



PHIL MANN

**FUNCTIONAL
THEORY FOR
BASSISTS:**
VOLUME 2

SBL Course Workbook



FUNCTIONAL THEORY FOR BASSISTS: VOLUME 2

with Phil Mann

COURSE DESCRIPTION

In the second part of the Functional Theory for Bassists series, Phil Mann will take you further through the various functional aspects of harmony and theory.

One of the main elements of music is tension and resolution. Extensions, cadences, minor harmony and re-harmonization are all components that can be used to move a song or melody forward. Knowledge of these concepts will help you understand what gives harmony life and movement, and in this course you are going to find out how to use these elements in your own playing.

LESSON 1: EXTENSIONS

INTERVALS & EXTENSIONS

REMEMBER: Music is a LANGUAGE!

> Harmony & theory is not about what's right and wrong—it's about ANALYSIS.
It's about being able to perceive what's MEANT.

Intervals (08:05)

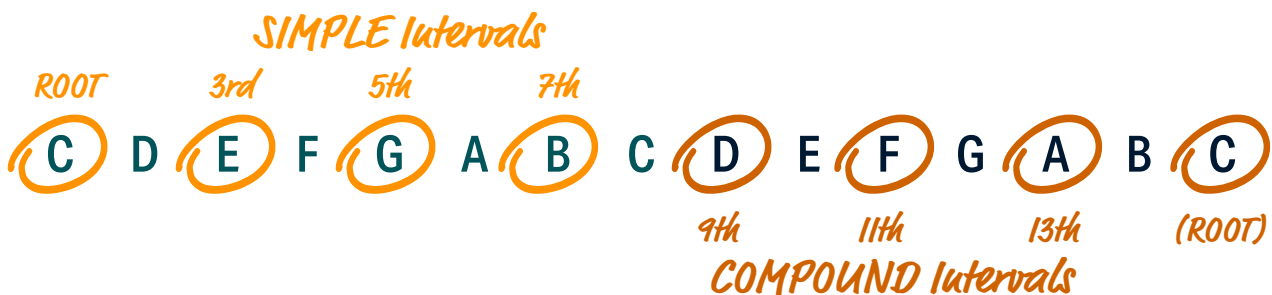
- The MAJOR, or IONIAN, scale (T - T - ST - T - T - T - ST) is the starting point for harmony and theory - we can associate everything to it. Comparing something new to the major scale can help us to better understand it.



- If we continue a "play one, miss one" method of adding thirds, we see we haven't reached the end of the road just yet - we can add more thirds before we return to the root.

Simple and Compound Intervals (13:01)

- To harmonize every note of the major scale, we require TWO octaves to complete the entire harmonization process when developing chords.
- Intervals in the first octave are called simple; intervals in the second octave are compound.



- 9ths, 11ths & 13ths are **extensions** to the basic voicings of a chord, and add color & texture.
- Extensions may get **altered** to reduce tension, depending on the type of triad/chord they are added to. (e.g., maj7#11)

➤ 9th = a 2nd, one octave higher
11th = a 4th, one octave higher
13th = a 6th, one octave higher



LESSON 2: SUPERIMPOSING PENTATONICS

Tension and Release (02:57)

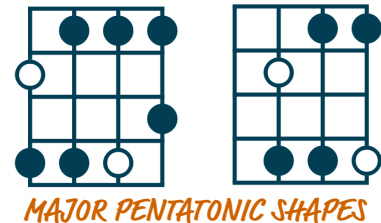
- Certain notes (or chords) in a scale produce *tension*: when played, the musical phrase often sounds “incomplete” and feels like it wants to continue.
- Tension-producing notes (or chords) want to *resolve* to another note (or chord).
- The tonic, or root, is the definitive resolution to a musical phrase—it “finishes” it.

Superimposing Pentatonics (04:42)

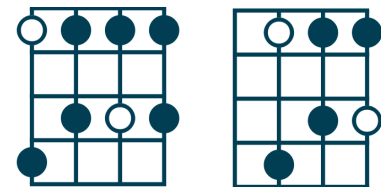
- When soloing, ending a phrase on the root finishes the phrase.
- By avoiding finishing on the root, the phrase feels as though it wants to continue—it remains unresolved.

➤ **PENTATONIC SCALE:** A scale with the tensions removed.

- Playing pentatonics in specific positions can avoid the root (or another specific note) and enhance other notes, while at the same time avoiding resolution.



MAJOR PENTATONIC SHAPES



MINOR PENTATONIC SHAPES

Superimposed Pentatonics over an E Major Chord (06:56)

- Playing an E Major pentatonic scale (R - 2 - 3 - 5 - 6) over an E Major chord works, but isn't very “flashy” ...
- **HACK #1** Play a major pentatonic scale starting on the perfect 5th of the major scale (B).
 - » The B Major pentatonic scale contains the notes B - C# - D# - F# - G#, which are the 5 - 6 - 7 - 9 - 10 (3rd an octave up) in the E major scale.
 - » Playing these notes avoids the root, and creates compound extensions that produce a more exotic & complicated sound.
- **HACK #2** Play a minor pentatonic scale from the major 3rd of the major scale (G#).
 - » The G# minor pentatonic scale contains the notes G# - B - C# - D# - F#, which are the 3 - 5 - 6 - 7 - 9 in the E major scale.

! Pentatonics are easy to play, and by using superimposition, the listener hears something very different!

! This also works with MINOR chords. Experiment - you'll find great textures.



LESSON 3: CADENCES

CADENCES (02:40)

- Cadences are seen in music all the time as part of chord progressions:
 - » A chord wants to "move" to somewhere else, or "do" something else.
 - » A chord creates tension, and wants to be resolved.
 - » A chord wants to travel in a certain direction to reach its "final" destination.
- There are four types of cadences, and each occurs at a specific time:

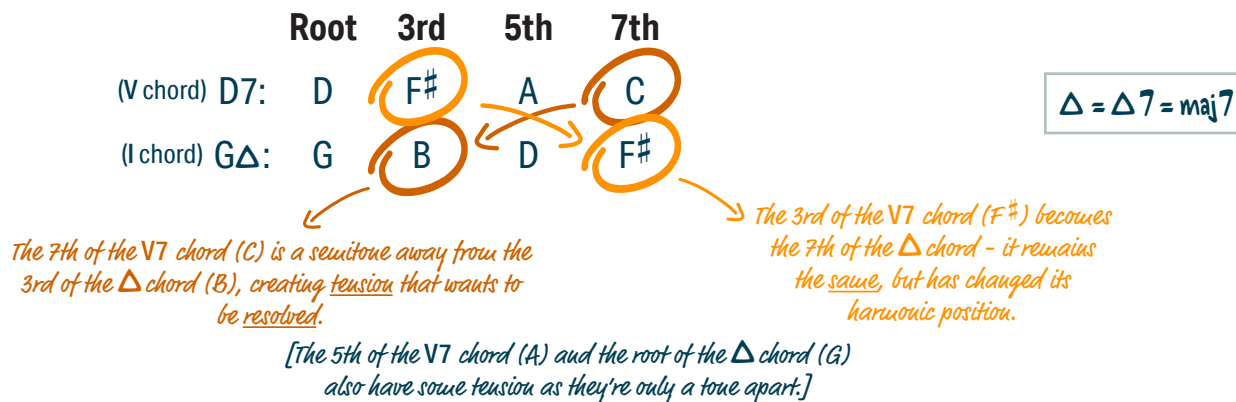
PERFECT (Authentic):	V → I
IMPERFECT:	I → V
PLAGAL:	IV → I
INTERRUPTED (Deceptive):	V → anything other than the I chord

Perfect ("Authentic") Cadence (04:18)

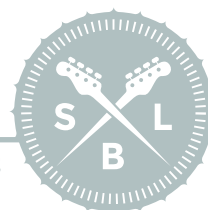
- Definitive cadence. The solo, song, etc., is "done and dusted". "Thank you! Goodnight!"
- V7 → I maj7 chord movement

↶ *The dominant chord in a perfect cadence (V7) wants to resolve down a perfect 5th to the tonic (I maj7) ... but WHY?* ↷

- Guidetones are the tones that actually "manipulate" specific sounds you hear.
 - » In chords, those notes are the **3rd** and the **7th**.
- Let's examine the relationship of the guidetones in the dom7 and the maj7 chords.
(For this example, we'll use the key of G Major):



➤ *The relationship of the notes within the chords creates the cadences.*
» *The way the notes bounce against each other creates tension and the desire to find a resolution.*



LESSON 3: CADENCES

OTHER CADENCES (11:44)

Imperfect ("Half-Cadence") Cadence

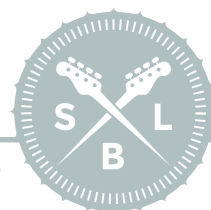
- **I → V** chord movement
- The opposite of the perfect cadence.
- This is also known as the "McCartney Cadence"
 - » Sir Paul McCartney often uses this cadence to start a song, letting the song's Intro end on the **V** chord, just before the melody/lyrics enter.
 - » This cadence naturally sets you up to start a song, since the **V** chord wants to move somewhere else.

Plagal ("Church Music") Cadence

- **IV → I** chord movement
- The movement you hear when saying, "A - men".
- Tensions are not quite as strong as in the perfect cadence.
 - » A few more tones rather than semitones when comparing the two chords.
- Much softer cadence; a bit "dreamy" and "romantic".

Interrupted ("Deceptive") Cadence

- **V → any chord other than the I** chord movement
 - » For example, **V → II**, **V → III**, **V → VI**, etc.
- Can be used to trick the ear of the listener - things go in a different direction!
- Often seen in the "Middle 8" of a song
 - » An interlude or "middle section" between solos, choruses, verses, etc.



LESSON 4: HARMONIZING THE NATURAL MINOR SCALE

MINOR SCALES

The “Problem” With Minor Scales (02:19)

- Minor scales are nowhere near as straightforward as major when harmonized.
 - » Major scales are definitive: 7 triads, 7 chords, and can be expanded with extensions.
- The **Natural Minor Scale** is the **Aeolian Mode** of the major scale.
- The issue is that the **V** chord is not dominant when harmonizing the Natural Minor Scale.
 - » Cadences are pivotal on the **V** chord being dominant, and its resulting tensions.
 - » Harmonizing the natural minor scale doesn't produce a **V** chord that creates those tensions.

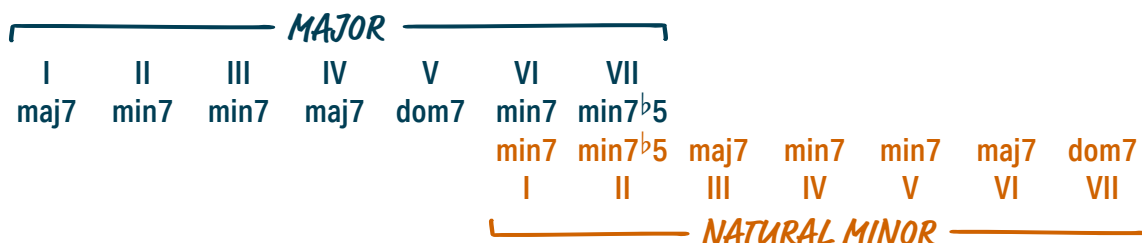
Relative Minor Scale (04:10)

- The Natural Minor Scale is the relative minor of its relative major scale.
- Minor scales are the same as major scales:
 - » Same notes, same formula—but starting in a different place on the scale.
- The Natural Minor Scale has two “cousins”: the **Melodic Minor Scale** & **Harmonic Minor Scale**

» To find the **RELATIVE MINOR** of a major scale:
» Go down 3 semitones (trits) from the first note of the major scale.
» The resulting note is the beginning of the relative minor scale.
» For example: C Major → A Minor

Harmonizing the Natural Minor Scale (06:12)

- Harmonize the Natural Minor Scale is the same as harmonizing the major scale, simply start at the sixth degree of the major scale:



- Note that the harmonized Natural Minor Scale does not have a dominant **V** chord!
 - » Both the **IV** and **V** chords are **min7** chords.
 - » The lack of a dom7 **V** chord adversely affects the tensions, resolutions, & cadences making melody writing & resolution much more tricky.
 - » The resulting resolutions are far less strong.



LESSON 4: HARMONIZING THE NATURAL MINOR SCALE

Minor Chord Key Signatures (12:07)

- Key signatures are always written as major.
- Songs written in minor use the key signature of its relative major:

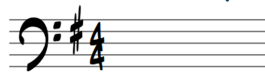


To find the MINOR KEY SIGNATURE:

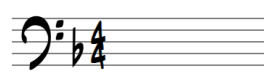
- » Go up 3 semitones (frets) from the first note of the minor scale.
- » The resulting note is the beginning of the relative major scale.
- » Use the key signature of the relative major.
- » For example: E Minor → G Major

- Examples:

E Minor → G Major



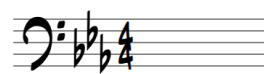
D Minor → F Major



F# Minor → A Major



C Minor → Eb Major



LESSON 5: MINOR SCALES

MINOR SCALES

- A scale that uses the same notes as a major scale (Ionian mode) but starts on the sixth note of the scale is the **NATURAL MINOR SCALE** (Aeolian mode), and is the relative minor of the major scale.

CADENCES + MINOR SCALES (04:00)

- Recall that *most* cadences are centered around *one* chord: the **V** chord
 - » In major scales, that chord is a **dominant 7** chord.
- However, in the natural minor scale, both the **IV** & **V** chords are minor chords.
 - » The dominant **V** chord we want is not present!
 - » All of the other notes are not as powerful or effective in the way the chords “travel”.
 - » This creates a “problem” in the harmonization of the natural minor scale.
 - » We need to find a way to make that **V** chord dominant again...

min7 Chords vs. dom7 Chords (05:30)

- Looking at the intervals in the chords:

m7: Root	b3	5	b7
7: Root	3	5	b7

7 = dom7

m7 = min7

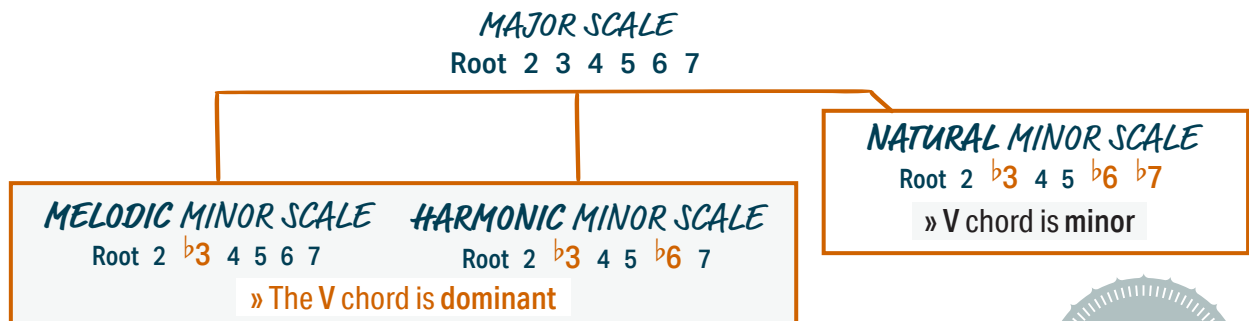
- If we simply raise the 3rd of the natural minor scale, we get our **dom7** chord back—allowing us to use the cadences we already know.

The 3rd is the only difference between m7 and 7 chords.



Types of Minor Scales (06:48)

- There are three types of minor scales:
 - » **MELODIC MINOR SCALE**, **HARMONIC MINOR SCALE** and **NATURAL MINOR SCALE**.
 - » The minor scales are determined by the 3rd, 6th & 7th degrees of the scale.
 - » Let's see how they compare to the major scale:



LESSON 5: MINOR SCALES



MINOR SCALES*

- MELODIC MINOR** = Major Scale with a $b3$
- HARMONIC MINOR** = Major Scale with a $b3$ and $b6$
- NATURAL MINOR** = Major Scale with a $b3$, $b6$ and $b7$

* (in relation to the major scale)

- Note that each of these minor scales can also be referred to in relation to the other...
 - » e.g., Harmonic Minor could be referred to as a "Natural Minor with a sharp 7th".
- Here are the minor scales in the Key of A:

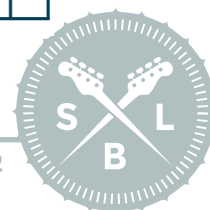
MELODIC MINOR → can create nice, melodic textures—and it's familiar.

- » The familiarity is because it's only one note different from the major scale.
- » It's hard to tell it's minor scale, especially descending.

HARMONIC MINOR → known for its "Arabic" or exotic sound.

- » Not quite as "melodic".
- » The minor 3rd between the $b6$ and 7 make it somewhat difficult to use.

NATURAL MINOR → The Aeolian Scale, or the Relative Minor Scale (... see Lesson 4!)



LESSON 5: MINOR SCALES

Identifying Which Minor Scale is Being Used in Chord Progressions (15:49)

- The **II-V-I** chord progression appears in everything—and is the key to determining the minor scale we're playing in.



*If the **V** chord is **NON-dominant** → **NATURAL MINOR***

- But what about the other two minor scales—harmonic minor and melodic minor?
- Let's look at two **II-V-I** progressions in the key of C Minor as an example:

Dm7		G7		Cm7		✗		(Melodic Minor)
Dm7 ^{b5}		G7 ^{b9}		Cm7		✗		(Harmonic Minor)

*To determine whether it's harmonic and melodic minor, first examine the **II CHORD**:*



- If the **II** chord is a **m7^{b5}** → suggests **HARMONIC MINOR**...
 - » But if the **V** chord has an extension (e.g. **7^{b9}**) → **HARMONIC MINOR**
- If both the above are absent → likely **MELODIC MINOR**

- Since melodic & harmonic minor differ by only one note, you can easily play melodic minor over harmonic progression ... and vice-versa.
 - » No right or wrong—just what's preferable.



LESSON 6: HARMONIZED MELODIC & HARMONIC MINOR SCALES AS 7THS

Minor Tonality (01:45)

- Major scale harmony is “bread and butter”—the chords are all the same, and requires no interpretation → but minor scale harmony does!
- We started by harmonizing the relative minor scale—the Natural Minor:
 - » The harmonized chords are all the same as major, but in a different order.
 - » Results in the **I, IV, and V** chords all having minor tonality.
 - » No dominant **V** chord to drive our cadences.
- We developed the melodic minor and harmonic minor scales, which gave us the **dom7 V** chord that we desired when harmonized.

HARMONIZATION of the MELODIC and HARMONIC MINOR SCALES (03:45)*

	<u>MELODIC</u> <u>MINOR</u>	<u>HARMONIC</u> <u>MINOR</u>	
I	m(maj7)	m(maj7)	m(maj7) = min(maj7) = -/Δ7 → MINOR MAJOR 7th
II	m7	m7 ^b 5	m7 ^b 5 → HALF-DIMINISHED 7th
III	maj7 [#] 5	maj7 [#] 5	maj7 [#] 5 → AUGMENTED 7th
IV	dom7	m7	
V	dom7	dom7	
VI	m7 ^b 5	maj7	
VII	m7 ^b 5	dim7	dim7 = °7 → DIMINISHED 7th

Often substituted for with a m7 chord

Includes a ^bb7

Made up of stacked minor 3rds

This is what makes the MELODIC MINOR so ... melodic!

- » 2 arpeggios are repeated twice (dom7 & m7^b5)
- » Each arpeggio is just one tone away from the others.

➡ **EXAMINE** the chords in a progression - do the chord types fit above?

- » Proper analysis will allow you to choose the appropriate scales and/or arpeggios to create your bass lines and solos!

❗ **INTERNALIZE** these arpeggios for the MELODIC and HARMONIC minor scales.

- » Go through ALL the shapes and be able to play them FLUENTLY!

* See Lesson 4 for further detail on harmonization.



LESSON 7: SECONDARY DOMINANTS

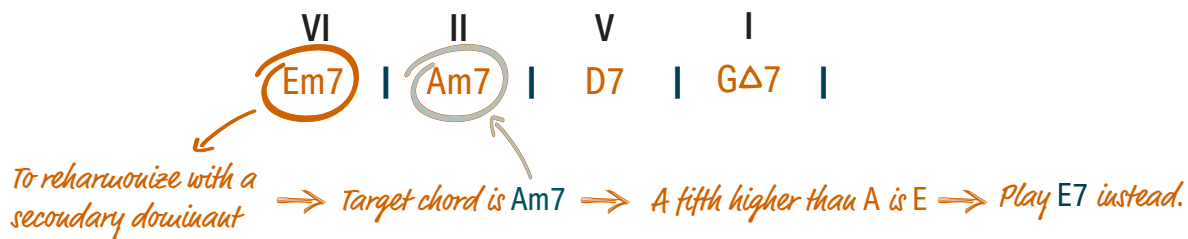


BASIC PRINCIPLE OF SECONDARY DOMINANTS

*Play a dominant chord a 5th HIGHER just before the chord you are targeting.
That's it.*

SECONDARY DOMINANTS (04:17)

- Playing a dominant **V** immediately before a chord you are targeting—regardless of the chord being replaced—generates a sense of motion, similar to a perfect cadence.
- Let's look at a common chord progression, the **VI-II-V-I**, in G Major, as an example:



- A dominant **V** wants to resolve down a fifth to the **I** chord.
 - » In this case the secondary dominant **E7** wants to resolve to the "**I**" which is **Amaj7**.
 - » But even if the target chord is *minor* rather than major, this secondary dominant *still* adds motion and draws you towards the target chord (here, the **Am7**).

IDENTIFYING SECONDARY DOMINANTS (09:08)



Spotting SECONDARY DOMINANTS in CHORD PROGRESSIONS

1. Locate the key you're in.
2. Once you've analyzed the chords ... look for a **II-V-I**
3. Is the **V dom** chord diatonic (part of the harmonization)?
 - » **YES** → the other **dom** chord doesn't belong ...
*It's a secondary dominant**

*unless there's a chord change

- Secondary dominants work anywhere, and can create continuous waves of motion.
 - » For example, add an **A7** between the **Am7** and **D7** chords → it draws you to the **D7**!
- A **secondary dominant** is a **NON-FUNCTIONING DOMINANT** since it is not diatonic.
 - » The **diatonic dom V** chord is a **FUNCTIONING DOMINANT** and draws you to the **I** chord.
- By reharmonizing the **VI** chord with a secondary dominant, it's no longer the **VI** chord: we must refer to the resulting chord by something else:
a **V/II** → the **V** of the **II** chord.



LESSON 8: TRITONE SUBSTITUTION

TRITONE SUBSTITUTION (02:46)

- The “holy grail” of reharmonization ... it’s the “big one”
- Sounds complicated—but it’s not at all:



WHAT IS A TRITONE?

1. Pick a note on the bass.
2. Go UP three tones (a tritone).
3. The resulting note - a ***b5 interval above*** - is your **TRITONE**.

- Tritone substitution gives us variation in the chord progression:
 - » It’s still about playing the **II-V-I**, but making it more interesting.
- Let’s again look at a **II-V-I** in the key of G Major:

II	V	I
Am7	D7	GΔ7
∕	∕	∕



TRITONE SUBSTITUTION “HACK”:

1. Find the **V** chord
2. Go up a **b5**
3. Play another **dom** chord based on that note.

D7
A^b
A^b7



Our tritone-substituted “**II-V-I**” then becomes:

II	(V)	I
Am7	A ^b 7	GΔ7
∕	∕	∕

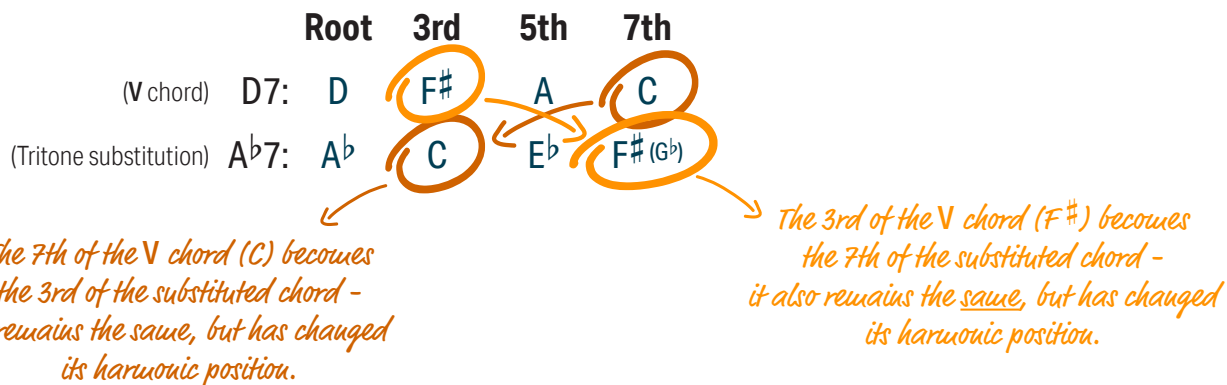
- You can use tritone substitution for *any* **V** chord, but it works best for a **V-I** → a perfect cadence.
 - » It adds a little “spice and color”; it’s a little more sophisticated.
 - » Can make repeated chord progressions a little more exciting.
 - » Note, you *can* use tritone substitution on secondary dominants, but the **V-I** is best.



LESSON 8: TRITONE SUBSTITUTION

WHY DOES TRITONE SUBSTITUTION WORK? (09:23)

- Let's examine the notes in our **V** chord and tritone substitution:



- BOTH guidetones (the 3rd and 7th) are the same in each chord - they just switch places.
 - » One of the reasons tritone substitution works so well.
- Also note that the substitution causes the bass line in our modified **II-V-I** to become *chromatic*: **A → A^b → G**

