Unlocking the Secrets of the Guitar's Most Mysterious Grip

Demystifying the Diminished Chord

By Josh Workman | July 2006

Many guitarists know how to play diminished chords. Far fewer, however, truly know how to use them. That's because diminished and diminished-7th voicings, when played out of context, have a dissonant and nebulous sound, the use for which is not readily apparent. But, placed in the right spot in a chord progression, these mysterious clusters fit more perfectly—and more satisfyingly—than the last piece of a jigsaw puzzle.

Whether you're aware of it or not, the diminished chord, in all of its depth and mystery, has long been woven into the fabric of modern music. Just flip on the radio, and from Baroque to bebop, hillbilly to hip-hop, from the solos of Django Reinhardt and Charlie Christian on up through the modern fusion stylings of John Scofield and Allan Holdsworth, from the atonal odysseys of Frank Zappa to the unbridled shred of Steve Vai and Yngwie Malmsteen, from the timeless Stevie Wonder catalog to current Top 40, you'll hear diminished chords everywhere if you open your ears. You'll even spy them in classic blues.

A wonderfully simple and obvious way to use a diminished chord—a "gateway" diminished lick, if you will—is Ex. 1, a signature turnaround from electric blues pioneer T-Bone Walker. But, as juicy as this riff is, the exotic sound of diminished harmonies has far deeper applications. Let's trace the rich harmonic legacy of these perplexing groups of notes.

Strengthening Your Resolve

Diminished and diminished-7th harmonies' typical function in music is to act as connector chords that create smooth voice-leading and gratifying resolutions within chord progressions. They also allow for graceful modulations, acting as seamless mortar between distantly related keys. And they can also, of course, be played melodically as single-note riffs or melodies. If you haven't spent much time "under the hood" with diminished chords, be sure to learn the nuts and bolts of these grips in this lesson's sidebar ("The Mechanics of Diminished Chords.") When you're ready to explore the many beautiful ways they resolve to standard major and minor chords, take a spin through the pleasing classical guitar etude in Ex. 2. This short series of arpeggios features diminished harmonies that act as V7 chords, each resolving to the chord it precedes. For instance, both F#dim7 and Adim7 act like D7 (the V7 of Gm) and resolve to Gm voicings, while Bdim7 acts as G7 (the V7 of Cm) and resolves to Cm, and C#dim functions like A7 (the V7 of D) and resolves to D.

The String of Pearls

From about 1600 to 1900 (the Common Practice Period) the diminished chord was considered dissonant and unstable. In this mode of thinking, diminished chords lack a tonal center or direction because the diminished 5 evenly splits the octave, leaving one's ear unclear as to which note is the true root. Incidentally, it was for this ambiguity that up until the Baroque era, some called the tritone the diabolus in musica or tonus diabolicus—"the Devil's interval."

Russian composer Nikolai Rimsky-Korsakov (1844-1909) is credited with unearthing an exotic 7th-century Arabic scale known as "Zer ef Kend" or "String of Pearls." Made up entirely of alternating half- and whole-steps, this ancient scale is now commonly called the symmetrical diminished or whole/half diminished scale [Ex. 3], an octatonic (eight-note) scale that can be used over diminished-7th chords (whole-half) or dominant-7th chords (half-whole). You can see how the two intervals might be like two different-sized pearls. Due to their symmetrical nature, there are really only three distinct symmetrical diminished scales (and, therefore, only three distinct diminished 7th chords). This means that if you practice the scale in G, Ab, and A, you've covered them all! Korsakov, Stravinsky, Bartók and other forward-thinking composers of the late 19th and early 20th centuries created some of the most provocative and outlandish music of their eras with this scale. Stravinsky's ballet, The Rite of Spring featured multiple keys, time signatures, and, yes, symmetrical diminished scales (not to mention Pagan dance rituals) and was so radical that a riot ensued at opening night in Paris in 1913.

The Dom/Dim Overlap

The symmetrical diminished scale contains four diminished-7th chords with four dominant-7th chords a half-step below. In Ex. 3, you see the four dominant-7th chord roots (G, Bb, Db, E) a half-step below the four diminished-7th chord roots (Ab, B, D, F). Many composers over the last 150 years have used this scale to create unexpected modulation, which is easy to do, because if you lower any note of a diminished chord one half-step, it creates a dominant-7th chord. To test this out, play the Abdim7 voicing on the top four strings that opens Ex. 4. Lower the highest note (Ab) to G, and you have G7. Or, lower the D on the second string to Db to create Db7. Or, lower the third-string B to Bb to get Bb7. Finally, if you drop the lowest note from F to E the chord becomes E7.

The Scale/Chord Connection

If you analyze the dominant-7th sequence of the symmetrical scale (i.e., start on one of the "square" notes of Ex. 3) you wind up with the scale tones 1, b2, #2, 3, #4, 5, 6, b7. Since the "tension notes" or "color" tones are all the non-chord tones above the b7, you could play this scale over a dominant-7th chord focusing on any of the following tensions: the b9, #9, #11, and 13 (which are the same as the b2, #2, #4, and 6). If you start on a "circle" note in Ex. 3, you get the following scale tones from the diminished-7th version: 1, 2, b3, 4, b5, b6, bb7, 7). This means you can add any of the following non-chord tones to a diminished-7th chord:

9, 11, b13 (which are the same as the 2, 4, and b6) and 7. Ex. 5, based on the 1907 Scott Joplin/Louis Chauvin ragtime classic "Heliotrope Bouquet," demonstrates a bIII diminished-7th chord, Bbdim7, descending to the II chord, Am. Ex. 6, based on the same chord changes, shows that you can't always hear a diminished chord in the melody by itself.

Blues, Bebop, and Beyond

These diminished concepts were passed around freely in the early days of blues and jazz, and the harmony of the tunes quickly began to grow more complex. Examples 7 and 8 demonstrate the use of a #IVdim7 (C#dim7) in a popular turnaround for G blues. Let's take the concept of the diminished-7/dominant-7 relationship seen in Ex. 4 and apply it in reverse. Play any G7 inversion, drop everything but the root (G) a half-step, and you get Gdim7. Now slide from any one of several diminished-7th shapes into a G7 [Ex. 9]. For a cool tension-release pattern, try playing a line like Ex. 10, even when the band is vampi

ng statically

on G7.

Jazz guitarist Wes Montgomery mastered the bebop technique of harmonizing melodic lines with the "6 to diminished" techniques shown in Examples 11 and 12. Here we walk up a scale created by alternating between the four C6 chord tones (C-E-G-A) and the four Abdim7 chord tones (B-D-F-Ab) related to its V chord, G7 (G-B-D-F). This inherent "tension and release" pattern can really spice up your chord melodies, solos, and accompaniments, particularly when you're sitting on C6 for a while. Incidentally, you can use this same pattern over Am7 (A-C-E-G), because Am7 shares the same notes as C6. Ex. 13 shows how diminished 7th chords can descend in half-steps when being played over dom7b9 chords that are moving in 4ths.

Melodic Patterns

The last three examples show how the "half-whole" version of a diminished scale can be used over G7b9 when resolving to C6 or Cmaj7. Ex. 14 features wide intervallic leaps in the first measure, then a resolution delayed by two beats of Cdim7. In Ex. 15, the eighth-note rest followed by a triplet adds a bit more momentum to the line. Finally, Ex. 16 takes this approach one step further by extending the rhythmic and harmonic pattern for five beats from bar 1 through beat one of bar 2. So, even if the chord in bar 2 is Cmaj7, you end up superimposing G7b9 over it for one extra beat.

A Modern Improviser's Dream

Just when you thought it couldn't get any better, there's another great perk to learning your diminished scales. Notice that you have major and minor triads located on each of the dominant 7th roots? These can be superimposed melodically or harmonically over any of the basic dominant or diminished chords and add even more colors to your improvisations or compositions. For example, if you voice an E major triad (E-G#-B) over G7 you get G7b9,13. Now try a G triad (G-B-D) over Abdim7. Voila! You have Abdim7(maj7). The trick to all this is acquainting yourself with enharmonic equivalents by being aware that G#, for example, is the same note as Ab. When experimenting with diminished or any other patterns try to hear a clear melodic and

rhythmic flow in your head, because they—not to mention your audience—will quickly get tired if you don't treat them with the respect they deserve.

THE MECHANICS OF DIMINISHED CHORDS

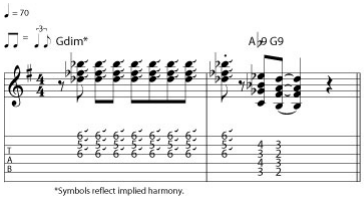
A diminished chord is a triad (three-note chord) containing a root, b3 (the note three half-steps above the root) and a lowered—or diminished—5 (the note three whole-steps above the root). Cdim, for example, is spelled C-Eb-Gb. The only instance of the diminished chord in diatonic major-key harmony is the triad built on the 7th degree of the scale (in the key of C, the diminished chord is Bdim, spelled B-D-F). You'll also find this triad built up from the 3 of the key's dominant 7th chord. (For instance, notice the Bdim chord within G7—the dominant 7 in the key of C—which is spelled G-B-D-F).

Both dominant-7th and diminished chords have one specific sound in common—the tritone; the dissonant b5 interval of three whole-steps that gives each of these chords their harmonic mojo. For instance, in both Bdim and G7, the tritone lies between the notes B and F. In traditional Western harmony, the tritone's dissonant clang begs for tonic resolution. Since a diminished chord built on the 7 (the leading tone) of a major scale contains the same tritone as a dominant 7, it can function like a dominant 7 built on the 5 and resolve to the tonic chord. For example, Bdim acts like G7 (the V7 chord) and resolves equally smoothly to C (the I chord) as G7 does.

A diminished-7th chord adds the dim7—or bb7. Cdim7 is spelled C-Eb-Gb-Bbb. (Instead of double-flatting a dim7 chord tone, it is acceptable write the note as its enharmonic equivalent to avoid clutter. Bbb, for instance, can be written or notated as A.) If anything, the diminished-7th chord is used more commonly than the diminished triad, and this is due to the convenience its perfect symmetry allows. The pitch distance—or interval—between each of the tones of a diminished-7th chord is exactly a minor third, which is why any of its four tones can be considered its root.

The only place you find a diminished 7th chord in diatonic Western harmony is on the 7th degree of the harmonic minor scale, which is simply the natural minor scale (or Aeolian mode) with a leading tone (raised 7). A harmonic minor, for example, is spelled A, B, C, D, E, F, G# (or root, 2, b3, 4, 5, b6, 7). In A minor, the leading tone, G#, allows for a dominant-7th chord (E7, spelled E, G#, B, D) to be built on the 5, E, thus setting the stage for the same strong V7-I cadences as heard in major keys. G#dim7, the diminished-7th chord in this key, also resolves smoothly to the I, Am, and is spelled G#-B-D-F.

Ex. 1



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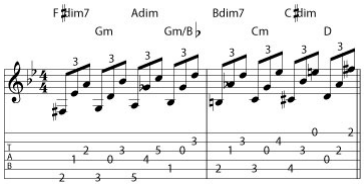

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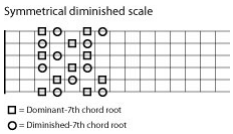

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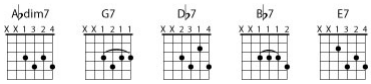

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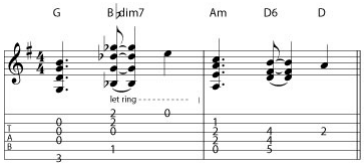

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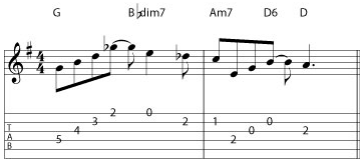

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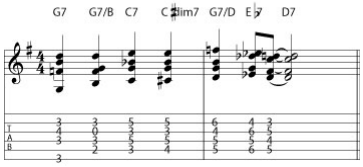

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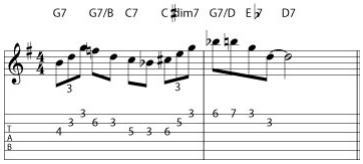

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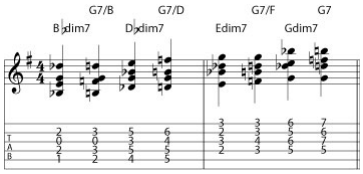

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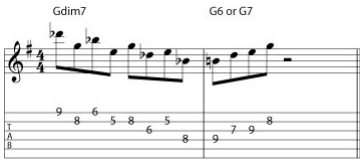

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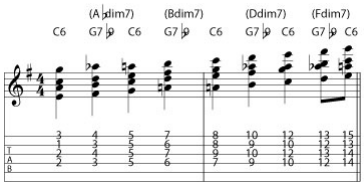

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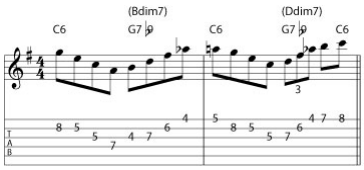

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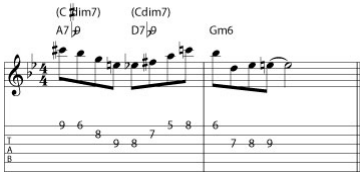

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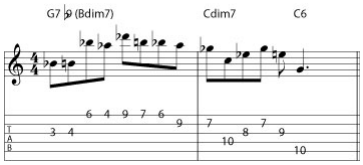

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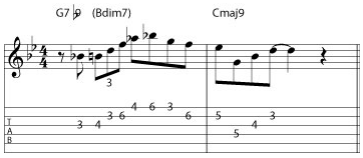

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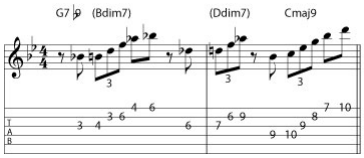

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