

# Reharmonizations and Substitutions

## 7<sup>th</sup> chords and scale harmonization

### Reharmonizing: Substituting chromatic chords within the iii → vi → ii → V → I progression

For the sake of variety, coloration and creativity, composers (or even players) substitute chromatic chords (chords that have one or more notes NOT in the key signature of the song) in place of diatonic chords.

One simple way to do this is to take a diatonic chord that is either a m7 or m7b5 and change it into a dominant 7<sup>th</sup> chord.

For example, a ii → V → I progression in C major uses the chords:

Dm7 → G7 → Cmaj7

Change the Dm7 to a D7 (as long as it sounds ok with the melody note(s)) and that's it:

D7\* → G7 → Cmaj7 (\*D7 is the altered, chromatic chord)

With a vi → ii → V → I progression (Am7 → Dm7 → G7 → Cmaj7), the Am7 and/or the Dm7 chords can be changed to A7 and D7 chords respectively. (A7\* → D7\* → G7 → Cmaj7).

Finally, the iii chord (Em7, in the key of C major) can be changed into an E7 chord.

In each of these instances, the overall quality of the progression will change slightly, but not so much that the sense of C as the tonic (I chord) will be lost. Just because a D7 replaces the Dm7 does not mean that the music will feel like it is now in the key of G (where D7 is the dominant).

## Secondary Dominants

But when we do make changes like the kind outlined above, we have terms for recognizing the altered, substituting chords. When a chord that is not diatonically a dominant 7<sup>th</sup> is altered so that it *does* have that dominant 7<sup>th</sup> structure, we usually call it a *secondary dominant* (as opposed to the primary/main dominant). Especially when the chord that comes after it is a 4<sup>th</sup> higher (or 5<sup>th</sup> lower) than the altered chord, we say that the altered chord is the "dominant of" the chord that comes after it.

In the above example, Dm7 → G7 → Cmaj7 was changed to D7\* → G7 → Cmaj7. The now-altered D7 is called (and behaves as) the dominant of (or to) G7, even though G7 is not the tonic. D7 is a secondary dominant (of G) because it sounds and acts like the dominant of G. In traditional settings, the D7 will be labeled as the "V of V" (because G is the V), which can be indicated like this: "V/V".

The A7 chord in "I'm Old Fashioned" (Kern/Mercer) is chromatic (it "ought" to be an Ami7, or a iii chord in the key of F major):

Med. Swing Lyric by Johnny Mercer

**A**

Chords: F<sup>6</sup>, D<sub>Mi</sub>7, G<sub>Mi</sub>7, C7, F<sub>MA</sub>7, D<sub>Mi</sub>7, G<sub>Mi</sub>7, C7, B<sup>b</sup>6/F, F<sub>MA</sub>7, E<sub>Mi</sub>7(b5), A7, D<sub>Mi</sub>7, G<sup>13</sup>, D<sub>Mi</sub>7, (D<sup>9</sup>) G<sup>13</sup>.

Lyrics: I'm old fashioned, I love the moonlight, I love the old fashioned things. The sound of rain up on a window pane, the

But this A7 chord can be thought of as the dominant of the following Dmi7 (a vi chord in F major). The A7 is a secondary dominant (a "V/vi").

We bother to think of certain substituting chords as secondary dominants because it allows us to appreciate that the larger collection of chords in the progression **are** all a part of the same key (and therefore fairly ordinary) and that this one slightly altered chord is not a key-changer, but just a colorful alteration. When it comes to recognizing groups of chords as a single unit, we can do this more efficiently if we see that just one "unusual" chord is still serving the purpose of the main key. In the above example, the A7 is still serving the purpose of a progression in the key of F major, even though A7 is not in the key of F.

As mentioned before, the A7 in "I'm Old Fashioned" is written into the composition. However, jazz players will often impose their own changes onto a song and change what is written. The second chord in "I'm old Fashioned" is a Dmi7 (a vi chord). This chord could be changed to a D7 (effectively making it a dominant of G, the ii) if a player desires and the band agrees.

### The tritone (b5) substitution: bII

A more conspicuous chord substitution is where a V7 chord in a ii → V → I is replaced by a dominant 7<sup>th</sup> chord whose root is a tritone below. Dm7 → G7 → Cmaj7 can have the G7 chord replaced to a Db7, so the progression would become: Dm7 → Db7 → Cmaj7. This is an intense sound because with this kind of substitution, the *root* of the chord is chromatic. With this kind of substitution we also get a bass line of notes descending by half steps (D to Db to C). This kind of downward trajectory emulates a gravitational pull towards the tonic chord, is very strong in its effect and often a desirable and featured sound in jazz.

Instead of ii → V → I, we get ii → bII → I. Because one intervallic name for the tritone is a b5th, this kind of substitution is also referred to as a "b5 sub" (the replacement chord is a b5th away from the original chord).

The image shows a bass line progression on a single staff. Above the staff, the chords are labeled: Dm7, G7, Cmaj7, Dm7, Db7, and Cmaj7. Below the staff, the Roman numerals are labeled: ii, V, I, ii, bII, and I. The notes are represented by vertical stems with dots indicating pitch. The progression shows a chromatic descent in the root: D, Db, C.

The reason this works as an alternative progression is that although the G7 and Db7 chords sound very different, they actually have two of their four notes in common. Look how each chord is spelled from the bottom-up:

<u>G7</u>	<u>Db7</u>
F	Cb/(B)
D	Ab
B	F
G	Db

Both chords have an F and a B (Cb) in them. In the G7, the B and F are the 3<sup>rd</sup> and 7<sup>th</sup> tones in the chord; in the Db7, the B (Cb) and F are the 7<sup>th</sup> and 3<sup>rd</sup> tones in the chord. This overlap is enough to allow one chord to substitute for the other. Of course they don't sound the same, but they have just enough in common (their 3<sup>rds</sup> and 7<sup>ths</sup>) to "swap" for one and other.

This kind of dramatic substitution is usually not scripted into a composition, but inserted by the player.

### The tritone (b5) substitution: bIII and biii°

Similarly, this substitution can be further applied to a vi chord, even though it is not a dominant 7<sup>th</sup> chord.

A iii → vi → ii → V → I progression can be changed to:

iii → **bIII** → ii → V → I.

Em7 → Am7 → Dm7 → G7 → Cmaj7 becomes:

Em7 → **Eb7** → Dm7 → G7 → Cmaj7

Also, in the spirit of a downward bass line effect, that original vi chord can be replaced with a biii diminished chord:

Em7 → **Eb°7** → Dm7 → G7 → Cmaj7

### Combinations

With all these possibilities, they can be combined into a “highly chromatic” progression:

iii → vi → ii → V → I (Em7 → Am7 → Dm7 → G7 → Cmaj7)

can become:

iii → bIII → ii → bII → I (Em7 → Eb7 → Dm7 → Db7 → Cmaj7)

or:

iii → biii° → ii → bII → I (Em7 → Eb°7 → Dm7 → Db7 → Cmaj7)

The final point is that if handled correctly, the sense of progression towards the tonic is not lost, even with all these chord changes. But the chromatic chords add a kind of enhancing “spice” to a “recipe” that otherwise might be on the bland side. When the bass line in chords moves down, there is a sense of a gravitation pull towards the tonic; a release of tension as the chords work towards a resolution, much like when we exhale a deep breath.

*It is highly recommended that you play these different combinations on the piano to hear how they are generally similar while also being enjoyably different.*

## Reharmonization Summary

This table shows a diatonic progression and some of the possible chord substitutions. In all cases, the specific note in the melody ("above" the chord) plays an essential role in which substitution will work. See if you can work out some others...

Original	Roman Numerals					Chord Symbols				
	iii	vi	ii	V	I	Em7	Am7	Dm7	G7	Cmaj7
<b>Dom subs*</b>	III	VI	II	V	I	E7	A7	D7	G7	Cmaj7
<b>Tritone sub</b>	iii	bIII	ii	bII	I	Em7	Eb7	Dm7	Db7	Cmaj7
<b>biii dim sub</b>	iii	biii°	ii	V	I	Em7	Eb°7	Dm7	G7	Cmaj7
<b>Combo1</b>	iii	VI	ii	bII	I	Em7	A7	Dm7	Db7	Cmaj7
<b>Combo2</b>	III	biii°	II	V	I	E7	Eb°7	D7	G7	Cmaj7
<b>Combo3</b>										
<b>Combo4</b>										

\*note that dominant substitute chords are also known as "secondary dominants" because they sound and act like the dominant of the chord that comes next.

## Half-Step Approach Chords

Because the descending half step bass line is such a featured device in jazz harmony (as seen in the bIII and bII tritone-substitute chords), this effect can also be used to add/insert more chords to a given progression.

Going back to our basic diatonic progression:

iii	vi	ii	V	I
Em7	Am7	Dm7	G7	Cmaj7

We can use the half step bass line to *approach* any diatonic chord with a dominant 7th chord a half step above it, as long as no extra beats are added to the progression:

iii	bVII→vi	bIII→ii	V	bII→I
Em7	Bb7→Am7	Eb7→Dm7	G7	Db7→Cmaj7

There will be instances where this technique is applied by the player in order to make the song a little different, and then there are those instances where this technique is built into the original chord progression of the song, as in the excerpt from "Alice in Wonderland":

Here the eighth measure could have continued with the A-7 (vi) chord, but the Eb7 was used to enhance and intensify the approach to the D-7 in the next measure. It also allows for a new chord to sound in each measure, keeping the harmonic rhythm at an even pace.

### Approaching from a half step below (the *ascending* bass line)

Whether inserted as an additional chord by the player, or just as part of the composed progression, another way of approaching a chord by way of a chromatic harmony is from a half step below—allowing for an *ascending* bass line effect. This has the opposite effect of a falling bass line (where there is a sense of release). In the rising bass line process, the sense of tension increases, which can be very important if a progression is just getting under way.

The type of chord that is most often used for an ascending (by half step) approach is something in the diminished category (but sometimes a dominant 7th is used).

In the Rogers/Hart song “Bewitched”, we have a C#° chord approaching a D-7 chord from a half step below:

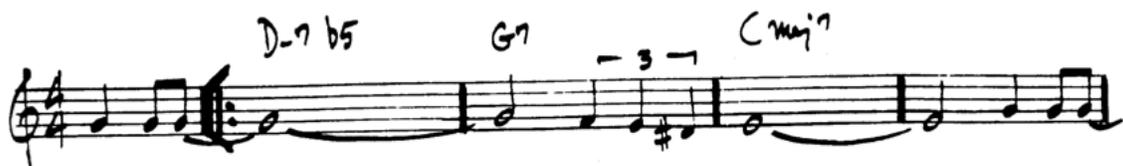


Also notice that the C#° is preceded by a C major chord (a half step below!). This C#° chord could be left out (play it that way and you'll see), or even be replaced with one of the other typical chords used for substitution (like A7, or Eb7), but it fits in very nicely and creates a momentary sense of tension and push as the song progresses to the D-7 chord.

### One more “minor” alteration

One other way we see chords substituted either at the compositional level or at the arrangement level (after the fact) is when in a major key a ii or iii chord (diatonically minor 7th chords) is changed into a m7b5 (as if it were the ii chord from a minor key).

The opening of Cole Porter’s “Night and Day”, which is in the key of C major, has a ii V I progression. This should be the chords D-7 G7 Cmaj7. But here the D-7 chord is replaced by a D-7b5.



The result is the same basic progression, but with a slightly more intense sensation where the ii chord goes. As mentioned before, this substitution can also take place with the iii chord. For example, in the key of C major, the iii chord is an E-7. It could be replaced (under the right conditions) with an E-7b5.

While the vi chord (in major keys) is also a minor 7th chord, it is not subjected to this substitution.