

Now that we've explored scales in a modal context, let's move on to chord construction and chord scales.

I believe that in the actual making of music and in improvising, fully understanding chord construction is more useful than scales. Modes only get you playing within and moving around within a specific key. While this is a great place to start exploring tonality on your instrument, in order to be a more proficient improviser, one must be a little more intentional (or specific) with their note choice. We will use the chord symbols themselves to help determine which scale you might choose.

While one mode may work perfectly well over an entire set of chord changes, it typically sounds a bit like we're just playing one scale instead of really playing the tune (especially as bass players, because we are so well trained with regard to landing on the root). While we will explore ways to get away from this tendency (even while playing one scale in one key over one set of changes), I think it's critical to fully explore how chords are constructed and what notes are available to you because of the chord type—and not just in relation to what key we might be in.

Harmony is a subject I came to understand once I began playing music professionally and asking questions of my peers. This is my process for developing an understanding of chord scales and how to explore them; decide for yourself which scales sound best to you.

First, we must learn and internalize the primary chord types. These are the foundation of every chord.

#### PRIMARY CHORD TYPES:

<i>TYPE</i>	<i>Numerically</i>	<i>In the key of C</i>
<b>TRIADS</b>		
Major	1 3 5	C E G
Minor	1♭3 5	C E♭ G
Diminished	1 ♭3 ♭5	C E♭ G♭
Augmented	1 3 #5	C E G#
<b>7<sup>th</sup> Chords</b>		
Major	1 3 5 7	C E G B
Dominant	1 3 5 ♭7	C E G B♭
Minor	1 ♭3 5 ♭7	C E♭ G B♭
Half-Diminished	1 ♭3 ♭5 ♭7	C E♭ G♭ B♭
Diminished	1 ♭3 ♭5 ♭♭7	C E♭ G♭ A (B♭♭)
Sus4	1 4 5 ♭7	C F G B♭

Understanding these chord qualities will provide you with the building blocks of how to discern harmonic devices for yourself and explore scalar options over changes. If you can understand these and get them under your fingers, you know everything you need to know to start playing over changes! The key is how to practice and how to take what you know and explore what it is you don't know.

Many musicians use symbols as shorthand when writing chords. It's easier and cleaner on the chart, and it's cleaner and easier to read.

Here are the most commonly used symbols for chord types:

CHORD TYPE	SYMBOL
MAJOR	MAJ / M / Δ
MINOR	min / m / -
DOMINANT	7 (a lone 7 with no other symbol aside from potential tensions)
HALF-DIMINISHED	-7(b5) / <sup>ø</sup> 7
DIMINISHED	dim / <sup>o</sup> 7

I prefer:

**Δ for Major**

**- for minor**

**ø for half-diminished**

**o for diminished**

Symbols don't force the reader to read full words or pay attention to capitalization while playing; a singular symbol seems easiest to write and read. Any alteration represented in the chord symbol will be spelled out fairly obviously on top of one of those chord types. Once you learn the symbols and meanings above, everything becomes much easier to figure out when reading chord changes. This is the foundation we'll be working from.

**NOTE:** The less you think, the better you'll hear. This is exactly why it's important to work on things long enough to put them into the muscle memory. Music happens in real time—we can't pause to do math while we play. It has to be built-in, which requires repetition and patience.

This is where the work begins. It's one thing to understand chord changes conceptually, but it's another to develop the ability to play fluidly within them. To do so takes internalization of harmonic patterns and the use of harmonic devices, which must be second nature. When playing music, you don't have time to think through multi-step processes. Work to internalize musical relationships through repetition and mindful practice.

### Primary Chord Tones





I like to start with the chord tones. This is because:

- Each chord symbol immediately gives us four notes that will definitely work over a chord
- Those notes are crucial to our role as bass players, but when we craft a solo melody, they also serve to outline the functioning harmony

Once we have “mastered” the four chord tones, we only have three notes left to work on (in other words, we have already ‘mastered’ 4/7ths of the chord scale for any given chord—with a few exceptions, of course).

The first steps in my process are to work with each primary chord type using arpeggios in all inversions. An **inversion** is simply a re-stacking of the arpeggio, moving the bottom note to the top.

## Inversions

Root Position	1st inversion	2nd inversion	3rd inversion
CΔ7 arpeggio	CΔ7 arpeggio	CΔ7 arpeggio	CΔ7 arpeggio
			
1 3 5 7	3 5 7 1	5 7 1 3	7 1 3 5

So: 1st inversion = 3 5 7 1  
 2nd inversion = 5 7 1 3  
 3rd inversion = 7 1 3 5

The next page contains root position and all inversions for each primary chord type.

## Inversions: all primary chord types

$C^{\Delta 7}$                       1st inversion                      2nd inversion                      3rd inversion

1 3 5 7    3 5 7 1    5 7 1 3    7 1 3 5

$C^7$                       1st inversion                      2nd inversion                      3rd inversion

1 3 5 7    3 5 7 1    5 7 1 3    7 1 3 5

$C^{-7}$                       1st inversion                      2nd inversion                      3rd inversion

1 3 5 7    3 5 7 1    5 7 1 3    7 1 3 5

$C^{\circ 7}$                       1st inversion                      2nd inversion                      3rd inversion

1 3 5 7    3 5 7 1    5 7 1 3    7 1 3 5

$C^{\circ 7}$                       1st inversion                      2nd inversion                      3rd inversion

1 3 5 7    3 5 7 1    5 7 1 3    7 1 3 5

$C^{(sus4)}$                       1st inversion                      2nd inversion                      3rd inversion

1 3 5 7    3 5 7 1    5 7 1 3    7 1 3 5

This is my process: I work on each inversion one at a time through chord changes to a standard. Get yourself a **Real Book**, a collection of jazz standards that will provide a lifetime's worth of tunes to work through. I also use an app called **iReal Pro** to play along with chord changes. PG Music's **Band-in-a-Box** software is another alternative.

Here is how I recommend you work through inversions:

- Work through a set of changes (tune) out of time.
- Take your time and get each chord right.
- Play through the tune in time **slowly**. This forces you to do it in real time. Then play through the tune at a quicker tempo (upping the ante).

I do this for **each inversion** until I can make it through a tune in time and at tempo without making too many mistakes. Don't worry about flubbing things here and there, but don't allow yourself to go too fast, either. If you're making a lot of mistakes, slow it down. You don't want to reinforce bad habits or mistakes.

Once I have made it through a tune, I switch tunes. It's important to not sit on one song—you want to develop the ability to do this through any tune. It's also important to alter your chord changes once in a while. Alternatively, you could switch keys, but I also recommend working through every tune you can using this methodology.

**The following page will give you an example of the tune “Beautiful Love” in root position.**

## Beautiful Love (Root Position)

*E<sup>ø7</sup>* *A<sup>7(b9)</sup>* *D-<sup>7</sup>*

*G-<sup>7</sup>* *C<sup>7</sup>* *F<sup>Δ7</sup>* *E<sup>ø7</sup>* *A<sup>7(b9)</sup>*

1.  
*D-<sup>7</sup>* *G-<sup>7</sup>* *B<sup>b7</sup>* *A<sup>7(b9)</sup>*

*D-<sup>7</sup>* *G<sup>7(#11)</sup>* *E<sup>ø7</sup>* *A<sup>7(b9)</sup>*

2.  
*D-<sup>7</sup>* *G-<sup>7</sup>* *B<sup>b7</sup>* *A<sup>7(b9)</sup>*

*D-<sup>7</sup>* *B<sup>7</sup>* *B<sup>b7(#11)</sup>* *A<sup>7(b9)</sup>* *D-<sup>7</sup>*

Here's the same tune in first inversion. Focus on primary chord tones right now. Let's not worry about extensions just yet.

## Beautiful Love (First Inversion)

E $\emptyset$ 7                      A7(b9)                      D-7

G-7                      C7                      F $\Delta$ 7                      E $\emptyset$ 7                      A7(b9)

1.  
D-7                      G-7                      Bb7                      A7(b9)

D-7                      G7(#11)                      E $\emptyset$ 7                      A7(b9)

2.  
D-7                      G-7                      Bb7                      A7(b9)

D-7                      B7                      Bb7(#11)                      A7(b9)                      D-7

Now, just those few pages lay out quite a bit of homework. Do yourself a favor and work this into your practice regimen. It's especially good for us bass players, who are so well trained to start every chord from the root. This is the beginning of the process that will help you:

- Begin to visualize individual notes available to us over any given chord type
- Immediately see places to begin a line other than the root of the chord

Now we'll up the ante one more time. Instead of playing through an ENTIRE set of changes in one position, let's set a regular interval at which we will change inversions! We can also decide to change inversions every bar! The more often you force yourself to change gears (mentally), the more you are testing your internalization of the concept and its application on the instrument.

Here's the same tune, changing inversions every four bars.



## Beautiful Love (Shifting Inversions)

E $\emptyset$ 7                      A7(b9)                      D-7

Root position

G-7                      C7                      F $\Delta$ 7                      E $\emptyset$ 7                      A7(b9)

1st inversion

1.  
D-7                      G-7                      Bb7                      A7(b9)

2nd inversion

D-7                      G7(#11)                      E $\emptyset$ 7                      A7(b9)

3rd inversion

2.  
D-7                      G-7                      Bb7                      A7(b9)

Root position

D-7                      B7                      Bb7(#11)                      A7(b9)                      D-7

1st inversion

Here's an exercise that uses inversions and voice-leading through changes. Basically, **voice-leading** is a technique in which you move a voice (note) as little as possible through the chord changes. When voice-leading a melody, the note will either not move at all or it will move no more than one whole step, as is appropriate for the chord changes.

Here, we will play arpeggios but voice-lead to the next available note at the occurrence of each chord change. This one starts to sound a little more musical to my ears, and it is the next step in seeing available notes NOT as they relate to the root of the chord but rather, from our current note.

A large part of what we are working towards here is the ability to see the shifting harmonic line. We must always be aware of where we are and where we are going. As bassists, we tend to mentally jump from root to root. We're slowly going to try and break this habit when improvising.

Our ultimate goal is to be able to see every note in the available chord scale as clearly as we can see the root of the chord. This is how we can begin to improvise in a more melodic way and less like "bass players."

For this exercise, we will utilize the following criteria:

- Start with any inversion you like
- At the chord change, play the chord tone closest to your current note
- Play the proper inversion for that note
- If the same note can be used, begin with that inversion

You will notice that I've also displaced some of the octaves. There is no reason why you can't switch octaves, and this is something we will be forced to do in later exercises. In fact, it's good not to get locked into playing any pattern (like an arpeggio) using only one shape and in one direction on the fretboard.

Here is one more example using "Beautiful Love."

# Beautiful Love

(Voice-led Inversions)

*E*<sup>ø7</sup>                      *A*<sup>7(b9)</sup>                      *D*<sup>-7</sup>

Root position                      1st inversion                      2nd inversion                      1st inversion

*G*<sup>-7</sup>                      *C*<sup>7</sup>                      *F*<sup>Δ7</sup>                      *E*<sup>ø7</sup>                      *A*<sup>7(b9)</sup>

2nd inversion                      3rd inversion                      1st inversion                      etc.

1.

*D*<sup>-7</sup>                      *G*<sup>-7</sup>                      *Bb*<sup>7</sup>                      *A*<sup>7(b9)</sup>

*D*<sup>-7</sup>                      *G*<sup>7(#11)</sup>                      *E*<sup>ø7</sup>                      *A*<sup>7(b9)</sup>

2.

*D*<sup>-7</sup>                      *G*<sup>-7</sup>                      *Bb*<sup>7</sup>                      *A*<sup>7(b9)</sup>

*D*<sup>-7</sup>                      *B*<sup>7</sup>                      *Bb*<sup>7(#11)</sup>                      *A*<sup>7(b9)</sup>                      *D*<sup>-7</sup>