the United States. Ed Thigpen, Ernie Wilkins, Kenny Drew, Sahib Shihib and Thad Jones had all moved to Sweden. Musician and author Bill Moody documents in his book, *The Jazz Exiles: American Musicians Abroad*, the stories and reasons so many American musicians took up residence outside the United States.<sup>8</sup> Many black musicians found that there was far less racial prejudice in Europe. Others like Mitchell sought a more agreeable political climate. Mitchell felt more appreciated in Sweden, commenting, "*Over here I was treated as an individual. I got grants, and on one TV show I was told I was a national treasure*" (Lees 1995).

Mitchell worked with many local Swedish artists Putte Wickman, Rune Carlsson, Nils Sandstrom, Thore Swanerud and Lars Jansson. Many of the records he played on were recorded in his own apartment in Stockholm. He toured Europe with his own group called Communication from 1975 to 1985. Although he was no longer living in the United States, he made yearly visits there, playing and recording. In 1987 Mitchell began a six-year collaboration with pianist Roger Kellaway recording eight CDs.

Guitarist Jim Hall became another important partner with Mitchell. Their association spanned a twenty-one year period that began in 1957 with Hall's *Jazz Guitar*.

The album simply titled *Jim Hall and Red Mitchell*, recorded at Sweet Basil in New York is considered one of their best, noted for the sensitive interplay between Hall and Mitchell. Hall is also included on *Rejoice*, Mitchell's debut on cello. He would also record and play with Barney Kessell, Tommy Flanagan, Phil Woods, Hank Jones Bill Mays, and Clark Terry.

Mitchell won two Swedish Grammy awards in 1986 and again in 1991, not only for his bass and piano playing, but also for his compositions and song lyrics. One of Mitchell's most interesting recordings is entitled *Declaration of Interdependence*. Recorded in 1988, Mitchell used multi-tracking to play all the instruments heard on the recording, bass, piano and vocals. In addition to his playing, Mitchell became involved with music education. He taught the Communication Seminar, which he presented three times at the annual convention for the International Society of Bassists.

In 1992, after twenty-four years abroad, Mitchell moved back to the United States. He had been learning of a renewed interest in jazz in America through his fellow musicians. There were also family reasons and the fact that racism was beginning to appear in Swedish society. Ten months after his return, Mitchell suffered a stroke and died on November 8, 1992.

## Chapter II

### Reasons For Tuning In Fifths

Mitchell's decision to change to fifths tuning came primarily out of necessity. The dominant concern was job related however the other rationales behind Mitchell's thinking included the superior resonance of the bass when tuned in fifths and the improved intonation with other string instruments.

The main impetus to change tuning of his bass came in 1966 while Mitchell was employed as principal bassist with the MGM Orchestra. Henri Mancini wrote a chase scene for the Peter Gunn Show that required a low  $C_2$  in the bass part. The lowest note on a standard double bass tuned in fourths is  $E_2$ .<sup>1</sup> The low  $C_2$  Mancini required is a major 3<sup>rd</sup> below  $E_2$ . Mitchell was obliged to accommodate Mancini to keep his position as the orchestra's principle bassist. To get the low  $C_2$ , Mitchell had three options, install an extension, acquire a five-string bass, or retune the bass to fifths.<sup>2</sup>

The first option required installing an extension on his bass. There are two kinds of extensions, fingered and mechanical and both allow the bassist to play pitches below the standard  $E_2$ , as low as  $C_2$  or  $B_1$  depending on the design. Extensions require modification to the instrument by adding a narrow fingerboard extension from the nut, over the peg box, and extending several inches past the end of the scroll. It requires some cutting and drilling to the instrument. A special designed, longer string extends to the end of the extension, over a pulley wheel back down to the E tuning mechanism. The string is clamped with a capo at the nut when an  $E_2$  is required. To access the notes below  $E_2$  on a fingered extension, the bassist must reach up, release the capo and finger

the note, and do so without the comfort of the neck. Afterwards, if a low  $E_2$  is required, the bassist can play the  $E_2$  as a closed note or reset the capo, returning the bass to standard tuning. A shortcoming of this design is that the bassist may not have adequate time to release or engage the capo if there are not any pauses in bass part to permit this adjustment.

A mechanical extension consists of a telescoping tube with levers activated by pressing keys that close the string at specific points on the extension, thus eliminating the need for the bassist to extend his left hand above the nut in order to close the note. Both types of extensions require using a capo for the E and these were noisy according to Mitchell (Lees 1995). The damage and alterations that must be performed on a bass during installation can be a prohibitive factor for a bassist when deciding how to obtain a low  $C_2$ . The cost can also be an issue.<sup>3</sup> This approach did not interest Mitchell. He further rejected this solution stating it was not practical to use these lower pitches in walking lines or soloing (Lees 1995).

He dismissed the use of the five string bass with a low  $B_1$  string saying that the fifth string had a muting effect on the instrument (Clark 1980).

He chose fifths because it gave him the required low  $C_2$  and involved the least amount of modifications to the bass's setup. The bass's bridge and nut would require some minor filing to compensate for thickness of the low  $C_2$  string. Fifths tuning would also require a new set of strings that could be assembled from other existing strings that were readily available.<sup>4</sup> Fifths tuning also presented a logical solution to the intonation issues Mitchell felt existed between the basses and the other string sections. Having played alongside the other string families for close to ten years, Mitchell had ample

exposure to hear these differences. In an interview with Gene Lees, Mitchell asserts that every symphony orchestra has tuning issues. *"One day I'm going to write about this. One chapter will explain why some bass players and some cellists get along like some cats and some dogs. They could all get along fine, except they tune their instruments differently...The normal tuning today, which is causing this war between the bass players and all the other string players in the symphony orchestras – every symphony orchestra – is this difference in tuning "* (Lees 1995).

Mitchell had a keen sense of hearing even as a child. In the same interview with Lees he describes hearing violinist Jascha Heifitz on the radio and telling his father that the thirds were out of tune. His father would explain to him the differences between the tempered scale that he was familiar with and the natural scale that Heifitz was using (Lees 1995).

A further reason for tuning in fifths was the sound the bass exhibits in this tuning. Author Paul Brun, in *A New History Of The Double Bass* recounts a story of Mitchell's preliminary experimentation with tunings. *"Somebody gave him once an old cello, which he tuned in fourths so that he could play it like a double bass. The sound immediately dropped. He wondered if the opposite would happen if he took an instrument ordinarily tuned in fourths and tuned it in fifths. So one weekend he was spending with Gary Karr experimenting with different strings, he tried the other system of tuning. The minute he heard the sound of his bass tuned in fifths, he shouted, "This is it! This is the sound I've been looking for"* (Brun 2000).

The history of the double bass and its tunings is a broad subject and beyond the scope of this thesis, but there is historical evidence supporting the improved resonance of

a fifth's tuned bass.

Brun's research chronicles the development of the double bass with an historical survey on tunings, including a section on fifths tuning where the improved sonority of the bass in fifths was recognized as early as 1844. Brun names instrument makers Adolphe Sax and Gustav Bushman who built four string basses tuned in fifths. Italian bassist Isaia Billè referred to fifths tuning as "*more sonorous, ampler in its vibrations and more perfect in its didactic proceedings*" (Brun 2000).

London Symphony Orchestra's principal bassist Joel Quarrington is perhaps the world's leading proponent of tuning the bass in fifths. He came to fifths tuning, like Mitchell, primarily as the best solution to attain a low C without the use of extensions and the resulting damage to his valuable bass (Quarrington n.d.). Quarrington affirms Mitchell's assertion that intonation is improved when playing with other strings. "*The physics are different when you are in fifths because you are in the same groove as the rest of the string section. The bass in fourths is impossible to tune – if you make the fourths perfect, your low strings will be too flat and of course will not relate to the open strings of the other instruments*" (Quarrington n.d.).

Dennis Masuzzo has written a method book for playing the bass in fifths. In the preface he describes the noticeable difference in sound owing to the "*consonant overtone resonance of open strings and harmonics*", and that he heard a new clarity to the sound, "*the instrument resonated more warmly and naturally*" (Masuzzo 2004).

Paul Unger, assistant principle bassist with the Fort Worth Symphony Orchestra and freelance jazz bassist cites the acoustical superiority of the tuning stating, "*once I heard my bass in fifths, I realized that fifths tuning gives it a far superior tone and ampler*

*vibration...The notes project farther, and the pitch is clearer and more even in all registers. This is a result of fifths tuning producing a greater number of common overtones between the open strings and the way it allows the top plate of the instrument to vibrate"* (Unger 2011).

Bassist Silvio Dalla Torre makes similar claims about the bass's improved sound. Furthermore, Torre sought a scientific explanation to this phenomenon, enlisting sound engineer Carsten Storm to take an acoustic reading of Torre's bass tuned in fourths, then restring and tuned in fifths. Torre wanted to know if his perception of a more dynamic sonority could be proven scientifically. Torre lists only the conclusions of Storm's reading on his website, confirming his impression that the bass in fifths sounds superior to the same bass tuned in fourths (Dalla Torre n.d.).

Red Mitchell played in fourths tuning from 1947 to 1966 at which time he started playing in fifths. In 1966 he arranged for a nine-day break in his playing schedule with the intent of learning the new tuning. *"When I made the change in '66, I took my second wife and her son down to beach near San Diego and practiced for nine days around the clock over the sound of the surf. There's a motel there that goes out right over the surf"* (Lees 1995).

There is sufficient evidence to establish why Mitchell chose tuning his bass in fifths over the available choices as a solution to obtain the low C. In reference to how he learned the new system, Mitchell himself points to the cello as a model for his approach. He was already familiar with the instrument having recorded the album *Rejoice* in 1961, on which he played the cello, not as a rhythm section instrument, but in a melodic, solo capacity, although tuned in fourths. He also had access to the string players in the MGM

Orchestra. Mitchell would take advantage of this important resource. He made an arrangement with MGM cellist Fred Seykora to learn cello technique in exchange for bass lessons. Mitchell would use the cello as the basis in his approach to playing the bass in fifths. "*...there are all sorts of tricks and techniques used by cellists. When I made the switch to fifths, I got together with Fred Seykora...Fred and I got together everyday for a week at my house. He wanted to learn how to improvise...I wanted to learn how a cellist thinks with this fifth tuning*" (Lees 1995).

Mitchell had the desire to learn the instrument in fifths. The reaction to hearing his bass in fifths for the first time, as described by Brun, was an epiphany. Mitchell had already modified his bass set-up several times suggesting that he was willing to change and adapt his playing style, technique and now, the tuning of his bass.

## Chapter III

### Bass Line Grammar

The left hand position conventions used in my analysis had to be applicable to fourths or fifths tuning and therefore do not refer to specific pitches on the fingerboard. Instead, the positions will indicate increments of one semitone, referenced to the open strings in either tuning. Table 11 shows fingerboard positions for both tunings. Furthermore, the numerals used will signify a position that spans a whole tone between the first finger and the fourth finger, with the second finger between them, dividing the whole tone into two semitones. The third finger will not be used until position 10.<sup>1</sup>

For the purposes of demonstration, I will use the D string as it is common to both tunings. In the fingerboard layout diagrams, I have borrowed the idea of identifying these semitone units with a line, similar to a fret on an electric bass guitar. The first position on the D string would be an  $E\flat_3$ , one semitone up in pitch from the open  $D_3$ . With the first finger on the  $E\flat_3$ , the second finger plays the  $E\sharp_3$  and the fourth finger plays the  $F_3$ .

To understand how the creation of a walking bass line is perceived in the mind of a bassist, it is necessary to know how the bassist perceives their role in the creation of that line. One of the conventions that most bassists agree upon is that the primary role of a bassist is that of accompanist. A bassist will construct a walking bass line using a certain set of pre-determined parameters that fulfill rhythmic, harmonic and stylistic considerations. Bassists are almost unanimous in their use of the word *foundation* as defining their role as a bassist and their bass line within the context of a performance. The transcriptions of Red Mitchell's bass lines within the scope of this thesis are stylistically consistent, placing him in the bebop

and post bebop genres. The remaining two parameters, rhythm and harmony, will serve as the focus of this chapter.

A walking bass line generally consists of four quarter notes per bar. These quarter notes define the pulse, tempo and provide forward motion in the music. The tuning of the bass in fifths has no effect on the pulse within the line. Mitchell's time feel was unaffected by the tuning.

### **Rhythmic Elements In The Line**

The most basic unit of the walking line is the pulse. This is heard in the walking line as the quarter note. Another way to describe the pulse in jazz vernacular is time (Henderson n.d.).<sup>2</sup> The word *time* is commonly used in reference to a musician's groove or rhythmic consistency in maintaining tempo. Musicians are valued and judged by their ability to play time. One of the bass's primary roles is that of a time-keeper. Jim Stinnett takes the position that time is more important than the notes (Stinnett n.d.).

The walking bass line implies the same steady motion that one feels when a person is walking. There is a predominant use of 4/4 time in jazz and the walking bass line is characterized by four quarter notes per bar. A critical element of jazz is the swing feel. Although the walking line is expressed in quarter notes, the swing feel subdivides the quarter note into three equal subdivisions called triplets.

EXAMPLE 1. Triplet subdivisions of the quarternote.



The bassist plays the quarter notes with this implied swing feel. A pair of eighth notes in swing is interpreted and played as the first two notes of an eighth note triplet tied together for the first eighth and the last note of the triplet played as the second eighth. <sup>3</sup>

EXAMPLE 2. Eighth note expressed in swing feel.



Classical music makes a distinction between strong beats and weak beats within a measure of 4/4. Beats one and three are considered strong and are played with more emphasis than beats two and four, which are considered weak. In a jazz walking line however, all four beats are given equal rhythmic emphasis with regards to the pulse. It is this equality that gives the line its forward motion. Gunther Schuller refers to this as the "*democratization of rhythmic values*" (Schuller 1968). There exists in jazz, however, a parallel to the classical convention that gives importance to beats one and three. In a jazz bass line, these beats are considered harmonically stable, resting beats. Bass students are encouraged to play the root of the chord on beat one and another chord tone on beat three. Beats two and four are considered harmonically unstable, moving beats. A further interpretation of these terms is the concept of tension and release. Notes that are unstable or moving create tension and their resolution to the stable, resting beats provides release (Coolman 1990). Rhythmically, we get a model where beat two (unstable) wants to move to beat three (stable), and beat four (unstable) wants to move to beat one (stable).

The following models explain the different results when stable and moving harmonic and rhythmic elements are combined.

EXAMPLE 3. Stable and moving pitch models.

1. Stable beat + Stable pitch = Stable note
2. Stable beat + Moving pitch = Moving note
3. Moving beat + Stable pitch = Moving note
4. Moving beat + Moving pitch = Moving note

Consequently, the first model shows that the only way to attain stability in a walking line is with a stable pitch on a stable beat (Henderson n.d.).

The bassist adds rhythmic variety to the bass line to attain motion, variety and interest.

These articulations commonly take the form of eighth notes and eighth note triplets.

Furthermore, each statement of these articulations reinforces the swing subdivision.

Articulations in general, draw attention to the quarter note that follows them (Coolman

1990). The examples below were taken from transcriptions of Red Mitchell playing several different articulations.

EXAMPLE 4. Eighth notes. *Low and Inside*, m. 30.



EXAMPLE 5. Drop. *Low and Inside*, m. 138.



EXAMPLE 6. Skip note. *Stockholm Riff*, m. 97.



EXAMPLE 7. Delayed note. *Straight No Chaser*, m. 5.



EXAMPLE 8. Anticipation - *Triplin' Awhile*, mm. 156-157.



Examples 4 and 5 show two different articulations on beat four. Example 4 is an eighth note pair and is the most common rhythmic device played by bassists. The eighth note triplet on beat four of example 5 is called a drop. It is a series of eighth note triplets that descends towards a target note, in this case the C<sub>3</sub> on beat one. Placing these articulations on moving beats gives motion to the line and emphasis to the next quarter note, which in examples 4 and 5 is the C<sub>3</sub> on the down beat in the following measure. The technique of playing a drop is called a rake, denoting the right hand pizzicato technique where the plucking finger is pulled across the strings in a rake-like motion.

Example 6 is called a skip beat. It is notated with an x instead of the notehead to signify that the note is muted with the left hand so that the pitch of the note is not heard but the percussive articulation is maintained. The term ghost note is used in cases where even though the note is muted, the ear is able to subconsciously fill in the pitch. The rhythmic duration of ghost notes are maintained to preserve the flow and forward motion of the walking line.

In example 7, the B<sub>b</sub><sub>2</sub> is delayed by an eighth note. Example 8 shows the opposite where the B<sub>b</sub>7 chord on beat one is anticipated by an eighth note. Both examples are used to create tension in the line which is resolved once the quarter note rhythm is resumed.

## Harmonic Elements In The Line

The most basic elements that bassists use in the formation of their lines are derived from chord tones, scales and chromatic tones. Chord tones are the notes that define the chord. Most chords are triad-based. Jazz chords often use upper extensions to add colour and tension to the sound. Upper extensions are typically left out of the walking line although the bassist must be aware of them. A bassist's choice of what notes to play over a chord will usually default to notes that define root motion and the harmony of the chord.

The most effective way to support the harmony is playing the root, third and fifth of the harmony. In essence, the bassist spells the chord as a triad. Because jazz chords are so heavily seventh based, the chord spelling must be expanded to include the seventh.<sup>4</sup>

A chord-tone arpeggio is a horizontal representation of the chord and the most basic method of defining the harmony.

EXAMPLE 9. B $\flat$ 7 root position arpeggio. *Low and Inside*, m. 130.



In the above example, beats one and three are root and fifth. These notes define the root motion of the harmony. The third and seventh define the quality of the chord. A B $\flat$  root and F fifth can appear in many different chords including B $\flat$ 6, B $\flat$ m6, B $\flat$ 7, B $\flat$ m7, B $\flat$ maj7, and B $\flat$ minmaj7. Therefore the third and seventh are important notes for the bassist to use. A four note seventh chord arpeggio can be played in twenty-four different inversions.

A second major component of the walking line is the scale. The scalar approach involves building the walking line using the scale or mode that the harmony was originally derived from. The scalar line in example 10 is based on the F Mixolydian mode.

EXAMPLE 10. F7 descending scalar line. *Low and Inside*, m. 41.



The D<sub>3</sub> on beat three is not a chord tone but the motion and melody of the line define the F7 harmony.

EXAMPLE 11. Diatonic and chromatic scalar line. *Low and Inside*, mm. 103-104.

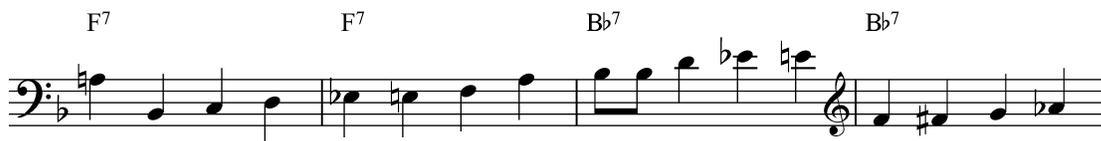


In example 11, Mitchell combines diatonic and chromatic scales. Scales give walking lines a different character than a chord-tone arpeggiated bass line. Scales express linear motion more effectively than arpeggios. Arpeggios express vertical representations of the harmony in a linear fashion.

The third essential ingredient in the walking line is chromatic passing tones. Returning to the discussion of stable and moving beats, chromatic notes can be used on beat two resolving to three and on beat four resolving over the bar to beat. Chromatic passing tones resolve by half-step, from above or below, to chord tones. These tones function as leading tones and create very strong resolution points. In example 12, Mitchell creates a flowing ascending line employing chromatic leading tones. In the first measure, the B<sub>2</sub> (beat two - unstable) resolves to C<sub>3</sub> (beat three - stable); the D<sub>3</sub> (beat four - unstable) resolves to Eb<sub>3</sub> in the second measure (beat one - stable); the E<sup>b</sup><sub>3</sub> (beat two - unstable) resolves to F<sub>3</sub> (beat three - stable).

The F<sub>3</sub> and A<sub>3</sub> on beats three and four create a very strong resolution point to the B $\flat$ <sub>3</sub> in the third measure as both F<sub>3</sub> and A<sub>3</sub> are harmonic tones and the A<sub>3</sub> resolves by semi-tone to the B $\flat$ <sub>3</sub>.

EXAMPLE 12. Chromatic passing tones. *Straight No Chaser*, mm. 255-258.



The resolution points shown in the preceding example appear on a larger scale in the form of a delayed resolution in example 13. This occurs when the bassist extends the current harmony over the barline and delays the resolution of the new chord change until the second, third or fourth beat of the bar.

EXAMPLE 13. Delayed resolution. *Straight No Chaser*, mm. 21-22.



In this example, Mitchell extends the G minor harmony over the bar with a prolongation of the Gm7 harmony, resolving chromatically from the D $\flat$ <sub>3</sub> on beat two to the C<sub>3</sub> on beat three.

There are many ways to combine the chordal, scalar and chromatic elements to create a functioning, supportive line. In the transcriptions of Red Mitchell's bass lines, he uses all three elements to great effect. He also contradicts many of the guidelines mentioned thus far. Because there are so many possibilities in an improvised walking line, a bassist will use their ears and musicality to imply the harmony in the line. When the bass line is heard within the larger context of the song with other instruments, the line will be heard as successful in

conveying the harmony, regardless of questionable note choices or any conventions that may have been broken.

There are additional elements within a bass line that require further discussion. In the analysis of a bass line there are terms that identify specific parts and functions within the line.

Each note in a walking bass line may be categorized as harmonic or nonharmonic. A nonharmonic tone is a note in the line that is not part of the harmony. In example 12, the  $B\flat_2$  on beat two of measure 251 and the  $E\flat_3$  on beat two of measure 252 are chromatic passing tones and are not part of the  $F7$  harmony. Similarly, the  $F\sharp_4$  and  $G\flat_4$  passing tones in measure 254 are not part of the  $B\flat 7$  harmony.

Passing tones are nonharmonic tones that occur in stepwise motion, up or down, between two chord tones and are diatonic or chromatic.

EXAMPLE 14. Diatonic and chromatic passing tones. *Low and Inside*, mm. 103-104.



In example 14, the  $B\flat_3$  on beat two in measure 103 is a diatonic passing tone between the  $A_3$  and  $C_4$ . In the next measure, the  $E\flat_4$  on beat two is a chromatic passing tone between the  $E\flat_4$  and the  $F_4$ .

Neighbour tones, like passing tones are diatonic or chromatic. A neighbour tone moves stepwise between two chord tones of the same pitch. An upper neighbour tone lies above the chord tones whereas a lower neighbour tone lies below the two chord tones.

Example 15. Diatonic neighbour tone. *Low and Inside*, m. 7.



Example 16. Chromatic neighbour tone. *Triplin' Awhile*, m. 10.



Cambiatas and escape tones both function to delay resolutions within the line. In the case of example 17, a cambiata, the G<sub>3</sub> delays the resolution of the E<sub>b</sub><sub>3</sub> on beat three to the F<sub>3</sub> on beat one of the next measure. The G<sub>3</sub> moves in the same direction as the resolution.<sup>4</sup>

EXAMPLE 17. Cambiata. *Blues the Most*, mm 167-168.



The escape tone in example 18 acts in a similar fashion, the exception being that the tone moves in a contrary motion to that of the resolution.<sup>5</sup>

EXAMPLE 18. Escape tone. *Blues the Most*, m. 174.



Closely related to the cambiata and escape tone is the appoggiatura in which the bass line leaps to a nonharmonic tone, then resolves to a chord tone. Example 19 is a diatonic appoggiatura where the D<sub>3</sub> on beat three resolves to C<sub>3</sub> on beat four. Example 20 illustrates a chromatic appoggiatura where the nonharmonic F<sub>3</sub><sup>#</sup> on beat three resolves to G<sub>3</sub> on beat four.

EXAMPLE 19. Diatonic appoggiatura. *Triplin' Awhile*, m. 37.



EXAMPLE 20. Chromatic appoggiatura. *Blues the Most*, m. 113.



A double stop is a two note chord played on the bass. It is unusual to play double stops within the context of a walking bass line on a bass tuned in fourths for several reasons. Firstly, the fingering and execution of consecutive double stops would be difficult at most tempos, and the harmonic colour of the stop would have limitations based on the chord changes. Perfect fourths and fifths stops span two adjacent strings but add limited harmonic colour.<sup>6</sup> Secondly, major and minor sixth-based stops span three strings and cause the left hand to play in awkward positions. However, these stops can become easier to play in thumb position. Major and minor tenths span four strings and put the average size left hand into difficult and unsustainable stretches.

A bass tuned in fifths has a definite advantage over a fourths tuned bass when it comes to certain double stops. The harmonic colour of the major and minor third, realized through their inversions, major and minor sixths, are easily playable. Major and minor sixths can be played easily between the first and third, or second and third fingers on two adjacent strings as demonstrated by Red Mitchell in example 21.

EXAMPLE 21. Double stops – major/minor sixths. *Straight No Chaser*, mm. 304-307.



Mitchell also plays major and minor tenths. These stops, on a fifth tuned bass, span three strings. They are not quite as easy to play in a line as major and minor sixths, but can be used for short parts of the line as Mitchell does in example 22.

EXAMPLE 22. Double stops - major tenths. *Straight No Chaser*, m. 320.



In addition to double stops, Mitchell played tenths melodically as well, as in this blues, he frequently played major 10<sup>th</sup> over the C7 chord measure 10 of most choruses. This example shows him playing a melodic 10<sup>th</sup> between beats three and four.

EXAMPLE 23. Melodic tenth. *Straight No Chaser*, m. 310.



The use of open strings on a bass allows a bassist to perform necessary position shifting while maintaining the consistency of the time feel. Due to the size of the double bass's fingerboard, shifting from a high thumb position back to half position can cover a substantial distance. Using the open string provides the bassist time to reposition the left hand. In example 24, Mitchell uses the open D<sub>3</sub> string on beat two of the Gm7 chord to shift back to play the A<sub>3</sub> on beat three. This particular shift is dramatic due to the high register that Mitchell shifts down from to the open D<sub>3</sub>. It should be mentioned here that, as a strategy,

bassists will use open strings when ever possible when playing walking lines because it allows shifting, releasing the left hand from the fingerboard allows the hand to rest, and the open string will be in tune. <sup>7</sup> Open string harmonics perform a similar function.

EXAMPLE 24. Open string shifting. *Straight No Chaser*, mm. 366-369.



The last two measures of the twelve bar blues harmonic structure are called the turn around. This structure which usually consists of a I-VI-ii-V chord progression, leads back to the top of the chorus. With two chords in each bar, the turnaround creates a strong sense of motion as it resolves to the tonic at the beginning of the next chorus.

## **Chapter IV**

### **Analysis**

The analysis of Red Mitchell's walking bass lines was carried out by comparing transcriptions of his bass lines when tuned in fourths to those tuned in fifths. To that end, I have chosen to use the blues as a harmonic structure for several reasons. Firstly, as a form, most musicians observe its traditional twelve-bar harmonic structure that offers a sense of continuity. Secondly, the relatively short twelve bar form repeats more frequently in a performance, and these repetitions provide a good pool of material to analyze. Thirdly, Mitchell recorded many blues throughout his career and therefore the blues was a logical choice and it was easy to find a sufficient quantity in similar tempi and in the same key.

My analysis will cover six blues transcriptions, three of which were recorded prior to 1966 from Mitchell's fourths period and three from 1966 to 1992, Mitchell's fifths period. All performances are in the key of F major. My analysis will be limited to Mitchell's improvised walking lines and will not look at his soloing. Another consideration of the transcriptions is the arrangements. In several of the transcriptions, the bass plays prearranged parts in the introduction and in the head arrangements at the beginning and ending of the performance. To this end, only complete twelve bar walking choruses will be used in the analysis. The harmonic progression of the blues will be based on the following progression.

EXAMPLE 25. F major twelve bar blues progression.

Harmonic Progression  
for F major Blues

The harmonic progression is shown across three staves in bass clef, 4/4 time. The notes are: 1. F7, 2. Bb7, 3. F7, 4. F7, 5. Bb7, 6. Bb7, 7. F7, 8. D7, 9. Gm7, 10. C7, 11. F7, 12. D7, Gm7, C7.

Throughout my analysis I will refer to pitches by pitch name and octave number as shown in example 26.

EXAMPLE 26. Pitch range.

The pitch range diagram shows notes on a bass clef staff. The notes are: C2, B2, C3, B3, C4, B4, C5, B5.

## The Transcriptions

The six performances presented here are in chronological order of their date of recording. The first three are from Mitchell's fourths tuning period prior to 1966. The final three performances are from his fifths tuning period, 1966 to 1992. The actual recordings were purchased and downloaded from the iTunes store in MP3 format. The MP3s were then converted to WAV files using the software program Waveburner.<sup>1</sup> Next the WAV files were imported into a program called The Amazing Slow Downer. This program was used for all six transcriptions as it allowed slowing down the tempo without affecting the pitch. The completed transcriptions were inputted into the notation program Sibelius for editing, formatting and printing. The fingerboard position graphs were created in Excel.

These six songs were chosen because they are all in the key of F major and have medium swing tempos. Harmonically, all the recordings employ the traditional twelve-bar jazz blues chords, and all show an adherence to the harmony avoiding any radical chord substitution. All tempos listed refer to quarter notes with regards to beats per minute.

## **The Songs**

The first song is "Blues the Most", written by Hampton Hawes. The LP, *The Hampton Hawes Trio, Volume 1*, was released on the Contemporary Records label, June 25, 1955. The album's personnel features Hampton Hawes on piano, Red Mitchell on double bass and Chuck Thompson on drums. The song is five minutes, forty-five seconds in length and begins with an eight bar piano and bass intro. The song's twelve bar head is heard two times, followed by eight choruses of piano solo, three choruses of double bass solo, a final chorus of piano and the restatement of the head which is repeated to end the song.

The second song is from Mitchell's association with André Previn. It is called "Low and Inside" and is from the Contemporary Records 1959 recording *King Size, the André Previn Trio Jazz*. The nine-minute recording begins with a four bar drum intro. Previn plays the first eight bars of the melody before Mitchell comes in for the last four bars of the chorus. The head is repeated again. Previn solos first, taking ten choruses before Mitchell's three choruses. Previn solos over two more choruses before playing the head twice to end the song.

The third song, "Triplin' Awhile" is a Harold Land composition from the Red Mitchell, Harold Land Quintet recording entitled *Hear Ye!!!! Hear Ye!!!!*, released in 1961 on the

Atlantic label. The quintet is comprised of Harold Land on tenor saxophone, Red Mitchell on double bass, Carmell Jones on trumpet, Frank Strazzeri on piano, and Leon Pettis on drums. The head arrangement was innovative, utilizing the bass as a melodic texture, playing the melody in unison with the saxophone, something that Mitchell and Land discussed during the inception of the quintet (Feather 1961).

The song begins with Mitchell and Land playing the head for the first chorus. In the second statement of the head, the rest of the ensemble plays with Mitchell relinquishing his melodic role and beginning his walking line. The tempo is approximately 170 beats per minute and the recording is seven minutes and forty-five seconds long, giving each player five choruses to solo, the exception being drummer Leon Pettis who get two choruses. The composition ends with the ensemble playing the head and in a mirror image of the songs opening, the last instance of the head features just bass and tenor saxophone playing the melody with the remaining ensemble returning for the last five bars to end the piece.

All three songs chosen to represent Mitchell's fifths period show not only a change in tuning but in the sound of the bass as well. Mitchell changed his playing style considerably at the same time he began tuning in fifths.<sup>2</sup> He began sitting on a stool while playing and employed the use of pickups and amplification in tandem with a lower string height. He altered his right-hand pizzicato technique to where he plucked the strings further away from the end of the fingerboard, down the neck. This new position facilitated another development in his technique. By having his arm and hand perpendicular to the strings, he was able to augment his right hand two-finger technique to include strumming strings for double stops.

Mitchell recorded "Stockholm Riff" while living in Sweden. The song is from the *Benny Carter All-Stars* DVD filmed in Stockholm in July, 1985 by Gazell Films. Appearing on this

DVD are leader and song composer Benny Carter on alto saxophone, Red Mitchell on bass, Red Norvo on vibraphone, Nat Adderly on trumpet, Horace Parlan on piano and Ronnie Gardiner on drums. "Stockholm Riff" is the opening song of this live performance and lasts four minutes and thirty-two seconds with a tempo of approximately 174 beats per minute. It begins with two choruses of piano solo before introducing the theme, a four bar riff. After repeating the head a second time, both Carter and Adderly solo over four choruses, followed by Mitchell taking two choruses for his solo. The head is stated twice to end the song.

The next piece chosen is a Count Basie, Eddie Durham blues entitled "Swinging the Blues" from the 1986 Enja Records album *To Duke and Basie*. This recording is a duo with Clark Terry on trumpet and Red Mitchell on bass. It is the shortest and fastest of the pieces in this analysis, lasting two minutes and fifty-four seconds at a tempo of 210 beats per minute. Terry plays the head two times and then solos over three choruses. Mitchell also solos for three choruses. Clark and Mitchell trade fours in the next two choruses followed by two statements of the head.

The sixth song in the analysis is Theolonius Monk's "Straight No Chaser". It was recorded at the Birdland Club in Hamburg, Germany in 1986 featuring leader Herb Geller on alto saxophone, Red Mitchell on bass, Michael Meltzer on guitar and vocalist Harold Smith. The song did not appear on the original Enja Records album *Birdland Stomp*, but was added when Enja reissued the recording in 2008. The song's duration is nine minutes and thirty-four seconds with an approximate tempo of 166 beats per minute. After Meltzer and Geller's statement of the "Straight No Chaser" theme, Smith sings four choruses of a blues lyric with brief melodic references to Monk's original theme. The following twenty-five choruses

feature solos by Meltzer, Mitchell, Geller and Smith who scat sings for seven choruses before ending the song with two verses of lyrics.

## **Positions**

The six blues used in this analysis are all in the key of F major. A bassist can play an F major blues in fourths tuning at the first position without shifting the left hand. In fifths tuning, the F is located at the fifth position on the C string. Moving laterally across the fingerboard layout, four of the five roots of the F blues harmonic progression are found at fifth position. Mitchell's playing in fifths does reveal a concentration in this area.

To fully understand the differences between the two tunings, I played through the transcriptions in the same tunings used by Mitchell, marking his fingerings and left hand positions based upon my own experience as a bassist and with reference to film footage of Mitchell playing. In the course of my research, I found no film footage of Mitchell playing during his fourths period, therefore my position and finger markings of the fourths material were derived from methods I was taught by jazz and classical teachers. Mitchell was taught classical technique by Frederick Zimmerman while at Julliard and later in Los Angeles by Herman Rheinshagen, both of whom had been principal bassists for the New York Philharmonic (Lees 1995). Mitchell mentions two method books that he used while learning bass. The first was *Bob Haggart's Bass Method*. The second was *Simandl's New Method for String Bass*.<sup>3</sup> I have referenced these method books as they support the positions I have used in my notation of Mitchell's blues in fourths tuning. Both books show fingerings for one-octave scales in F major and B $\flat$  major using only half-position. In my analysis, half position

is comparable to my first position.<sup>4</sup> Blues in the keys of F and B $\flat$  can be played entirely in first position. Ron Carter emphasizes playing in a single position without shifting in his method book (Carter 1998).

The positions and fingerings I used for fifths were extrapolated from film footage showing Mitchell playing in fifths, specifically measures 69 through 76. There are two DVDs of Mitchell in his fifths period, *Zoot Sims. In a Sentimental Mood* filmed in Liningö, Sweden in 1984 and *Benny Carter All-Stars* filmed in Stockholm, Sweden in 1985. The song "Stockholm Riff", from the Benny Carter DVD was chosen for my study as it met my selection criteria but equally as important because it reveals footage of Mitchell's left hand while playing the song. In example 27, I have notated measures 69 through 76 using the fingering, strings, and positions used by Mitchell. In example 27 his fingering is notated with numbers, the corresponding strings used with those fingerings are notated with Roman numerals, and positions are marked by numbers with dotted lines. I used this as a model to notate his use of positions for the songs in fifths.

EXAMPLE 27. *Stockholm Riff*. Positions and fingering mm. 69-76

Gm<sup>7</sup>                      C<sup>7</sup>                      F<sup>7</sup>                      D<sup>7</sup>                      Gm<sup>7</sup>                      C<sup>7</sup>

1 0 0 0                      1 1 2 1 2 1 0                      1 0                      0 2 1 2

II                      II                      III                      IV                      II                      III                      II

5                      2                      5

F<sup>7</sup>                      B $\flat$ <sup>7</sup>                      F<sup>7</sup>                      F<sup>7</sup>

1 4 1 0 1 1 0 1 2 0 2 4 0 1 2 3 0

II I                      II I                      II                      III                      II

3                      1                      5                      3                      1

In the "Stockholm Riff" footage, Mitchell shows a preference for the use of open strings whenever possible. The analysis (Table 2) also reveals that Mitchell's use of open strings in the composition of his lines more than doubled in fifths tuning. It can be suggested that he incorporated open strings in the line as part of his approach to deal with the increase in shifting down the neck, and as a result, Mitchell was able to maintain the forward momentum and rhythmic continuity of the walking line.<sup>5</sup>

## **Range**

It is clear from my analysis that Mitchell's playable range was not only extended in fifths tuning but also exploited as well in his walking lines. Table 12 shows a breakdown of the available pitches Mitchell uses in the six transcriptions. The table displays four, one octave ranges starting from C<sub>2</sub> up to B<sub>5</sub>. The highest note Mitchell plays is an A<sub>b4</sub> in "Straight No Chaser". The percentages were calculated by counting the number of notes for specific pitches each song. These pitch ranges were grouped by octave as follows, C<sub>2</sub> to B<sub>2</sub>, C<sub>3</sub> to B<sub>3</sub>, C<sub>4</sub> to B<sub>4</sub> and C<sub>5</sub> to B<sub>5</sub>. The totals for each of the four groups were summed together providing the total number of notes in each song. The total for each octave was divided by this song total, yielding percentages for each of the four octave ranges that appear in the transcription. This procedure was repeated for all six transcriptions.

The playable range of the bass increases when tuned in fifths. The low C<sub>2</sub> in fifths tuning extends the lower range of the bass a major third below the E<sub>2</sub> from fourths tuning, while the first A string is a whole tone higher than its G string counterpart in fourths tuning.

In the analysis of the three blues in fifths tuning chosen for this study, Mitchell makes greater use of the upper range of the instrument, increasing the range in his lines by an interval of a minor 7<sup>th</sup> higher than in fourths tuning. Table 12 shows that Mitchell uses pitches in all four ranges in fifths tuning with 3.6% of his lines falling in the C<sub>5</sub> to B<sub>5</sub> range. His use of the lower pitches, from E<sub>b</sub><sub>2</sub> to C<sub>2</sub> is very limited. Some of these upper pitches would be easier to reach because of the increased upper range in fifths tuning. However, these pitches were available to him in fourths tuning. The table points to the fact that Mitchell used the full range of the bass. Notes that were previously two positions further up the fingerboard were now further down the fingerboard. Mitchell capitalized on this, and as a result, used this as a springboard to take his bass lines into these higher registers. The three transcriptions in fourths tuning reveal no pitches in the C<sub>5</sub> to B<sub>5</sub> octave compared to 3.6% in that range in fifths. The octave below this range, C<sub>4</sub> to B<sub>4</sub>, shows a significant difference between the two tunings. Mitchell played 20.5% of his lines in this register while in fifths compared to 7.6% in fourths, a difference of 12.9%. The overall trend is that Mitchell used far less of his bass's available range when he tuned in fourths, showing the heaviest concentration of pitch material between C<sub>3</sub> to B<sub>3</sub> at 75% with 23% between E<sub>2</sub> to B<sub>2</sub>. These percentages can be linked to the left-hand positions that bassists use while learning and subsequently performing blues in F major. The fourths fingerboard chart shows that Mitchell could play every pitch from E<sub>2</sub> to B<sub>b</sub><sub>3</sub> without shifting his hand, using only the first position and open strings. This approach to playing in one position is one that is espoused by bassist Ron Carter, *"by playing in a position (in this case) half-position as long as possible...you are assured of more consistent pitch, more combinations of notes and a more consistent level of good tone"* (Carter1998).

The extended range that Mitchell uses in his lines while in fifths also has an effect of the shape of his line. His excursions into the upper range result in longer phrase lengths of three to five bars in length. With more room to manoeuvre in the upper register, he uses more chromaticism in his lines.

EXAMPLE 28. Phrase in high register. *Straight No Chaser*, mm. 28-32.



He also aimed to have his lines peak between bars 5 to 9 over the subdominant section of the blues. These ascending lines are characteristic of his playing in fifths tuning.

The same example shows another effect the tuning has in the composition of Mitchell's lines. The transcriptions show that his lines became more target oriented. The composition of his lines shows a trend of setting up an ascending line, typically beginning in the third measure of the chorus leading towards target tones in the subdominant area of the chorus, measures 5 and 6 over the Bb harmony or further to measures 7 and 8 over the F7 and D7 harmonies.

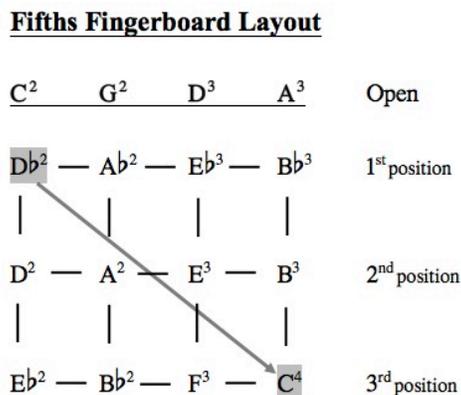
The transcriptions show that Mitchell uses this approach twenty-three times throughout the three blues in fifths tuning. In each case, his line ascends from the F harmony towards the Bb harmony. Mitchell arrives at the Bb<sub>3</sub> nineteen out of twenty-three times by an A<sub>3</sub>, the chromatic leading tone to the Bb<sub>3</sub>. By using the first string for the A<sub>3</sub>, Mitchell has an open string to shift on, playing the Bb in first position. Once he reaches Bb<sub>3</sub>, he continues up the fingerboard on the first string. At this point in the form, Mitchell has two measures of Bb7 in measures 5 to 6, choosing the third of the Bb7 harmony, D<sub>4</sub>, seventeen times, and in each of

the twenty-three instances of this approach, he continues up through  $F_4$ . Both  $D_4$  and  $F_4$  are played on the first string and are not as far up the fingerboard as they would be in fourths tuning. For this reason, Mitchell takes advantage of the register because it extended his range before having to go into thumb position.

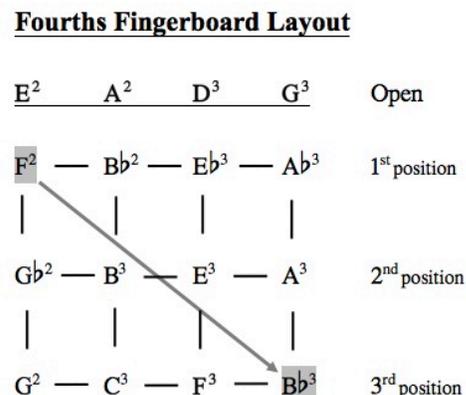
## Intervals

Bassist Paul Unger states that one of the characteristics of a bass tuned in fifths is the ability to play larger intervals (Unger 2011). Owing to the bass's extended range in both registers, it is possible to cover almost two octaves in a single hand position while tuned in fifths. The fingerboard charts in examples 29 and 30 show the span of the left hand between the first and fourth strings in first position. On a fifths tuned bass, the range between the first and fourth fingers in a single position,  $D\flat_2$  to  $C_4$ , is twenty-three semitones, almost two octaves. This is in contrast to example 30, showing the same interval span in a fourths tuned bass where the first finger plays  $F_4$  and the fourth finger plays  $B\flat_3$ , a range of seventeen semitones.

EXAMPLE 29. Interval span in fifths.



EXAMPLE 30. Interval span in fourths.



This comparison demonstrates that fifths tuning provides the bassist with a greater range of notes in a single position. Furthermore, as the bassist plays up the neck, the smaller distances between intervals could enable the playing of intervals larger than two octaves.

An analysis of the melodic intervals in each of the six transcriptions was made and the results are listed in Table 1. Intervals were recorded according to type and divided into four categories comprising perfect, major, minor and diminished. Mitchell's bass lines utilized eighteen different melodic intervals. Totals for each of the eighteen intervals in each song were divided by the number of notes in each song, giving the average number of times that melodic interval occurred in that song. Further to this, interval totals for each tuning were combined, yielding average occurrences of these intervals for the transcriptions in fourths and fifths tuning.

The results of this study indicate that Mitchell used larger melodic intervals while in fifths tuning, whereas the figures in fourths tuning point to a reliance on smaller intervals in his line. The noticeable exception is Mitchell's use of minor 2<sup>nds</sup>, showing a significantly higher use of this interval in fifths tuning as opposed to fourths. This is due in part, to the high degree of chromaticism Mitchell used in his upper register lines. It can be attributed to his use of chromatic leading notes that he used to approach his target notes.

Another finding shows that intervals larger than an octave are almost completely absent from his lines in fourths tuning, with the lone exception being one minor 9<sup>th</sup> in "*Triplin Awhile*". The trend shows that he favoured intervals of a diminished 5<sup>th</sup> or higher in fifths tuning. These larger intervals are more prevalent in his lines in fifths. As mentioned previously in Chapter III, it is easier to play major and minor 10<sup>ths</sup> in fifths tuning. It is not surprising to find that Mitchell used major 10<sup>ths</sup> in his lines fourteen times, placing them at

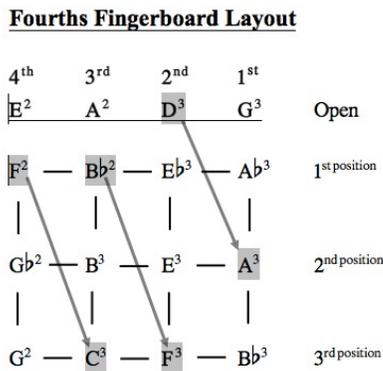


In example 32, minor thirds appear between  $A_2$  and  $C_3$ ,  $D_3$  and  $F_3$ , and  $G_3$  and  $Bb_3$  and also between  $Gb_2$  and  $A_2$ ,  $B_3$  and  $D_3$ , and  $E_3$  and  $G_3$ . In "Blues the Most", 75% of the minor 3<sup>rd</sup> intervals detailed in example 32 are found in the first position without a left hand shift. In a similar comparison 46% of the minor 3<sup>rds</sup> in "Stockholm Riff" use open strings in fifths tuning. The remaining 54% of minor 3<sup>rds</sup> did not use open strings meaning that each of these minor 3<sup>rds</sup> involved a shift of the left hand. This finding adds to the conclusion that Mitchell's lines traversed a greater range of the bass in fifths. Given these facts, Mitchell's bass lines in fifths tuning encompassed a greater use of the fingerboard and were not as reliant on one position as in fourths tuning. The pitch range study listed in Table 12, shows that an average of 75% of his bass lines in fourths tuning were concentrated in the first position between the pitches  $F_2$  to  $Bb_3$ .

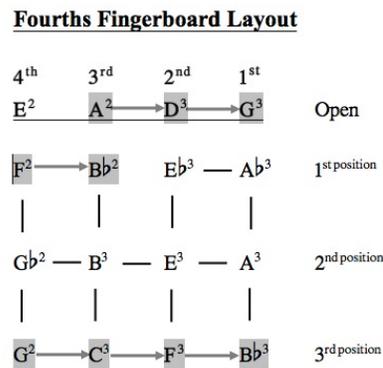
### **Harmonic Intervals**

In the comparison of the six transcriptions, Mitchell's use of harmonic intervals or double stops, was limited to the blues in fifths. The study found no double stops in fourths tunings. One possible explanation for their absence was the limitation of playable double stops in fourths tuning within the context of playing a walking bass line.

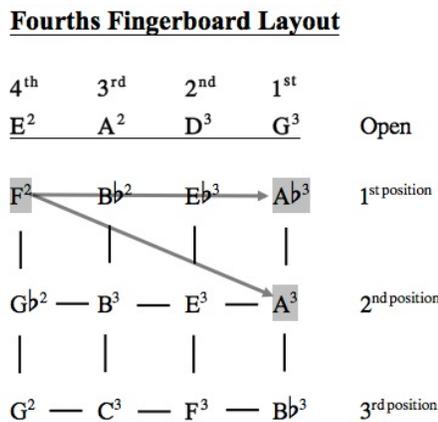
EXAMPLE 33. P5<sup>th</sup> dbl. stops in fourths tuning



EXAMPLE 34. P4<sup>th</sup> dbl. stops in fourths tuning.



EXAMPLE 35. Major and minor 10<sup>th</sup> double stops in fourths tuning.



Examples 33, 34 and 35 show the layout of the fingerboard in fourths tuning with reference to a single hand position, specifically, the span of notes available within the reach of the first and fourth fingers of the left hand. The physical size of the neck on a double bass places limitations on how the left hand can play double stops in a walking line. However, in thumb position the bassist can use the thumb in combination with the first, second, and third fingers to play larger double stops. Mitchell did not use this technique or any double stops in the three songs in fourths tunings. Within the first position, the available double stops in an F major blues are the perfect 5<sup>ths</sup> from F<sub>2</sub> to C<sub>3</sub>, B<sub>2</sub> to F<sub>3</sub>, and D<sub>3</sub> to A<sub>3</sub>, and the perfect 4<sup>ths</sup> between F<sub>2</sub> and B<sub>2</sub>, G<sub>2</sub> and C<sub>3</sub>, A<sub>2</sub> and D<sub>3</sub>, C<sub>3</sub> and F<sub>3</sub>, D<sub>3</sub> and G<sub>3</sub>, and F<sub>3</sub> and B<sub>3</sub>. Although these stops are playable in other positions and registers on the bass, their usefulness is limited

due to their root and fifth character. The major 10<sup>th</sup> from F<sub>2</sub> and A<sub>3</sub> and the minor 10<sup>th</sup> from F<sub>2</sub> to A<sub>b3</sub> are harmonically preferable to perfect fifths, but the required stretch between the fourth and first strings makes their playability unsuitable within a walking line and confined to the region of the fingerboard from the low E<sub>2</sub> to the D<sub>3</sub> on the fourth string.

Mitchell's playing stance is another consideration regarding the execution of double stops. The double bass sound on the three recordings in fourths sounds acoustic, and un-amplified. The album cover of *Hear Ye!!!!Hear Ye!!!!* shows Mitchell in a traditional standing playing stance. It can be hypothesized that Mitchell stood while playing during the time period when these recordings were made which would have made plucking double stops other than fourths or fifths in the context of a walking line difficult. Mitchell later adopted a sitting playing position that facilitated his strumming of double stops in fifths.

EXAMPLE 36. Multiple double stops in fifths tuning. *Straight No Chaser*, mm. 84-88.

The musical notation for Example 36 is a single staff in bass clef with a key signature of one flat (Bb). The piece is in 4/4 time. The notation shows a series of double stops (two notes played together) in fifths tuning. Above the staff, chord symbols are placed: Gm7, C7, F7, Bb7, F7, F7, and Bb7. Below the staff, interval labels are placed: M6, m10, P5, P5, M10, M6, M6, M6, m6, m6, P5, m6. The double stops are: G2-A2 (M6), G2-Bb2 (m10), G2-A2 (P5), G2-Bb2 (P5), G2-A2 (M10), G2-A2 (M6), G2-A2 (M6), G2-Bb2 (M6), G2-A2 (m6), G2-Bb2 (m6), G2-A2 (P5), G2-Bb2 (m6).

Example 36, from "Straight No Chaser" demonstrates the variety of double-stops that Mitchell was able to play in fifths tuning, showing five different qualities including a triple stop over the B<sup>b</sup>7 in measures 82. Mitchell played this by barring B<sup>b</sup><sub>2</sub> and the F<sub>3</sub> with the first finger and playing the D<sub>4</sub> with the fourth finger. He played this triple stop in third position. This has relevance because it demonstrates that once Mitchell had realized the potential of double stops in fifths, he made extensive use of them, particularly in the upper register of the bass.

EXAMPLE 37. Double stops in fifths tuning. *Straight No Chaser.*, mm. 301-308.

Example 37 shows eight bars of major and minor 6<sup>ths</sup>, all in thumb position. He also used similar runs of 10<sup>ths</sup> as shown in example 38 from "Swinging the Blues" where Mitchell uses almost the entire lower range of the fingerboard from the B<sub>b</sub><sub>2</sub> up to the F<sub>3</sub>.

EXAMPLE 38. 10<sup>ths</sup> in fifths tuning. *Swinging the Blues*, mm. 137-140.

It is clear that tuning in fifths not only gave Mitchell the ability to play larger intervals but that he used these frequently in his lines. Furthermore, the harmonic and melodic possibilities afforded by this, propelled him to utilize more of the double bass's range. The double stops Mitchell used in the three songs in fifths were perfect 4<sup>ths</sup>, diminished 5<sup>ths</sup>, perfect 5<sup>ths</sup>, major and minor 6<sup>ths</sup>, and major and minor 10<sup>ths</sup>. The majority of double-stops were perfect 5<sup>ths</sup> and higher. There were no major or minor 3<sup>rd</sup> double-stops found in the transcriptions.

The analysis of Mitchell's left-hand positions in fifths reveals that he had formed, whether consciously or not, a type of formulaic design for his choruses. The information gathered when I played through each transcription, was inputted into an Excel spreadsheet

creating a graph that displays a visual landscape, chorus by chorus, of each transcription (Tables 3 through 10). Using the X-axis, one cell is equal to one-quarter note of Mitchell's walking bass line. A complete twelve bar chorus is then forty-eight cells in length. The Y-axis represents each chorus in the transcription.

Using the data from the fingerboard position analysis, the position number assigned to each quarter-note was entered into the cell. In addition, colour shadings were added to enhance the visual description. The shading was assigned to each position on a scale that shows lighter shades beginning at the lowest positions, becoming darker as the positions increased up the fingerboard.

Each chorus was sub-divided into three, four-bar units consisting of measures 1 to 4, measures 5 to 8 and measures 9 to 12. In comparing all three, there emerges a pattern that is consistent for all three songs in both tunings. A comparison of the position fingerboard graphs, Tables 9 and 10, shows distinct differences in Mitchell's left hand positions in how he played his bass lines in the two tunings.

Red Mitchell used a significant amount of repetition of one and two bar motives in fifths tunings. The study of all six transcriptions reveals that certain motives repeat within a song.

The analysis shows that Mitchell uses four different motives in all three transcriptions with regularity within the first three measures of each chorus. With few exceptions, Mitchell begins the downbeat of each chorus with the root of F7, either F<sub>2</sub> or F<sub>3</sub>.

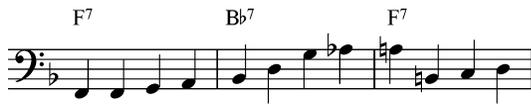
EXAMPLE 39. Motive 1 *Straight No Chaser*, mm 1-3.



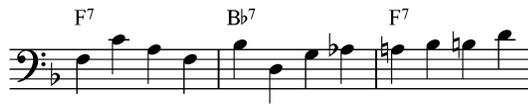
EXAMPLE 40. Motive 2. *Swinging the Blues*, mm 121-123.



EXAMPLE 41. Motive 3 *Straight No Chaser*, mm 49-51.



EXAMPLE 42. Motive 4. *Stockholm Riff*, mm 61-63.



Mitchell begins a chorus with one of these four motives, forty-five times, making their appearance significant. In motive 1, the line ascends from  $F_3$  to  $Bb_3$  using diatonic and chromatic passing tones. From the  $Bb_3$  the line falls a minor 6<sup>th</sup> to  $D_3$ , moving to the  $Ab_3$ , the flat 7<sup>th</sup> of  $Bb7$  and also a chromatic leading tone to the  $A\flat_3$ , the major 3<sup>rd</sup> of  $F7$  on beat 1 of measure 3. Motive 2 begins on  $F_3$  and descends by scale to  $Bb_2$  where, like motive 1, the line ascends to the  $A\flat_3$ . Motive 3 begins on  $F_2$  and ascends by scalar motion to  $Bb_2$  and also ascends to  $A_3$ . The last motive, number 4, appears in a number of variations but all instances features an arpeggiation of the  $F7$  harmony beginning on  $F$  and ascending to  $C$  on the second beat, either by direct leap or by appoggiatura to  $D_3$  and then to  $C_3$  before arriving at the root. The common target pitch of all four examples is the  $A_3$  on the downbeat of the third measure that Mitchell usually plays as the open first string. An important feature of these four motives as shown in the fingerboard position graph, is Mitchell's use of open strings to shift positions in each of the three bars in all four motives. The fingerboard position graph in Table 10, shows that he shifts on open strings consistently, often as many as four times in the first four bars. Within these first four measures he stays mostly in the first five positions.

The fourth measure of the chorus shows Mitchell repeating a motive consistently in each of the three songs in fifths tuning.

EXAMPLE 43. Eb Motive 1 *Stockholm Riff*, m. 52.



EXAMPLE 44. Eb Motive 2. *Stockholm Riff*, m. 4.



EXAMPLE 45. Eb Motive 3. *Straight No Chaser*, m. 340.



EXAMPLE 46. Eb Motive 4. *Swinging the Blues*, m. 4.



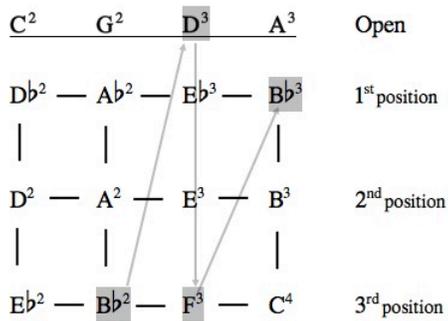
This group of motives begins on Eb<sub>3</sub>, the flat 7 of F7 and moves to the root via the chromatic passing tone E<sup>b</sup><sub>3</sub> then to the A<sup>b</sup><sub>3</sub>, the 3<sup>rd</sup> of F7. He uses three other variations of this motive, all of which move to A<sub>2</sub> or A<sub>3</sub> on the fourth beat. Mitchell repeats this motive type, nineteen times. The leading tone on the fourth beat resolves to B<sup>b</sup> in measure 5 of the chorus. This part of the blues form moves to the subdominant.

The second grouping in the fingerboard position graphs, measures 5 to 8, indicate that Mitchell is making deliberate use of the bass's upper register. Furthermore, the graphs show that he is using the whole range of the bass from first position up to twentieth position. The majority of his upper range pitches occur in these middle four measures consistently in all three songs in fifths tuning. One hypothesis is that Mitchell felt inspired by the expanded range provided to him in fifths tuning. Another explanation is that the A<sub>4</sub> located at the first string's twelfth position which happens to be the major 3<sup>rd</sup> of F7, gave Mitchell a landmark, becoming another target pitch.

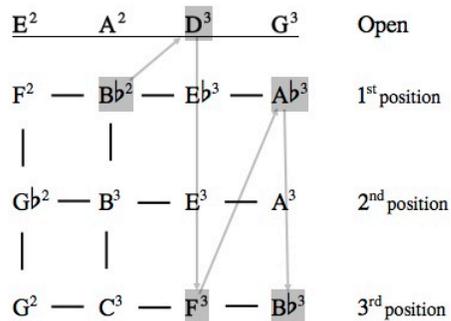
Mitchell's pitch choices and positioning at measure 5 in the chorus are similar to those in fourths tuning.

EXAMPLE 47. B $\flat$  major triad in both tunings.

**Fifths Fingerboard Layout**

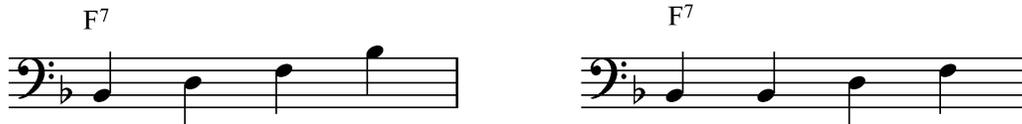


**Fourths Fingerboard Layout**



This explains the use of the B $\flat$  arpeggio in measures 5 and 6 that appear ten times in the three songs in fifths tuning.

EXAMPLE 48. B $\flat$  motives at m. 4.



Mitchell uses two similar motives, both based on the B $\flat$  triad, to prepare his lines to go into the higher registers. The first motive is a root position B $\flat$  triad that begins on B $\flat$ <sub>3</sub> in first position on the A string. Using the DVD footage of "Stockholm Riff" as a model, example 49 shows how Mitchell would play the first three notes of this measure with his first finger, beginning at B $\flat$ <sub>3</sub> in first position, shifting to D<sub>5</sub> at fifth position, and shifting again to ninth position to play the F<sub>4</sub> and the G<sub>4</sub>. Mitchell now has the A $\flat$ <sub>4</sub>, the flat 7 of B $\flat$ 7 available to him on the downbeat of measure 366, becoming another target note as his line continues to ascend.

EXAMPLE 49. *Straight No Chaser*. B $\flat$  triad on A string. Shifting on one string, mm. 365 - 366



Example 50 is a three measure, upper register motive that appears seven times in his lines in bars 6 to 8 of all three songs in fifths tuning. The motive begins on F $_4$  and moves chromatically up to A $_4$ , the major 3<sup>rd</sup> of F7. Once Mitchell arrives at the A $_4$ , he moves chromatically to the D $_5$  on the third beat of measure 8 in two shifts. The D harmonic on beat 4 of measure 128 can be played on the D string at the twelfth position by reaching back with the thumb. This functions like an open string shift, granting Mitchell time to change positions. This regular occurrence of upper range pitches can be attributed to the fact that the tonic F $_4$  and subdominant B $\flat_4$  pitches are easier to reach on a fifths tuned bass, extending the range of pitch choices.

EXAMPLE 50. Upper Register Motive. *Swinging the Blues*, mm 126-128.



The last four bars of the fingerboard position graph, table 10, show a distinct concentration in the fifth position.

The ninth bar of each chorus, the Gm7 chord shows Mitchell adopting two different approaches to his line over this harmony. Using a comparison of the two tunings, the style of lines used in fourths tuning are more scalar in nature, often descending and are localized in or near the first position.

EXAMPLE 51. Gm7 motives at m. 9 in fourths.

Mitchell approaches the same measure in fifths tuning with a greater amount of repetition, specifically the open G<sub>2</sub> in combination with the octave G<sub>3</sub>.

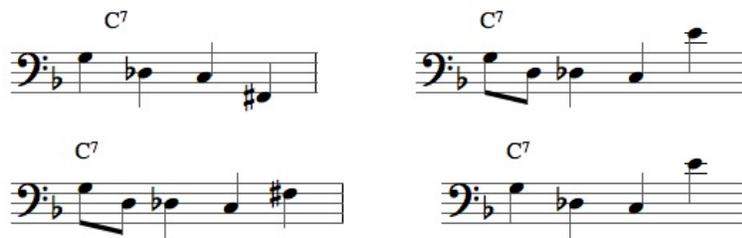
EXAMPLE 52. Gm7 motives in m. 9 fifths.

These six examples, and other slight variations appear thirty-six times in the three songs Mitchell played in fifths. The G<sub>3</sub> played at the fifth position is the first occurrence of this note on the fingerboard. Additionally, these motives are based around one or more open strings. Mitchell was able to play the closed G<sub>3</sub> and the open strings at the fifth position. The frequency with which he plays these motives at measure 9 leads to the conclusion that Mitchell's note choices were impacted by position.

The motives at measures 10 and 12 demonstrate similar components to each other and to the make-up of the motives at measure 9. Both groups of motives are based around three notes, G, D<sup>b</sup> and C. The study of the motives at measure 10 show that in twenty-six of the twenty-seven occurrences of this motive, the downbeat begins on G<sub>3</sub>. Occasionally Mitchell adds rhythmic variation to beat one of this motive with a D<sup>b</sup> providing more chromatic

motion to the  $D\flat_3$  on beat 2. Next, the line falls by augmented 4<sup>th</sup> to  $D\flat_3$  on the second beat, resolving chromatically by semitone to  $C_3$ . The fourth beat of measure 10 resolves to the  $F7$  harmony of the first beat of measure 11, consistently by an augmented 4<sup>th</sup> leap down to  $F\sharp_2$  resolving to  $F_2$ , or by a diminished 5<sup>th</sup> leap up to  $F\sharp_3$  resolving to  $F_3$ . Mitchell's other choice is playing an  $E_4$ , a major 10<sup>th</sup> from the  $C_3$ .

EXAMPLE 53.  $C7$  Motives at m.10 .



In a comparison of the motives found at measure 12, the study shows that Mitchell often uses a formulaic approach. There are several features that dominate this group of motives found at measure 12. Firstly, the downbeat is  $G_2$  or  $G_3$ , Secondly, the second beat is  $D\flat_3$  which is arrived at by augmented 4<sup>th</sup> or diminished 5<sup>th</sup> depending upon the octave of the preceding  $G$ . Thirdly, the third beat is always  $C_3$ . And lastly, fourth beat moves to  $F\sharp_2$  by augmented 4<sup>th</sup> or, to  $F\sharp_3$  by diminished 5<sup>th</sup>. In summary, within this group of motives, the second and third beats are consistently  $D\flat_3$  and  $C_3$ , a minor second apart. The first beat is  $G_2$  or  $G_3$  and the fourth beat is  $F\sharp_2$  or  $F\sharp_4$ . The other defining quality is the tri-tone interval found between beats one and two, and between beats three and four.

EXAMPLE 54. Motives at m.12.

The image displays four musical staves in bass clef, arranged in a 2x2 grid. Each staff represents a two-measure phrase. The first measure of each phrase is labeled with a Gm7 chord, and the second measure is labeled with a C7 chord. The notes are as follows:

- Top-left: Gm7 (G2, Bb2, D3, F3), C7 (C3, Eb3, G3, Bb3)
- Top-right: Gm7 (G2, Bb2, D3, F3), C7 (C3, Eb3, G3, B3)
- Bottom-left: Gm7 (G2, Bb2, D3, F3), C7 (C3, Eb3, G3, B3)
- Bottom-right: Gm7 (G2, Bb2, D3, F3), C7 (C3, Eb3, G3, B3)

Similarities between the motives at measures 10 and 12 can be explained by Mitchell's preference of playing the last four bars of each blues chorus mostly in fifth position.

Although he chose this position to play the  $D\flat_3$  and  $C_3$  pitches, it allowed him to play the ii-V-I and turnaround progressions with little if any shifting by relying on open strings.

## Conclusions

The findings in my research have been organized into specific areas concerning range, positions, open strings and motives and each of these areas are inter-related.

The first noticeable finding was that Mitchell's use of the upper range of the bass in his lines increased in fifths tuning. What makes this finding significant is that even though the change in tuning from fourths to fifths expands the range of the bass by two whole tones in the lower register and one tone in the higher register, Mitchell's bass lines expanded into the octave  $C_5$  to  $B_5$ . This range is not found in the three recordings in fourths.

The increase in pitch range can be linked to the left hand positions Mitchell adopted once he changed to fifths tuning. The Fingerboard Position Graph shows that Mitchell's bass lines in fourths are concentrated in the first position. The conclusions from the graph show that when he adopted fifths tuning, the fifth position became a starting and end point for many of Mitchell's lines. The fifth position on a fifths tuned bass places the bassist's hand position further up the fingerboard. The notes that fall under the bassist's fingers are higher in pitch than on a fourths tuned bass.

The new layout of the fingerboard in fifths had a further effect on Mitchell's range. Mitchell was now able to play the  $Bb_4$  at the 12<sup>th</sup> position with his third finger before going into thumb position. Consequently, Mitchell expanded and continued the range of his bass lines up the neck into the  $C_5$  to  $B_5$  octave range.

Mitchell used open strings more frequently in fifths tuning. This helped him deal with the increase in shifting he experienced with the redistribution of pitches in fifths

tuning. The increased use of open strings gave Mitchell a strategy to preserve the forward momentum of his line while dealing with the geography of the fingerboard in fifths. In addition, the greater use of open strings added to the overall resonance of Mitchell's sound.

Mitchell's use of melodic and harmonic intervals changed when he switched to fifths tuning. The conclusions drawn from my comparison between the two tunings reveal that his bass lines used larger melodic intervals than those lines in fourths tuning. The contributing factors in this finding include the two octave range of available pitches playable by the left hand in a single position, and Mitchell's increased use of open strings.

The Interval Analysis Table shows that Mitchell's lines employed a higher degree of the melodic intervals between a diminished 5<sup>th</sup> up to a perfect 12<sup>th</sup> and including two perfect 16ths.

In the six transcriptions, only those in fifths contain double-stops. Harmonic intervals became an integral part of Mitchell's bass lines. Mitchell consistently and successfully incorporated the use of major and minor 6<sup>ths</sup> and 10<sup>ths</sup> into his walking lines. These intervals were possible but not practical in fourths in the context of a walking line.

Mitchell's use of phrasing in the middle of the chorus shows a consistency across all three songs in fifths tunings. The research shows that he frequently takes his walking lines into the higher ranges C<sub>4</sub> to B<sub>5</sub> over the subdominant harmony, typically in measures 5 to 8 in the 12 bar form. These phrases also indicate that Mitchell was constructing longer phrase lengths, composed of ascending and largely chromatic pitches when going into the upper register.

His walking lines traversed the entire range of the bass. The larger intervals between the strings in fifths tuning were responsible for these lines moving into the higher register. The tuning gave Mitchell the ability to play certain crucial double stops more easily than on a bass in fourths. He used these to great effect in his playing, creating walking bass lines comprised of double-stops that encompassed the entire fingerboard and maintained the forward motion of the line. To conclude, the effect the tuning had on his bass lines is clear. The research shows conclusively that Mitchell's lines were affected by the change in tuning from fourths to fifths.

Red Mitchell was the first prominent bassist to tune in fifths. Since then, other bassists have adopted the tuning in the jazz and classical idioms, most notably Joel Quarrington, principal bassist with the London Symphony Orchestra. Both Quarrington and Mitchell have stated that a fifths tuned bass exhibits better intonation with other members of the orchestra, particularly the string sections who tune in fifths. Further studies in this area of research could explore the sonic ramifications of an entire bass section tuned in fifths interacting with the rest of the orchestra.

Throughout my research, I discovered no scholarly writing on Red Mitchell or on bassists who tune in fifths. The writings I found on the bass in fifths were confined to the history of the evolution of the double bass in European art music. I believe that the research presented here is the first of its kind. There is however a growing interest in fifths tuning that can be attributed to artists like Joel Quarrington, Paul Unger, Dennis Massuzo, and Larry Holloway. These artists are producing recordings of their instruments tuned in fifths. In addition, they have websites that advocate the benefits of fifths tuning. Quarrington's recording, *Garden Scene*, won the 2010 Juno Award for Best

Classical Recording. Furthermore, Quarrington was recently appointed principal bass of the London Symphony Orchestra. This highly visible position in such a world-renowned orchestra signals the acceptance of this once abandoned tuning. It is hope that the reader will see this research as a new chapter in the evolution of the bass not only in classical music but jazz as well.



3. It must be noted that swung eighth notes in jazz scores are notated the same as regular eighth note and are usually identified on the score as Swing.
4. In the majority of twelve-bar blues charts that appear in the Real Book, every chord is spelled with a seventh.
5. There are twenty-four combinations of root, third, fifth and seventh.

1357	3157	5137	7135
1375	3175	5173	7153
1537	3517	5317	7315
1573	3571	5371	7351
1735	3715	5713	7513
1753	3751	5731	7531

6. A cambiata is also called a changing tone. (Gordon 1992).
7. An escape tone is also known as an échappée. (Gordon 1992).
8. By harmonic colour, I am referring to thirds and sevenths.
9. Todd Coolman emphasizes this point in his book. (Coolman 1990).

#### **Chapter Four: Analysis.**

1. The reason for this conversion is that the degraded file and audio quality of the MP3 caused glitches and instability during playback in the Amazing Slow Downer. When the files were converted to WAV format, the problem disappeared.
2. In photographs of Mitchell on the album covers of *Hear Ye!!!! Hear Ye!!!!* and *Presenting Red Mitchell*, Mitchell is seen in a traditional playing stance, standing up with his right hand at the end of the fingerboard.
3. Mitchell mentions both books in an interview by Tricia McGarvin. He describes Haggart's book as the first book he used. (R. Mitchell, Interview With Red 1992).
4. The term half-position is a standard term used in double bass pedagogy when referring to the left hand position one semi-tone up the neck from the open string.
5. For clarification, shifting down the neck means toward the scroll. Shifting up the neck means towards the bridge.

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Table 1. Melodic Intervals

Unisons	Minor 2nd	Major 2nd	Minor 3rd	Major 3rd	Perfect 4th	Dim. 5th	Perfect 5th	Minor 6th	Major 6th	Minor 7th	Major 7th	Perfect 8th
Average in fifths tuning												
6.12%	35.46%	12.32%	5.52%	5.52%	7.63%	9.13%	7.09%	2.56%	1.20%	0.63%	0.47%	4.25%
Average in fourths tuning												
7.94%	24.12%	21.41%	12.55%	6.99%	10.60%	5.38%	3.94%	2.33%	1.21%	0.29%	0.11%	0.97%
Difference												
1.82%	11.33%	9.10%	7.02%	1.47%	2.97%	3.75%	3.15%	0.23%	0.00%	0.33%	0.36%	3.28%

Minor 9th	Major 9th	Minor 10th	Major 10th	Perfect 11th	Dim. 12th	Perfect 12th	Minor 13th	Major 13th	Minor 14th	Major 14th	Minor 15th	Major 15th	Perfect 16th
Average in fifths tuning													
0.23%	0.11%	0.00%	0.81%	0.00%	0.03%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%
Average in fourths tuning													
0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Difference													
0.19%	0.11%	0.00%	0.81%	0.00%	0.03%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%

The averages represent the total number of occurrences of that melodic interval in each song. Totals for each tuning were determined by adding the average percentages for all three songs and dividing by 3. The shaded values represent the higher of the two percentages. The difference displays the amount of difference between the higher value and the lower value.

Table 2. Open String Shifting in Red Mitchell's Walking Bass Lines

	Straight No Chaser 5ths	Stockholm Riff 5ths	Swinging the Blues 5ths	Triplin' Awhile 4ths	Low and Inside 4ths	Blues the Most 4ths
Average per Song	11.19%	7.47%	13.99%	4.98%	5.03%	2.55%
	Fifths			Fourths		
Average per Tuning	10.88%			4.11%		

The percentages in Average per Song were derived by counting the number of open string shifts in each chorus. Each shift constituted a quarter note value. The number of shifts was divided by 48, the number of quarter notes in a chorus, showing the percentage of open string shifts that Mitchell used in that chorus. This was done for each chorus. The averages for each chorus were added and divided by the number of choruses, giving a total percentage of open string shifting for each song. Totals for each tuning were determined by adding the average percentages for all three songs and dividing by 3.



Table 4. Low and Inside. Fingerboard-position graph.

		Low and Inside																																						
Chords	F7	Bb7			F7			F7			D7			Gm7			C7			F7			D7			Gm7			C7											
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3						
Bar Numbers	1				2			3			4			5			6			7			8			9			10			11			12			13		
Chorus 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 5	1	1	1	1	1	1	1	5	5	5	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 8	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 9	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 10	3	3	3	2	3	3	5	5	5	5	5	5	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 11	1	1	1	1	1	1	5	5	5	5	5	5	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 17	3	3	3	2	2	5	5	5	5	5	5	5	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Table 5. Triplin' Awhile. Fingerboard-position graph.

		Triplin' Awhile																										
Chords F7		Bb7				F7				F7																		
Bar Numbers	F7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Chorus 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chorus 4	3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 7	8	8	7	7	5	5	4	4	3	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 12	3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 13	2	2	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 14	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 16	8	7	7	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		Bb7				Bb7				F7				D7													
Bar Numbers	Bb7	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26				
Chorus 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 8	6	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 10	1	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 12	1	5	5	8	8	8	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Chorus 13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorus 16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 17	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Chorus 18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Chorus 26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		Gm7				C7				F7				D7				Gm7				C7							
Bar Numbers	Gm7	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Chorus 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Chorus 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Chorus 4	3	3	2	2	5	5	5	8	8	8	12	12	12	12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 5	1	1	1	1	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Chorus 6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 7	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 8	1	1	1	1	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Chorus 9	10	10	10	7	7	7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 10	1	1	1	1	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Chorus 11	3	3	2	2	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Chorus 12	3	3	2	2	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Chorus 13	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 14	1	1	1	1	1	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Chorus 16	2	2	2	2	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Chorus 17	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 18	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Chorus 26	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Table 6. Stockholm Riff. Fingerboard-position graph.

Stockholm Riff

Chords	F7	Bb7	F7	F7	Bb7	Bb7	F7	D7	Gm7	C7	F7	D7	Gm7	C7
Bar Numbers	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Chorus 1	5 5 2 2	2 2 2 5 5	5 4 4	1 1 1 7	7	3 3 3 3	3 3 3 3	1 1 1 5	5 5 5 5	5 5 5 5	3 3 3 3	3 3 3 3	5 5 5 5	5 5 5 5
Chorus 2	3 3 1 1	1 5 5	1 1 1 6 6 6 11	11 11 11 11	11 11 11 11	8 8 8 8	8 8 8 8	3 3 3 3	5 5 5 5	5 5 5 5	2 2 2 2	2 2 2 2	5 5 5 5	5 5 5 5
Chorus 3	2 2 2 2	2 2 2 2 2 2	5 5 5 5 5 5 3	3 3 3 3 3 3 3	1 1 3 9	9 9 9 9	8 8 8 8	7 4 5 5	5 5 5 5	5 5 5 5	2 2 2 2	2 2 2 2	5 5 5 5	5 5 5 5
Chorus 4	5 5 2 2	2 2 2 3 3 3 3 3	3 3 3 3	3 3 3 3	1 1 3 3 3	1 1 1 6	6 1 1 1 1 1 1	1 1 1 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
Chorus 5	1 1 1 1	3 3 3 5	1 1 1 1 1 1	1 1 1 1 1 1	11 11 11 11	8 8 8 8	10 10 8 8	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
Chorus 6	3 3 1 1	1 5 5	1 1 3 3 6 6 11	1 1 1 1 1 1	1 3 8 8 9	8 8 8 8	6 6 6 6	6 6 6 6	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
Chorus 7	3 3 3 3	3 3 5 5	3 3 1 1 1 1	1 1 1 1 1 1	1 3 3 3	3 3 3 3	3 3 3 4	1 1 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
Chorus 8	3 3 3 3	1 5 5	3 3 3 3 1 1 1 1	1 1 1 1 1 1	1 3 3 3	3 3 3 3	3 3 3 3	4 1 1 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
Chorus 9	5 5 2 2	5 5 1 1 3 3 6 6 6	11 11 11 11	11 11 11 11	3 2 3 3	3 3 3 3	3 3 5 5	2 1 1 5	5 5 5 5	5 5 5 5	6 6 6 6	6 6 6 6	5 5 5 5	5 5 5 5
Chorus 10	3 3 3 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3	3 3 3 3 3 3 1 1 1 1 5 5 3
Chorus 11	13 12 12 13	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1	11 11 8 8 6 6 6 3 3 1 1 1 1 1
Chorus 12	3 1 3 3	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7	3 3 1 1 2 2 2 3 3 3 3 3 7

Table 7. Straight No Chaser. Fingertboard-position graph.

Straight No Chaser														
Chords	F7	Bb7	F7	F7	F7	Bb7	F7	D7	Gm7	C7	F7	D7	Gm7	C7
Bar Numbers	1	2	3	4	5	6	7	8	9	10	11	12	12	13
Chorus 1	3 3 6 6	6 6	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 2	3 3 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 3	3 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 4	5 5 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 5	5 5 3 3	2 2	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 6	3 3 3 1	3 1	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 7	3 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 8	5 5 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 9	2 2 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 10	3 3 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 11	3 3 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 18	1 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 19	1 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 20	3 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 21	5 1 1 1	1 1	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 22	1 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 23	3 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 24	3 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 25	3 3 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 26	10 10 10 10	10 12 13 14	13 13 15 15	16 16 16 16	16 16 16 16	14 14 14 14	14 14 14 14	16 16 15 14	13 8 7 11	14 14 14 14	14 14 14 14	16 16 15 14	13 8 7 11	14 14 14 14
Chorus 27	3 1 3 3	3 1 1 1	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 28	3 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 29	1 1 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 30	5 5 3 3	2 2	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 31	5 5 3 3	2 2	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 32	3 3 3 3	4 1	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
Chorus 33	7 7 3 3	3 3	5 5	5 5	5 5	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3

Table 8. Swinging the Blues. Fingertboard-position graph.

Swinging the Blues												
Chords	F7			Bb7			F7			F7		
Bar Numbers	1	2	3	4	5	6	7	8	9	10	11	12
Chorus 1	5	1	1	7	7							
Chorus 2	1	1	3	3	5	5	1	1	5	5	8	11
Chorus 3	5	5	3	3	3	1	11	11	11	8	8	8
Chorus 4	1	1	3	3	3	3	1	1	1	1	1	1
Chorus 5	1	1	3	3	5	5	1	1	3	3	6	12
Chorus 11	1	1	3	3	5	5	1	1	3	3	6	12
Chorus 12	1	2	2	3	3	4	4	4	4	1	1	2

Bb7			Bb7			F7			D7		
5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	1	3	3	3	1	1	1	5
11	11	11	11	11	11	11	11	1	1	1	5
1	1	8	8	11	12	15	17	18	18	15	15
1	3	3	3	5	5	3	3	1	5	5	5
12	14	18	18	18	18	15	15	15	12	12	12
1	3	6	6	6	9	9	9	12	12	12	15
3	3	5	6	7	7	8	9	10	10	9	9

Gm7			C7			F7			D7			Gm7			C7		
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
5	5	5	5	6	5	5	1	1	5	5	5	5	5	5	5	5	5
5	5	5	5	5	5	2	2	2	2	2	2	5	5	5	5	5	5
15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	5	5	5	5	1	1	1	1	1	1	5	5	5	5	5	5
8	5	5	5	5	5	5	5	3	3	3	2	2	5	5	5	5	5

Table 9. Fingerboard Position Graph. Fourths Tuning.

Blues the Most												
	F7			Bb7			F7			F7		
	1	2	3	1	2	3	3	4	5	4	5	6
Chorus 3	1	1	1	1	1	1	1	1	1	1	1	
Chorus 4	3	3	1	1	1	1	1	1	5	3	3	
Chorus 5	1	1	1	1	1	1	3	1	1	3	3	
Chorus 6	1	1	1	1	2	2	1	1	1	1	1	
Chorus 7	2	2	2	3	3	3	3	3	3	3	3	
Chorus 8	1	1	1	1	1	1	1	1	1	1	1	
Chorus 9	3	1	1	1	2	2	2	2	2	2	2	
Chorus 10	1	1	1	1	1	1	1	1	1	1	1	
Chorus 14	1	1	1	1	1	1	1	1	1	1	1	

Low and Inside												
	F7			Bb7			F7			F7		
	1	2	3	1	2	3	3	4	5	4	5	6
Chorus 3	1	1	1	1	1	1	1	1	1	1	3	
Chorus 4	2	1	1	1	1	1	1	1	1	1	3	
Chorus 5	1	1	1	1	5	5	5	5	1	1	2	
Chorus 6	1	1	1	1	1	1	1	1	1	1	1	
Chorus 7	1	1	1	1	1	1	1	1	1	1	2	
Chorus 8	2	1	1	1	1	1	1	1	1	1	2	
Chorus 9	2	1	1	1	1	1	1	5	8	8	8	
Chorus 10	3	3	3	3	5	5	5	1	1	3	3	
Chorus 11	1	1	1	1	5	5	5	1	1	3	3	
Chorus 12	1	1	1	1	1	1	1	1	1	2	1	
Chorus 16	1	1	1	1	1	1	1	1	1	1	1	
Chorus 17	3	3	3	2	5	5	5	1	1	1	1	

Triplin Awhile												
	F7			Bb7			F7			F7		
	1	2	3	1	2	3	3	4	5	4	5	6
Chorus 2	1	1	1	1	1	1	1	1	1	2	2	
Chorus 3	2	2	2	2	2	2	2	2	2	1	1	
Chorus 4	3	1	1	1	1	1	1	1	1	1	1	
Chorus 5	1	1	1	1	1	1	1	1	1	1	1	
Chorus 6	1	1	1	1	1	1	1	1	1	1	1	
Chorus 7	8	8	7	7	5	5	4	4	3	1	1	
Chorus 8	3	3	3	3	3	3	3	3	3	3	3	
Chorus 9	1	1	1	1	1	1	1	1	1	3	1	
Chorus 10	3	3	3	3	3	3	3	3	3	3	6	
Chorus 11	1	1	1	1	1	1	1	1	1	1	1	
Chorus 12	3	1	1	1	1	1	1	1	1	1	1	
Chorus 13	2	2	1	1	1	1	1	1	1	1	1	
Chorus 14	3	3	3	3	3	3	3	3	3	3	1	
Chorus 15	1	1	1	1	1	1	1	1	1	1	1	
Chorus 16	8	7	7	3	1	1	1	1	1	3	3	
Chorus 17	1	1	1	1	1	4	4	5	5	3	3	
Chorus 18	1	1	1	1	1	1	1	5	5	8	8	
Chorus 26	1	1	1	1	1	1	1	1	1	1	1	

Table 10. Fingerboard Position Graph. Fifths Tuning.

Stockholm Riff															
	F7			Bb7			F7			F7					
	1	2	3	4	5	6	7	8	9	10	11	12			
Chorus 1	5	5	2	2	2	5	5	5	4	4	1	1	1	7	
Chorus 2	3	3	1	1	5	5	1	1	1	6	6	6	11		
Chorus 3	2	2	2	2	2	2	5	5	5	5	5	5	3		
Chorus 4	5	5	2	2	2	3	3	3	3	3	3	3	3		
Chorus 5	1	1	1	3	3	1	1	5	1	1	1	1	1		
Chorus 6	3	3	1	1	5	5	1	1	3	3	6	6	11		
Chorus 7	3	3	3	3	5	5	5	3	3	3	1	1	1		
Chorus 8	3	3	3	1	5	5	5	3	3	3	1	1	1		
Chorus 9	5	5	2	2	5	5	1	1	3	3	6	6	6		
Chorus 10	3	3	3	3	3	3	3	3	1	1	5	5	3		
Chorus 11	13	12	12	13	11	11	8	8	6	6	6	3	3	1	1
Chorus 12	3	1	3	3	3	3	1	2	2	2	3	3	3	7	

Straight No Chaser															
	F7			Bb7			F7			F7					
	1	2	3	4	5	6	7	8	9	10	11	12			
Chorus 1	3	3	6	6	6	5	5	5	5	5	5	5	3		
Chorus 2	3	3	3	3	5	5	4	4	4	1	1	1	1		
Chorus 3	3	1	3	3	5	5	3	3	3	3	1	1	1		
Chorus 4	5	5	3	3	3	3	1	3	3	3	3	3	3		
Chorus 5	5	5	2	2	5	5	4	4	4	1	1	1	1		
Chorus 6	3	3	3	1	3	1	1	1	2	3	3	1	1		
Chorus 7	3	1	3	3	3	5	1	1	3	3	6	9	9	20	20
Chorus 8	5	5	3	3	3	3	3	5	5	3	3	2	1		
Chorus 9	2	2	3	3	3	3	3	3	3	3	3	1	1		
Chorus 10	3	3	3	3	3	3	5	5	5	5	5	5	3		
Chorus 11	3	3	3	3	1	5	1	1	3	3	3	8	11		
Chorus 18	1	1	3	3	3	5	5	1	1	3	3	6	6	11	
Chorus 19	1	1	3	3	5	5	1	1	1	3	3	4	8	11	
Chorus 20	3	1	3	3	5	5	3	3	3	1	1	1	1		
Chorus 21	5	1	1	1	5	5	3	3	3	1	1	1	1		
Chorus 22	1	1	3	3	5	5	3	3	5	5	5	5	3		
Chorus 23	3	1	3	3	5	5	1	1	1	1	1	1	1		
Chorus 24	3	1	3	3	5	5	3	3	3	1	1	1	1		
Chorus 25	3	3	3	3	3	3	3	3	3	3	3	3	1		
Chorus 26	10	10	10	10	12	13	14	13	13	15	15	16	16	16	
Chorus 27	3	1	3	3	1	1	1	1	1	1	3	3	3	3	
Chorus 28	3	1	3	3	5	5	4	4	4	1	1	1	1		
Chorus 29	1	1	3	3	5	5	4	4	4	1	2	2	2		
Chorus 30	5	5	2	2	3	3	3	1	1	3	3	3	3		
Chorus 31	5	5	2	2	5	5	4	4	4	1	1	1	1		
Chorus 32	3	3	4	1	5	5	5	5	5	5	5	5	2		
Chorus 33	7	7	3	3	5	5	1	1	1	1	3	3	3		

Swinging the Blues													
	F7			Bb7			F7			F7			
	1	2	3	4	5	6	7	8	9	10	11	12	
Chorus 1	5	1	1	1	7	7	7	7	1	1	1	1	
Chorus 2	1	1	3	3	5	5	1	1	5	5	8	11	
Chorus 3	5	5	3	3	3	3	1	1	3	3	1	1	
Chorus 4	1	1	3	3	5	5	3	3	1	1	1	1	
Chorus 5	1	1	3	3	5	5	1	1	3	3	6	6	12
Chorus 11	1	1	3	3	5	5	4	4	4	1	1	1	
Chorus 12	1	2	2	3	3	3	4	4	4	1	1	1	2

**Table 11. Fingerboard Layouts**

**Fifths Fingerboard Layout**

<u>C<sup>2</sup></u>	<u>G<sup>2</sup></u>	<u>D<sup>3</sup></u>	<u>A<sup>3</sup></u>	Open
D <sup>b2</sup> —	A <sup>b2</sup> —	E <sup>b3</sup> —	B <sup>b3</sup>	1 <sup>st</sup> position
D <sup>2</sup> —	A <sup>2</sup> —	E <sup>3</sup> —	B <sup>3</sup>	2 <sup>nd</sup> position
E <sup>b2</sup> —	B <sup>b2</sup> —	F <sup>3</sup> —	C <sup>4</sup>	3 <sup>rd</sup> position
E <sup>2</sup> —	B <sup>2</sup> —	G <sup>b3</sup> —	D <sup>b4</sup>	4 <sup>th</sup> position
F <sup>2</sup> —	C <sup>3</sup> —	G <sup>3</sup> —	D <sup>4</sup>	5 <sup>th</sup> position
G <sup>b2</sup> —	D <sup>b3</sup> —	A <sup>b3</sup> —	E <sup>b4</sup>	6 <sup>th</sup> position
G <sup>2</sup> —	D <sup>3</sup> —	A <sup>3</sup> —	E <sup>4</sup>	7 <sup>th</sup> position
A <sup>b2</sup> —	E <sup>b3</sup> —	B <sup>b3</sup> —	F <sup>4</sup>	8 <sup>th</sup> position
A <sup>2</sup> —	E <sup>3</sup> —	B <sup>3</sup> —	G <sup>b4</sup>	9 <sup>th</sup> position
B <sup>b2</sup> —	F <sup>3</sup> —	C <sup>4</sup> —	G <sup>4</sup>	10 <sup>th</sup> position
B <sup>2</sup> —	G <sup>b3</sup> —	D <sup>b4</sup> —	A <sup>b4</sup>	11 <sup>th</sup> position
C <sup>3</sup> —	G <sup>3</sup> —	D <sup>4</sup> —	A <sup>4</sup>	12 <sup>th</sup> position

**Fourths Fingerboard Layout**

<u>E<sup>2</sup></u>	<u>A<sup>2</sup></u>	<u>D<sup>3</sup></u>	<u>G<sup>3</sup></u>	Open
F <sup>2</sup> —	B <sup>b2</sup> —	E <sup>b3</sup> —	A <sup>b3</sup>	1 <sup>st</sup> position
G <sup>b2</sup> —	B <sup>3</sup> —	E <sup>3</sup> —	A <sup>3</sup>	2 <sup>nd</sup> position
G <sup>2</sup> —	C <sup>3</sup> —	F <sup>3</sup> —	B <sup>b3</sup>	3 <sup>rd</sup> position
A <sup>b2</sup> —	D <sup>b3</sup> —	G <sup>b3</sup> —	B <sup>3</sup>	4 <sup>th</sup> position
A <sup>2</sup> —	D <sup>3</sup> —	G <sup>3</sup> —	C <sup>4</sup>	5 <sup>th</sup> position
B <sup>b2</sup> —	E <sup>b3</sup> —	A <sup>b3</sup> —	D <sup>b4</sup>	6 <sup>th</sup> position
B <sup>2</sup> —	E <sup>3</sup> —	A <sup>3</sup> —	D <sup>4</sup>	7 <sup>th</sup> position
C <sup>3</sup> —	F <sup>3</sup> —	B <sup>b3</sup> —	E <sup>b4</sup>	8 <sup>th</sup> position
D <sup>b3</sup> —	G <sup>b3</sup> —	B <sup>3</sup> —	E <sup>4</sup>	9 <sup>th</sup> position
D <sup>3</sup> —	G <sup>3</sup> —	C <sup>4</sup> —	F <sup>4</sup>	10 <sup>th</sup> position
E <sup>b3</sup> —	A <sup>b3</sup> —	D <sup>b4</sup> —	G <sup>b4</sup>	11 <sup>th</sup> position
E <sup>3</sup> —	A <sup>3</sup> —	D <sup>4</sup> —	G <sup>4</sup>	12 <sup>th</sup> position

**Table 12. Pitch Range in Red Mitchell's Walking Bass Lines**

Octave	Straight No Chaser 5ths	Stockholm Riff 5ths	Swinging the Blues 5ths	Triplin' Awhile 4ths	Low and Inside 4ths	Blues the Most 4ths
1. C2 – B2	15.7%	21.4%	13.9%	18.5%	20.2%	11.5%
2. C3 – B3	59.4%	58.9%	58.6%	73.8%	73.2%	80%
3. C4 – B4	20.7%	18.5%	22.2%	7.7%	6.6%	8.6%
4. C5 – B5	4.2%	1.2%	5.3%	0%	0%	0%

This table shows the total number of pitches that appeared in each octave for each song. The percentages were calculated by dividing the number for each of the four octave groups by the total number of walking line pitches in the song.

Octave      Blues the Most  
C2 – B2       $51 \div 444 = 0.1148$

C3 – B3       $355 \div 444 = 0.7995$

C4 – B4       $38 \div 444 = 0.0855$

C5 – B5      n/a

Octave      Stockholm Riff  
C2 – B2       $139 \div 650 = 0.2138$

C3 – B3       $383 \div 650 = 0.5892$

C4 – B4       $120 \div 650 = 0.1846$

C5 – B5       $8 \div 650 = 0.0123$

Octave      Low and Inside  
C2 – B2       $138 \div 682 = 0.2023$

C3 – B3       $499 \div 682 = 0.7316$

C4 – B4       $45 \div 682 = 0.0659$

C5 – B5      n/a

Octave      Straight No Chaser  
C2 – B2       $233 \div 1487 = 0.1566$

C3 – B3       $883 \div 1487 = 0.5938$

C4 – B4       $308 \div 1487 = 0.2071$

C5 – B5       $63 \div 1487 = 0.0423$

Octave      Triplin' Awhile  
C2 – B2       $170 \div 921 = 0.1845$

C3 – B3       $680 \div 921 = 0.7383$

C4 – B4       $71 \div 921 = 0.0770$

C5 – B5      n/a

Octave      Swinging the Blues  
C2 – B2       $55 \div 396 = 0.1388$

C3 – B3       $232 \div 396 = 0.5858$

C4 – B4       $88 \div 396 = 0.2222$

C5 – B5       $21 \div 396 = 0.0530$

Appendix A

# Blues the Most

Red Mitchell's bassline

Fourths Tuning:  
E A D G

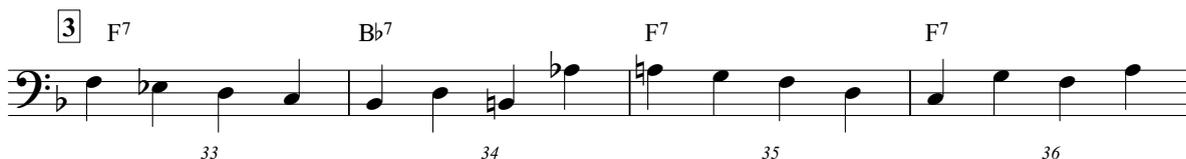
Hampton Hawes  
(1928-1977)

1 2



Intro and head arrangement - incomplete walking line

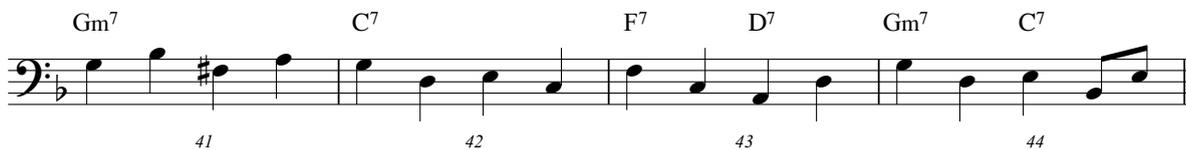
3 F7 Bb7 F7 F7



Bb7 Bb7 F7 D7



Gm7 C7 F7 D7 Gm7 C7



4 F7 Bb7 F7 F7



Bb7 Bb7 F7 D7



Fourths tuning:  
E A D G

Blues the Most

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

53 54 55 56

Detailed description: This musical staff contains measures 53 through 56. It is written in bass clef with a key signature of one flat (Bb). Measure 53 has a Gm7 chord and notes G2, Bb2, D3, F3. Measure 54 has a C7 chord and notes C3, Eb3, G3, Bb3. Measure 55 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 56 has a C7 chord and notes C3, Eb3, G3, Bb3.

5 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

57 58 59 60

Detailed description: This musical staff contains measures 57 through 60. It is written in bass clef with a key signature of one flat (Bb). Measure 57 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 58 has a Bb7 chord and notes Bb2, D3, F3, Ab3. Measure 59 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 60 has an F7 chord and notes F3, Ab3, C4, Eb4.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

61 62 63 64

Detailed description: This musical staff contains measures 61 through 64. It is written in bass clef with a key signature of one flat (Bb). Measure 61 has a Bb7 chord and notes Bb2, D3, F3, Ab3. Measure 62 has a Bb7 chord and notes Bb2, D3, F3, Ab3. Measure 63 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 64 has a D7 chord and notes D3, F3, Ab3, C4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

65 66 67 68

Detailed description: This musical staff contains measures 65 through 68. It is written in bass clef with a key signature of one flat (Bb). Measure 65 has a Gm7 chord and notes G2, Bb2, D3, F3. Measure 66 has a C7 chord and notes C3, Eb3, G3, Bb3. Measure 67 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 68 has a C7 chord and notes C3, Eb3, G3, Bb3.

6 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

69 70 71 72

Detailed description: This musical staff contains measures 69 through 72. It is written in bass clef with a key signature of one flat (Bb). Measure 69 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 70 has a Bb7 chord and notes Bb2, D3, F3, Ab3. Measure 71 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 72 has an F7 chord and notes F3, Ab3, C4, Eb4.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

73 74 75 76

Detailed description: This musical staff contains measures 73 through 76. It is written in bass clef with a key signature of one flat (Bb). Measure 73 has a Bb7 chord and notes Bb2, D3, F3, Ab3. Measure 74 has a Bb7 chord and notes Bb2, D3, F3, Ab3. Measure 75 has an F7 chord and notes F3, Ab3, C4, Eb4. Measure 76 has a D7 chord and notes D3, F3, Ab3, C4.

Fourths tuning:  
E A D G

### Blues the Most

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

77 78 79 80

Detailed description: This block contains the first line of music, measures 77 to 80. It is written in bass clef with a key signature of one flat (Bb). The notes are: 77 (Bb, D, F), 78 (Bb, D, F, Ab), 79 (Bb, D, F, Ab, G), and 80 (Bb, D, F, Ab, G). Chord symbols Gm<sup>7</sup>, C<sup>7</sup>, F<sup>7</sup>, D<sup>7</sup>, Gm<sup>7</sup>, and C<sup>7</sup> are placed above the staff. Measure numbers 77, 78, 79, and 80 are centered below the staff.

7 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

81 82 83 84

Detailed description: This block contains the second line of music, measures 81 to 84. It is written in bass clef with a key signature of one flat (Bb). The notes are: 81 (Bb, D, F), 82 (Bb, D, F, Ab), 83 (Bb, D, F), and 84 (Bb, D, F, Ab). Chord symbols F<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and F<sup>7</sup> are placed above the staff. A box containing the number '7' is placed above the first measure. Measure numbers 81, 82, 83, and 84 are centered below the staff.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

85 86 87 88

Detailed description: This block contains the third line of music, measures 85 to 88. It is written in bass clef with a key signature of one flat (Bb). The notes are: 85 (Bb, D, F), 86 (Bb, D, F, Ab), 87 (Bb, D, F, Ab, G), and 88 (Bb, D, F, Ab, G, F, E, D, C, Bb). Chord symbols Bb<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and D<sup>7</sup> are placed above the staff. A triplet of notes (F, E, D) is marked with a '3' and a bracket in measure 88. Measure numbers 85, 86, 87, and 88 are centered below the staff.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

89 90 91 92

Detailed description: This block contains the fourth line of music, measures 89 to 92. It is written in bass clef with a key signature of one flat (Bb). The notes are: 89 (Bb, D, F, Ab), 90 (Bb, D, F, Ab, G), 91 (Bb, D, F), and 92 (Bb, D, F, Ab, G). Chord symbols Gm<sup>7</sup>, C<sup>7</sup>, F<sup>7</sup>, D<sup>7</sup>, Gm<sup>7</sup>, and C<sup>7</sup> are placed above the staff. Measure numbers 89, 90, 91, and 92 are centered below the staff.

8 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

93 94 95 96

Detailed description: This block contains the fifth line of music, measures 93 to 96. It is written in bass clef with a key signature of one flat (Bb). The notes are: 93 (Bb, D, F), 94 (Bb, D, F, Ab), 95 (Bb, D, F), and 96 (Bb, D, F, Ab). Chord symbols F<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and F<sup>7</sup> are placed above the staff. A box containing the number '8' is placed above the first measure. Measure numbers 93, 94, 95, and 96 are centered below the staff.

Bb<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

97 98 99 100

Detailed description: This block contains the sixth line of music, measures 97 to 100. It is written in bass clef with a key signature of one flat (Bb). The notes are: 97 (Bb, D, F), 98 (Bb, D, F, Ab), 99 (Bb, D, F, Ab, G), and 100 (Bb, D, F, Ab, G, F, E, D, C, Bb). Chord symbols Bb<sup>7</sup>, C<sup>7</sup>, F<sup>7</sup>, and D<sup>7</sup> are placed above the staff. Measure numbers 97, 98, 99, and 100 are centered below the staff.

Fourths tuning:  
E A D G

Blues the Most

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

101 102 103 104

9 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

105 106 107 108

Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

109 110 111 112

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

113 114 115 116

10 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

117 118 119 120

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

121 122 123 124

Fourths tuning:  
E A D G

Blues the Most

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> C<sup>7</sup>

125 126 127 128

11 12 13

Bass solo - no walking line

14 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

165 166 167 168

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

169 170 171 172

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> C<sup>7</sup>

173 174 175 176

15 16

Head arrangement - incomplete walking line

Appendix B

Low and Inside  
Red Mitchell's bass line

Fourths tuning:  
E A D G

Andre Previn  
(1929 - )

1 2

A musical staff in bass clef with a 4/4 time signature. It contains a double bar line and two first/second ending markers, labeled '1' and '2', positioned above the staff.

Intro and head arrangement - incomplete walking line

3

Musical staff with notes and chord symbols: F7, Bb7, F7, F7. Measure numbers 29, 30, 31, 32 are indicated below the staff.

Musical staff with notes and chord symbols: Bb7, Bb7, F7, D7. Measure numbers 33, 34, 35, 36 are indicated below the staff.

Musical staff with notes and chord symbols: Gm7, C7, F7, D7, Gm7, C7. Measure numbers 37, 38, 39, 40 are indicated below the staff.

4

Musical staff with notes and chord symbols: F7, Bb7, F7, F7. Measure numbers 41, 42, 43, 44 are indicated below the staff.

Musical staff with notes and chord symbols: Bb7, Bb7, F7, D7. Measure numbers 45, 46, 47, 48 are indicated below the staff.

Fourths tuning:  
E A D G

Low and Inside

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

49 50 51 52

5 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

53 54 55 56

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

57 58 59 60

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

61 62 63 64

6 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

65 66 67 68

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

69 70 71 72

Fourths tuning:  
E A D G

Low and Inside

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

73 74 75 76

7 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

77 78 79 80

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

81 82 83 84

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

85 86 87 88

8 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

89 90 91 92

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

93 94 95 96

Fourths tuning:  
E A D G

Low and Inside

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

97 98 99 100

9 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

101 102 103 104

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

105 106 107 108

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

109 110 111 112

10 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

113 114 115 116

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

117 118 119 120

Fourths tuning:  
E A D G

Low and Inside

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

121 122 123 124

11 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

125 126 127 128

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

129 130 131 132

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

133 134 135 136

12 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

137 138 139 140

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

141 142 143 144

Fourths tuning:  
E A D G

Low and Inside

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

145 146 147 148

13 14 15

Bass solo - no walking line

16 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

185 186 187 188

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

189 190 191 192

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

193 194 195 196

17 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

197 198 199 200

Fourths tuning:  
E A D G

Low and Inside

Musical notation for measures 201-204. The staff is in bass clef with a key signature of one flat. Measure 201 has a  $Bb^7$  chord. Measure 202 has a  $Bb^7$  chord and a triplet of eighth notes. Measure 203 has an  $F^7$  chord. Measure 204 has a  $D^7$  chord. Measure numbers 201, 202, 203, and 204 are written below the staff.

Musical notation for measures 205-208. The staff is in bass clef with a key signature of one flat. Measure 205 has a  $Gm^7$  chord. Measure 206 has a  $C^7$  chord. Measure 207 has  $F^7$  and  $D^7$  chords. Measure 208 has  $Gm^7$  and  $C^7$  chords. Measure numbers 205, 206, 207, and 208 are written below the staff.

Musical notation for measures 18 and 19. The staff is in bass clef with a key signature of one flat. Measure 18 is marked with a box containing the number 18. Measure 19 is marked with a box containing the number 19. The notation is incomplete, showing only the staff lines.

Head arrangement - incomplete walking line

# Appendix C

# Triplin' Awhile

Red Mitchell's bass line

Fourths tuning:  
E A D G

Harold Land  
(1928 - 2001)

1

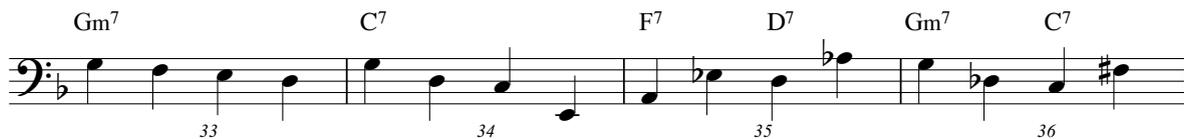
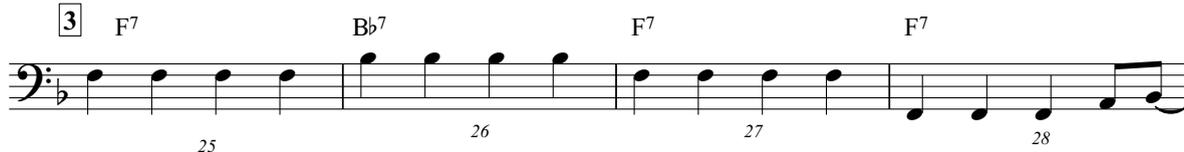


Intro and head arrangement - incomplete walking line

2



3



Fourths tuning:  
E A D G

### Triplin Awhile

4 F7 Bb7 F7 F7



37 38 39 40

Bb7 Bb7 F7 D7



41 42 43 44

Gm7 C7 F7 D7 Gm7 C7



45 46 47 48

5 F7 Bb7 F7 F7



49 50 51 52

Bb7 Bb7 F7 D7



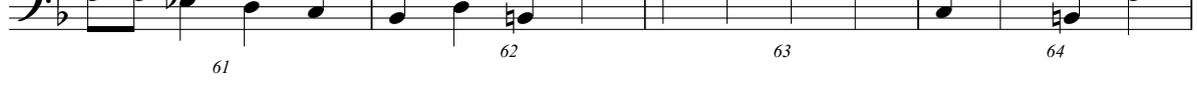
53 54 55 56

Gm7 C7 F7 D7 Gm7 C7



57 58 59 60

6 F7 Bb7 F7 F7



61 62 63 64

Detailed description: This block contains the bass line notation for the piece 'Triplin Awhile' in fourths tuning (EADG). The music is written in a key with one flat (B-flat major or D minor) and a 4/4 time signature. It is divided into six systems, each starting with a measure number in a box. The first system (measures 37-40) has chords F7, Bb7, F7, and F7. The second system (measures 41-44) has chords Bb7, Bb7, F7, and D7. The third system (measures 45-48) has chords Gm7, C7, F7, D7, Gm7, and C7. The fourth system (measures 49-52) has chords F7, Bb7, F7, and F7. The fifth system (measures 53-56) has chords Bb7, Bb7, F7, and D7. The sixth system (measures 57-60) has chords Gm7, C7, F7, D7, Gm7, and C7. The seventh system (measures 61-64) has chords F7, Bb7, F7, and F7. The notation includes stems, beams, and accidentals (flats and naturals) for each note.

Fourths tuning:  
E A D G

### Triplin Awhile

65  $Bb^7$   $Bb^7$   $F^7$   $D^7$

69  $Gm^7$   $C^7$   $F^7$   $D^7$   $Gm^7$   $C^7$

73  $F^7$   $Bb^7$   $F^7$   $F^7$

77  $Bb^7$   $Bb^7$   $F^7$   $D^7$

81  $Gm^7$   $C^7$   $F^7$   $D^7$   $Gm^7$   $C^7$

85  $F^7$   $Bb^7$   $F^7$   $F^7$

89  $Bb^7$   $Bb^7$   $F^7$   $D^7$

Fourths tuning:  
E A D G

### Triplin Awhile

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

93 94 95 96

Detailed description: This musical staff covers measures 93 to 96. It is in a bass clef with a key signature of one flat (Bb). Measure 93 has a Gm<sup>7</sup> chord and notes G2, Bb2, D3, G3. Measure 94 has a C<sup>7</sup> chord and notes C3, Eb3, F3, C4. Measure 95 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 96 has a D<sup>7</sup> chord and notes D3, F#3, A3, D4.

9 F<sup>7</sup> Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

97 98 99 100

Detailed description: This musical staff covers measures 97 to 100. Measure 97 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 98 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 99 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 100 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4.

Bb<sup>7</sup> Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

101 102 103 104

Detailed description: This musical staff covers measures 101 to 104. Measure 101 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 102 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 103 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 104 has a D<sup>7</sup> chord and notes D3, F#3, A3, D4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

105 106 107 108

Detailed description: This musical staff covers measures 105 to 108. Measure 105 has a Gm<sup>7</sup> chord and notes G2, Bb2, D3, G3. Measure 106 has a C<sup>7</sup> chord and notes C3, Eb3, F3, C4. Measure 107 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 108 has a D<sup>7</sup> chord and notes D3, F#3, A3, D4.

10 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

109 110 111 112

Detailed description: This musical staff covers measures 109 to 112. Measure 109 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 110 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 111 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 112 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

113 114 115 116

Detailed description: This musical staff covers measures 113 to 116. Measure 113 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 114 has a Bb<sup>7</sup> chord and notes Bb2, D3, F3, Bb3. Measure 115 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 116 has a D<sup>7</sup> chord and notes D3, F#3, A3, D4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

117 118 119 120

Detailed description: This musical staff covers measures 117 to 120. Measure 117 has a Gm<sup>7</sup> chord and notes G2, Bb2, D3, G3. Measure 118 has a C<sup>7</sup> chord and notes C3, Eb3, F3, C4. Measure 119 has an F<sup>7</sup> chord and notes F3, Ab3, C4, F4. Measure 120 has a D<sup>7</sup> chord and notes D3, F#3, A3, D4.

Fourths tuning:  
E A D G

### Triplin Awhile

**11** F<sup>7</sup> B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

121 122 123 124

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

125 126 127 128

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

129 130 131 132

**12** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

133 134 135 136

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

137 138 139 140

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

141 142 143 144

**13** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

145 146 147 148

Detailed description: This block contains the bass line notation for measures 121 through 148 of the piece 'Triplin Awhile'. The music is written in a bass clef with a key signature of one flat (B-flat). The notes are organized into groups of four measures per system. Above each measure, the corresponding chord is indicated. Measure numbers are printed below the staff. The piece concludes with a double bar line at the end of measure 148.

Fourths tuning:  
E A D G

### Triplin Awhile

Musical staff 1: Bass clef, key signature of one flat. Measures 149-152. Chords: Bb7, F7, D7.

Musical staff 2: Bass clef, key signature of one flat. Measures 153-156. Chords: Gm7, C7, F7, D7, Gm7, C7.

Musical staff 3: Bass clef, key signature of one flat. Measure 14 marked. Measures 157-160. Chords: F7, Bb7, F7, F7.

Musical staff 4: Bass clef, key signature of one flat. Measures 161-164. Chords: Bb7, Bb7, F7, D7.

Musical staff 5: Bass clef, key signature of one flat. Measures 165-168. Chords: Gm7, C7, F7, D7, Gm7, C7.

Musical staff 6: Bass clef, key signature of one flat. Measure 15 marked. Measures 169-172. Chords: F7, Bb7, Bb7, F7, F7.

Musical staff 7: Bass clef, key signature of one flat. Measures 173-176. Chords: Bb7, Bb7, F7, D7.

Fourths tuning:  
E A D G

### Triplin Awhile

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

177 178 179 180 3

This musical staff contains measures 177 to 180. It is written in bass clef with a key signature of one flat (Bb). Measure 177 has a Gm<sup>7</sup> chord. Measure 178 has a C<sup>7</sup> chord. Measure 179 has an F<sup>7</sup> chord. Measure 180 has a D<sup>7</sup> chord, followed by a Gm<sup>7</sup> chord, a C<sup>7</sup> chord, and a triplet of eighth notes.

16 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

181 182 183 184

This musical staff contains measures 181 to 184. It is written in bass clef with a key signature of one flat (Bb). Measure 181 has an F<sup>7</sup> chord. Measure 182 has a Bb<sup>7</sup> chord. Measure 183 has an F<sup>7</sup> chord. Measure 184 has an F<sup>7</sup> chord.

Bb<sup>7</sup> Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

185 186 187 188

This musical staff contains measures 185 to 188. It is written in bass clef with a key signature of one flat (Bb). Measure 185 has a Bb<sup>7</sup> chord. Measure 186 has a Bb<sup>7</sup> chord. Measure 187 has a Bb<sup>7</sup> chord. Measure 188 has an F<sup>7</sup> chord, followed by a D<sup>7</sup> chord.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

189 190 191 192

This musical staff contains measures 189 to 192. It is written in bass clef with a key signature of one flat (Bb). Measure 189 has a Gm<sup>7</sup> chord. Measure 190 has a C<sup>7</sup> chord. Measure 191 has an F<sup>7</sup> chord. Measure 192 has a D<sup>7</sup> chord, followed by a Gm<sup>7</sup> chord and a C<sup>7</sup> chord.

17 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

193 194 195 196

This musical staff contains measures 193 to 196. It is written in bass clef with a key signature of one flat (Bb). Measure 193 has an F<sup>7</sup> chord. Measure 194 has a Bb<sup>7</sup> chord. Measure 195 has an F<sup>7</sup> chord. Measure 196 has an F<sup>7</sup> chord.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

197 198 199 200

This musical staff contains measures 197 to 200. It is written in bass clef with a key signature of one flat (Bb). Measure 197 has a Bb<sup>7</sup> chord. Measure 198 has a Bb<sup>7</sup> chord. Measure 199 has an F<sup>7</sup> chord. Measure 200 has a D<sup>7</sup> chord.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

201 202 203 204

This musical staff contains measures 201 to 204. It is written in bass clef with a key signature of one flat (Bb). Measure 201 has a Gm<sup>7</sup> chord. Measure 202 has a C<sup>7</sup> chord. Measure 203 has an F<sup>7</sup> chord. Measure 204 has a D<sup>7</sup> chord, followed by a Gm<sup>7</sup> chord and a C<sup>7</sup> chord.

Fourths tuning:  
E A D G

### Triplin Awhile

**18** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

205 206 207 208

Detailed description: This block contains the first line of musical notation for measures 205-208. It is written in bass clef with a key signature of one flat (Bb). Measure 205 starts with an F7 chord and contains a quarter note G2, a quarter note A2, and a quarter note Bb2. Measure 206 starts with a Bb7 chord and contains a quarter note C3, a quarter note D3, and a quarter note Eb3. Measure 207 starts with an F7 chord and contains a quarter note E3, a quarter note F3, and a quarter note G3. Measure 208 starts with an F7 chord and contains a quarter note A3, a quarter note Bb3, and a quarter note C4.

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

209 210 211 212

Detailed description: This block contains the second line of musical notation for measures 209-212. Measure 209 starts with a Bb7 chord and contains a quarter note D3, a quarter note E3, and a quarter note F3. Measure 210 starts with a Bb7 chord and contains a quarter note G3, a quarter note A3, and a quarter note Bb3. Measure 211 starts with an F7 chord and contains a quarter note C4, a quarter note D4, and a quarter note Eb4. Measure 212 starts with a D7 chord and contains a quarter note E4, a quarter note F4, and a quarter note G4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> C<sup>7</sup>

213 214 215 216

Detailed description: This block contains the third line of musical notation for measures 213-216. Measure 213 starts with a Gm7 chord and contains a quarter note A2, a quarter note Bb2, and a quarter note C3. Measure 214 starts with a C7 chord and contains a quarter note D3, a quarter note E3, and a quarter note F3. Measure 215 starts with an F7 chord and contains a quarter note G3, a quarter note A3, and a quarter note Bb3. Measure 216 starts with a C7 chord and contains a quarter note C4, a quarter note D4, and a quarter note Eb4.

**19** **20** **21** **22** **23** **24** **25**

Bass solo - no walking line Drum solo

Detailed description: This block contains measures 19 through 25. Measures 19-25 are represented by empty bass clef staves. Below the staves, the text 'Bass solo - no walking line' is written under measures 19-22, and 'Drum solo' is written under measures 23-25.

**26** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

301 302 303 304

Detailed description: This block contains the first line of musical notation for measures 301-304. Measure 301 starts with an F7 chord and contains a quarter note G2, a quarter note A2, and a quarter note Bb2. Measure 302 starts with a Bb7 chord and contains a quarter note C3, a quarter note D3, and a quarter note Eb3. Measure 303 starts with an F7 chord and contains a quarter note E3, a quarter note F3, and a quarter note G3. Measure 304 starts with an F7 chord and contains a quarter note A3, a quarter note Bb3, and a quarter note C4.

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

305 306 307 308

Detailed description: This block contains the second line of musical notation for measures 305-308. Measure 305 starts with a Bb7 chord and contains a quarter note D3, a quarter note E3, and a quarter note F3. Measure 306 starts with a Bb7 chord and contains a quarter note G3, a quarter note A3, and a quarter note Bb3. Measure 307 starts with an F7 chord and contains a quarter note C4, a quarter note D4, and a quarter note Eb4. Measure 308 starts with a D7 chord and contains a quarter note E4, a quarter note F4, and a quarter note G4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> C<sup>7</sup> C<sup>7</sup>

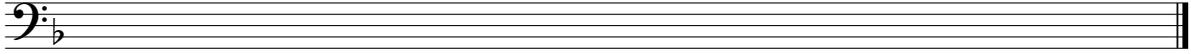
309 310 311 312

Detailed description: This block contains the third line of musical notation for measures 309-312. Measure 309 starts with a Gm7 chord and contains a quarter note A2, a quarter note Bb2, and a quarter note C3. Measure 310 starts with a C7 chord and contains a quarter note D3, a quarter note E3, and a quarter note F3. Measure 311 starts with an F7 chord and contains a quarter note G3, a quarter note A3, and a quarter note Bb3. Measure 312 starts with a C7 chord and contains a quarter note C4, a quarter note D4, and a quarter note Eb4.

Fourths tuning:  
E A D G

# Triplin Awhile

27



Head arrangement - bass plays melody

Appendix D

# Stockholm Riff

Red Mitchell's bass line

Fifths tuning:  
C G D A

Benny Carter  
(1907 - 2003)

1 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

1 2 3 4

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

5 6 7 8

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

9 10 11 12

2 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

13 14 15 16

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

17 18 19 20

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

21 22 23 24

Fifths tuning:  
C G D A

### Stockholm Riff

3 F7 Bb7 F7 F7



25 26 27 28

Bb7 Bb7 F7 D7



29 30 31 32

Gm7 C7 F7 D7 Gm7 C7



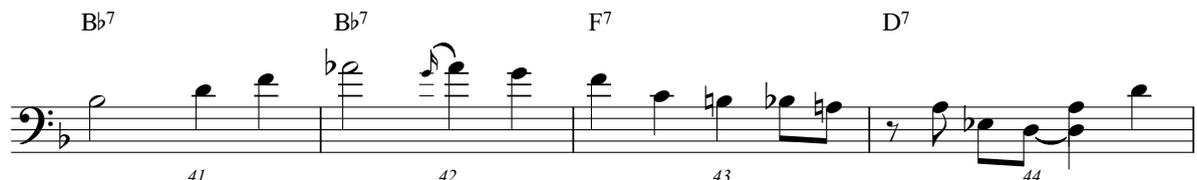
33 34 35 36

4 F7 Bb7 F7 F7



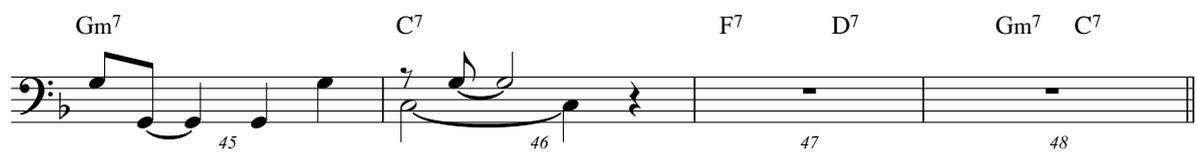
37 38 39 40

Bb7 Bb7 F7 D7



41 42 43 44

Gm7 C7 F7 D7 Gm7 C7



45 46 47 48

Detailed description: This block contains the musical notation for the 'Stockholm Riff' in fifth tuning (C G D A). It is divided into two systems, each starting with a measure number in a box (3 and 4). The first system (measures 25-36) features a sequence of chords: F7, Bb7, F7, F7, Bb7, Bb7, F7, D7, Gm7, C7, F7, D7, Gm7, C7. The second system (measures 37-48) features: F7, Bb7, F7, F7, Bb7, Bb7, F7, D7, Gm7, C7, F7, D7, Gm7, C7. The notation includes bass clefs, a key signature of one flat (Bb), and various rhythmic values such as quarter notes, eighth notes, and sixteenth notes. Measure numbers 25 through 48 are indicated below the staff lines.

Fifths tuning:  
C G D A

### Stockholm Riff

F7                      Bb7                      F7                      F7

**5**

49                      50                      51                      52

Bb7                      Bb7                      F7                      D7

53                      54                      55                      56

Gm7                      C7                      F7                      D7                      Gm7                      C7

57                      58                      59                      60

F7                      Bb7                      F7                      F7

**6**

61                      62                      63                      64

Bb7                      Bb7                      F7                      D7

65                      66                      67                      68

Gm7                      C7                      F7                      D7                      Gm7                      C7

69                      70                      71                      72

Fifths tuning:  
C G D A

### Stockholm Riff

F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

7

73 74 75 76

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

77 78 79 80

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

81 3 82 83 84

F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

8

85 86 87 88

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

89 90 91 92

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

93 94 95 96

Fifths tuning:  
C G D A

### Stockholm Riff

**9** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

97 98 99 100

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

101 102 103 104

G<sup>m7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m7</sup> C<sup>7</sup>

105 106 107 108

**10** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

109 110 111 112

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

113 114 115 116

G<sup>m7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m7</sup> C<sup>7</sup>

117 118 119 120

Fifths tuning:  
C G D A

### Stockholm Riff

F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

**11**

121 122 123 124

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

125 126 127 128

G<sup>m7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m7</sup> C<sup>7</sup>

129 130 131 132

F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> F<sup>7</sup>

**12**

133 134 135 136

B<sup>b7</sup> B<sup>b7</sup> F<sup>7</sup> D<sup>7</sup>

137 138 139 140

G<sup>m7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m7</sup> C<sup>7</sup>

141 142 143 144

Fifths tuning:  
C G D A

### Stockholm Riff

13 14 15

Bass solo - no walking line

16

F7 Bb7 F7 F7

181 182 183 184

Bb7 Bb7 F7 D7

185 186 187 188

Gm7 C7 F7

189 190 191 192

# Appendix E

# Straight, No Chaser

Red Mitchell's bass line

Fifths tuning:  
C G D A

Theolonius Monk  
(1917-1982)

The musical score is written in bass clef with a key signature of one flat (Bb) and a 4/4 time signature. It consists of two first endings, each marked with a boxed number '1' and '2'. The first ending (measures 1-8) includes chords F7, Bb7, F7, F7, Bb7, Bb7, F7, and D7. The second ending (measures 9-12) includes chords Gm7, C7, F7, D7, Gm7, and C7. The first ending (measures 13-16) includes chords F7, Bb7, F7, and F7. The second ending (measures 17-20) includes chords Bb7, Bb7, F7, and D7. The final ending (measures 21-24) includes chords Gm7, C7, F7, D7, Gm7, and C7. Fingerings are indicated by numbers 1-5 below the notes. The score concludes with a double bar line.

# Straight No Chaser

Fifths tuning:  
C G D A

3 F7 Bb7 F7 F7

25 26 27 28

Bb7 Bb7 F7 D7

29 30 31 32

Gm7 C7 F7 D7 Gm7 C7

33 34 35 36

4 F7 Bb7 F7 F7

37 38 39 40

Bb7 Bb7 F7 D7

41 42 43 44

Gm7 C7 F7 D7 Gm7 C7

45 46 47 48

# Straight No Chaser

Fifths tuning:  
C G D A

5 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

49 50 51 52

Detailed description: This system contains measures 49 through 52. It is written in bass clef with a key signature of one flat (B-flat). Measure 49 has a chord of F7. Measure 50 has a chord of Bb7. Measure 51 has a chord of F7. Measure 52 has a chord of F7. The notes are: 49: C2, G2, Bb2, F3; 50: Bb2, F3, Ab3, G3; 51: Ab3, G3, F3, C4; 52: F3, C4, Bb3, F4.

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

53 54 55 56

Detailed description: This system contains measures 53 through 56. Measure 53 has a chord of Bb7. Measure 54 has a chord of Bb7. Measure 55 has a chord of F7. Measure 56 has a chord of D7. The notes are: 53: Bb2, F3, Ab3, G3; 54: Bb2, F3, Ab3, G3; 55: Ab3, G3, F3, C4; 56: F3, C4, Bb3, F4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

57 58 59 60

Detailed description: This system contains measures 57 through 60. Measure 57 has a chord of Gm7. Measure 58 has a chord of C7. Measure 59 has a chord of F7. Measure 60 has a chord of C7. The notes are: 57: G2, Bb2, D3, F3; 58: C3, Eb3, F3, G3; 59: F3, C4, Bb3, F4; 60: C3, Eb3, F3, G3.

6 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

61 62 63 64

Detailed description: This system contains measures 61 through 64. Measure 61 has a chord of F7. Measure 62 has a chord of Bb7. Measure 63 has a chord of F7. Measure 64 has a chord of F7. The notes are: 61: C2, G2, Bb2, F3; 62: Bb2, F3, Ab3, G3; 63: Ab3, G3, F3, C4; 64: F3, C4, Bb3, F4.

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

65 66 67 68

Detailed description: This system contains measures 65 through 68. Measure 65 has a chord of Bb7. Measure 66 has a chord of Bb7. Measure 67 has a chord of F7. Measure 68 has a chord of D7. The notes are: 65: Bb2, F3, Ab3, G3; 66: Bb2, F3, Ab3, G3; 67: Ab3, G3, F3, C4; 68: F3, C4, Bb3, F4.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

69 70 71 72

Detailed description: This system contains measures 69 through 72. Measure 69 has a chord of Gm7. Measure 70 has a chord of C7. Measure 71 has a chord of F7. Measure 72 has a chord of C7. The notes are: 69: G2, Bb2, D3, F3; 70: C3, Eb3, F3, G3; 71: F3, C4, Bb3, F4; 72: C3, Eb3, F3, G3.

# Straight No Chaser

Fifths tuning:  
C G D A

**System 7**

Measures 73-84:

- 73: F7
- 74: Bb7
- 75: F7
- 76: F7
- 77: Bb7
- 78: Bb7
- 79: F7
- 80: D7
- 81: Gm7
- 82: C7
- 83: F7
- 84: D7, Gm7, C7

**System 8**

Measures 85-96:

- 85: F7
- 86: Bb7
- 87: F7
- 88: F7
- 89: Bb7
- 90: Bb7
- 91: F7
- 92: D7
- 93: Gm7
- 94: C7
- 95: F7, D7
- 96: Gm7, C7

# Straight No Chaser

Fifths tuning:  
C G D A

**9** F7 Bb7 F7 F7

97 98 99 100

Bb7 Bb7 F7 D7

101 102 103 104

Gm7 C7 F7 D7 Gm7 C7

105 106 107 108

**10** F7 Bb7 F7 F7

109 110 111 112

Bb7 Bb7 F7 D7

113 114 115 116

Gm7 C7 F7 D7 Gm7 C7

117 118 119 120

# Straight No Chaser

Fifths tuning:  
C G D A

11 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

121 122 123 124

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

125 126 127 128

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

129 130 131 132

12 13 14 15 16 17

Bass solo - no walking line

18 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

205 206 207 208

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

209 210 211 212

# Straight No Chaser

Fifths tuning:  
C G D A

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

213 214 215 216

19 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

217 218 219 220

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

221 222 223 224

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>7</sup> C<sup>7</sup>

225 226 227 228

20 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

229 230 231 232

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

233 234 235 236

# Straight No Chaser

Fifths tuning:  
C G D A

Musical staff 1: Bass clef, measures 237-240. Chords: Gm7, C7, F7, D7, Gm7, C7.

Musical staff 2: Bass clef, measures 241-244. Chords: F7, Bb7, F7, F7.

Musical staff 3: Bass clef, measures 245-248. Chords: Bb7, Bb7, F7, D7.

Musical staff 4: Bass clef, measures 249-252. Chords: Gm7, C7, F7, D7, Gm7, C7.

Musical staff 5: Bass clef, measures 253-256. Chords: F7, Bb7, F7, F7.

Musical staff 6: Bass clef, measures 257-260. Chords: Bb7, Bb7, F7, D7.

# Straight No Chaser

Fifths tuning:  
C G D A

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

261 262 263 264

**23** F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

265 266 267 268

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

269 270 271 272

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

273 274 275 276

**24** F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

277 278 279 280

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

281 282 283 284

Straight No Chaser

Fifths tuning:  
C G D A

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

285 286 287 288

25 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

289 290 291 292

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

293 294 295 296

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

297 298 299 300

26 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

301 302 303 304

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

305 306 307 308

# Straight No Chaser

Fifths tuning:  
C G D A

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

309 310 311 312

Detailed description: This musical staff contains measures 309 through 312. It is written in bass clef with a key signature of one flat (B-flat). Above the staff, the following chords are indicated: Gm<sup>7</sup> (measure 309), C<sup>7</sup> (measure 310), F<sup>7</sup> (measure 311), D<sup>7</sup> (measure 311), Gm<sup>7</sup> (measure 312), and C<sup>7</sup> (measure 312). The notes are: 309: G2, Bb2, D3, F3; 310: G2, Bb2, D3, F3; 311: G2, Bb2, D3, F3; 312: G2, Bb2, D3, F3.

27 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

313 314 315 316

Detailed description: This musical staff contains measures 313 through 316. It is written in bass clef with a key signature of one flat. Above the staff, the following chords are indicated: F<sup>7</sup> (measure 313), Bb<sup>7</sup> (measure 314), F<sup>7</sup> (measure 315), and F<sup>7</sup> (measure 316). The notes are: 313: F2, Ab2, C3, Eb3; 314: F2, Ab2, C3, Eb3; 315: F2, Ab2, C3, Eb3; 316: F2, Ab2, C3, Eb3.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

317 318 319 320

Detailed description: This musical staff contains measures 317 through 320. It is written in bass clef with a key signature of one flat. Above the staff, the following chords are indicated: Bb<sup>7</sup> (measure 317), Bb<sup>7</sup> (measure 318), F<sup>7</sup> (measure 319), and D<sup>7</sup> (measure 320). The notes are: 317: Bb2, D3, F3, Ab3; 318: Bb2, D3, F3, Ab3; 319: F2, Ab2, C3, Eb3; 320: F2, Ab2, C3, Eb3.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

321 322 323 324

Detailed description: This musical staff contains measures 321 through 324. It is written in bass clef with a key signature of one flat. Above the staff, the following chords are indicated: Gm<sup>7</sup> (measure 321), C<sup>7</sup> (measure 322), F<sup>7</sup> (measure 323), D<sup>7</sup> (measure 323), Gm<sup>7</sup> (measure 324), and C<sup>7</sup> (measure 324). The notes are: 321: G2, Bb2, D3, F3; 322: G2, Bb2, D3, F3; 323: G2, Bb2, D3, F3; 324: G2, Bb2, D3, F3.

28 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

325 326 327 328

Detailed description: This musical staff contains measures 325 through 328. It is written in bass clef with a key signature of one flat. Above the staff, the following chords are indicated: F<sup>7</sup> (measure 325), Bb<sup>7</sup> (measure 326), F<sup>7</sup> (measure 327), and F<sup>7</sup> (measure 328). The notes are: 325: F2, Ab2, C3, Eb3; 326: F2, Ab2, C3, Eb3; 327: F2, Ab2, C3, Eb3; 328: F2, Ab2, C3, Eb3.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

329 330 331 332

Detailed description: This musical staff contains measures 329 through 332. It is written in bass clef with a key signature of one flat. Above the staff, the following chords are indicated: Bb<sup>7</sup> (measure 329), Bb<sup>7</sup> (measure 330), F<sup>7</sup> (measure 331), and D<sup>7</sup> (measure 332). The notes are: 329: Bb2, D3, F3, Ab3; 330: Bb2, D3, F3, Ab3; 331: F2, Ab2, C3, Eb3; 332: F2, Ab2, C3, Eb3.

# Straight No Chaser

Fifths tuning:  
C G D A

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

333 334 335 336

Detailed description: This block contains the first system of musical notation for measures 333-336. It is written in bass clef with a key signature of one flat (Bb). The notes are: 333 (Bb, G, F), 334 (E, D, C), 335 (Bb, A, G), and 336 (F, E, D). Chord symbols Gm<sup>7</sup>, C<sup>7</sup>, F<sup>7</sup>, D<sup>7</sup>, Gm<sup>7</sup>, and C<sup>7</sup> are placed above the notes.

29 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

337 338 339 340

Detailed description: This block contains the second system of musical notation for measures 337-340. It is written in bass clef with a key signature of one flat (Bb). The notes are: 337 (Bb, A, G), 338 (F, E, D), 339 (C, Bb, A), and 340 (G, F, E). Chord symbols F<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and F<sup>7</sup> are placed above the notes.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

341 342 343 344

Detailed description: This block contains the third system of musical notation for measures 341-344. It is written in bass clef with a key signature of one flat (Bb). The notes are: 341 (Bb, A, G), 342 (F, E, D), 343 (C, Bb, A), and 344 (G, F, E). Chord symbols Bb<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and D<sup>7</sup> are placed above the notes.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

345 346 347 348

Detailed description: This block contains the fourth system of musical notation for measures 345-348. It is written in bass clef with a key signature of one flat (Bb). The notes are: 345 (Bb, A, G), 346 (F, E, D), 347 (C, Bb, A), and 348 (G, F, E). Chord symbols Gm<sup>7</sup>, C<sup>7</sup>, F<sup>7</sup>, D<sup>7</sup>, Gm<sup>7</sup>, and C<sup>7</sup> are placed above the notes.

30 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

349 350 351 352

Detailed description: This block contains the fifth system of musical notation for measures 349-352. It is written in bass clef with a key signature of one flat (Bb). The notes are: 349 (Bb, A, G), 350 (F, E, D), 351 (C, Bb, A), and 352 (G, F, E). Chord symbols F<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and F<sup>7</sup> are placed above the notes.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

353 354 355 356

Detailed description: This block contains the sixth system of musical notation for measures 353-356. It is written in bass clef with a key signature of one flat (Bb). The notes are: 353 (Bb, A, G), 354 (F, E, D), 355 (C, Bb, A), and 356 (G, F, E). Chord symbols Bb<sup>7</sup>, Bb<sup>7</sup>, F<sup>7</sup>, and D<sup>7</sup> are placed above the notes.

# Straight No Chaser

Fifths tuning:  
C G D A

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

357 358 359 360

**31** F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

361 362 363 364

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

365 366 367 368

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

369 370 371 372

**32** F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

373 374 375 376

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

377 378 379 380

# Straight No Chaser

Fifths tuning:  
C G D A

The musical score is written in bass clef with a key signature of one flat (Bb). It consists of four lines of music, each containing five measures. Measure numbers are placed below the notes, and chord symbols are placed above the staff.

- Line 1: Measures 381-384. Chords: Gm7, C7, F7, D7, Gm7, C7.
- Line 2: Measures 385-388. Measure 385 is marked with a box containing the number 33. Chords: F7, Bb7, F7, F7.
- Line 3: Measures 389-392. Chords: Bb7, Bb7, F7, D7.
- Line 4: Measures 393-397. Chords: Gm7, C7, F7.

Appendix F

# Swinging the Blues

## Red Mitchell's bass line

Fifths tuning:  
C G D A

Count Basie and Eddie Durham  
(1904 - 1984) (1906 - 1987)

1 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

1 2 3 4

Detailed description: This block contains the first four measures of the bass line. The key signature has one flat (Bb) and the time signature is 4/4. Measure 1 is marked with a box containing the number '1' and the chord F7. The notes are Bb, D, F, and Ab. Measure 2 has a Bb7 chord and notes Gb, Bb, D, and F. Measure 3 has an F7 chord and notes Ab, C, Eb, and F. Measure 4 has an F7 chord and notes Gb, Bb, D, and F.

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

5 6 7 8

Detailed description: This block contains measures 5 through 8. Measure 5 has a Bb7 chord and notes Gb, Bb, D, and F. Measure 6 has a Bb7 chord and notes Ab, C, Eb, and F. Measure 7 has an F7 chord and notes Gb, Bb, D, and F. Measure 8 has a D7 chord and notes F, Ab, Bb, and D.

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

9 10 11 12

Detailed description: This block contains measures 9 through 12. Measure 9 has a Gm7 chord and notes Gb, Bb, D, and F. Measure 10 has a C7 chord and notes F, Ab, Bb, and D. Measure 11 has an F7 chord and notes Gb, Bb, D, and F. Measure 12 has a D7 chord and notes F, Ab, Bb, and D.

2 F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

13 14 15 16

Detailed description: This block contains measures 13 through 16. Measure 13 has an F7 chord and notes Gb, Bb, D, and F. Measure 14 has a Bb7 chord and notes Gb, Bb, D, and F. Measure 15 has an F7 chord and notes Ab, C, Eb, and F. Measure 16 has an F7 chord and notes Gb, Bb, D, and F.

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

17 18 19 20

Detailed description: This block contains measures 17 through 20. Measure 17 has a Bb7 chord and notes Gb, Bb, D, and F. Measure 18 has a Bb7 chord and notes Ab, C, Eb, and F. Measure 19 has an F7 chord and notes Gb, Bb, D, and F. Measure 20 has a D7 chord and notes F, Ab, Bb, and D.

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

21 22 23 24

Detailed description: This block contains measures 21 through 24. Measure 21 has a Gm7 chord and notes Gb, Bb, D, and F. Measure 22 has a C7 chord and notes F, Ab, Bb, and D. Measure 23 has an F7 chord and notes Gb, Bb, D, and F. Measure 24 has a C7 chord and notes F, Ab, Bb, and D.

Fifths tuning:  
C G D A

### Swinging the Blues

**3** F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

25 26 27 28

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

29 30 31 32

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

33 34 35 36

**4** F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> F<sup>7</sup>

37 38 39 40

B<sup>b</sup>7 B<sup>b</sup>7 F<sup>7</sup> D<sup>7</sup>

41 42 43 44

G<sup>m</sup>7 C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> G<sup>m</sup>7 C<sup>7</sup>

45 46 47 48

Fifths tuning:  
C G D A

### Swinging the Blues

5 F7 Bb7 F7 F7

49 50 51 52

Bb7 Bb7 F7 D7

53 54 55 56

Gm7 C7 F7 D7 Gm7 C7

57 58 59 60

6 7 8 9 10

Bass solo - no walking line Bass and trumpet trade fours

11 F7 Bb7 F7 F7

121 122 123 124

Bb7 Bb7 F7 D7

125 126 127 128

Fifths tuning:  
C G D A

### Swinging the Blues

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> D<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

129 130 131 132

This musical staff shows measures 129 to 132. The key signature has one flat (B-flat). Measure 129 starts with a Gm<sup>7</sup> chord and contains a quarter note G<sub>2</sub>, a quarter note A<sub>2</sub>, and a quarter note B<sub>2</sub>. Measure 130 starts with a C<sup>7</sup> chord and contains a quarter note C<sub>2</sub>, a quarter note D<sub>2</sub>, and a quarter note E<sub>2</sub>. Measure 131 starts with an F<sup>7</sup> chord and contains a quarter note F<sub>2</sub>, a quarter note G<sub>2</sub>, and a quarter note A<sub>2</sub>. Measure 132 starts with a Gm<sup>7</sup> chord and contains a quarter note G<sub>2</sub>, a quarter note A<sub>2</sub>, and a quarter note B<sub>2</sub>. The staff ends with a double bar line.

12 F<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> F<sup>7</sup>

133 134 135 136

This musical staff shows measures 133 to 136. Measure 133 starts with an F<sup>7</sup> chord and contains a quarter note F<sub>2</sub>, a quarter note G<sub>2</sub>, and a quarter note A<sub>2</sub>. Measure 134 starts with a Bb<sup>7</sup> chord and contains a quarter note Bb<sub>2</sub>, a quarter note C<sub>2</sub>, and a quarter note D<sub>2</sub>. Measure 135 starts with an F<sup>7</sup> chord and contains a quarter note F<sub>2</sub>, a quarter note G<sub>2</sub>, and a quarter note A<sub>2</sub>. Measure 136 starts with an F<sup>7</sup> chord and contains a quarter note F<sub>2</sub>, a quarter note G<sub>2</sub>, and a quarter note A<sub>2</sub>. The staff ends with a double bar line.

Bb<sup>7</sup> Bb<sup>7</sup> F<sup>7</sup> D<sup>7</sup>

137 138 139 140

This musical staff shows measures 137 to 140. Measure 137 starts with a Bb<sup>7</sup> chord and contains a quarter note Bb<sub>2</sub>, a quarter note C<sub>2</sub>, and a quarter note D<sub>2</sub>. Measure 138 starts with a Bb<sup>7</sup> chord and contains a quarter note Bb<sub>2</sub>, a quarter note C<sub>2</sub>, and a quarter note D<sub>2</sub>. Measure 139 starts with an F<sup>7</sup> chord and contains a quarter note F<sub>2</sub>, a quarter note G<sub>2</sub>, and a quarter note A<sub>2</sub>. Measure 140 starts with a D<sup>7</sup> chord and contains a quarter note D<sub>2</sub>, a quarter note E<sub>2</sub>, and a quarter note F<sub>2</sub>. The staff ends with a double bar line.

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> C<sup>7</sup> F<sup>7</sup>

141 142 143 144

This musical staff shows measures 141 to 144. Measure 141 starts with a Gm<sup>7</sup> chord and contains a quarter note G<sub>2</sub>, a quarter note A<sub>2</sub>, and a quarter note B<sub>2</sub>. Measure 142 starts with a C<sup>7</sup> chord and contains a quarter note C<sub>2</sub>, a quarter note D<sub>2</sub>, and a quarter note E<sub>2</sub>. Measure 143 starts with an F<sup>7</sup> chord and contains a quarter note F<sub>2</sub>, a quarter note G<sub>2</sub>, and a quarter note A<sub>2</sub>. Measure 144 starts with a C<sup>7</sup> chord and contains a quarter note C<sub>2</sub>, a quarter note D<sub>2</sub>, and a quarter note E<sub>2</sub>. The staff ends with a double bar line.