The Mechanism:
An Improvisation Overview

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Introduction

This book covers some of the most important and useful harmonic concepts in jazz improvisation. The concepts are all introduced and explained briefly, as this is not meant to be a comprehensive resource. In fact, this book is meant to be used along with the help of a knowledgeable teacher who can further explain and demonstrate the concepts. These technical concepts must then be combined with a study of phrasing, rhythm, and melody — three elements best learned by listening to, studying, and imitating the jazz masters.

By combining the technical knowledge from this book with the more abstract knowledge learned "by ear" from recordings, you can build a very strong foundation as a jazz improviser.

Practice System

Some exercises come with a set of instructions about how best to practice them. Those instructions come in the form of labels that denote certain practice techniques.

12K	12 Keys	Practice the exercise in all 12 keys.
CHD	Chord Types	Practice the exercise with different chord types. For example, the exercise may be written on a dominant 7 chord. Practice the same exercise with -7, Δ7, °7, etc chords.
MOD	Modes	Practice the exercise with different modes. These modes can be from the major scale, melodic minor scale, or other scales of your choosing.
DIR	Direction	Practice the exercise in different directions. If the exercise goes up, also practice it going down. Also, practice it going forward and backward.
INV	Inversions	If the original exercise is written in root position, also make sure to practice it in 1st, 2nd, and 3rd inversions.
RHY	Rhythm	Vary the rhythm of the exercise. Rather than all 8th notes, try a combination of quarter notes and 8th note triplets, for example.
RAN	Range	Extend the exercise so that it covers the full range of your instrument.

In order to get the most out of this book, make sure to use these instructions and practice all of the variations that they create. What may at first appear to be just an eight-measure exercise can turn into hundreds of measures of material that will give you a more solid understanding of the concept and a much better technical grasp of the exercise.

The "Improvisation Concepts" section of this book contains ideas and exercises dealing with jazz improvisation. Although the word *improvisation* suggests complete spontaneity, incorporating these concepts into your solos requires careful study and practice.

Each of the chapters in this section includes a set of exercises designed to get you ready to start improvising with a particular concept. Most of the exercises involve using the concept on the chord changes to a song. The exercises do not specify which song/chord changes to use — you can choose any song and chord changes you like. In fact, it would be beneficial to do the exercise multiple times over different songs and in different keys. In this book, each exercise is accompanied by an example of the concept being used over a set of chord changes. Often, these chord changes are from a 12-bar blues (a few variations of blues changes are used). Practice the concept over the example changes as well as over other songs from your repertoire.

Once you've completed the exercises and have a firm grasp of the concept, you can move on to using the ideas in an improvised solo. Make sure to devote some of your time to completely saturating your solo with the concept you're trying to implement. For example, if you're working on the '3 5 7 b9' concept, play a few choruses where you use that idea every single time you encounter a dominant chord. Although you wouldn't want to do that in a performance, practicing this way ensures that you get enough repetitions of a concept to start to become comfortable with it. Otherwise, you may find yourself doing more *playing* than truly practicing if you're not consistently using the concept you're trying to learn.

Theory

Intervals

The distance between any two notes is called an 'interval.' Each interval is described with both a distance and a quality, specifying how wide the distance is between the two notes. For example, major 3rd, augmented 2nd, perfect 5th, and minor 7th are all interval names.

The first term in the interval name is the quality, which can be major, minor, perfect, augmented, or diminished. Refer to the examples on the following page to see the different intervals these qualities describe.

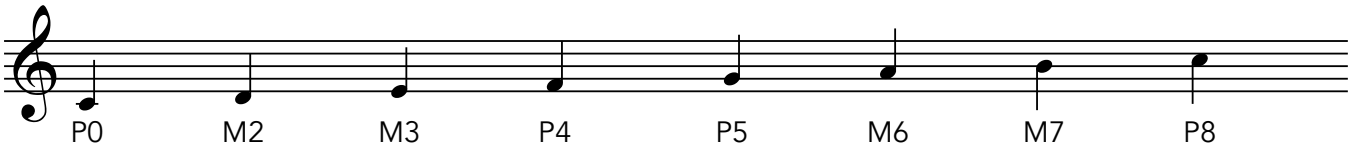
The second term in the interval name describes the distance between the two notes. For example, C to the D above it is a 2nd, while C to the E above it is a 3rd. You can always find the distance part of the interval description by taking the letter names of the two notes and counting the distance between the two (being sure to include the notes themselves). For example, with D to the A above it, we would count the letter names D E F G A, giving us five letters, telling us that it's going to be a 5th of some sort (in this case, a perfect 5th). This is unaffected by accidentals; D to Ab is still a 5th, as counting the letters still gives us the same result. However, the accidentals can affect the quality, and in this case the Ab instead of A makes that interval a diminished 5th.

Keep in mind that two intervals that are "spelled" differently, using different enharmonic equivalents, will be described as different intervals, although they sound the same to the ear. For example, Eb to the G above it is an major 3rd, while D# to the G above it is a diminished 4th.

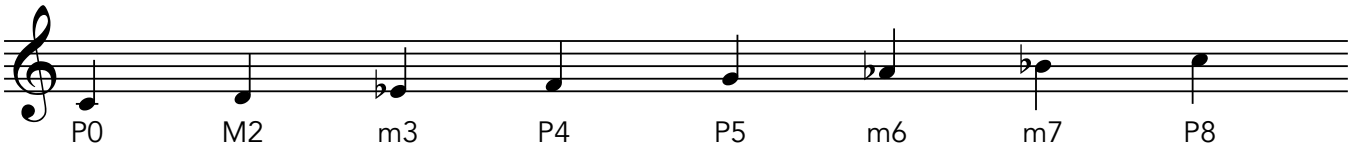
Note: in this book, the following abbreviations are used for interval qualities:
P = perfect, M = major, m = minor, d = diminished, A = augmented.

Intervals

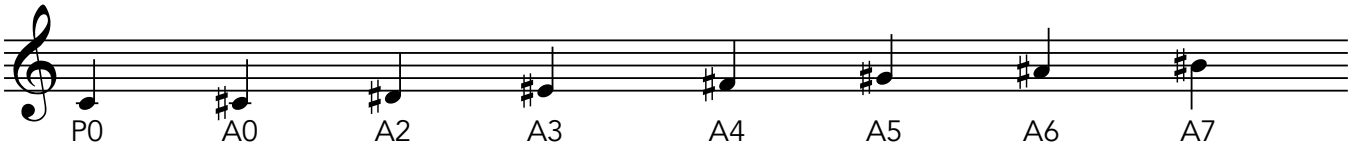
Intervals in the major scale

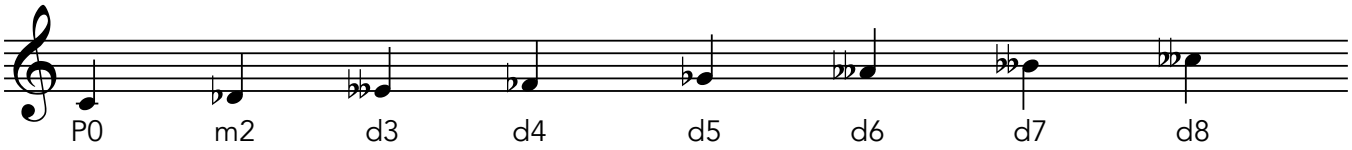


Intervals in the natural minor scale



Other intervals and spellings





Basic Scales

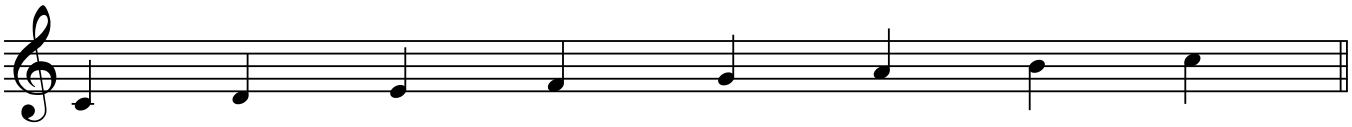
In order to play and improvise Western music, it's important to be extremely familiar and comfortable with the major, natural minor, melodic minor, and harmonic minor scales in all 12 keys. Not only are these scales used frequently as-is, they also provide the foundations for some of the other scales that are important to know.

The 12 major scales, including their key signatures, are presented in the following chart. Also, the three common types of minor scales are written out, though only in the key of C. As with many of the other exercises and examples in this book, when the exercise is given in just one key, you must transpose it to the other 11 keys during practice to make sure to cover all of the material.

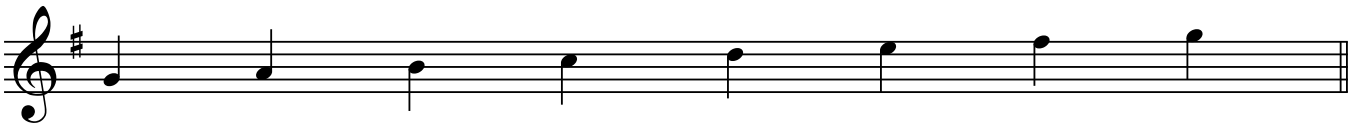
Basic Scales

Major scales

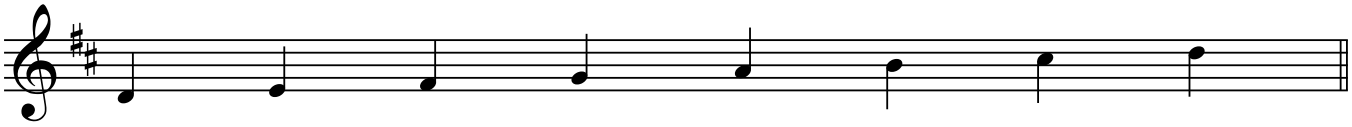
C Major



G Major



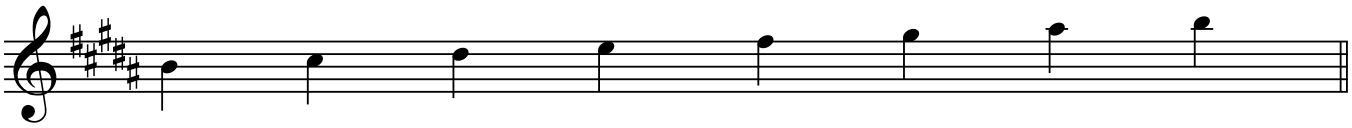
D Major



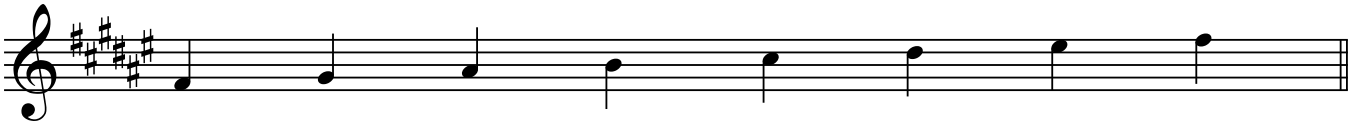
A Major

E Major

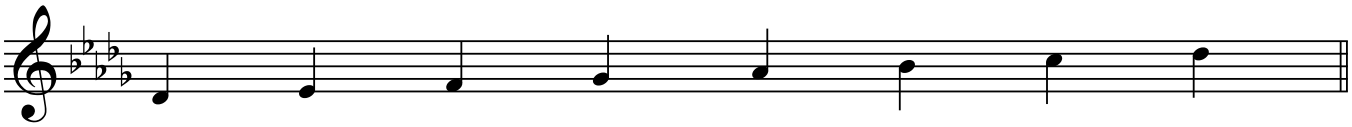
B Major



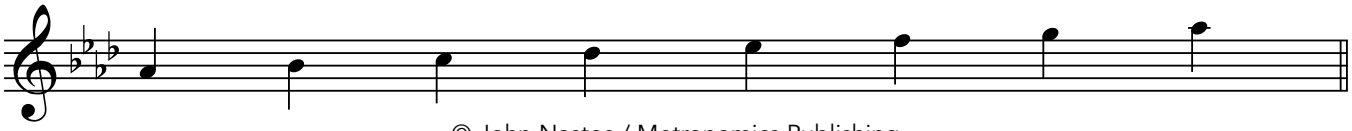
F# Major



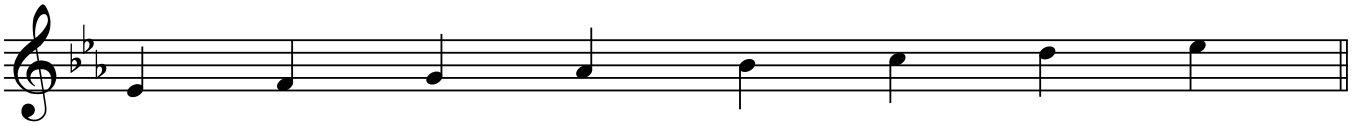
Db Major



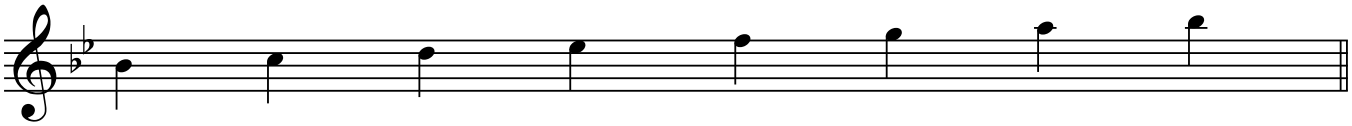
Ab Major



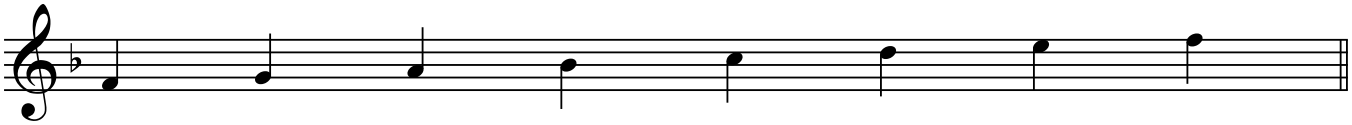
Eb Major



Bb Major

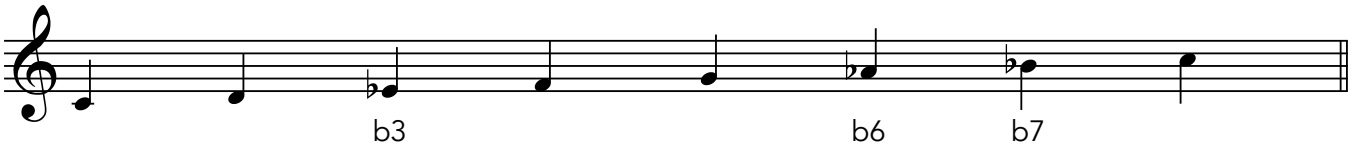


F Major

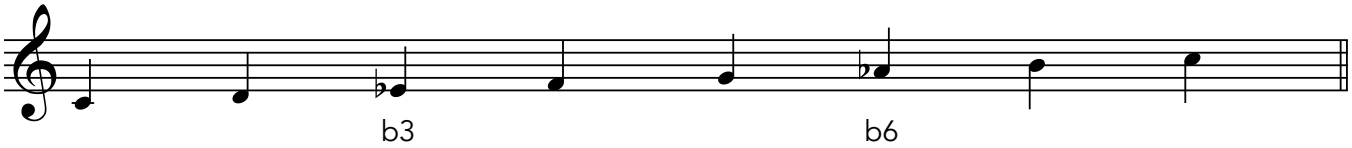


Minor scales

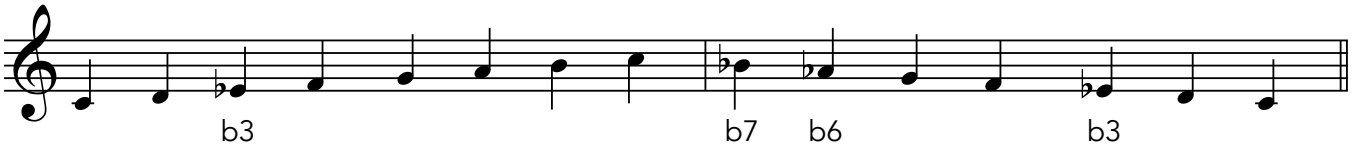
C Natural Minor



C Harmonic Minor



C Melodic Minor



(in jazz, typically only the ascending version of melodic minor is used)

Modes

For each scale, you can derive different 'modes' by starting the sequence of notes in the scale on different pitches. For example, the C major scale starting on the note C is known as C Ionian, or the 1st mode of C major. However, the same set of notes (C D E F G A B), starting on the note D (D E F G A B C) is known as D Dorian, which is the 2nd mode of C major.

There are two common ways to determine the notes in a given mode. The first is to figure out what the fundamental scale is, using the number of the mode. For example, to figure out the notes in G Phrygian, we know that Phrygian is the 3rd mode of major. Then, we need to figure out what major scale G is the 3rd note of — Eb. You then take the notes in an Eb major scale (Eb F G Ab Bb C D) and start them on the note G, leaving us with G Ab Bb C D Eb F — the G Phrygian scale.

The other method for determining notes in a given mode relies on taking a major scale as a foundation and altering it with a formula to derive the notes in the mode. For example, if you compare the notes in G Phrygian (described above) to the notes in G major, you see that Phrygian is like a major scale, but with a b2, b3, b6, and b7. Knowing this formula, if you're looking for the notes in C# Phrygian, you can simply take the notes from C# major (C# D# E# F# G# A# B#) and apply the b2, b3, b6, and b7 alterations, giving you C# D E F# G# A B — the C# Phrygian scale.

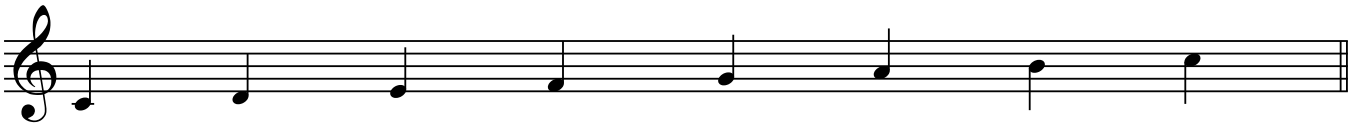
In the following chart, the 7 modes of major are given, including the formulae for the alterations. The modes are written out in two ways: with C as a root for each mode and as the 7 modes of C major.

Major Scale Modes

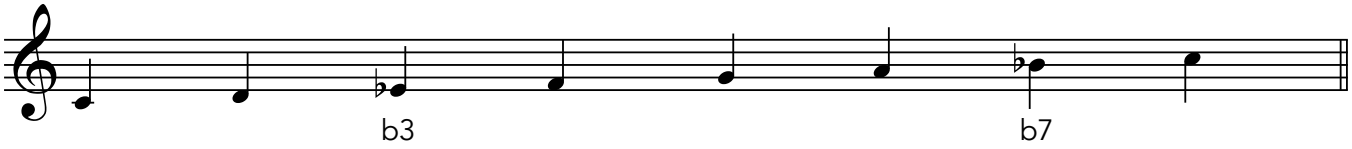
[12K, DIR, RHY, RAN]

Major modes starting on C

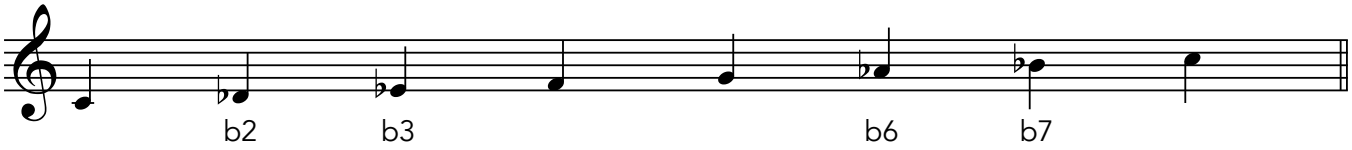
C Ionian



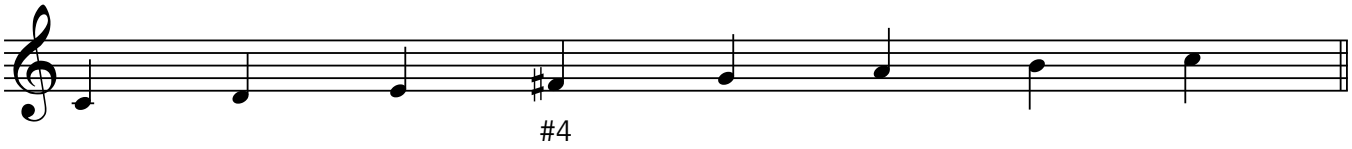
C Dorian



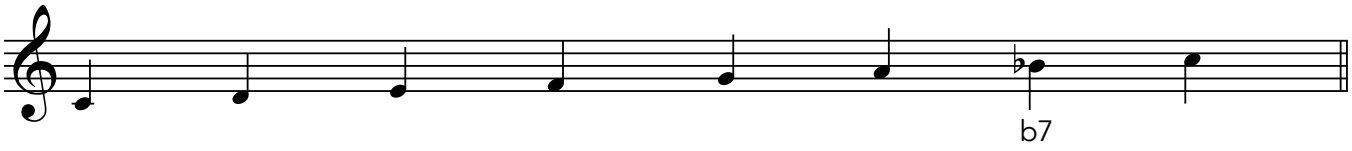
C Phrygian



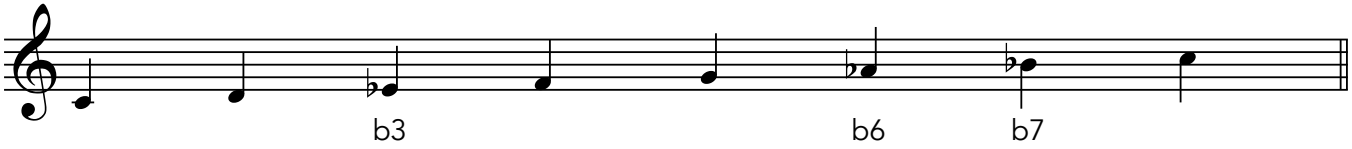
C Lydian



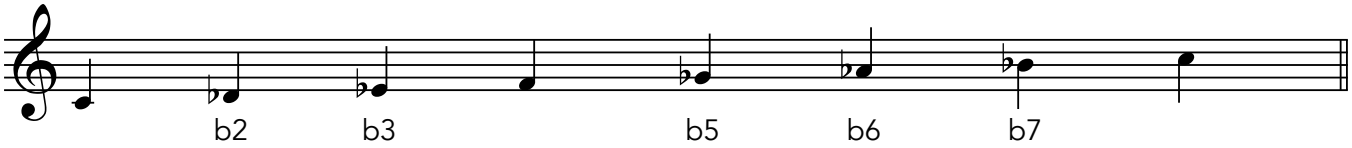
C Mixolydian



C Aeolian

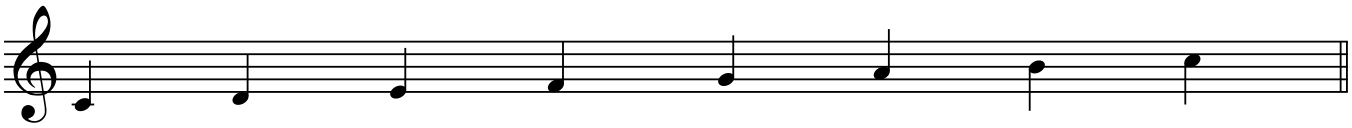


C Locrian

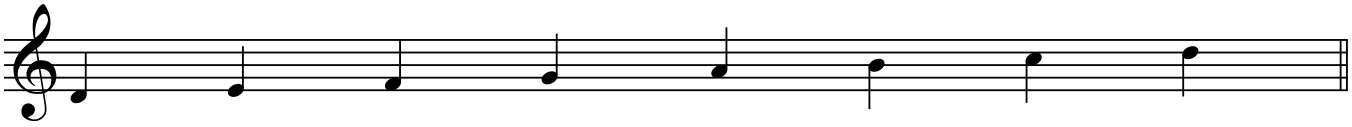


Modes of C major

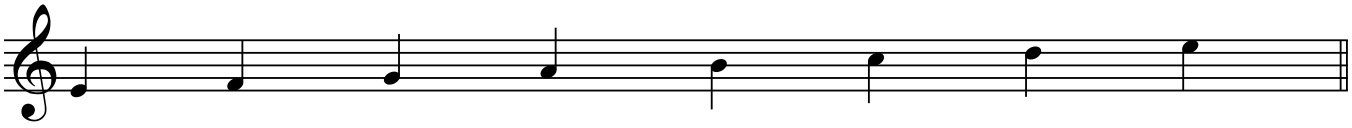
C Ionian



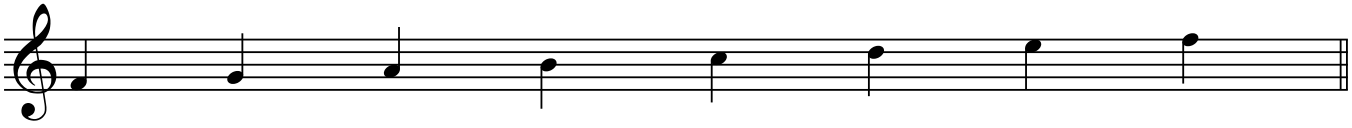
D Dorian



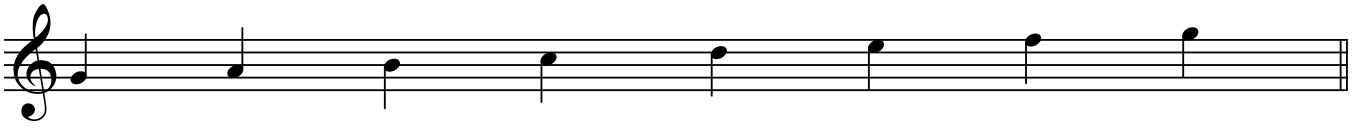
E Phrygian



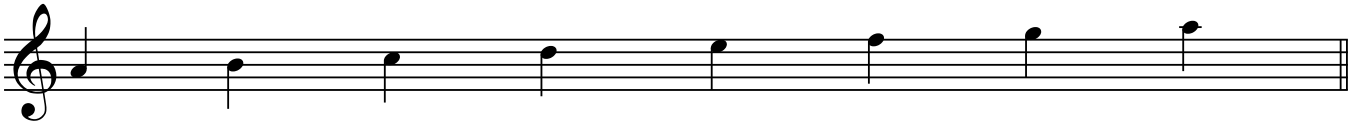
F Lydian



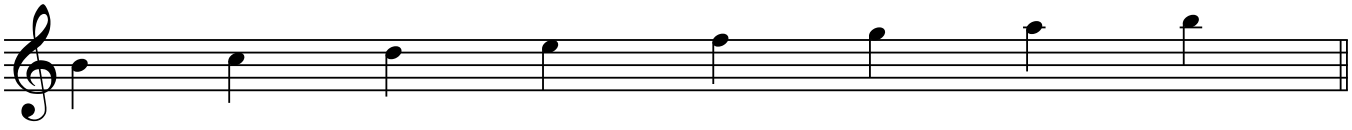
G Mixolydian



A Aeolian



B Locrian



Basic Chord Construction

A collection of three or more notes played simultaneously is called a 'chord.' Like intervals, chords are described with *qualities* determined by the notes that make them up.

The term 'triad' refers to a chord with just three notes. For example, a C major triad has the notes C, E, and G. A C minor triad is C, Eb, and G. The difference in qualities from major to minor determines the change from E to Eb (a major to minor 3rd).

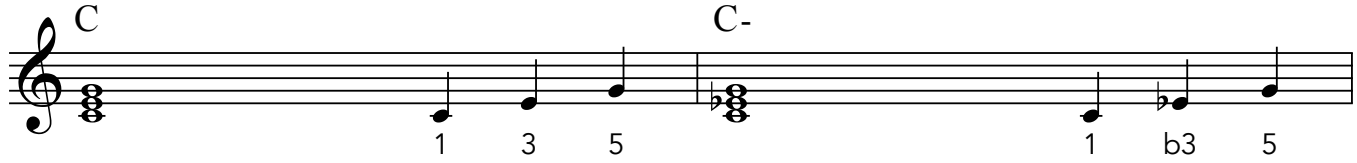
Many of the common chord symbols you'll encounter in jazz will be 'tetrad' chords, which have four notes. C7, Eb-7, and AΔ7 are all tetrads.

Lots of abbreviations and shorthand are used in the chord symbols you may encounter in a piece of sheet music. For example, a D major triad would not be written "D Major Triad" — it would simply be written "D." Likewise, a G dominant 7th chord would be written G7.

Refer to the chart on the following page for a list of common chords and qualities. The chart also includes the formulae for determining the notes in each chord and the common names and abbreviations for the chords.

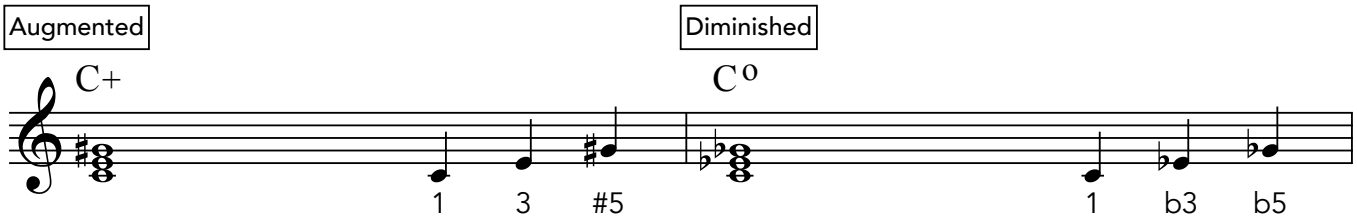
Basic Chords

Major



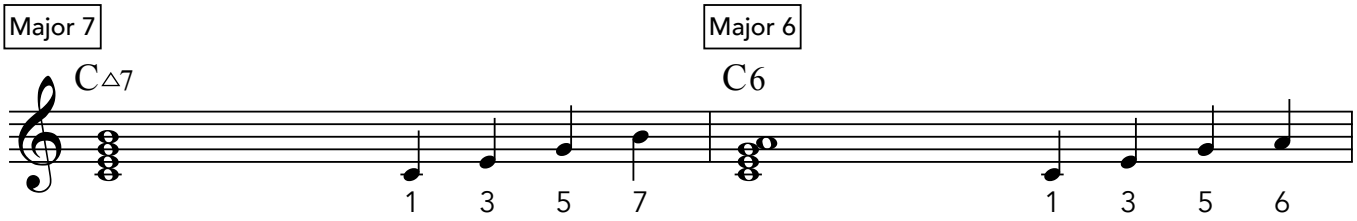
Minor

Augmented



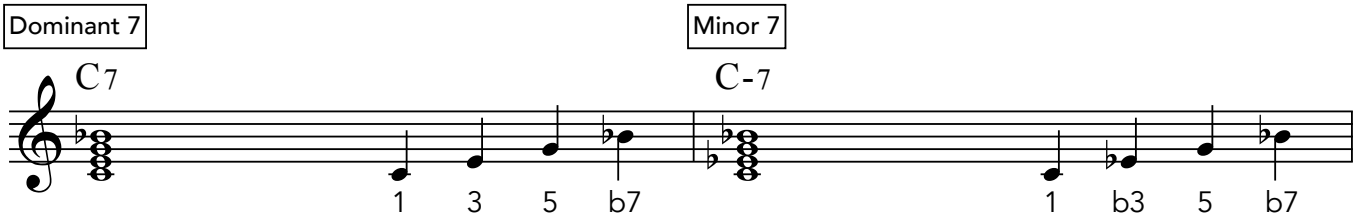
Diminished

Major 7



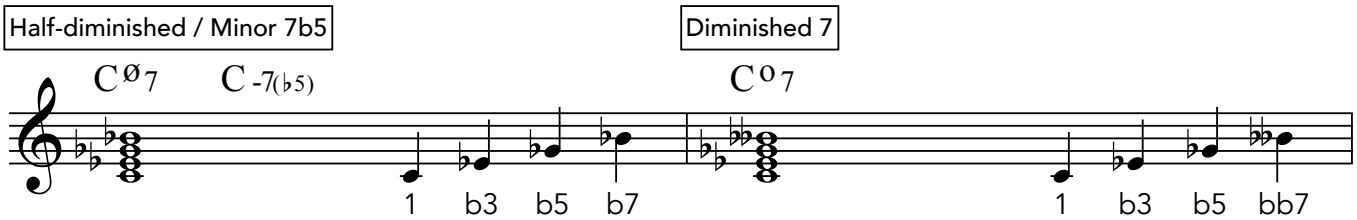
Major 6

Dominant 7



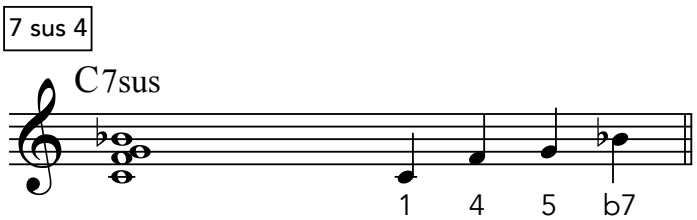
Minor 7

Half-diminished / Minor 7b5



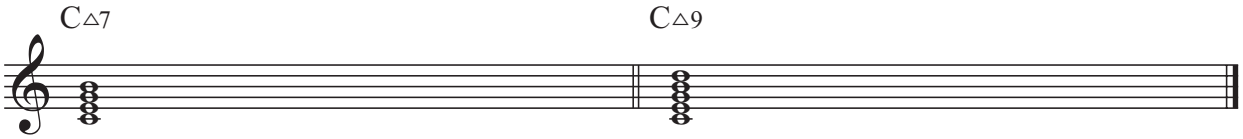
Diminished 7

7 sus 4

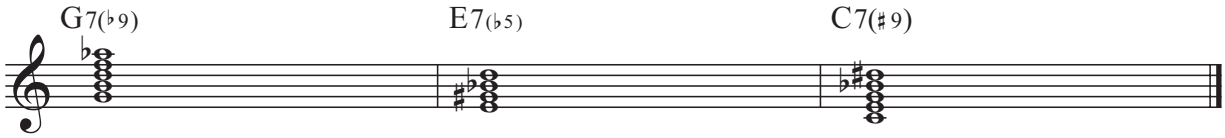


Extensions and Alterations

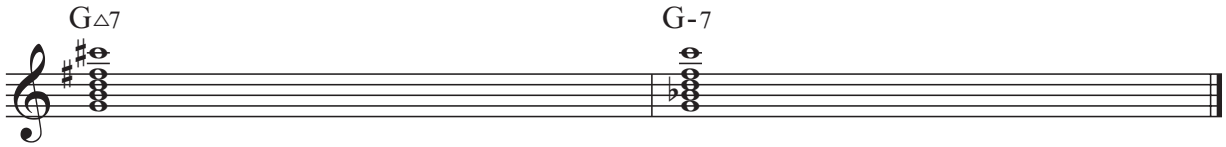
Chords can be both 'extended' and 'altered.' Extending a chord refers to adding more notes to the top of the chord, making a larger set of notes. For example, CΔ7 is made up of C E G B while CΔ9 also has a D, making it C E G B D. 'Extensions' in jazz generally refer to the 9th, 11th, and 13th.



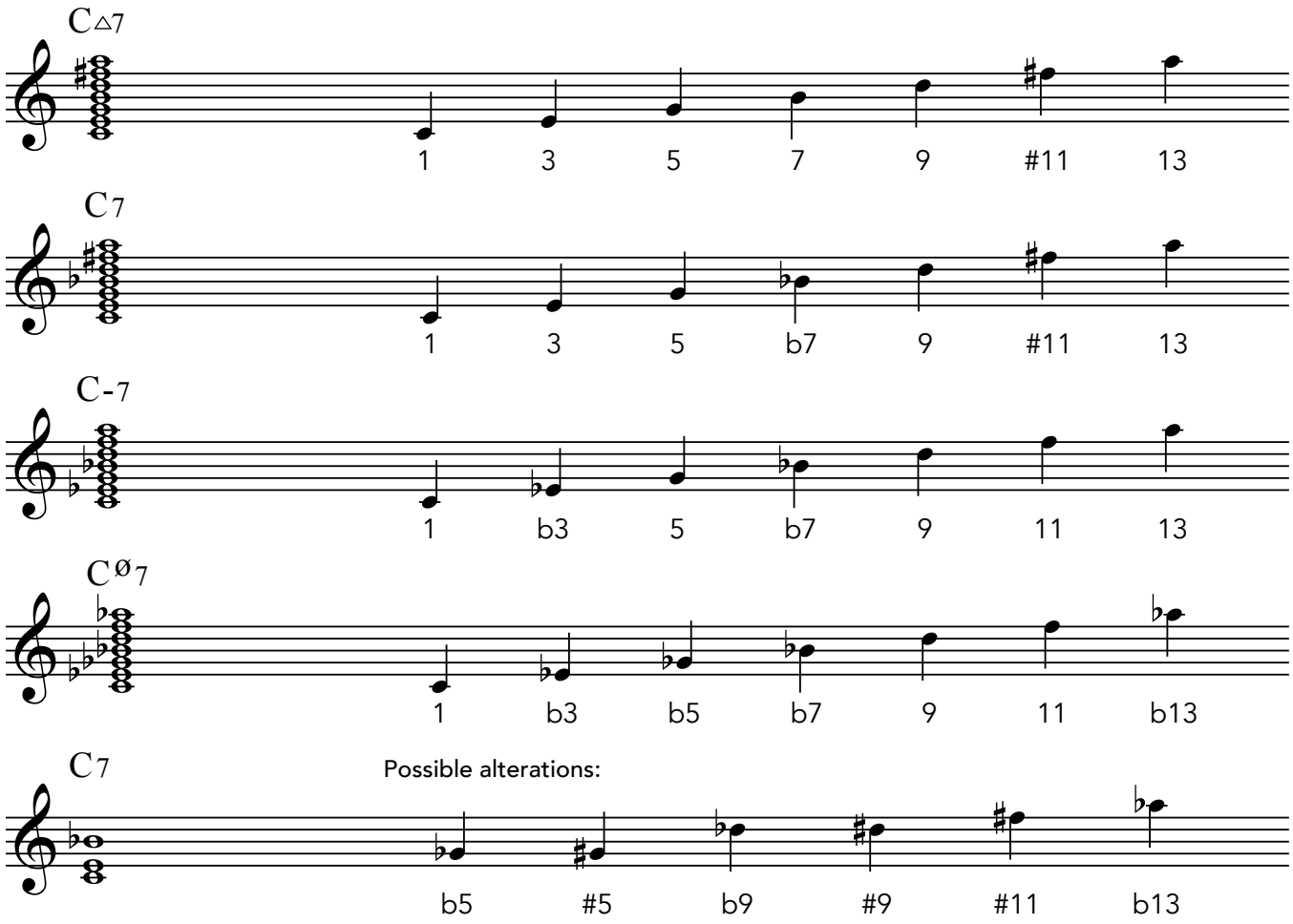
'Alterations' change notes in the chord. For example, EΔ7b5 is an EbΔ7 chord with an alteration of a flat 5th, creating the set of notes E G# Bb D#. Alterations are frequently found in dominant chords in jazz, particularly within the extensions. G7b9, E7b5, and C7#9 are all dominant chords with alterations.



The 11th is an interesting case, as it's the only extension with an implied alteration. This is described by the Rule of Sharp 11s. The Rule of Sharp 11s states that any chord with a major 3rd has an implied sharp 11. Conversely, any chord without a major 3rd has a natural 11. For example, although the chord symbol doesn't explicitly say so, the 11th of a GΔ7 chord would be C# (the sharp 11), because a Δ7 chord has a major 3rd, while the 11th of a G-7 would be C (the natural 11), because a -7 chord has a minor 3rd.



Chord Extensions

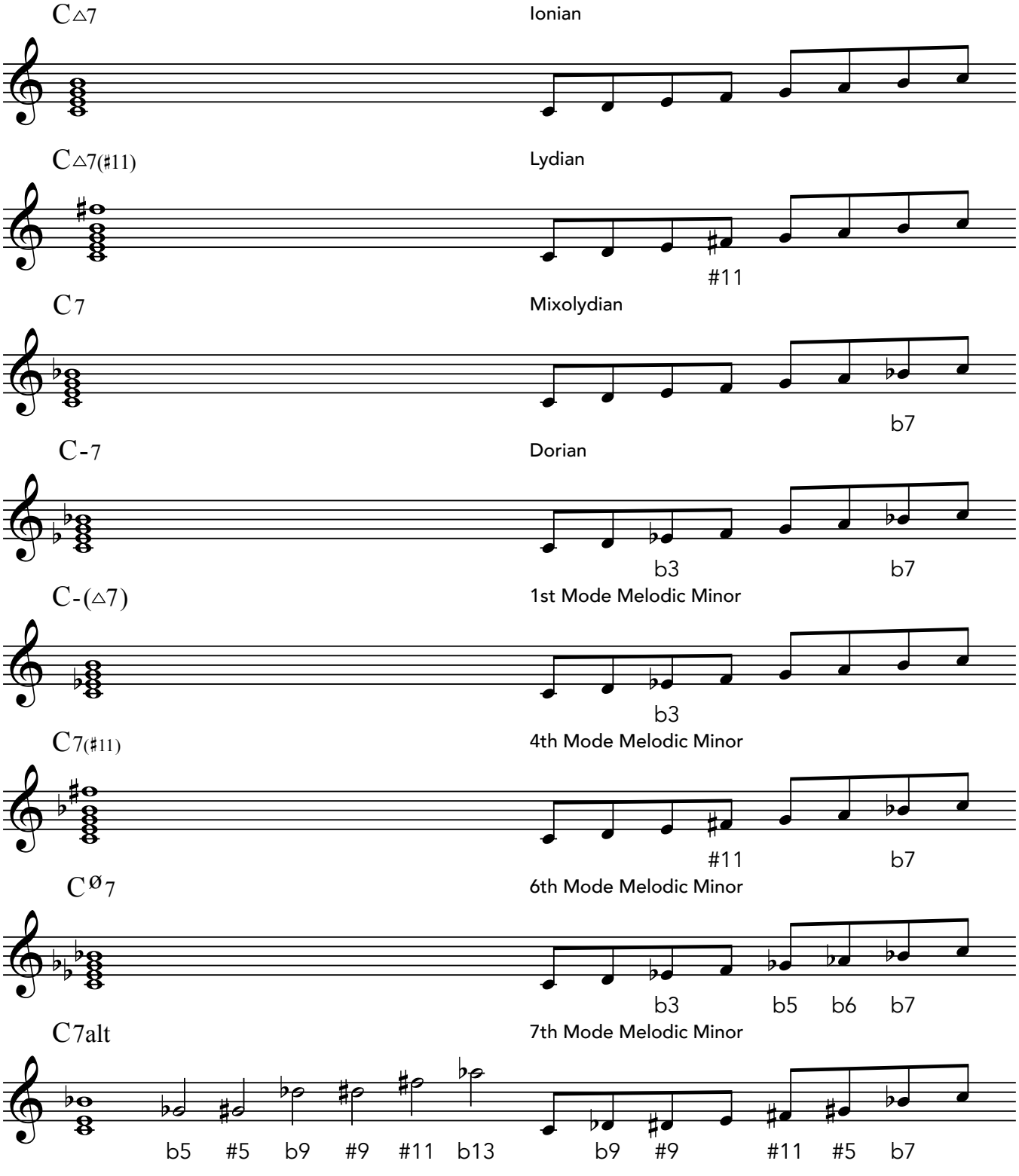


Chord/Mode Pairings

In jazz improvisation, most chords have a scale or mode with which they are commonly paired. For example, many players' first reaction to seeing a -7 chord is to use a Dorian scale. This does not mean that the Dorian scale is the only option — it is just the most common choice.

The chart on the following page lists some of the most common chord types and the modes with which they're most often paired.

Chord/Mode Pairings



(May include any combination of these alterations/extensions)

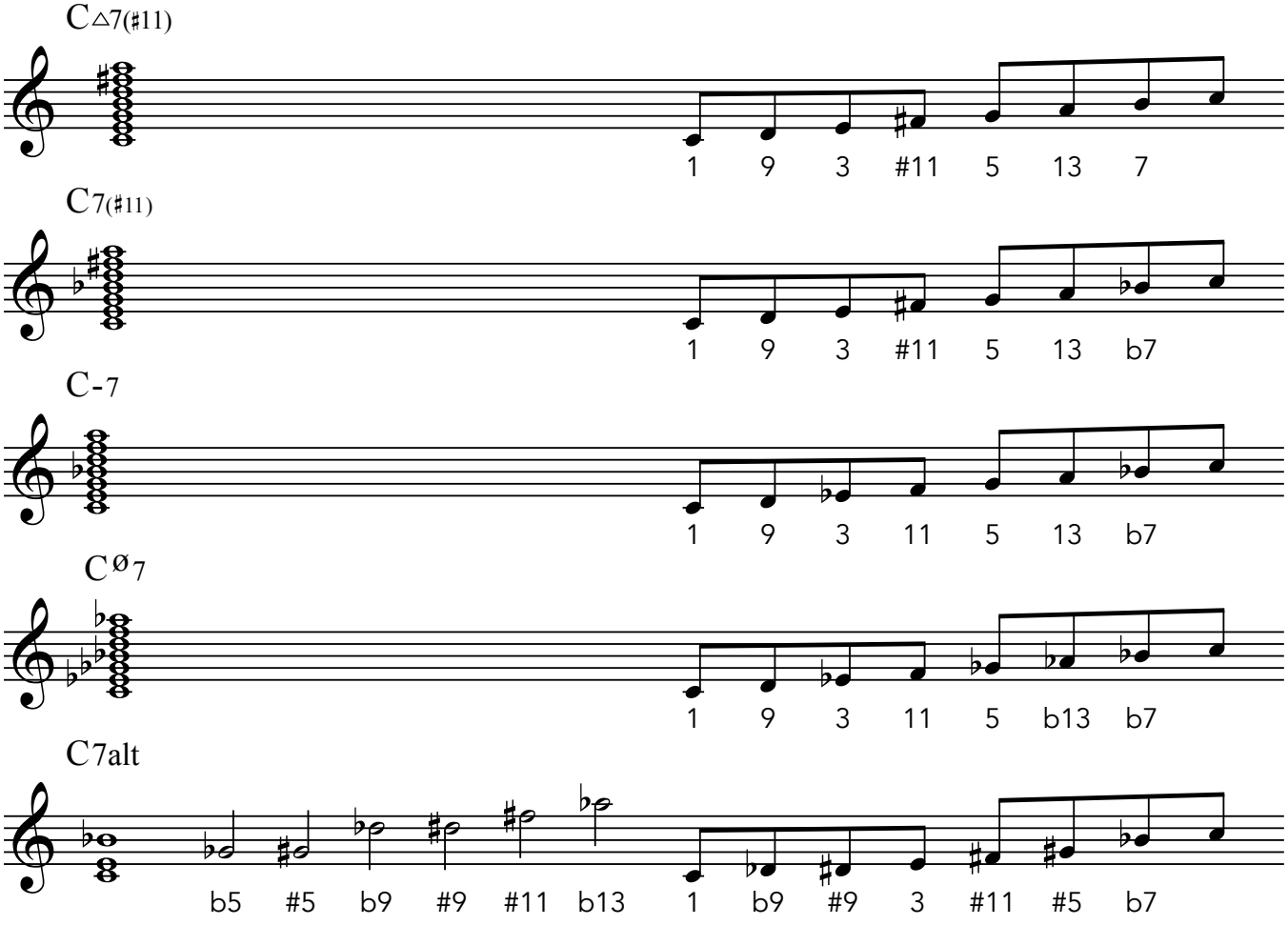
Chord Scales

When you extend a chord all the way to the 13th, the chord ends up with 7 'chord tones': 1, 3, 5, 7, 9, 11, and 13. These 7 notes form the chord, with the notes generally stacked in thirds (with some exceptions, such as sus chords or 6 chords, which are not built with thirds).

When you rearrange the 7 chord tones so that they go in stepwise ascending order, you get something called a 'chord scale' — a scale built from the notes in a chord. For example, if you extend a C7#11 chord all the way to the 13^{th}, you get C E G Bb D F# A. If you rearrange those notes into a stepwise order, you get C D E F# G A Bb, which is the chord scale for C7#11. This is useful to you as an improviser because it gives you a scale where every note fits the chord.

Note that many of the common chord/mode pairings from the previous section can be derived using the chord-scale system.

Chord Scales



Chord and Scale Exercises

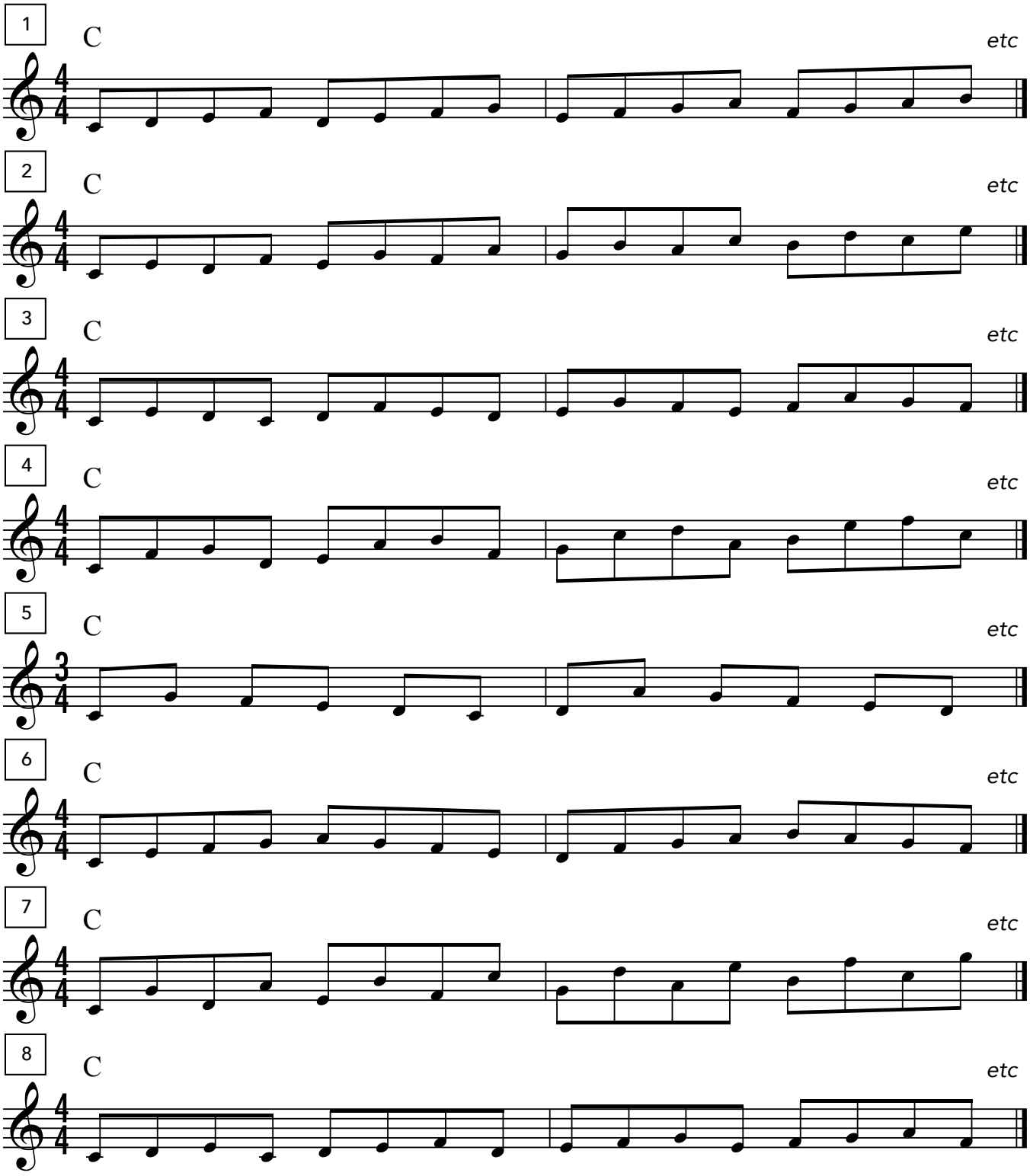
This section provides a variety of chord and scale exercises written with two different goals in mind.

The first goal is to build a connection between the scale name or chord symbol and a given set of notes. When you improvise, it's very important to have instantaneous recall of the notes in a chord when you see a chord symbol. Similarly, you must immediately know the notes in a given scale. Of course, with enough time and knowledge, you can use a formula to derive the notes in any chord or scale, but this takes too much time when you're improvising. The information must be at your fingertips so that you can focus on creating an interesting solo rather than trying to figure out the notes in a chord. For this reason, make sure to pay attention to the scale names and chord symbols for the exercises each time you play them. This reinforces the connection in your mind between the content and the name.

The second goal is to develop versatility and technique with a given chord or scale. Not only knowing the notes in a chord or scale, but also being able to navigate those notes technically in a variety of ways is important to constructing and performing a solo. In order to achieve this, make sure to try as many variations as you can on the following exercises.

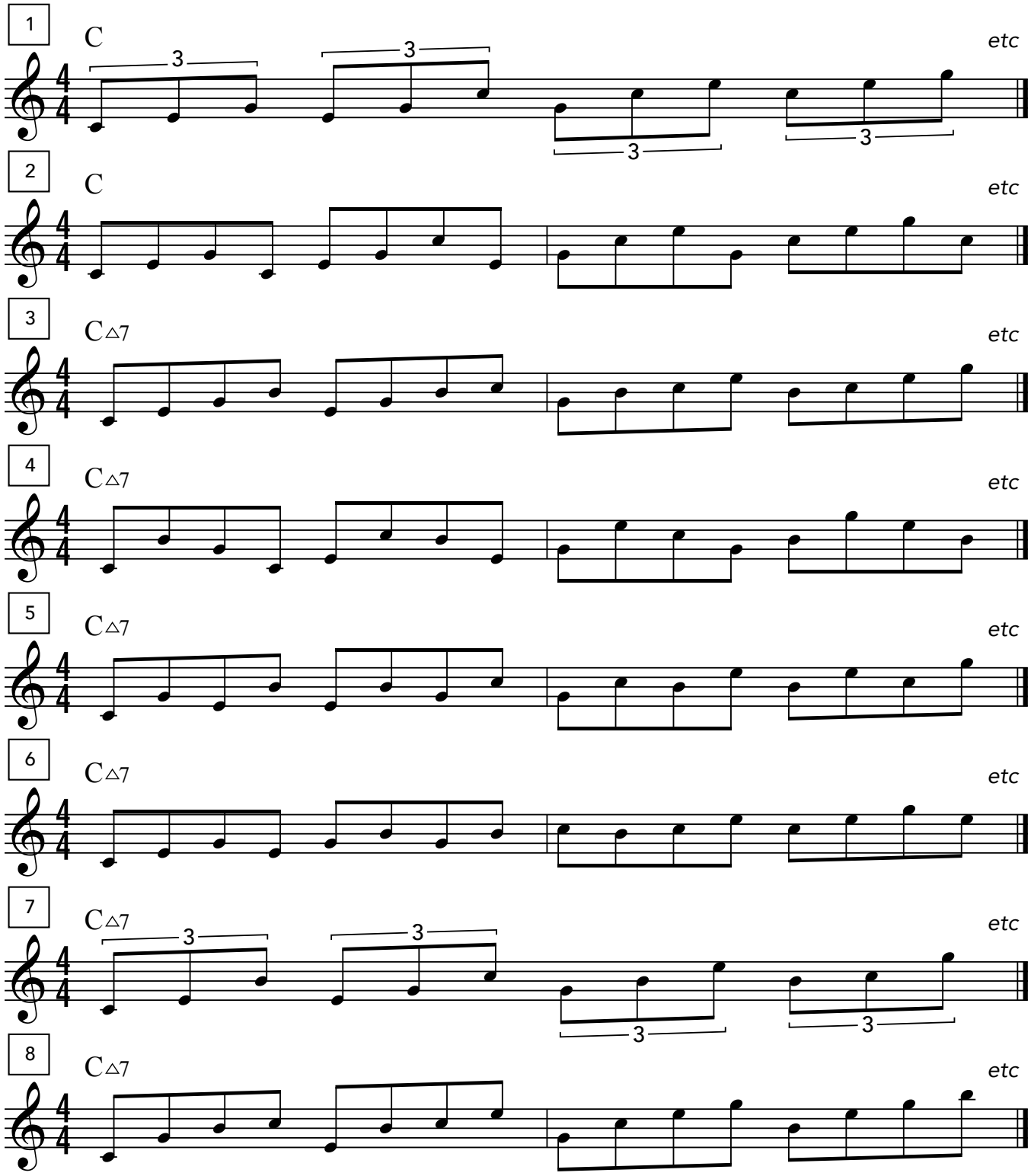
Scale Exercises

[12K, MOD, DIR, RHY, RAN]



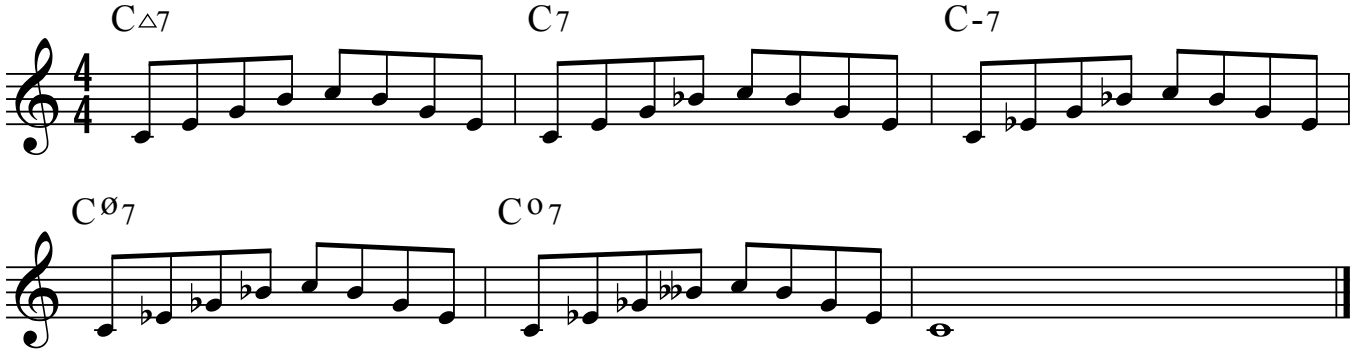
Single-Chord Arpeggio Exercises

[12K, CHD, DIR, RHY, RAN]

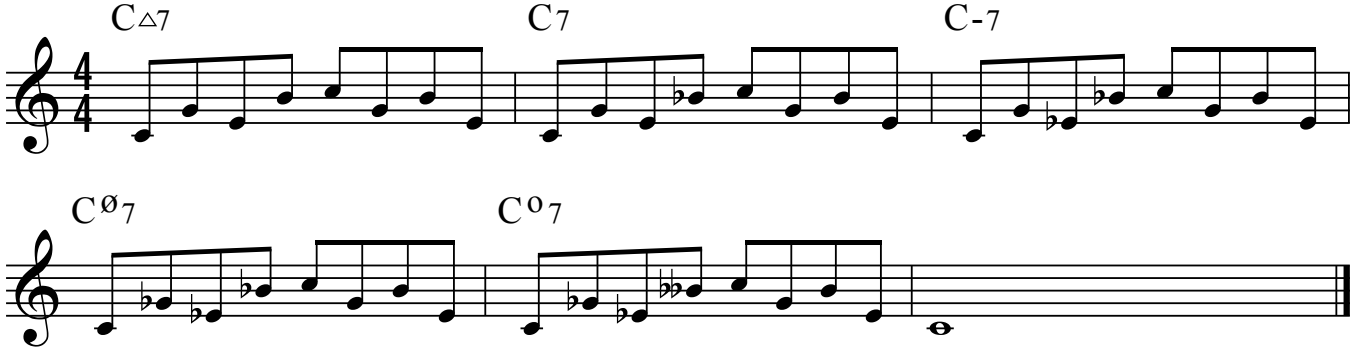


Multiple-Chord Arpeggio Exercises

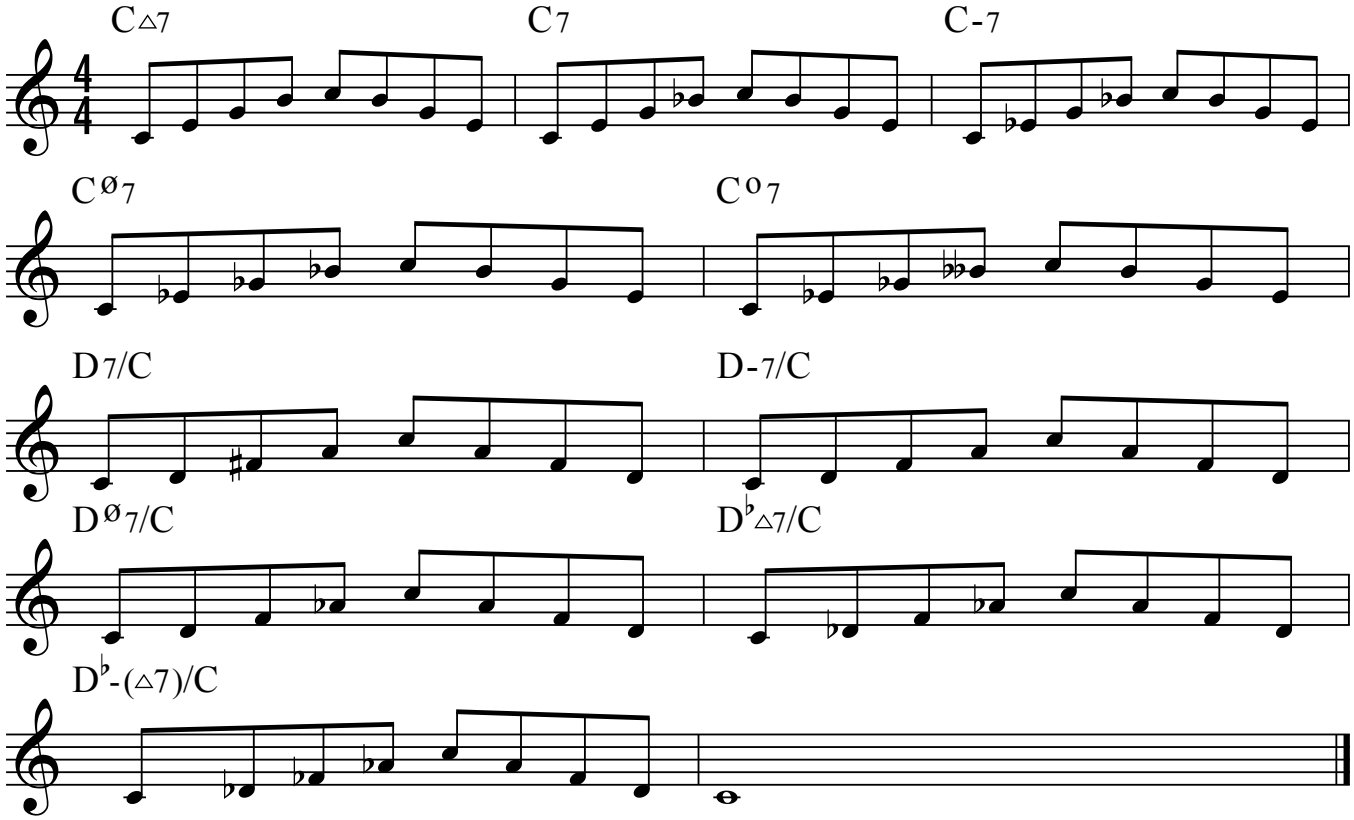
1. Chord-Type Exercise [12K, DIR, INV, RHY]



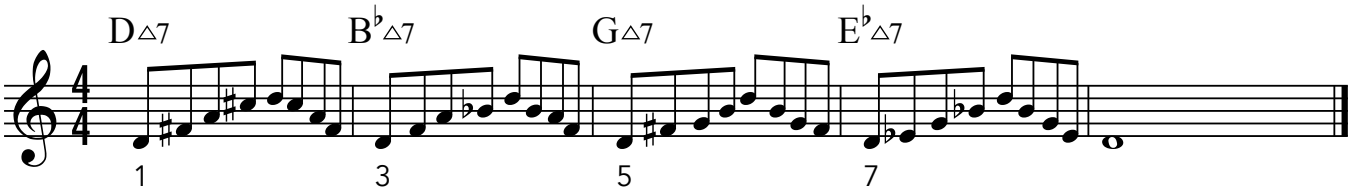
2. Chord-Type Exercise (with skipping) [12K, DIR, INV, RHY]



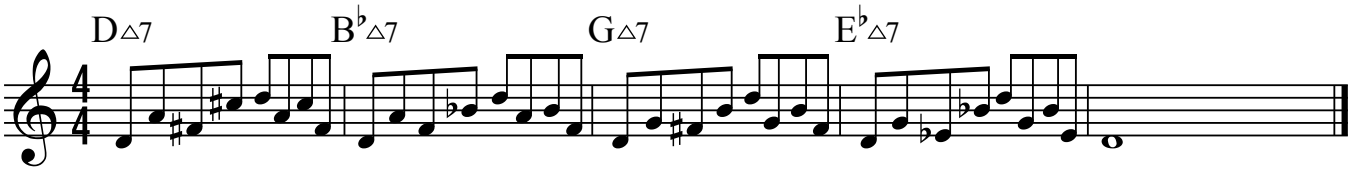
3. Chord-Type Exercise (extended version) [12K, DIR, INV, RHY]



4. Moving Degree Δ7 [12K, CHD, DIR, RHY]

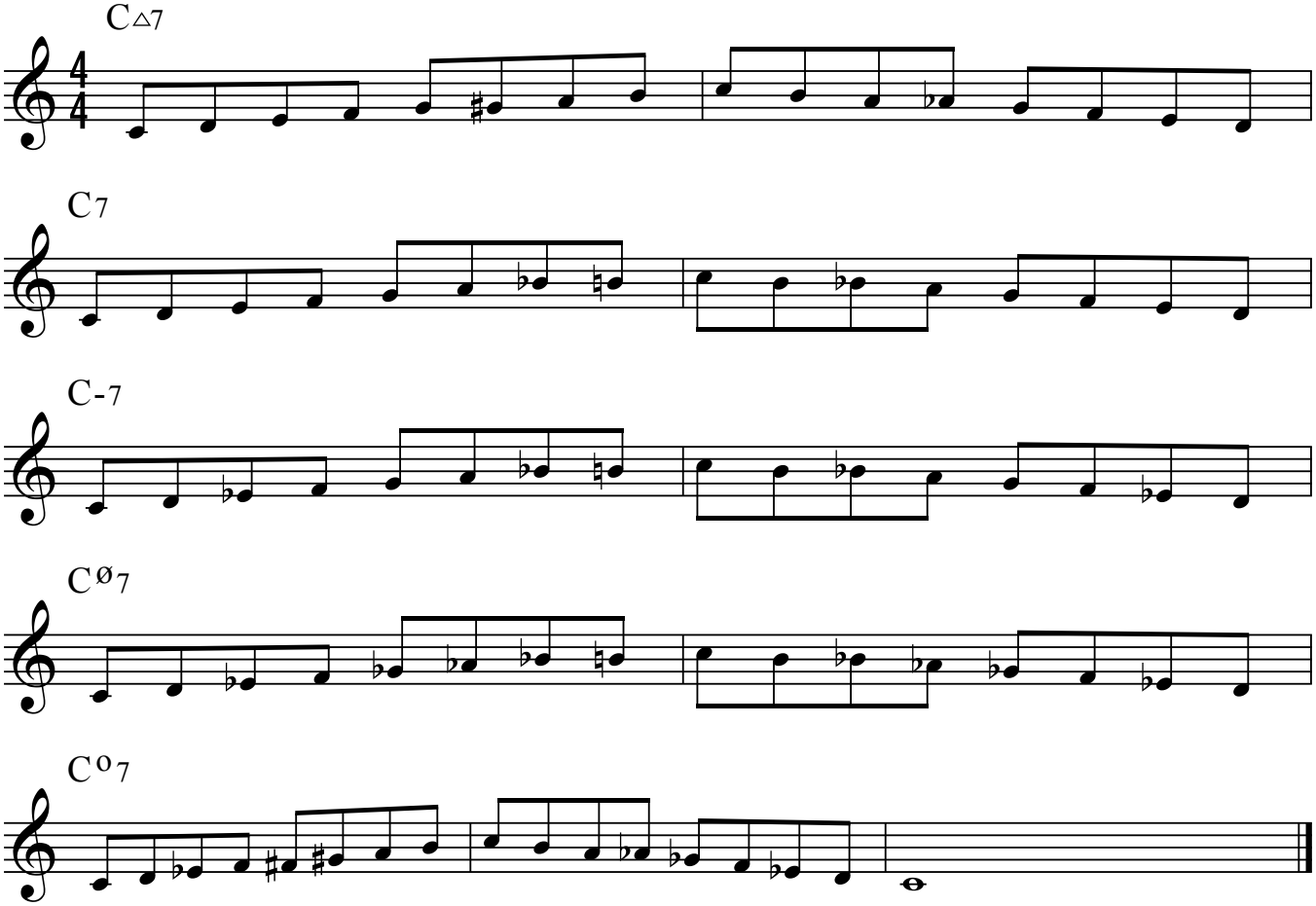


5. Moving Degree Δ7 (with skipping) [12K, CHD, DIR, RHY]

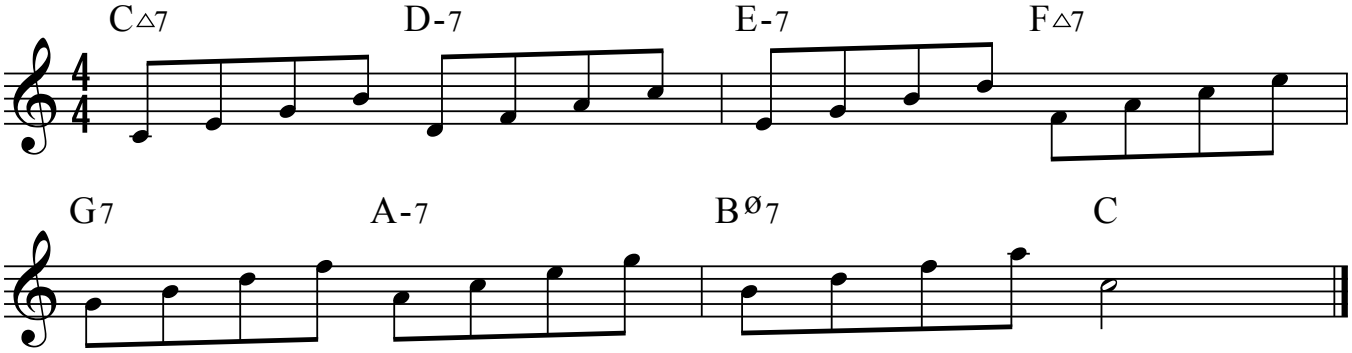


Chord/Scale Exercises

1. Chord-Type Bebop Scale Exercise [12K, DIR, INV]



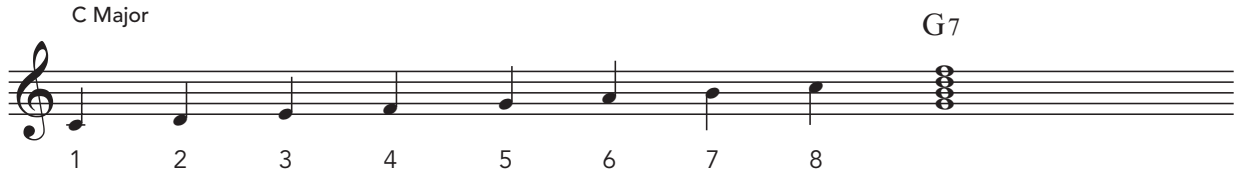
2. Diatonic Chord Arpeggios [12K, MOD, DIR, INV, RHY]



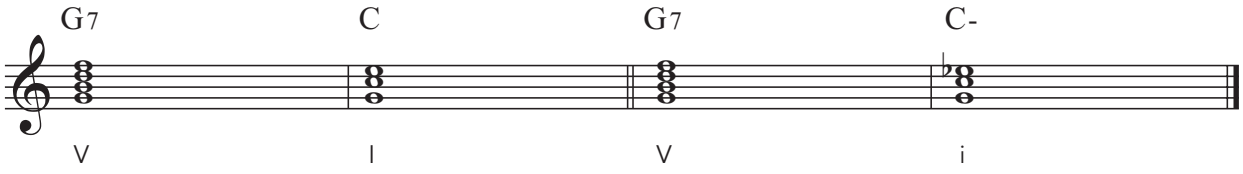
Resolution

Dominant chords (chords with a major 3rd and flat 7th) have a sense of tension in their sound. Rather than sounding stable, like a major or minor triad, dominant chords sound like they want to move to another chord.

Dominant 7 chords, in their simplest form, are chords built on the 5th of a major scale. For example, in the key of C major you build a G7 by stacking notes in 3rds starting on G.



That G7 chord, with its inherent tension, resolves to C (either C major or C minor). This relationship is called a V to I relationship (or V to i if it is minor), because it is a chord built on the 5th (the V) resolving to the tonic, which is a chord built on the 1 (the I). It is also called a 'resolution' because it resolves the tension in the dominant chord.



Although dominant chords often resolve from V to I, they don't always have to resolve that way. For example, D7 to B-7 is not a V to I resolution, since D7 is the V of G, not B.

Note: In the "Improvisation Concepts" section of this book, there are exercises that instruct you to play certain things on dominant chords that resolve. In this book, that always refers to dominant chords that resolve in a V to I or V to i relationship.

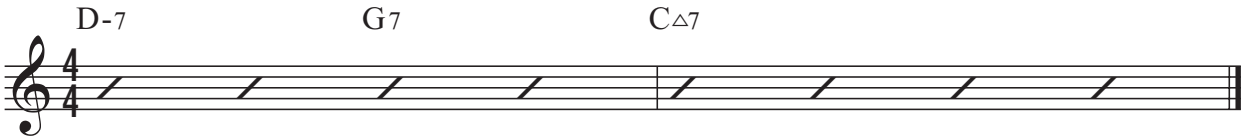
The term 'resolution' can also apply to individual notes. For example, in the progression G7 to C, the F in the G7 chord is a note with a lot of tension in its sound. The F "resolves" to the E in the C chord, releasing the tension. In that same progression, the B from the G7 chord resolves up to the root of the C chord.

Notes usually resolve up or down a whole step or half step, with half steps being the strongest-sounding resolutions.

ii Vs

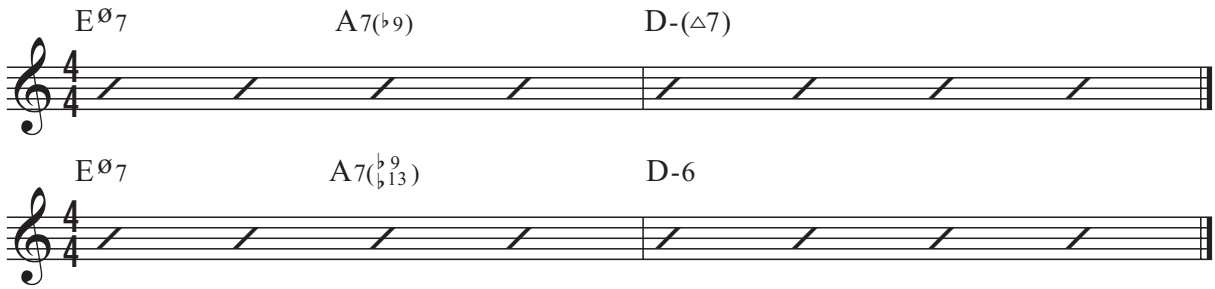
The ‘ii V’ (and ‘ii V I’) is one of the most common chord progressions in jazz. It is created by building chords on the 2nd degree and 5th degrees of a key (and then resolving to the root if it is a full ii V I).

In the key of C major, a ii V I would be D-7 G7 | CΔ7. The D-7 is built on the 2nd degree of the C major scale, G7 on the 5th, and CΔ7 on the root.



In a major ii V, the qualities of the first two chords are always minor 7 followed by a dominant 7. For example, D7 G7 | CΔ7 is not a ii V I, since the quality of the first chord is dominant instead of minor.

Minor ii Vs are very similar, but instead of starting with a minor 7 chord, they start with a half diminished chord. The dominant 7 chords are almost always altered in some way, often with a flat 9. And, if the ii V resolves, it usually resolves to a minor chord. For example, a ii V in D minor could be Eø7 A7b9 | D-(Δ7). It could also be Eø7 A7b9b13 | D-6.



Familiarize yourself with the chord progressions and chord tones of both major and minor ii V I progressions by playing through the Chord-Tone Improvisation exercises listed later in the book on ii V I progressions in all 12 keys.

Improvisation Concepts

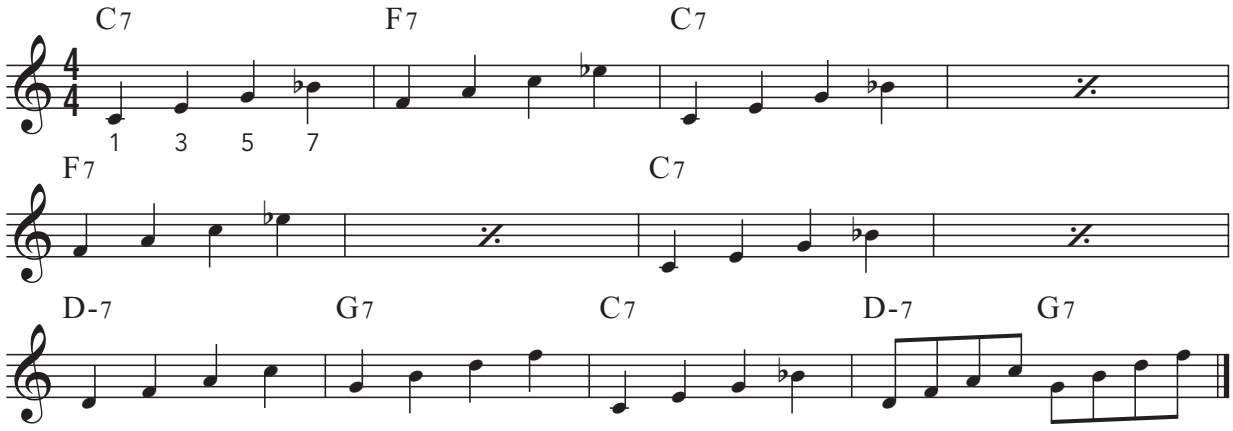
Chord-Tone Improvisation

Although improvisation is usually not restricted to using only chord tones, this restriction can be a great way to practice, especially at an early stage.

In order to prepare for chord-tone improvisation, you must be familiar with the notes in each chord. There are a number of exercises to help internalize the chord tones.

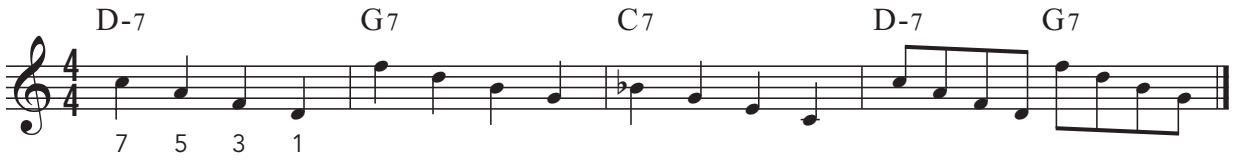
1 3 5 7

Play through the form of the song, playing 1 3 5 7 on every chord. If the song is in 4/4 and there is one chord per bar, you'll end up playing quarter notes. If there are two chords per bar, you'll need to play 8th notes to fit all of the notes in.

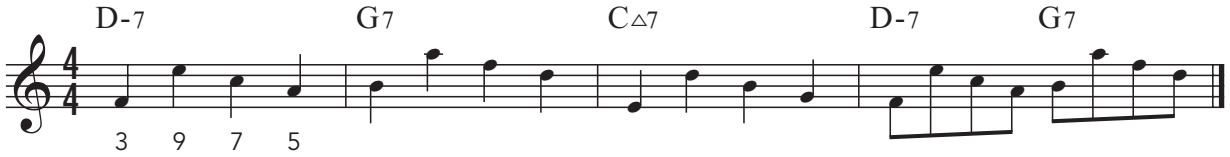


7 5 3 1

After getting comfortable with 1 3 5 7, try 7 5 3 1. This is usually more challenging because the first note is no longer the root.

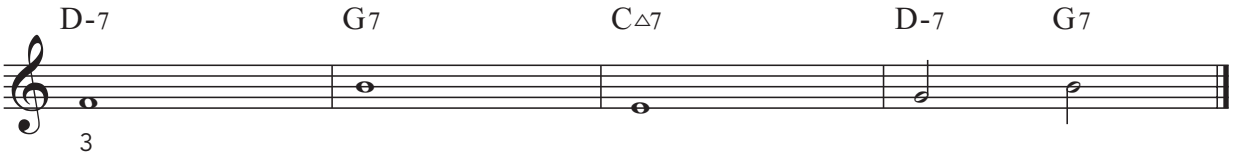


Create your own exercises similar to 1 3 5 7 and 7 5 3 1 by taking different chord degrees (even including extensions) and playing the new patterns through the song form. For example, play through using 3 9 7 5 as the pattern.



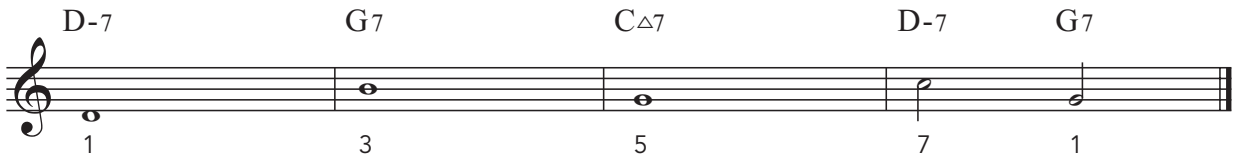
Consistent chord tone

Play through the form of the song while playing a specific chord tone on each chord. For example, go through the form and play just the 3rd on every chord. Then, play the 5th on each chord. This exercise can be done with any chord degree, including the extensions.



Rotating chord tones

This is like the consistent chord tone exercise with an added twist. For example, instead of playing the 3rd on every chord, play the root on the first chord, the 3rd on the second chord, the 5th on the third, the 7th on the fourth, and then return to the root on the 5th chord. Use different sets of degrees for added challenges.

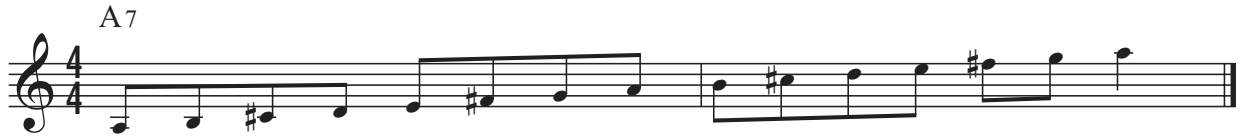


Once you've practiced these exercises and built as much familiarity as possible with the chord tones in each chord, try *improvising* over the song form using only the chord tones. Don't worry about playing a specific pattern, like 1 3 5 7 — let yourself branch out in terms of order of the notes and phrasing while sticking to the chord tones for your choice of pitches.

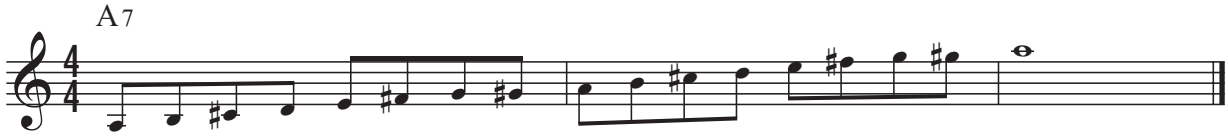
Bebop Scales

'Bebop scales' are scales built so that when you play 8th notes the main chord tones (1, 3, 5, and 7) will fall on downbeats. In order to achieve this, bebop scales usually have an added note, turning a 7-note scale into an 8-note scale.

Consider the example of an A7 chord, with its usual pairing of a Mixolydian scale (A B C# D E F# G). If you play ascending 8th notes, the notes that land on downbeats in the first bar of 4/4 are A, C#, E, and G — all chord tones. However, if the scale is continued into the next bar, B, D, and F# end up on downbeats.



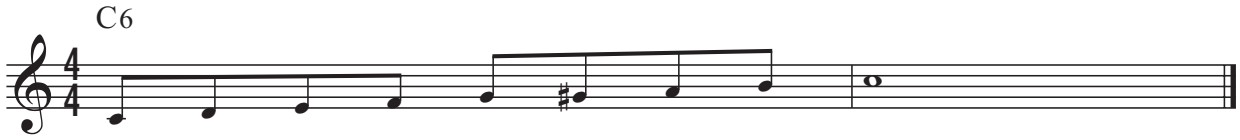
In order to solve this problem of non-chord tones on downbeats in the second bar, the bebop scale adds an extra note (often called a 'passing tone') between the flat 7 and the root, giving you the following scale: A B C# D E F# G G#. With this added G#, with the same example of ascending 8th notes, the first bar ends up with A, C#, E, and G on downbeats, just as before. But this time, in the second bar, you end up with A, C#, E, and G again.



In order to figure out the bebop scale for a given chord, you must determine where the extra note goes. The placement of the extra note is dependent on the quality of the chord. For chords with a flat 7, the passing tone goes between the flat 7 and the root.

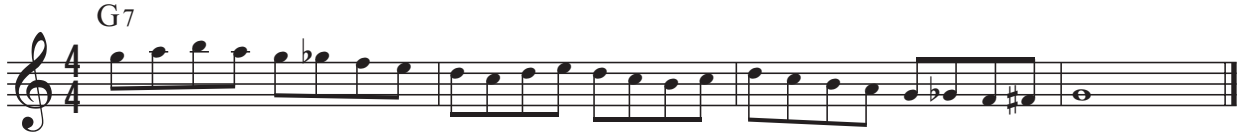
For chords with a major 7, the passing tone goes between the 5th and the 6th of the scale.

It's important to note that in order to make bebop scales for chords with major 7s, you must bend the rules just slightly, since there's no room between the major 7 and the root for an extra note to end up with the 1, 3, 5, and 7 on downbeats. In these cases, you substitute a '6' chord in place of the Δ7 chord and add a passing tone between the 5th and 6th. With the passing tone between the 5th and 6th, the 1, 3, 5, and 6 end up on downbeats. So, in the case of a CΔ7 chord, you substitute a C6, and add a G# between the G and A of the C major scale.



The CΔ7 and C6 chords generally share the same function harmonically, so the substitution tends to work well.

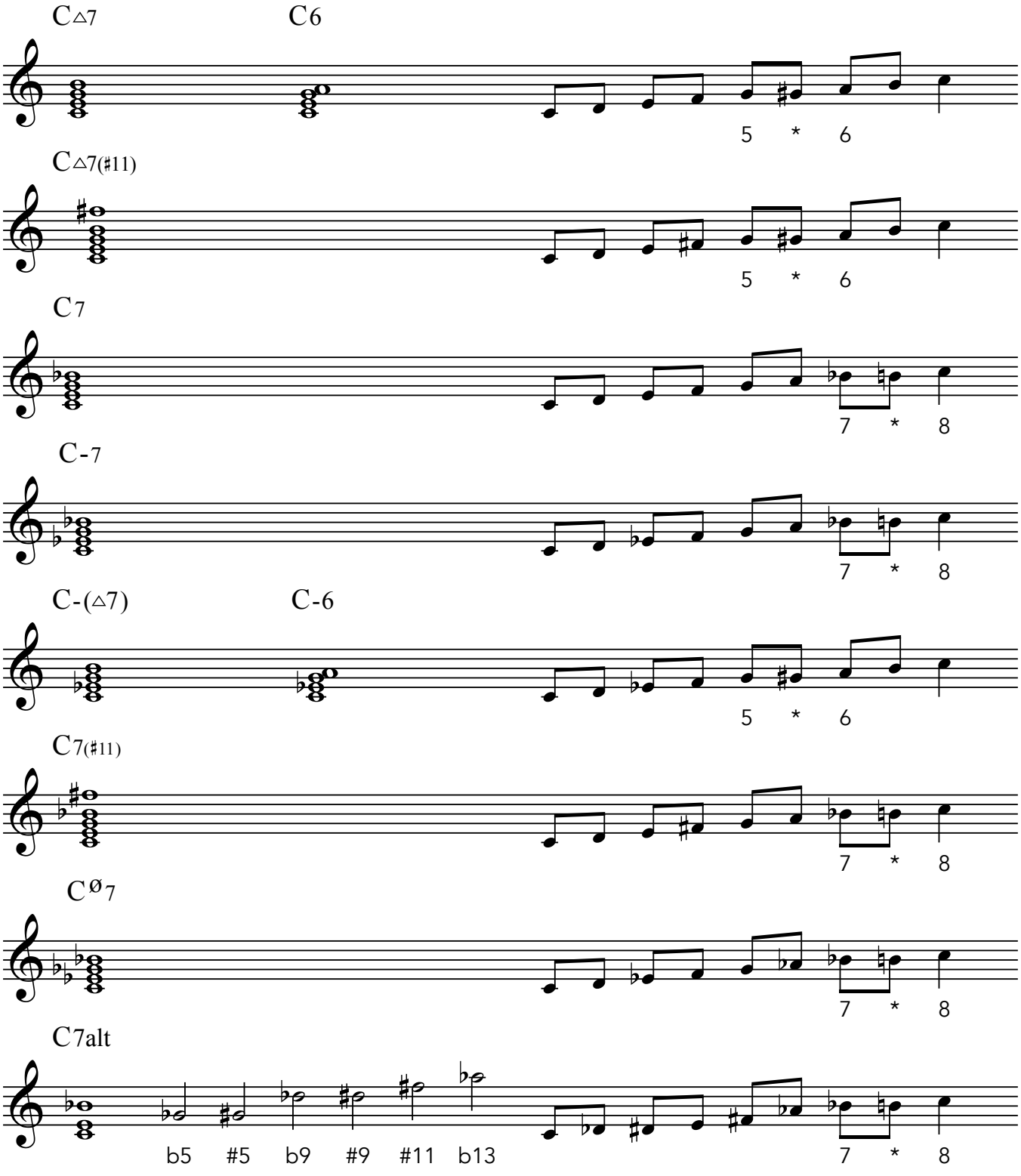
If a bebop scale is played in 8th notes, starting with a chord tone on a downbeat, it can have direction changes and will never lose its connection to chord tones on downbeats.



However, beware that conversely, if the same scale is played with a different rhythm than 8th notes, or started on an offbeat, or any other alteration, the chord tones may no longer end up on downbeats, defeating the purpose of the bebop scale.

Bebop Scales

[12K, DIR, RHY, RAN]

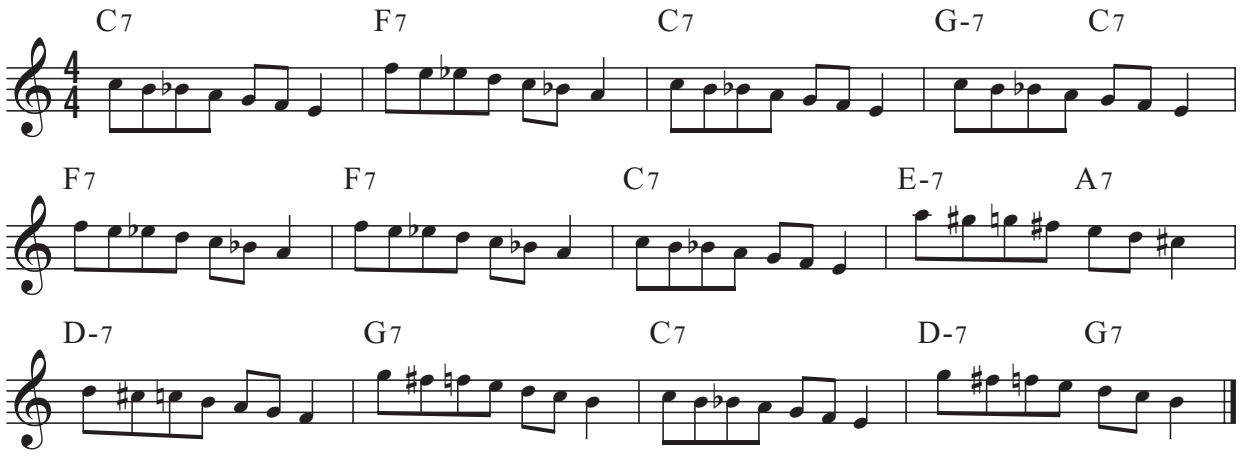


* = note added for the bebop scale

Improvisation Exercises with Bebop Scales

Exercise 1 — Root descending bebop scales

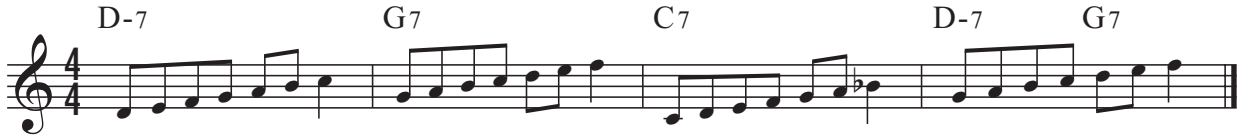
Play bebop scales descending from the root of each chord in a song form.



Note: on a ii V that only lasts one measure, the bebop scale from only the V chord is used in the example (for example, on a measure with the changes D-7 G7, the bebop scale from the G7 chord is used). The chord changes move too quickly to use both scales, and the bebop scale from the V chord sounds good on both chords.

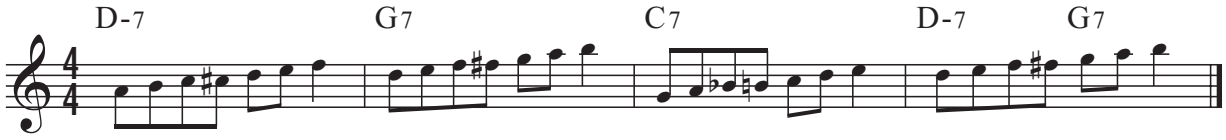
Exercise 2 — Root ascending Bebop Scales

Play the bebop scales ascending from the root of each chord.



Exercise 3 — Bebop scales from other degrees

Play bebop scales both ascending and descending from all of the chord tones — 1, 3, 5, and 7

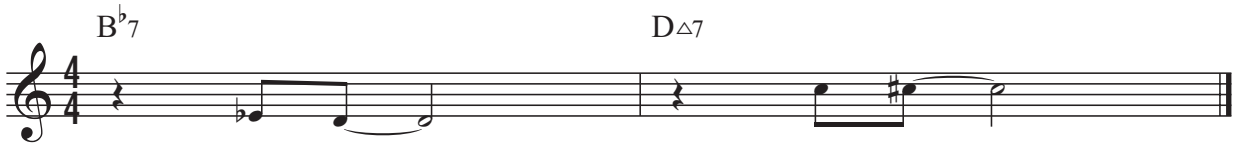


Once you've completed the above exercises on a form, try improvising using bebop scales as one of your techniques. Make sure to use both ascending and descending scales and vary the degree from which you start the scales.

Approach Tones and Enclosures

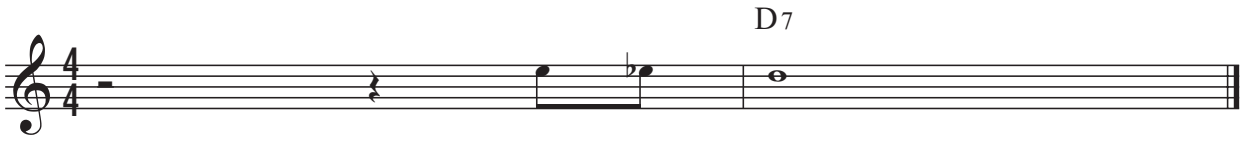
Approach tones are a great way to expand beyond playing just chord tones, while still keeping a chord tone emphasis. The concept is used by both beginners and seasoned professional improvisers.

'Approach tones' are notes (or sometimes sets of notes) that precede and lead into a chord tone. The most common of the approach tones is a half-step approach, which can be done from either above or below the chord tone. For example, an approach tone from a half step above the 3rd of a Bb7 chord would be Eb, resolving to D. An approach tone from a half step below the 7th of DΔ7 would be C, resolving to C#.

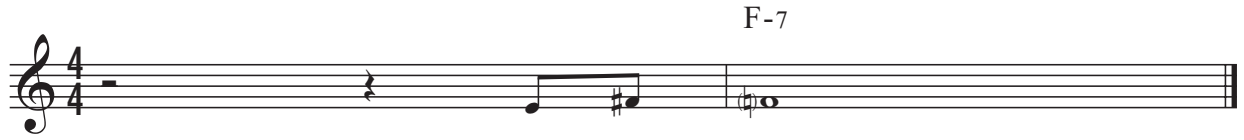


Half steps are not the only types of approaches; there are also scale tone approaches and double chromatic approaches. Scale tone approaches approach chord tones from one step below in the scale. For example, an approach from a scale tone below the root of G7 would be F, resolving to G. This is because F is the step below G in the G Mixolydian scale (the common chord/mode pairing for a G7 chord). Sometimes, scale tones and half steps are the same. For example, an approach from a half step below the root of EΔ7 is D#, while an approach from a scale tone below the root of the same chord is also D#.

Double chromatic approaches use two notes, from two half steps away from the chord tone. A double chromatic approach to the root of D7 from above would be E, Eb, D.



'Enclosures' happen when a chord tone is approached from both sides. For example, the root of an F-7 chord could be approached from a half step below and a half step above, resulting in E and F#, resolving to F.



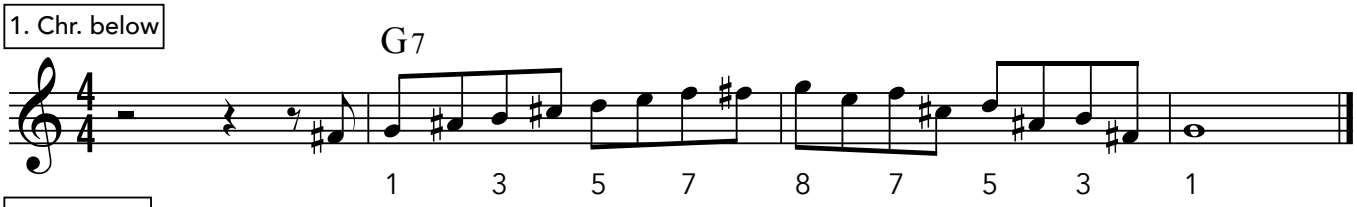
The following pages contain all 24 of the basic approach tones and enclosures. They are all given on a G7 chord, but you should practice them with a variety of chord types and keys.

Note: in this book, the following abbreviations are used for approach tones:
Chr = chromatic, Sc = scale tone, Dbl chr = Double chromatic

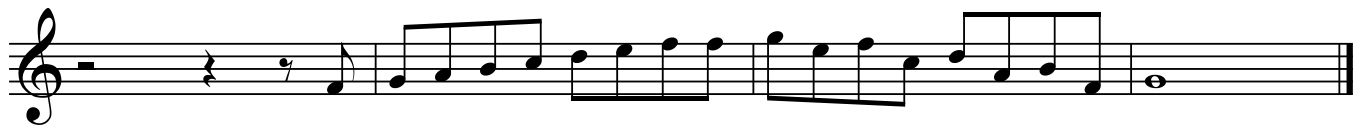
Approach Tone Arpeggios

[12K, CHD, DIR, INV, RHY]

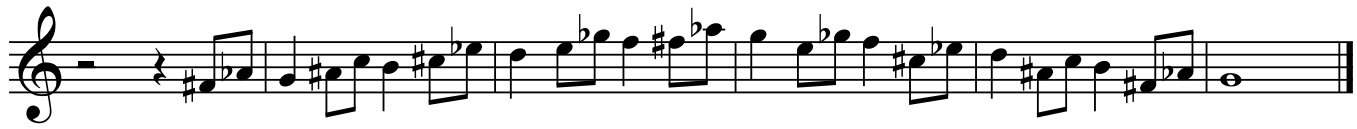
1. Chr. below



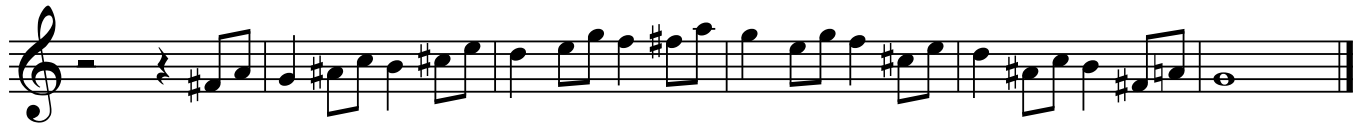
2. Sc. below



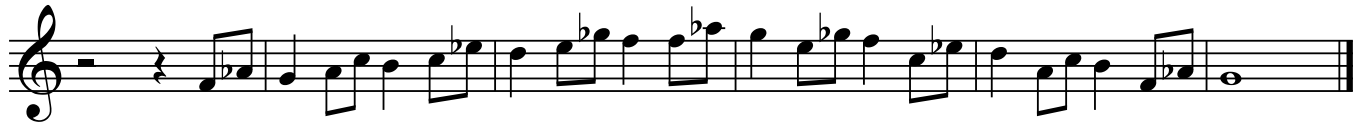
3. Chr. below, Chr. above



4. Chr. below, Sc. above



5. Sc. below, Chr. above



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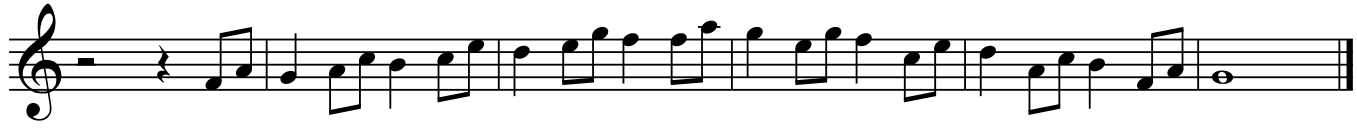

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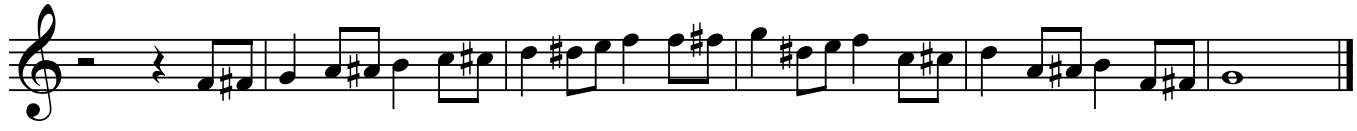

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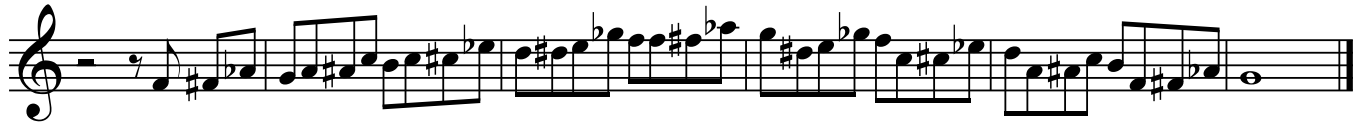

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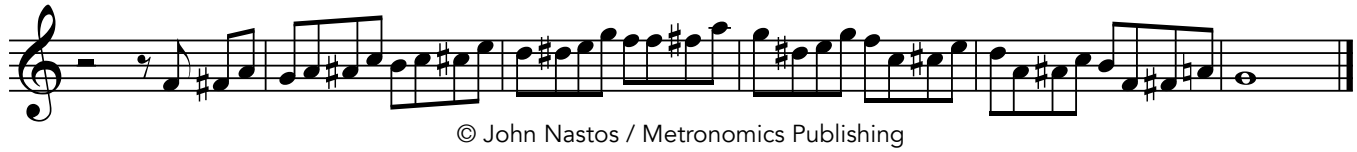

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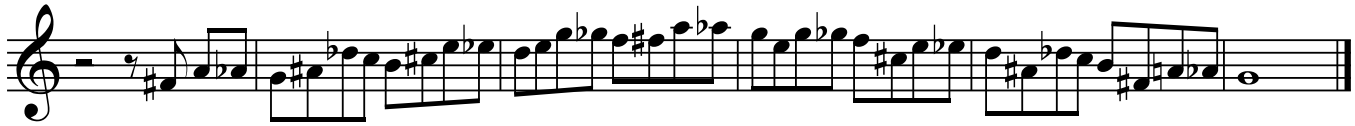

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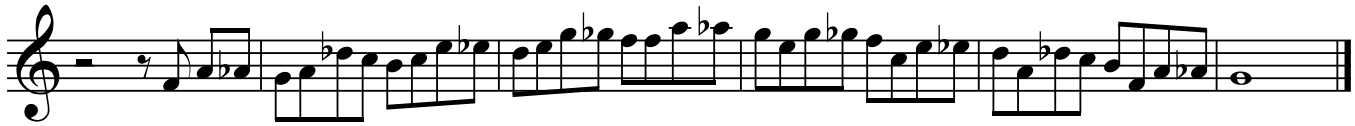

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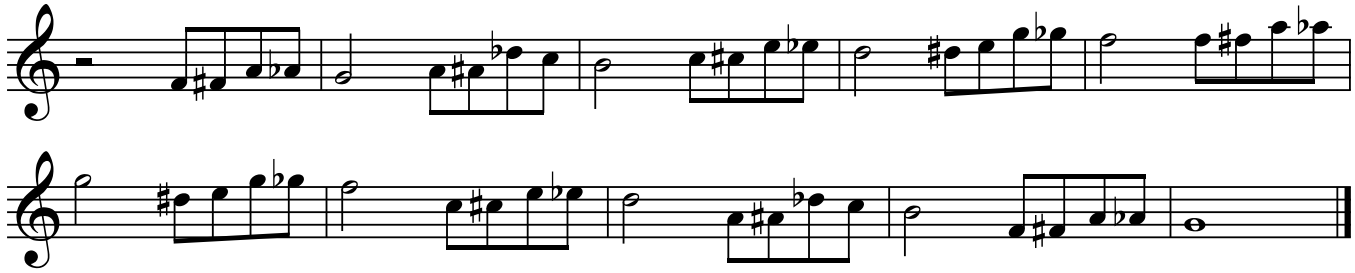

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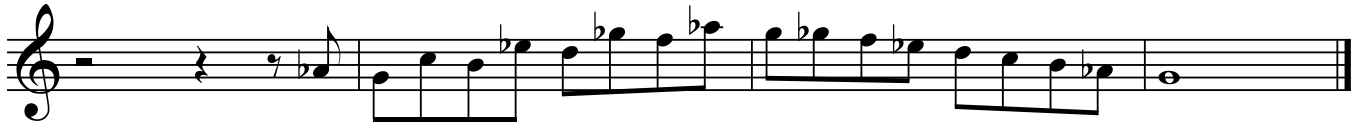

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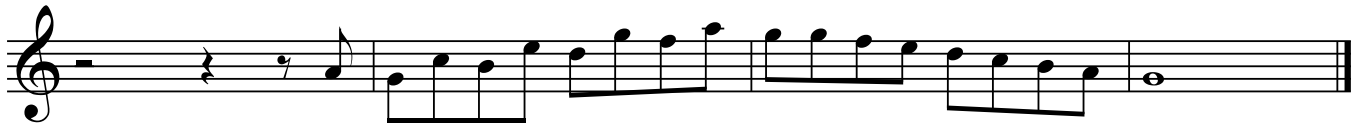

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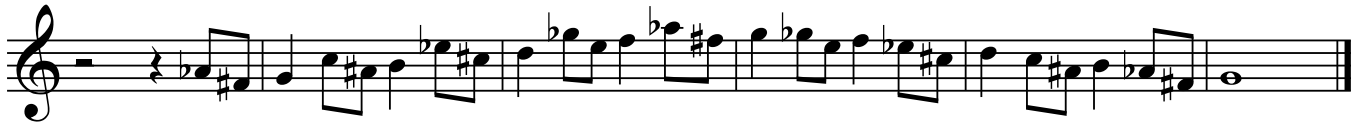

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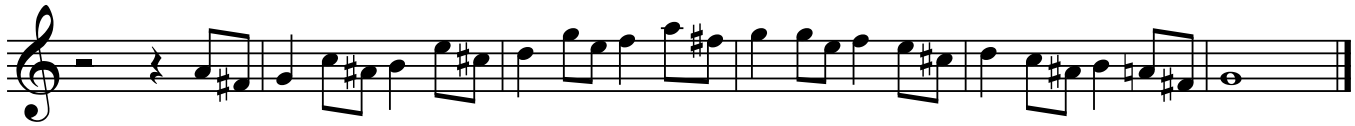

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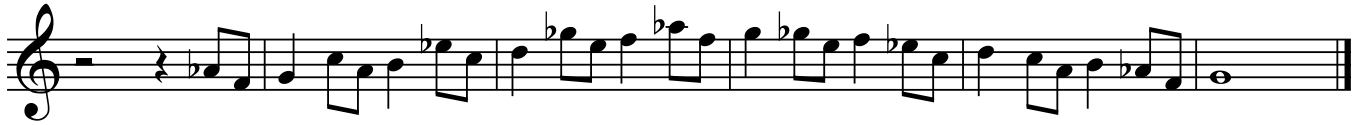

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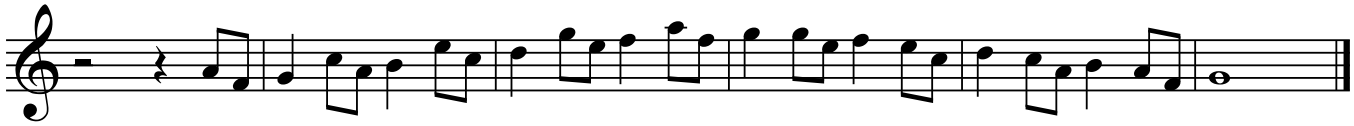

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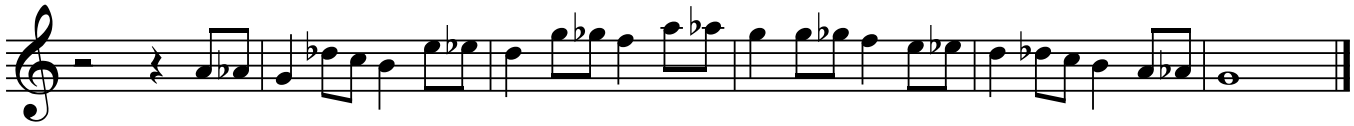

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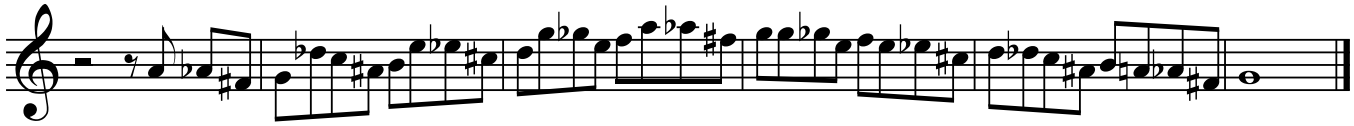

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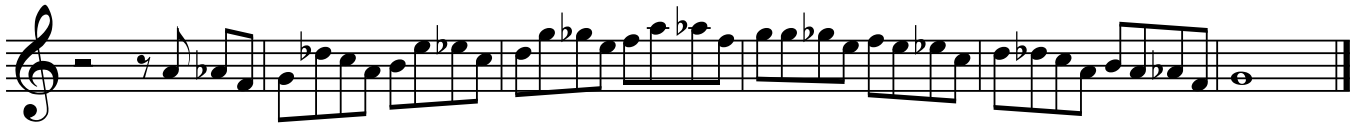

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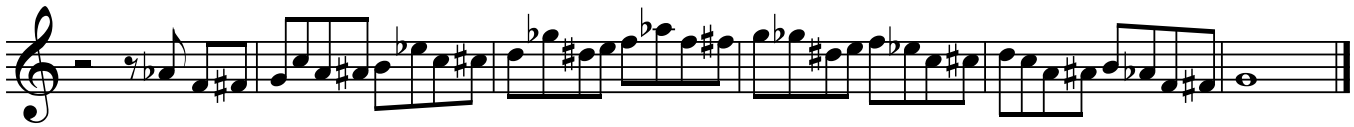

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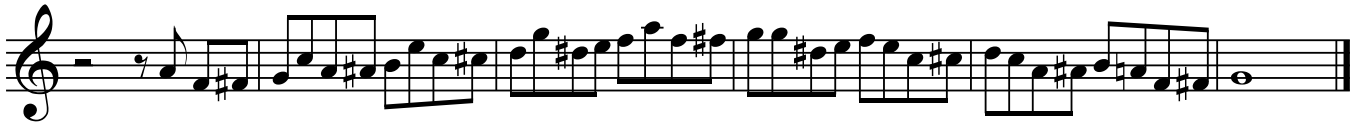

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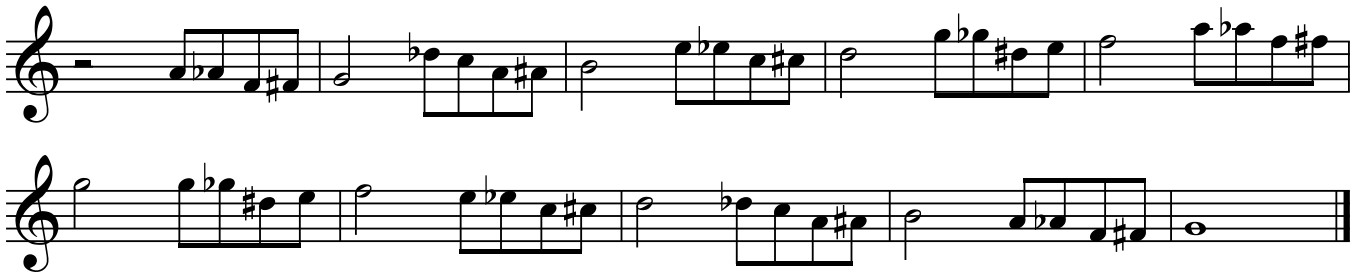
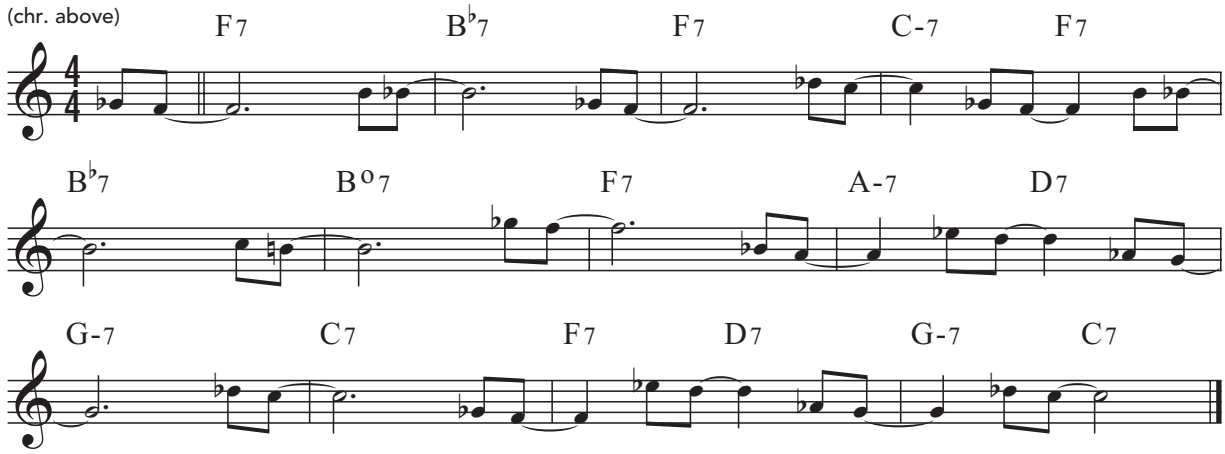


Improvisation Exercises with Approach Tones

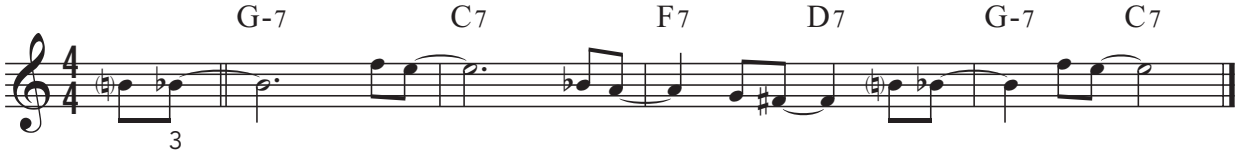
Exercise 1 — Approach the root

Choose an approach tone style from the previous pages and approach every root in a song using that technique.



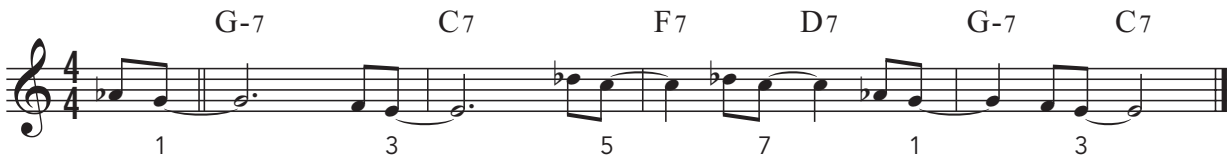
Exercise 2 — Approach other degrees

Do the same exercise, approaching either the 3, 5, or 7 of the chords.



Exercise 3 — Rotating chord tone approaches

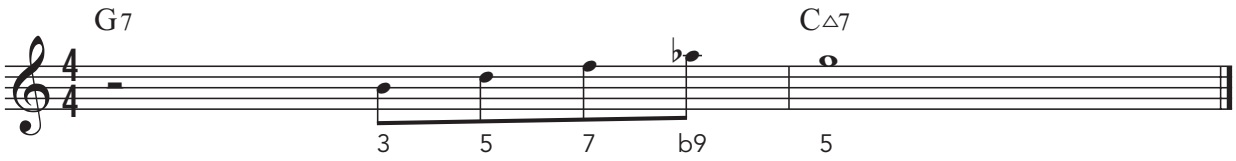
Similar to the Rotating Chord Tone exercise in the Chord-Tone Improvisation section, use a rotating pattern of chord tones to approach. For example, approach the root of the first chord, the 3rd of the second chord, 5th of the third chord, etc



Improvise over a song form, and use approach tones as one of your techniques. Try starting lines with an approach tone. Or, try ending your line by doing an approach tone to your resolution note. Play phrases made up of multiple approach tones strung together.

3 5 7 b9

A common pattern on dominant chords in bebop vocabulary is 3 5 7 b9.

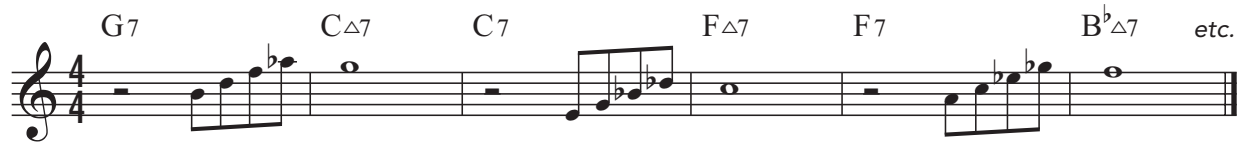


This lick is a great example of using chord tones, extensions and alterations (the flat 9 is both an extension and alteration to the dominant 7 chord), and strong voice leading. 'Voice leading' refers to notes resolving in a smooth way, usually by a half step or whole step. Half-step resolutions tend to be the strongest, and in this pattern the flat 9 on the dominant 7 chord resolves to the 5th of the I chord.

Improvisation Exercises with 3 5 7 b9

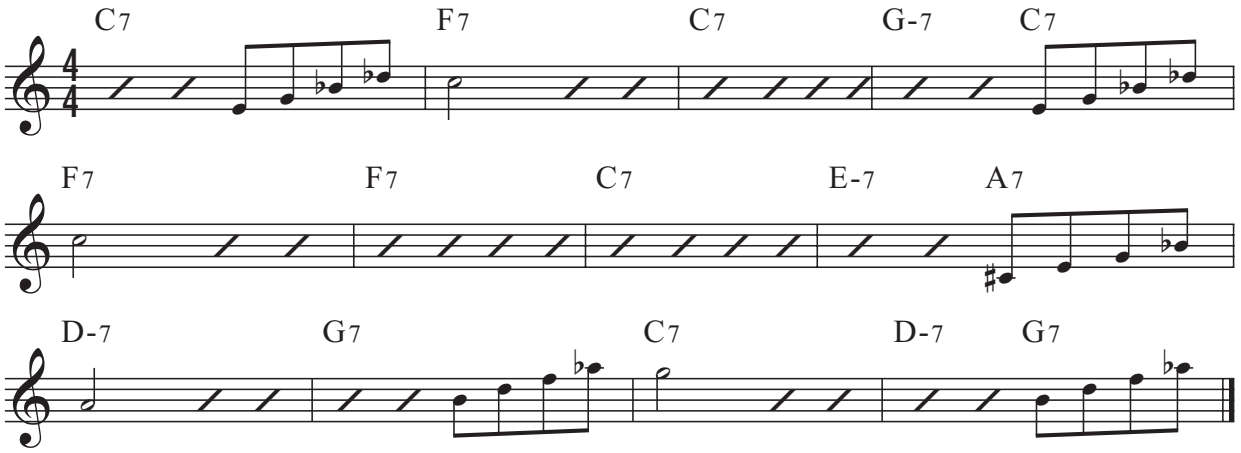
Exercise 1 — Resolving in all 12 keys

Practice using the 3 5 7 b9 pattern to resolve from V to I in all 12 keys.



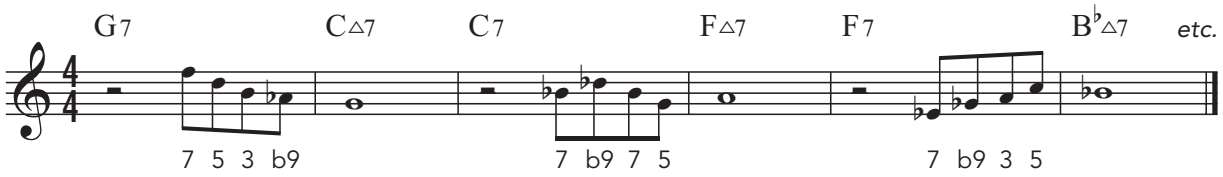
Exercise 2 — Resolving dominant chords on a song form

Play through a song form using 3 5 7 b9 on every dominant chord that resolves.



Exercise 3 — Inversions of 3 5 7 b9

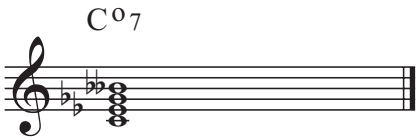
Use different inversions of the 3 5 7 b9 pattern, such as b9 3 5 7



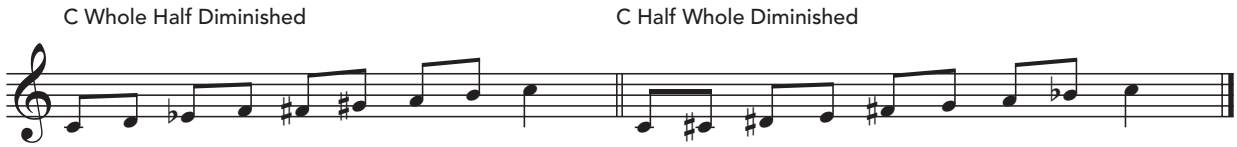
Practice using 3 5 7 b9 while improvising on a song. Rhythm Changes is an especially good song to try this on, and the 3 5 7 b9 pattern creates bebop-sounding vocabulary quickly and easily on that chord progression.

Diminished

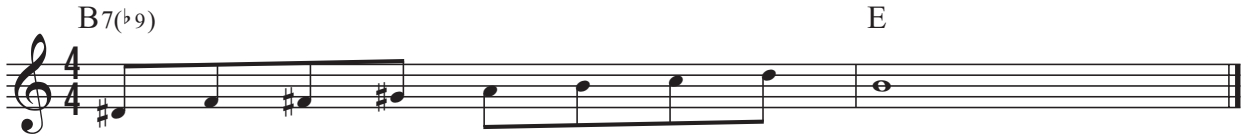
The diminished 7 chord (°7) is built with the formula 1 b3 b5 bb7. This results in four notes all minor 3rds apart.



The diminished scale is made up of alternating half steps and whole steps. Depending on which interval comes first, the scale may be called either "whole half" or "half whole." For example, a C whole half diminished scale would be C D Eb F F# G# A B, whereas a C half whole diminished scale would be C C# D# E F#G A Bb.

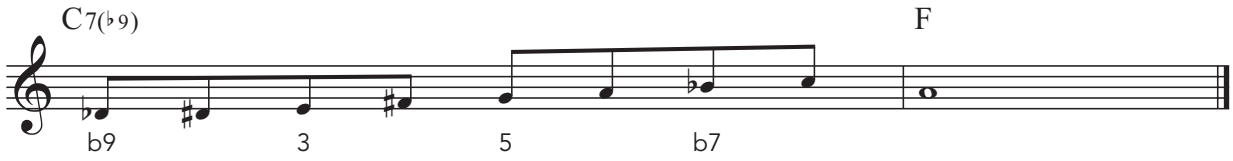


Diminished chords are often substituted for dominant 7 chords in jazz, especially if the chord has a flat 9. In fact, when taking just the 3, 5, 7, and b9 from a dominant 7 chord, you get a diminished 7 chord. For example, a B7b9 chord is made up of the notes B, D#, F#, A, and C. The 3 5 7 b9 alone are D#, F#, A, and C, which make up a D#°7 chord. As a result of this possible substitution, it is common for improvisers to play diminished scales on dominant 7 chords.



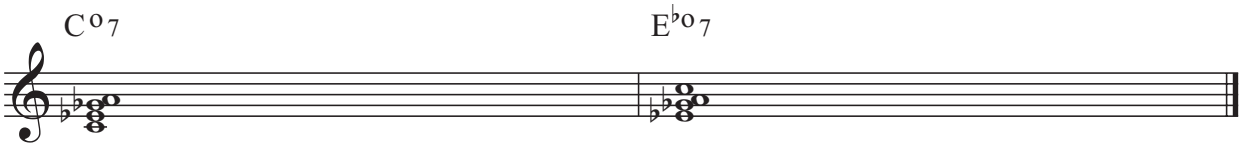
When playing diminished scales over either dominant or diminished chords, it's important to consider two factors: which notes are on downbeats and how the offbeats are resolving into those downbeats. For example, on a C7b9 chord, choosing a C#

diminished scale of either type guarantees that if using 8th notes, you'll end up with the 3 5 7 b9 on downbeats. By using a C# whole half diminished scale when ascending, the 3 5 7 b9 all end up with half step approaches from below, which are very strong resolutions.



If a C# half whole diminished scale is used, the resolutions from offbeat to downbeat end up being whole steps, which are not as strong.

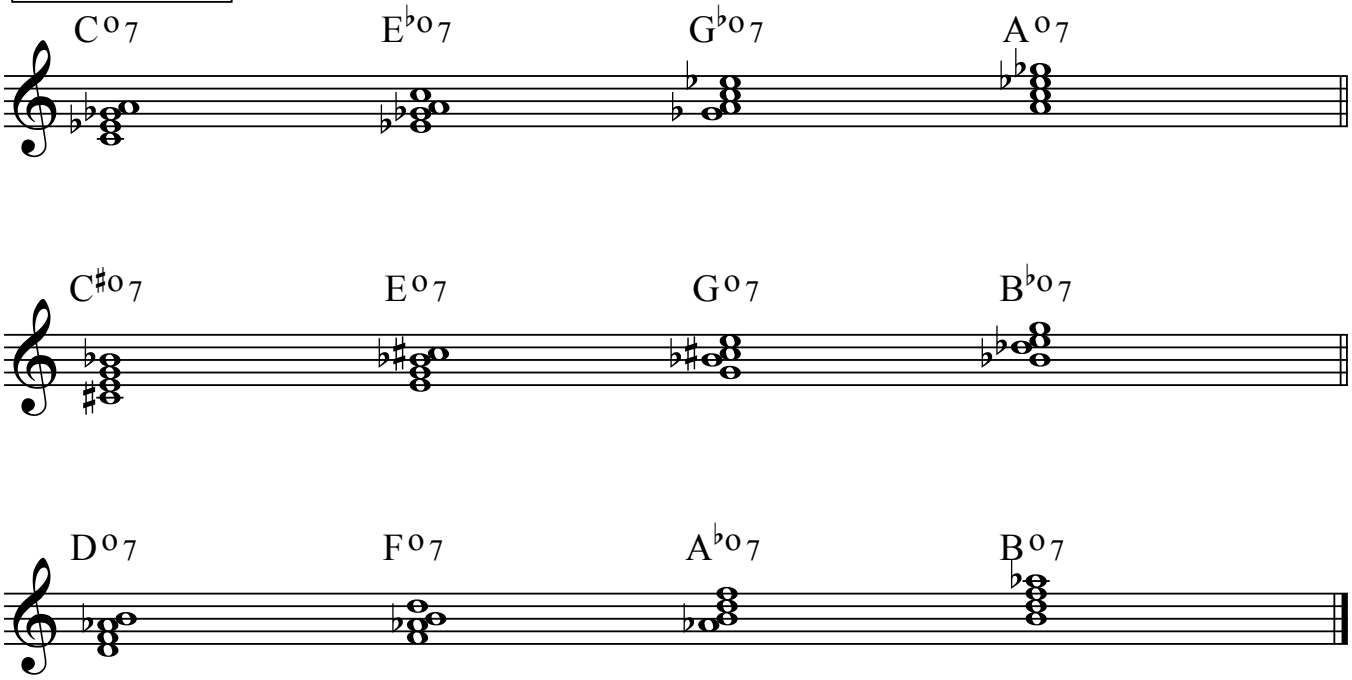
Due to the formulaic nature of diminished chords and scales, there are a limited number of chords and scales to learn. For example, a C°7 is made up of the notes C Eb Gb A (A is the enharmonic equivalent of Bbb). An Eb°7 chord is made up of the same set of notes (Eb Gb A C), just starting on a different note.



In fact, only three sets of notes make up all 12 diminished chords. Similarly, only three sets of notes make up all 12 diminished scales (keep in mind that a C whole half diminished scale is the same as a B half whole diminished scale, just starting on a different note).

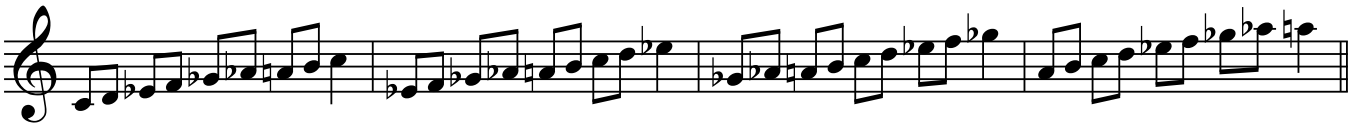
Diminished Chords and Scales

Diminished chords

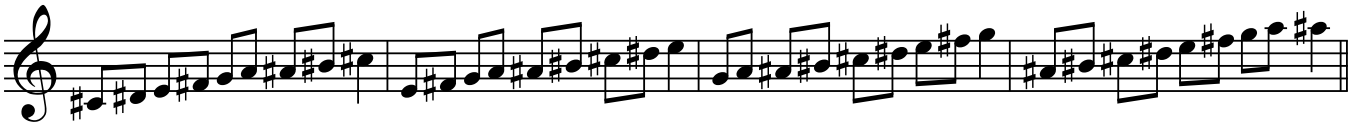


Diminished scales [DIR, RHY, RAN]

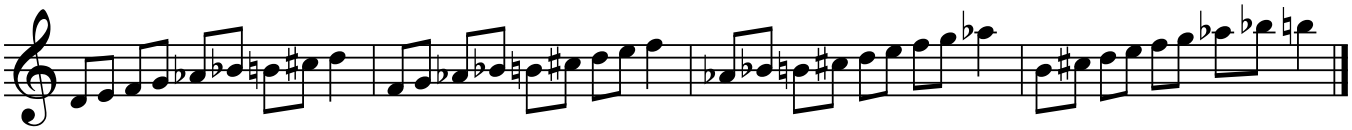
C whole half diminished Eb whole half diminished Gb whole half diminished A whole half diminished



C# whole half diminished E whole half diminished G whole half diminished Bb whole half diminished



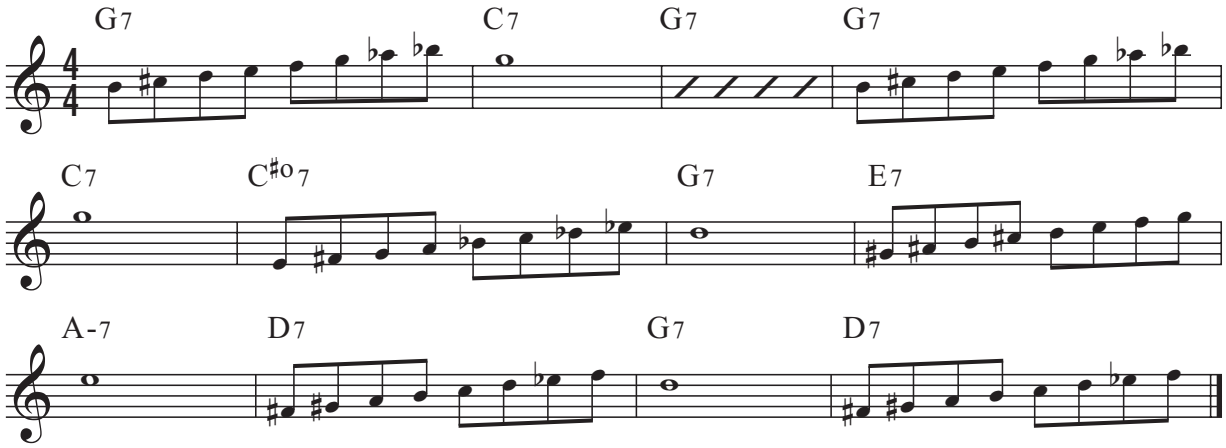
D whole half diminished F whole half diminished Ab whole half diminished B whole half diminished



Improvisation Exercises Using Diminished Scales

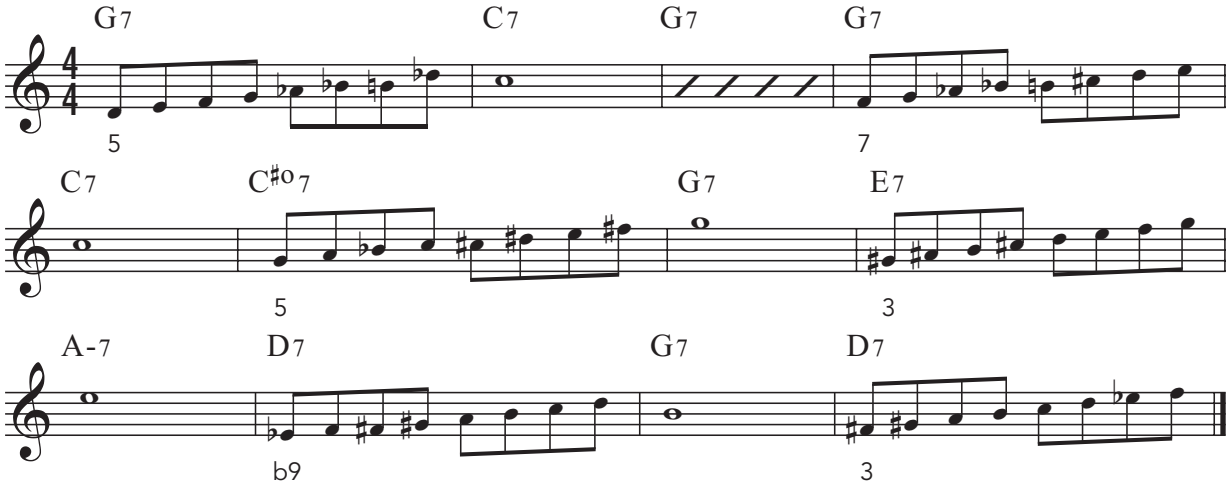
Exercise 1 — Ascending whole half diminished from the 3rd

Play over a song form and play a whole half diminished scale from the 3rd of every dominant chord that resolves. Also play whole half diminished on every diminished 7 chord.



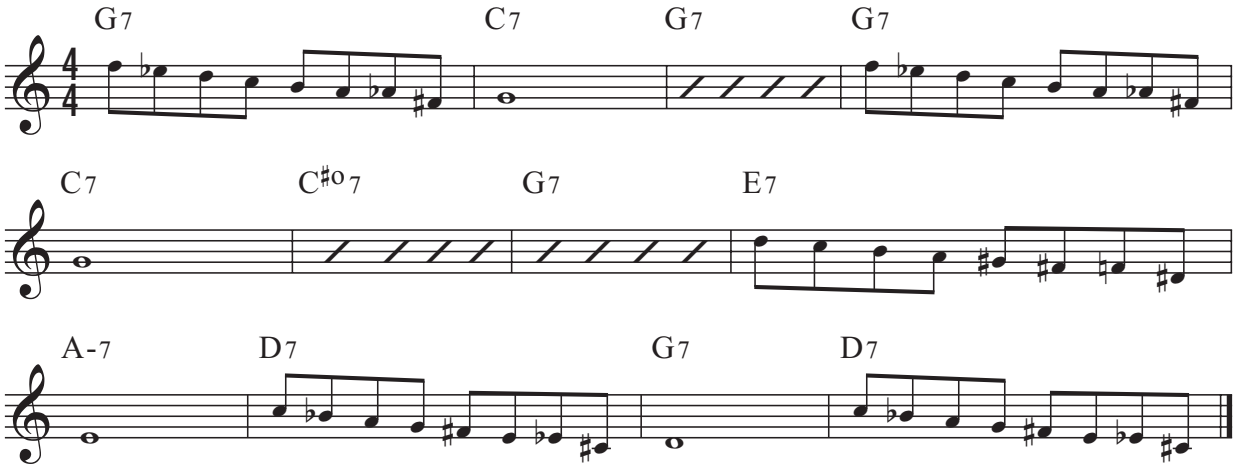
Exercise 2 — Ascending diminished scales from other degrees

Do the same as Exercise 1, but try the scales from the b9, 5, and 7 as well.



Exercise 3 — Descending diminished scales

On each resolving dominant chord, play a whole half diminished scale descending from the 7th.

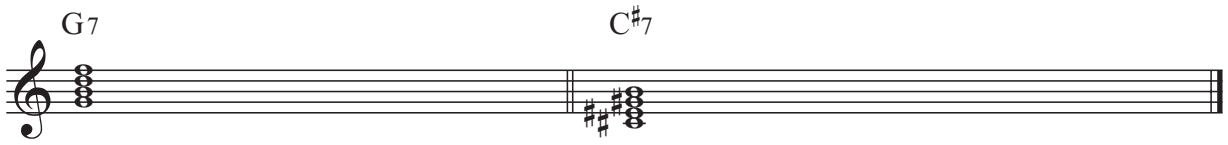


When improvising, try using diminished scales, both ascending and descending, from various degrees. Remember that part of the power of the diminished scale is its strong sense of resolution, so make sure to resolve carefully to make the most of this sound.

Tritone Substitution

The ‘tritone substitution’ is one of the most common substitutions in jazz. It is based on the idea that the 3rd and 7th are the most important notes of the chord, since they are so integral to defining the basic quality of the chord. Of course, this is an overstatement; obviously the other notes are important as well. For example, changing the root of a chord dramatically changes the chord’s impact but it does not change the quality of the chord itself.

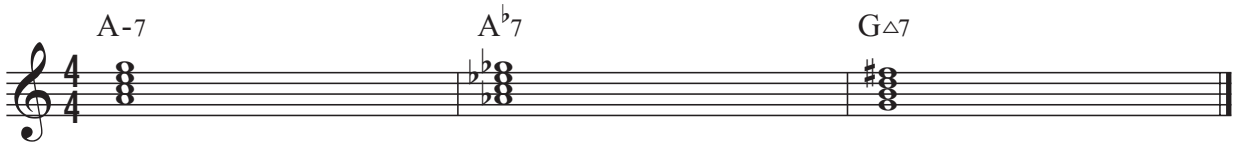
Let’s start with a G7 chord — G B D F. In order to do a tritone substitution, we need to find another dominant 7 chord a tritone away. ‘Tritone’ means augmented 4th or diminished 5th (which are enharmonic equivalents). The resulting chord is a C#7: C# F G# B (the correct spelling would be an E# instead of an F, but to make this example more clear, the enharmonic equivalent of F makes more sense).



Obviously, G7 and C#7 are very different. However, they have something important in common — they share the same 3rds and 7ths (in reversed position); the 3rd of the G7 is B, which is the 7th of C#7, and the 7th of G7 is F, which is the 3rd of C#7. Because the 3rds and 7ths of the two chords are the same, we assume that they function the same way and can be substituted for each other. This is quite a leap to make, since the chords are different in some other important ways, but it has nonetheless become a commonly accepted substitution.

This technique only works on dominant chords. On other chord types, the 3rds and 7ths don’t match up and thus the substitution doesn’t work.

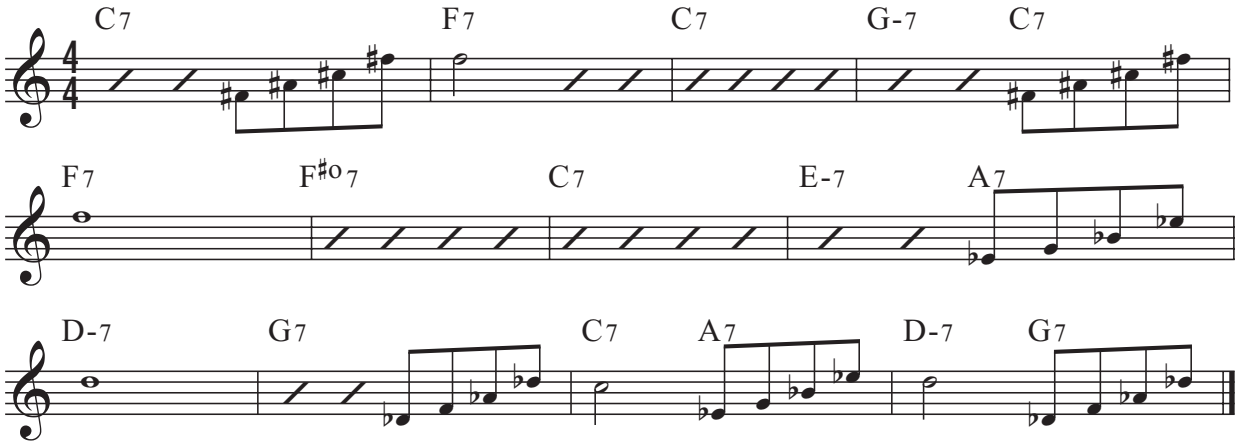
In the context of a ii V or ii V I, the tritone substitution creates an interesting chromatic motion. For example, a ii V I in the key of G major would normally be A-7 D7 I GΔ7. By using a tritone substitution on the D7 (remember, it can only be done on dominant chords), the progression becomes A-7 Ab7 I GΔ7, which has chromatic movement between the first and second chords as well as between the second and third chords. This creates a strong sense of resolution from chord to chord and can provide some convenient voice leading techniques.



Improvisation Exercises Using Tritone Substitution

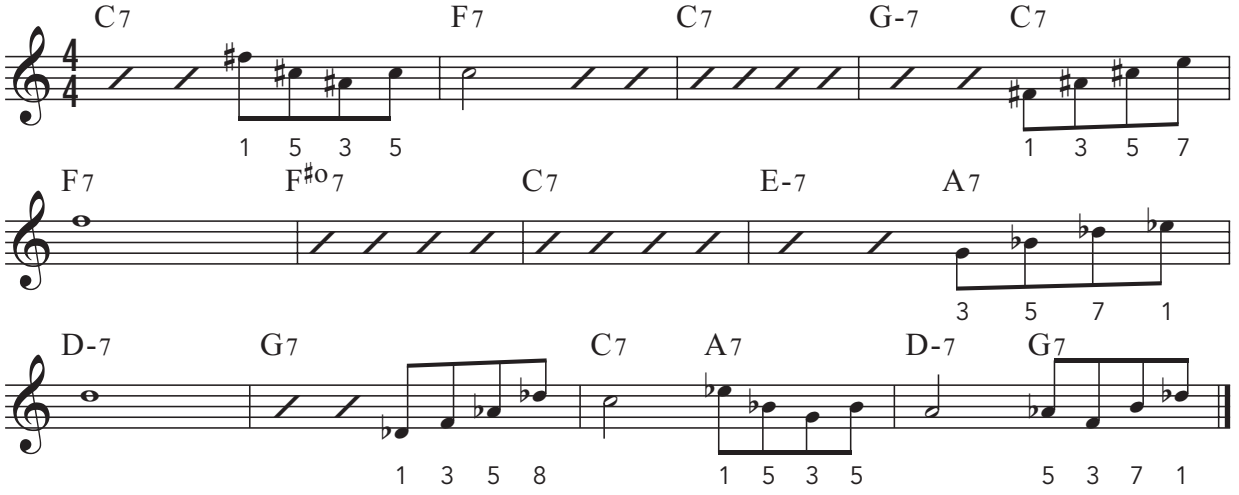
Exercise 1 — Root position tritone substitution

Play through a song form, and arpeggiate the tritone substitution of each dominant 7 chord that resolves using the pattern 1 3 5 8



Exercise 2 — Tritone substitution with inversions

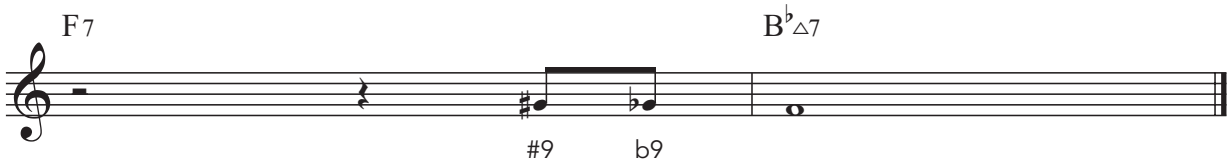
Instead of just playing 1 3 5 8 on the tritone substitutions, play other arpeggios using the 1, 3, 5, and 7 as well. Remember to resolve to the closest available chord tone.



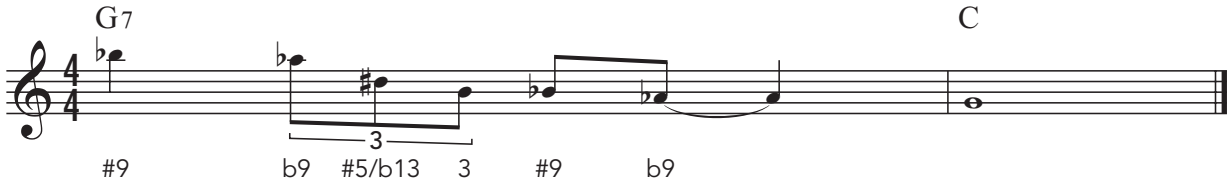
The strength of a tritone substitution comes from the chromaticism that happens when resolving. When improvising and using tritone substitutions, make sure to highlight these chromatic resolutions.

#9/b9

The #9/b9 resolution is one of the most commonly-used resolutions on dominant chords in the bebop jazz vocabulary. For example, on an F7 chord, you can play a G# (the #9) followed by Gb (the b9), which then resolves to F, which is the 5th of a BbΔ7 chord that the F7 could be resolving to (F is also the 5th of a Bb-7 chord, if the resolution is to minor instead of major). The sound of the b9 resolving to the 5th is strong on its own, and it's made even more powerful by adding the #9 at the beginning.



A common implementation of the #9/b9 resolution is a lick called the "Cry Me a River" lick, which is a quote from the first phrase of the song "Cry Me a River," superimposed on the harmony of a dominant 7 chord.

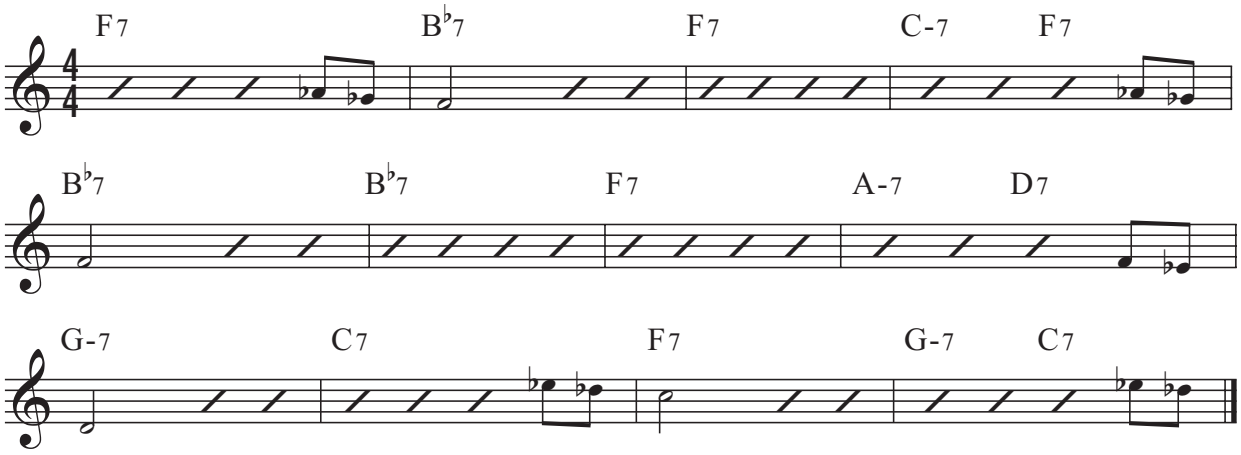


Note that in addition to the #9 and b9 alterations, the Cry Me A River lick also includes the #5 (or b13).

Improvisation Exercises Using #9/b9

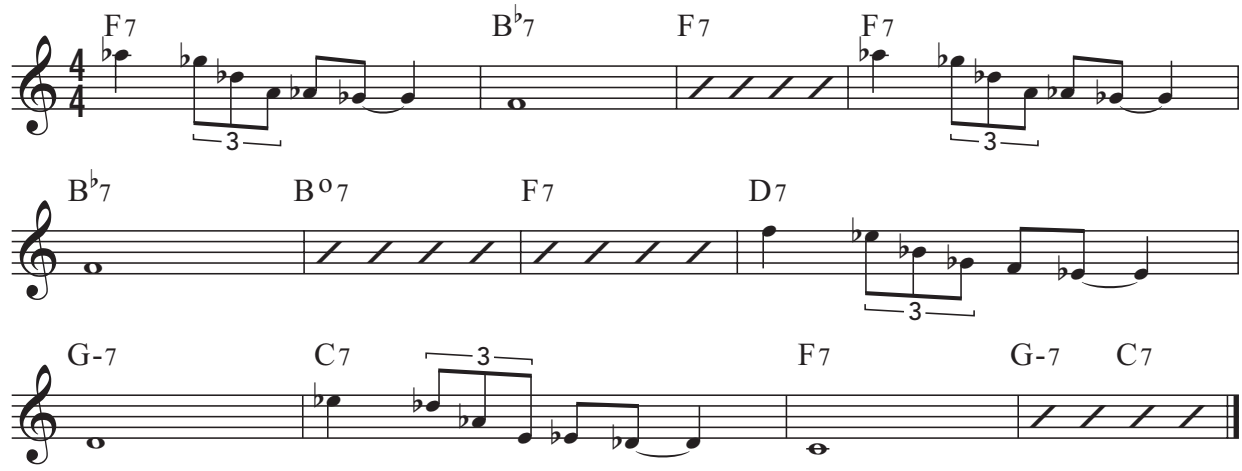
Exercise 1 — #9/b9 on dominant 7 chords

On a song form, use a #9/b9 resolution on each dominant chord that resolves.



Exercise 2 — Cry Me a River lick

Use the Cry Me a River lick on each dominant 7 chord.

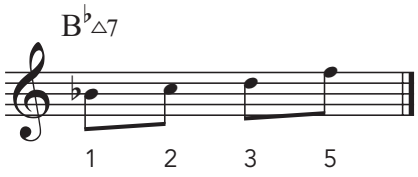


Improvise on a song, using the #9/b9 resolution or Cry Me a River lick on the dominant chords. As with many of the other techniques in this book, this will sound best if it's resolved properly. Remember to resolve to the nearest available chord tone.

Digital Patterns

Digital patterns are groups of notes that are described by assigning a number to each note of the scale. Usually, they're made up of fairly small sets of notes, the most common being a four-note group.

One of the most common digital patterns is 1235. John Coltrane made heavy use of this pattern, especially during his "Giant Steps" period. In the key of Bb major, 1235 would be: Bb C D F, which are the 1st, 2nd, 3rd, and 5th notes of the Bb major scale.

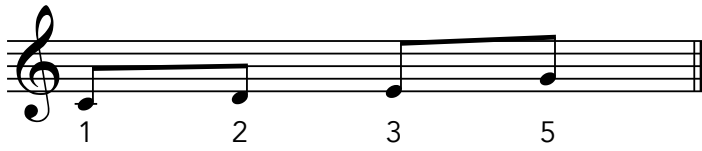


Digital patterns can be made from any chord, scale, or mode. Having a number of digital patterns you're comfortable with in all the keys can be helpful, especially when playing fast tempos with chord changes that move quickly.

Digital Patterns

[12K, CHD, MOD, RHY]

1



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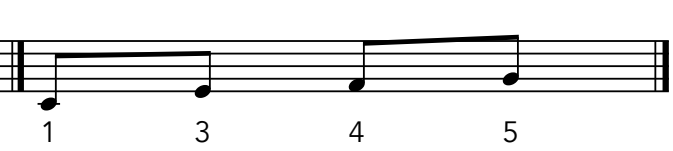

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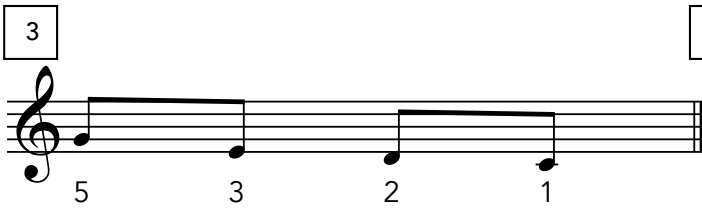

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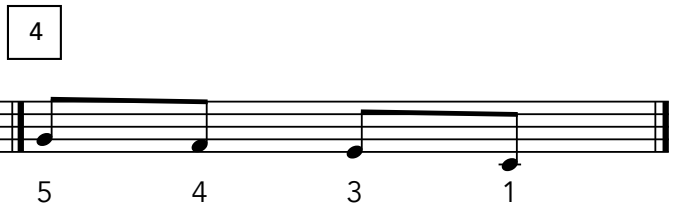

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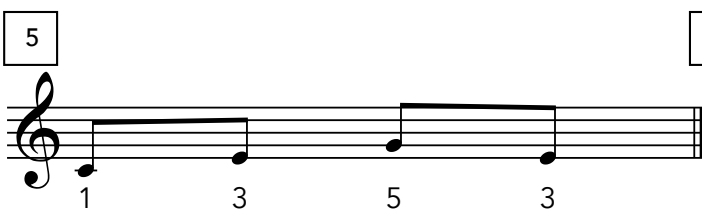

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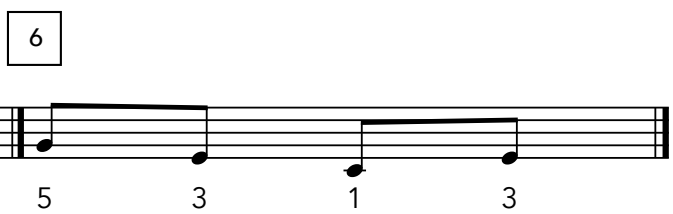

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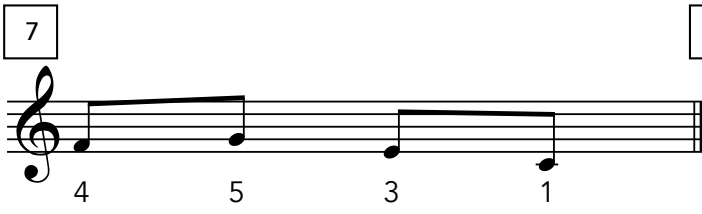

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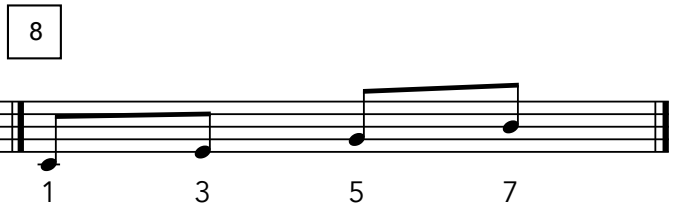

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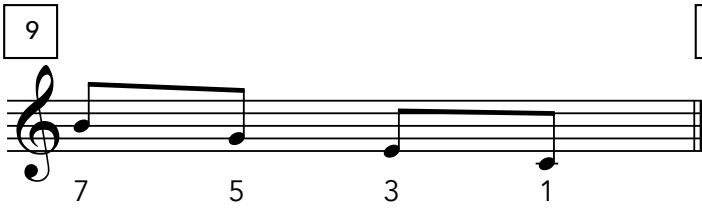

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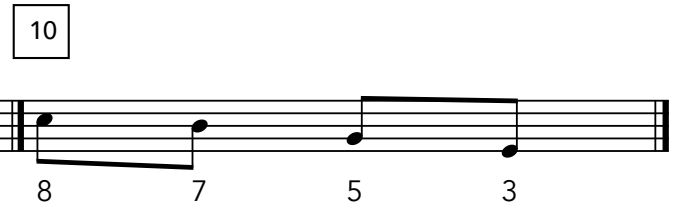

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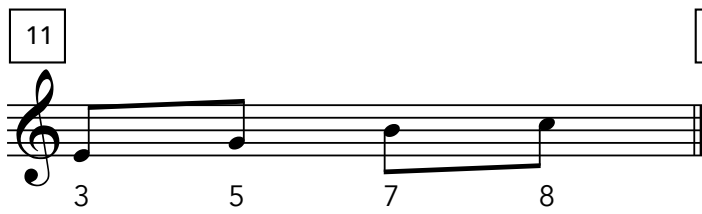

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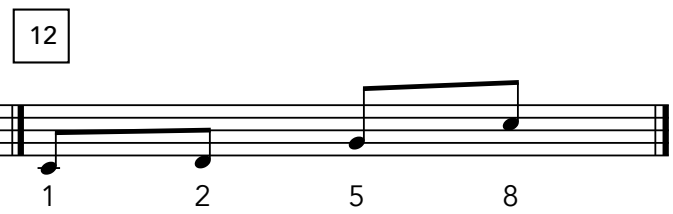

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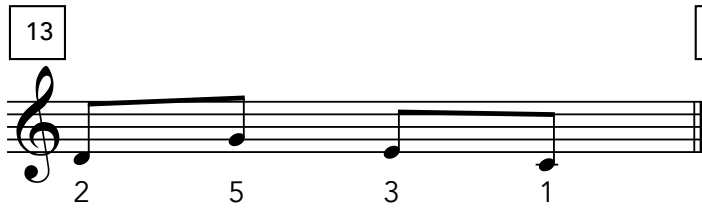

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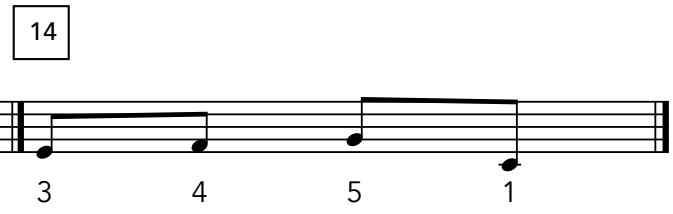

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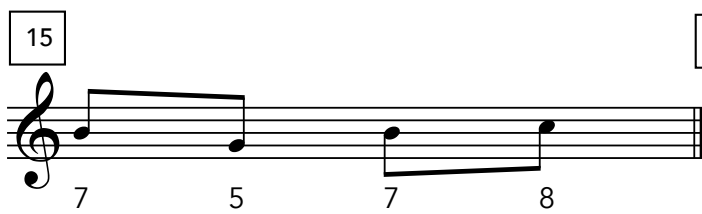

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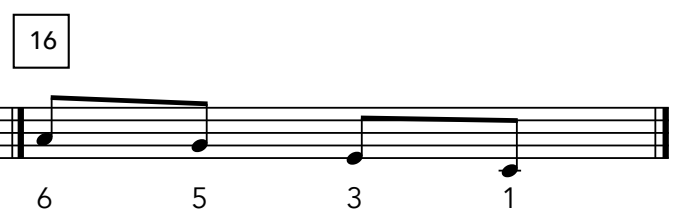
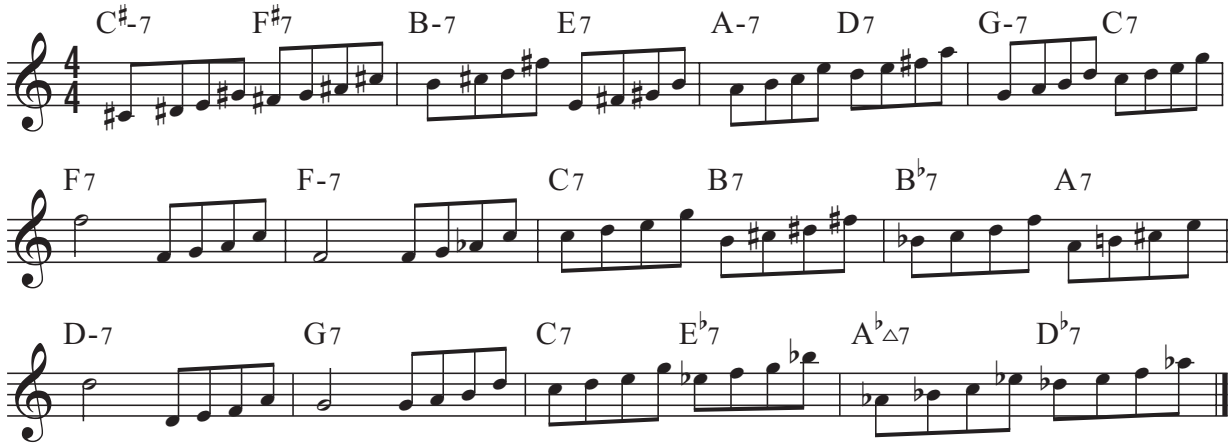


Improvisation Exercises Using Digital Patterns

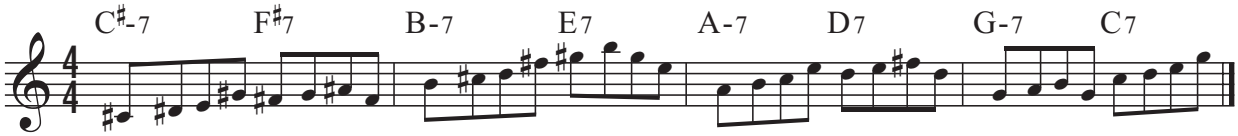
Exercise 1 — Single digital pattern

Play a song using a single digital pattern on each chord.



Exercise 2 — Multiple digital patterns

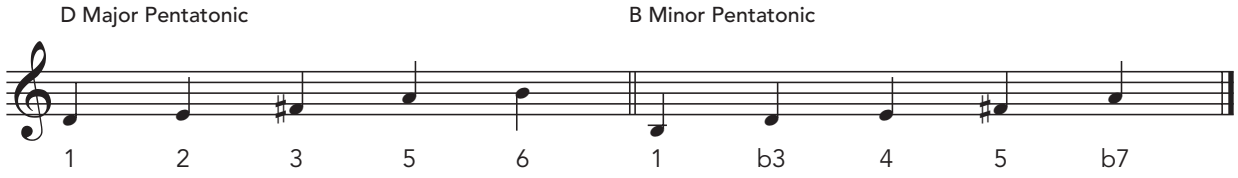
Play a song using a set of digital patterns. For example, use 1235, 3531, and 1231.



Improvise on a song with fast-moving chord changes (two chords per bar in 4/4, for example). Use a variety of digital patterns as well as other techniques to navigate through the chord changes.

Pentatonics

A ‘pentatonic’ scale is a five-note scale. While technically the term could refer to any five-note scale, usually in a jazz context it refers to the major (1 2 3 5 6) or minor (1 b3 4 5 b7) pentatonic scales. Note that these two scales are actually the same, just starting on different notes. For example, a D major pentatonic is D E F# A B, and a B minor pentatonic is made up of the same notes, just starting on B: B D E F# A.



As with any other type of scale, it’s important to have technical flexibility with pentatonic scales in order to create diverse and interesting lines. Do not just learn the pentatonic scale in a linear pattern. Make sure that you also practice it with skips and direction changes to take advantage of the interesting shapes the pentatonic scales can create.

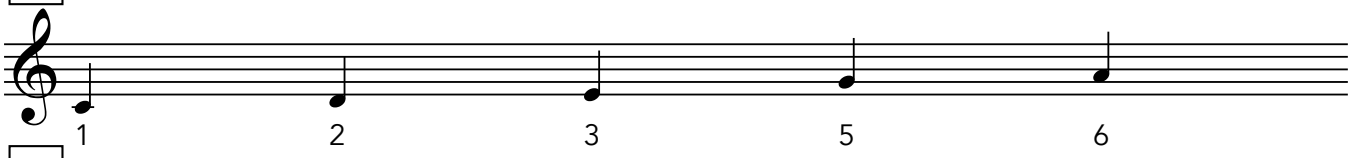
Also, experiment with other pentatonic scales beyond the usual major and minor varieties. Other types of pentatonics can yield different sounds and be used over other chord types.

The following pages contain suggestions for alternate pentatonics as well as patterns to apply to the pentatonic scales.

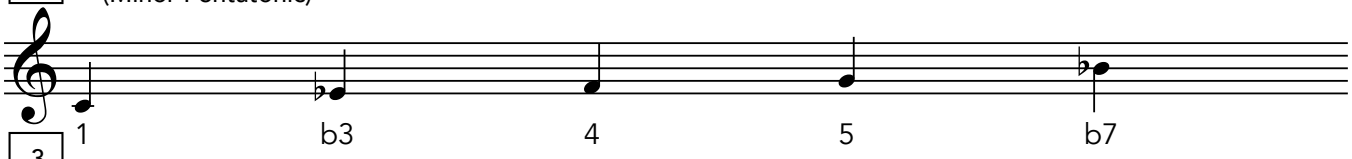
Pentatonic Scales

[12K, DIR, RAN]

1 (Major Pentatonic)



2 (Minor Pentatonic)



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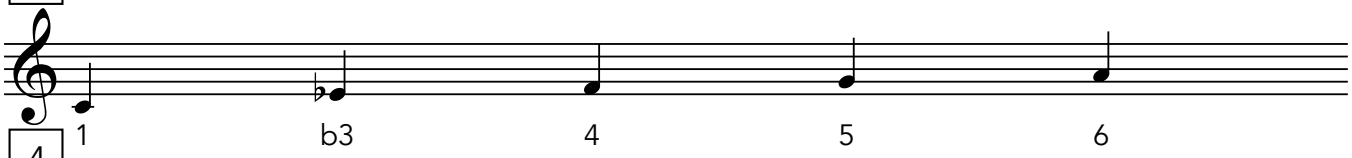

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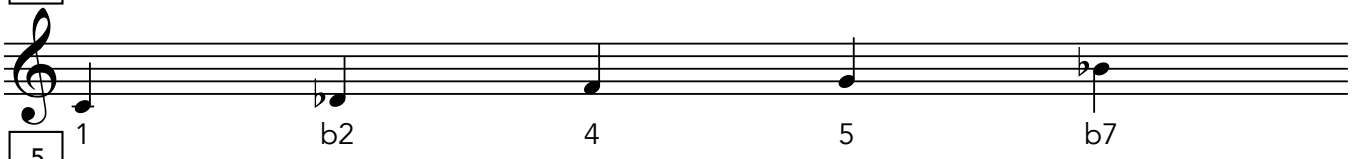

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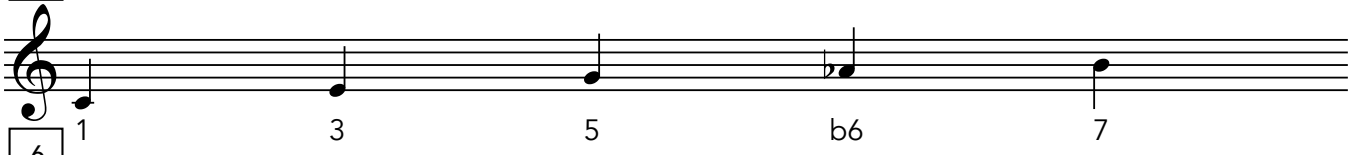

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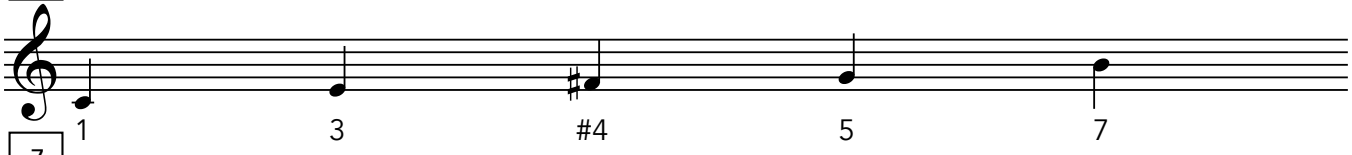

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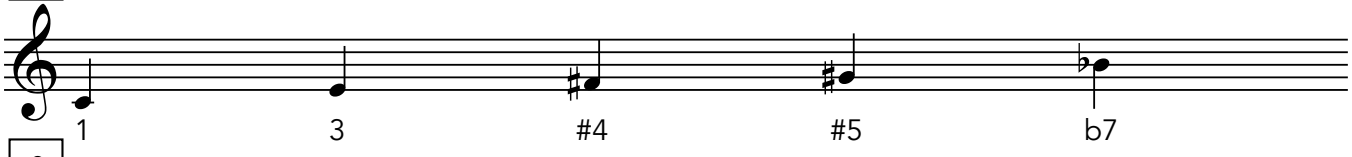

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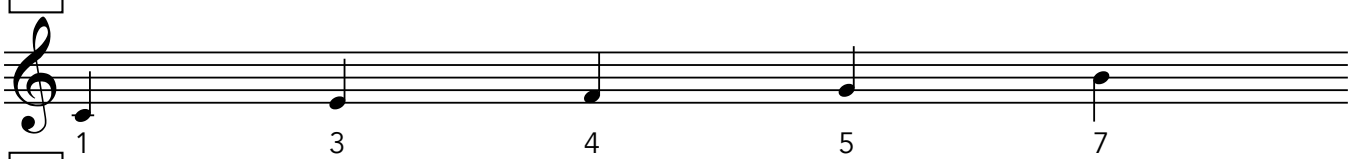

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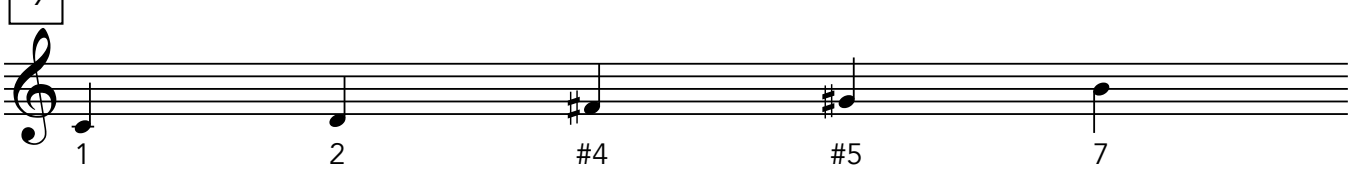
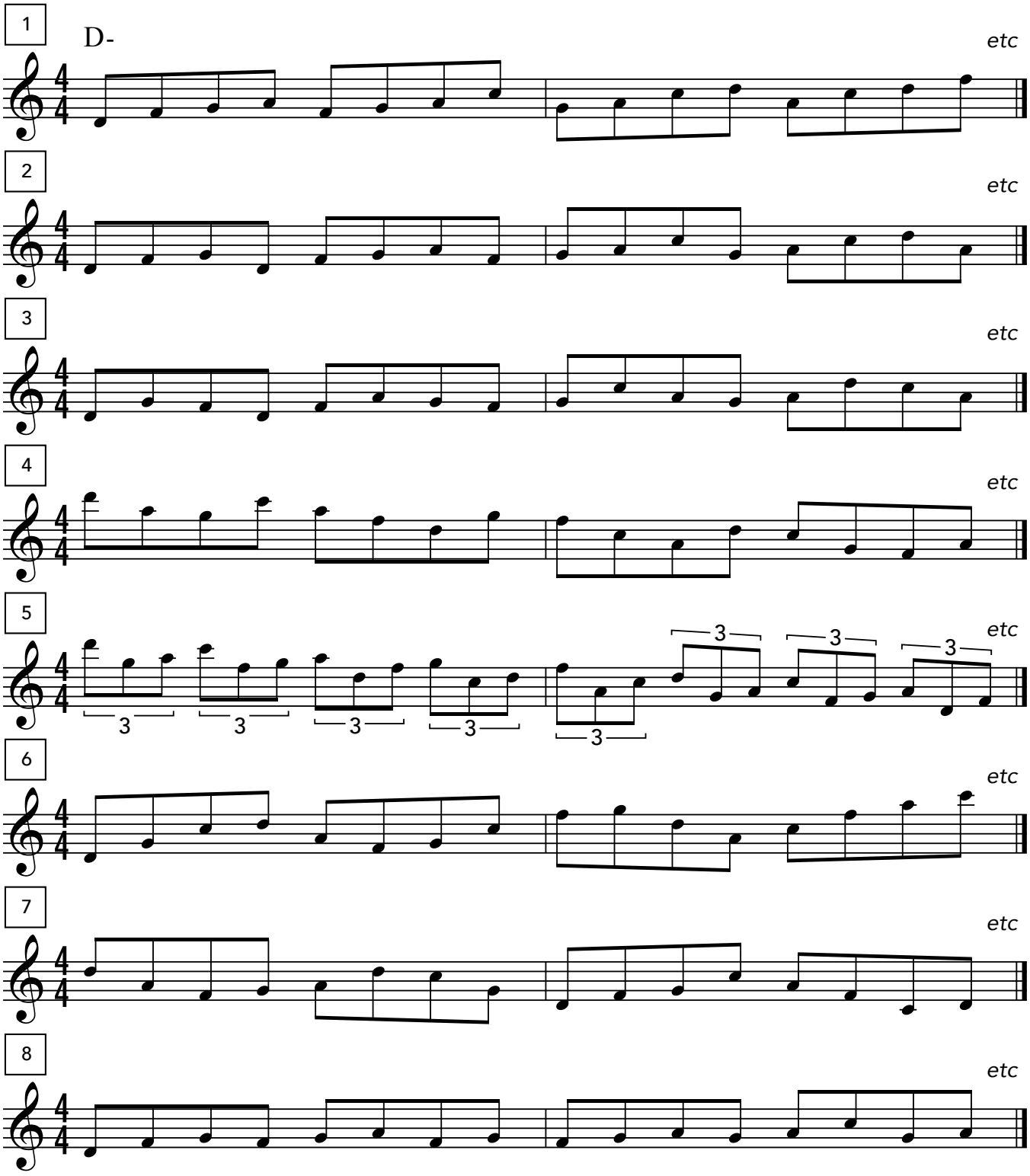


Pentatonic Patterns

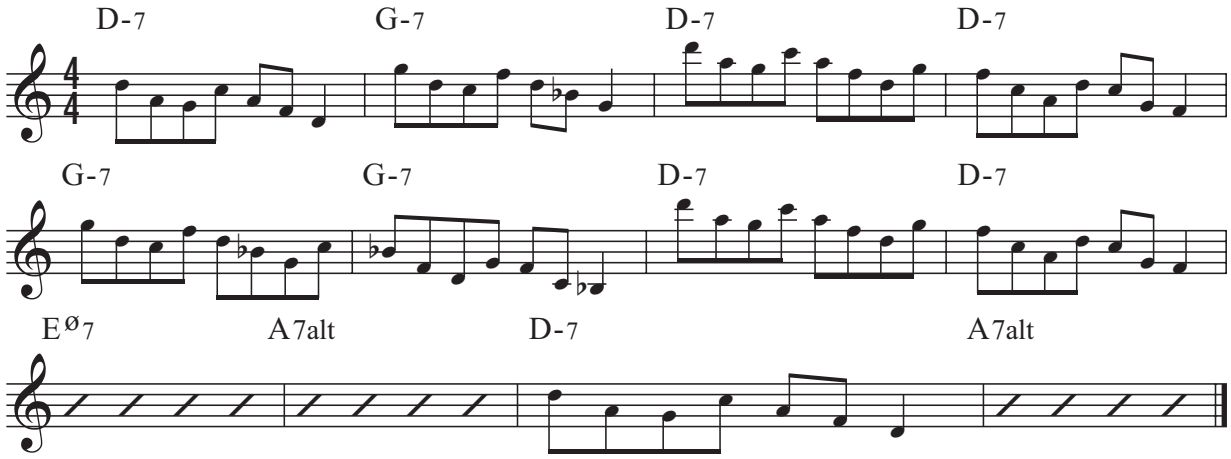
[12K, CHD, DIR, RHY, RAN]



Improvisation Exercises using Pentatonics

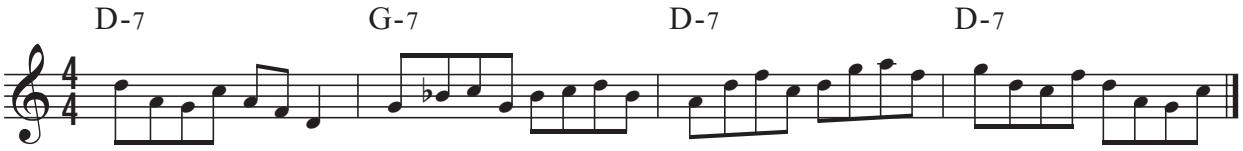
Exercise 1 — One pattern on -7 chords

Pick a pentatonic pattern using the minor pentatonic scale and play it over each minor 7 chord in a song.



Exercise 2 — Alternating patterns

Alternate between two different pentatonic patterns and use them both ascending and descending.



Improvise on a song using pentatonics. You can use patterns as an inspiration for parts of your improvised lines, but make sure you also stretch beyond the patterns and create new material spontaneously. Also, experiment with different types of pentatonic scales and pentatonics on a variety of chord types.

Triad Pairs

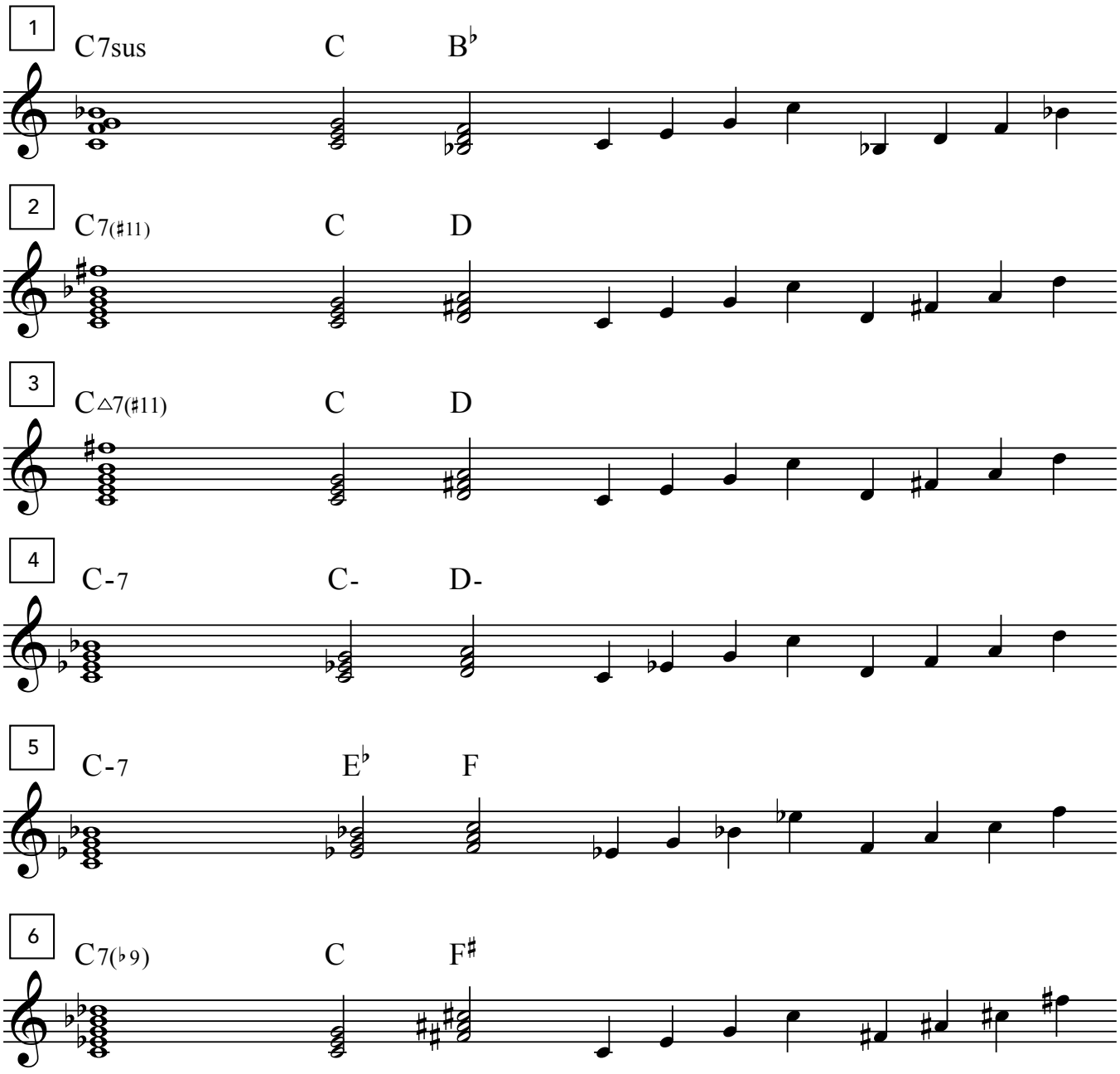
'Triad pairs' is a relatively modern improvisation concept designed to get you playing shapes you otherwise might not think of playing.

The general concept is to take two triads (usually that do not share any common tones) and improvise with those triads and the resulting scale (a 'hexatonic' scale, since it contains six notes). Because you're thinking of them primarily as triads, the shapes you choose to play with those six notes may be different than if you were just thinking of it as a linear scale.

Oftentimes, the pairs of triads are two triads of the same quality, a certain distance apart. For example, one triad pair might be C and Bb major triads — this results in a hexatonic scale made up of the notes C D E F G Bb. This triad pair could be played on a C7sus chord, among others.

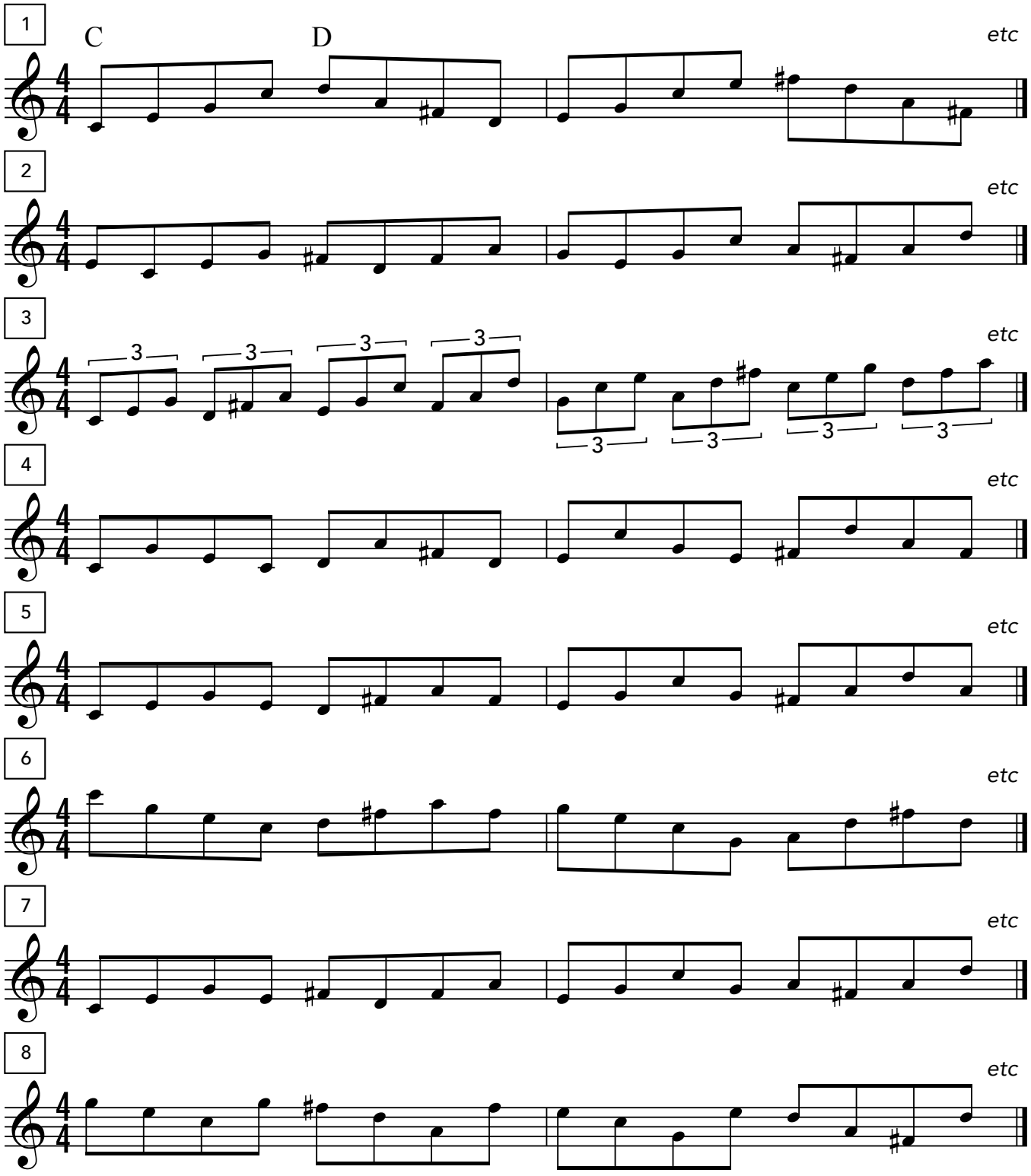
By combining different triad qualities at different distances you can create a variety of interesting sounds. Improvising with the notes grouped in triads creates a modern sounding vocabulary that tends to be more intervalic than linear.

Triad Pairs



Triad Pair Patterns

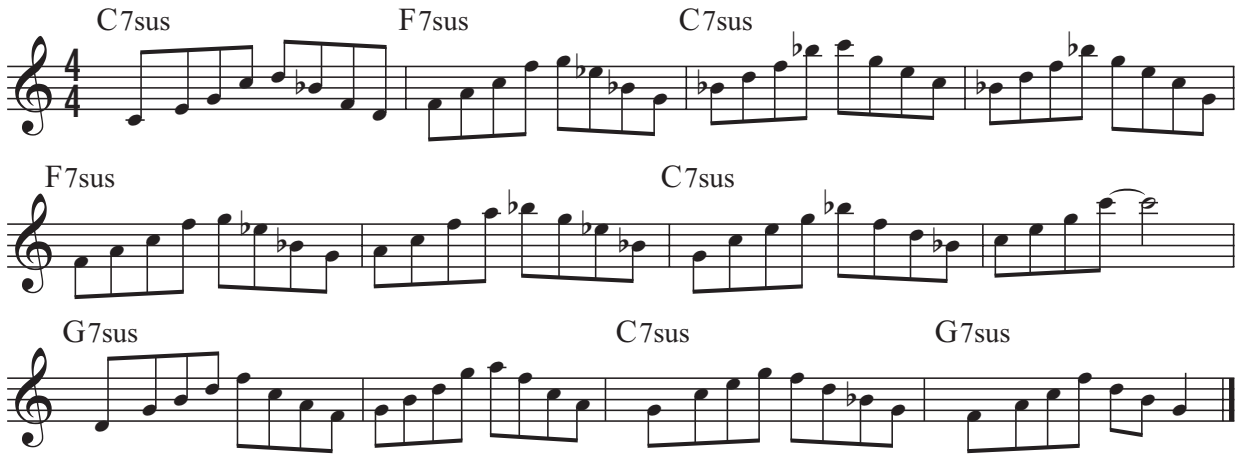
[12K, CHD, DIR, RHY, RAN]



Improvisation Exercises Using Triad Pairs

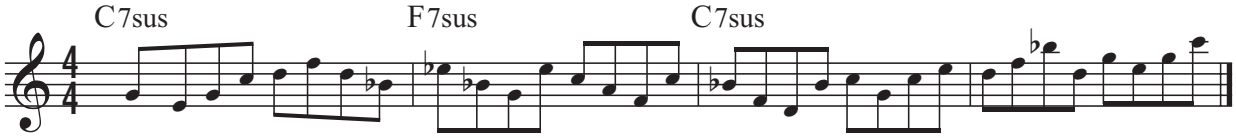
Exercise 1 — One pattern

Pick a triad pair pattern and play it over each chord that fits the type of pair.



Exercise 2 — Alternating patterns

Alternate between two different triad pair patterns and use them both ascending and descending.



Improvise on a song using triad pairs. Use a variety of pair combinations and patterns. Also, experiment with using approach tones and enclosures at the beginnings of lines and between pairs.

Conclusion

Take the knowledge from this book and use it as a foundation for your jazz improvisation skills. With that foundation, continue on to learn new ideas through listening, transcription, and study with private teachers. Come up with variations on the exercises in the book to keep your practice routine interesting and develop more facility and flexibility on your instrument while improvising.

Finally, remember that improvisation is an art form. Although you may study and practice specific exercises, ideas, and phrases, the goal is to build a *musical* vocabulary. Don't use the knowledge and technique that you build just to restate what has been practiced and played before. Use it to create something new, beautiful, and personal.