TOM MORELLO

TEACHES ELECTRIC GUITAR

TOM MORELLO

INTRODUCTION

"There's a combination of rhythm, of rock, of feedback, of power, of rhyme, of shredding solos, that when it's done right, you feel in it the reptilian DNA of humanity."

CHAPTER ONE

BIOGRAPHY

Tom Morello is living proof of the transformative power of rock'n'roll. As the co-founder of Rage Against The Machine, Audioslave, and Prophets Of Rage, and through collaborations with everyone from Bruce Springsteen to Johnny Cash, he has continually pushed the limits of what one man can do with six strings. *Rolling Stone* has recognized Tom as one of the 100 greatest guitar players of all time.

But on his latest album *The Atlas Underground,* he's transformed his sound into something even he could not have anticipated, blending Marshall stack riff-rock with the digital wizardry of EDM and hip-hop to create the most ambitious artistic effort of his storied career. *The Atlas Underground* includes collaborations with Marcus Mumford, Portugal. The Man, the Wu-Tang Clan's RZA and GZA, Vic Mensa, K.Flay, Big Boi, Gary Clark Jr., Pretty Lights, Killer Mike and Whethan among others.

The lyrics often take the form of "social justice ghost stories," and on tracks such as Bassnectar, Big Boi and Killer Mike's "Rabbit Revenge" and the RZA/GZA-featuring "Lead Poisoning," they convey the experiences of those less fortunate who were unable to speak up for themselves.

"I've been devoted both musically and as an activist to fighting injustice at every turn," says Morello. "Amid this heightened sense of impending doom, it's now time to rally the troops in a last-ditch effort to save the planet, and our artistic souls. By challenging the boundaries of what music is and has sounded like before, you can open peoples' eyes to changing the status quo in society."

In tandem with acclaimed multi-media artist Sam Durant and director Sean Evans, who staged Roger Waters' "The Wall," Morello is planning an innovative live presentation of the music on *The Atlas Underground*, which won't be reliant on fill-ins to replicate the guest artist's contributions.

WORKBOOK CREDITS

"Stars Of Orion"
Written by Tom Morello
Published by Wixen Music publishing, Inc. as agent for Nightwatchman Music
All Rights Reserved, Used by Permission

"Bulls On Parade" © 1996
Written by Tom Morello, Tim Commerford, Zack de la Rocha, Brad Wilk
Published by Wixen Music publishing, Inc. as agent for Retribution Music
All Rights Reserved, Used by Permission

"Killing In The Name" © 1992
Written by Tom Morello, Tim Commerford, Zack de la Rocha, Brad Wilk
Published by Wixen Music publishing, Inc. as agent for Retribution Music
All Rights Reserved, Used by Permission

TOM MORELLO

DEVELOPING YOUR CREATIVE VOICE

"There's a fundamental difference between being a musician and being an artist."

CHAPTER 02

DEVELOPING YOUR CREATIVE VOICE

SUBCHAPTERS

X_THINK BEYOND YOUR INFLUENCES
X_CONSIDER YOURSELF AN ARTIST
X_CULTIVATE YOUR UNIQUE IDEAS

CHAPTER REVIEW

In the grand scheme of music history, the electric guitar is still a relatively new instrument. Yet the notion seems to persist that anything you can do with the electric guitar has already been done before. Tom doesn't believe that's true. An electric guitar is nothing more than a piece of wood with six strings and a few electronics. It doesn't have to sound like Chuck Berry or Jimmy Page or even like Tom Morello. The electric guitar doesn't dictate what you do with your music; your music dictates what you do with the electric guitar.

When you're starting out, it's natural to want to play like your favorite guitarists. After all, these are the people who inspired you to pick up a guitar in the first place. In Tom's case, he wanted to learn the riffs and solos of Randy Rhoads, Angus Young, and Eddie Van Halen. But if you want to become an artist, a musician with your own unique voice and style, learning those riffs and solos will only take you so far. It's a great way to develop technique and gain an understanding of how and why your heroes play the way they do, but a true artist doesn't merely copy his or her influences. A true artist transcends them.

Technique makes it easier for you to take the ideas that are in your head and heart and get them out into the world for others to hear, but it's the ideas themselves that matter most. You could strap on a guitar for the very first time, not knowing a single note, and as long as you have the conviction to write and play a song, you're an artist right there and then. For all the time Tom spent learning how to shred, it was when he discovered he could make sounds he'd never heard before just by playing with his guitar's toggle switch and cable or by raking an Allen wrench over the strings that he started to find a style that was uniquely his own.

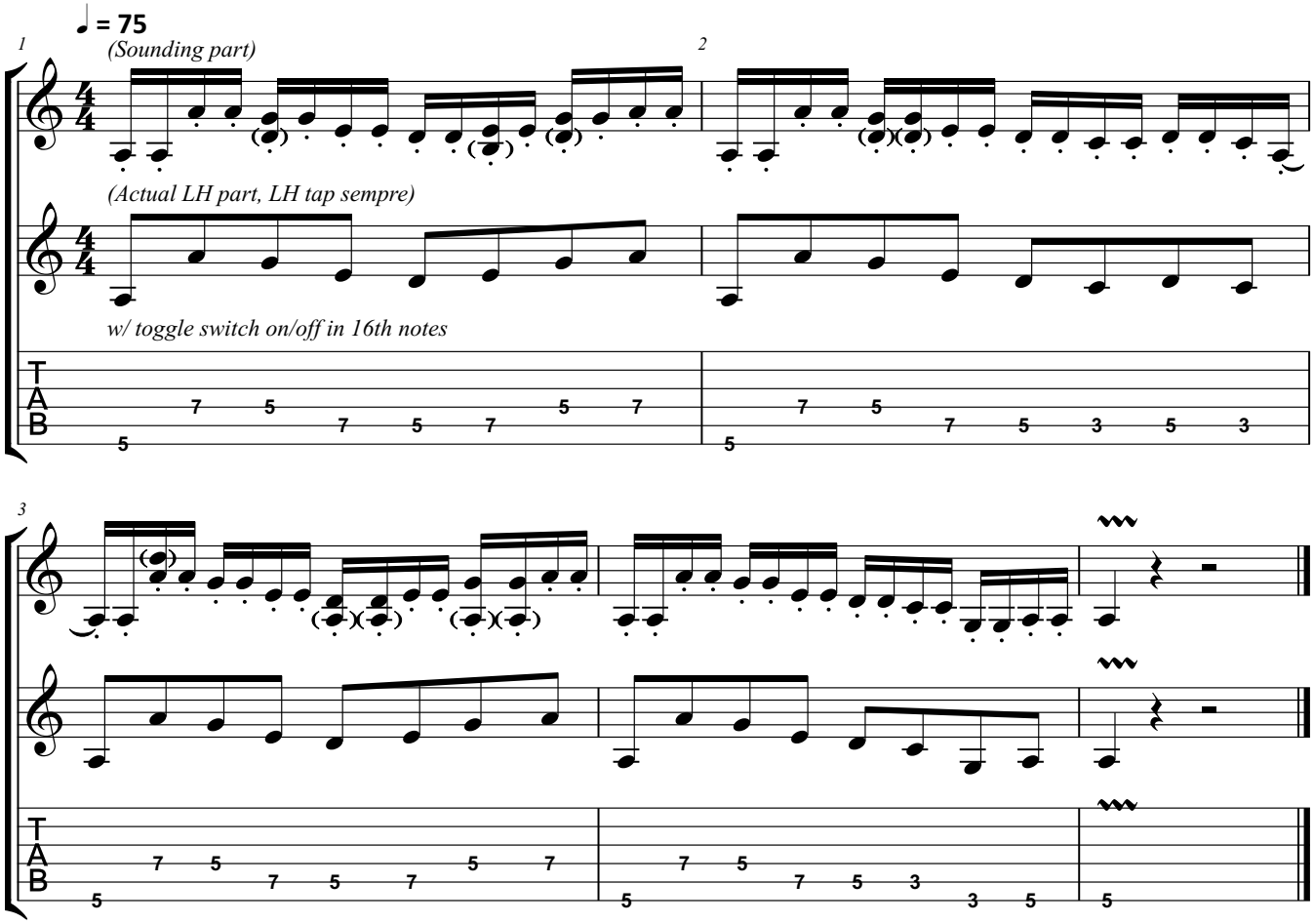
LEARN MORE

Although Randy Rhoads died in a plane crash at the age of 25, he is one of the most highly regarded and influential rock guitarists of all time. He is best known for his work on Ozzy Osbourne's first two solo albums, including the classic single "Crazy Train." In fact, the "pick-up toggle kill switch" trick that Tom demonstrates in this chapter was a staple of Rhoads's repertoire. The Oviatt Library at California State University Northridge offers an extensive online overview of Rhoads's life and career. For a more in-depth analysis of his playing style (complete with tablature), check out these features from *Guitar World* and *Guitar Player* magazines.

ASSIGNMENT

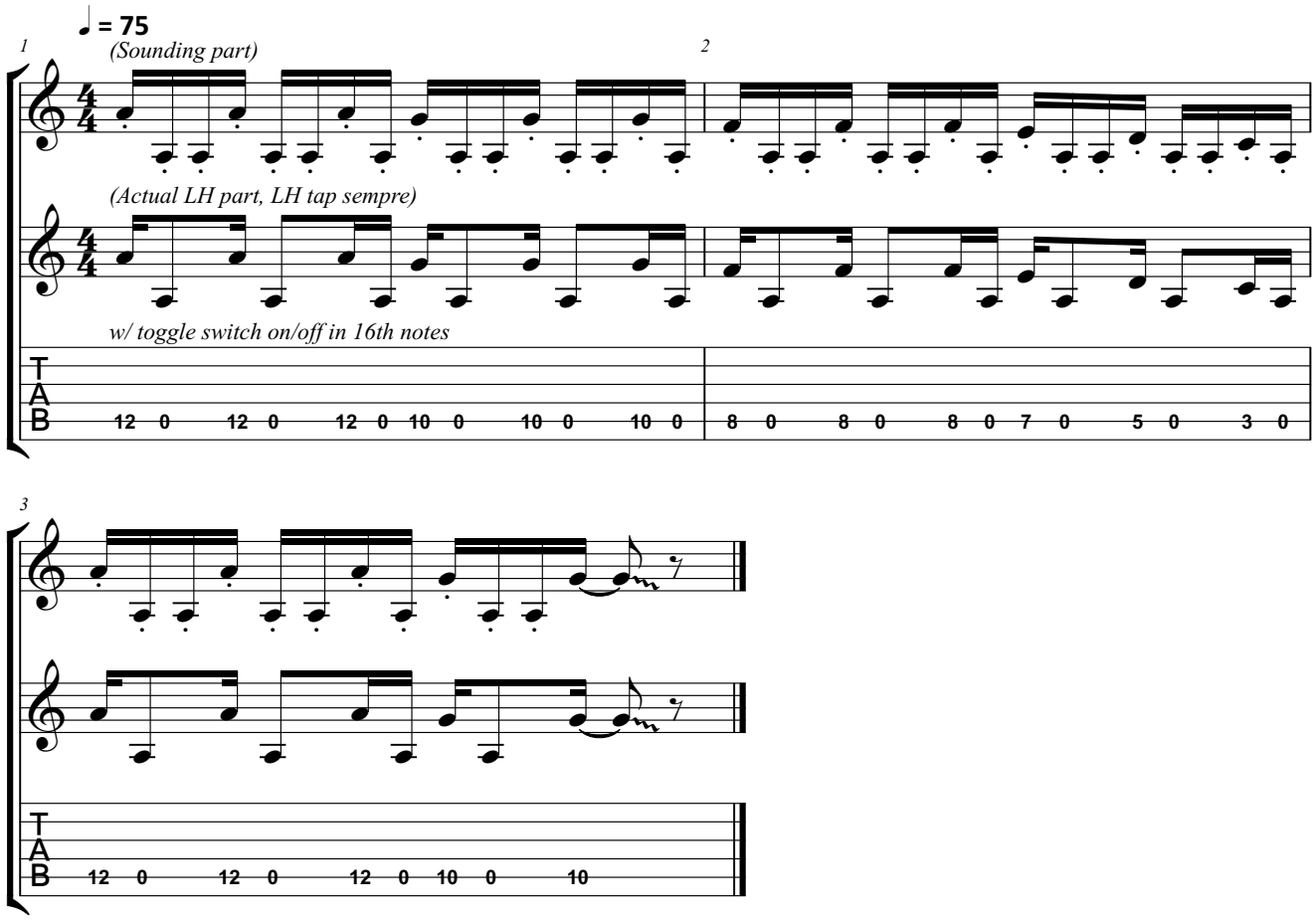
Think about your favorite guitarists. Beyond specific riffs, licks, and solos, what is it about their playing style that resonates with you? For instance, is their technique clean and precise or is it more dirty and loose? Do their solos tend to be lightning fast and virtuosic or are they more minimal, with an emphasis on feel and texture? Try to describe the qualities that exemplify the way those guitarists approach the instrument, then take it a step further and think about how those qualities have influenced your own approach. What have you learned from those guitarists? In what ways is your playing style similar and in what ways is it different?

Tab 2.1 Appears at 3:38 in video lesson



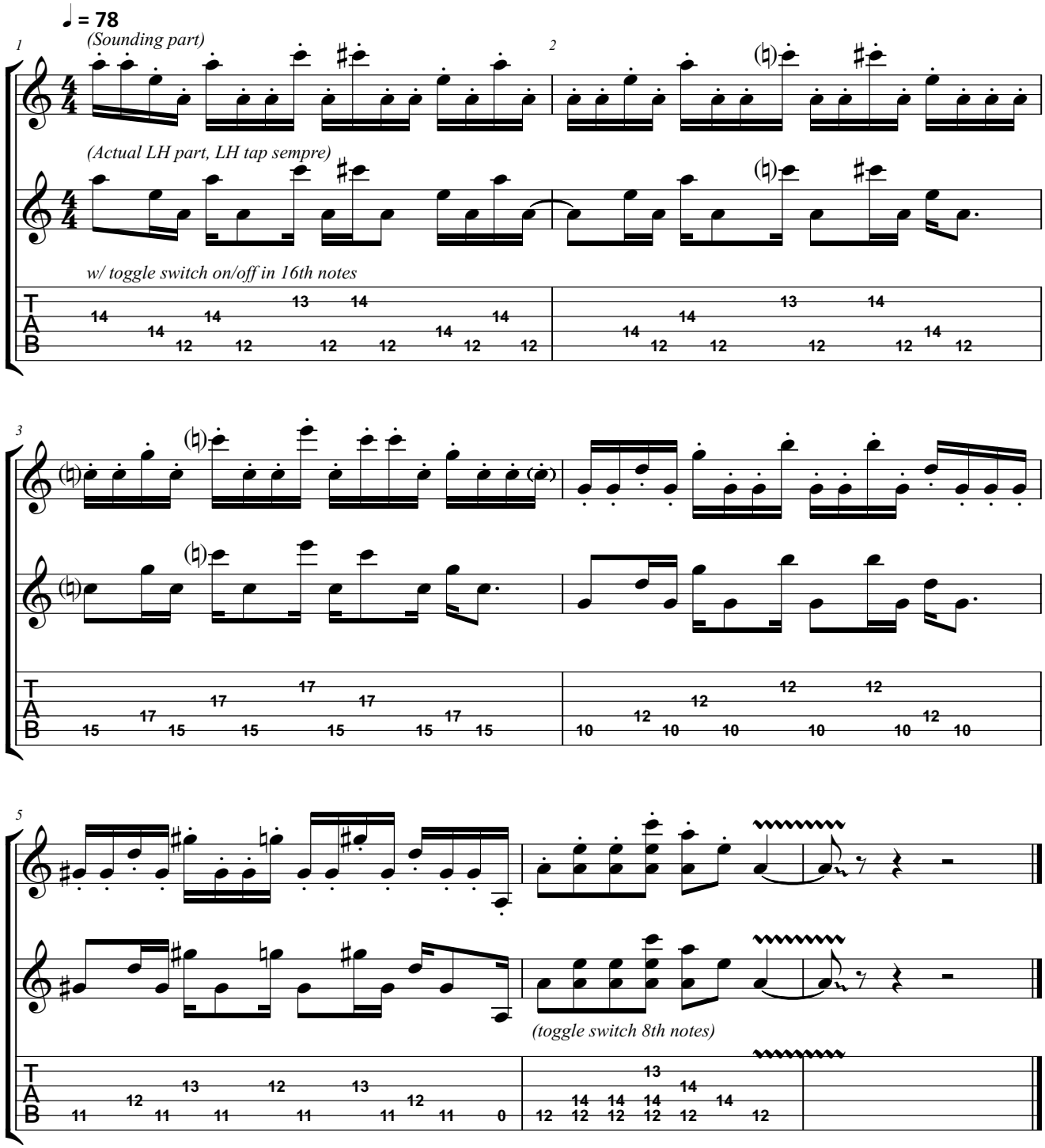
Tab 2.2

Appears at 4:30 in video lesson



Tab 2.3

Appears at 4:41 in video lesson



TOM MORELLO

RIFFS

"So many ways to riff,
so little time."

CHAPTER 03

RIFFS

SUBCHAPTERS

- X_FOLLOW YOUR INSTRUMENT'S TONE
- X_CHORDS AND RIFFS: TRY RETURNING TO THE "ONE"
- X_WRITE IN F# OR E FOR MAXIMUM ROCK POWER
- X_CHANGE THE TUNING TO ADD DYNAMISM
- X_ADD HOLES, SLIDES, OR DOUBLE PICKING
- X_EXPERIMENT WITH SYNCOPATION
- X_ADD CHUKKAS OR PAUSES, AND COMBINE
- X_ADD LICKS AND FILLS
- X_INVERT YOUR FAVORITE RIFFS

CHAPTER REVIEW

While Tom argues that the importance of a guitar player's tone is often overstated, he does believe that the tone of the specific guitar you play—whether it's a Telecaster or an acoustic or an electric bass—should influence the riffs you create. In other words, play what sounds best on that instrument. If you write an incredibly heavy riff on a Les Paul but then play it on a hollow-body Rickenbacker, it isn't going to sound the same. That has nothing to do with your ability as a guitarist. It just means the two guitars have different tonalities and are going to give you different results.

Riffs define a guitarist's style and voice just as much as soloing. But a guitarist can also write riffs in many different ways. In Rage Against the Machine, Tom tends to favor the kind of heavy, mid-tempo rock that sounds best in the keys of E and F#. Those riffs also more often than not return to what James Brown called the "one", meaning they always return to the root note at the beginning of each bar of music, giving them a repetitive, funky rhythm. On the other hand, some of Tom's Audioslave riffs are chord progressions with a harmonic, melodic feel that complements Chris Cornell's vocals. Bands are a lot like guitars in that sense: certain riffs sound better with one than another.

A riff is about more than just the notes you're playing; it's also about how you're playing them. If starting a riff on the "one" gives it that Rage/James Brown sort of swing, try starting on the "two"—the second beat of the bar—to see how it changes. Or listen to the way Led Zeppelin, Deep Purple, and Black Sabbath utilize silence and space between notes to give a riff even more power. Tune your bottom E string one full step down to a "drop D" tuning and explore the terrain that opens up with just those few extra notes of low end. Even different picking and strumming styles, like the "chukka" effect Tom demonstrates, can take a riff in new directions.

LEARN MORE

The impact James Brown had on modern music is almost impossible to quantify. A recent HBO documentary, *Mr. Dynamite: The Rise of James Brown* (2014), provides a thorough overview, as does the *American Masters* episode, "James Brown: Soul Survivor" (2003). For a guitar-centric account of what it was like to play with Brown in his later years, check out *Working for the Man, Playing in the Band: My Years with James Brown* by Damon Wood and Phil Carson (ECW Press, 2018).

While drop D tuning is most often associated with grunge and nu-metal bands of the 1990s, its history goes at least as far back as the Beatles recording of "I Want You (She's So Heavy)" and Led Zeppelin's "Moby Dick." For more examples, read Peter Hodgson's "Get Down: A Brief History of Tuning Down." Tom's preference for writing in the keys of E and F# relates to those keys' connection to the low E string: in the key of E, E is the one, in the key of F#, E is the b7, which resolves to the 1. Most of Tom's riff have this b7->1. Listen to the "Guerrilla Radio" riff, in the key of F#. The very first note is b7 (E) 2nd note is F#

Guitar Player magazine offers an in-depth look at Eddie Van Halen's riff-rhythm guitar style, including his use of arpeggiated riffs, drop-d tunings, fills/harmonic squeals, and shuffle/boogie tempos.

Tom describes riffs (rhythm guitar phrases) and licks (lead guitar phrases). Watch Zakk Wylde give a quick, colorful explanation of the difference for *Loudwire*.

For more examples of the "funky, hard flair" that pauses can bring to a riff, check out some classics from the bands Tom mentions: "The Ocean" by Led Zeppelin, "Iron Man" by Black Sabbath, and "Smoke on the Water" or "Black Night" by Deep Purple.

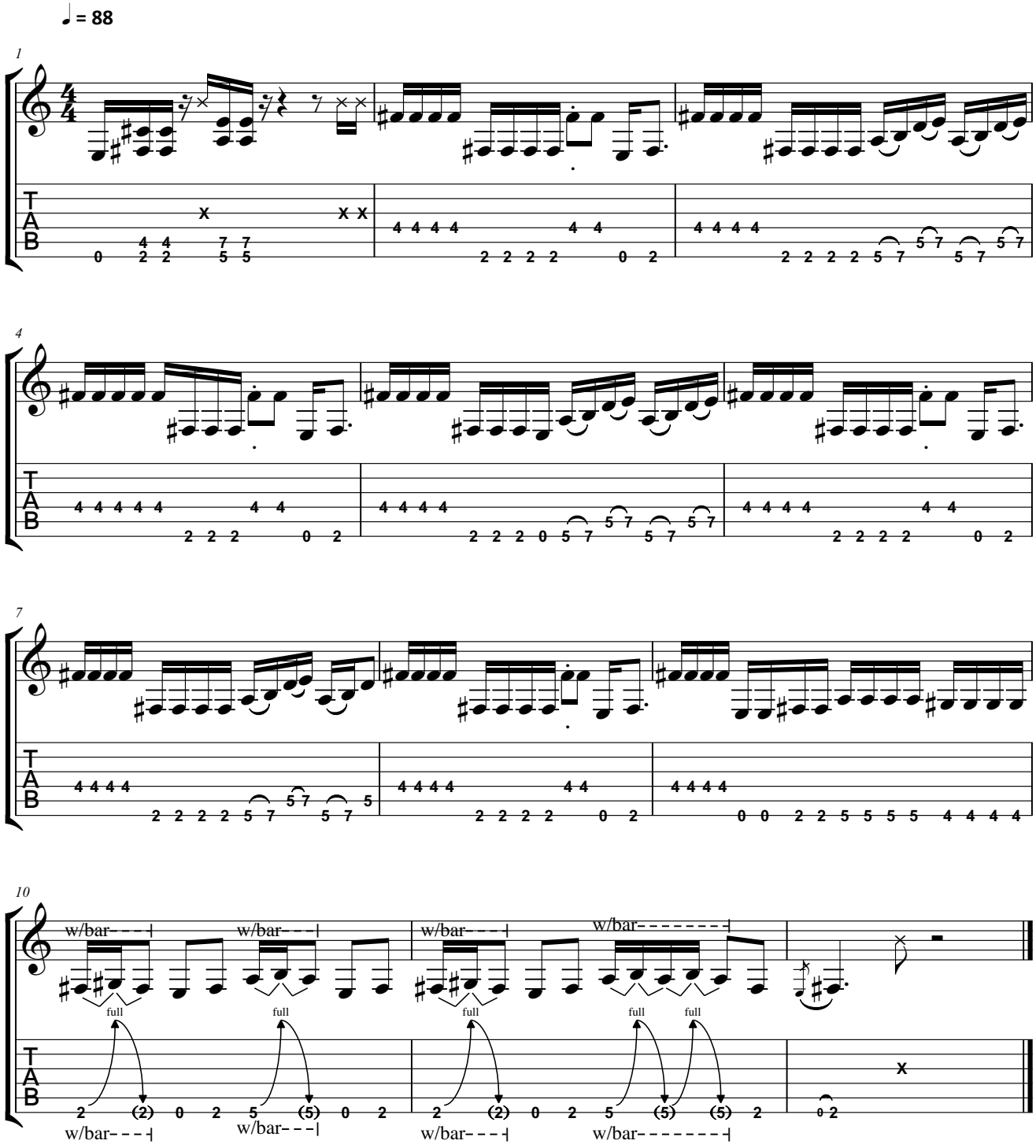
ASSIGNMENT

Every great artist draws inspiration from the work of others. With that in mind, pick five of your favorite riffs by other guitarists. For good measure, pick two riffs you don't like at all. Then, rather than teaching yourself how to play the riffs as recorded, teach yourself how to play them in reverse. Start with the last note, end with the first. Once you get the hang of it, experiment with the riff's timing and syncopation. Try adding some flourishes like chukkas and slides. When you're done, you'll have seven brand new riffs that, while inspired by songs that are already out in the world, are original and unique to you.

To take this exercise further, analyze the key, chords, scales, and rhythm choices that your favorite guitarists use in the riffs you select. What insights into their writing styles can you glean? Try writing riffs of your own from scratch that mimic their styles and choices.

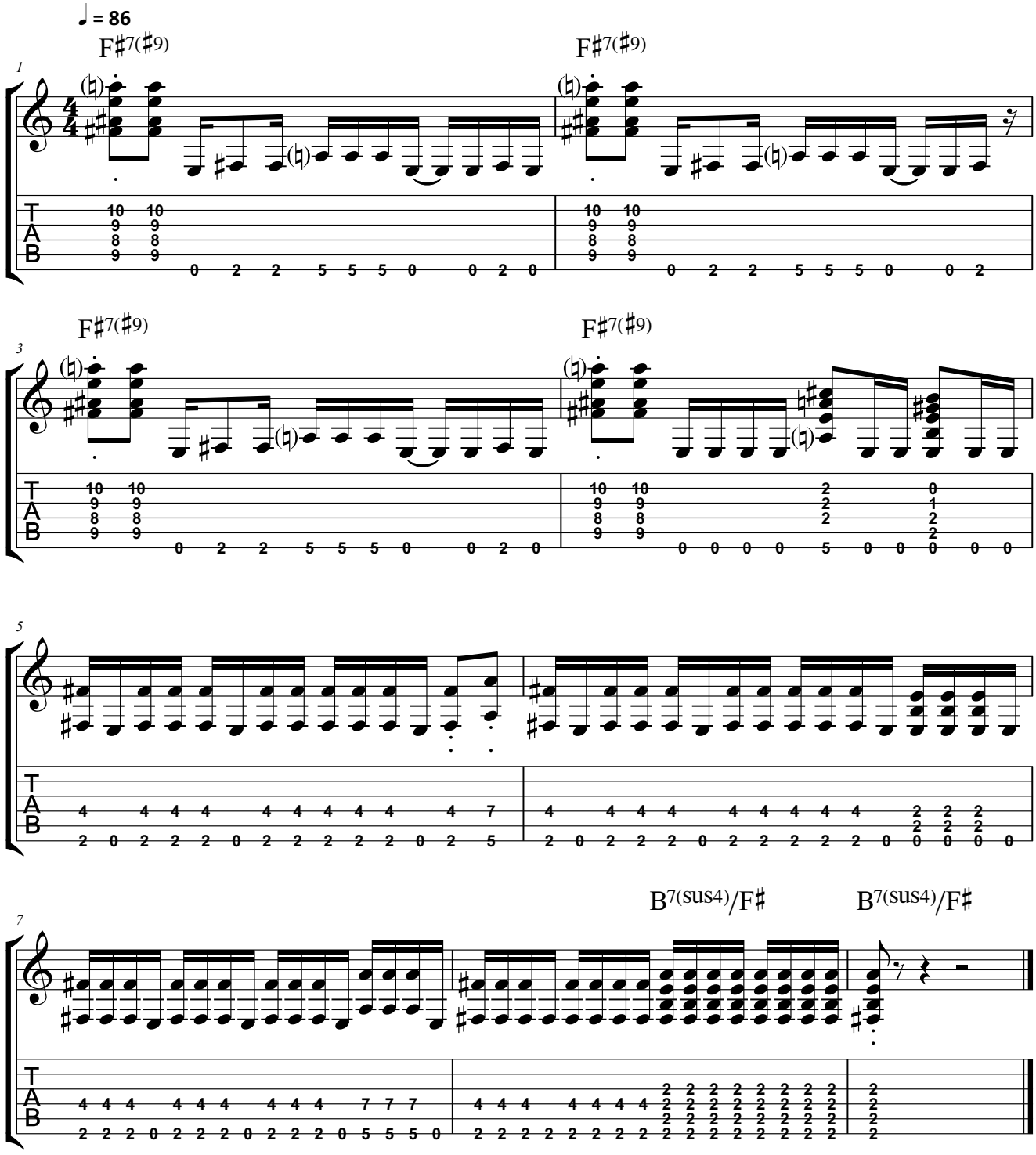
Tab 3.1

Appears at 1:39 in video lesson

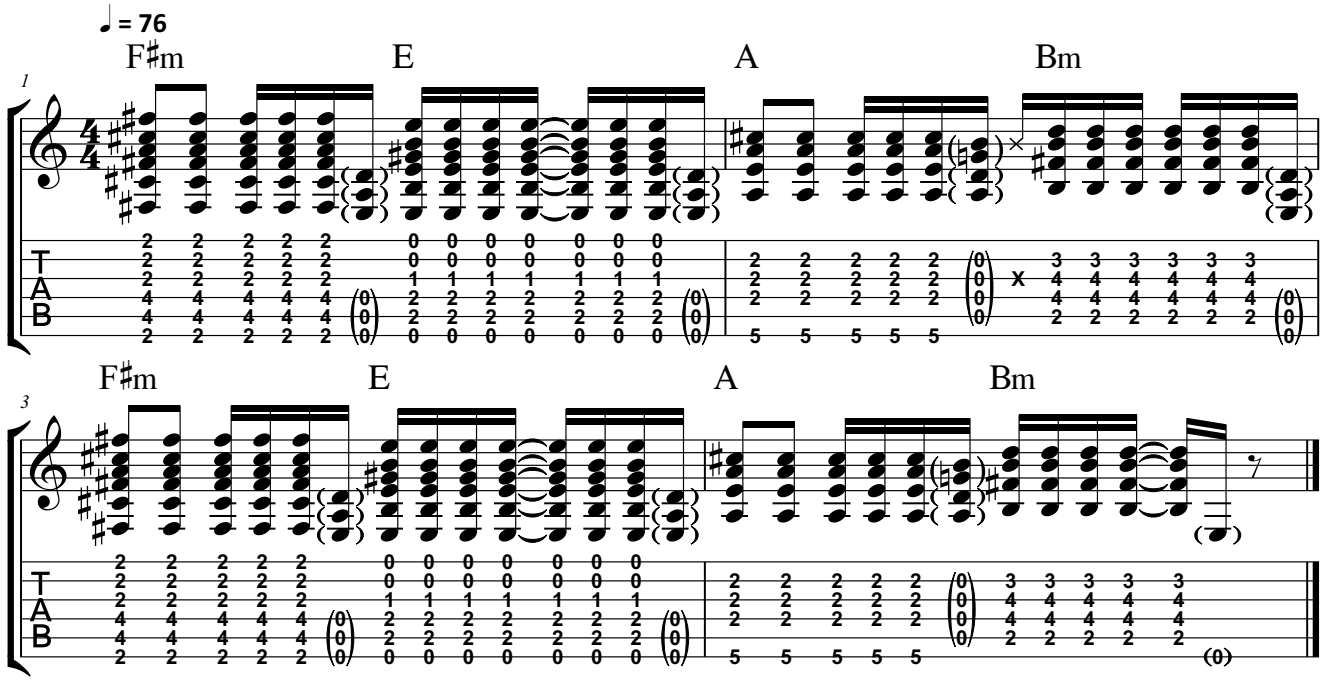


Tab 3.2

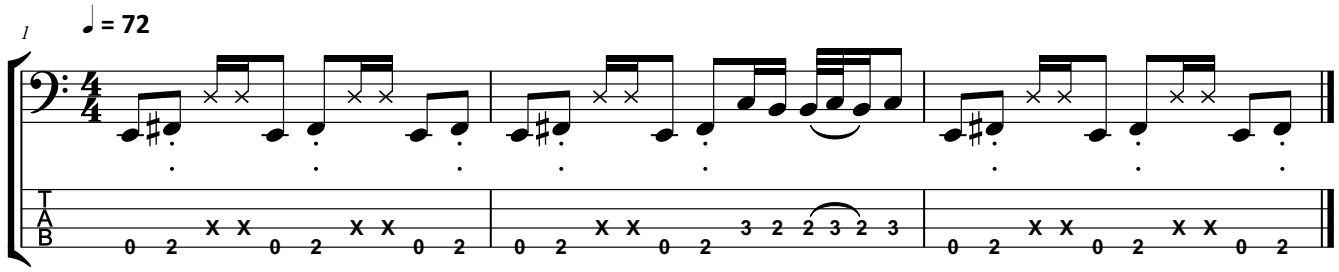
Appears 2:32 in video lesson



Tab 3.3 Appears at 3:55 in video lesson

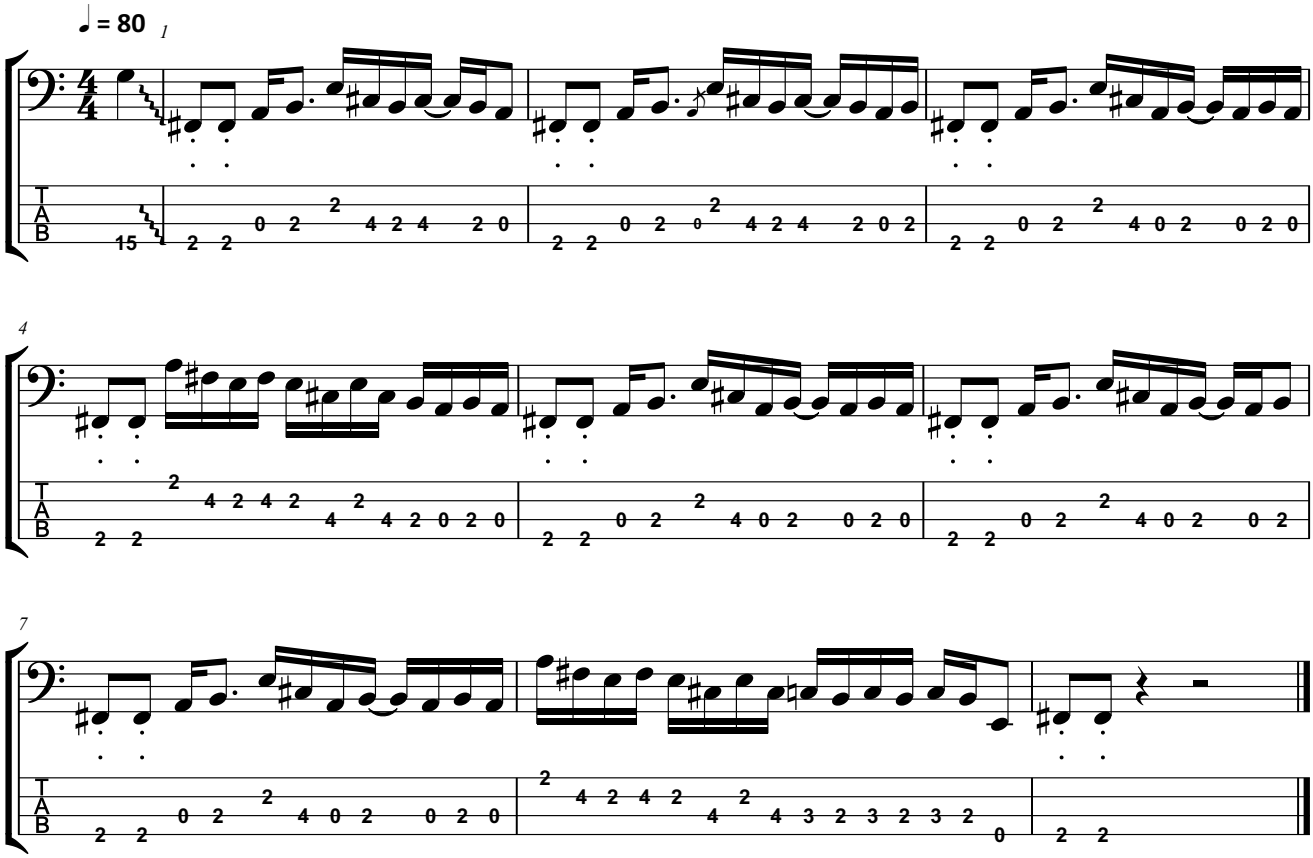


Tab 3.4 Appears at 5:15 in video lesson

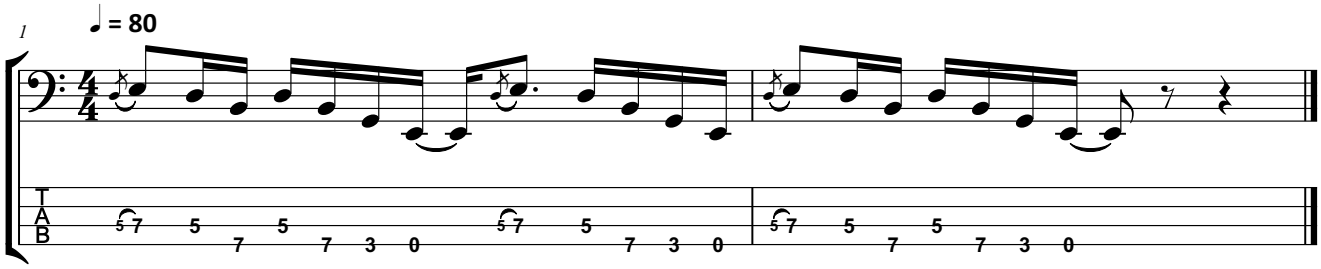


Tab 3.5

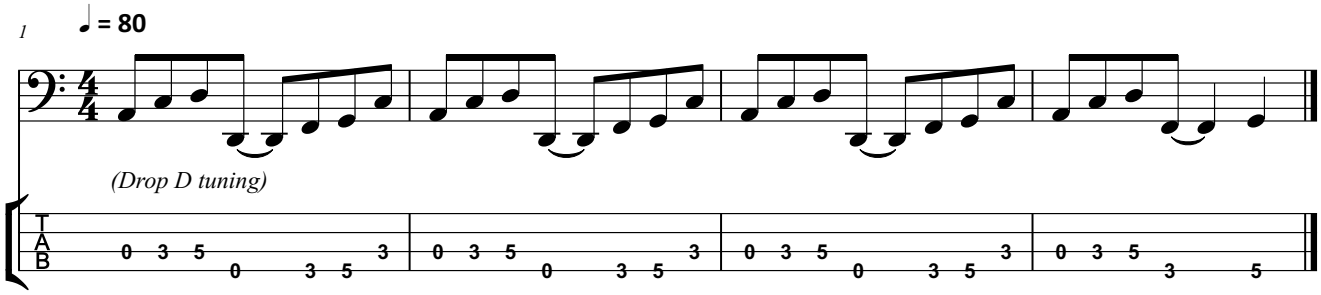
Appears at 5:43 in video lesson



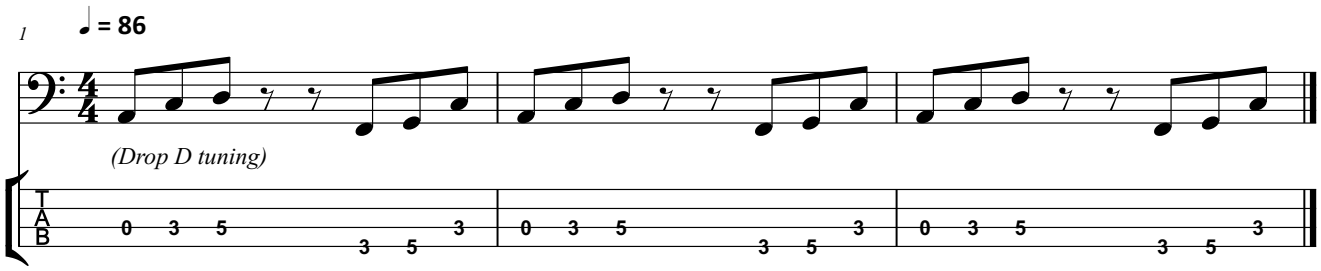
Tab 3.6 Appears at 6:27 in video lesson



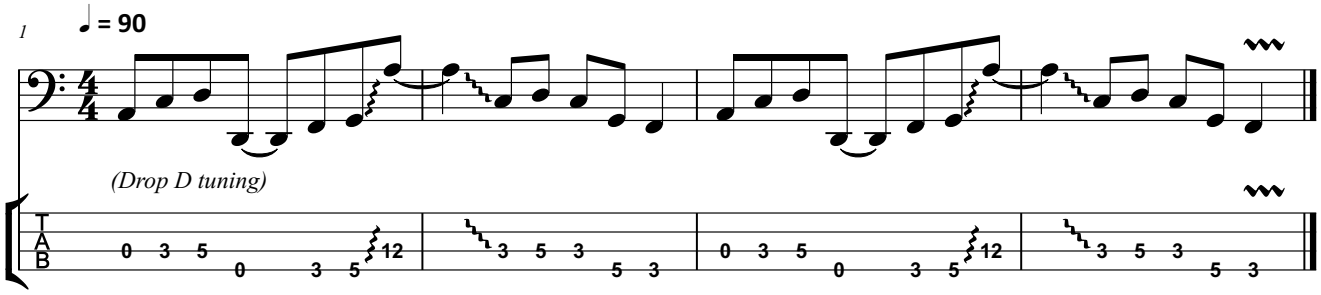
Tab 3.7 Appears at 9:06 in video lesson



Tab 3.8 Appears at 9:32 in video lesson

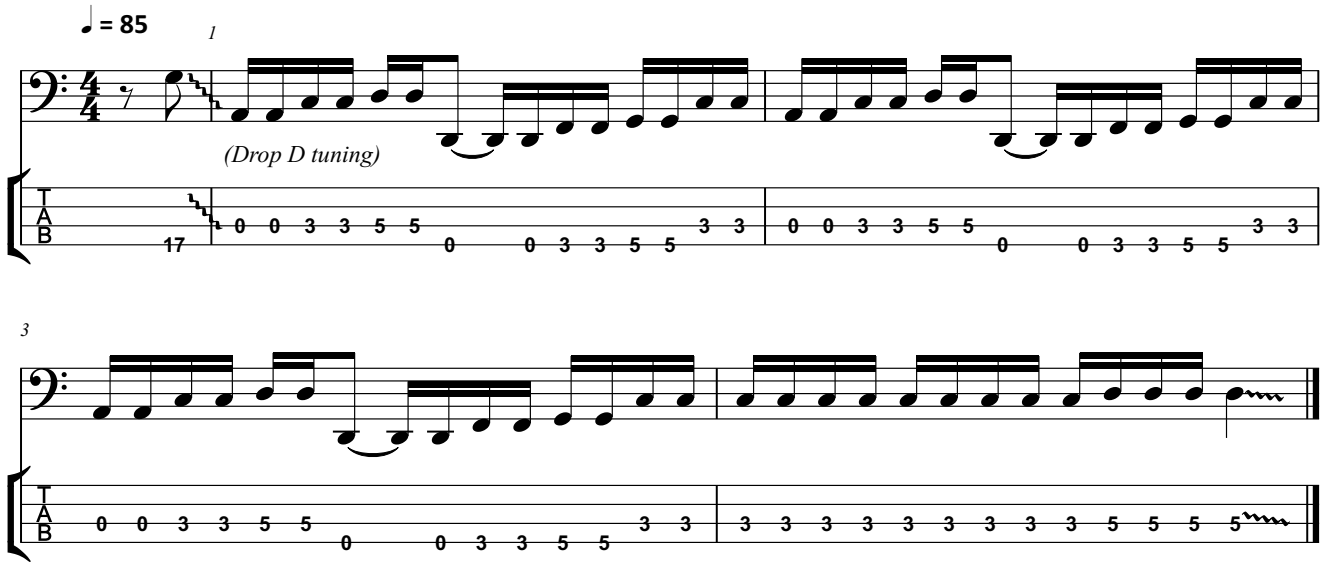


Tab 3.9 Appears at 9:55 in video lesson

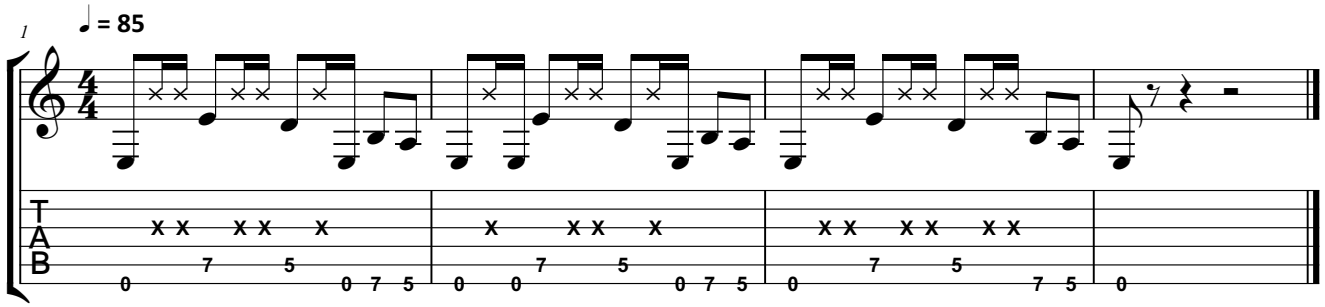


Tab 3.10

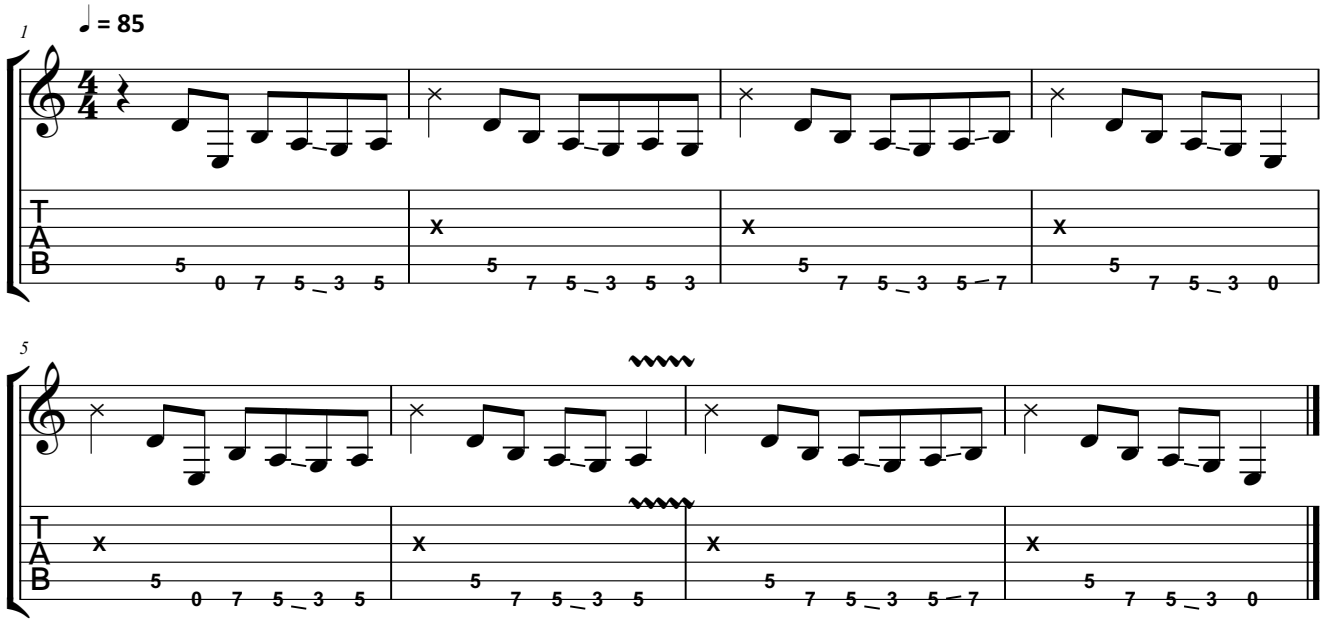
Appears at 10:16 in video lesson



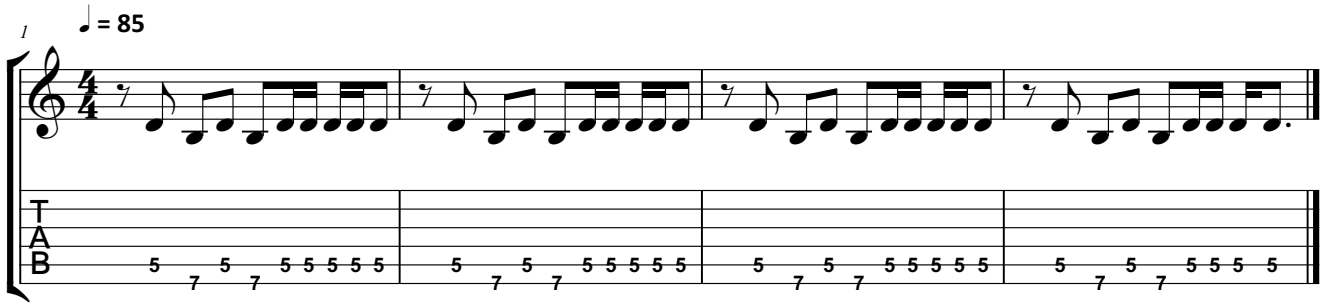
Tab 3.11 Appears at 10:56 in video lesson



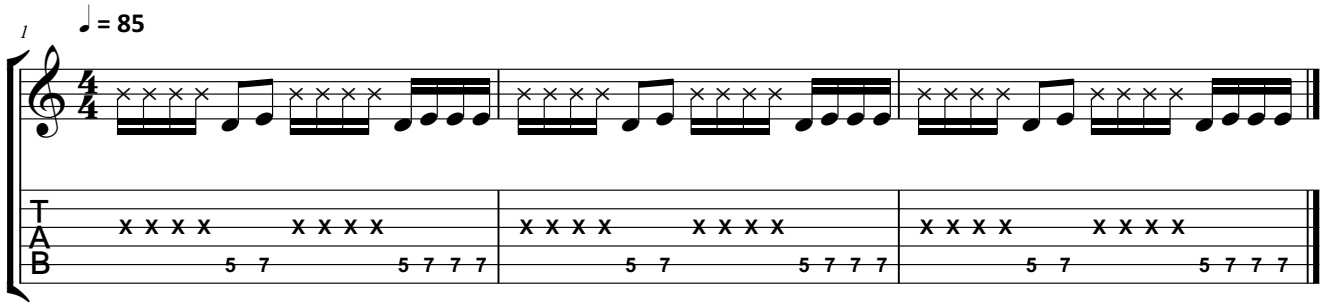
Tab 3.12 Appears at 11:14 in video lesson



Tab 3.13 Appears at 11:45 in video lesson

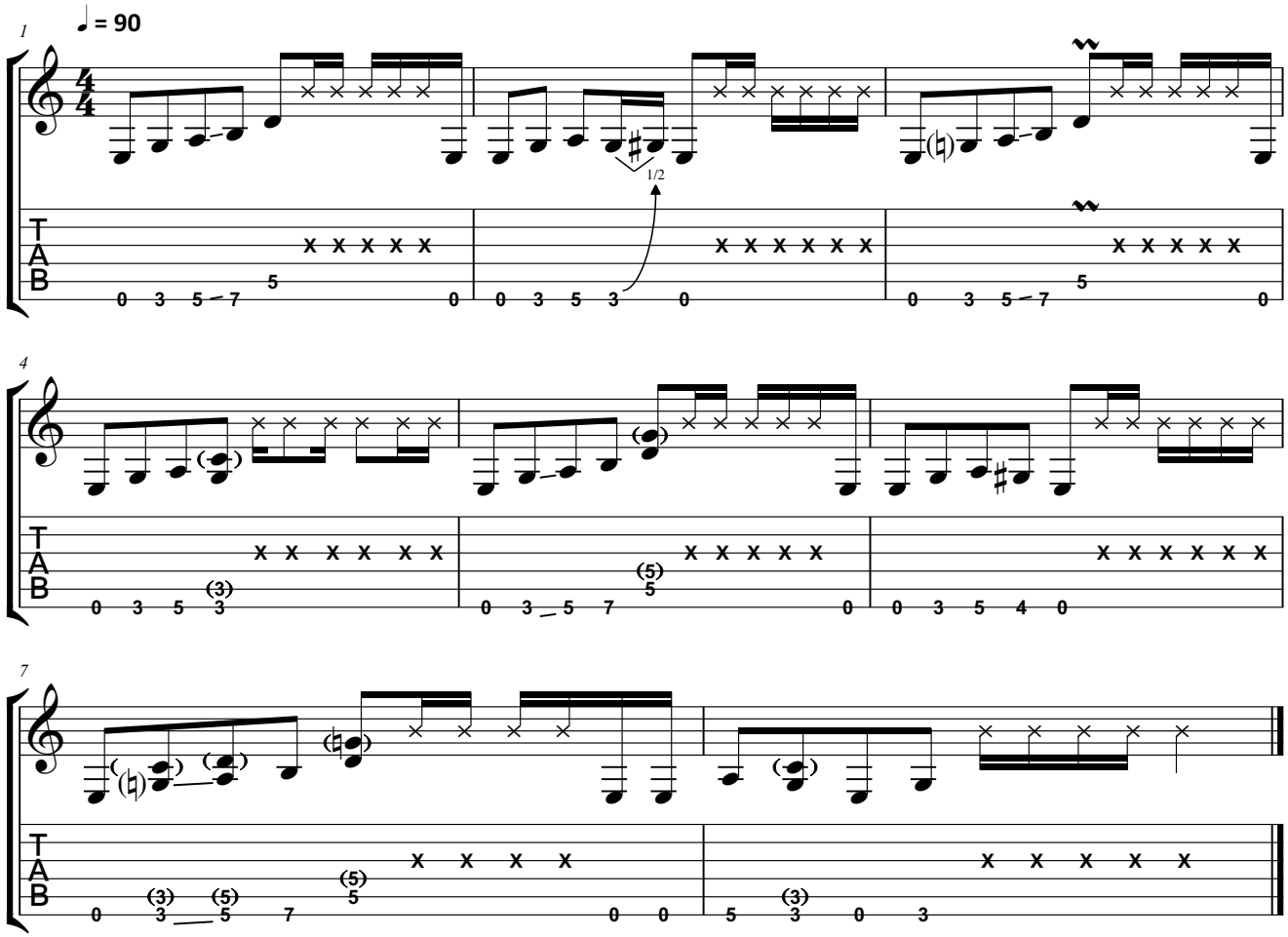


Tab 3.14 Appears at 12:38 in video lesson



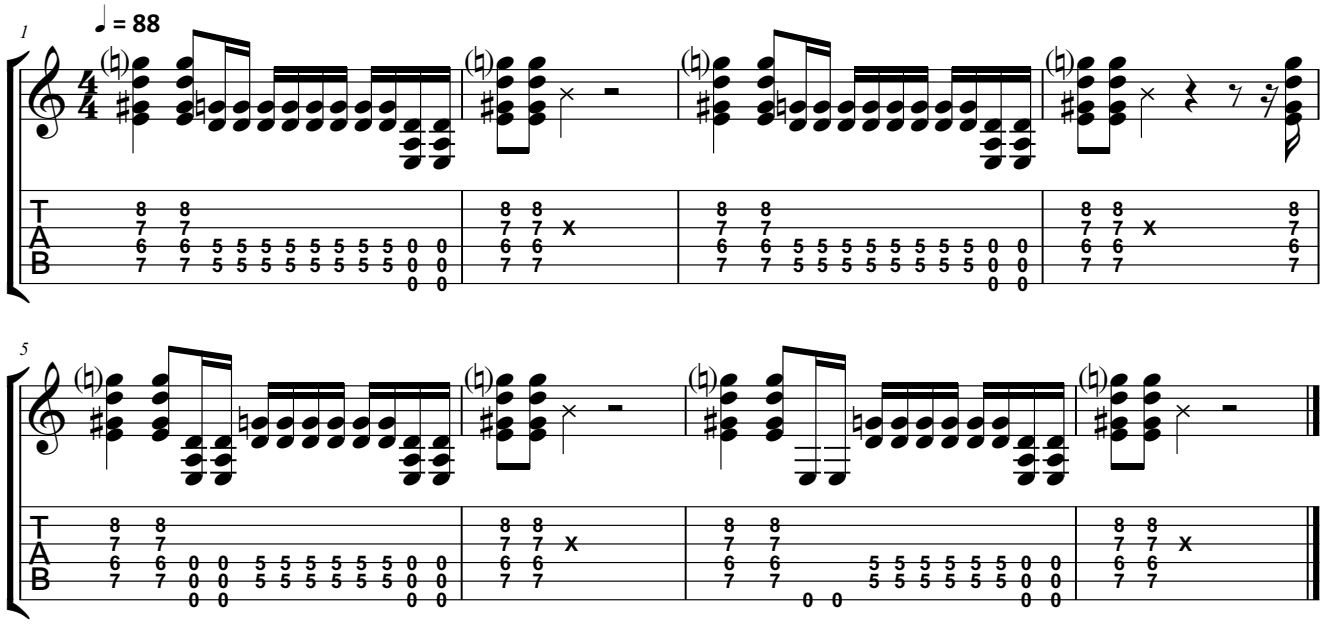
Tab 3.15

Appears at 12:51 in video lesson



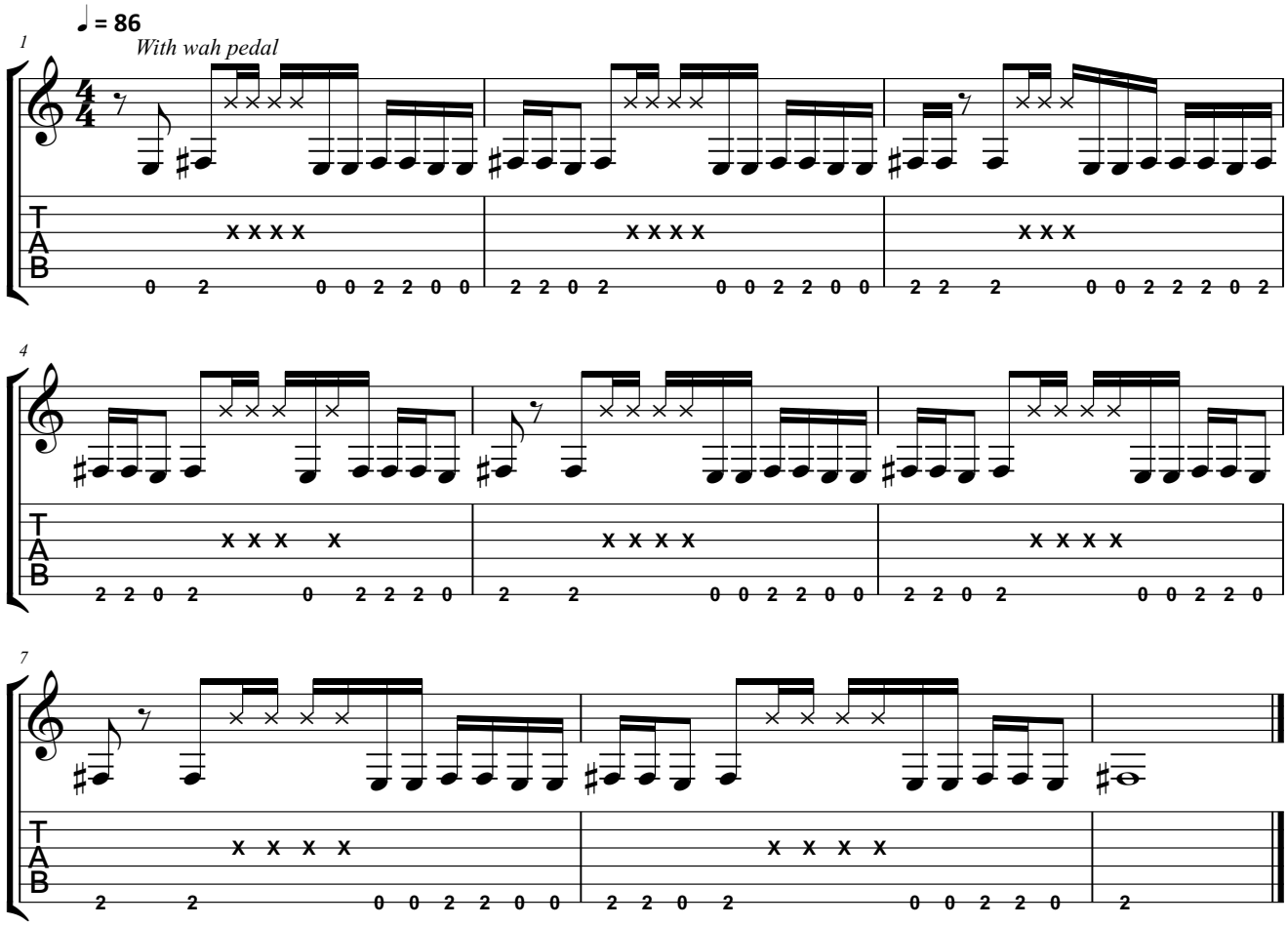
Tab 3.16

Appears at 13:49 in video lesson



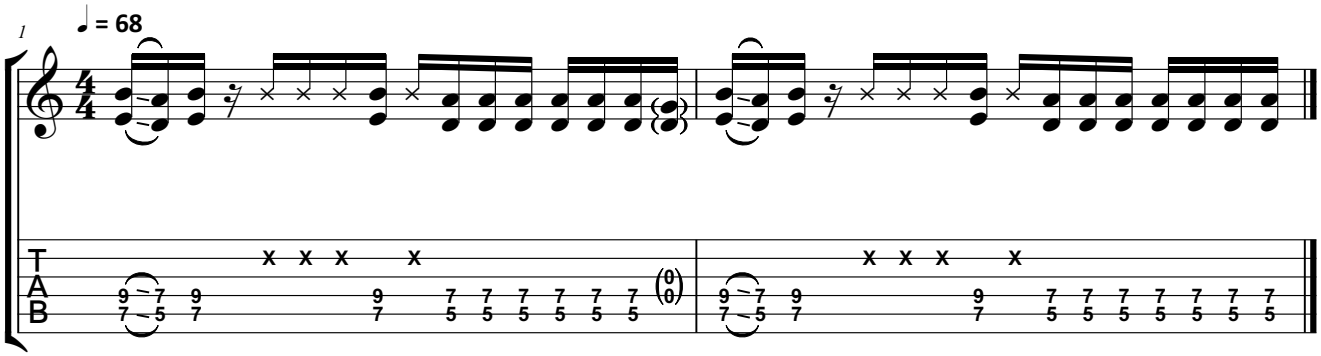
Tab 3.17

Appears at 14:48 in video lesson



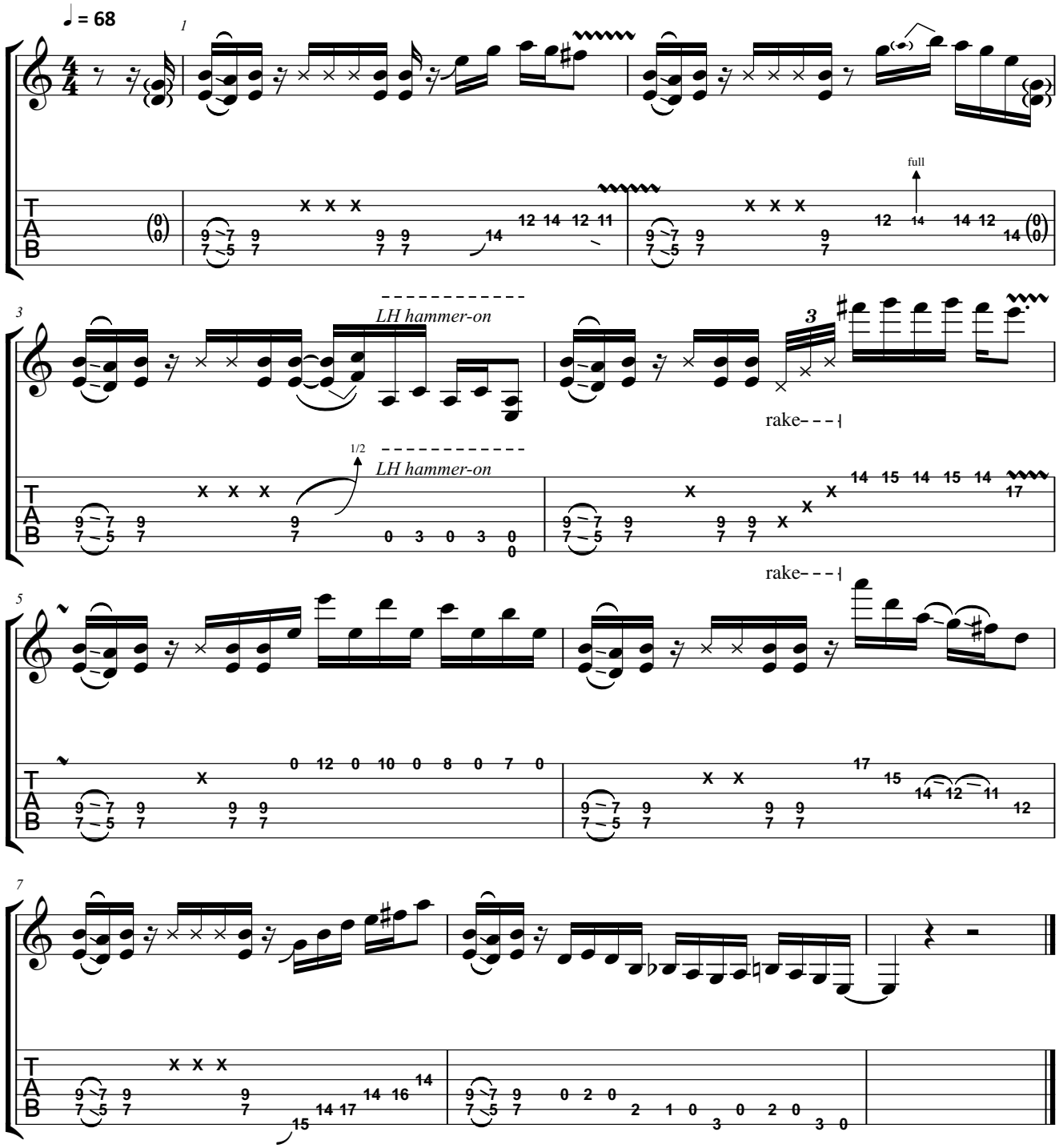
Tab 3.18

Appears at 15:49 in video lesson

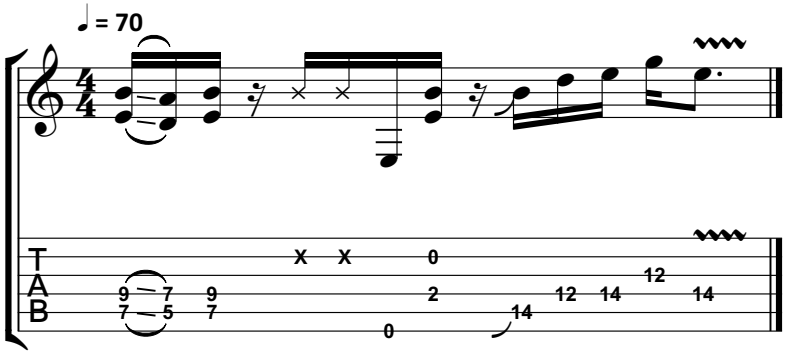


Tab 3.19

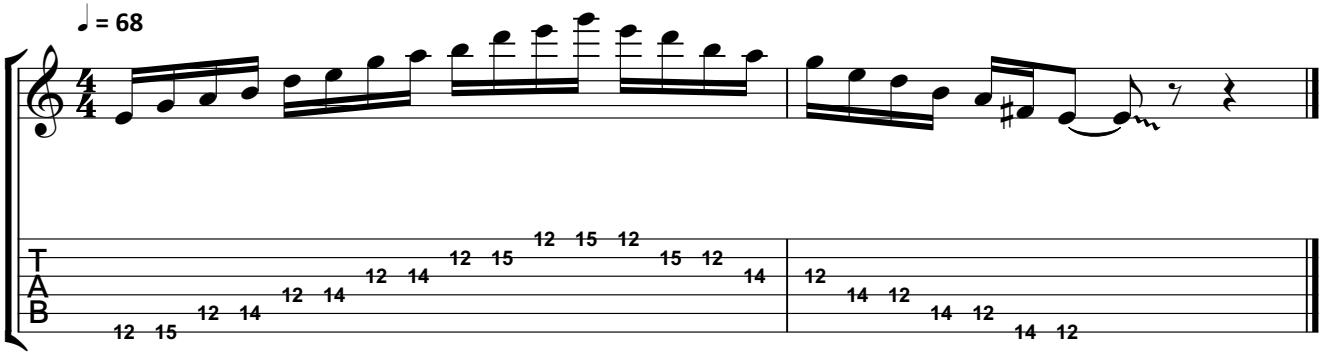
Appears at 16:00 in video lesson



Tab 3.20a Appears at 17:09 in video lesson

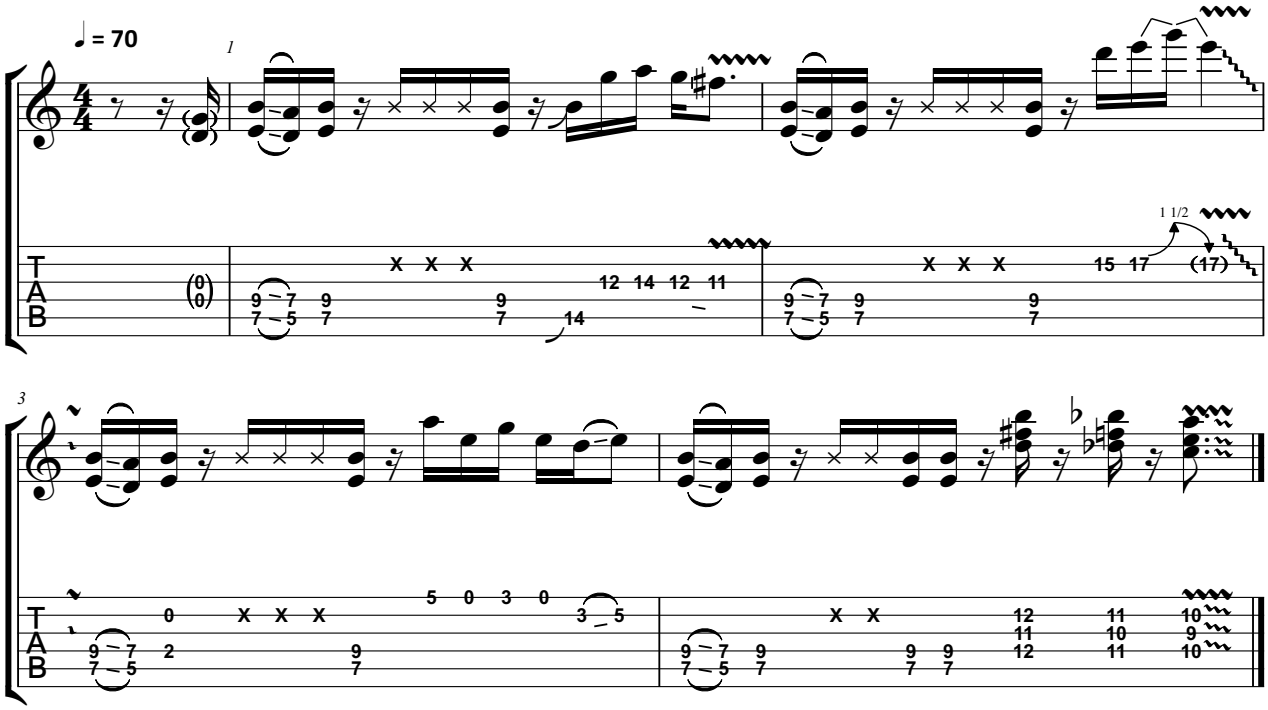


Tab 3.20b Appears at 17:16 in video lesson



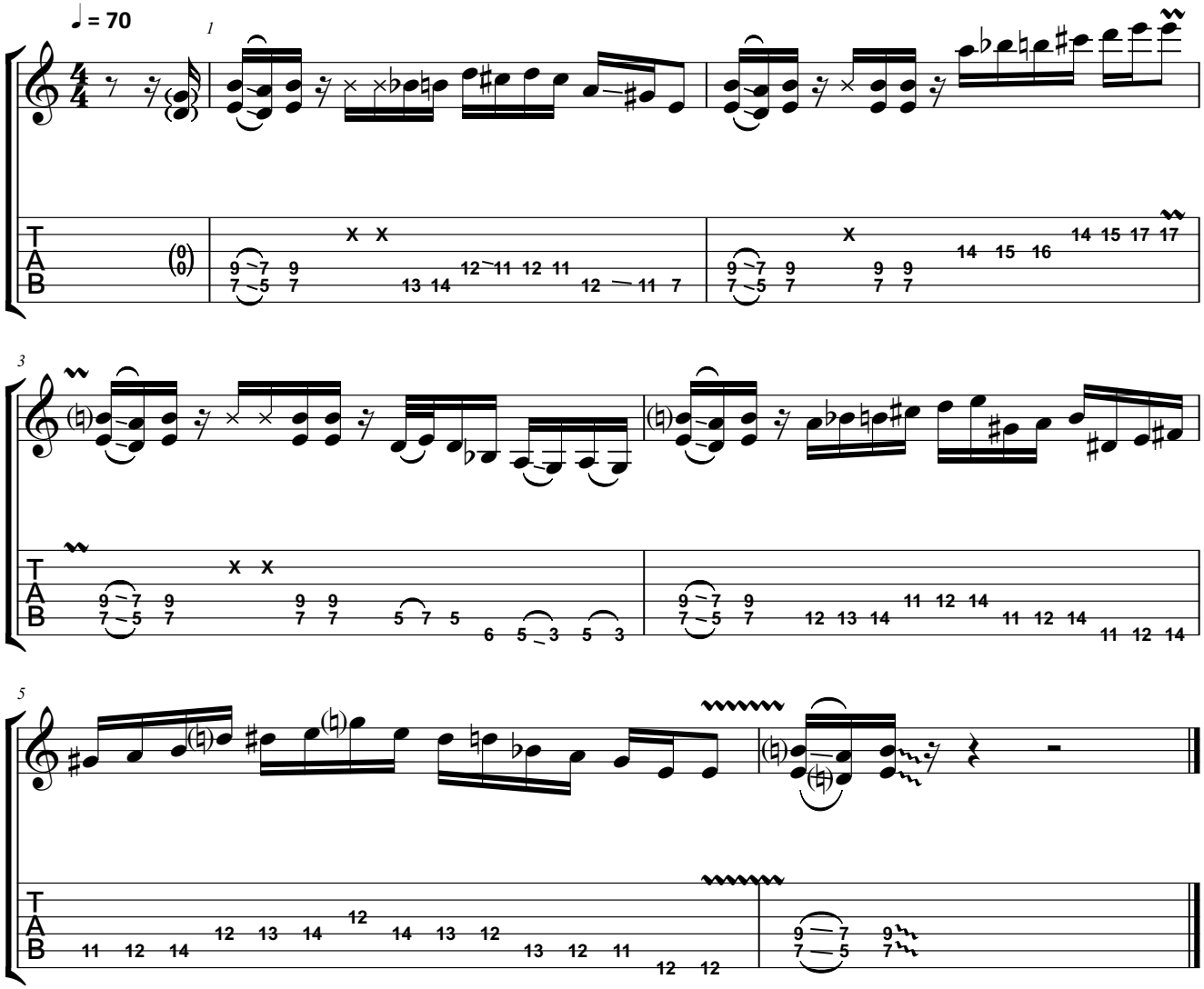
Tab 3.21

Appears at 17:23 in video lesson



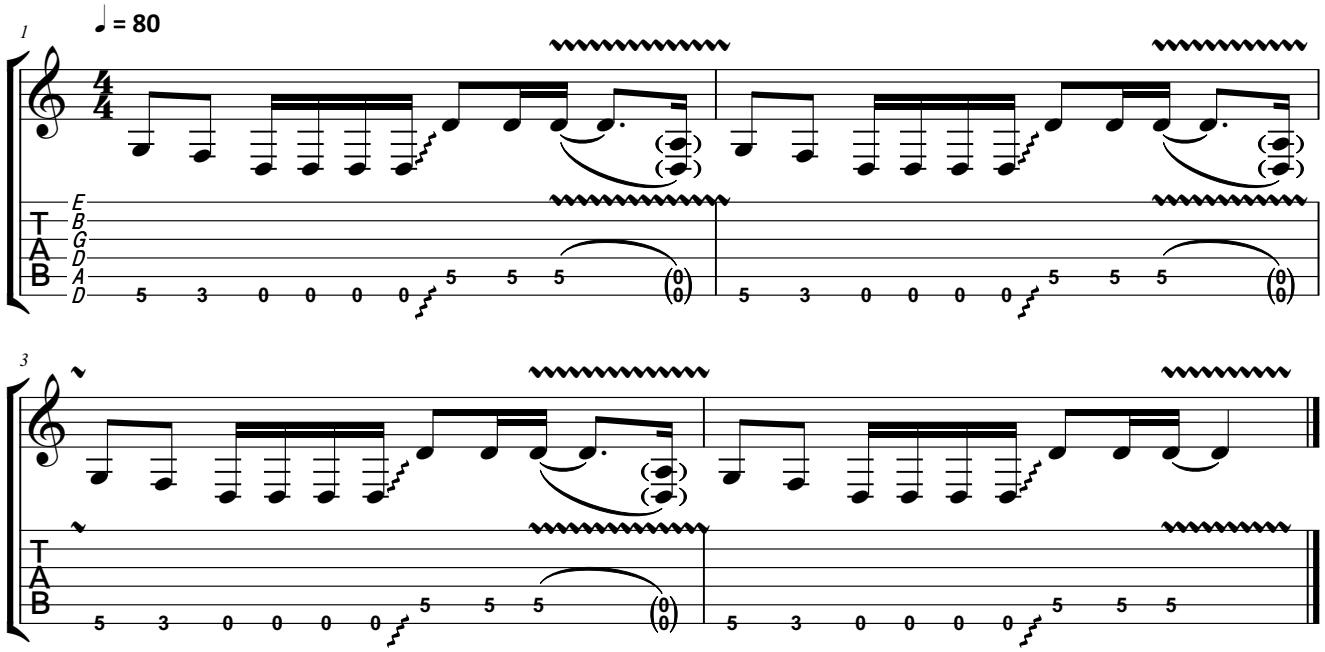
Tab 3.22

Appears at 17:55 in video lesson



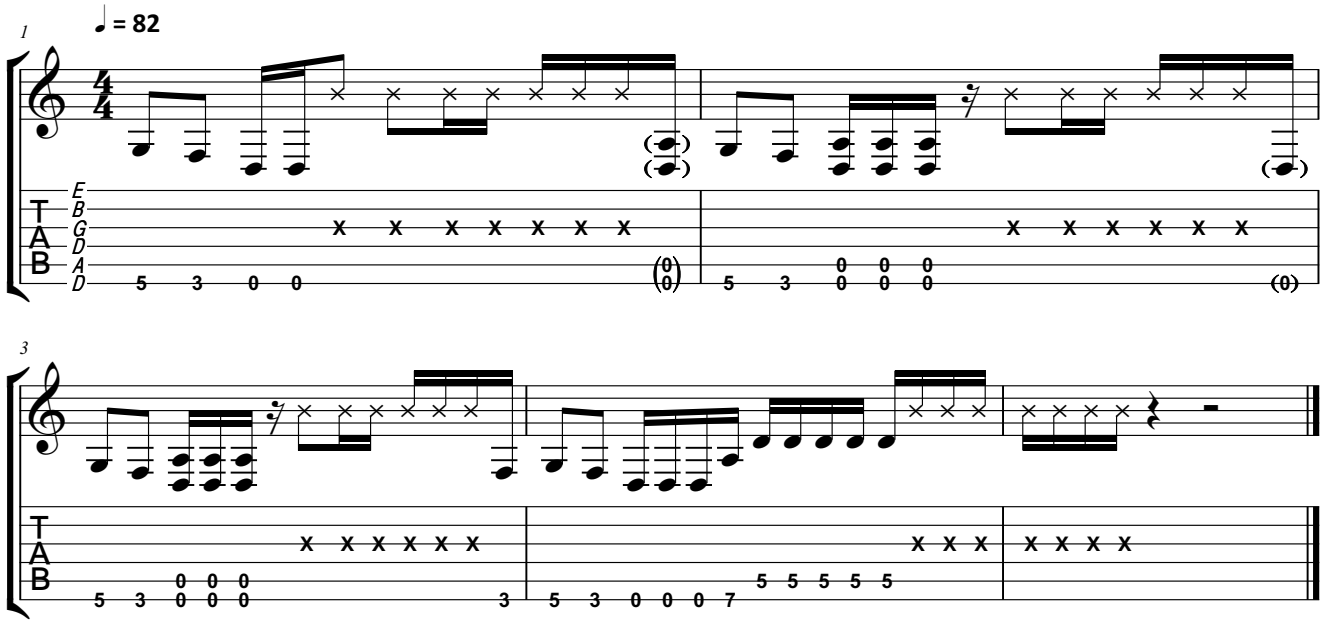
Tab 3.23

Appears at 19:17 in video lesson



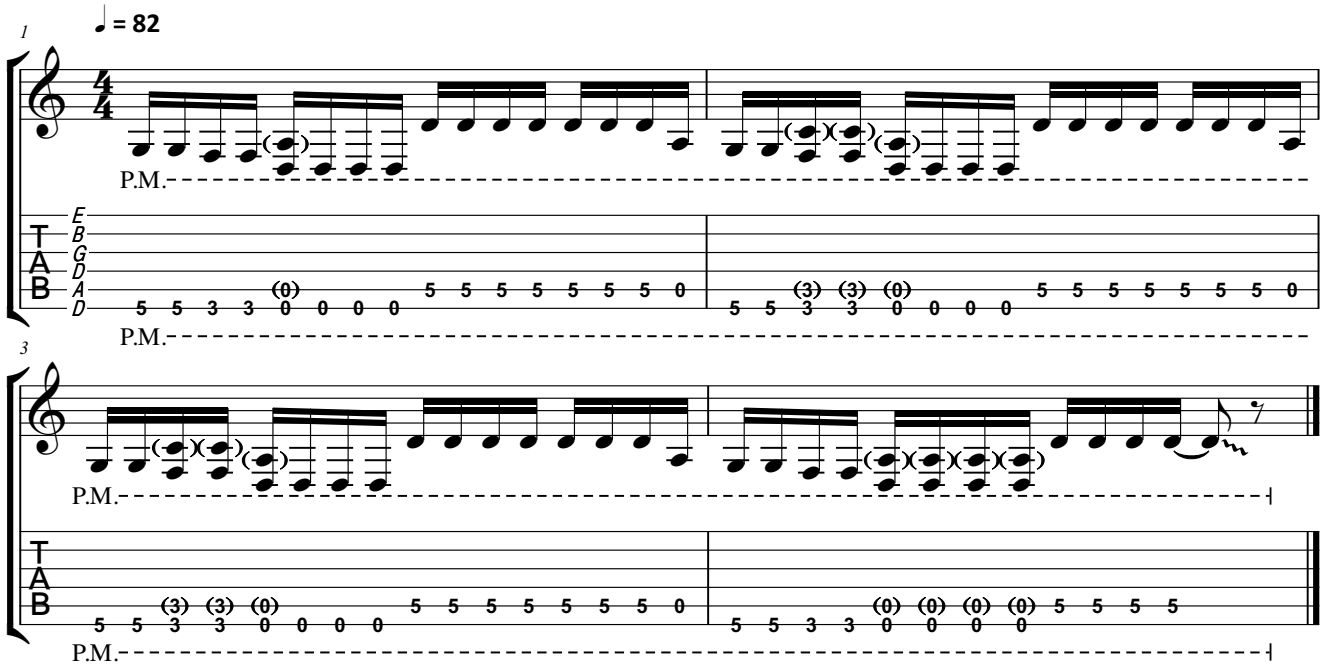
Tab 3.24

Appears at 19:43 in video lesson



Tab 3.25

Appears at 20:06 in video lesson



GEAR: TOM'S PEDALS AND EFFECTS

"By embracing limitations you can expand your creativity."

CHAPTER 04

GEAR: TOM'S PEDALS AND EFFECTS

SUBCHAPTERS

CHAPTER REVIEW

Tom has been playing through the same Marshall 50-watt amp head and Peavey 4x12 cabinet for 30 years now, but the choice wasn't intentional. After having his gear stolen out of the back of a van one night, he needed to find affordable replacements, and the Marshall and Peavey were what the local music shop had available. At the time Tom was looking to create the perfect guitar tone; he tried adding different rack mounts and other tricks but was never happy with the results. Eventually he decided it was a waste of time. He found some settings on his amp that he thought sounded pretty good and resolved to never change them again. He never did.

As he's discussed previously in this class, Tom believes guitar players worry too much about tone. To him, it's more important to work with the tone you have and make music that suits it. He does use pedals for certain effects but his pedal board is not extravagant. In fact he tends to use the same two or three pedals in most of his songs. Rather than searching out and accumulating gear, he thinks it's more important to exhaust the creative possibilities of whatever gear is available to you. These are the effects in Tom's arsenal:

MXR Phase 90
Tom rarely uses this pedal, though he occasionally sneaks it into the intro of "Killing in the Name." He owns it entirely because Eddie Van Halen used it on the Van Halen song "Unchained," and if Tom ever gets the chance to play it, he wants to be ready.

DOD EQ
To paraphrase Spinal Tap's Nigel Tufnel, this is the pedal that goes to 11. Rather than relying on a sound person to boost the volume of his guitar for a solo, Tom uses this pedal to do it himself on stage.

Boss Delay
There are two of these pedals right next to one another on Tom's pedal board. One is set for a long delay that he uses during traditional soloing, while the other is set for a shorter, slap-back delay that allows him to create helicopter sounds and ping pong-style effects.

DigiTech Whammy
As discussed later in the class (Chapter 7: Tom's Influences: Rock, Jazz, Classical, and Folk), Tom found his way to this pedal through Allan Holdsworth's use of a harmonizer on "Metal Fatigue." At its most basic, the Whammy allows Tom to pair a note he's playing with that same note at different intervals, almost like he's playing a guitar and a bass at the same time. Tom considers the Whammy the centerpiece of his board; combined with his use of the toggle switch, it's the pedal most responsible for a lot of the craziest guitar sounds in Rage Against the Machine.

Wah-Wah

The Crybaby pedal has been a standard component of rock guitar setups ever since Jimi Hendrix recorded "Voodoo Child." Tom's only advice with this pedal is that you avoid making a Wah-Wah face when you play with it, because "nobody wants to see that."

Tuner

Just like nobody wants to watch you make a Wah-Wah face while you play a Crybaby, nobody wants to hear you tune in between songs, either. That's where the tuner pedal comes in. It also functions as a kill switch, cutting off Tom's guitar signal to the amp when he needs to unplug his cables.

DigiTech Space Station

Tom uses this pedal sparingly, mostly to create what he calls "synth and R2D2" noises. Like the DigiTech Whammy it tracks poorly, but Tom thinks that only makes it sound more interesting, so he tries to exploit it.

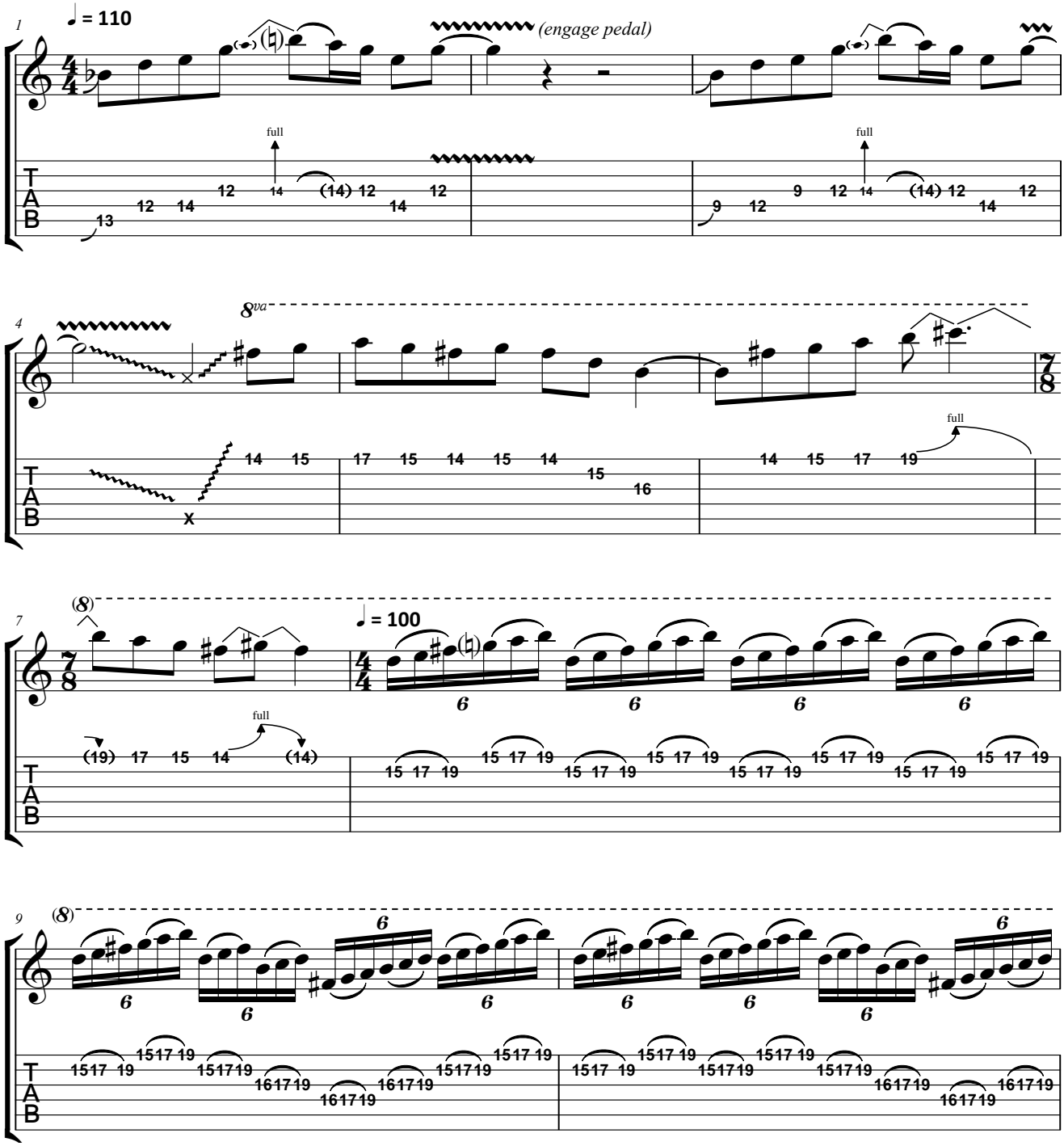
LEARN MORE

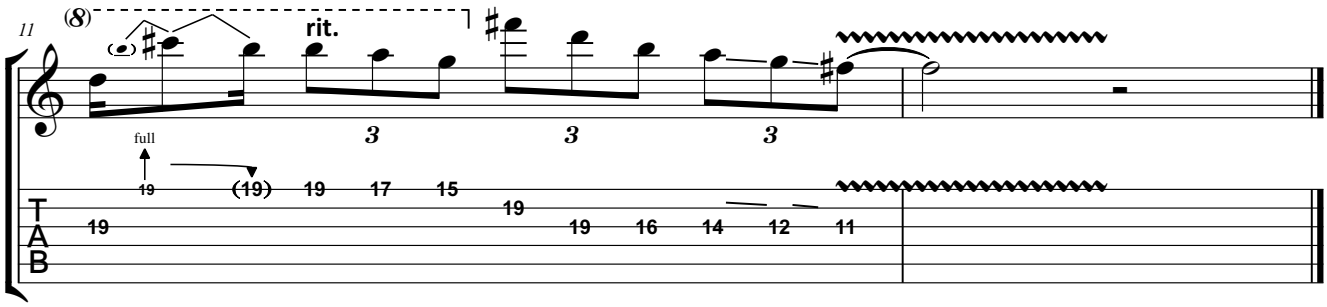
Listen to (or read) this brief history of guitar effects pedals from NPR's "All Things Considered."

ASSIGNMENT

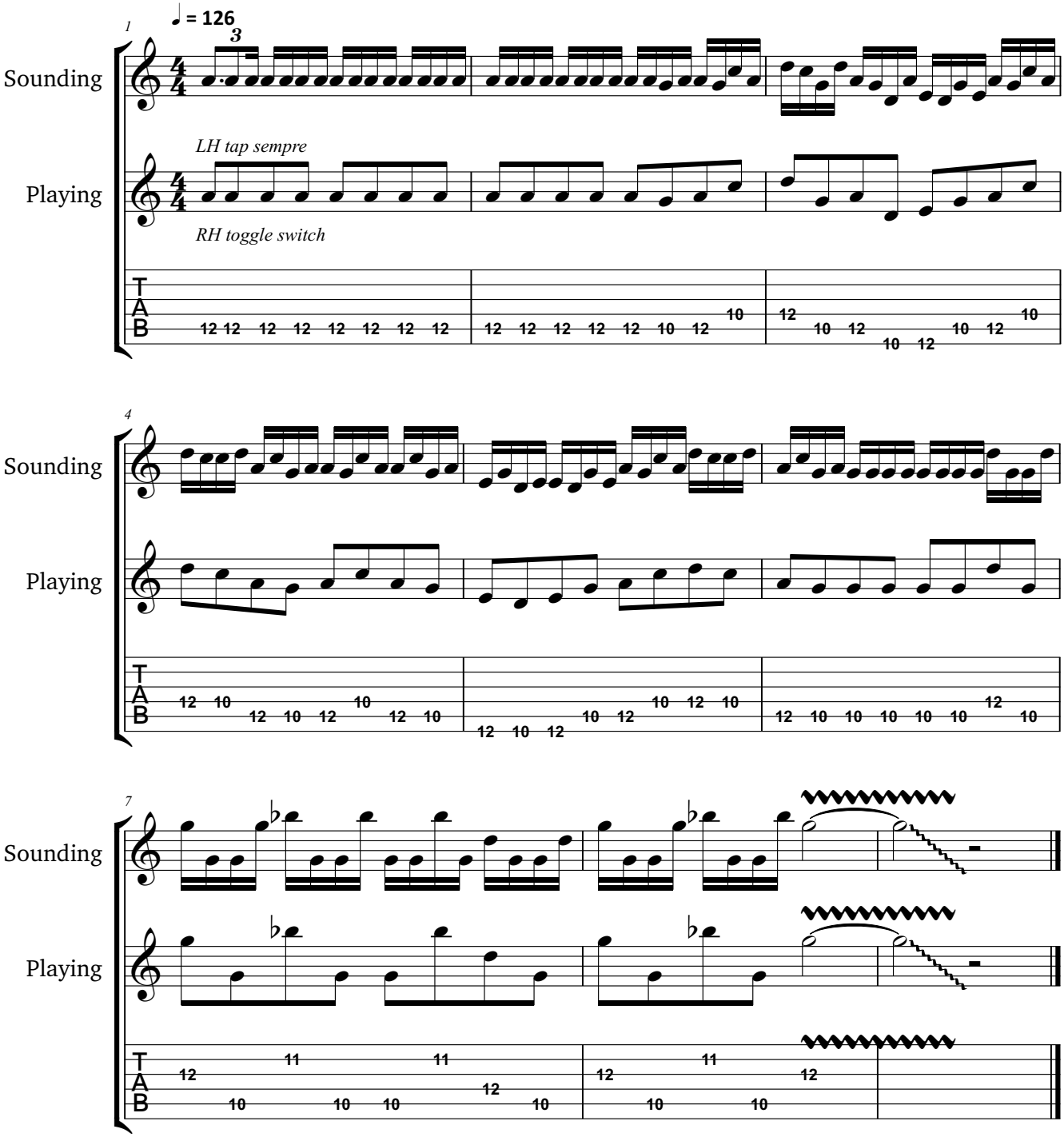
Experiment with sounds out in the world. Go to your local guitar store and take a few effects pedals for a test drive. Don't worry about playing notes or songs (or even sounding good!), just explore and see what strange sounds you can get out of pedals you've never seen before.

Tab 4.1 Appears at 6:13 in video lesson

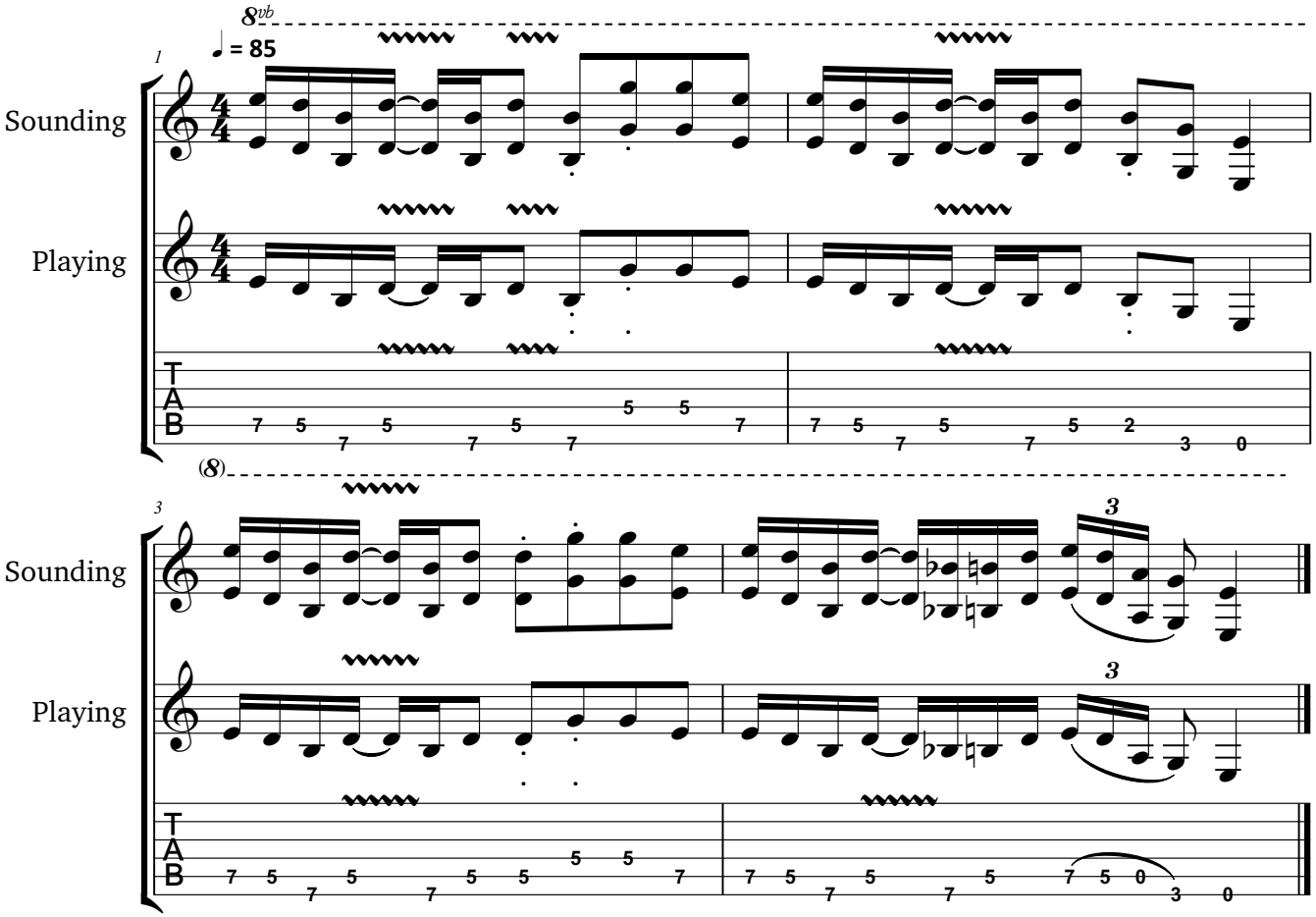



11
(8)
rit.
full
19
(19)
19
17
15
19
19
16
14
12
11
3
3
3
T
A
B

Tab 4.2 Appears at 7:06 in video lesson

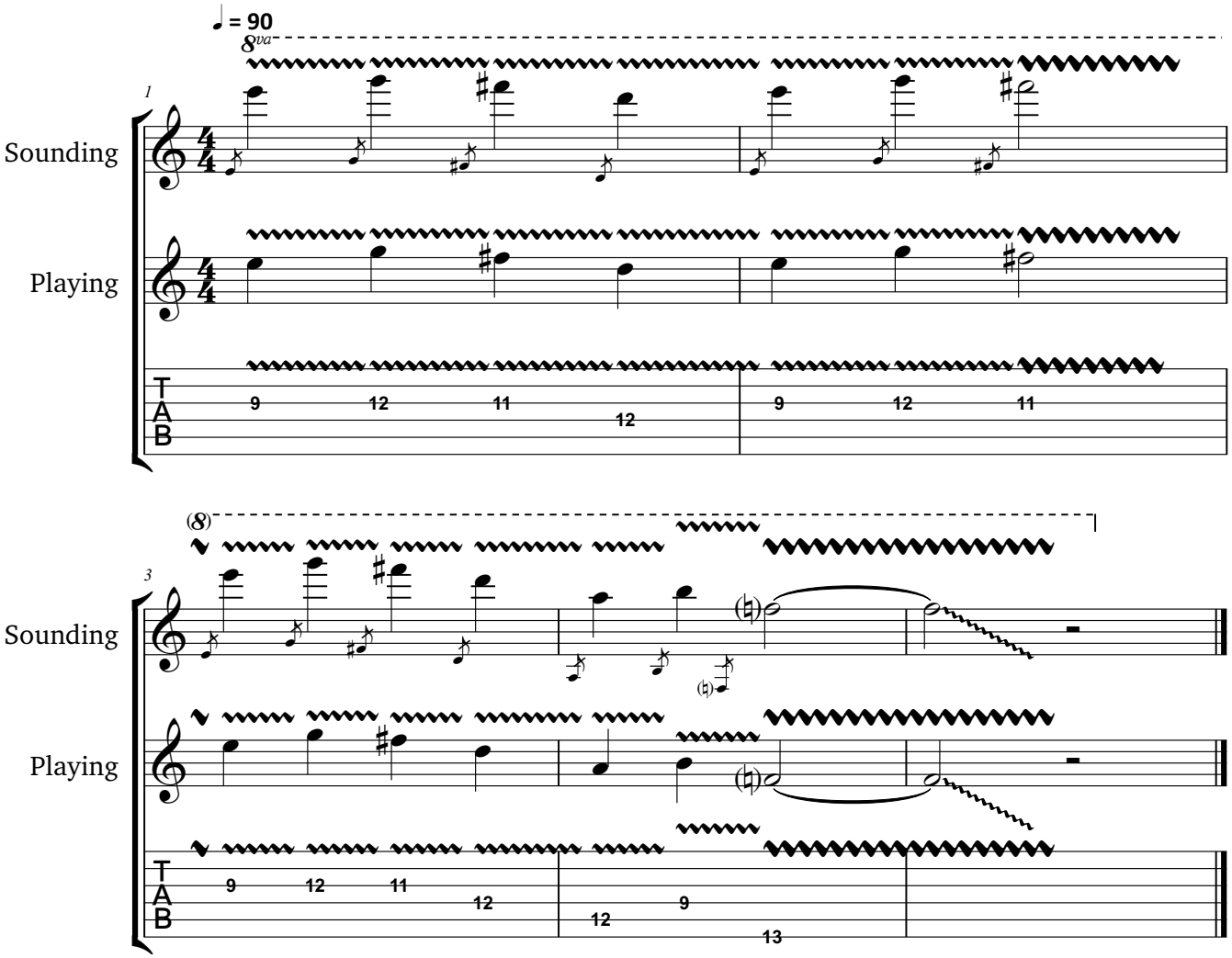


Tab 4.3 Appears at 9:25 in video lesson

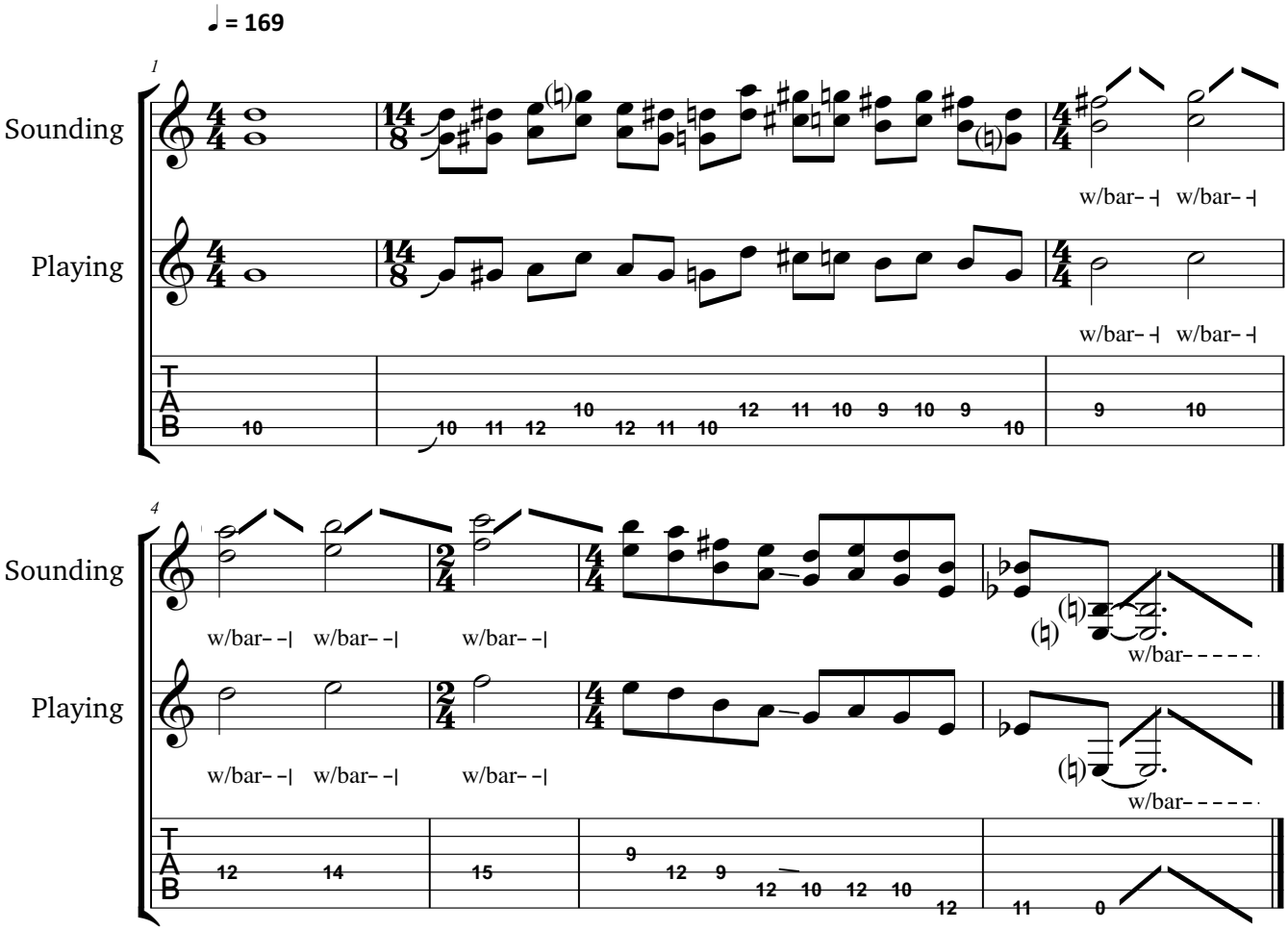


Tab 4.4

Appears at 11:43 in video lesson

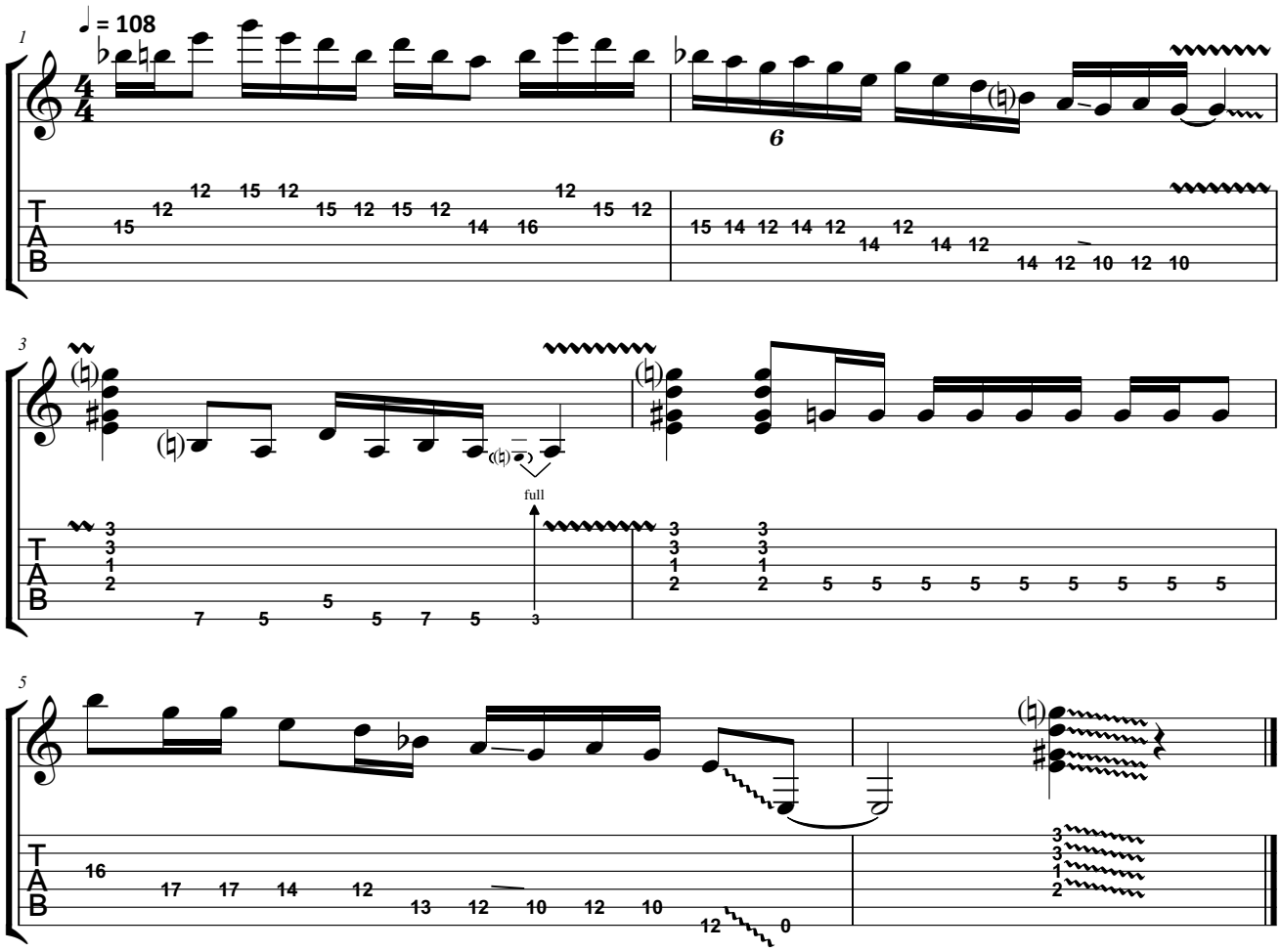


Tab 4.5 Appears at 12:11 in video lesson



Tab 4.6

Appears at 13:47 in video lesson



TOM MORELLO

TONES AND SOUNDS

"Listen outside of music to find influences. . . . It can be any sound that you hear."

CHAPTER 05

TONES AND SOUNDS

SUBCHAPTERS

CHAPTER REVIEW

Although many guitarists would assert that nicer guitars sound better, Tom believes that the quality of your tone—that is, what your guitar sounds like, as dictated by the guitar, the amps, strings, and effects you choose—doesn't directly correlate to the quality of your music. In his view, tone is innate: "you have the tone you have and you have to make your art from it." Rather than obsessing over the subtleties of how a specific amplifier tube or brand of strings affects the sound of your guitar, he encourages you to focus on creativity and expressing an idea artistically in a way that sounds and feels true.

It may be tempting to believe that getting the right gear will unlock your potential as a guitarist, but that isn't the case. Creativity comes from within; it has nothing do with the size or quality of your rig. Even with a modest amount of equipment you have a vast sonic palette at your disposal. Keep your rig simple at first and explore the full potential of every component—especially effects pedals. Push them to their extremes. Experiment with their craziest, wildest settings. Guitarists tend to get more conservative with pedals as they get used to them, but Tom thinks it's important to never lose that initial sense of wonder and magic that comes from hearing a pedal for the very first time.

The ideas that inspire your music also don't have to be traditionally "musical." No sound is off limits. Many years ago, Tom started listening closely to the sounds of daily life in Los Angeles and when one caught his ear, like police helicopters flying over the city, he'd try to recreate it on guitar. In the case of the helicopter, that eventually became the intro to Audioslave's "Cochise." But even if the recreation doesn't end up sounding exactly like your original inspiration, the attempt alone can reveal dimensions of your instrument and directions you can take with your songwriting you might never otherwise discover.

You can use your expanding sonic palette to write a rhythm part that's unconventional, as Tom did on the Rage Against the Machine song "Bullet in the Head," adding a layer of syncopated white noise rather than a traditional riff to what was more of a hip-hop groove.

If you create a solo riddled with effects or other studio magic, as Tom did on the Prophets of Rage song "Unfuck the World," you may have to reinterpret the solo so you can actually perform it. In Tom's case, that meant coming up with a specific order of operations for the solo, including knowing the exact moment he needed to step on a delay pedal to set up a sound he wasn't even ready to make yet. Rather than letting choices you

made in the studio hold you back onstage, embrace the challenge of bringing that song to life in a whole new way.

LEARN MORE

Tom's advice to look beyond the guitar for inspiration and toward the sounds of your environment recalls the "deep listening" practice of composer and electronic-music pioneer Pauline Oliveros, which she describes as "a way of listening to everything possible in every possible way . . . the sounds of daily life, of nature, of one's own thoughts as well as musical sounds." She elaborates on the concept in her TEDx Talk as well as in her book *Deep Listening: A Composer's Sound Practice* (iUniverse, Inc., 2005).

ASSIGNMENT

Evaluate Your Pedal Setup

So you want some cool new sounds, and think the only option is to buy more effects? An evaluation of the pedals you already have might uncover some of the sounds you've been looking for. Take a look at a few popular guitar effects many players already have—summarized below—and try manipulating them in new ways.

Overdrive / Tube Screamer

These pedals are mainly thought of as "lead tone-boosters," pedals used to get more distortion or amp breakup while soloing.

- Try experimenting with the gain and level knobs. Instead of thinking of these pedals as distortion pedals, try turning down the gain to get a cleaner tone you can boost with the level knob for use when playing clean leads, louder volume swells, boosting delay and reverb, and more.
- Turn the gain knob all the way up and experiment with any tone or EQ knobs. Doing so can give you an overdriven tone perfect for harmonics, pick slides, and other effects.
- Depending on your pedal, turning the level knob to zero will cut the signal entirely, giving you a stomp box kill switch you can use to approximate Tom's toggle switch technique (or in your own way).

Wah-Wah Pedal

Modern Wah-Wah pedals (or "Wah" pedals) sometimes have dip switches and other controls that help the player dial in specific tones and sculpt things like overall level of effect, EQ, and filter sweep. They help create a variety of different sounds within one pedal. If you have the trusty original Dunlop Cry Baby Wah:

- Try using it as a filter effect. Find a spot in the pedal's sweep that sounds good to you and just leave it there.
- Try a slow pedal sweep to gradually change the tone, rather than a quick one.
- If you have an overdrive pedal, try that in combination with the Wah-Wah for noisy leads and a white noise effect similar to Tom's when he leaves the pedal in the toe position.

Delay

Some delay pedals have all sorts of bells and whistles. Tom's Boss DD-2 digital delay only has a few. Beyond the slapback effect and long delay, here are a few ideas to try:

- Try experimenting with any sort of level control—this controls how much of the delay signal is mixed with the normal guitar signal. You can achieve cool effects by leaving the level control all the way up, thereby cutting the normal signal from the sound.

• Long delay times can sometimes be drowned out in a band mix. When that happens, try boosting your signal with the help of the overdrive pedal set to a lower gain setting (like with the "clean boost" tip above).

• Try setting the effect level and repeat levels past half way and hitting a chord (or single note). While it rings, manipulate the delay knob—depending on the effect level and repeat level, you can get a warbling, swirled effect that mimics electronic DJ sounds. Try using the overdrive pedal to enhance.

• Some analog delay pedals like the MXR Carbon Copy can have a runaway effect by turning the effect level and the repeat knobs all the way up until the signal starts to feedback on itself. Manipulate this sound with the delay time knob.

• Do you leave your delay pedal on all the time? Try setting the pedal as an accent feature—a medium delay time with effect levels and repeats above halfway, for example. When the time comes in a song or solo for an explosion of delay, press the pedal then kick it off again.

Chorus

Most chorus pedals have knobs for depth (controls depth of modulation) and rate (controls the speed of the modulation). Play with these two effects to add color or all-out weirdness.

• Rate and depth set to halfway provide the characteristic chorus sound—perfect for dreamy chords and sparkling picking parts.

• Enhance lead tone: Michael Angelo Batio is known for using a small amount of chorus in his lead tone to thicken it up and add color. This can be done by turning down the effect level control (if your pedal has one), or by turning down the rate and depth controls.

• Depending on your chorus pedal, turning the rate up about halfway and depth about ¾ of the way will produce a semi-effective Leslie rotating speaker effect. Depending on your chorus pedal's depth and rate control range, if you turn these controls all the way up, you will pass the "Leslie Effect" and move into warbling madness.

• Experiment with depth control set to 0 and rate set to 10, and vice versa.

Reverb

Specific controls and names of controls vary by pedal but all reverb pedals have controls for reverb effect level and reverb time (how long it lasts). Some have tone sculpting controls. Many modern reverb pedals have a few different types of reverb that are meant to emulate the reverb sound of different environments, such as plate, hall, or room. There are tonal differences between each of those settings so experiment on your own, but here are a few general tips to get you going.

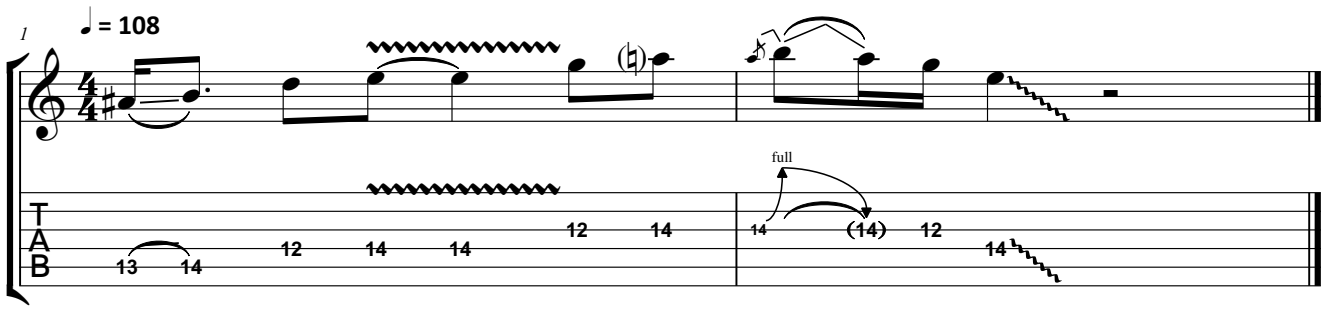
• Reverb for color: Select a reverb setting (hall, plate, etc.) you like, and set the effect level about halfway up and reverb time about ¼. This should make for a more lively, thick tone.

• Large reverb for volume swells or chords: This works best with your overdrive pedal set to a clean boost setting. Turn the effect and reverb time knobs up until you get a large sounding reverb perfect for volume swells, or sparse chordal work. Adjust the gain on your overdrive to your taste.

Chorus

Tom is a master at combining his different effects to get even stranger tones created by pedals working together. It's up to you to experiment on your rig. Spend an afternoon trying all the different effects at your disposal, and don't forget to write the combinations down. Or, if you're serious about playing the settings you like, memorize them!

Tab 5.1 Appears at 1:36 in video lesson



TOM'S NOISE CHART

"[It's] as musically arousing as a mosquito alone in a dark room with you."

TOM'S NOISE CHART

SUBCHAPTERS

X_SWIRLING ECHO TRIPLETS
X_TOGGLE WAH-WAH
X_SCOTTISH HIGHLAND BAGPIPES
X_CELLO DELAY
X_"YOUR TIME HAS COME" ECHO
X_HARMONICA SOUND ("GUERRILLA RADIO" TOGGLE)
X_ABOVE THE NUT
X_TUNING
X_THE FOREST COMES TO LIFE
X_FEEDBACK TOGGLE
X_AIR RAID SIREN FEEDBACK SWIRL
X_PLAYING WITH TEETH

CHAPTER REVIEW

When you create original sounds that resonate with you, it's crucial that you write down all the elements that went into making that sound possible, from the guitar you were playing to the settings of your amp and pedals and beyond. Be specific. These are the sort of idiosyncratic flourishes that, combined with traditional guitar playing, will help you find and establish your own voice as a soloist.

Notice that the sounds Tom demonstrates don't require a lot of specialized equipment. The pedals he uses most frequently—delay, Wah-Wah, and Whammy—are common and easily obtainable. The rest is just a matter of manipulating the guitar's strings, pickups, toggle switch, and volume knobs to create the desired effect. As with everything in music, it comes down to inspiration. Decide how you want your guitar to sound, whether that's like a cello, synthesizer, bagpipes, forest, air raid siren, or whatever else pops in your head, and then experiment until you make it happen.

LEARN MORE

Adrian Belew, best known for his work with King Crimson, is widely regarded as a pioneer of unusual guitar sounds, utilizing a vast array of pedals and virtuosic control of the Whammy bar (among other techniques) to create everything from animal to mechanical noises. Listen to "Elephant Talk" from King Crimson's *Discipline* as well as "Genius of Love" by the Tom Tom Club for an introduction to Belew's style, then read this interview with *Vintage Guitar* magazine.

U2's The Edge is another guitarist whose trademark sound relies heavily on effects—in his case, the use of echo and delay. Dallas Schoo, who's been U2's guitar tech for more than 30 years, gives *Premier Guitar* magazine's John Bohlinger an exhaustive walkthrough of the Edge's rig in this hour-long video, which includes an in-depth discussion of his pedalboard (beginning at the 47:38 mark).

Tom's Pedals and Default Settings

Tom keeps his pedal rig lean and keeps most of his pedals set at just a few default positions. Here's a rundown of his rig and settings.

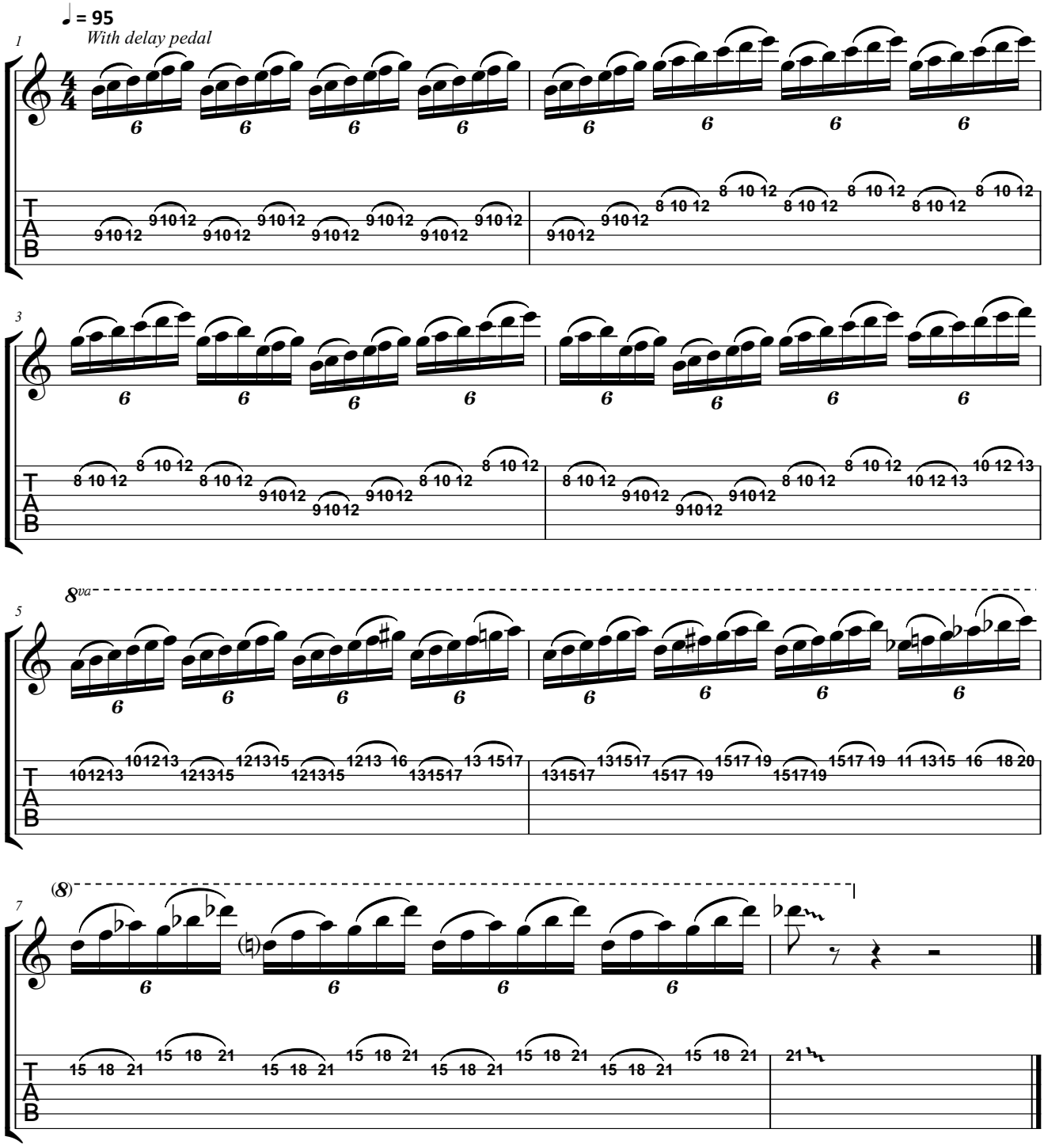
Pedal	Setting	Controls
Boss dd3 #1	Short delay	• Knob 1: all the way to the right • Knob 2: all the way to the left • Knob 3: 10 o'clock • Knob 4: 10 o'clock
Boss dd3 #1	Vh delay ("halen")	• Knob 1: all the way to the right • Knob 2: 10 o'clock • Knob 3: 10 o'clock • Knob 4: 12 o'clock
Boss dd3 #2	Long delay	All knobs at 12 o'clock
Dod eq	On / off	All faders (except volume): center Volume fader: up just a little
Mxr phase 90	On / off	Knob: between 9 and 10 o'clock
Cry Baby Wah pedal	On / off	N/a
Digitech Whammy pedal	On / off	Various settings used

Noise Chart

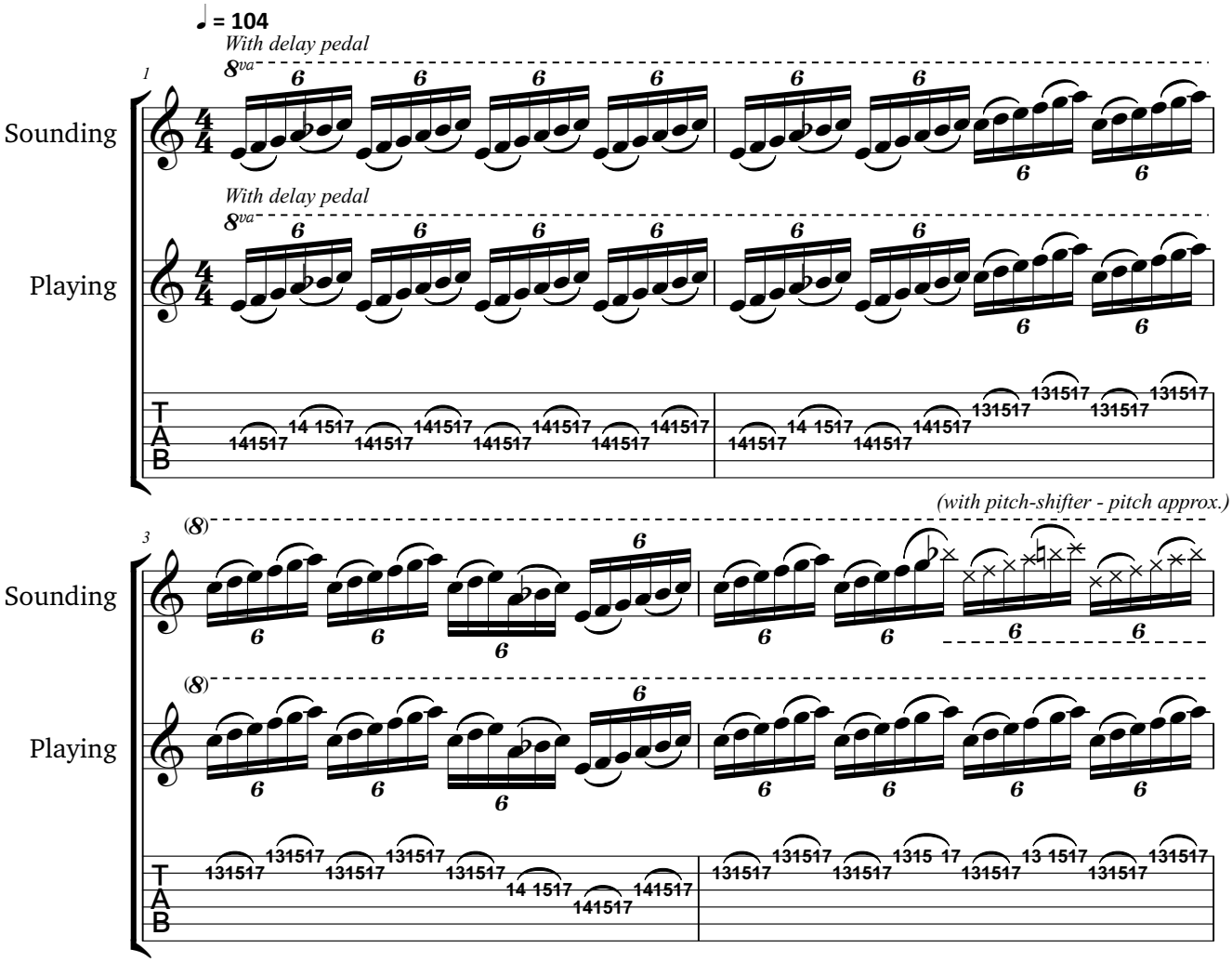
This is the list Tom uses to remind himself of the noises at his disposal. The noises that require specific pedal settings are described below when applicable; all other noises are produced using Tom's default tone and a bit of technique.

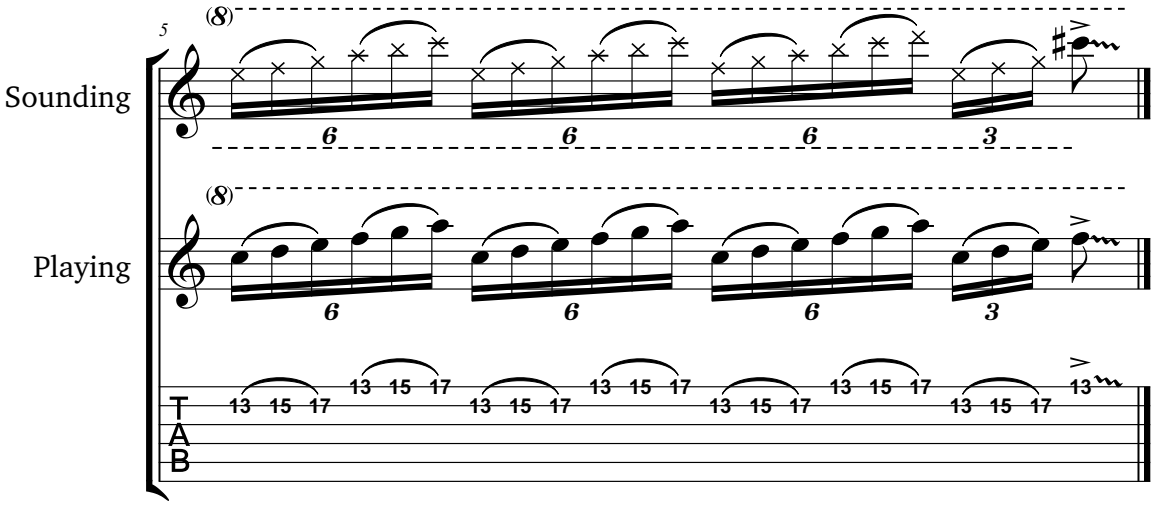
Noise	Pedal Setting
Over under harmonics	Whammy pedal: 1 octave up
Swirling echo triplets	Long delay
Feedback toggle	XX
Guitar jack manoeuvre	Wah pedal engaged; whammy pedal: 1 octave up (turned on but not depressed)
Scritchy scratch	XX
Helicopter	Short delay
Toggle 5th enemy	Whammy pedal: 5th
Octave delay	Whammy pedal: 1 octave up, long delay
Your time has come	V.H. Delay setting
Toggle guerrilla	Whammy pedal: 1 octave
Trill picking / killing	Whammy pedal: 2 octaves up
Wah toggle / bullet	Wah pedal engaged
Slide toggle fistful	XX
Above the nut	XX
Forest comes to life	Only playable on tom's kenya guitar
Computer/ disco/ slap	Short delay
Screaming monkeys	Wah pedal
Bagpipes	Whammy pedal: rotating knob through all settings
Air raid siren	Long delay, feedback from amp
Turn tuning peg	XX
Cello delay intro	Long delay
Whammy bar 5th worm	Whammy pedal: 5th

Tab 6.1 Appears at 1:00 in video lesson

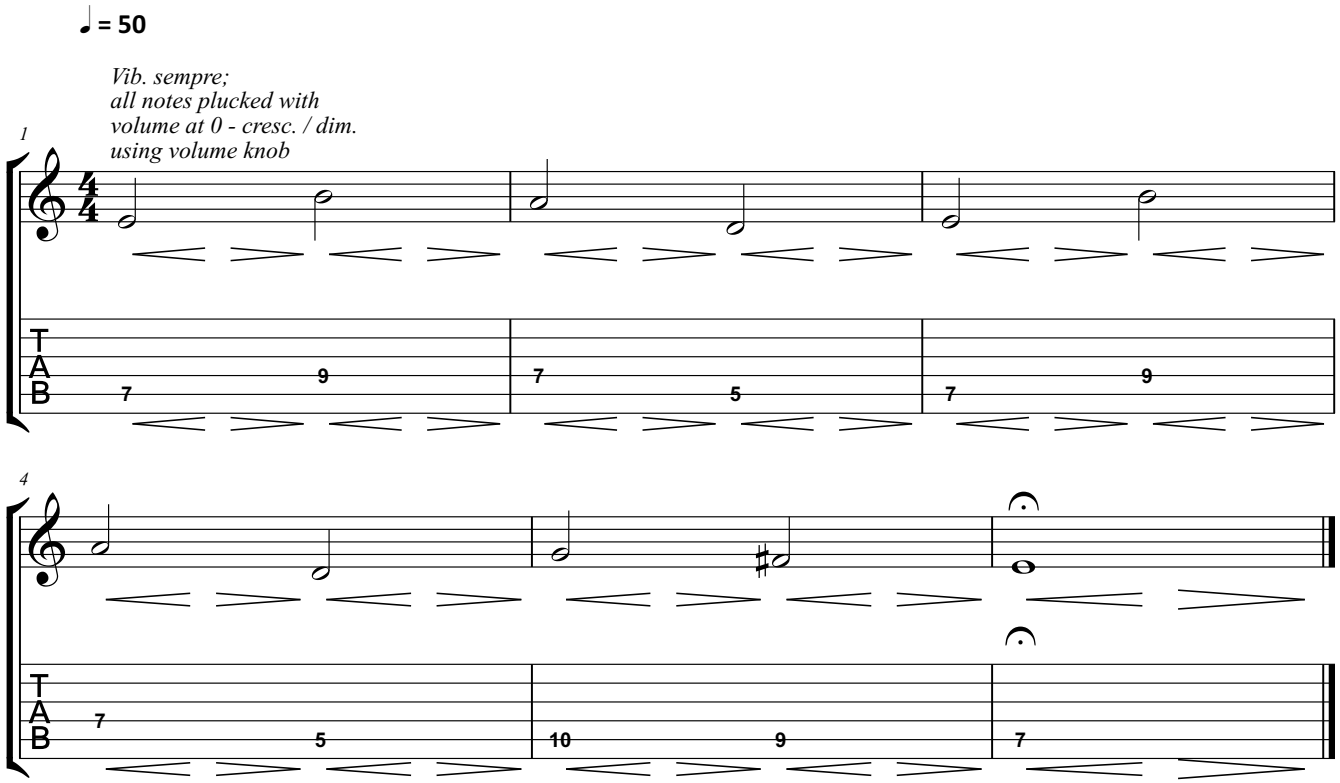


Tab 6.2 Appears at 1:30 in video lesson

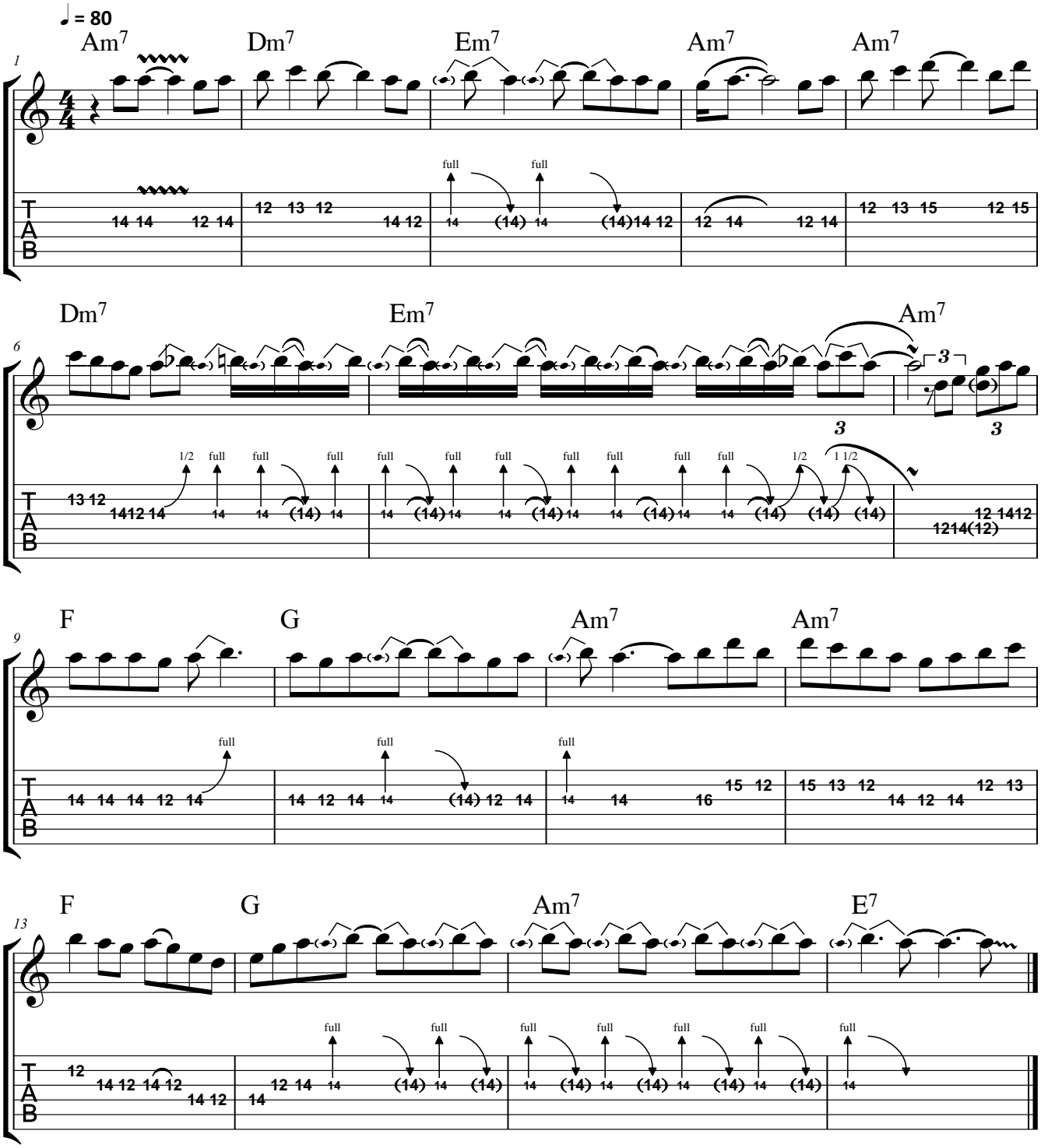



Sounding
Playing
5
(8)
6
6
6
3
13 15 17
T
A
B

Tab 6.3 Appears at 4:32 in video lesson



Tab 6.4 Appears at 14:38 in video lesson



TOM'S INFLUENCES: ROCK, JAZZ, CLASSICAL, AND FOLK

"I've always been someone who admired musicians first, rock stars second."

CHAPTER 07

TOM'S INFLUENCES: ROCK, JAZZ, CLASSICAL, AND FOLK

SUBCHAPTERS

CHAPTER REVIEW

As crucial as heavy riff-rock bands like Black Sabbath, AC/DC, and Led Zeppelin were to the development of Tom's guitar style, it was his exposure to forms like jazz, classical, and folk that added new dimensions and complexity to his playing. For instance, it was the work of jazz-fusion guitarist Allan Holdsworth that introduced Tom to the concept of "outside playing," where the notes of a solo stray just enough outside a song's chord structure to sound slightly off, but because they're played with tremendous skill and conviction the effect is invigorating. It was also Holdsworth's use of a harmonizer pedal that eventually led Tom to the DigiTech Whammy that's such a major component of his pedal board.

Tom's great uncle Carlo Morello was a violinist for the Chicago Symphony Orchestra, and from a young age Tom would hear his uncle practicing classical compositions around the house. But it was only when Tom discovered Yngwie Malmsteen, a shredding heavy metal guitarist whose style is steeped in classical tradition, that he realized there was another level of virtuosity and technique he could achieve while still playing loud, aggressive music. On the other end of the spectrum, singer-songwriters like Bob Dylan and Bruce Springsteen demonstrated that with nothing more than an acoustic guitar and your voice, it's possible to make music as heavy as anything you could play through a Marshall stack. In part, it was their example that led Tom to start writing and performing as the Nightwatchman.

LEARN MORE

As Tom mentions, the version of "This Land Is Your Land" released by Folkways Records in 1951 lacked multiple verses that were included in Guthrie's original 1944 recording. Perhaps deemed too radical for the time, these recorded verses were later uncovered by a Smithsonian archivist while transferring the recording to digital format. Nick Spitzer reports on the song's origins and legacy in this piece for NPR.

Yngwie Malmsteen explains how Niccolo Paganini influenced him as both a musician and a showman in an article he wrote for *Guitar World* magazine.

As both a solo artist and a collaborator with such bands as Yes and Soft Machine, Allan Holdsworth established himself as a giant of jazz-fusion guitar playing in a career that spanned five decades. He passed away in

2017. His legacy and landmark recordings are discussed in posthumous pieces by NPR and the *New York Times*.

Chapter Playlist

- Audioslave, "Doesn't Remind Me"
- Woody Guthrie, "This Land Is Your Land"
- Allan Holdsworth, "Metal Fatigue"
- Yngwie Malmsteen, "Black Star"
- The Nightwatchman, "The Road I Must Travel"
- Prophets of Rage, "Unfuck the World"
- Rage Against the Machine, "Freedom"
- Soundgarden, "Outshined"

ASSIGNMENT

Tune your bottom E string down a full step to put your guitar in drop D tuning. Once you've done that, go write a riff! Simple as that.

Improvise a solo over a 12-bar blues progression but only using notes that sound slightly off. Don't stray from the song you're jamming with completely—you want to keep the solo musical. The idea is to play a guitar part that's harmonically challenging yet still pleasing to the ear.

Yngwie Malmsteen's *Guitar World* article on Paganini includes tablature for the first 20 bars of Paganini's "Fifth Caprice in A Minor," along with advice on how to play it. Before you try to tackle the piece, which Malmsteen admits has a high degree of difficulty, locate a recording of it on violin to hear how it might have originally sounded in the 19th century. Do you hear echoes of it in the solos of contemporary metal guitarists? Which come to mind?

The official Woody Guthrie Website has all of Guthrie's published and recorded lyrics catalogued alphabetically. Pick one of his songs at random—one you've never heard before—and then write your own version of that song using only Guthrie's lyrics and the chords G, C, and D.

TOM'S INFLUENCES: EDM, THE BLUES, AND HIP-HOP

"I began to find my own voice on guitar when I decided I was the DJ in Rage Against the Machine."

TOM'S INFLUENCES: EDM, THE BLUES, AND HIP-HOP

SUBCHAPTERS

X_EDM: CREATE MUSICAL ALLOYS
X_THE BLUES: LEAVE SPACE AND TALK WITH YOUR GUITAR
X_HIP-HOP: STEAL SOUNDS FOR SOLOS AND RHYTHM PARTS
X_PRACTICE COMBINING FORMS

CHAPTER REVIEW

The blues has long been an integral part of rock 'n' roll guitar playing, so much so that Tom's initial introduction to the form was through guitarists like Jimmy Page and Pink Floyd's David Gilmour. By contrast, EDM and hip-hop haven't been around nearly as long as the blues—or even rock 'n' roll for that matter—but artists like Dr. Dre and The Prodigy have still influenced and expanded Tom's perspective on what you can do with a guitar. The scratching of a DJ like Jam Master Jay and the production sounds on a record like The Chronic informed his solos in Rage Against the Machine, while the rock 'n' roll ethos of artists like Skrillex and Knife Party made him realize his hard-rock guitar style could feel right at home replacing or playing along with synthesizers in electronic music. He refers to this as making "musical alloys"—fusing different styles to create music that's entirely new.

Tom encourages you to listen to genres other than your own to see what lessons you can absorb—but he also insists that it isn't necessary. AC/DC and the Ramones each managed to make more than a dozen albums—many of them classics—following the same straight-up rock 'n' roll blueprint every time. So while combining genres has been vital to Tom's musical career, it's clearly not a requirement for everyone. If you want to go onstage and play music that sounds just like *Highway to Hell*, go for it. Tom will be right there in the front row.

LEARN MORE

While Albert King's recording of "Crosscut Saw," released on his 1967 album *Born Under a Bad Sign*, is perhaps the best-known version of the song, its origins date back to a 1941 release by Delta bluesman Tommy McClennan—and likely even further. The Blues Foundation wrote about the song's "complicated evolution" upon its induction into the Blues Hall of Fame in 2018.

Ken Jordan and Scott Kirkland of the Crystal Method discuss the making of their album *Tweekend* and working with Tom in this 2001 interview with *Rolling Stone*.

Chapter Playlist

- The Crystal Method, "Name of the Game"
- Albert King, "Crosscut Saw"
- Tom Morello ft. Knife Party, "Battle Sirens""
- Street Sweeper Social Club, "Clap for The Killers"

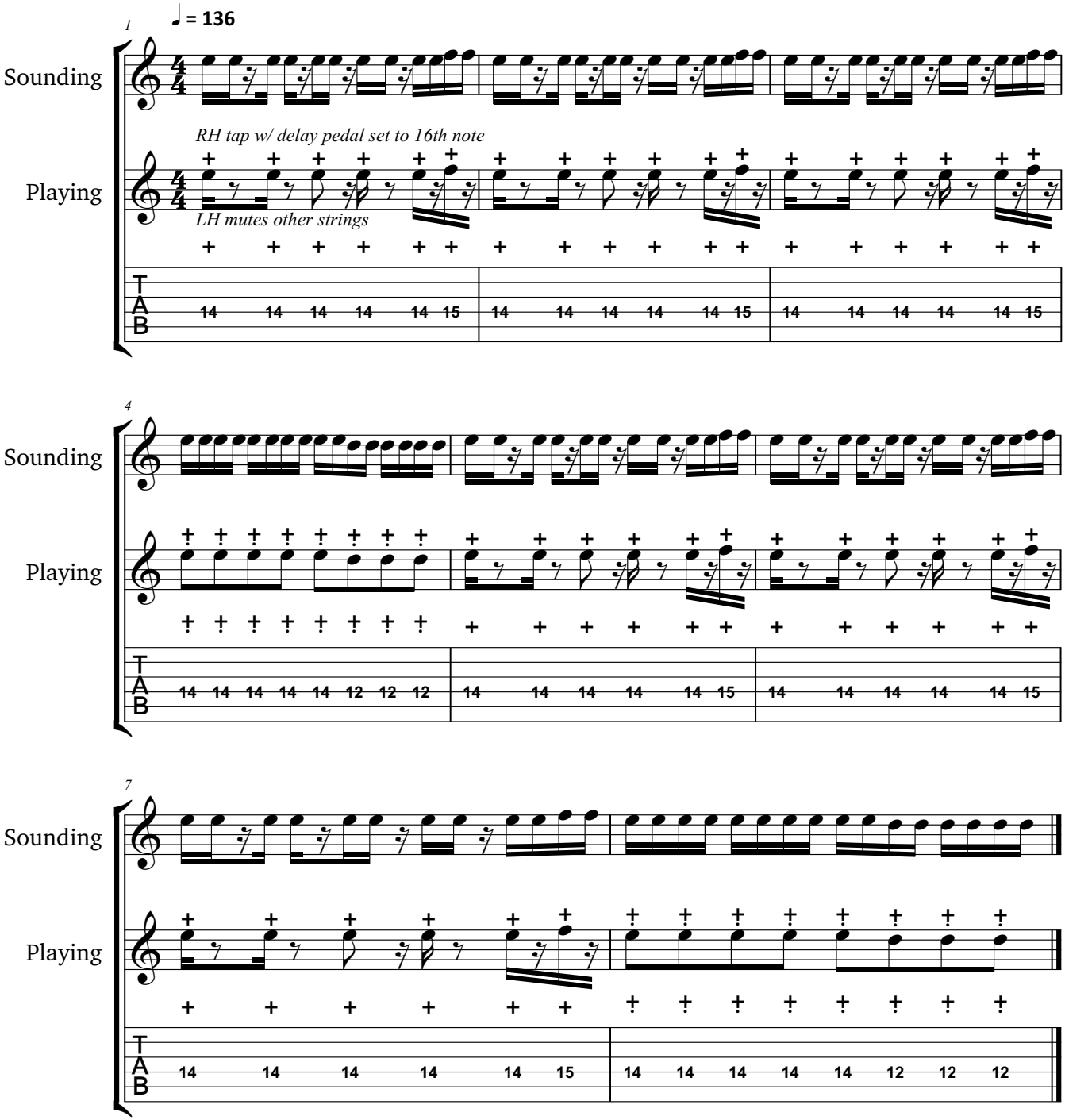
ASSIGNMENT

Using the enclosed tablature, learn to play the synthesizer parts on Knife Party's "Centipede" with your guitar.

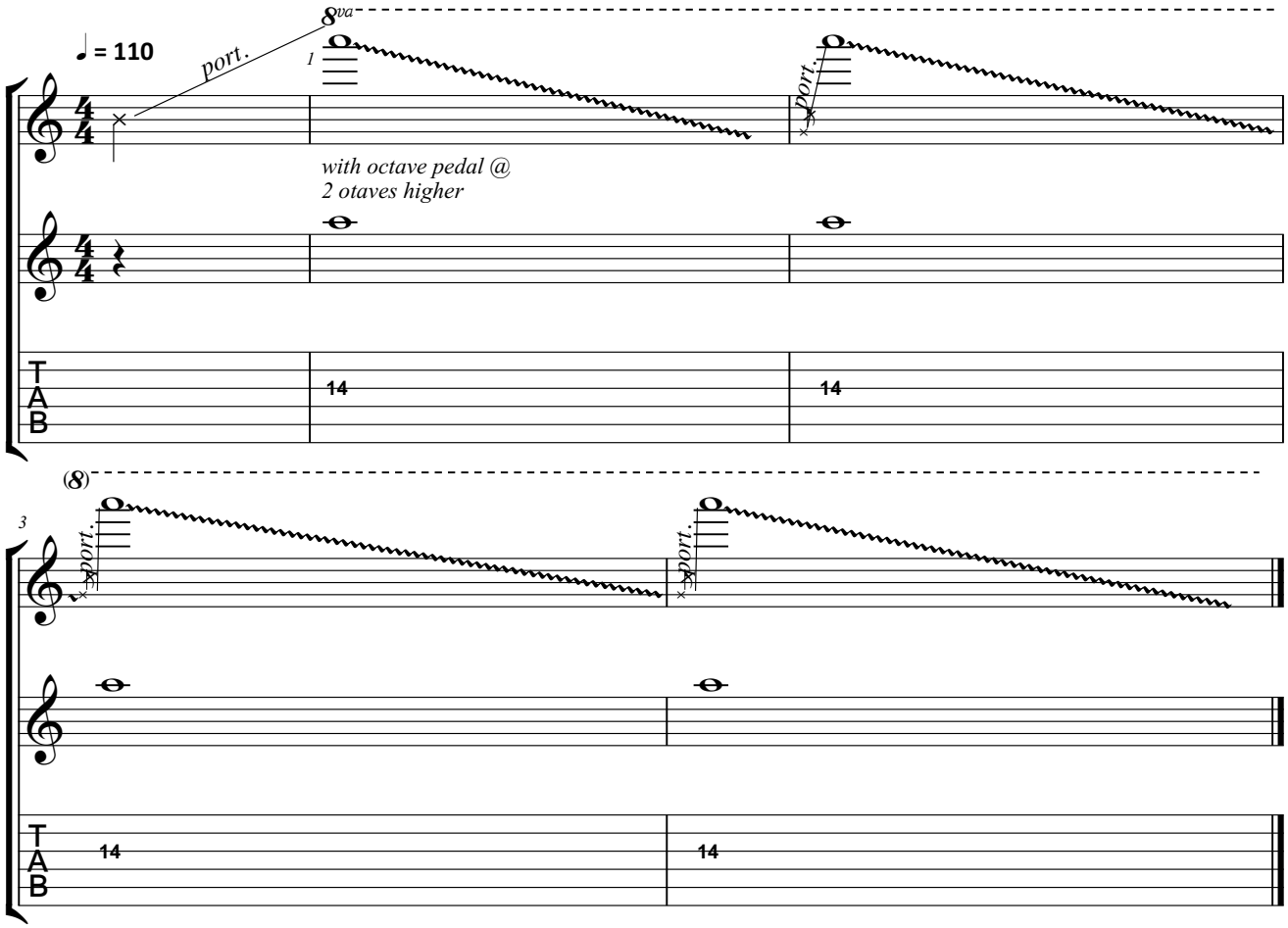
Cue up Albert King's "Crosscut Saw" and have a "conversation" with the recording. When King plays his guitar, sit back and listen. When he's silent, it's your turn. Try responding to King's licks much the same way you would if you were actually talking to someone. Hear what he has to say, then answer him.

If neither of these assignments speak to you, find tablature for a song outside of the genre you normally play in and try it. Remember the spirit of Tom's advice: be open to learning from other genres.

Tab 8.1 Appears at 2:58 in video lesson



Tab 8.2 Appears at 10:07 in video lesson



TOM MORELLO

PRACTICE

"A lot of things we don't have control over. You have control over this."

CHAPTER 09

PRACTICE

SUBCHAPTERS

X_PRACTICE EVERY DAY
X_COMMIT TO YOUR PROGRESS
X_PRACTICE FOR A SPECIFIC EVENT
X_SEGMENT YOUR PRACTICE DAY

CHAPTER REVIEW

While writing a song, you'll sometimes run into barriers where your skill and ability prevent you from expressing an idea exactly the way you want. The goal of practice is to remove those barriers. Practice is equal parts technique and theory. When you practice technique, you train your fingers to do what you want them to do. When you study theory, you learn where your fingers can go and why.

Practice requires consistency and commitment. Tom believes you'll see more progress playing for one hour every day than you would playing an entire afternoon once a week. What you focus on during your practice time can vary throughout your development as a musician; for instance, after seeing how much his playing improved with just one hour daily of practice, Tom gradually worked his way up to eight hours per day, dedicating two hours each to technique, theory, experimentation/songwriting, and improvisation. His dedication to that practice routine was absolute, and it made for massive improvements in his playing ability.

While you should always make time to play by yourself in a controlled setting, Tom also encourages you to practice with other musicians. Not only does it teach you how to collaborate, it allows you to see up close how other people approach their craft. As Tom will discuss in greater detail later in the class (Chapter 22: Live Shows: Philosophy and Nerves) playing in front of an audience is its own sort of practice, because it builds confidence and exposes you to unpredictable situations you couldn't possibly replicate in a rehearsal space.

LEARN MORE

Investigate the unique practice regimens of your favorite guitarists and take them for a spin. During his early band days in Sweden, Yngwie Malmsteen would videotape the band practices with a recorder that, for some reason, slightly sped up the recording when played back. Not realizing, Yngwie thought he was playing scorchingly fast during the practices and strived for those tempos while practicing by himself at home.

Carlos Santana is known for practices in the dark sometimes to let his fingers find new possibilities and to learn more about the guitar by touch.

ASSIGNMENT

For the next month, commit to a daily practice schedule of your choosing. What you do during your practice time is totally up to you and can vary day by day. Perhaps one day you concentrate on different picking techniques, the next on scales, the next on songwriting. Just make sure the schedule you set for yourself is ambitious enough to pose a challenge but not so ambitious that you can't follow through. Tom eventually worked his way up to eight hours of practice per day but initially it was just an hour. Only you can decide what's realistic as a goal.

When the month is up, don't abandon your schedule. Instead reassess it, cutting back on practice time if necessary but ideally increasing it, even if only a little bit. The more time you can put in, the more you'll get out.

TOM MORELLO

TECHNIQUE: DEVELOPING SPEED

"I've never heard of a soul who was naturally good at technique on the guitar."

CHAPTER 10

TECHNIQUE: DEVELOPING SPEED

SUBCHAPTERS

X_PLAY SLOW AND PERFECTLY TO PLAY FAST

X_CRANK UP THE SPEED

CHAPTER REVIEW

Guitar players aren't born with technique. It's developed over time through repetition and muscle memory. When Tom first committed himself to a daily practice schedule, he spent countless hours perfecting what he describes as "mind-numbing" exercises, like playing the same three notes with his second, third, and fourth fingers 100 times in a row. But those exercises were instrumental in helping him unlock his potential. By training your fingers to move flawlessly in specific patterns—slowly at first, then gradually at greater speed—you'll gain total command over the entire fretboard.

LEARN MORE

For more instruction on building speed the way that Tom did, check out *Guitar Player* magazine's four-notes-per-string" exercise, similar to what Tom learned from his one-time guitar instructor, Michael Angelo Batio. The exercise includes techniques like hammer-ons and pull-offs, which Tom also briefly demonstrates in this chapter.

Speaking of Batio, he's still recording and touring to this day. You can find out more about him at his official website.

How to Work With a Metronome

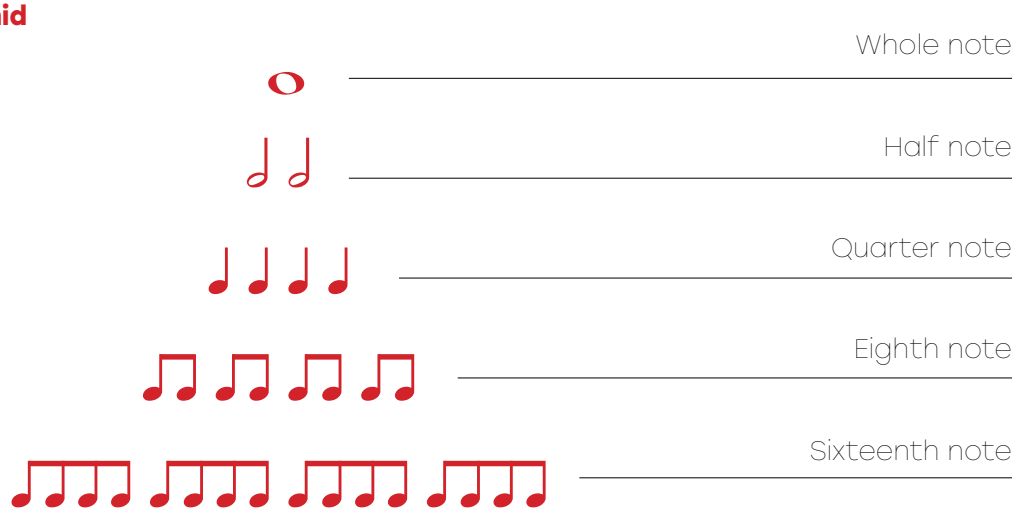
Working with a metronome (or drum track) is a great tool to build musicianship and technique. Most music that is pleasing to the ear has an even rhythmic pulse, and the different instruments are "in time" with each other. Playing with a click (metronome slang) helps ingrain this pulse in you, and is a (helpful) hard, cold reminder of the tempo with no fluctuations. If you've never played with a click you might face a bit of a learning curve, but as Tom points out the benefits are all there.

If you don't have a metronome, you can find free apps for a phone or metronomes online. Set the metronome at 60 BPM (beats per minute). That click you hear? That's a quarter note. If you play a single note along with each click, you are playing quarter notes.

Try holding a note for two clicks—that's called a half note. Hold a note (or chord) for four beats, and you've played a whole note. These names all relate to the "standard time" of western music—4/4 time—in which a bar of music contains four beats of quarter notes. Whole notes are so called because each note is four beats long, therefore taking up the whole bar. Half notes take up half a bar, etc.

As you develop your technique, you can start to mess around with playing eighth notes (two notes per beat), triplets (three notes per beat), and sixteenth notes (four notes per beat). These notes, that are faster than quarter notes, are called subdivisions. A lot of digital metronomes have a "subdivision" function that will play the subdivision you select—a great tool when first learning the sound of a new note duration.

Rhythm Pyramid



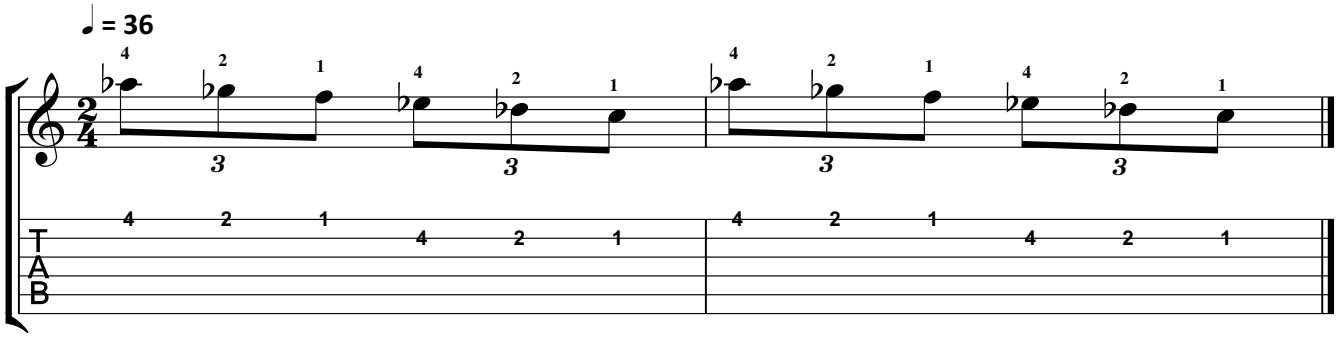
ASSIGNMENT

Practice the attached exercises just the way Tom did—drilling until you can execute the picking pattern in the first position 100 times in a row without making a mistake, then moving one fret up or one string across the neck and repeating the exercise another 100 times. Try starting with your metronome set at 50 BPM (or slower if that's too fast) and then increase the speed incrementally once you're able to make it all the way up the neck without a mistake. If you don't have an actual metronome, there are many metronome apps available that you can download for free.
To help enhance your rhythm playing, try repeating these exercises but varying the rhythmic duration of the notes. For instance, start at 50 BPM and play quarter notes, steadily increasing the speed to 120 BPM or so (until you're really cooking). Then, dial the speed back down, switch to playing eighth notes (then triplets, then sixteenth notes), and increase the speed again.

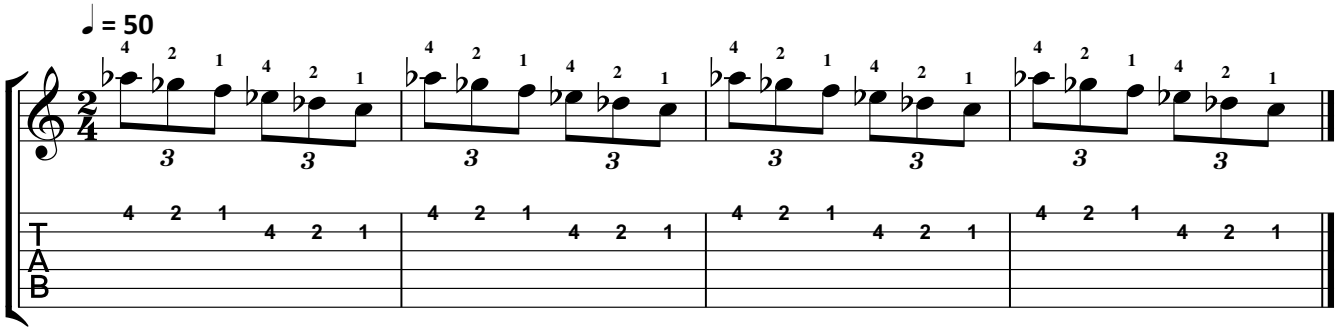
Playing scales like this is a great way to build a good technique, as it will sync up both hands and make sure you are playing cleanly and evenly.

You can also use this sort of exercise to practice songs. Pick a riff of your own, or one by another musician you love. Set your metronome at a tempo slow enough that you can play a riff 40 times without a mistake and perfectly in time with the beat. When you've mastered the riff at that setting, increase the tempo by a single beat per minute, play it another 40 times, and continue repeating that process until you're finally playing the song at full speed. If you don't have a metronome (or prefer not to use something so mechanical sounding), you can simply tap your foot to keep time as you play. Or, if you prefer to play with an actual drum track, search YouTube for videos that have readymade drum loops or teach you how to make your own with programs like GarageBand.

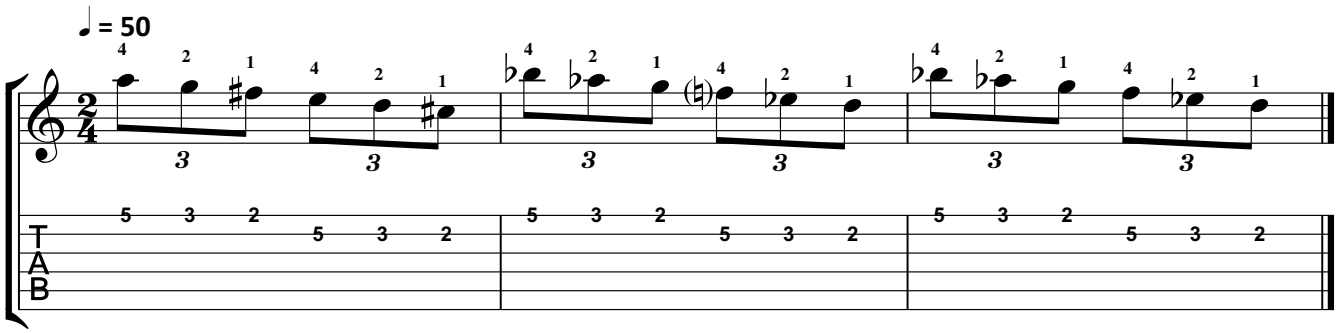
Tab 10.1 Appears at 2:55 in video lesson



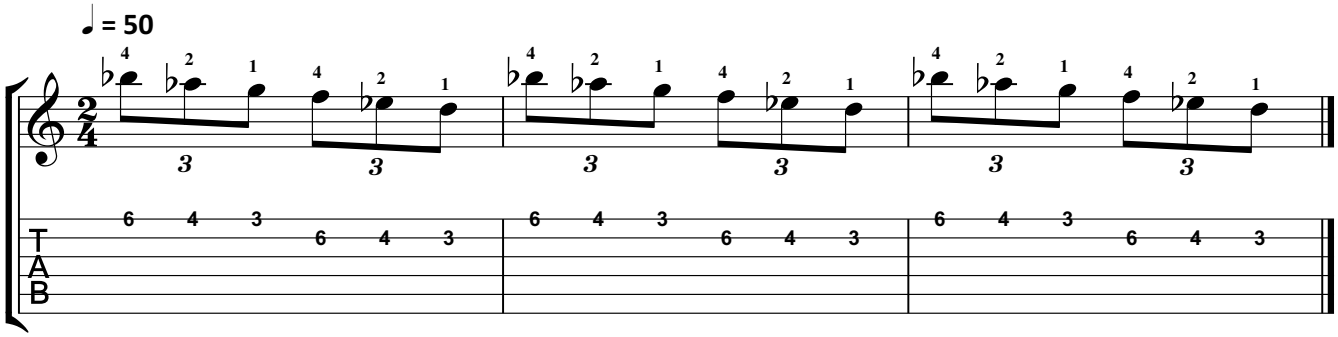
Tab 10.2 Appears at 3:17 in video lesson



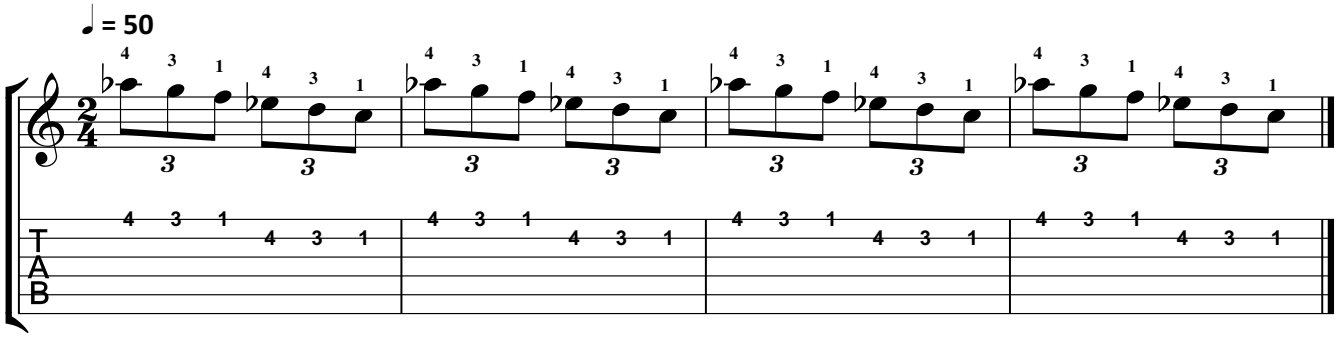
Tab 10.3 Appears at 3:31 in video lesson



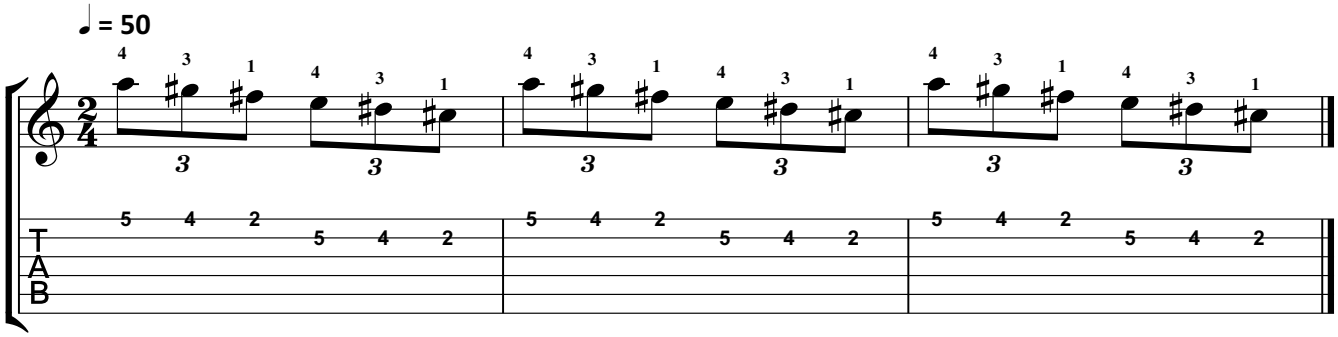
Tab 10.4 Appears at 3:43 in video lesson



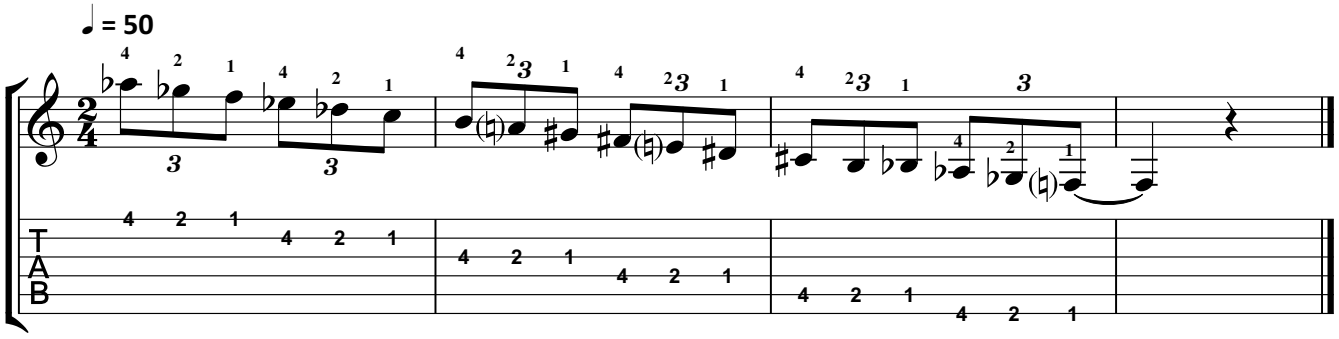
Tab 10.5 Appears at 4:07 in video lesson



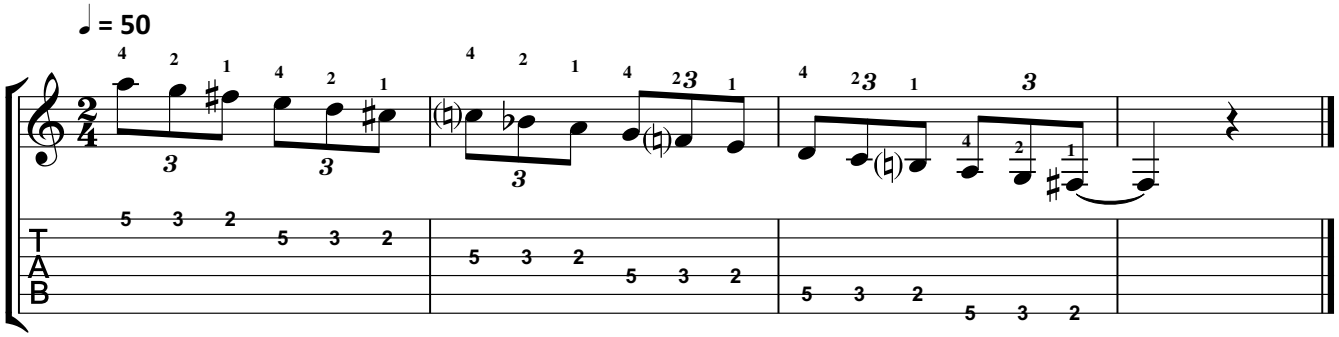
Tab 10.6 Appears at 4:18 in video lesson



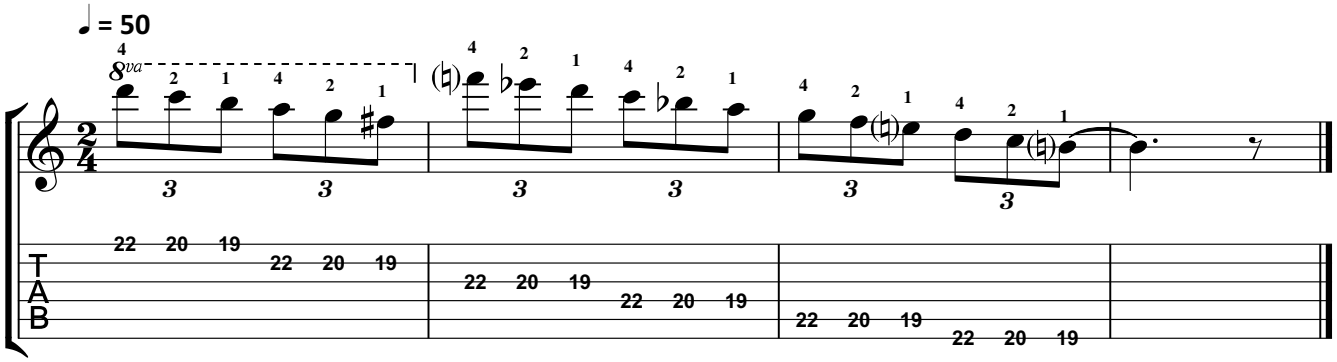
Tab 10.7 Appears at 4:45 in video lesson



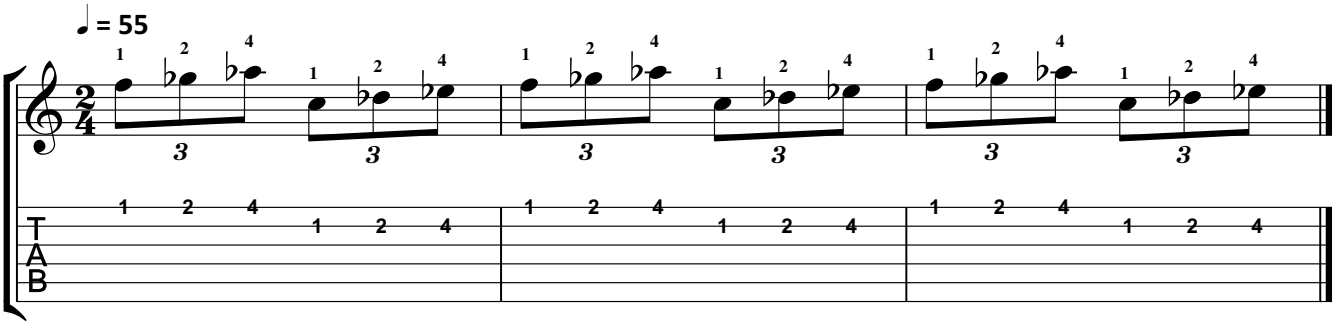
Tab 10.8 Appears at 5:03 in video lesson



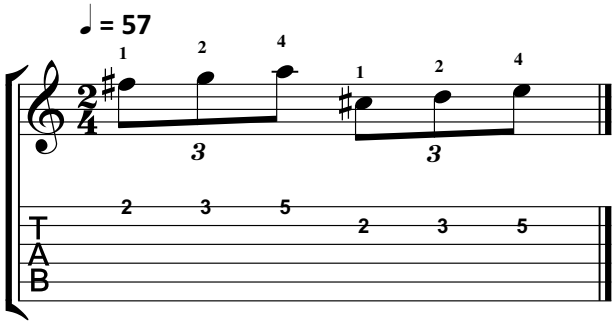
Tab 10.9 Appears at 5:16 in video lesson



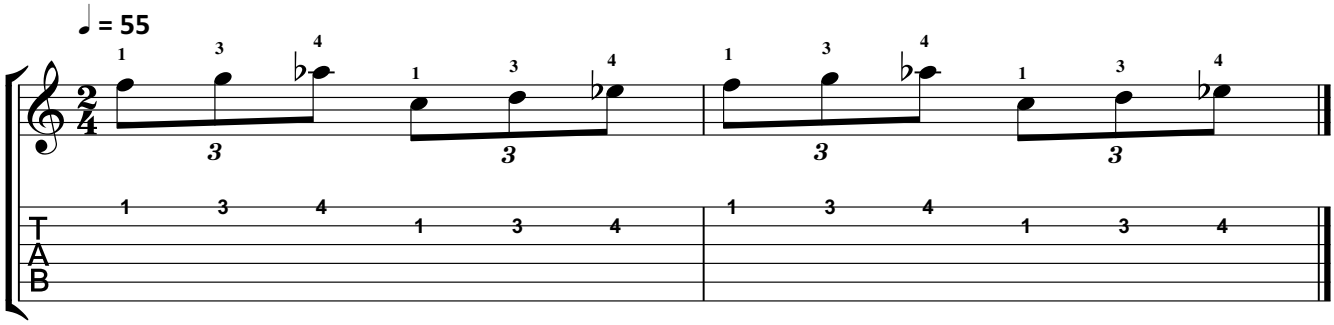
Tab 10.10 Appears at 6:00 in video lesson



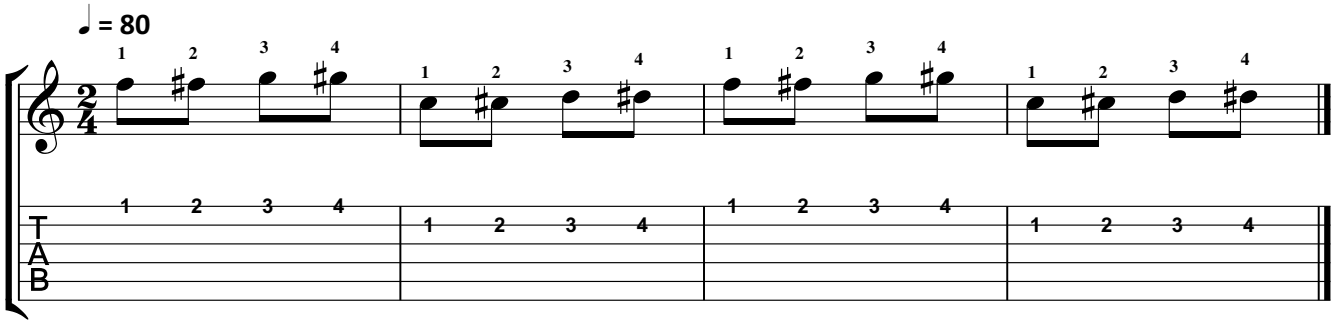
Tab 10.11 Appears at 6:07 in video lesson



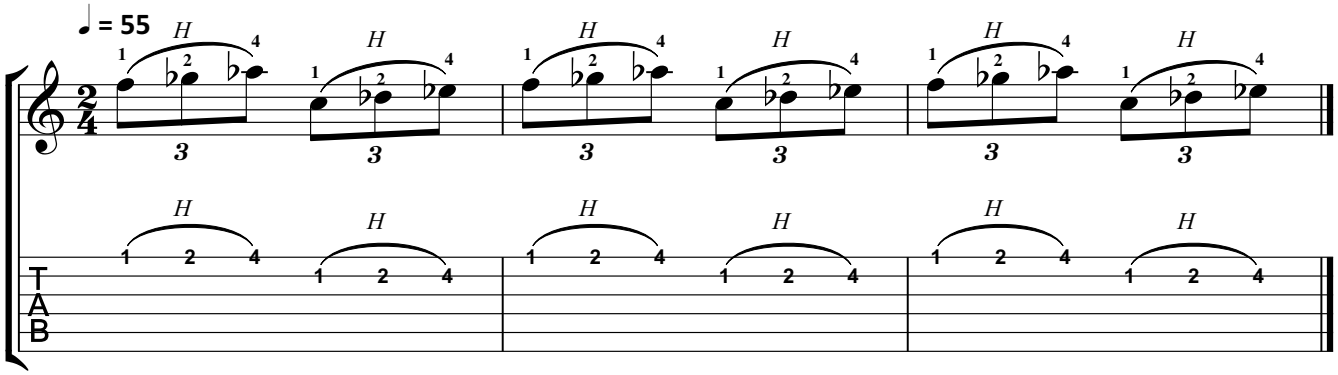
Tab 10.12 Appears at 6:12 in video lesson



Tab 10.13 Appears at 6:18 in video lesson

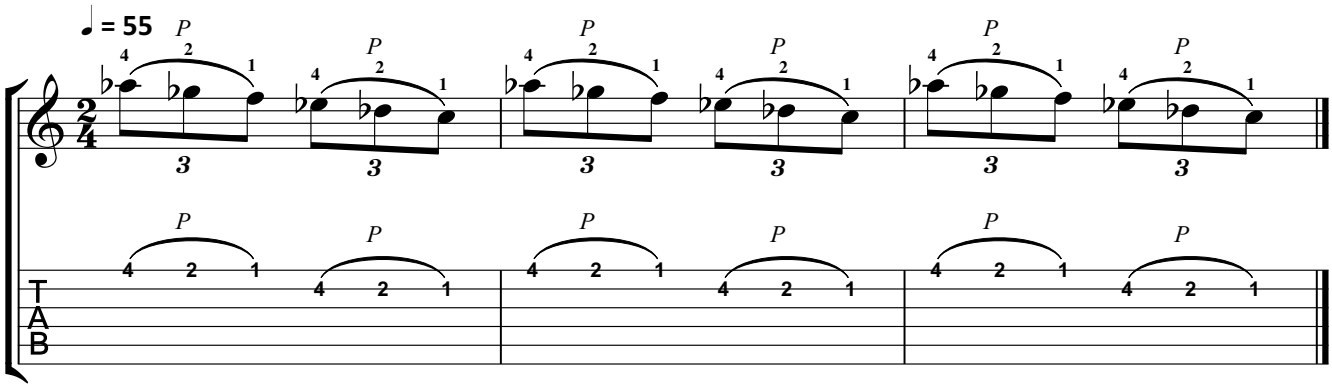


Tab 10.14 Appears at 6:28 in video lesson



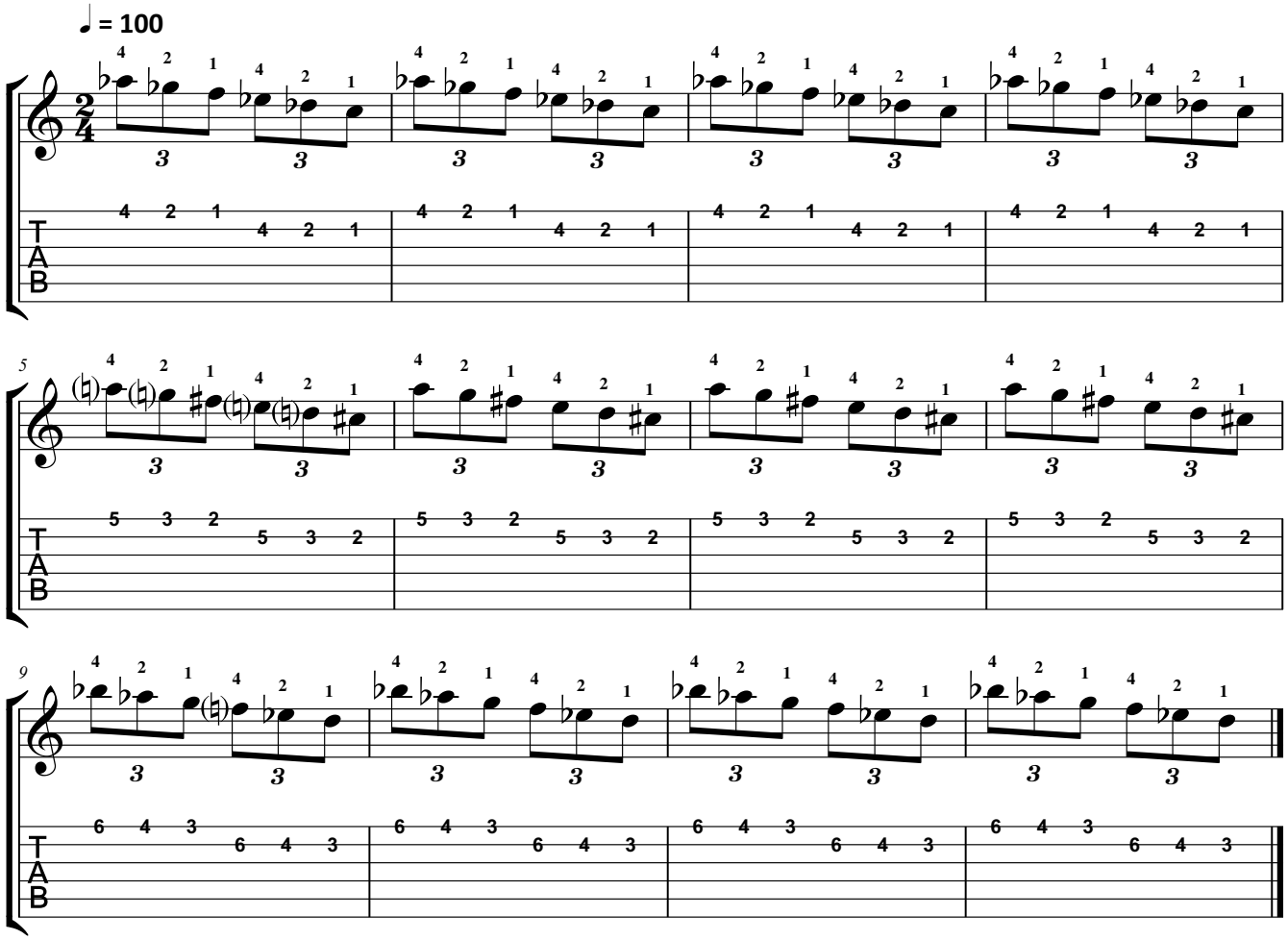
Tab 10.15

Appears at 6:38 in video lesson



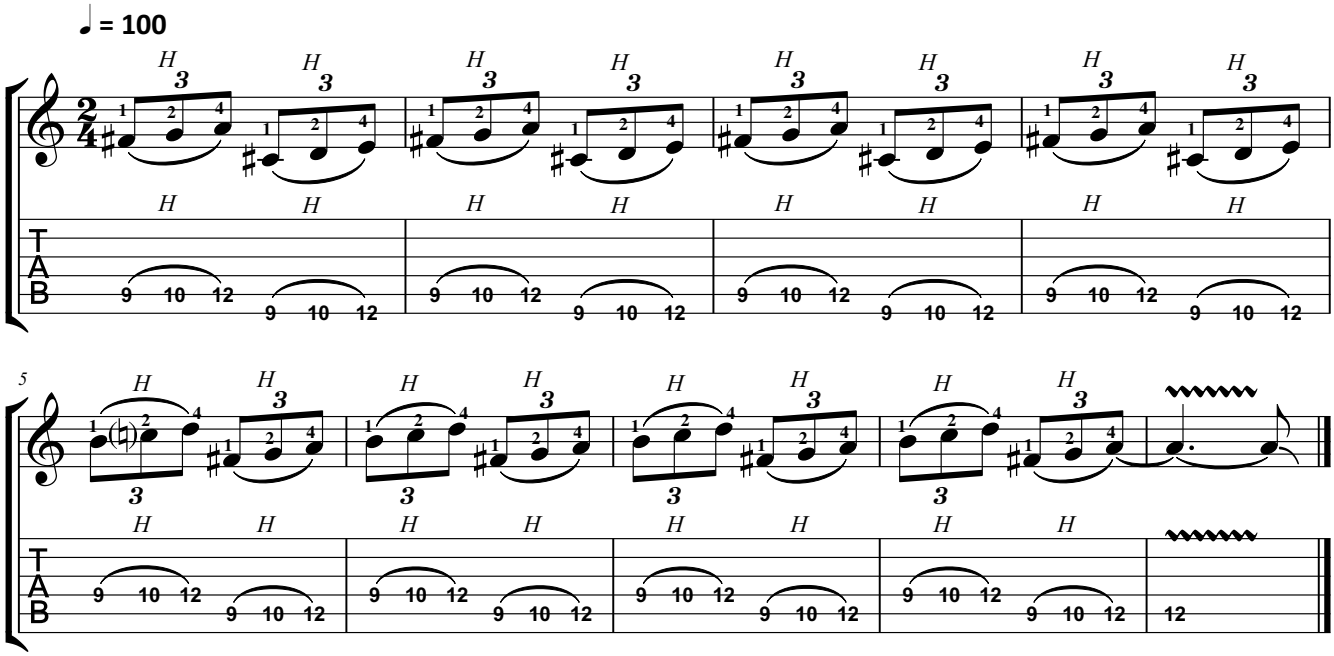
Tab 10.16

Appears at 7:44 in video lesson

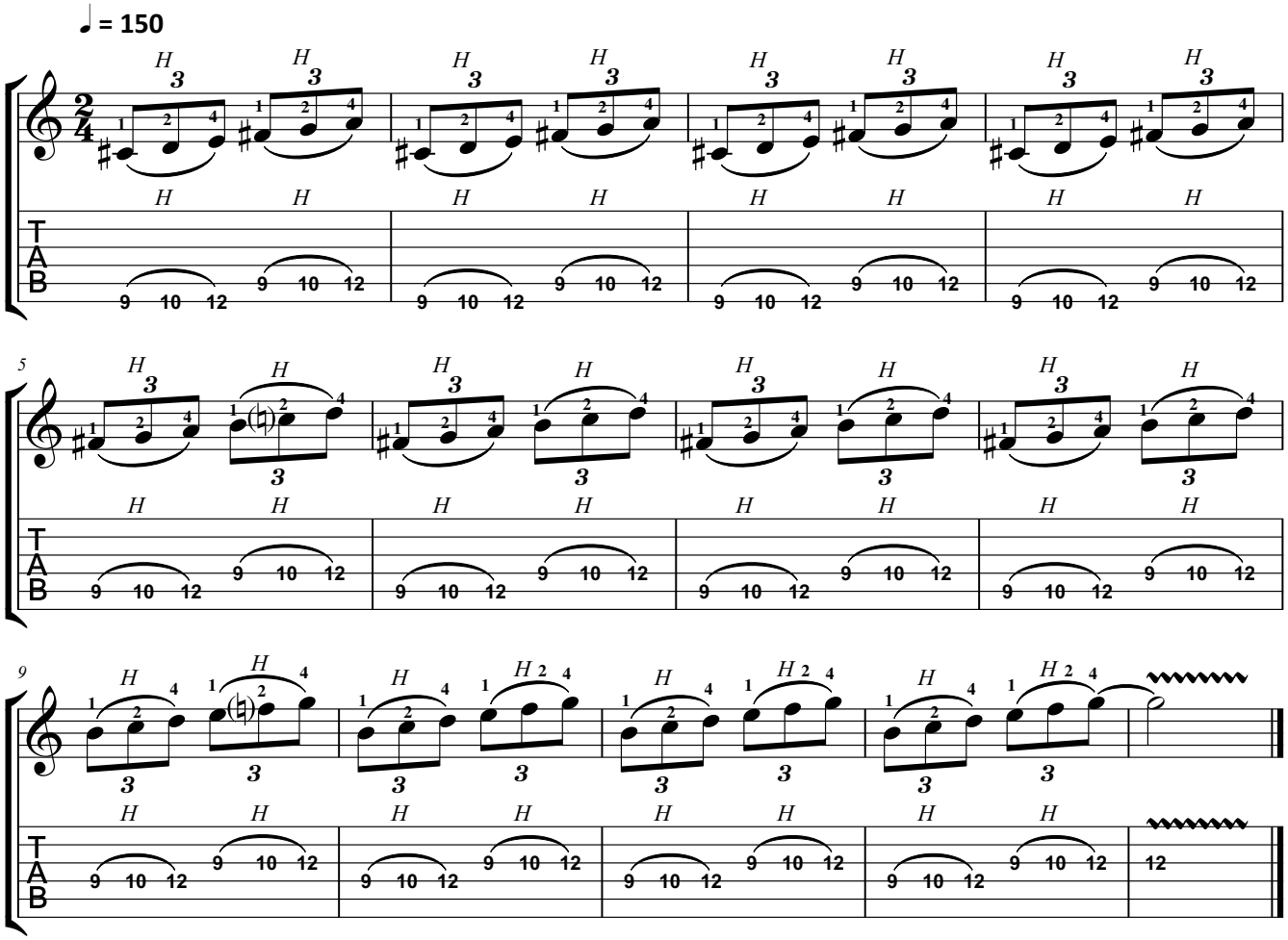


Tab 10.17

Appears at 8:08 in video lesson



Tab 10.18 Appears at 8:32 in video lesson



TOM MORELLO

BEGINNER THEORY: PENTATONIC AND BLUES SCALES

"What we're talking about here is pushing through to a different level of understanding the instrument."

CHAPTER 11

BEGINNER THEORY: PENTATONIC AND BLUES SCALES

SUBCHAPTERS

CHAPTER REVIEW

Music theory isn't something that guitar players necessarily need to study—in fact, you'll come to have an intuitive understanding of musical components like chords, scales, modes, and keys just by virtue of playing the instrument. But in Tom's experience, understanding the formal principles behind those components unlocked his ability to solo and write songs in a whole new way.

A good introduction to music theory is practicing specific scales, which you can do while playing along to a prerecorded track. First, determine the song's key. You can do this by sliding your hand along the bottom E string one fret at a time until you find the key center—the note that, as Tom puts it, "feels like home," meaning that it sounds right when played with every chord in a progression. If that note ends up being an A, for example, then the song is in the key of A. Many times it's the first chord in a given progression that's the key center. You might also notice that a chord progression wants to "arrive" at the key center; for example, if you play the chords B minor, E7, and A, you can feel that the E7 wants to resolve to the A. It's a moment of tension (E7) followed by a moment of release (A). Once you start running scales, the key center will serve as the scale's root note. Again using the key of A as an example, that means the sequence of notes in, say, a pentatonic or blues scale will begin with A. As you move up and down the fretboard you'll need to learn how the scale works in different positions within that key (as Tom will discuss in Chapter 12: Theory: Unlocking the Fretboard), but for now you can easily play a solo just sticking to the scale's pattern in first position, beginning with the root note.

LEARN MORE

Publishing house Fundamental Changes, founded by guitarist Joseph Alexander, offers a variety of books on music theory specifically for the guitar, including *The Practical Guide to Modern Music Theory for Guitarists* (2013), *Guitar Scales in Context: The Practical Reference Guide* (2014), *The Complete Technique, Theory, and Scales Compilation for Guitar* (2014), and *Pentatonic and Blues Scales* (2016).

The Berklee College of Music also publishes a comprehensive series of books that are used as the foundational text for the school's guitar program.

ASSIGNMENT

Beginning Player Assignment

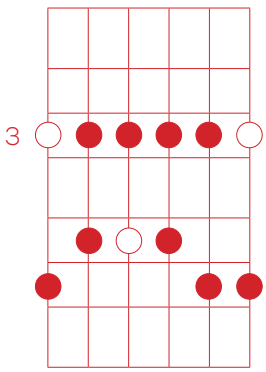
If you don't already know the notes on the fretboard, put in the time to learn them. You can do this by learning one string at a time, or by learning areas of the fretboard.

Chromatic scale on all six strings

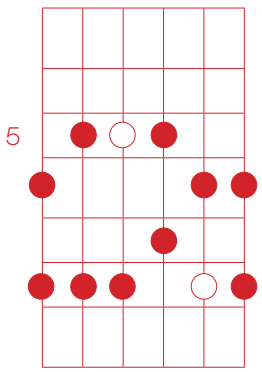
E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B	C	C#/D♭	D	D#/E♭	E
B	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
G	G#/A♭	A	A#/B	B	C	C#/D♭	D	D#E♭	E	F	F#/G♭	G
D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B	C	C#/D♭	D
A	A#/B♭	B	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A
E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B	C	C#/D♭	D	D#/E♭	E
FRET	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

Study and learn the different positions of the pentatonic and blues scales as shown in the below diagrams. Stick to one key at first, until you've memorized the shapes for each of the positions.

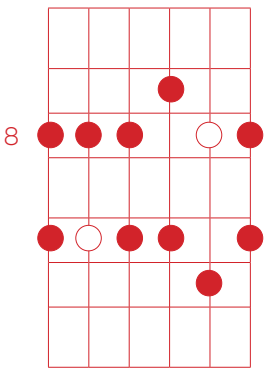
Pattern 1



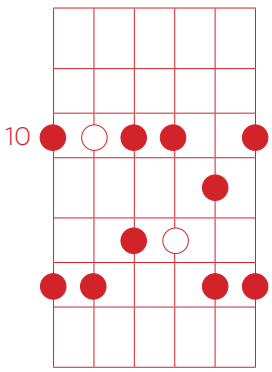
Pattern 2



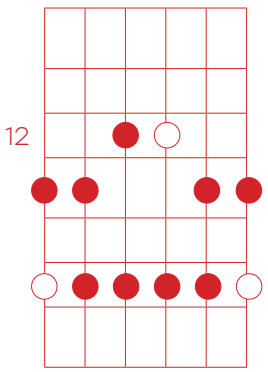
Pattern 3



Pattern 4



Pattern 5

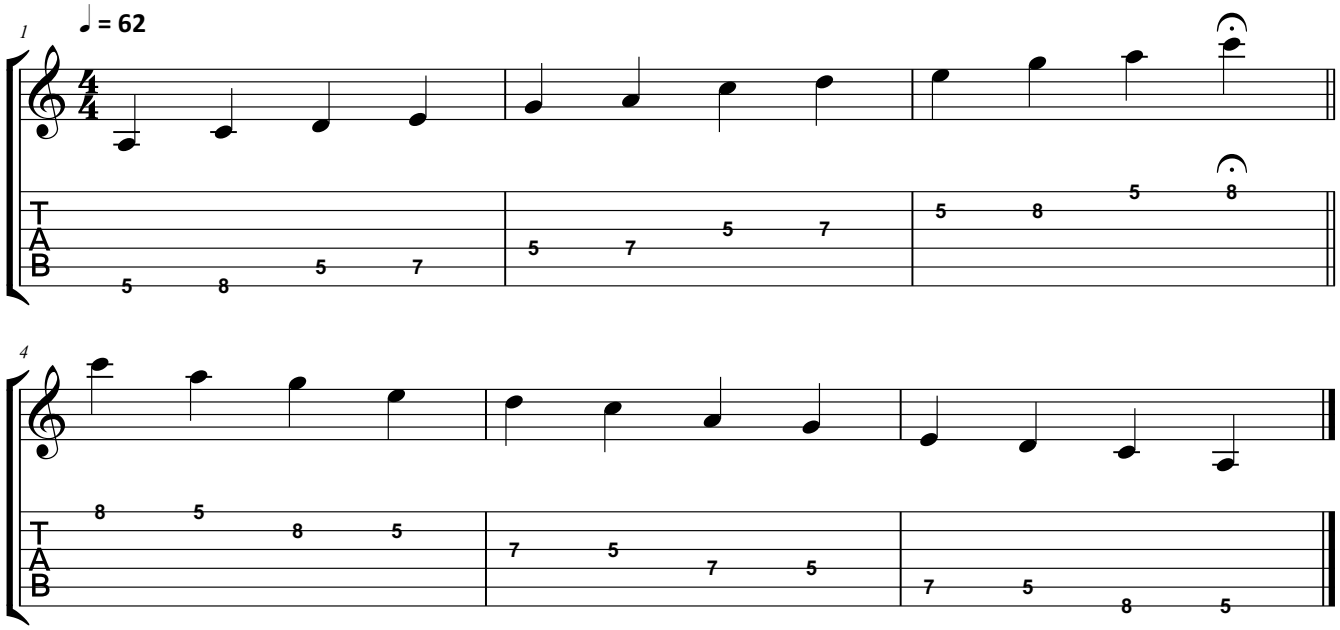


Learn to play root position pentatonic and blues scales using a metronome, using the same thinking expressed in Chapter 10: Technique: Developing Speed. Start with quarter notes between 60-70 BPM. Once you can play the first position cleanly at speeds around 150 BPM, bump the metronome back down to 60-70 BPM and now play eighth notes.

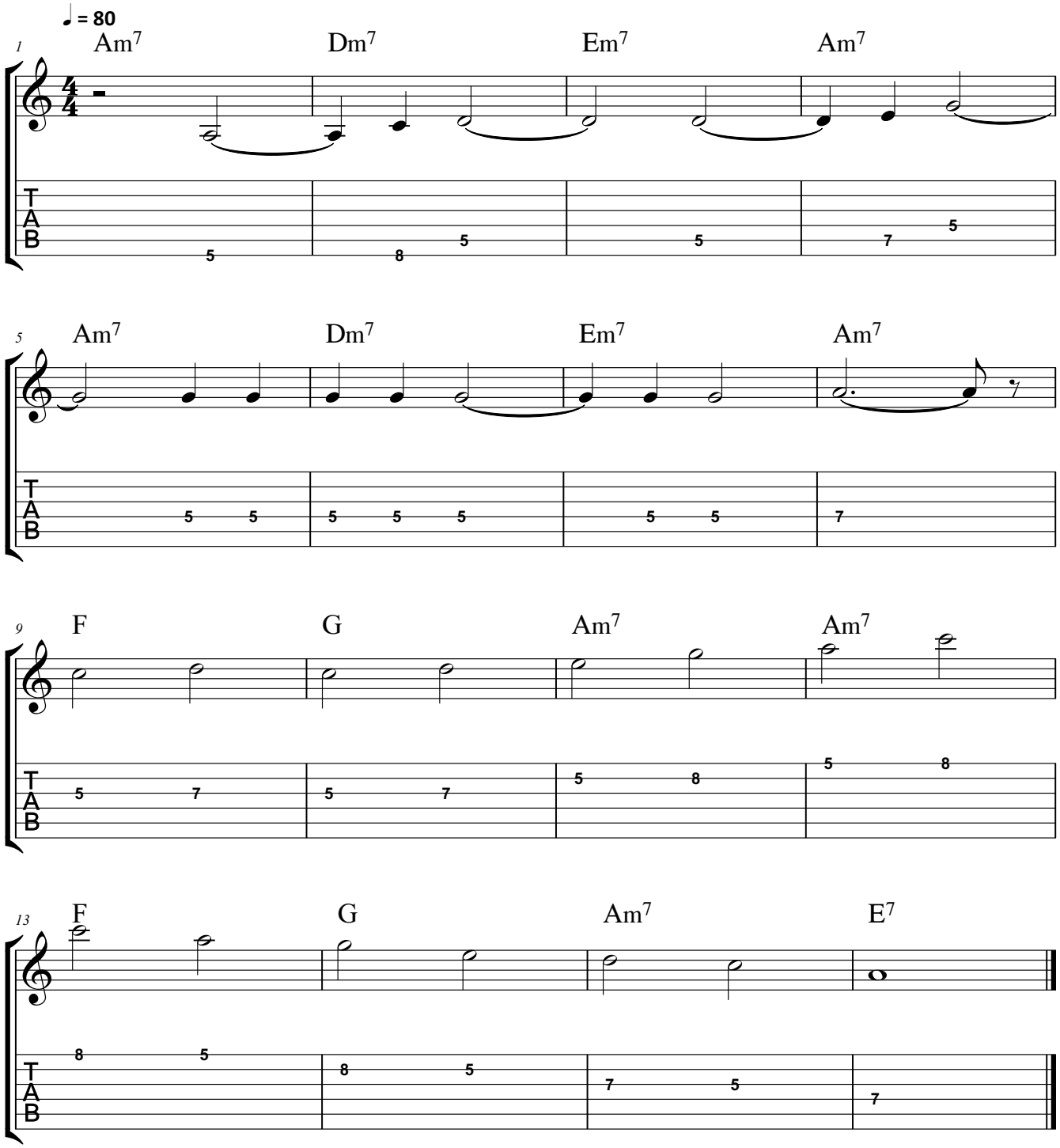
Intermediate Player Assignment

Once you're confident with the first position of the pentatonic and blues scales at varying speeds and note durations, practice playing the scales at the other positions. Use a metronome, and practice in varying keys. Start linking the positions of the scales together as you play, so you can start at the lowest root note of a scale and play ascending scales all the way up the neck.

Tab 11.1 Appears at 4:39 in video lesson

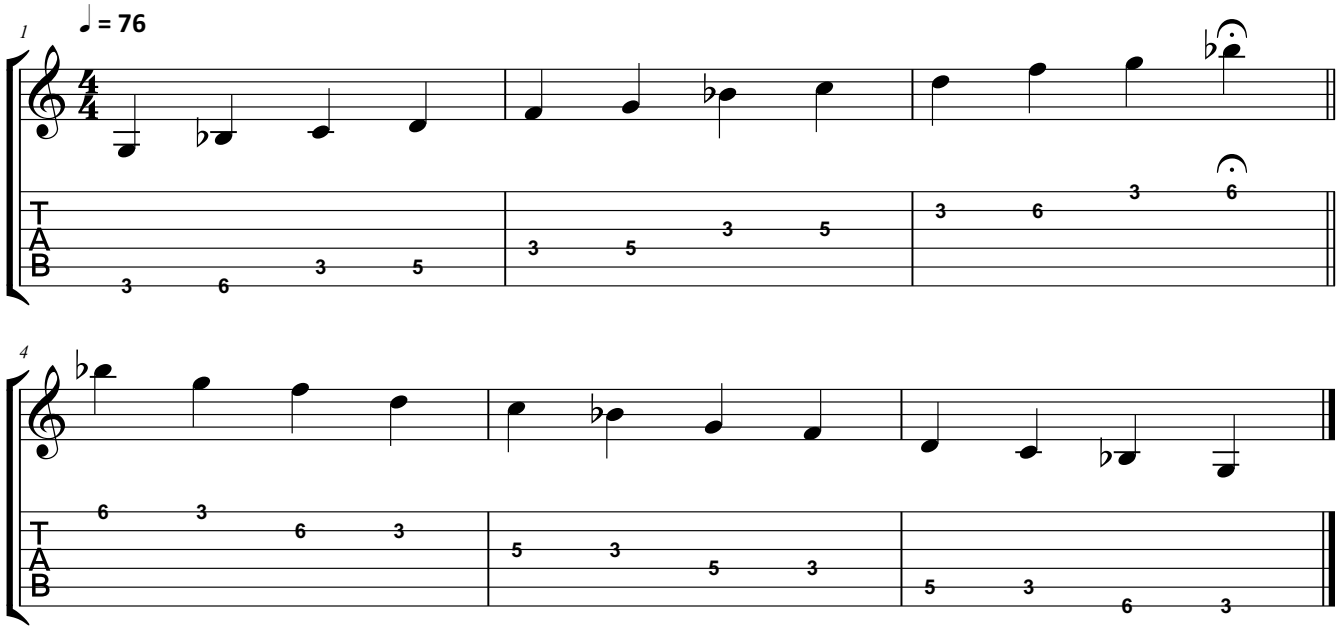


Tab 11.2 Appears at 6:26 in video lesson

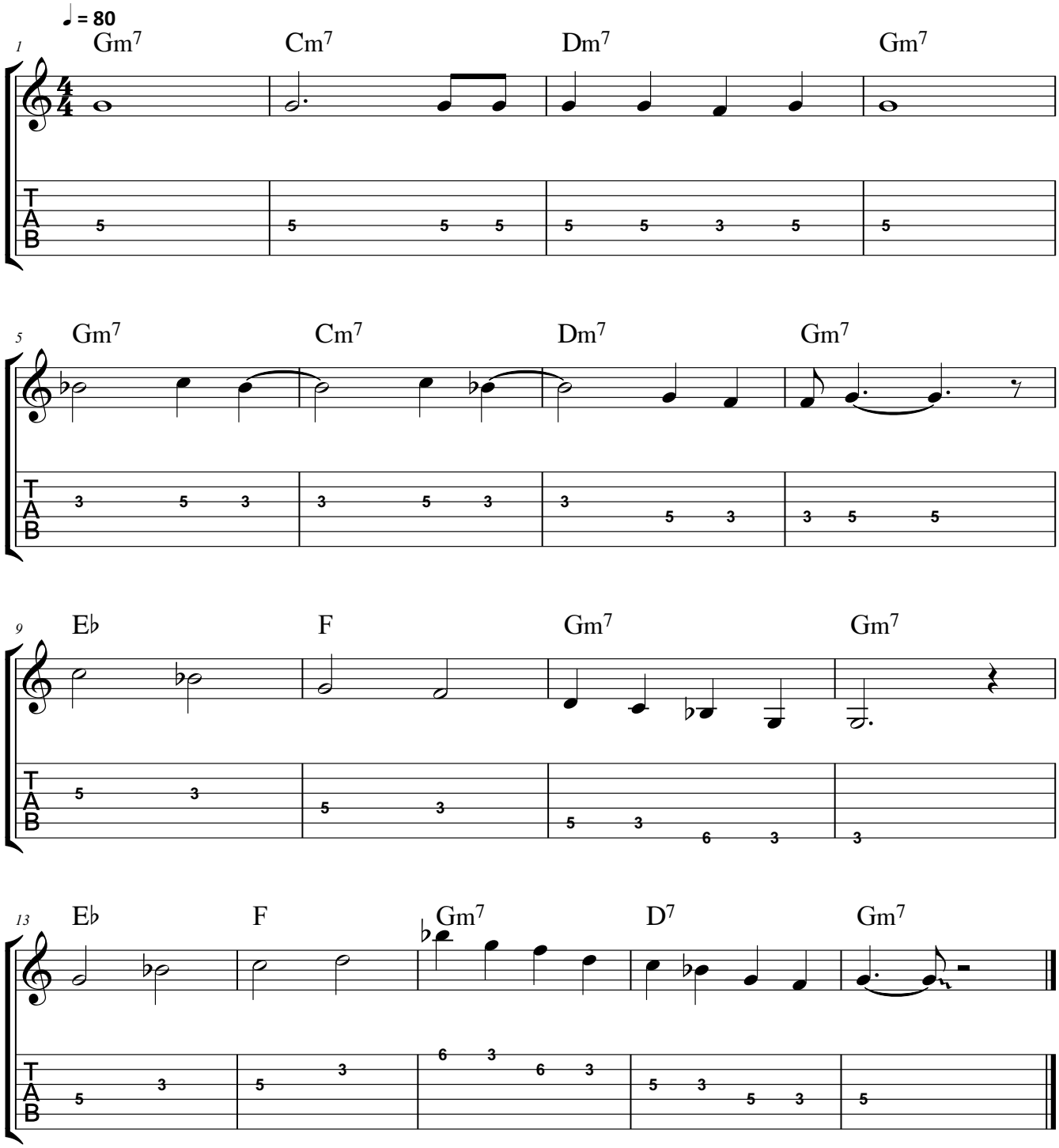


Tab 11.3

Appears at 9:12 in video lesson

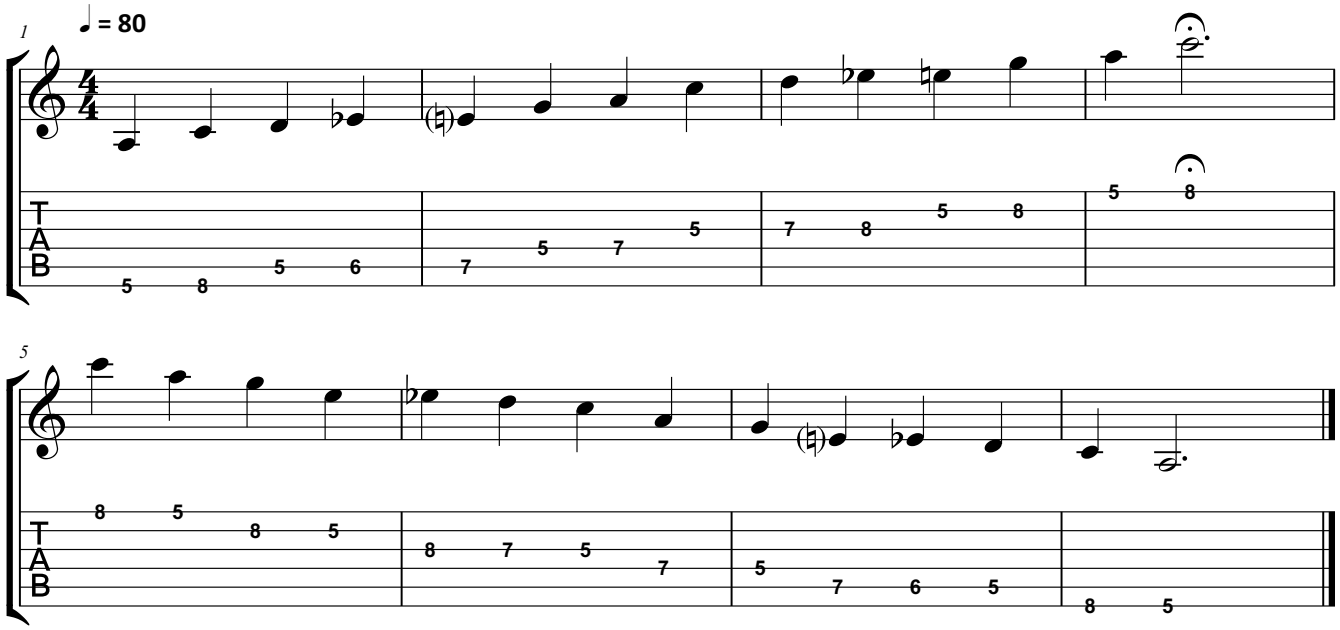


Tab 11.4 Appears at 10:00 in video lesson

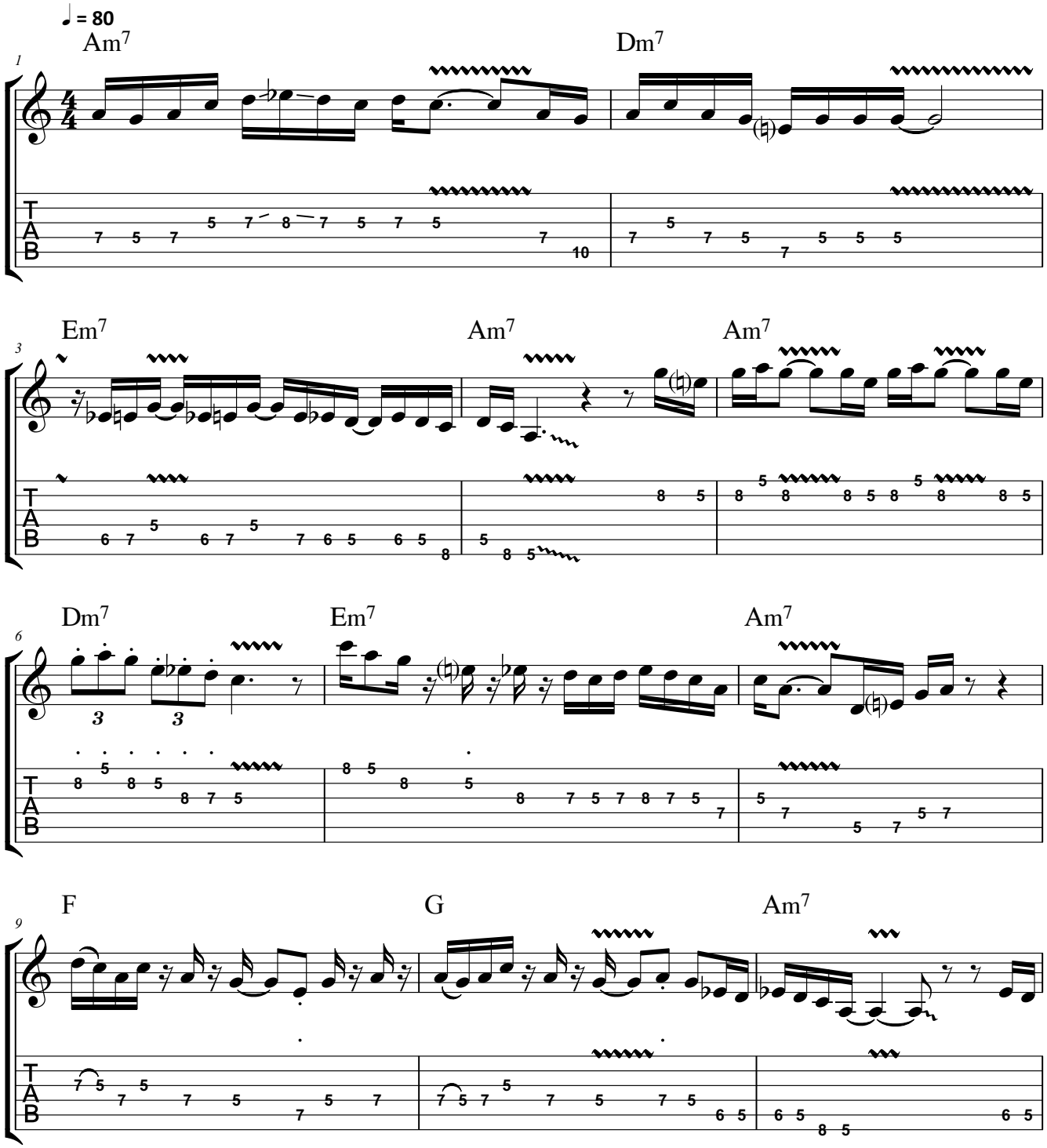


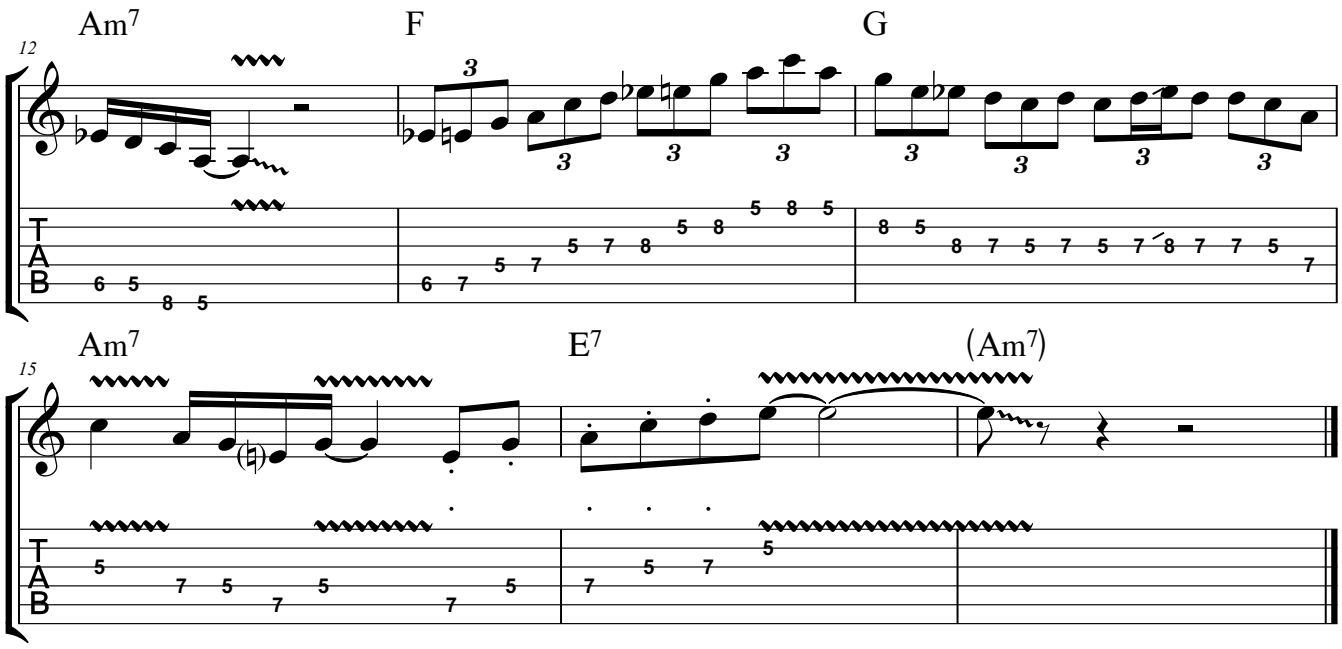
Tab 11.5

Appears at 11:24 in video lesson



Tab 11.6 Appears at 12:28 in video lesson




Am7
F
G
12
Am7
E7
(Am7)
15
T
A
B

TOM MORELLO

THEORY: UNLOCKING THE FRETBOARD

"The time has come to unlock the neck."

CHAPTER 12

THEORY: UNLOCKING THE FRETBOARD

SUBCHAPTERS

- X_MINOR SCALES: SOLO IN ANY KEY
- X_INCORPORATE THESE SCALES IN YOUR JAMMING
- X_SAME NOTES, DIFFERENT KEY
- X_THE PHRYGIAN MODE
- X_APPLY YOUR PERSONALITY TO TECHNIQUE
- X_MODES: PUTTING NAMES TO FEELINGS
- X_USE MODES AND SCALES TO WRITE

CHAPTER REVIEW

As learned in Chapter 11: Beginner Theory: Pentatonic and Blues Scales, every scale begins in a specific key with a specific root note. Of course, when you're soloing, you don't want to limit yourself to just that first scale position you initially used to learn the blues or pentatonic scale. If you want to solo freely up and down the neck, you'll need to learn how to play the scale in all of its positions.

A scale with only five notes, such as the pentatonic, will have five positions, while a scale with seven notes, such as the A minor scale, will have seven positions. Each one of those positions begins at a different note in the scale's pattern: for instance, if the second note in first position is B and the third note is C, then second position will begin at B, third will begin at C, and so on. The exact pattern of notes within the scale never changes, only the note where the position begins. Upon reaching the last possible position in the sequence, the cycle repeats, returning to the same root note you originally played in first position, only now that note is one octave higher.

As you grow more comfortable with the scale in all of its positions and learn the location of that scale's notes across the fretboard, you can start to get even more creative with your soloing, linking notes together through slides and bends—or whatever other techniques inspire you. And if you want to solo in a different key, perhaps G minor rather than A, the same patterns and positions apply—they just begin at a different root note.

Every note in a scale also has a corresponding mode, which Tom describes as a "feeling of sound." The minor Aeolian mode sounds more sad and downbeat while a major Ionian mode is more upbeat and sunny. Another mode Tom demonstrates, Phrygian, is more dark and exotic. The more you experiment with the unique sounds and moods of each, the more you'll discover how they can impact your songwriting.

LEARN MORE

The Modes

These modes might be best explained by modal flavor, and modal color. The flavor represents the underlying chord quality (major or minor) and the color note is the one that separates it from the other major or minor chords in a key.

Modal Color Notes

Each of the seven modes has a color note that separates it from the other modes. For the sake of comparison, look at the chords in the key of A Major, outlined below.

The three major chords in the key of A Major are A (I), D (IV), and E (V). A represents the Ionian mode and is sort of the benchmark that we can use to compare with the other modes. An intervallic (distance between notes) comparison of A Ionian scale and D Lydian will show that they contain exactly the same notes except the Lydian scale contains a sharp 4 note (G# in this key).

The same comparison can be done between A Ionian and E Mixolydian, with the difference being E Mixolydian includes a flat 7 note (D in this case).

Next take a look at the 3 minor chords in A Major—they are B minor (ii), C# minor (iii), and F# minor (vi). F# represents the Aeolian mode and will be the standard we use to study the other minor modes.

If we analyze the intervals between F# Aeolian and B Dorian we find that they are the same except Dorian, has a raised 6th scale degree (G# in this key). If we compare C# Phrygian to F# Aeolian, we find that C# Phrygian has a flat 2 note (D in this key).

The odd mode out is Locrian—G# in this key; its parent chord is a diminished chord and its color note is a flat 5 (D in this key). You may have noticed that the same note can be the color note for two different modes; G# for instance is the raised 6th in Dorian, but also the sharp 4th in Lydian. The difference is the chord "flavor"—B Dorian has a minor chord as its parent chord and D lydian has a major chord as its parent chord.

Making Modal Chord Progressions

One of the beauties of the modes is that they are sort of keys all to themselves, with characteristic chord progressions as well. In order to really "play in a mode" you have to play chords that bring out the color notes that correspond to that mode, meaning whatever that color note is you have to find other chords with that note in it.

Below are some chord progressions you might experiment with. Feel free to alter these progressions to your taste. Try playing them in 4/4 time, or 6/8 time, or just strum through them to your own beat to hear the modal sounds.

(These are all the modes in G Major)

IONIAN MODE
| G | Am | C | D |

DORIAN MODE
| Am | D |

PHRYGIAN MODE
| Bm | C | Bm | Am |

LYDIAN MODE
| C | D | Bm | C|

MIXOLYDIAN MODE
| D | C | Am | D |

AEOLIAN MODE
| Em | D | C | D |

LOCRIAN MODE
| F# diminished | D | Em | C |

For more context on modes, check out this beginner's guide to guitar modes and scales at *Jazz Guitar Online*.

ASSIGNMENT

Below are some recommendations for deepening your knowledge of the modes and scales that Tom discusses in this chapter. There's a deep well of theory available—if you find that it's helpful to you in your playing, take it as far as you can go.

- Learn the major and minor scales all over the fretboard in two or three different keys.
- Take those keys that you learned the major and minor scales in and learn all the chords in those keys.
- Learn the Roman numeral sequencing of the chords for the major and minor keys (see below for more context).
- Learn where all the root notes are in all positions for the major and minor scales. Once you know those, learn the relative notes with regard to each root note: the 3rd of the key, 5th of the key, etc.
- Create your own modal chord progressions and put them in a song.
- Learn where all the color notes for the modes are across the fretboard.

Roman Numeral Sequencing

Every major and minor key has a set of chords that occur in a set pattern—the same formula for any key. In the below diagram, the major chords are indicated with uppercase Roman numerals (I, IV, etc.) and the minor chords are lower case Roman numerals (ii, vi, etc.). Diminished chords are a lower case Roman numeral with a small circle beside it.

Learning to use Roman numerals will help you transpose chord progressions from one key to another with ease. For instance, if you wanted to take this G Major chord progression:

| G | C | D |

and transpose it to the key of E Major, first analyze the chord progression using Roman numeral analysis of the G Major scale:

I = G
II = A
III = B
IV = C
V = D
VI = E
VII = F#

So you see that the numeral progression is:

| I | IV | V |

Next, map that numeral progression onto the E Major scale:

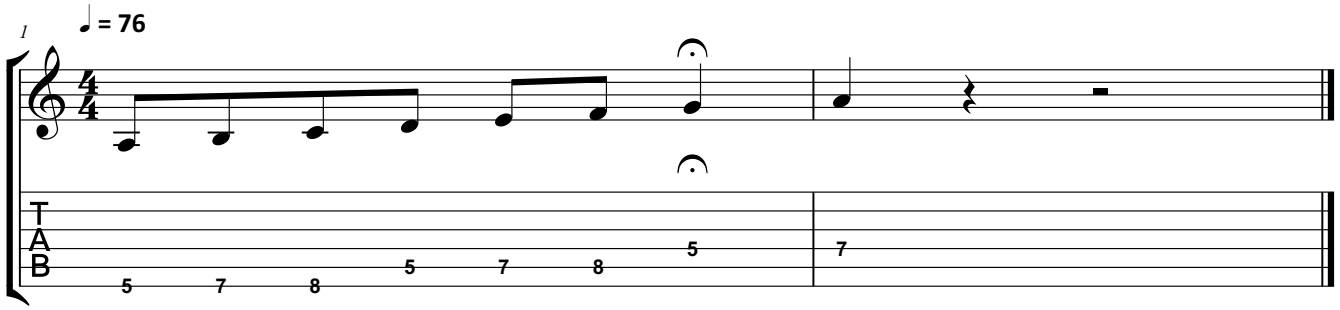
I = E
II = F#
III = G#
IV = A
V = B
VI = C#
VII = D#

And the resulting progression, transposed to E Major, is:

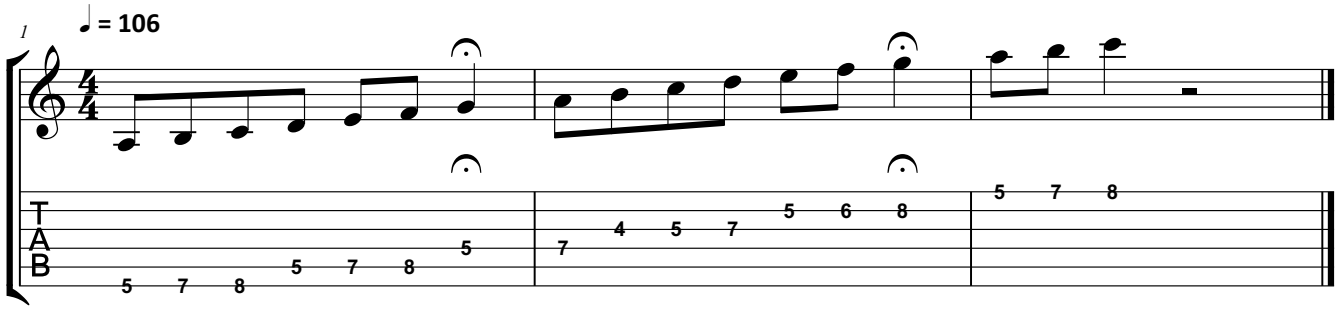
|E | A | B|

Practice transposing chord progressions and riffs from one key to another using this analysis—with this technique, you can move any song to any key.

Tab 12.1 Appears at 0:53 in video lesson

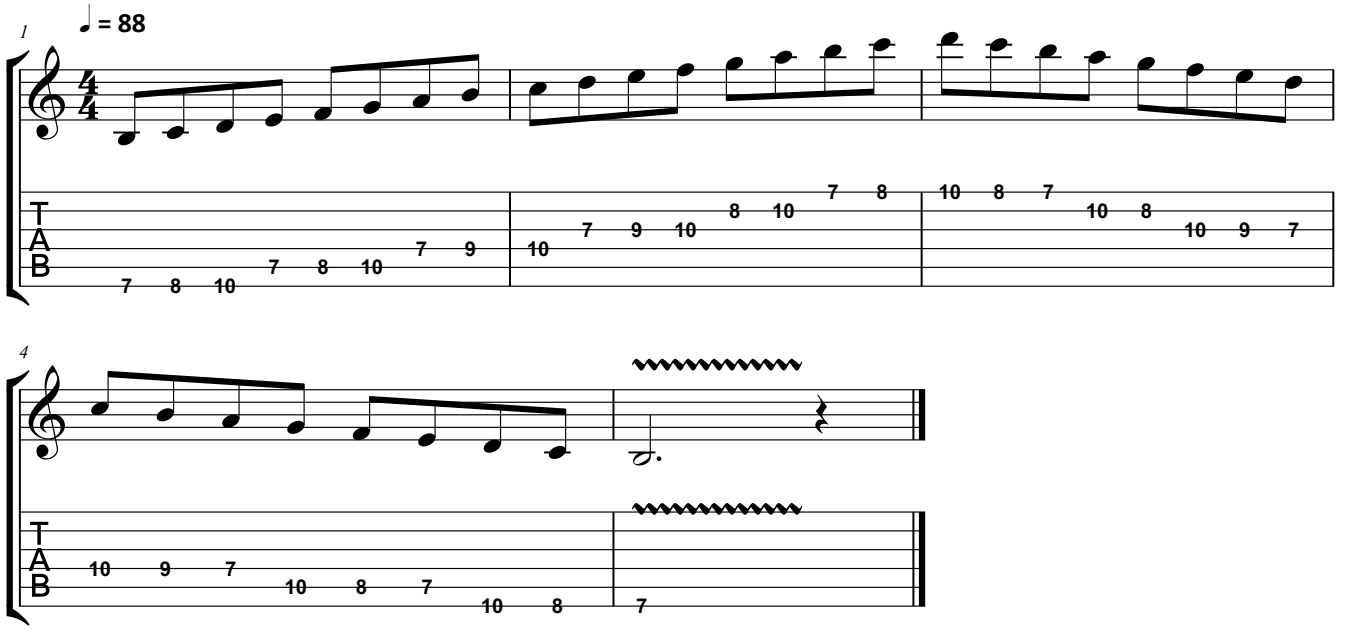


Tab 12.2 Appears at 1:07 in video lesson

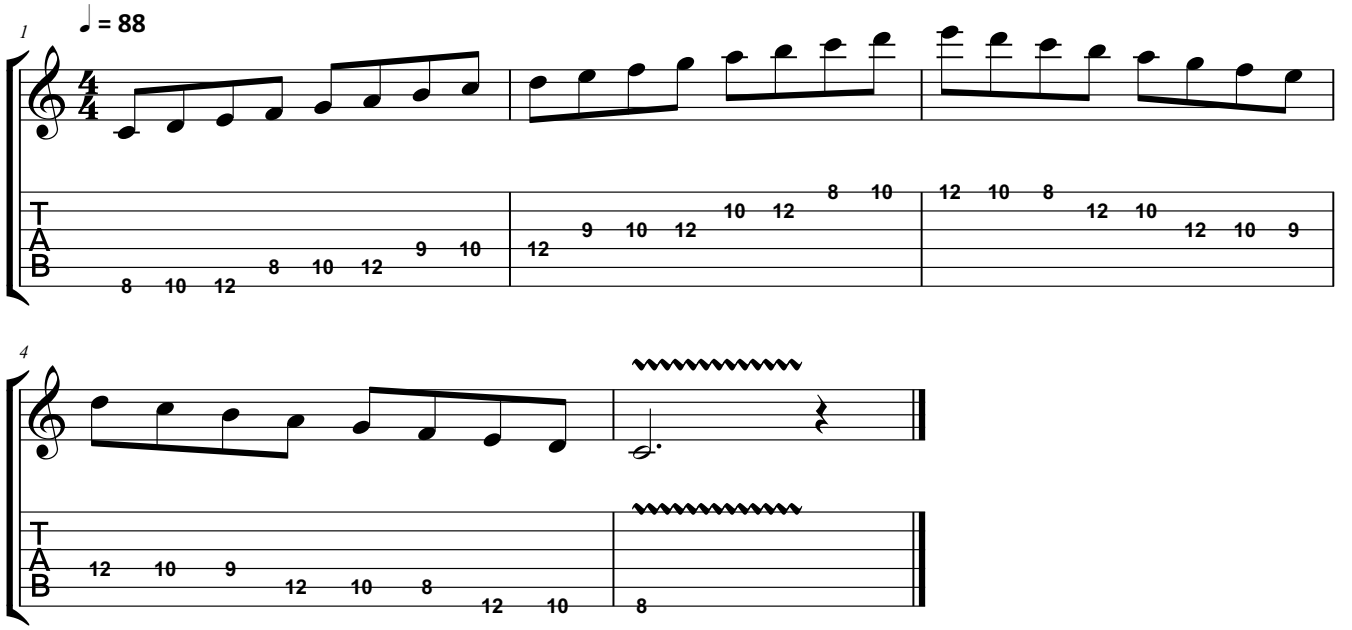


Tab 12.3

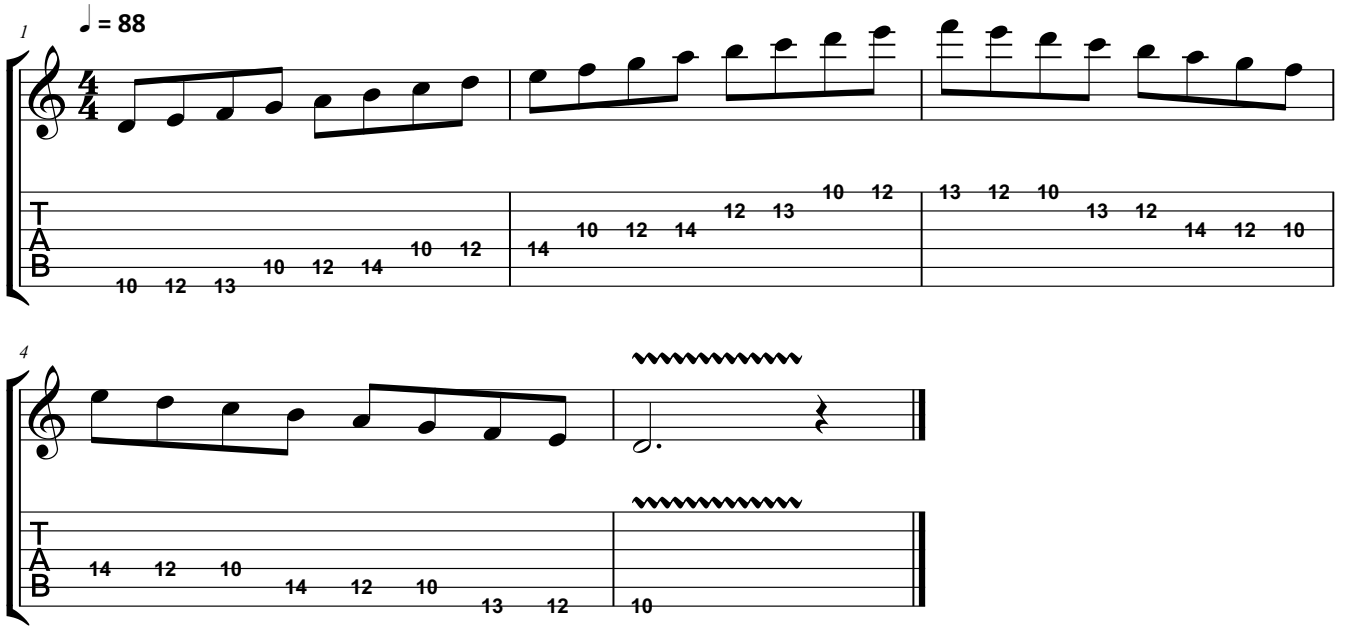
Appears at 2:04 in video lesson



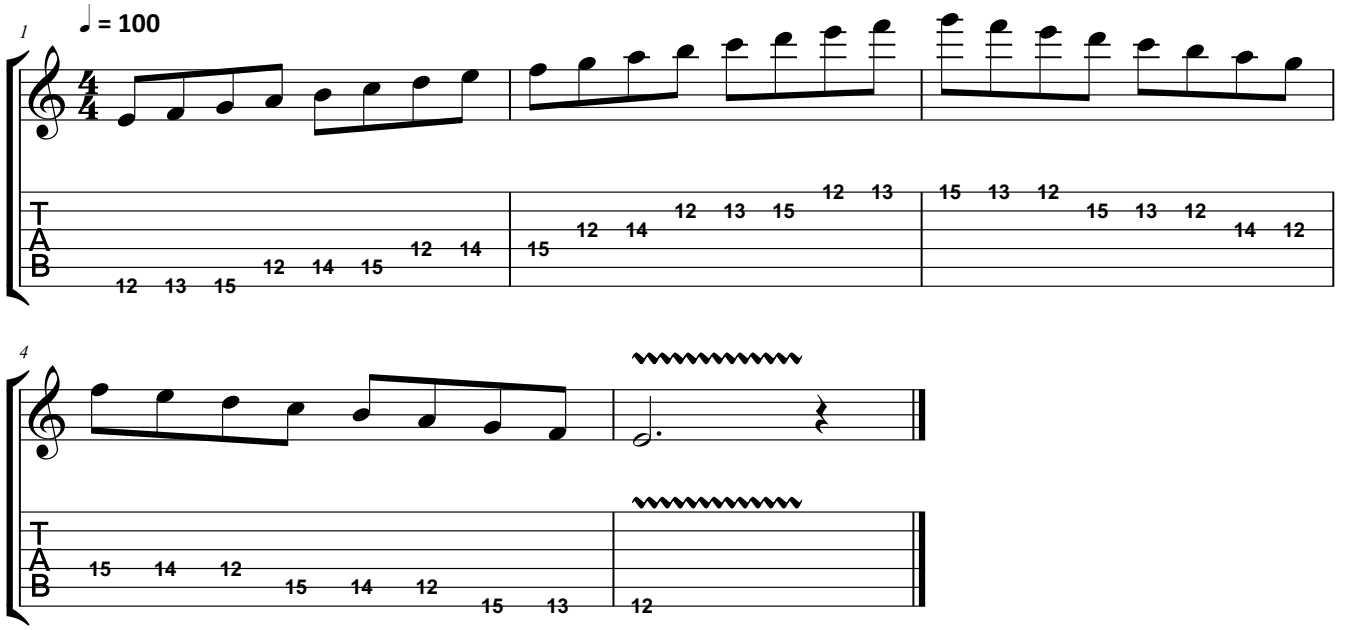
Tab 12.4 Appears at 2:26 in video lesson



Tab 12.5 Appears at 2:41 in video lesson

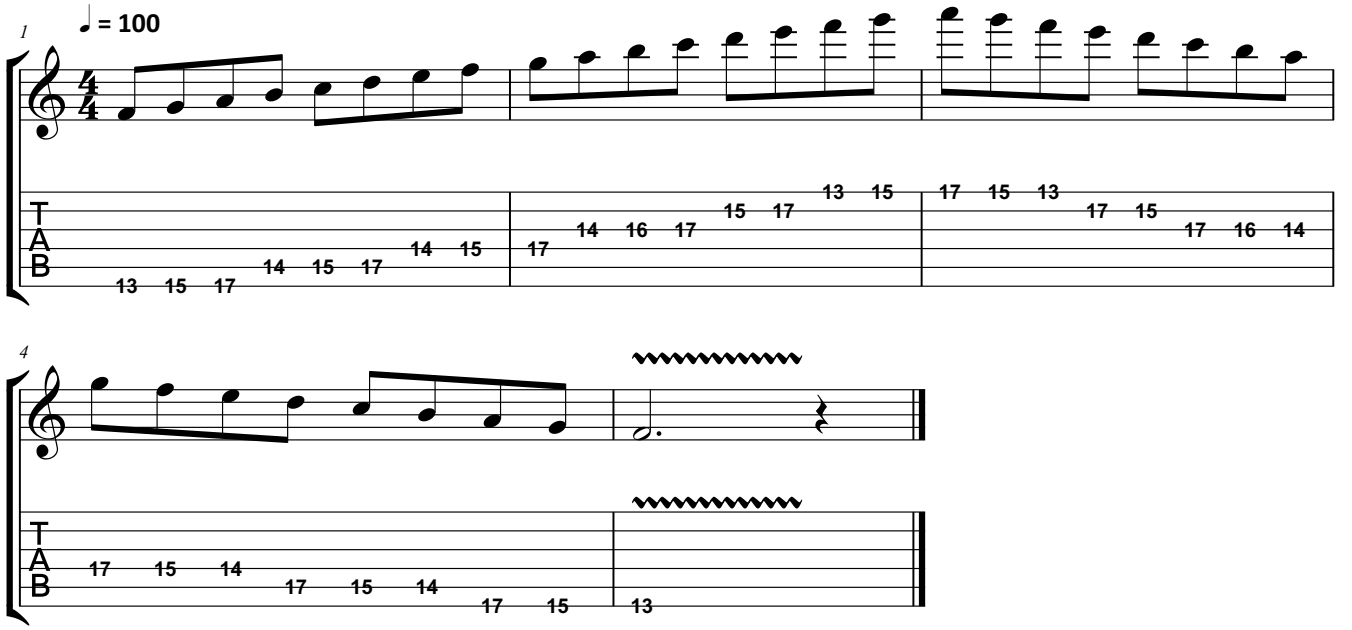


Tab 12.6 Appears at 2:54 in video lesson

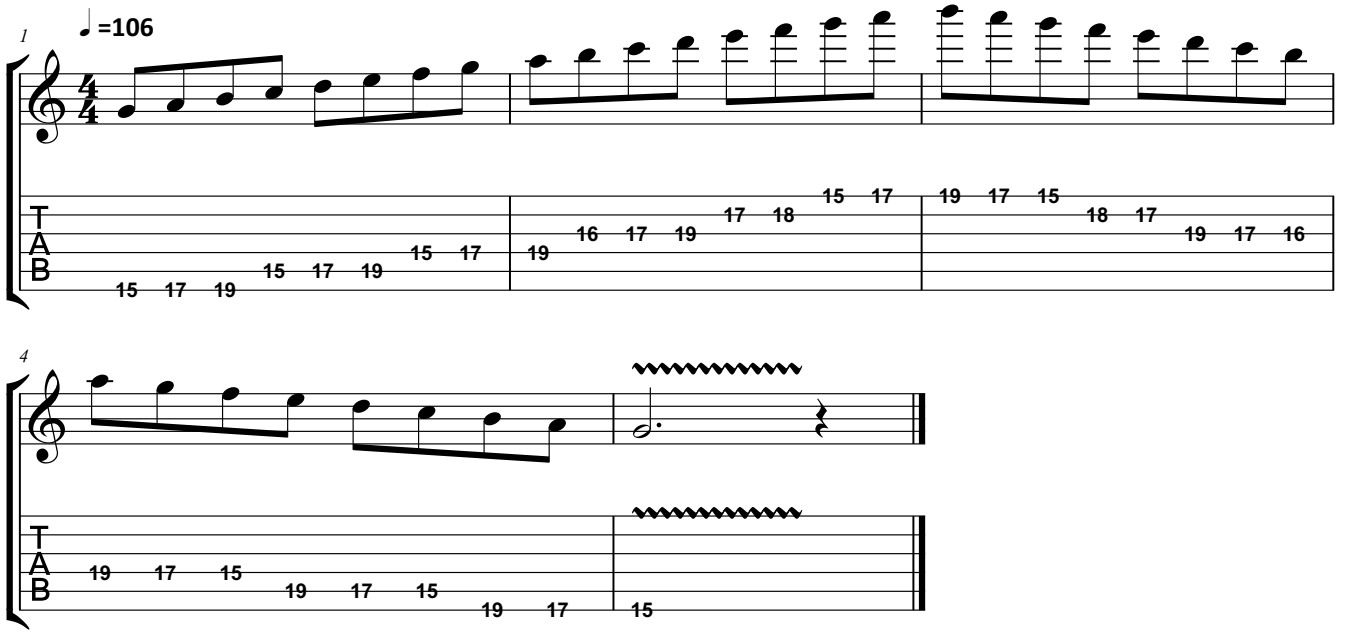


Tab 12.7

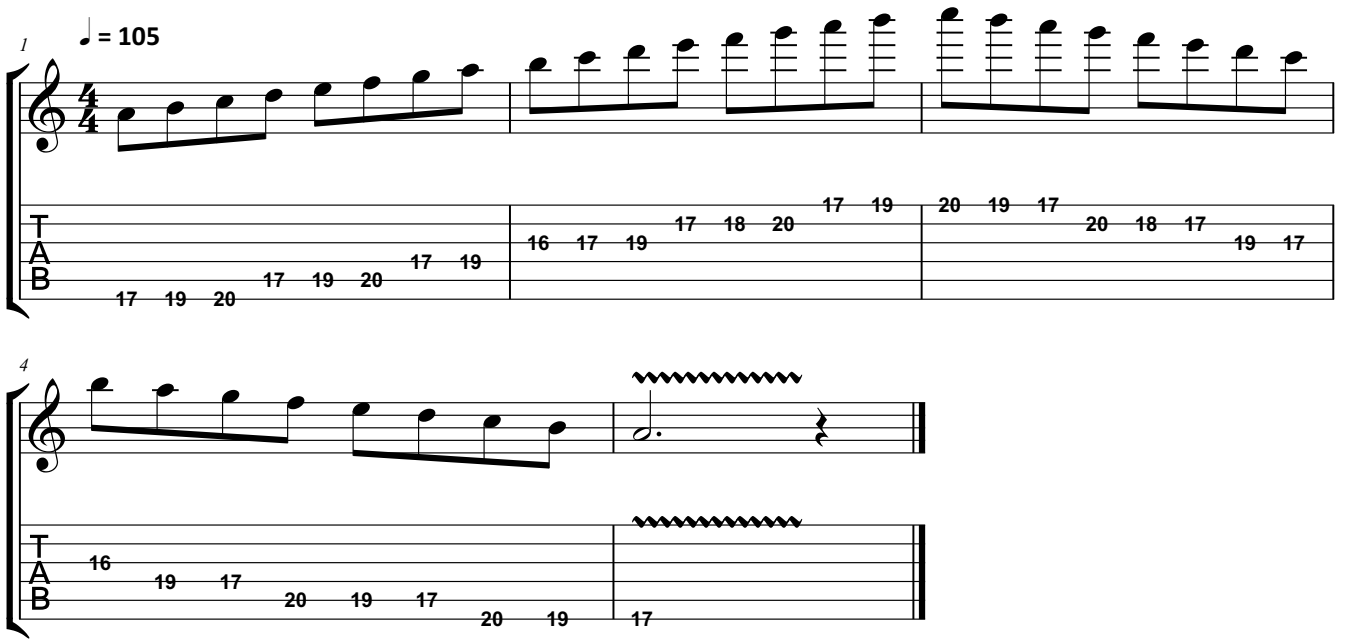
Appears at 3:06 in video lesson



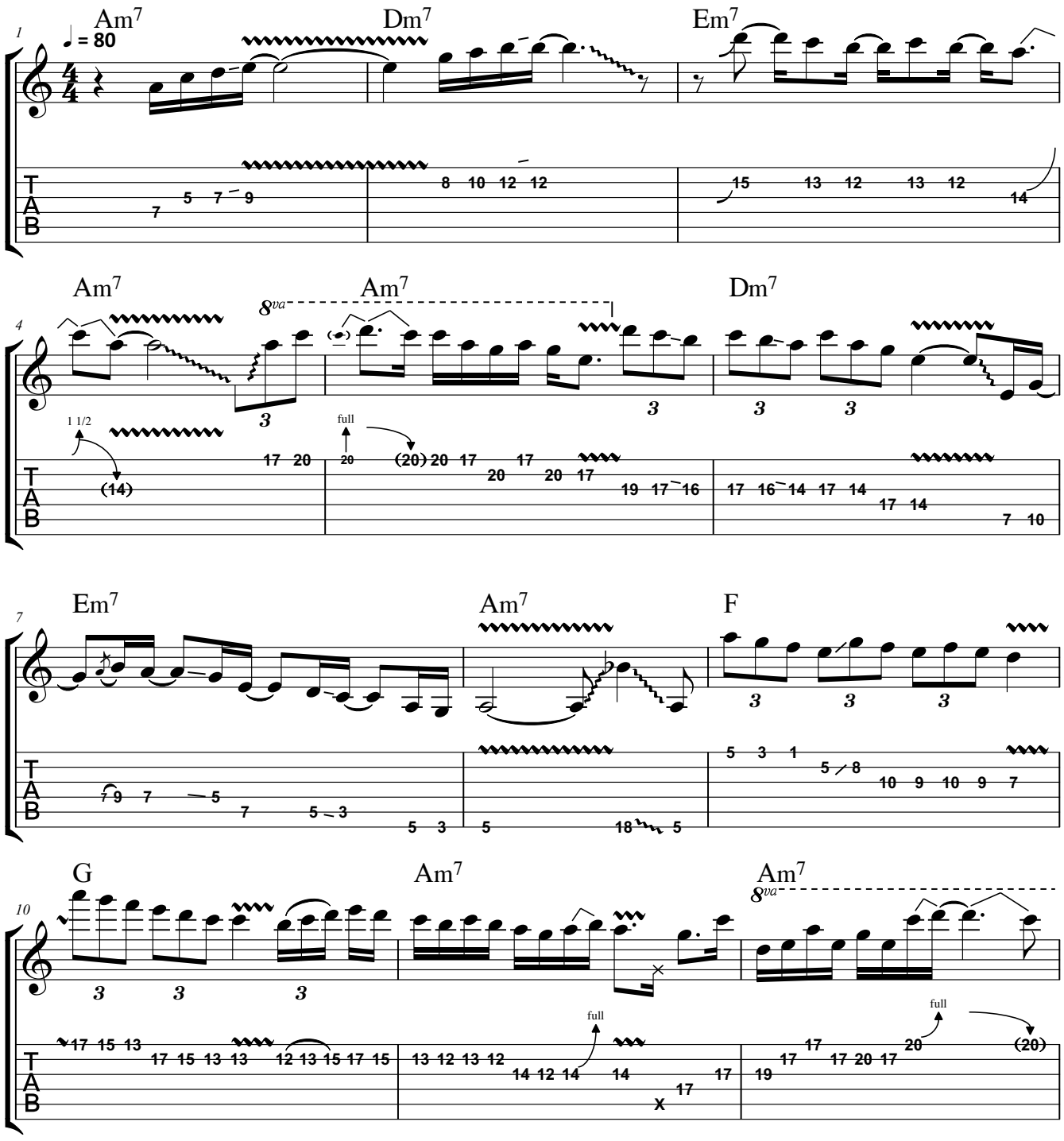
Tab 12.8 Appears at 3:20 in video lesson

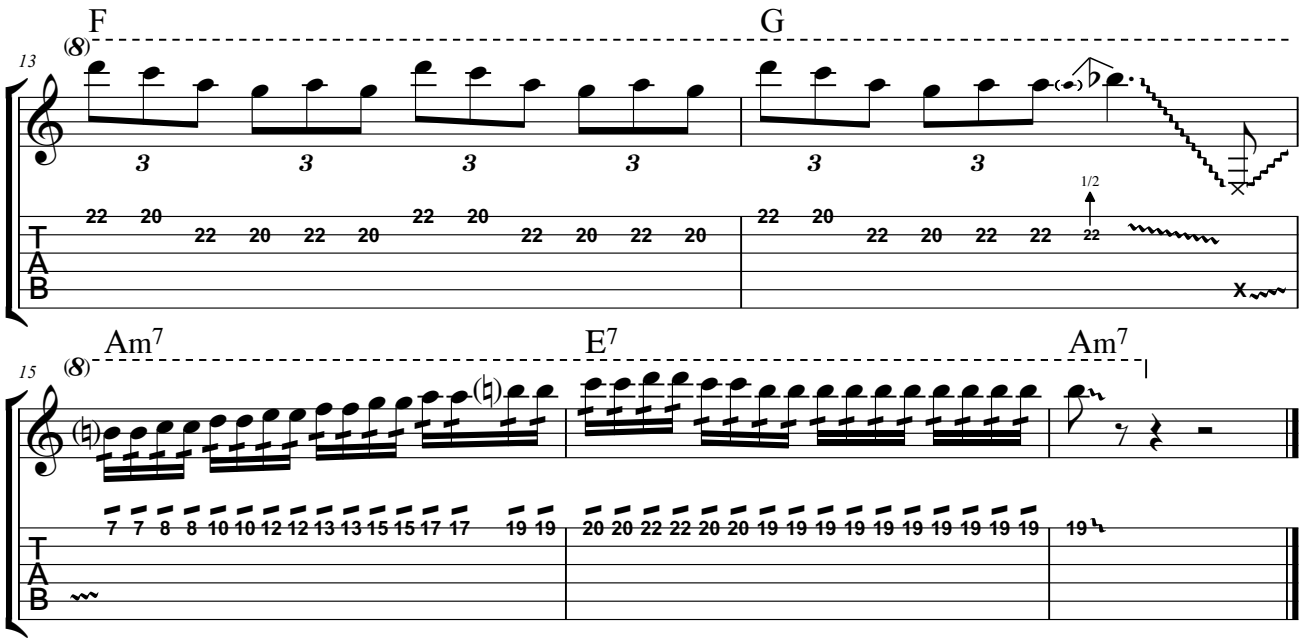


Tab 12.9 Appears at 3:39 in video lesson

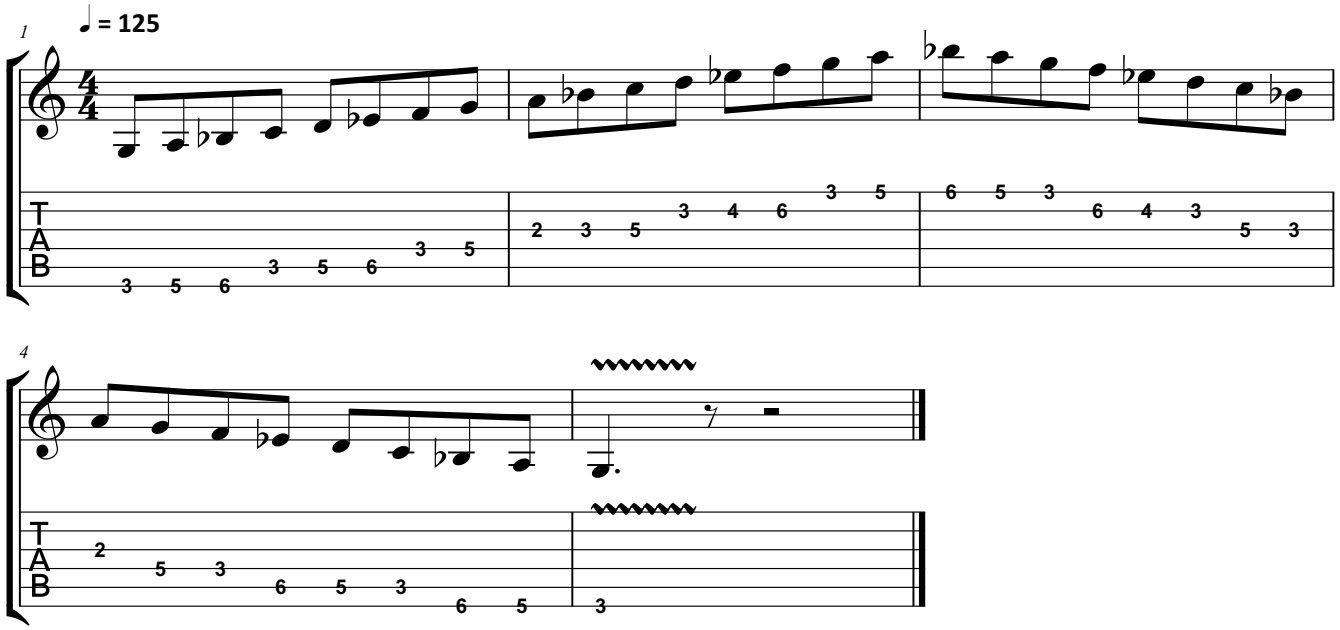


Tab 12.10 Appears at 4:24 in video lesson

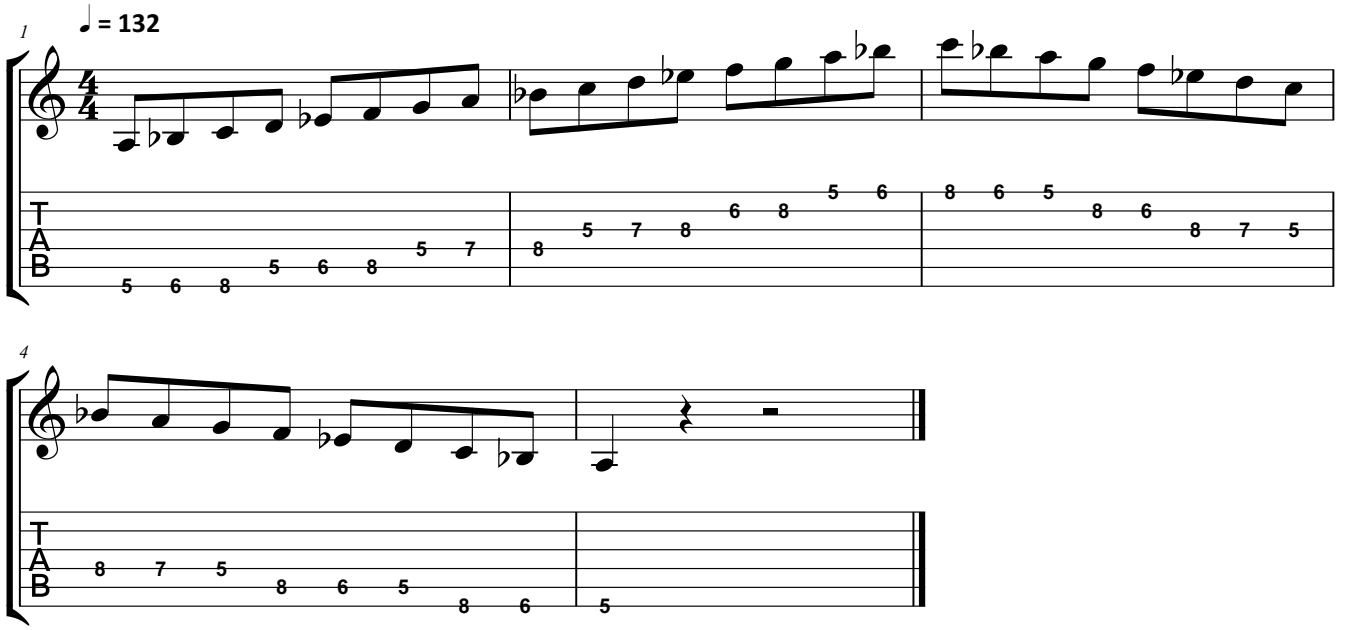



F
G
13
(8)
3 3 3 3 3 3
22 20 22 20 22 20 22 20 22 20 22 20 22 20 22 20 22 22
1/2
22
x
T
A
B
Am7
E7
Am7
15
(8)
7 7 8 8 10 10 12 12 13 13 15 15 17 17 19 19 20 20 22 22 20 20 19 19 19 19 19 19 19 19 19 19
T
A
B

Tab 12.11 Appears at 5:50 in video lesson

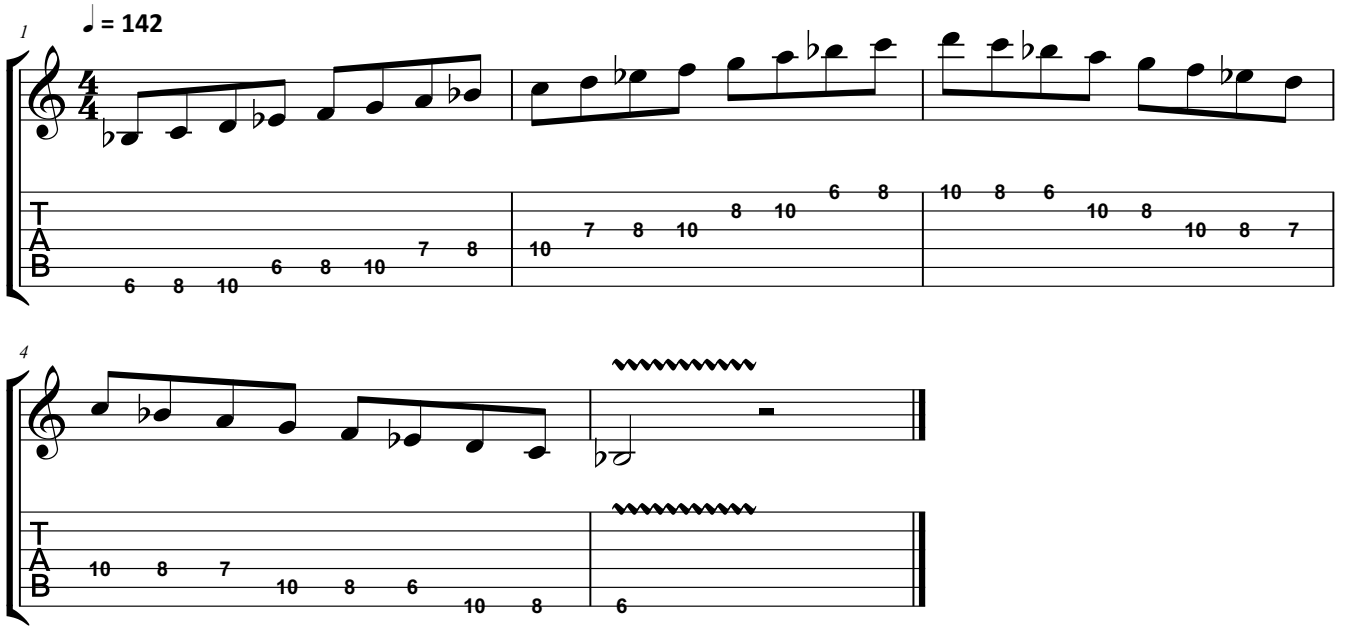


Tab 12.12 Appears at 6:03 in video lesson

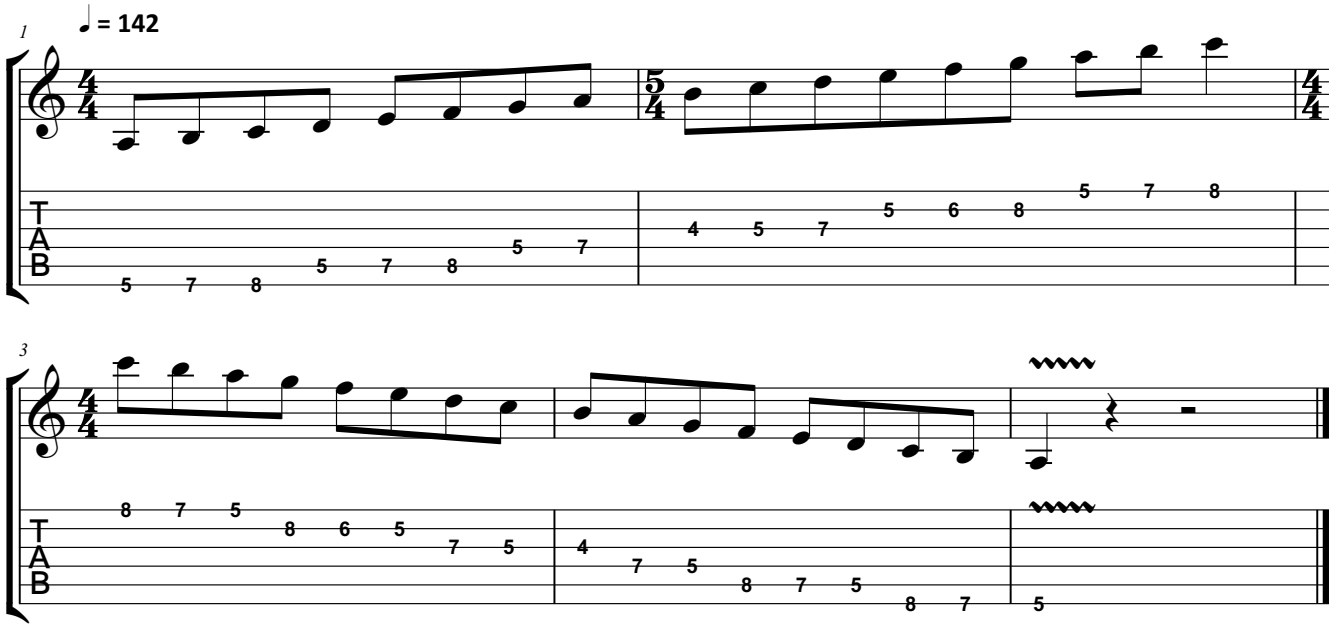


Tab 12.13

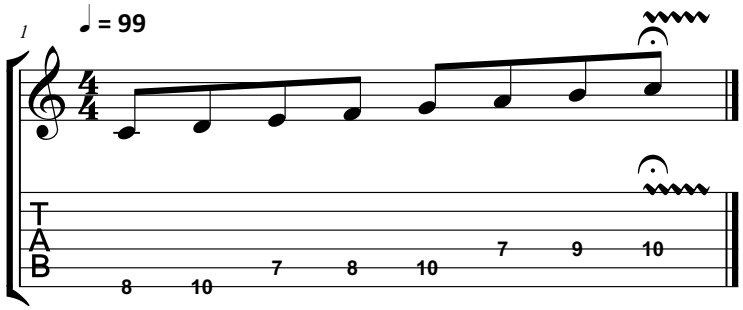
Appears at 6:10 in video lesson



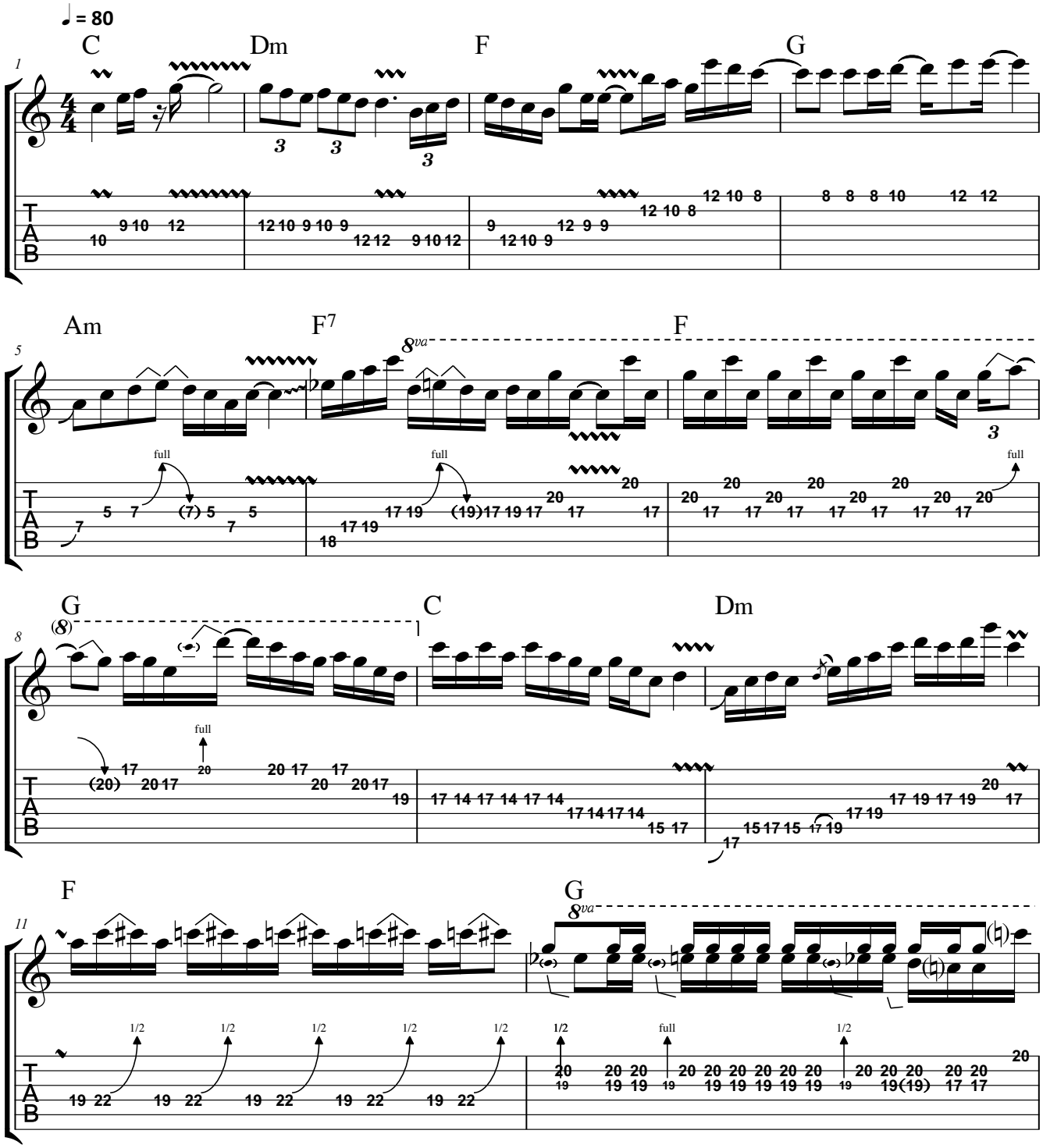
Tab 12.14 Appears at 6:54 in video lesson

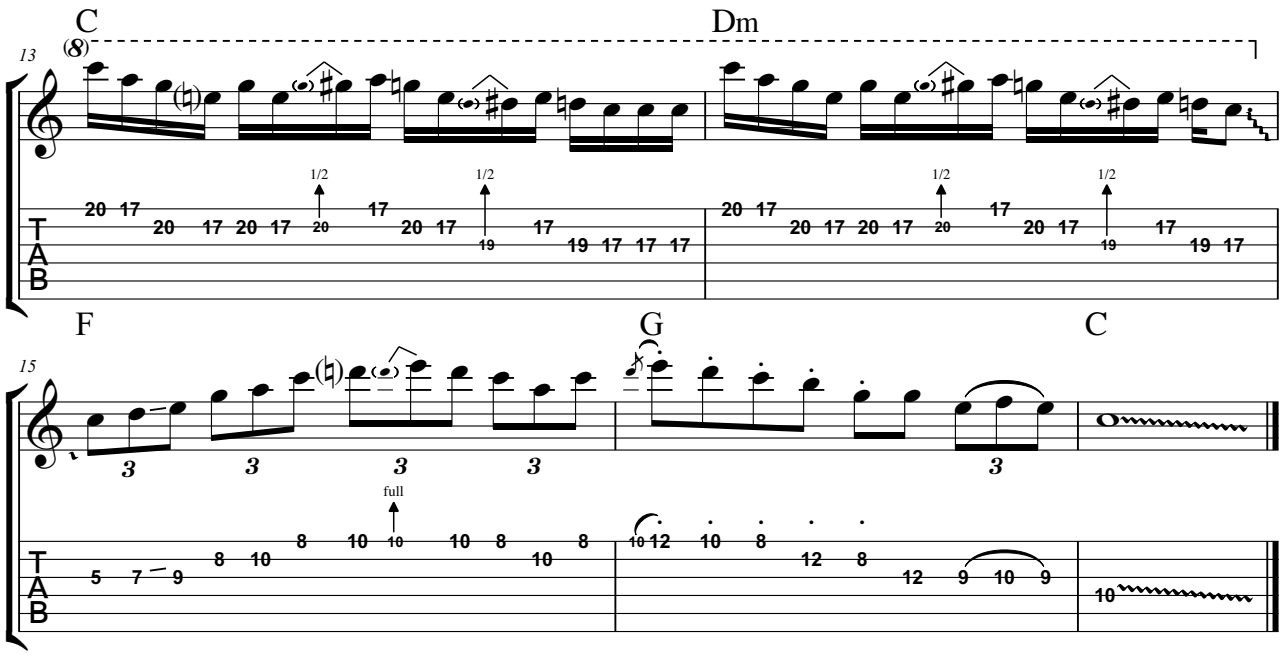


Tab 12.15 Appears at 8:28 in video lesson



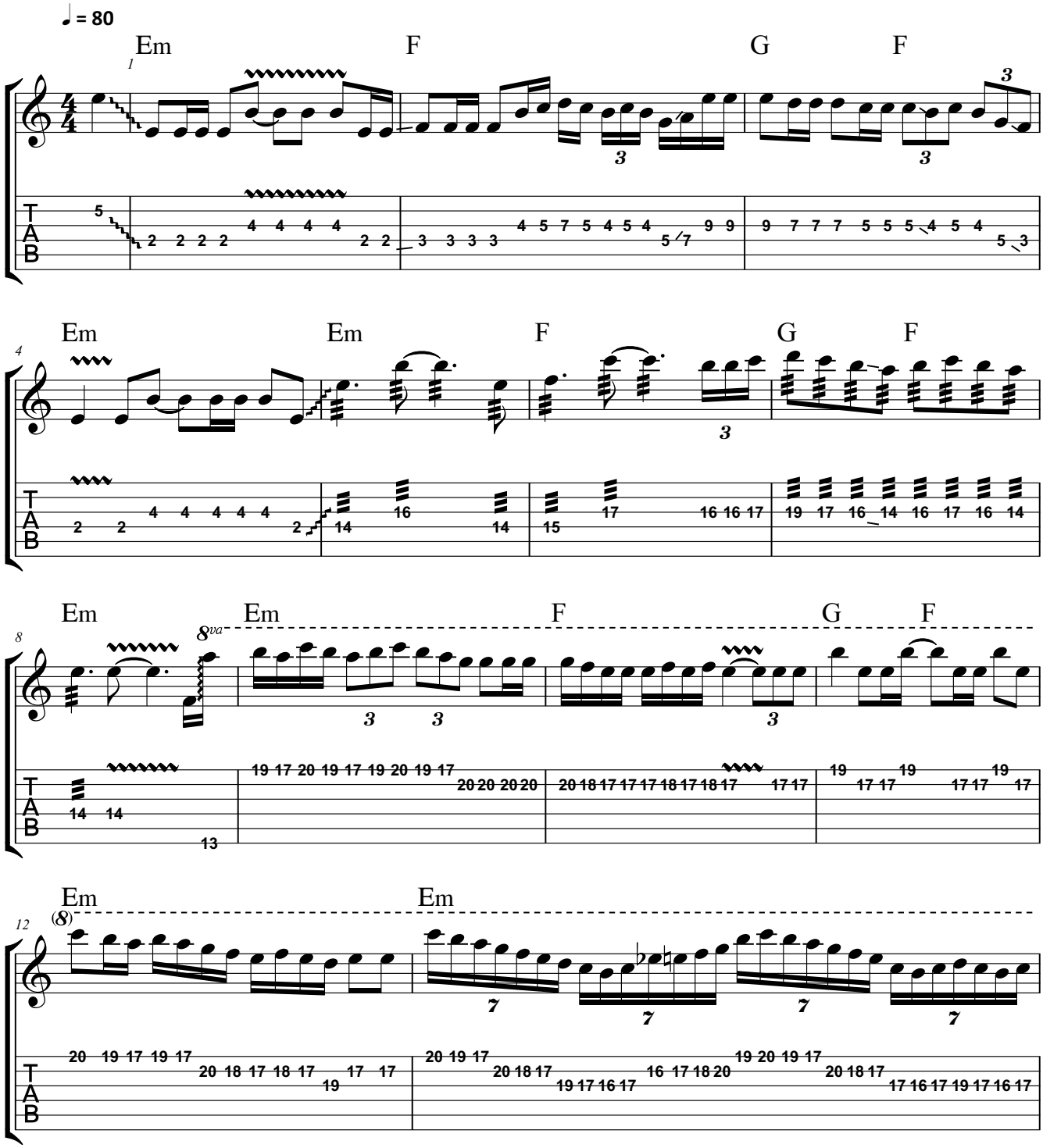
Tab 12.16 Appears at 9:13 in video lesson

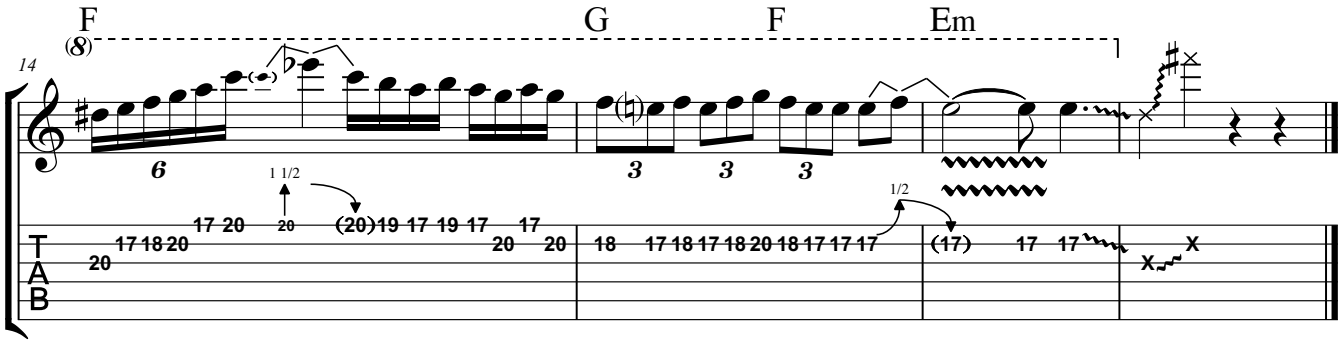



C
Dm
13
1/2
F
G
C
15
full
T
A
B

Tab 12.17

Appears at 11:15 in video lesson




F
G
F
Em
14
(8)
6
3
3
3
1 1/2
1/2
T
A
B

TOM MORELLO

IMPROVISATION

"Improvisation should be fearless."

CHAPTER 13

IMPROVISATION

SUBCHAPTERS

CHAPTER REVIEW

When you're recording in a studio, every minute costs money. When you're playing live, an audience expects you to show them a good time. But when you're improvising, whether it's alone at home or jamming with others in a rehearsal space, you're totally liberated as a musician. Think of it as recess during a school day: you can play just for the sake of playing. Get lost in the music, experiment, and push yourself outside of your comfort zone. Don't worry that you're going to play something wrong—in improvisation, Tom argues, mistakes don't exist.

Everything you learn as a guitarist contributes to what Tom calls your "sonic palette." It's the accumulation of every skill and trick of the trade you've picked up along the way. That sonic palette is available to you in all its complexity every time you improvise. It isn't necessary to differentiate between musical styles and idioms, only using some small portion of your palette because it's what seems right at the time. Draw from everything that's inside of you. A swirling, chaotic blast of pure white noise might not work over a minor key ballad, but you'll never know unless you try. Remember: there are no mistakes in improvisation.

You can learn a lot as a guitar player by improvising with musicians who are better than you. If another guitarist plays a lick that you really like, never hesitate to stop and ask them about it. Similarly, if you play something in the moment that excites you, take the time to stop and record it. Improvisation is a great way of generating song ideas. You can even go ahead and record the entire jam session, then listen back later to see what stands out. The song "Where It's At Ain't What It Is" on Tom's album *The Atlas Underground* was forged from a multi-hour freeform improvised blues jam with Gary Clark, Jr., the raw tape of which bears little resemblance to what you hear on the record. But when Tom listened back to it, the seeds of the song were in there. Much of the songwriting for Prophets of Rage is also borne out of improvisation, with the band just jamming together in a rehearsal space or studio.

When you improvise along with the radio, every new song is like getting thrown on stage with a band you've never heard before. You have to jump right in and go for it, or you'll get left behind, because the music isn't going to wait for you to catch up. However, if you know how to find a song's key center (as discussed in Chapter 7: Theory, Part 1: Beginner and Intermediate) and you know some basic scales, you can always find your way in, whether it's country, classical, or anything in between. Especially if you tend to play only

rock guitar, this is a great way to develop your understanding of other idioms and can help you become a more multifaceted, well-rounded musician. The key is listening closely to the song moment by moment and reacting to it in real time.

LEARN MORE

While Gary Clark, Jr., is generally considered a blues guitarist, his songwriting and aesthetic is informed by a wide range of influences: Curtis Mayfield, Prince, Nirvana, the Ramones, Joni Mitchell, and Miles Davis to name just a few. In this interview with *Guitar World* magazine and another with *Consequence of Sound* he discusses the evolution of his musical style—and the role improvisation played in it.

Improvisation spans genres and instruments. Here's what some of the most legendary improvisors have to say about it:

"YOU CAN PLAY A SHOESTRING IF YOU'RE SINCERE."
—JOHN COLTRANE

"THE HIDDEN THINGS, THE SUBCONSCIOUS THAT LIES IN THE BODY AND LETS YOU KNOW: YOU FEEL THIS, YOU PLAY THIS."
—ORNETTE COLEMAN

"WE ALL DO 'DO, RE, MI' BUT YOU GOT TO FIND THE OTHER NOTES YOURSELF."
—LOUIS ARMSTRONG

"THE TRUE MUSICIAN PLAYS WHAT HE/SHE HEARS. THAT CANNOT BE A MISTAKE."
—D C DOWDELL

"THERE'S A WAY OF PLAYING SAFE AND THEN THERE'S WHERE YOU CREATE SOMETHING YOU HAVEN'T CREATED BEFORE."
—DAVE BRUBECK

"IT'S NOT THE NOTES YOU PLAY, IT'S THE NOTES YOU DON'T PLAY."
—MILES DAVIS

"IT'S EASY TO PLAY ANY MUSICAL INSTRUMENT: JUST TOUCH THE RIGHT KEY AT THE RIGHT TIME AND THE INSTRUMENT WILL PLAY ITSELF."
—J. S. BACH

"I LIKE AN ELEMENT OF CHAOS IN MUSIC. THAT FEELING IS THE BEST THING EVER."
—JEFF BECK

"THE DEEPER YOU GET INTO THE MUSIC ALLOWS THE ABILITY TO APPRECIATE ART AND ALL OTHER FORMS OF EXPRESSION."
—MIKE STERN

ASSIGNMENTS

Improvise to Tom's Backing Track

Download Tom's backing track from the Resources page and improvise over it in three different ways. For your first attempt, play a solo that's more minimal, bluesy, and restrained, with an emphasis on emotion and feeling. For your second attempt, play a little more wild and loose. Show off your technique, add a small amount of effects, but stay faithful to the chord structure. On your final attempt, don't hold anything back. Feel free to make, in Tom's words, "a big noisy mess."

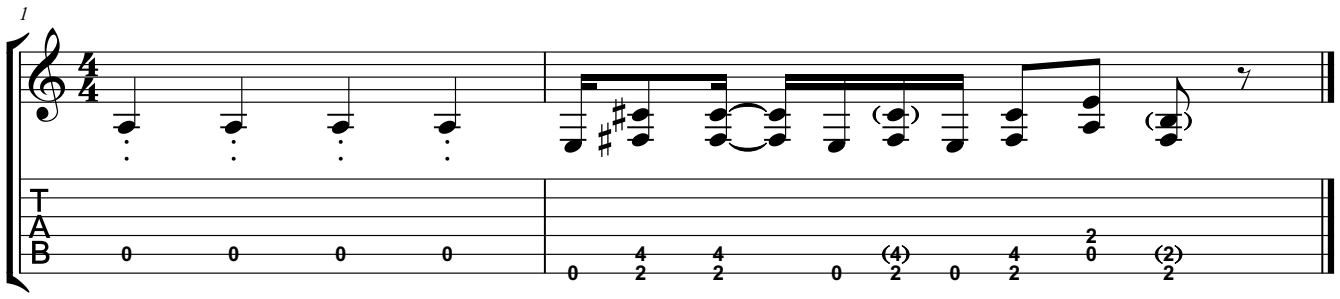
Jam On YouTube Backing Tracks

Search YouTube for "guitar backing tracks" and you'll find there are countless instrumental backing tracks in any genre, key, tempo, etc. Explore: try playing in keys you're familiar with, or challenge yourself with less familiar keys. Find a backing track you really like and write and craft a solo for it, or blow through tracks one time each to work on your ear and practice being in the moment.

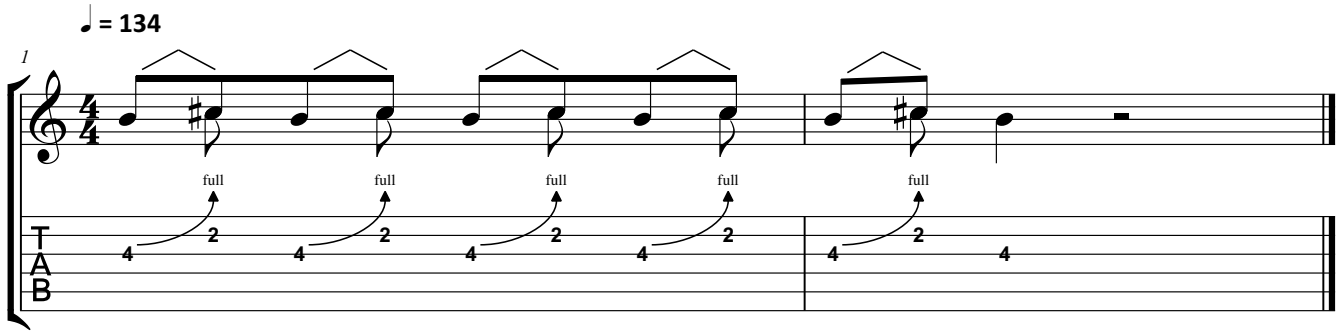
Jam to the Radio

Pick three radio stations that specialize in music you don't usually play. Tune in to the first station, wait for a new song to begin, and then immediately try to identify the song's key center. Once you've found it, keep improvising until the song ends. When the next song starts, repeat the process. Stay on that station for 20 minutes. Then go to your next station and start all over again.

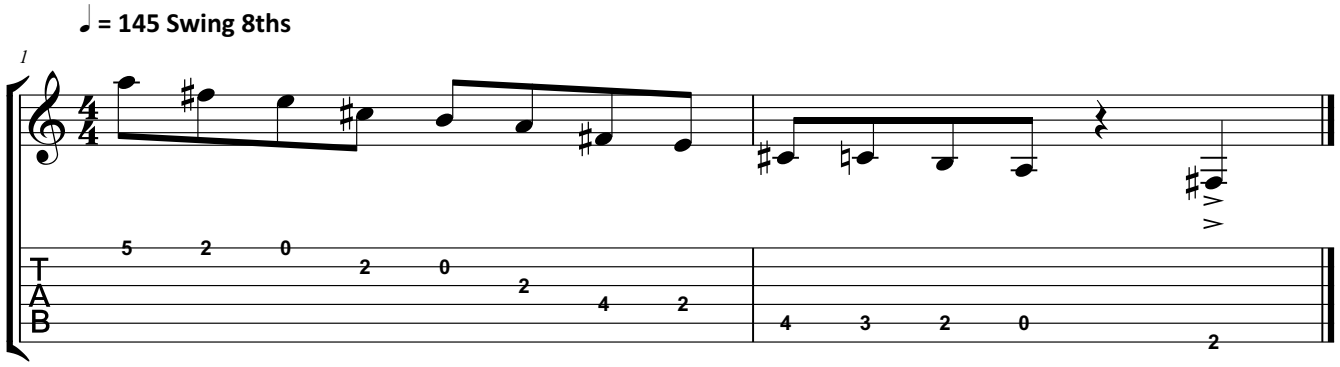
Tab 13.1 Appears at 6:22 in video lesson



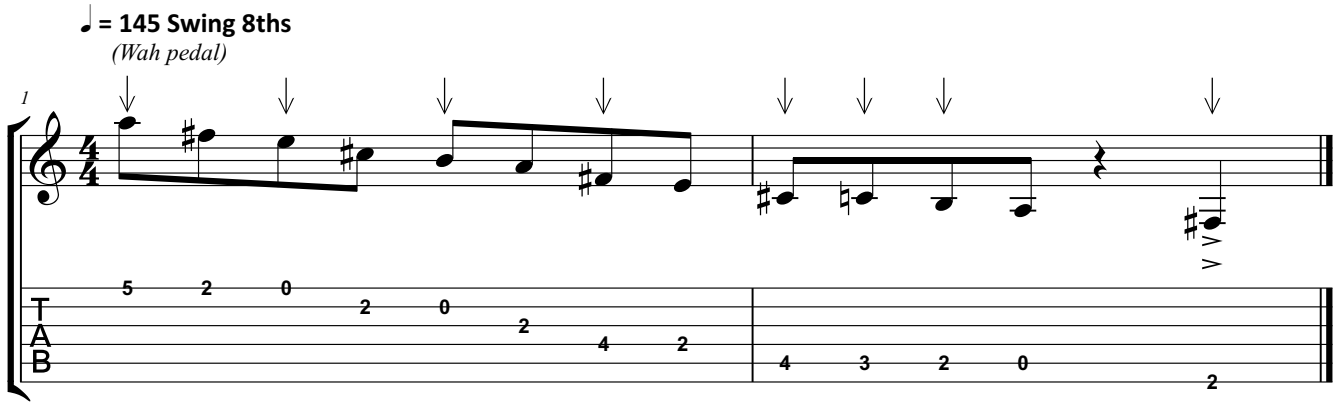
Tab 13.2 Appears at 6:52 in video lesson



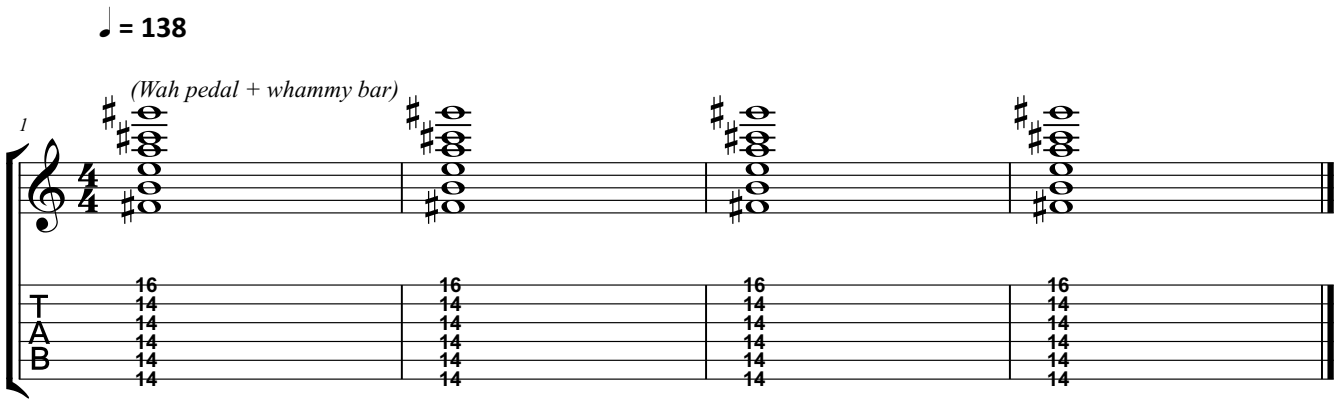
Tab 13.3 Appears at 8:01 in video lesson



Tab 13.4 Appears at 8:13 in video lesson



Tab 13.5 Appears at 8:22 in video lesson



TOM MORELLO

SOLOS

"Whether it's melodic, whether it's crazy—if it's authentic, then it's the right solo."

CHAPTER 14

SOLOS

SUBCHAPTERS

X_CHALLENGE THE IDEA OF THE SOLO
X_TRY DIFFERENT APPROACHES
X_GIVE YOUR SOLOS A POINT OF VIEW
X_CRAFT SOLOS FROM SOUNDS
X_LEARN OTHER GUITARISTS' SOLOS
X_RANDY RHOADS: MARRY MUSICAL STYLES
X_EDDIE VAN HALEN: PLAY ACROSS GENRES
X_JAM TO MUSIC THAT STICKS TO THE ONE
X_JAM, HUM, AND TAKE A BREAK
X_SOLOS DON'T NEED TO RESOLVE

CHAPTER REVIEW

Solos are a chance for you to leave your own personal signature on a song. It doesn't matter if what you play is deeply melodic and lyrical or completely noisy and atonal, if the solo is an authentic expression of your personality and your point of view, then it's doing exactly what it's supposed to do.

For that reason, be willing to challenge what's expected of a solo. It doesn't have to be a virtuosic display of shredding ability. Tom loves Kurt Cobain's solo on "Smells Like Teen Spirit," which is nothing more than Cobain playing the song's vocal melody on his guitar. In his solo for Audioslave's "Show Me How to Live," Tom deconstructed the guitar solo by playing one unlike any he'd heard before—a solo that's just an odd tone repeated over and over for eight bars with no movement and no progression whatsoever.

In Chapter 13: Improvisation, Tom talked about your "sonic palette" and the importance of not restricting yourself to a small portion of it just because you're playing in a specific style or idiom. In fact, bringing certain sounds and techniques that are typically associated with one genre into another can have legendary results. A prime example of this is Eddie Van Halen's solo on Michael Jackson's "Beat It." It's a solo that would sound perfectly at home on any Van Halen album and yet it also sounds perfectly at home in the context of a Quincy Jones-produced pop anthem. Perhaps it wasn't the most obvious choice for a solo, but now it's impossible to imagine the song without it.

Another example of a guitar player who was unafraid to cross-pollinate genres was Randy Rhoads; his solos on Ozzy Osbourne's "Mr. Crowley" combines the technical precision of his classical guitar training with the more bluesy, emotional sensibility he picked up from hard rock and heavy metal.

Your solos also don't need to "fit" the song in a predictable way. When Tom heard Andy Gill of Gang of Four for the first time, it made him realize that the guitar didn't have to lock in perfectly with the bass and the drums, that the attack could be more disjointed and angular and still sound amazing. John Coltrane is another example of someone who continually challenged paradigms, gradually pushing a style of music that had always been loose and heavily dependent on improvisation into territory that was even less structured and could at times sound downright chaotic and aggressive.

Tom wagers that there isn't a single chord progression in the Rage Against the Machine

discography; the riffs almost always return to the "one." So in his improvisations he would have to find ways to keep his guitar parts interesting to the ear for 8 bars or 16 bars without the kind of harmonic interplay he'd get from a chord progression. That's what pushed him toward the kind of wild, noisy, and fun solos he played in the band.

No matter how you choose to play it, a solo is successful when it feels right to you. Just like with riffs, you can study solos that other guitarists have played to train your fingers to move in certain ways or to better understand how to respond to a specific chord progression, but ultimately it's the creativity and expression of the solo that's going to make it memorable. It's a chance for you to use your entire sonic palette. Try improvising a solo. Write one that's highly melodic. Play one where you go nuts with your pedals and make a total racket. But always make sure you keep an open mind.

LEARN MORE

Indisputably one of the greatest saxophone players in the history of jazz, John Coltrane was by no means a traditionalist. He was initially influenced by the hard bop style of Charlie Parker, but in his later years Coltrane gravitated toward the avant-garde "free jazz" movement that took hold in the mid-1960s. For a sampling of how much his music evolved in just a few years, listen to his 1960 Atlantic Records debut, *Giant Steps*; 1965's *A Love Supreme*, recorded with the classic Coltrane Quartet; and *Ascension*, a 40-minute improvised "big band" performance released in 1966 and featuring nearly a dozen musicians.

In 2012, for the 30th anniversary of Michael Jackson's *Thriller* album, Eddie Van Halen shared the story behind his "Beat It" solo with CNN.

Chapter Playlist

- Audioslave, "Cochise"
- Audioslave, "Like a Stone"
- Audioslave, "Show Me How to Live"
- John Coltrane, "Chasin' the Trane"
- Gang of Four, "Damaged Goods"
- Michael Jackson, "Beat It"
- Led Zeppelin, "Stairway to Heaven"
- Living Color, "Cult of Personality"
- Tom Morello ft. Marcus Mumford, "Find Another Way"
- Nirvana, "Smells Like Teen Spirit"
- Ozzy Osbourne, "Mr. Crowley"
- Rage Against the Machine, "Bullet in the Head"
- Rage Against the Machine, "Bulls on Parade"
- Rage Against the Machine, "Mic Check"
- Rage Against the Machine, "Settle for Nothing"

ASSIGNMENT

Spend time learning a few of your favorite guitar solos in order to understand more deeply how the guitarists behind them think. Don't know where to start? Try learning the solos Tom mentions throughout this chapter and find something about one of them that you'd like to incorporate in your music.

TOM MORELLO

SOLO CASE STUDY: "THE GHOST OF TOM JOAD"

"I'm a huge Bruce Springsteen fan. . . He's the only musician I've ever played with that I subscribe to a magazine about."

CHAPTER 15

SOLO CASE STUDY: "THE GHOST OF TOM JOAD"

SUBCHAPTERS
X_DECONSTRUCTING THE SOLO

CHAPTER REVIEW

When Bruce Springsteen released "The Ghost of Tom Joad" in 1995, it was an acoustic, plaintive ballad. When Rage Against the Machine covered the song, it was a radically different version performed in the band's signature style. What Tom discovered years later, when Springsteen invited him to perform it live with the E Street Band, was that the sounds and techniques he typically used in Rage could work in this other context. He'd never tried that kind of solo over a minor key chord progression; likewise, it was the kind of solo that no one had heard in the E Street Band before.

In that sense, Tom's solo encapsulates all of the lessons he taught in Chapter 14: Solos. It defies convention and it transcends genre. It was improvised but it still had an organized structure with distinct "chapters," sometimes shredding, sometimes descending into sheets of white noise. It incorporates both melody and dissonance. And in its own way it tells a story, much the same way that Springsteen tells a story in the lyrics. It's an example of how collaboration between musicians from different backgrounds and with distinct styles can result in music unlike any they've made before.

LEARN MORE

"The Ghost of Tom Joad" was inspired by both a character in John Steinbeck's *The Grapes of Wrath* and "The Ballad of Tom Joad" by Woody Guthrie. Here is the official live version of Tom performing the song for the first time with Springsteen in 2008. The Rage Against the Machine version of the song is available on the album *Renegades*.

ASSIGNMENT

Check out the differences in other cover songs that have strayed from the original. Make your own cover of a song and use some of these examples to help you make that song your own.

- **"Killing Me Softly"** (Written by Charles Fox and Norman Gimbel) The original version by Lori Lieberman is a folk ballad heavy with acoustic guitars and piano in a straight, arpeggiated rhythm. Roberta Flack speeds up the song, adding a backbeat and a more R&B flavor. The Fugees did the song slower than Lieberman with a more stripped down arrangement to leave room for Lauryn Hill's layered vocals.

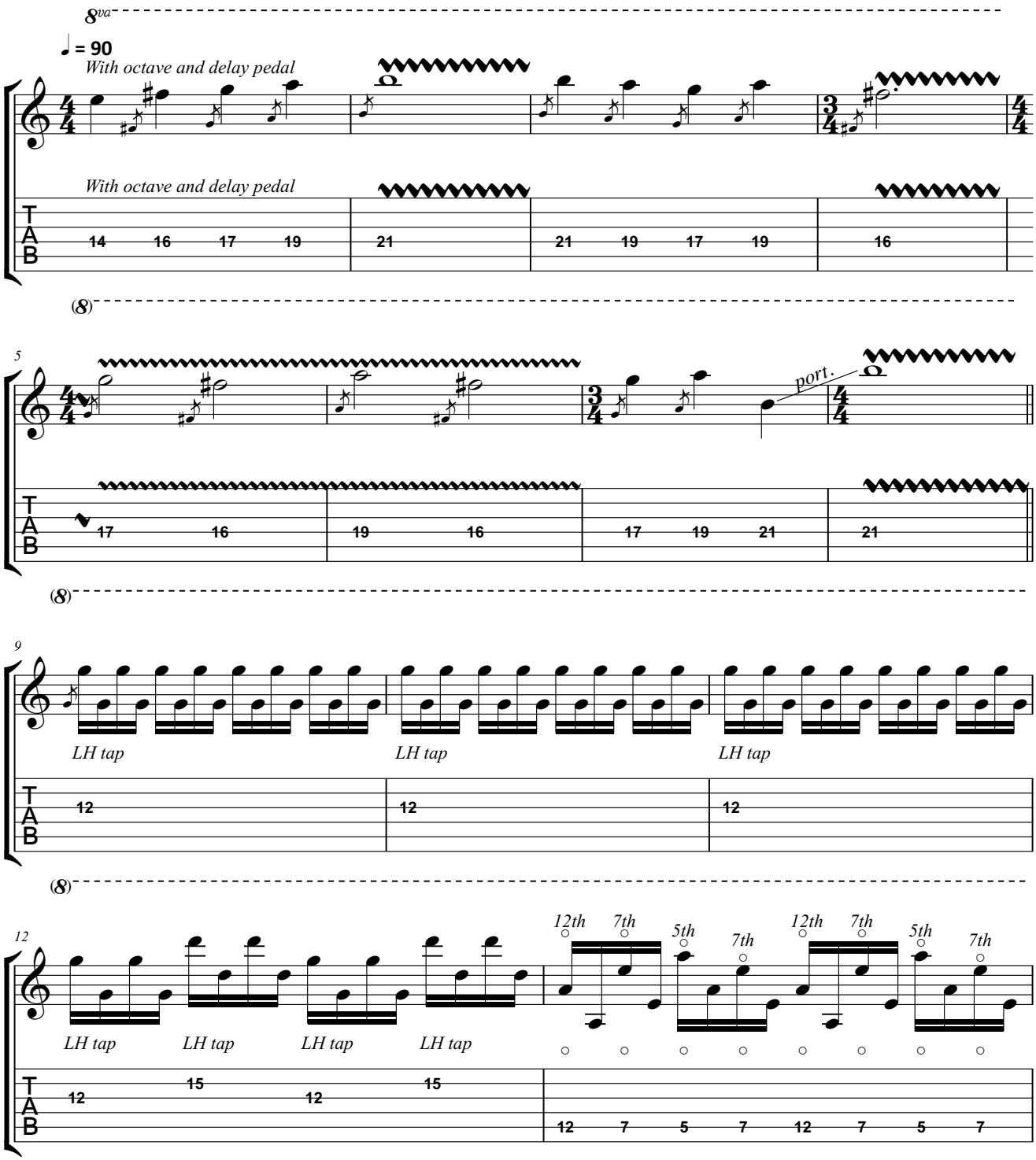
- **"Ceremony"** (Written by Joy Division) The original by Joy Division has a mid-tempo washy feel with driving drums and dreamy guitar parts. Galaxie 500's version starts slower with a more hypnotic feel that gradually grows in tempo and intensity.

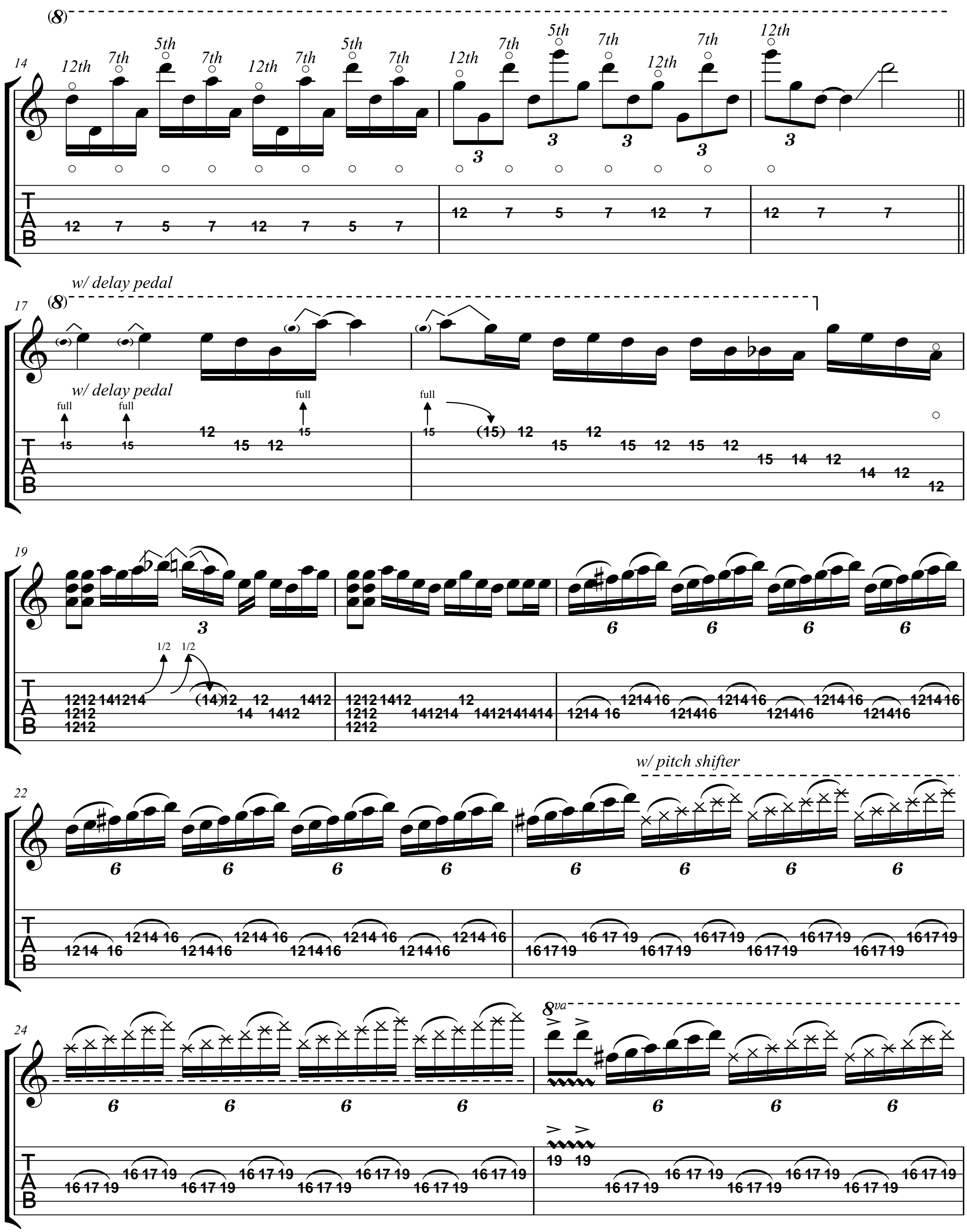
- **"Girls Just Wanna Have Fun"** (Written by Robert Hazard) The original version by Robert Hazard is a driving new wave / rock song with heavy guitars and an almost musical theater feel. Cyndi Lauper's version is much slower, adds new melodic themes and uses an arrangement of synths to create the fun 80's hit.

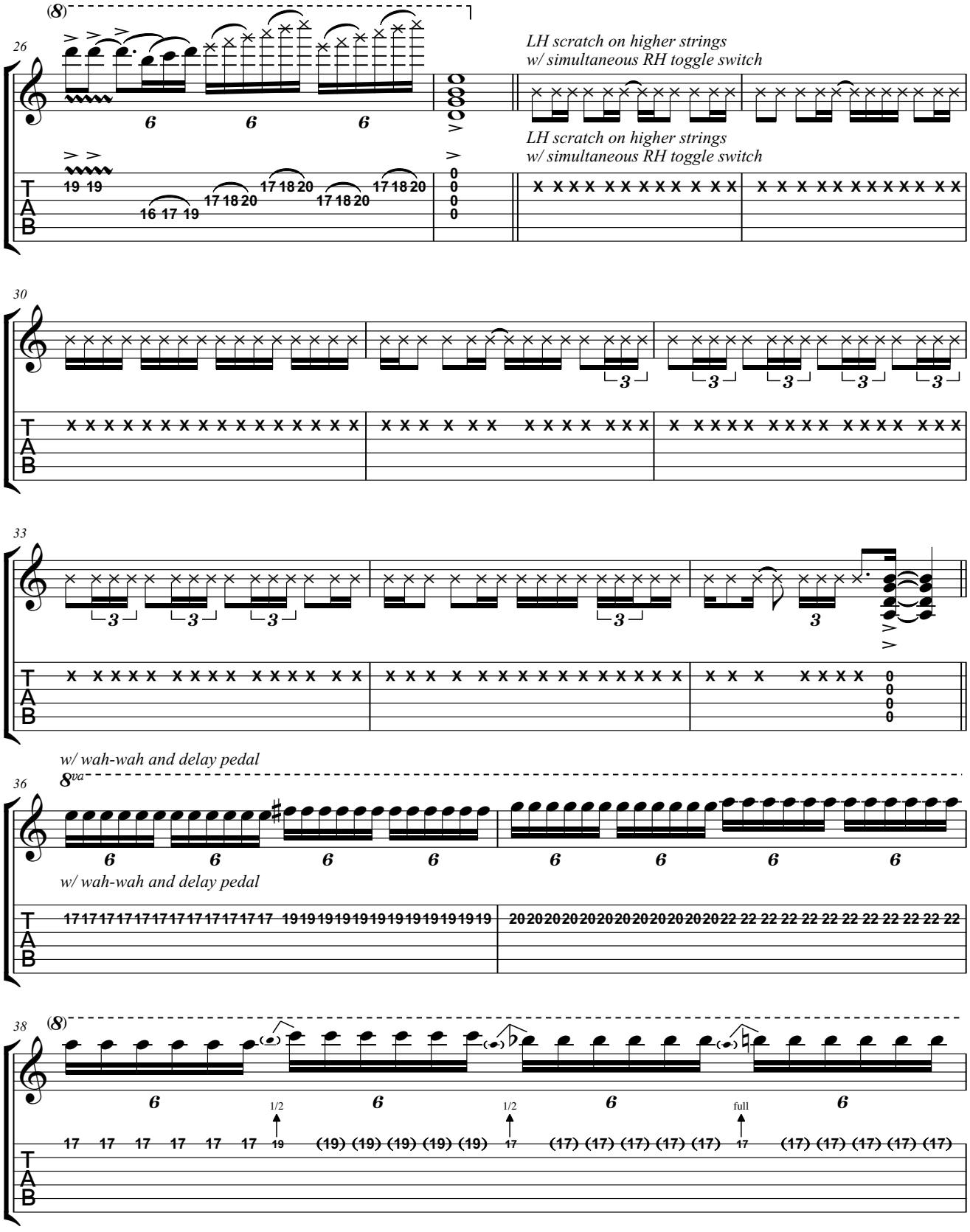
- "**I Will Survive"** (Written by Freddie Perren and Dino Fekaris) The original version by Gloria Gaynor has a mid-tempo disco feel, whereas the version by Cake is slower and is more groove oriented.

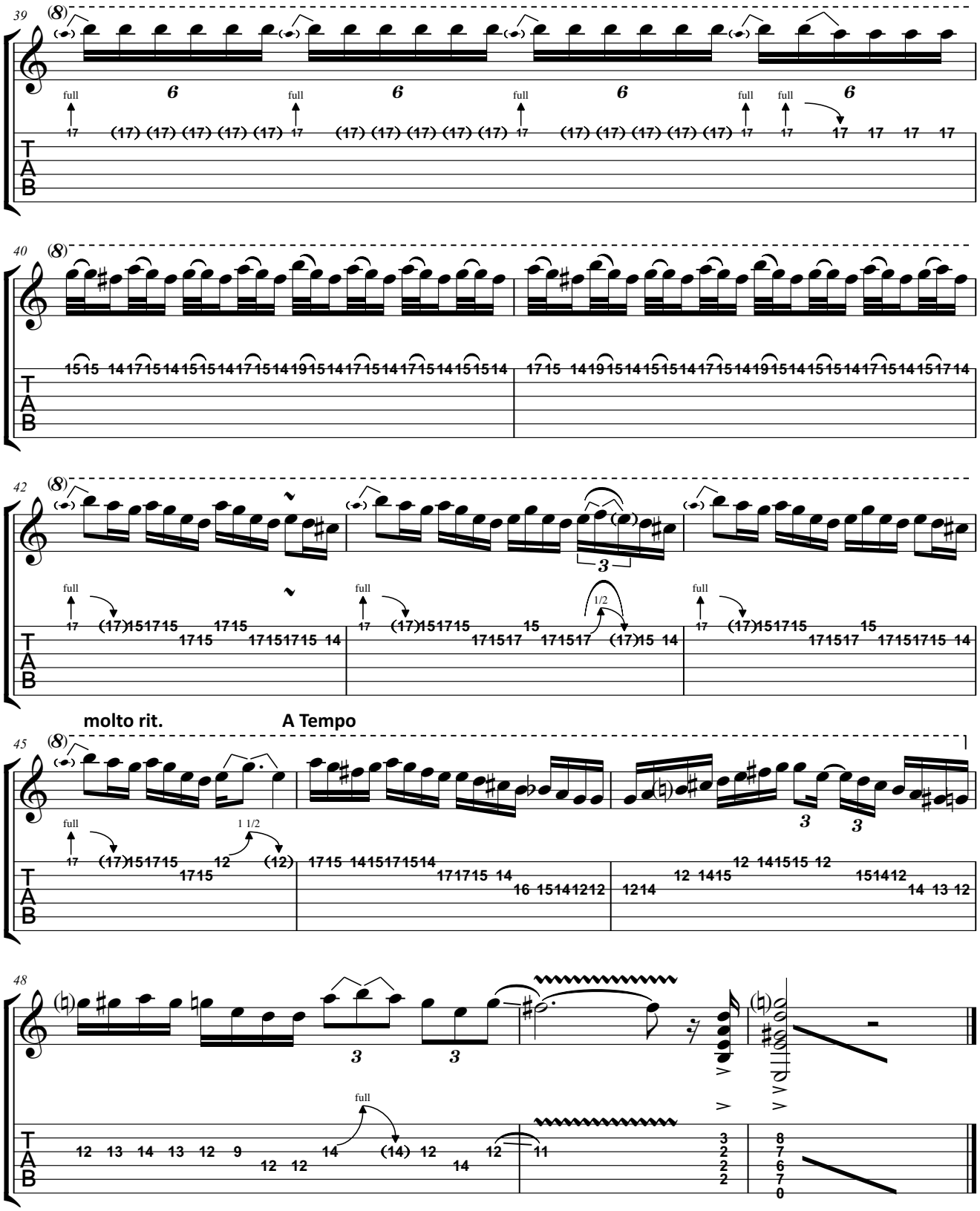
- **"All Along the Watchtower"** (Written by Bob Dylan) The original by Bob Dylan has a driving folk feel with a stripped down arrangement. Jimi Hendrix replaces the harmonica with electric guitar in his iconic version, which is slower, more laid back, and rich with guitar overdubs and tonal varieties.

Tab 15.1 Appears at 3:49 in video lesson

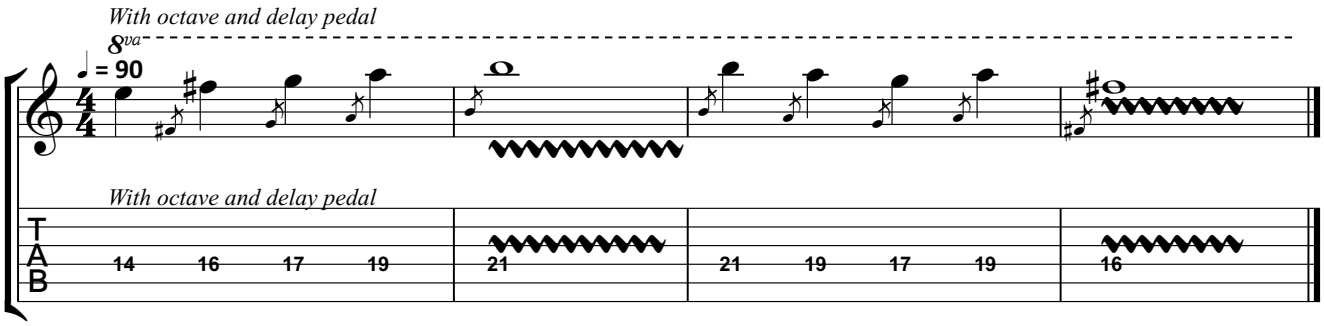



14
(8)
12th
7th
5th
17
w/ delay pedal
full
19
1/2
22
w/ pitch shifter
24
8va

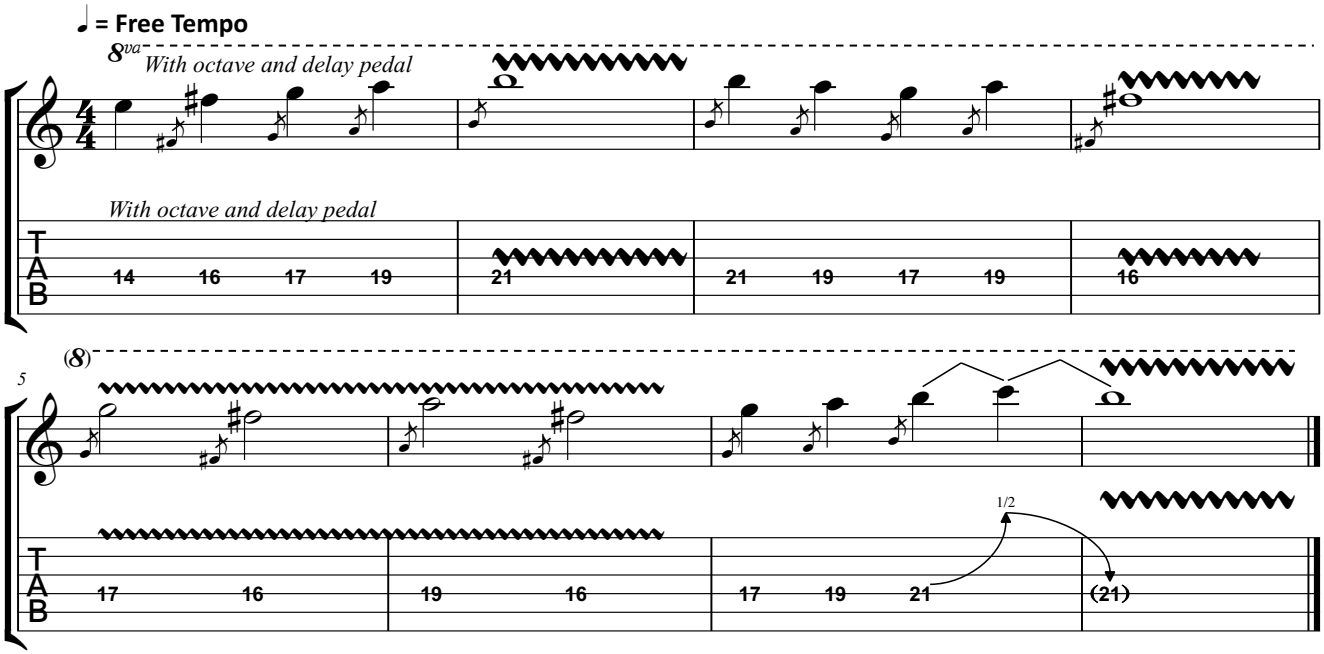

26
LH scratch on higher strings
w/ simultaneous RH toggle switch
LH scratch on higher strings
w/ simultaneous RH toggle switch
30
33
w/ wah-wah and delay pedal
36
8va
w/ wah-wah and delay pedal
38
8
1/2
1/2
full
T
A
B


39
40
42
molto rit.
A Tempo
45
48
full
1/2
1 1/2
T
A
B

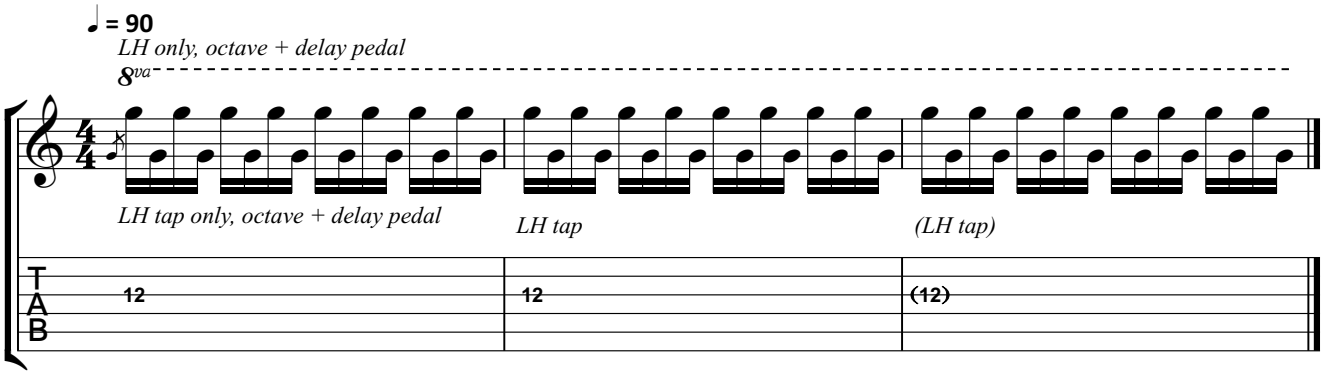
Tab 15.2 Appears at 8:02 in video lesson



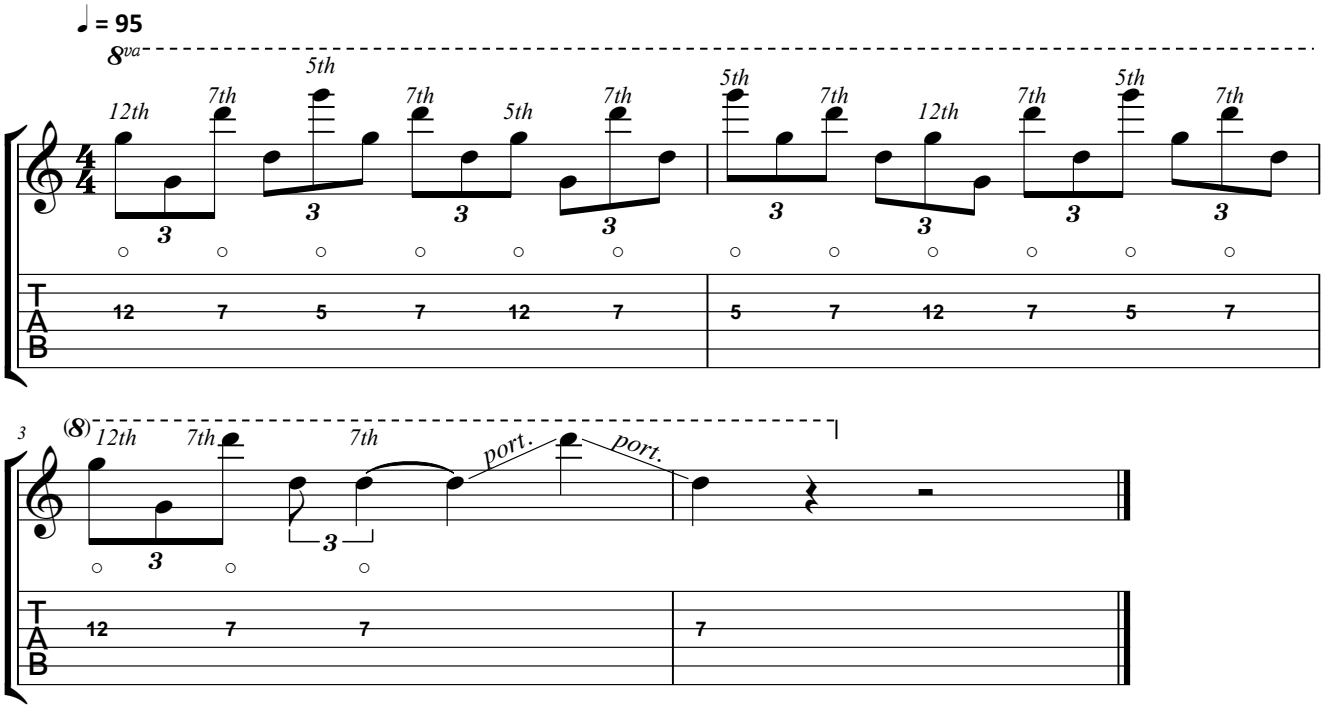
Tab 15.3 Appears at 8:48 in video lesson



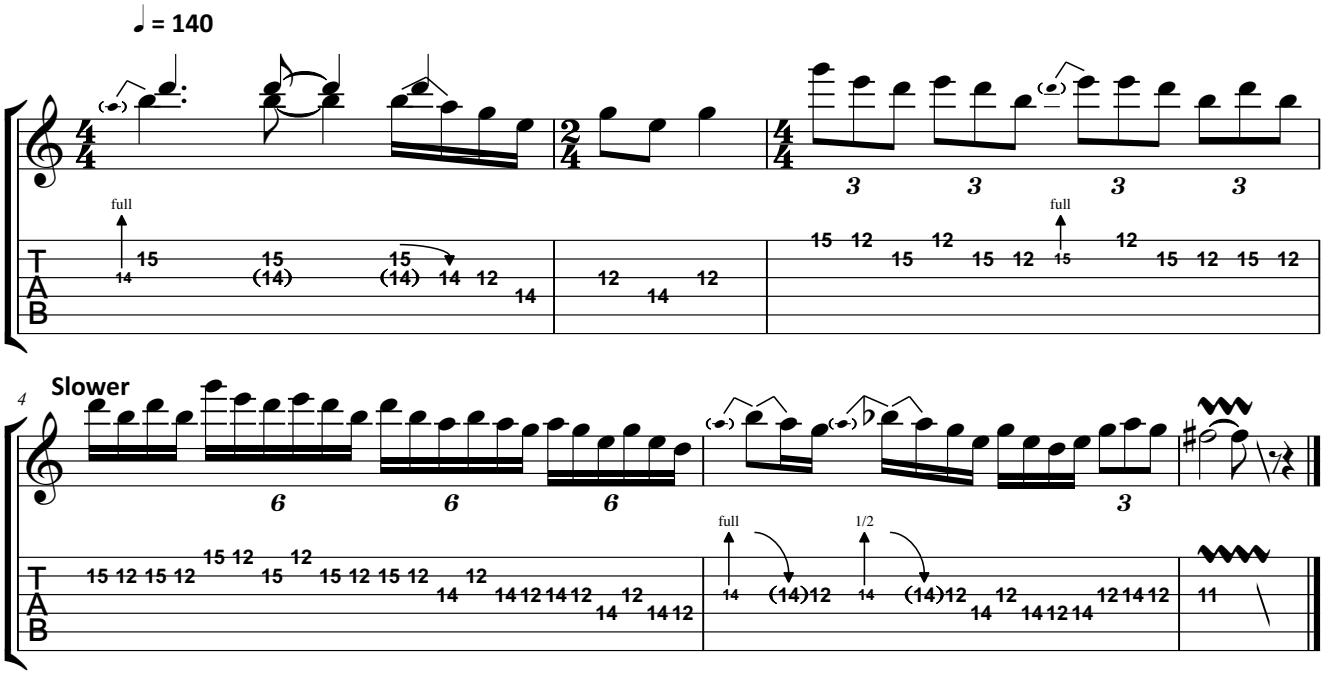
Tab 15.4 Appears at 9:05 in video lesson



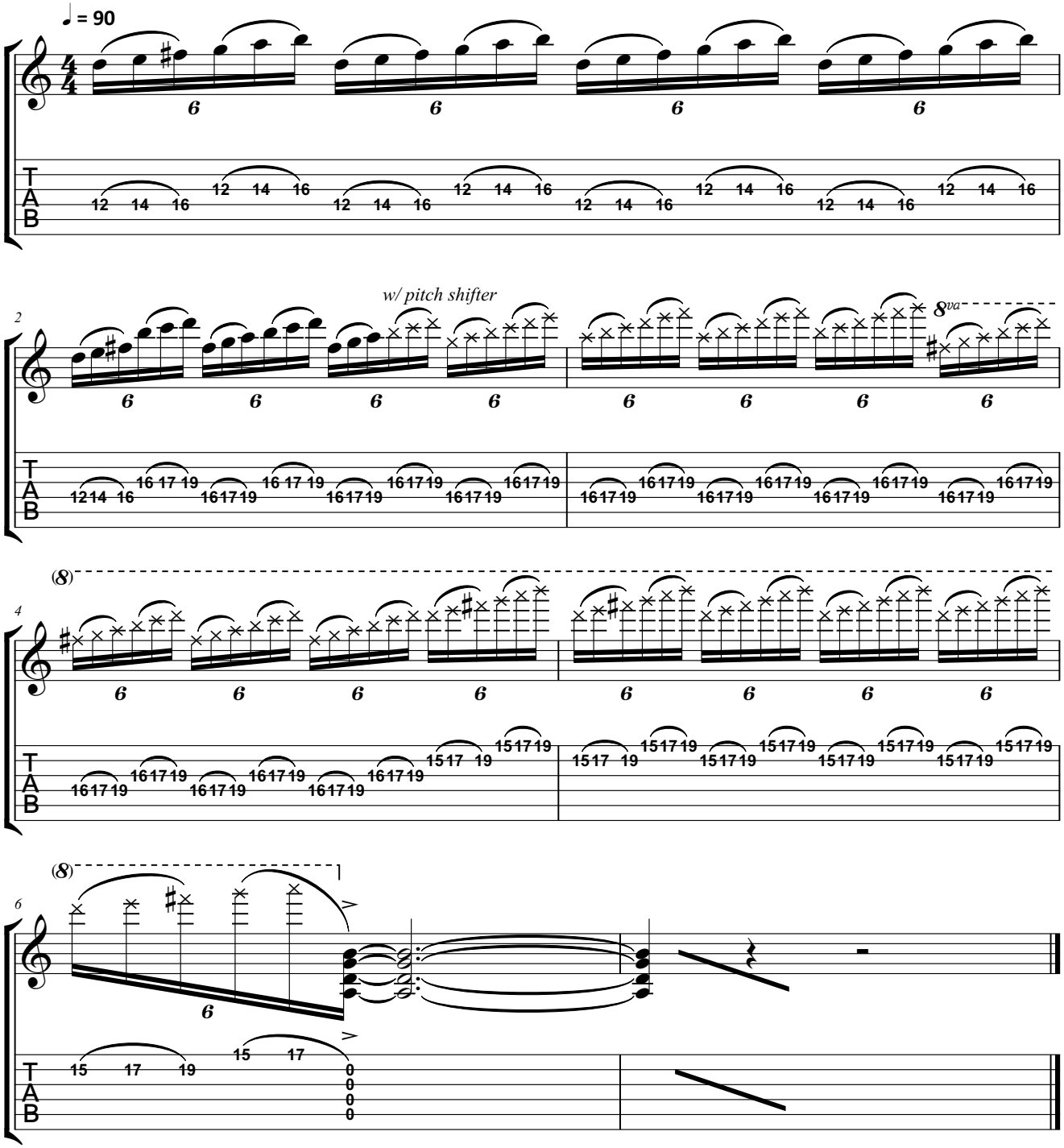
Tab 15.5 Appears at 9:15 in video lesson



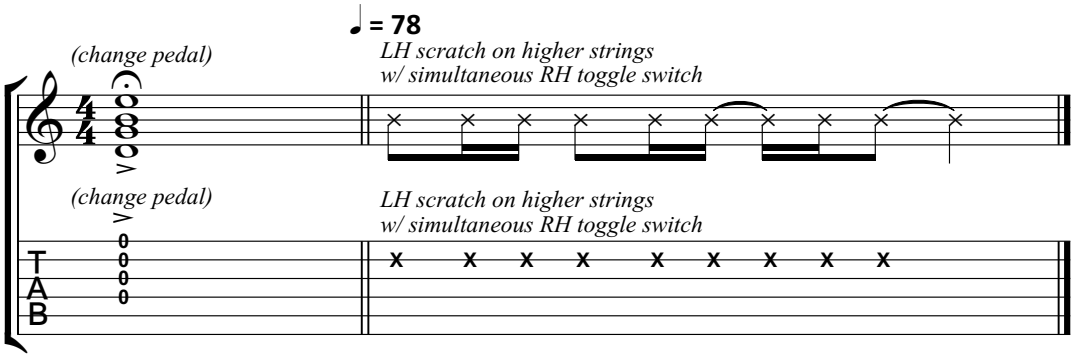
Tab 15.6 Appears at 10:06 in video lesson



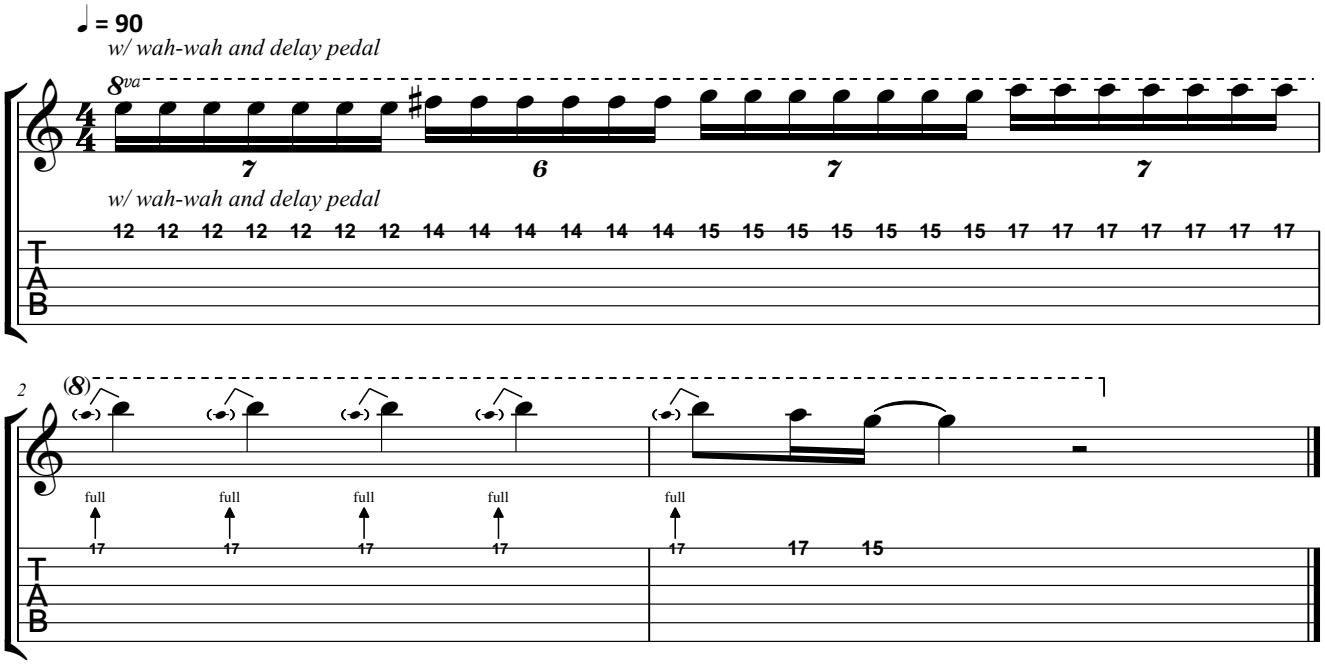
Tab 15.7 Appears at 10:38 in video lesson



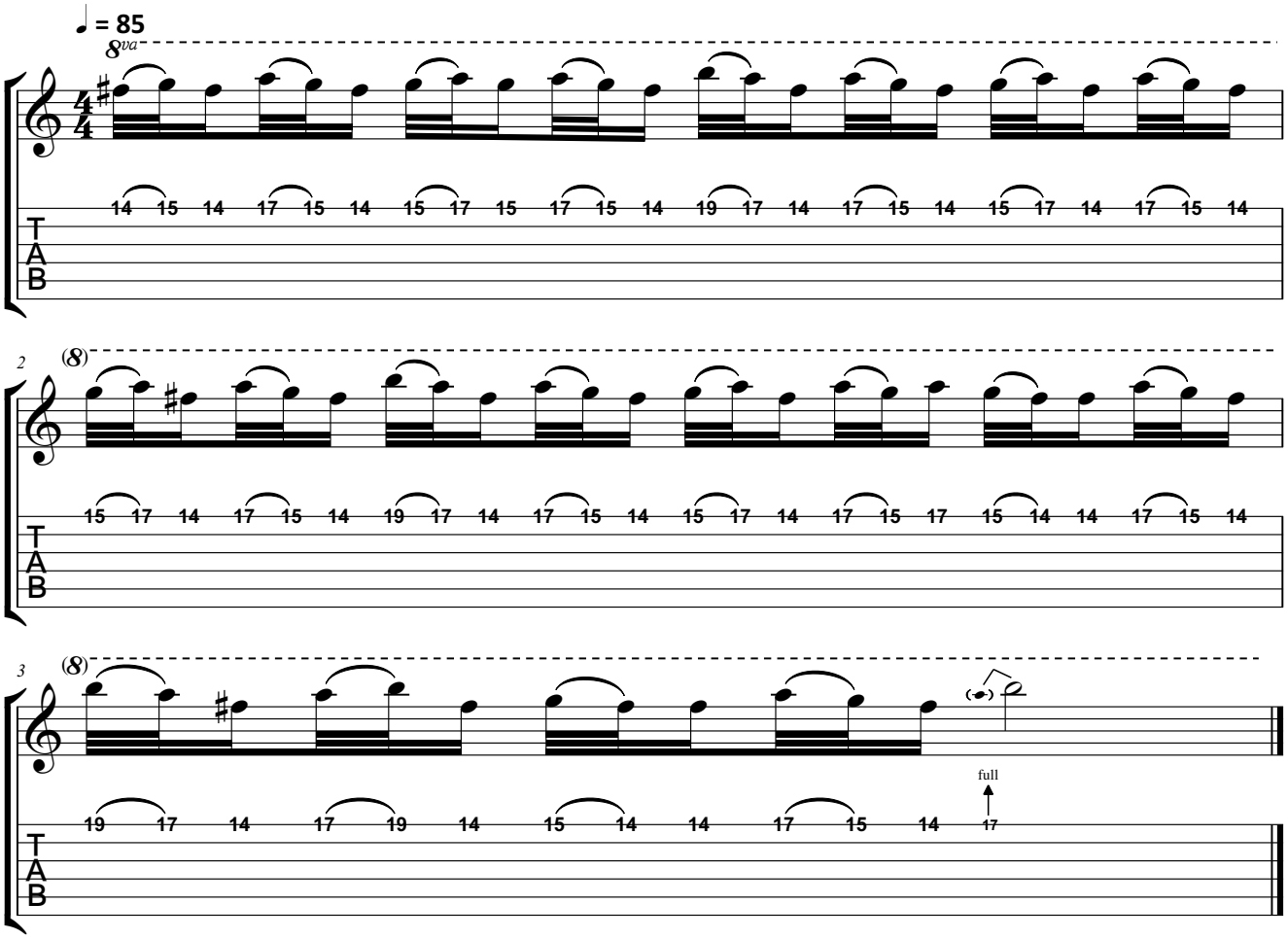
Tab 15.8 Appears at 11:02 in video lesson



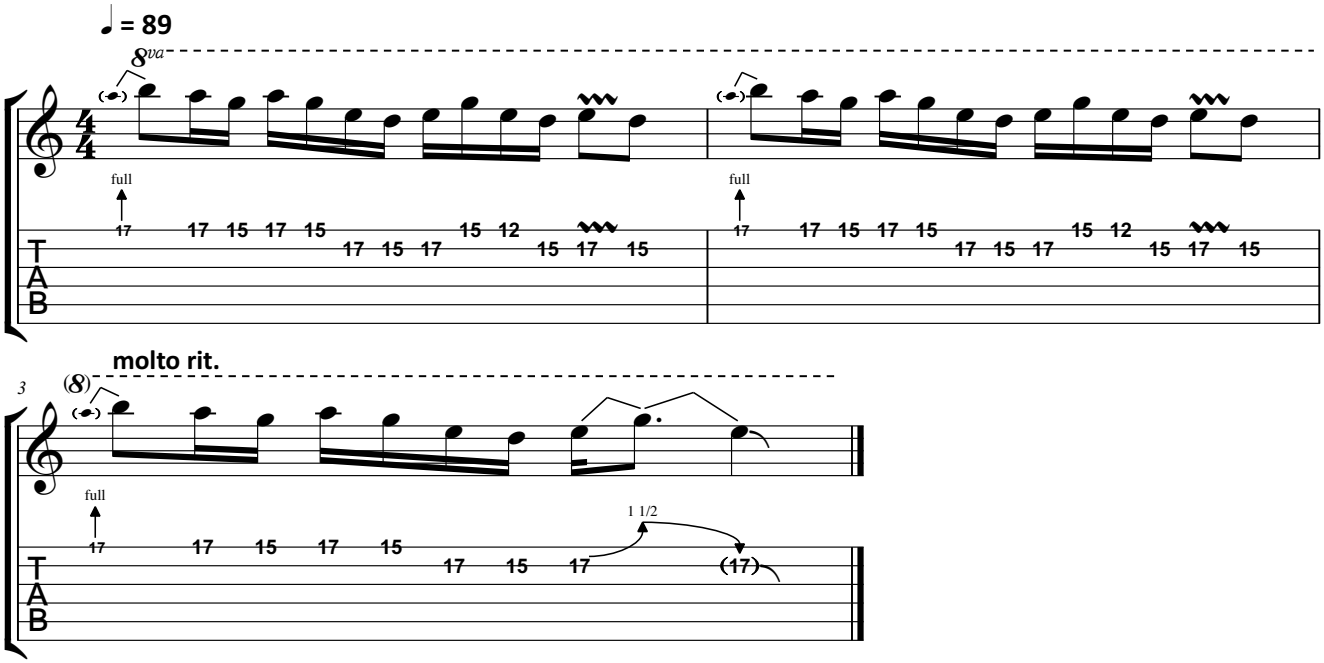
Tab 15.9 Appears at 11:27 in video lesson



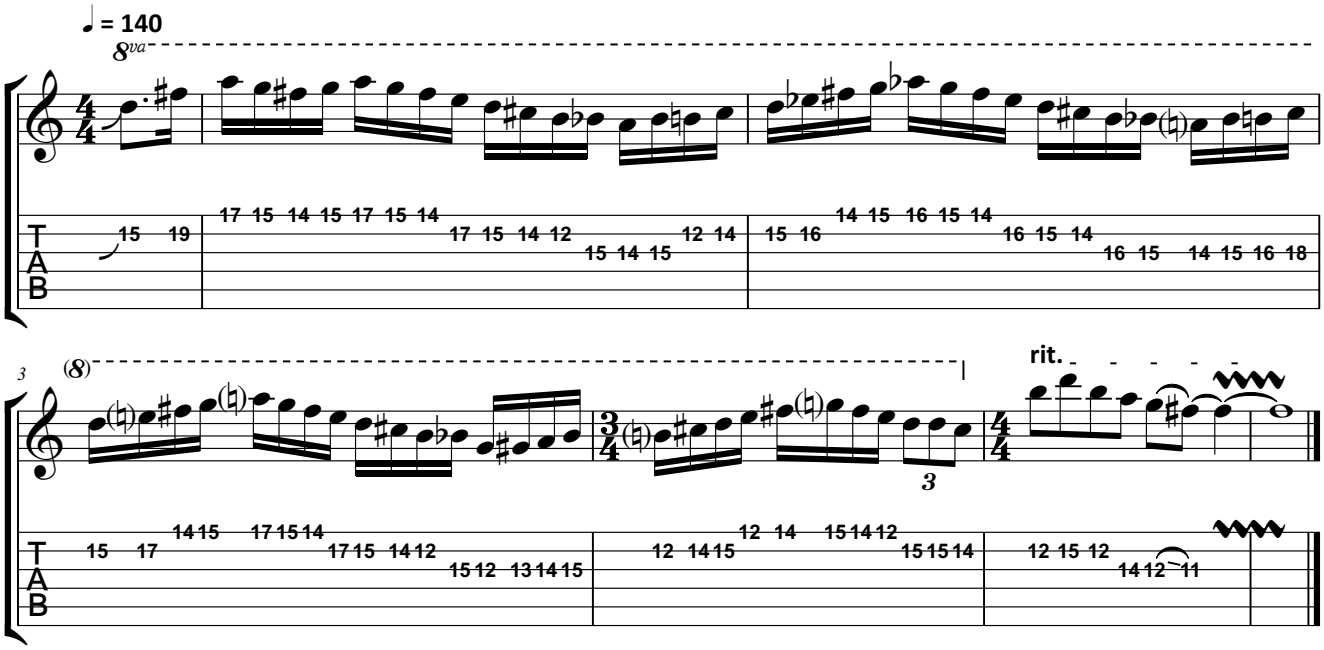
Tab 15.10 Appears at 11:40 in video lesson



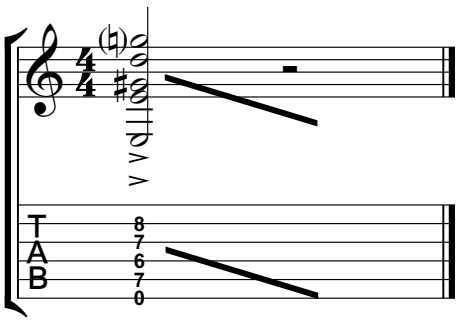
Tab 15.11 Appears at 11:50 in video lesson



Tab 15.12 Appears at 12:05 in video lesson



Tab 15.13 Appears at 12:20 in video lesson



TOM MORELLO

ROCK SONGWRITING FUNDAMENTALS

"If you're holding a guitar in your hands and you can play a couple of notes on the guitar, you're well on your way to being a songwriter."

CHAPTER 16

ROCK SONGWRITING FUNDAMENTALS

SUBCHAPTERS

X_ DEMYSTIFY THE SONGWRITING PROCESS
X_ STAY OPEN TO INSPIRATION
X_ GIVE YOUR IDEAS TIME TO FIND A HOME

CHAPTER REVIEW

When Tom started playing guitar, all he wanted to do was learn to play his favorite rock 'n' roll songs. But the instructors in his Illinois town insisted that he first learn how to properly tune the strings and practice basic scales–"busy work," as Tom puts it. The process made the guitar feel inaccessible, and when Tom later started teaching guitar to students, he never forgot that initial frustration.

What Tom eventually discovered is that there's no great mystery to songwriting. If you can hold a guitar and play a couple notes, you can write a song. In his view, it's not even necessary to know the names of the strings or the specific notes you're playing. What's more important is authenticity: if the song comes from inside you, then it's personally and artistically a success.

Tom identifies the two crucial components of songwriting as inspiration and craft. Inspiration is as simple as choosing to make a sound or play specific notes a certain way. Craft is the process of arranging those sounds and notes to create verses, choruses, and all the other building blocks of a song. The arrangement gives a song its form and structure, but it's the inspiration–the creative choices you and you alone make–that transform the arrangement into something original and new.

Inspiration can come from anywhere at anytime, and Tom believes it's important for you to document and preserve the ideas when they occur. Just as important: never self-censor. For instance, Tom wrote the main riff for Rage Against the Machine's "Bombtrack" when he was 19 and playing in a cover band, but years passed before he found a home for it. Your ideas might not result in a full-fledged song right away, but you may find a use for them down the road.

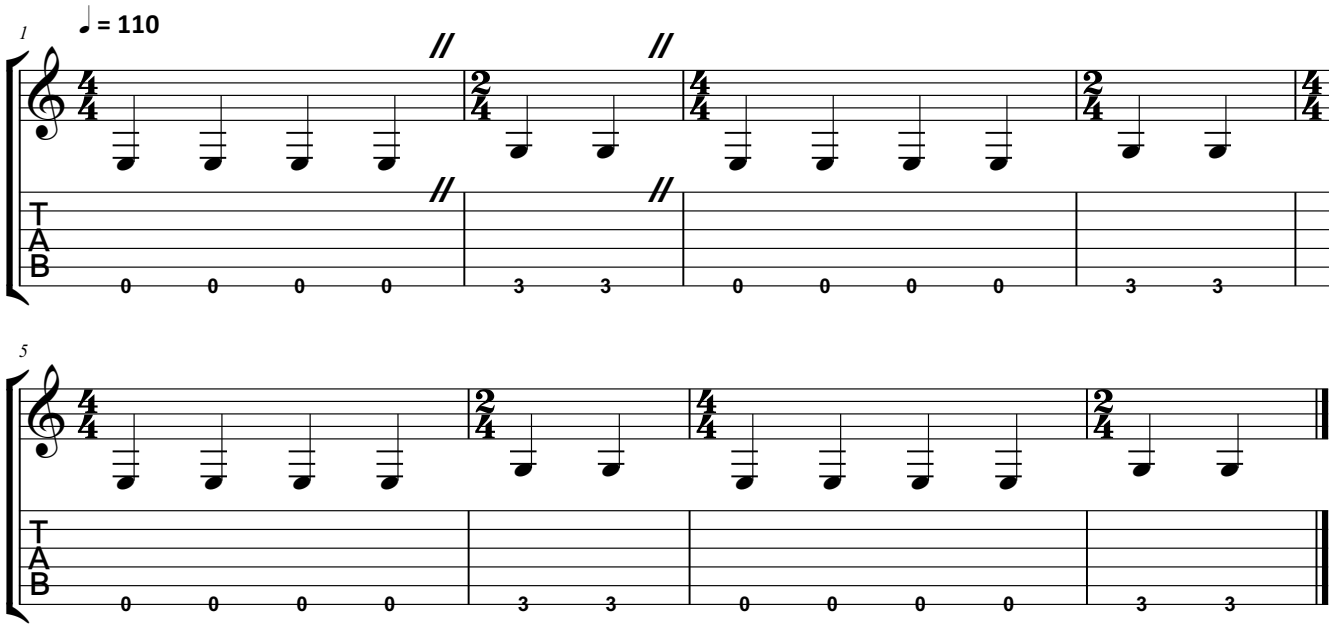
LEARN MORE

The ethos of punk rock, where anyone who wanted to play music was encouraged to do so regardless of training or experience, had an immediate impact on Tom and many other musicians of his era. For more background and insight, check out *Please Kill Me: The Uncensored Oral History of Punk Rock* by Legs McNeil and Gilliam McCain (Grove Press, 1996); *Our Band Could Be Your Life: Scenes From the American Indie Underground, 1981-1991* by Michael Azerrad (Back Bay Books, 2002); and *England's Dreaming: Anarchy, Sex Pistols, Punk Rock, and Beyond* by Jon Savage (Faber and Faber, 1991).

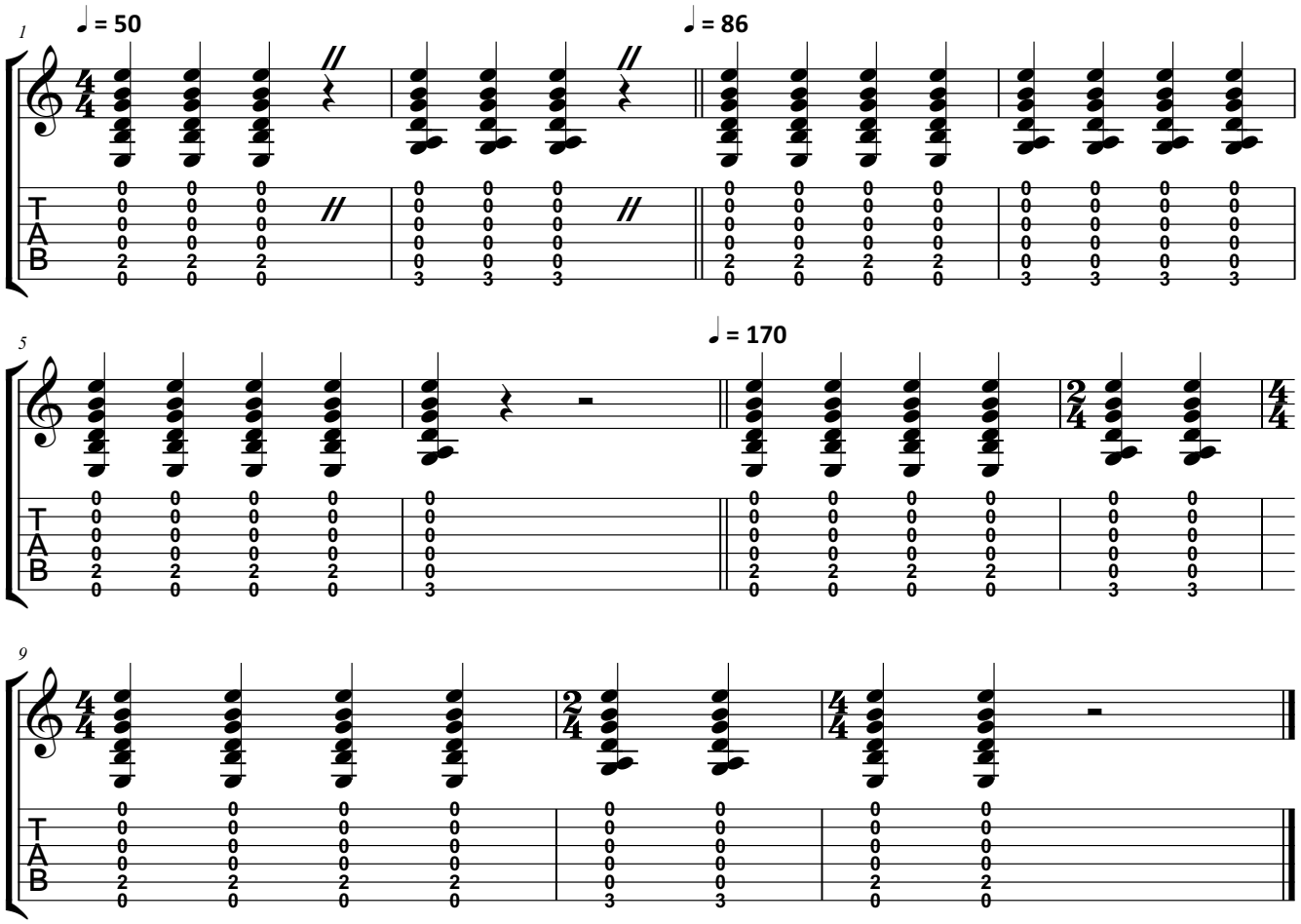
ASSIGNMENT

Come up with two riffs or chord progressions and pair them together as the verse and chorus of a simple song. It's not necessary to worry about adding lyrics or a vocal melody at this point; Tom will cover that in a later chapter. For now, just concentrate on the basic structure.

Tab 16.1 Appears at 3:30 in video lesson

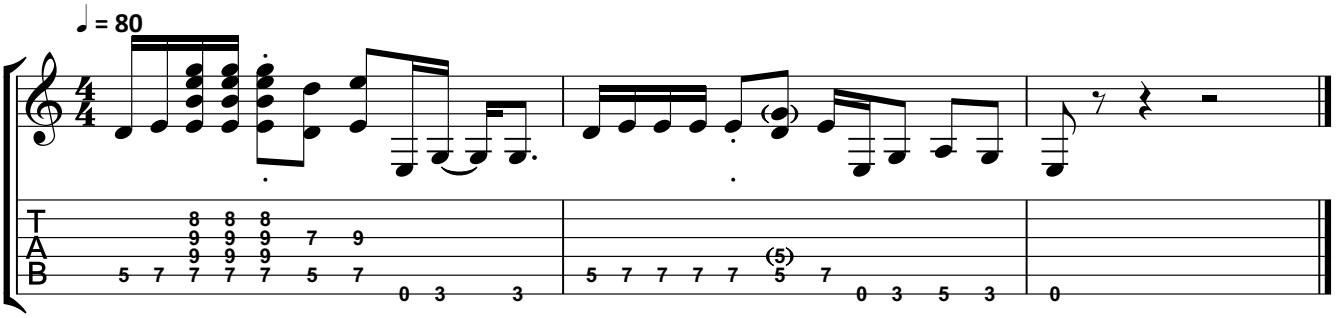


Tab 16.2 Appears at 4:34 in video lesson



Tab 16.3

Appears at 7:00 in video lesson



TOM MORELLO

RIFF ROCK WRITING: VERSES AND MULTITRACKING

"Technology should never be a barrier to creativity."

CHAPTER 17

RIFF ROCK WRITING: VERSES AND MULTITRACKING

SUBCHAPTERS

X_ RECORD IDEAS HOWEVER YOU CAN
X_ BEGIN ON ACOUSTIC
X_ ADD SOME BASS AND A BEAT
X_ DOUBLE-TRACK THE RIFF ON ELECTRIC
X_ ADD A MUSICAL EMERGENCY
X_ ADD PARTS WITH PURPOSE

CHAPTER REVIEW

You never know when inspiration for a song will strike. When you have that moment of inspiration, use whatever means are available to record your ideas before they're lost or forgotten. Tom writes some of his heaviest riffs on a nylon-string acoustic guitar simply because it's the most practical option when he's at home and doesn't want to disturb anyone. You don't need a studio or rehearsal space before you can develop a song.

Even a basic multitrack recorder will allow you to overdub additional guitar parts: double-tracking for a fuller sound (à la Jimmy Page), improvising a solo, or adding what Tom calls a "musical emergency"—a signature sound or flair that helps define his style. A click track can set the rhythm at a specific BPM (beats per minute) to keep your playing in time and ensure all your parts line up accurately. You can even experiment with different basslines to see how they change the song's overall feel.

LEARN MORE

Throughout the class, Tom mentions both **double-tracking** and **multitracking**. There are some distinctions to be aware of:

Double-tracking is when you play the same musical figure (melody, riff, strummed chord, etc.) on top of itself to create a "doubled" effect. Doing so adds sonic depth to the part because there are two (or more) of that part in the recorded mix instead of one. Harmonizing also falls into this category: playing a musical figure at a different melodic interval to create a stacking effect.

Check out the below songs for some examples of double-tracking from Tom's catalog:

Rage Against the Machine:
"Killing in the Name"
See Chapter 21: Case Study: "Killing in the Name" for an in-depth look at this song.

Audioslave: "Be Yourself"
Tom's solo is double-tracked in high and low octaves, with a Wah-Wah effect on the higher track.

Audioslave: "Until We Fall"
The verse guitar parts are doubled: one on acoustic and one on electric.

Rage Against the Machine: "Bombtrack"
During most of the verse, Tom doubles the riff for extra heaviness, but at certain parts he strays from the riff and adds a little color between the two tracks.

Audioslave: "Yesterday or Tomorrow"
Listen closely to the chorus arpeggios to hear double-tracked acoustic and electric guitars, like on "Until We Fall."

Multitracking is playing two (or more) different musical figures at the same time. This might be rhythm chords with a solo on top, a riff with some sort of "musical emergency" on top, et cetera.

Below are some examples of multitracking in Tom's catalog.

Rage Against the Machine: "Wake Up"
The intro pairs a detune effect with rhythm guitar, and the verses combine a main riff with an added Wah-Wah track.

Rage Against the Machine: "Sleep Now in the Fire"
The solo section features rhythm guitars supporting the solo.

Rage Against the Machine: "Fistful of Steel"
The cool breakdown section features the guitar riff, layered with a track of the Allen wrench scratchy sound described in Chapter 2.

Audioslave: "I Am the Highway"
The choruses of this song feature a strumming rhythm guitar alongside another guitar with a tremolo effect.

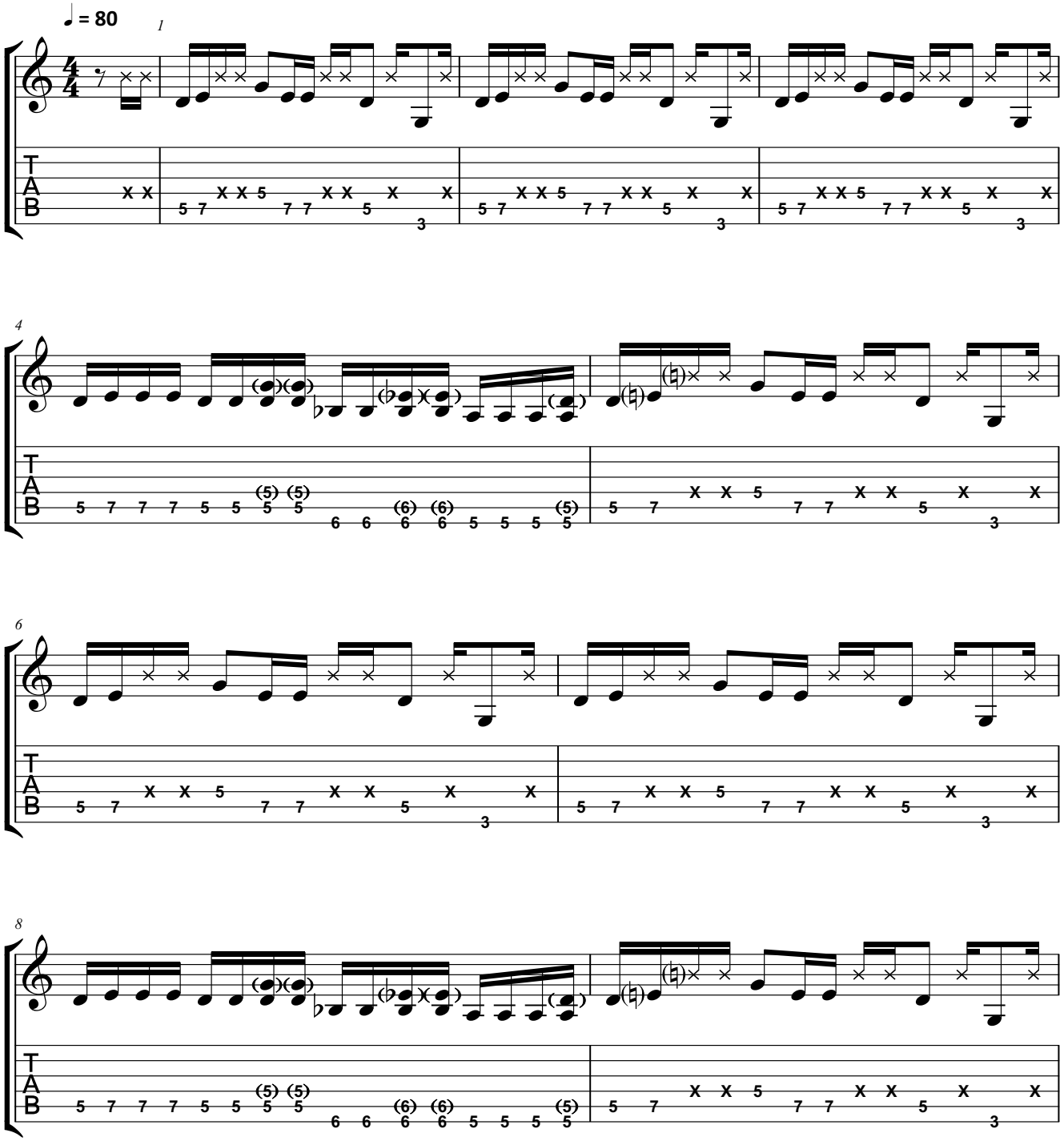
Audioslave: "Until We Fall"
Whereas most of Tom's solos in the Audioslave catalog have no supportive rhythm parts, the solo in between the first chorus and second verse of this song includes strummed chords under the solo.

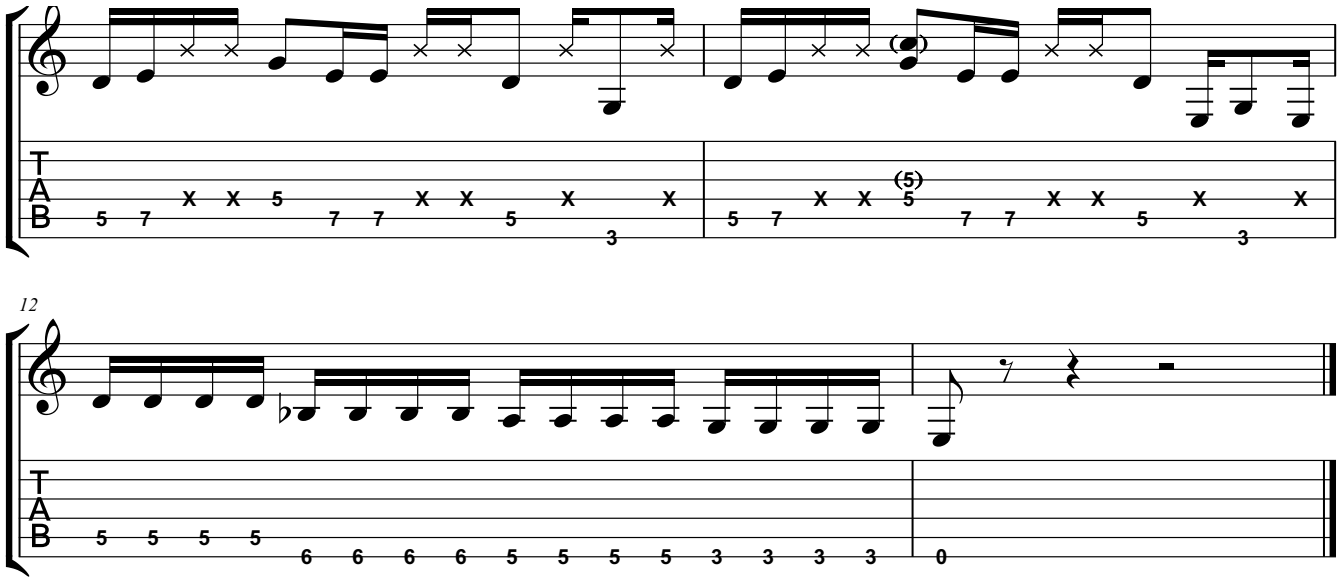
ASSIGNMENT

If you are more experienced and have access to either an analog multitrack recorder or a digital program like Pro Tools or GarageBand, record a song you've written and then experiment with either double-tracking a riff (recording it twice to give it more depth and heaviness) or adding a melodic guitar lead or solo over your chord progressions. If you have any other instruments like a bass guitar or synthesizer, play them along with your guitar recording, trying out different parts to see how they change the tone and feel of your song.

Tab 17.1

Appears at 3:13 in video lesson

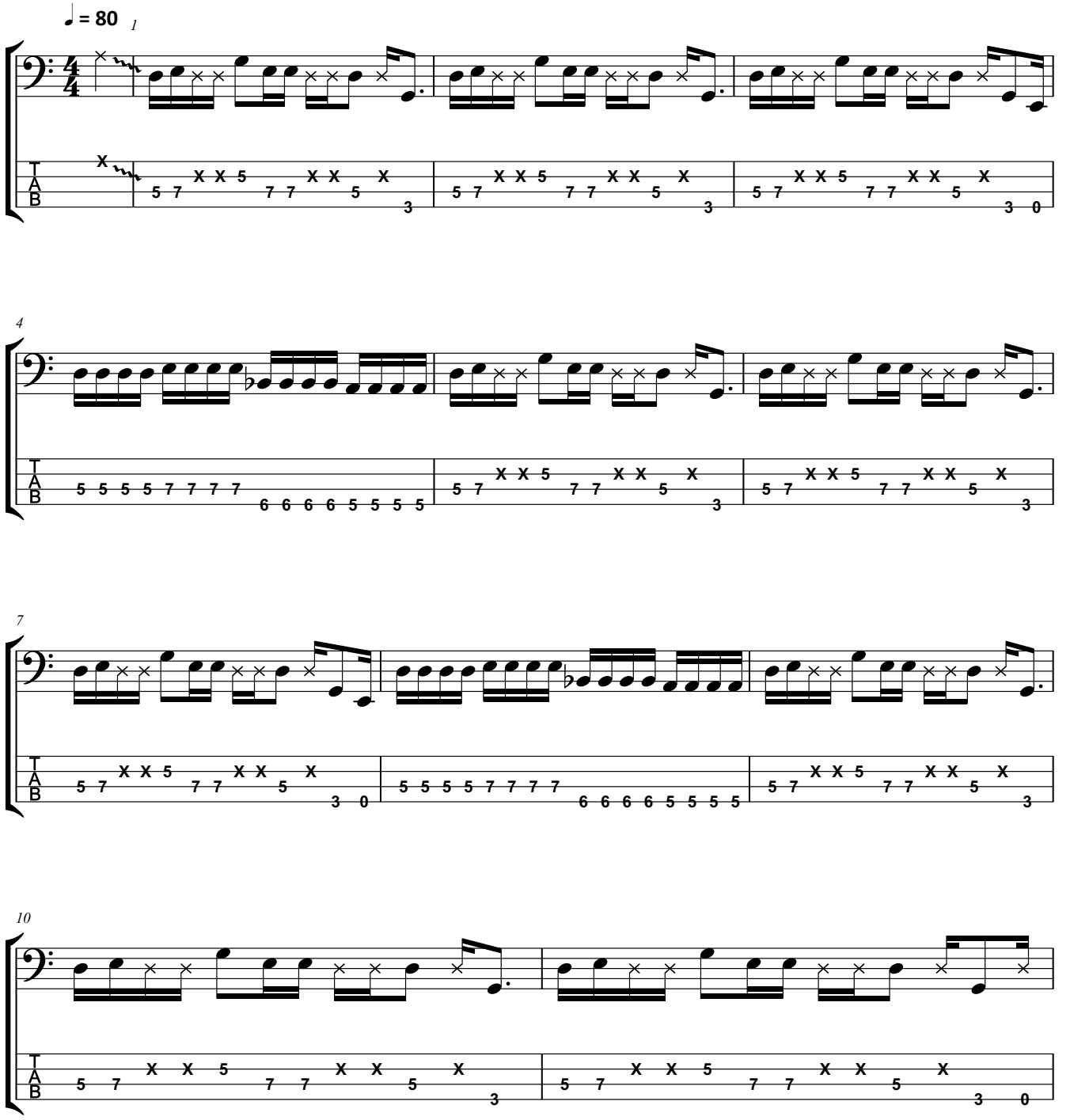


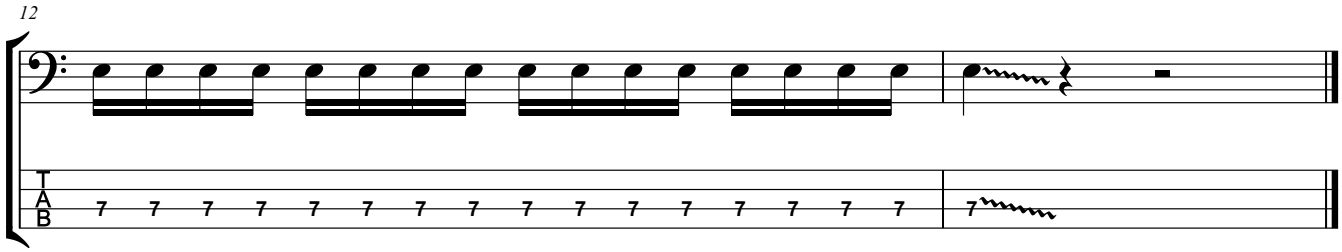

T
A
B
5 7 X X 5 7 7 X X 5 X X 3
5 7 X X (5) 5 7 7 X X 5 X X 3

12
T
A
B
5 5 5 5 6 6 6 6 5 5 5 5 3 3 3 3 0

Tab 17.2

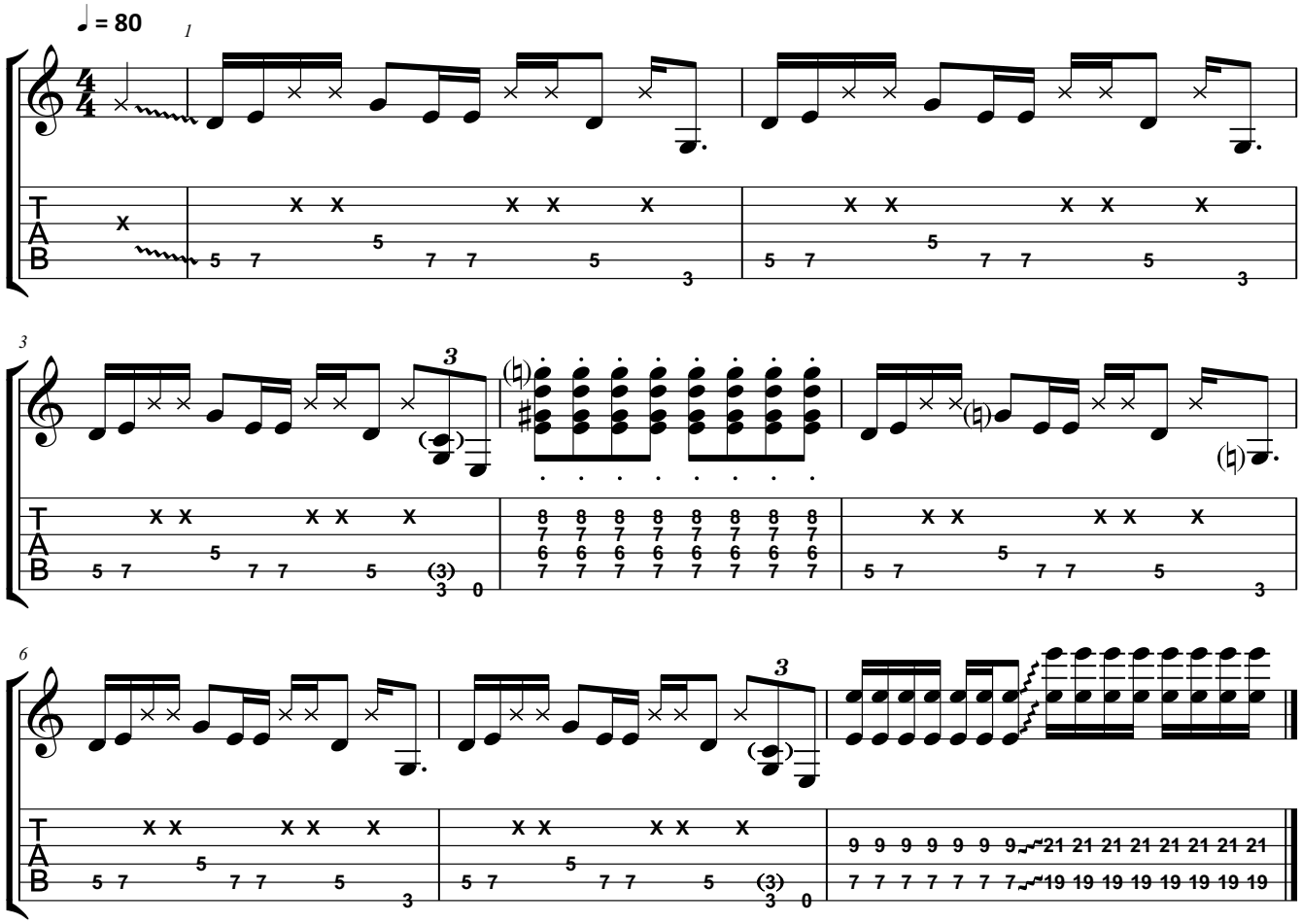
Appears at 4:18 in video lesson



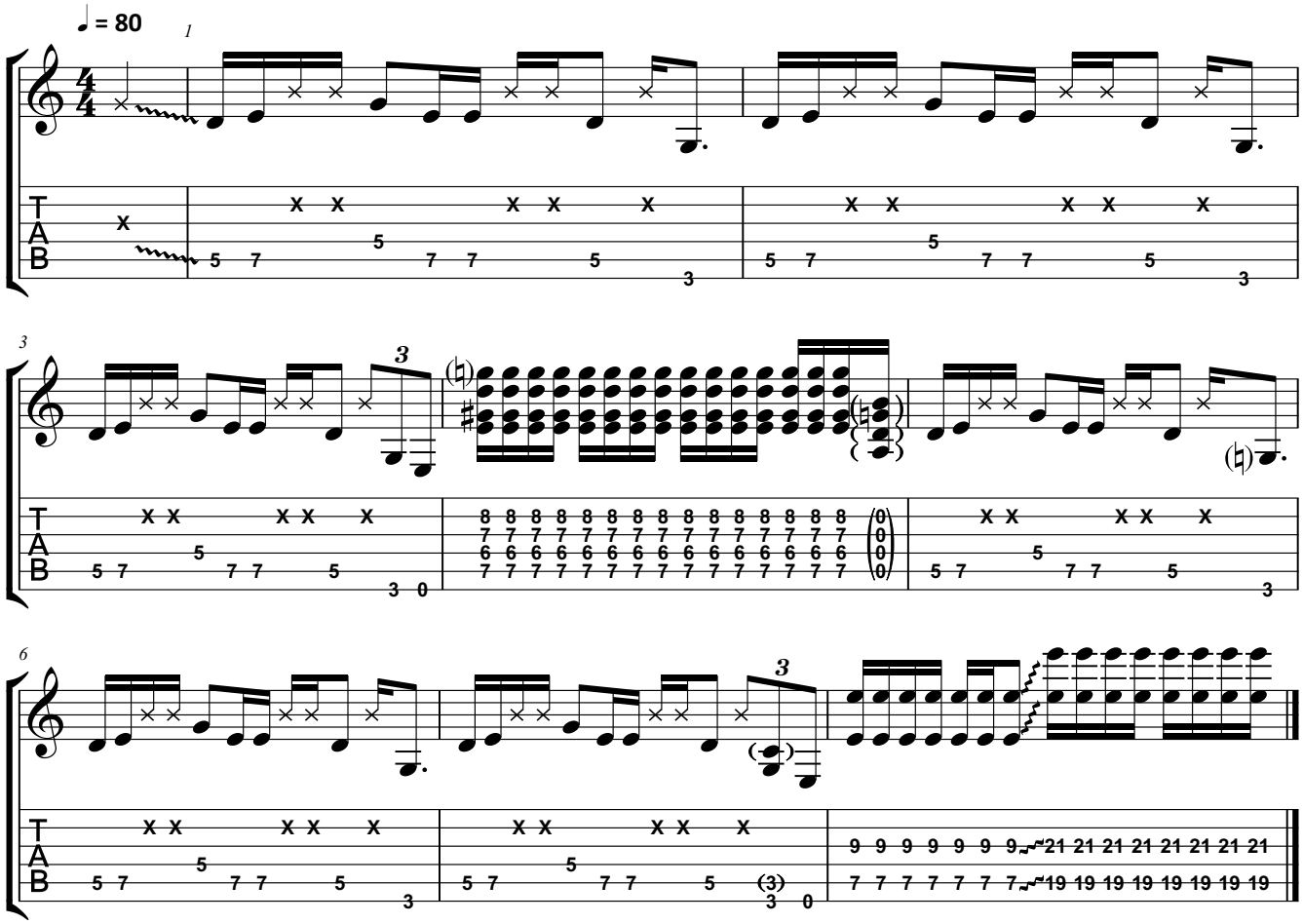

12
T
A
B
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
7

Tab 17.3

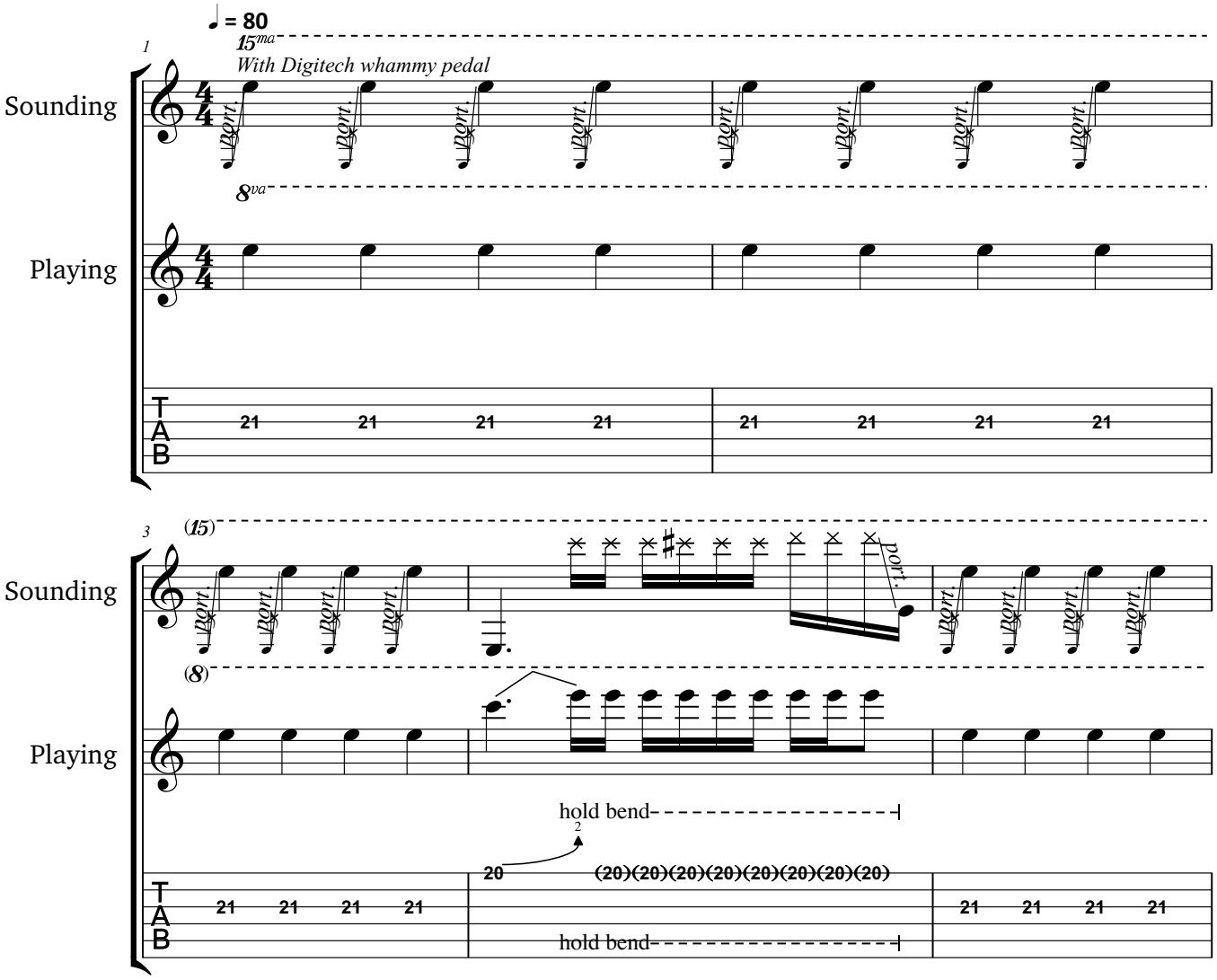
Appears at 5:26 in video lesson

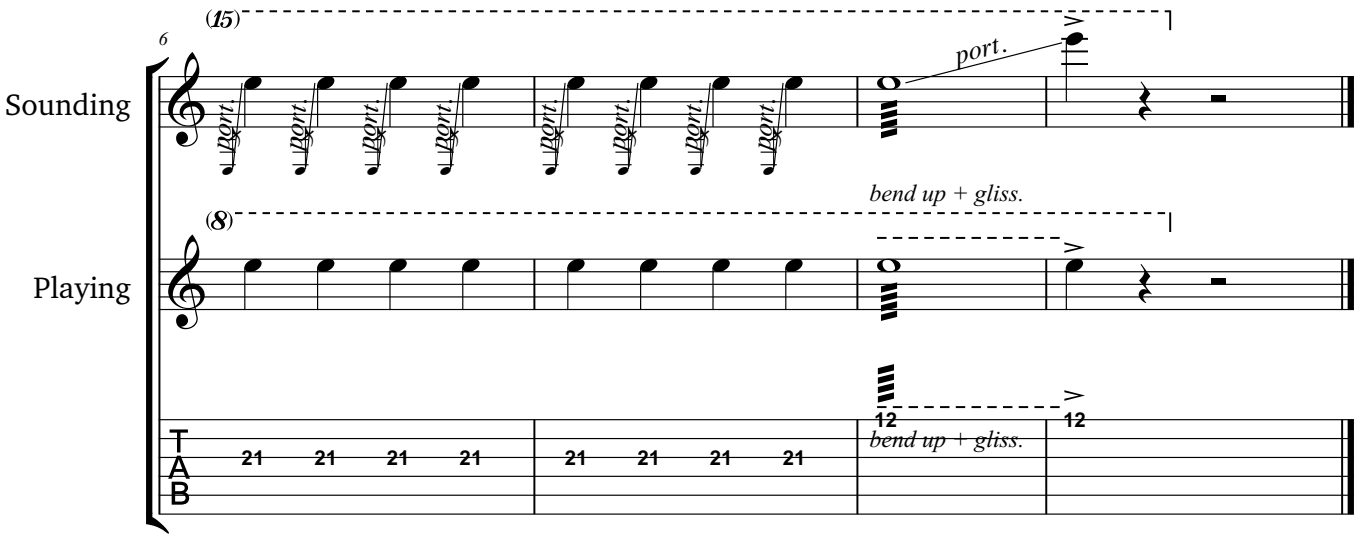


Tab 17.4 Appears at 6:23 in video lesson



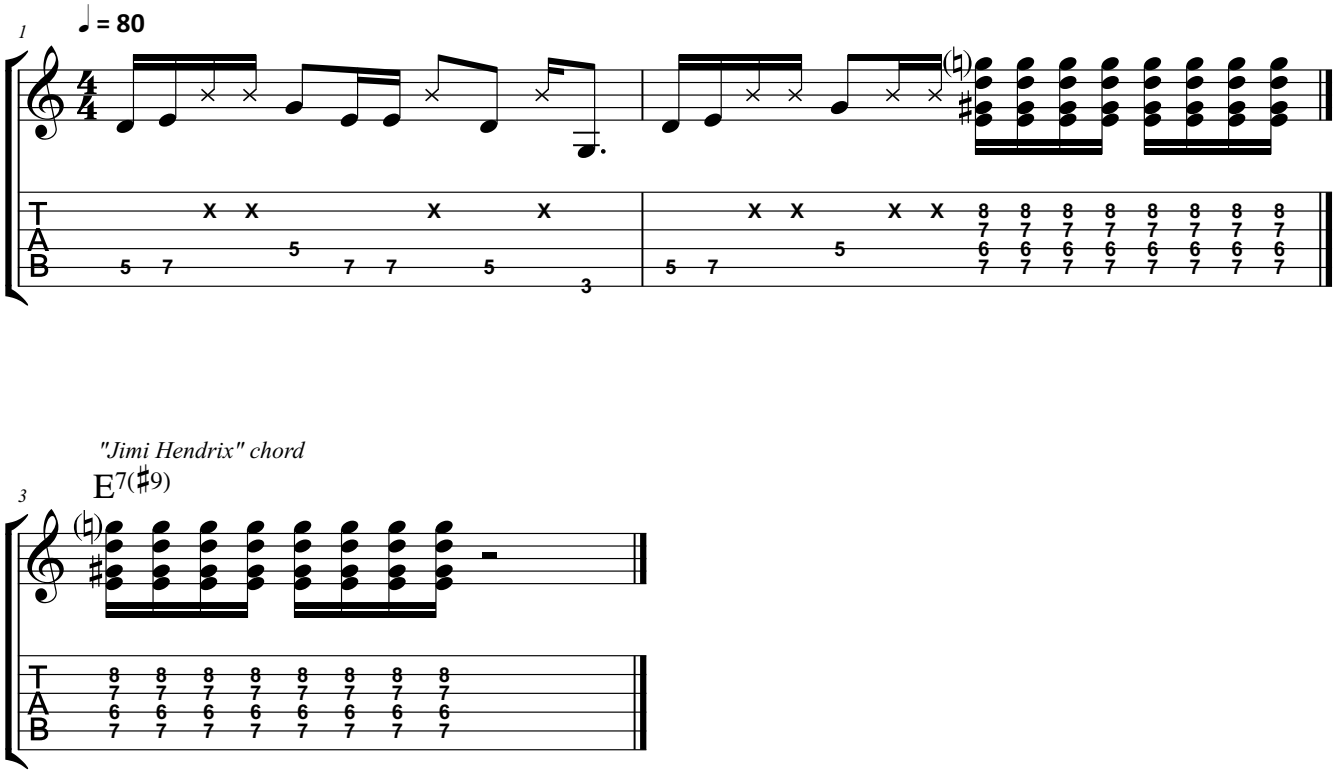
Tab 17.5 Appears at 7:30 in video lesson




Sounding
Playing
(15)
(8)
6
port.
bend up + gliss.
T
A
B
21
12

Tab 17.6

Appears at 10:37 in video lesson



TOM MORELLO

RIFF ROCK WRITING: CHORUS, SOLO, AND ARRANGEMENT

"Use your music and your creativity to create something that's original and authentic to you."

CHAPTER 18

RIFF ROCK WRITING: CHORUS, SOLO, AND ARRANGEMENT

SUBCHAPTERS

X_ ADD A CHORUS
X_ TRY ALTERNATE BASSLINES
X_ LAY DOWN A SOLO
X_ FEED OFF OF YOUR OWN EXCITEMENT
X_ INJECT YOUR VOICE INTO EXISTING SONG ARRANGEMENTS

CHAPTER REVIEW

You can create a complete song with nothing more than two riffs—one riff can serve as the verse; the other as the chorus. If you're in a band or have friends you play with, you can bring those riffs to the group and give everyone a chance to contribute, possibly taking the song in a totally new direction. If you consider yourself more of a bandleader or solo artist, you can flesh out the song's arrangement on your own.

Tom also encourages you to not overthink or get too precious about your ideas. A short, simple song with three chords and a few basic lyrics repeated over and over is no better or worse than an epic prog-rock jam with lots of complex parts and time-signature changes. If the song you've written feels right to you, move on to the next. What matters most is that you maintain a sense of excitement about what you've created.

ASSIGNMENT

Tom breaks down "Bulls on Parade" into its fundamental arrangement. Take the outline of that arrangement, below, and apply your own original musical parts to it. What's your riff? What's your chorus?

- Riff
- Wah-wah intro
- Verse 1
- Chorus 1
- Verse 2
- Chorus 2
- Bridge (Key change)
- Guitar solo
- Chorus Breakdown
- Riff

Following Tom's example with "Bulls on Parade," pick a song you love and study its arrangement piece by piece. Start at the beginning and work all the way through to the end, writing down each new section or part as it happens in order. Does the song open with a specific, standalone riff before transitioning into a different riff or chord progression for the first verse? Does that first verse go straight into the chorus, or is there yet another distinct part that serves as a bridge between them?

If you're more advanced, dig even deeper into your chosen song's arrangement. How many bars are in each section? What's the time signature and key? What scales and modes did the guitarist use to create the riffs and solos?

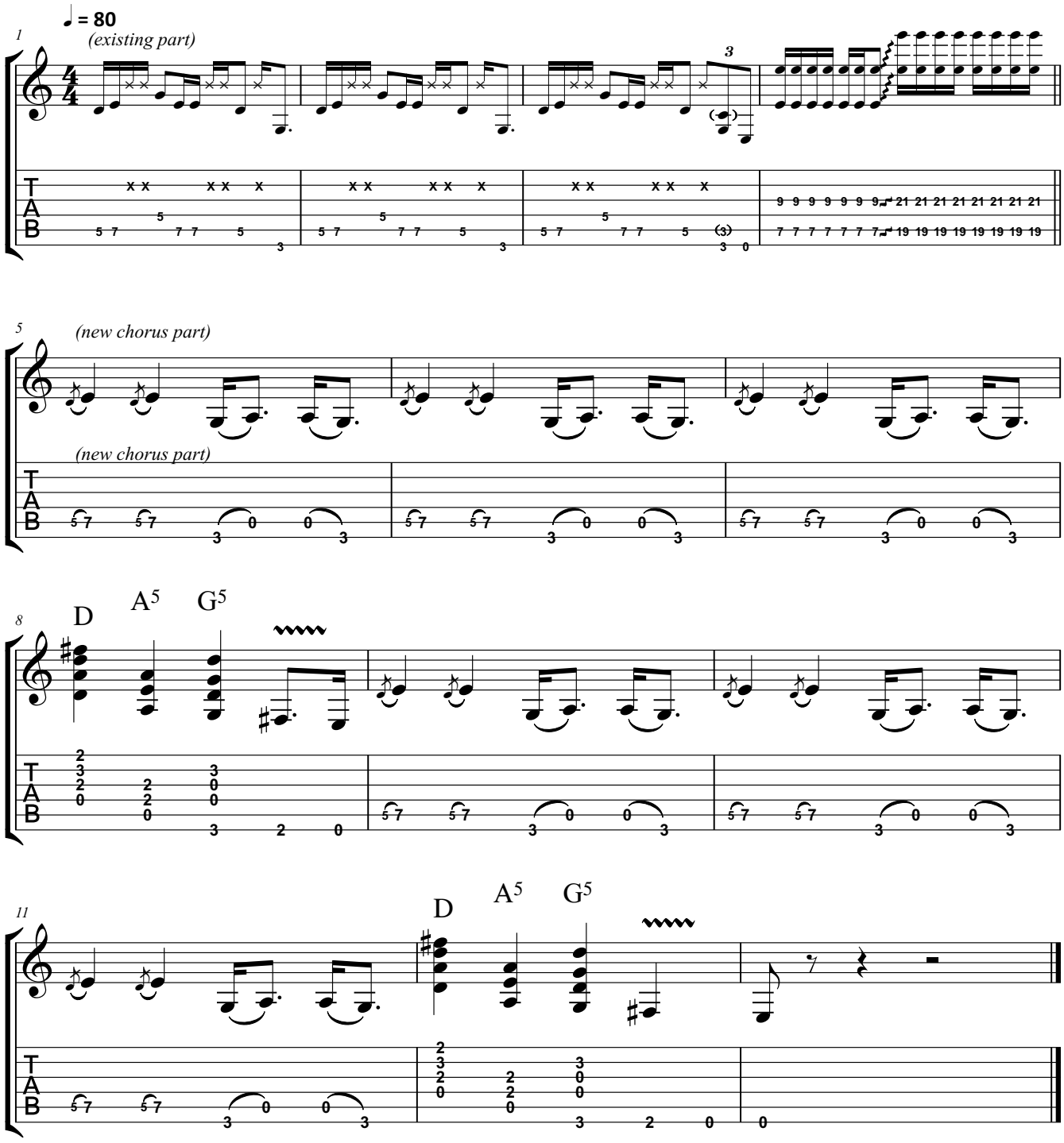
Whatever your skill level, try to hone in on as many nuances as you can. What you're doing is creating a sort of mold of how the song is put together. Then, once you have that mold in place, you can pour in your own ideas, creating a completely new song based on that exact same arrangement. You can even do this exercise with songs you *don't* like, just to broaden your understanding of all the different kinds of arrangements that are possible.

Don't know where to start? Try listening to the songs Tom mentions throughout the last three chapters, listed below.

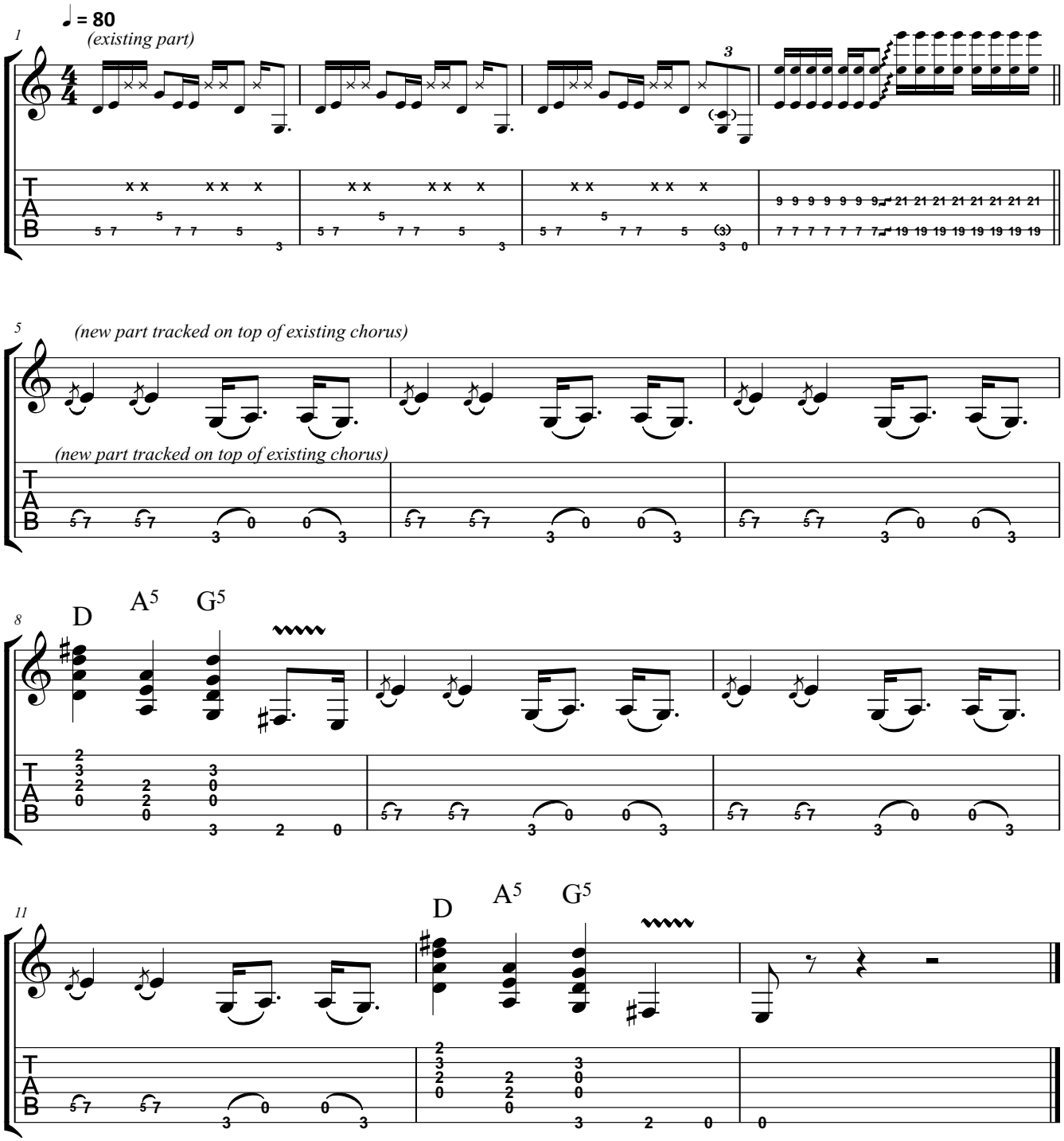
Multi-chapter Playlist

- Led Zeppelin, "Black Dog"
- KISS, "Detroit Rock City"
- The Beatles, "Let It Be"
- The Beatles, "She Loves You"
- Rage Against the Machine, "Bulls on Parade"
- Rage Against the Machine, "Bombtrack"
- Metallica, "Master of Puppets"
- Bob Dylan, "Lay Lady Lay"
- Bruce Springsteen, "Darkness on the Edge of Town"
- Audioslave, "Cochise"

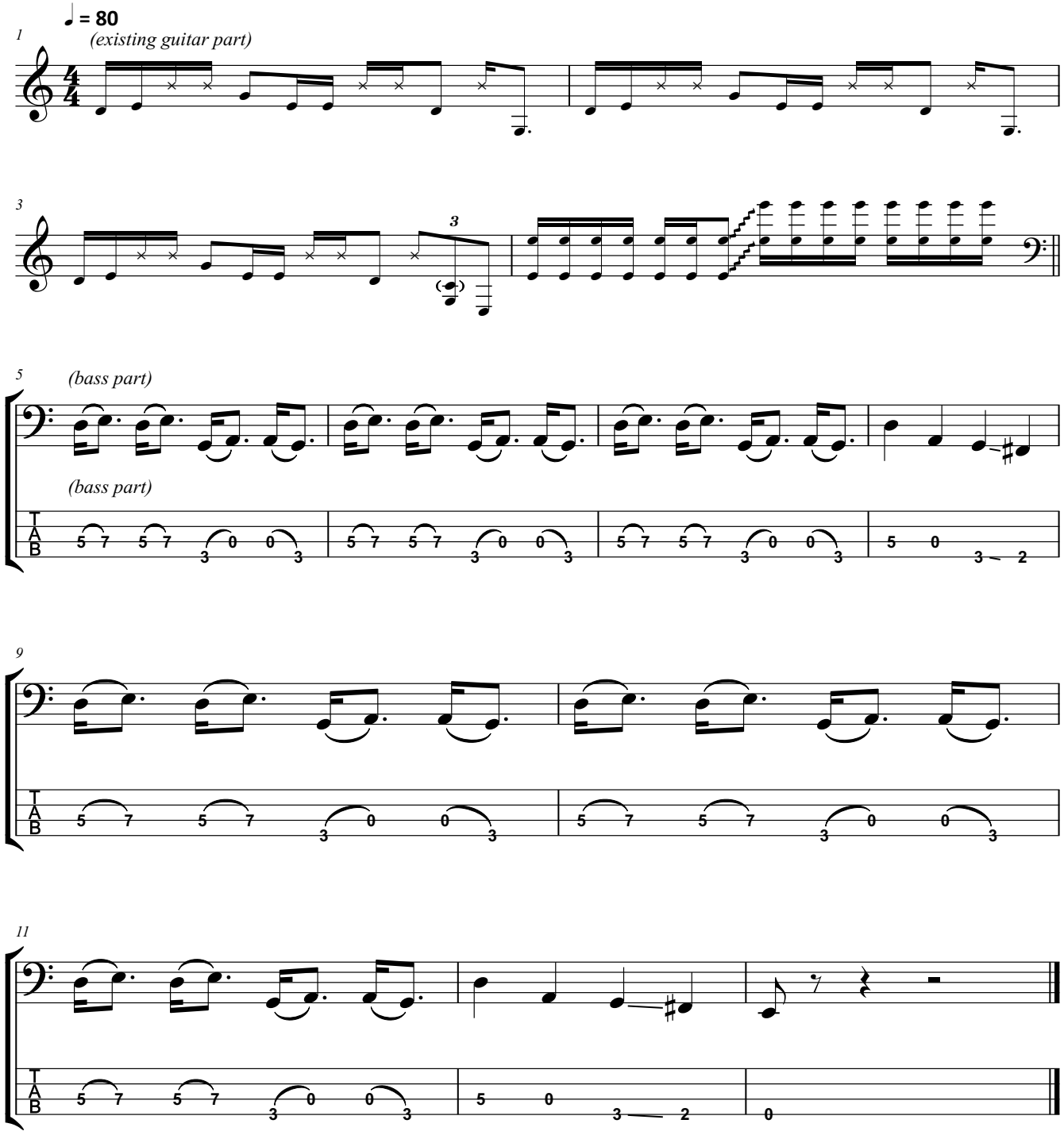
Tab 18.1 Appears at 1:25 in video lesson



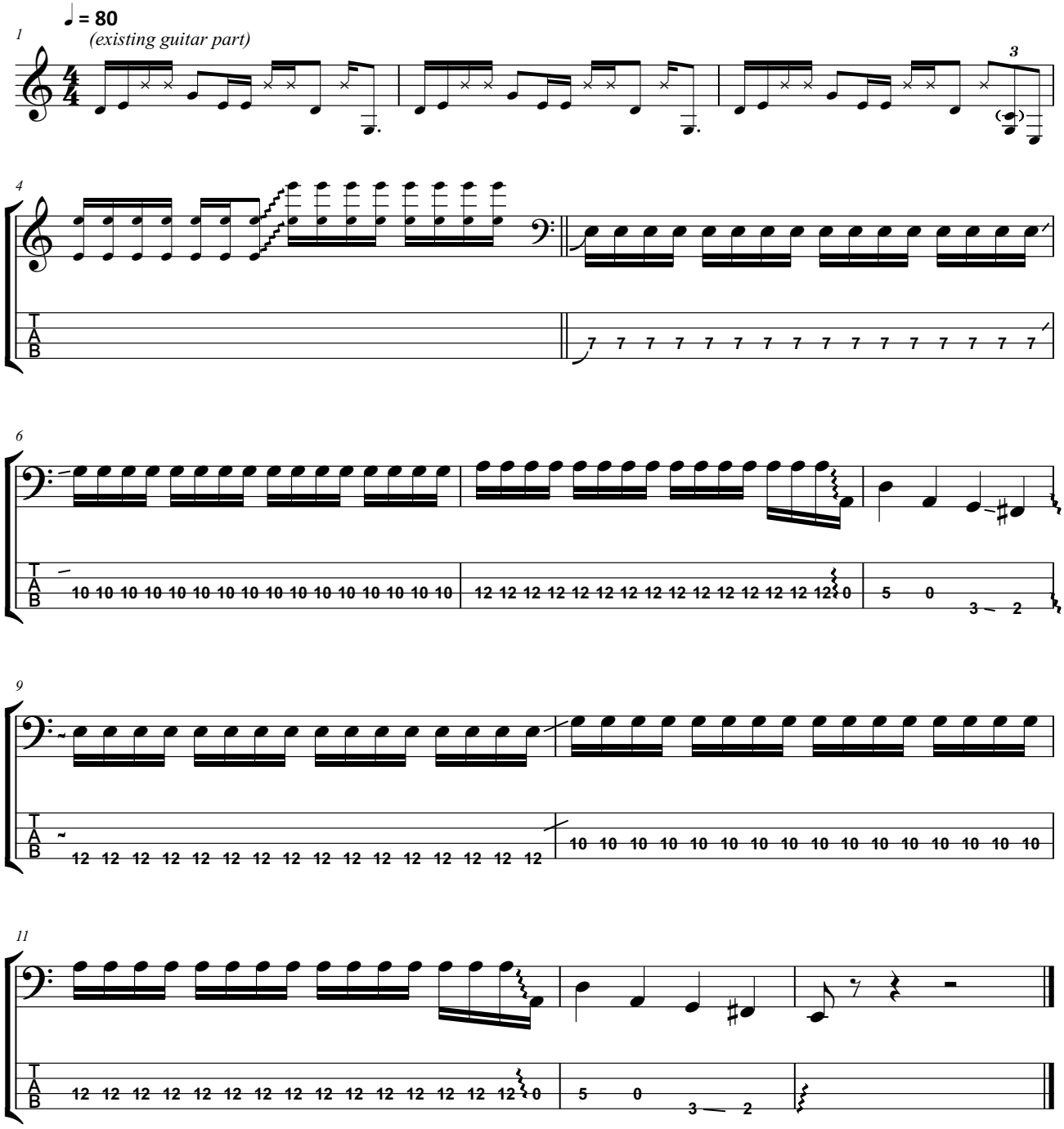
Tab 18.2 Appears at 2:09 in video lesson



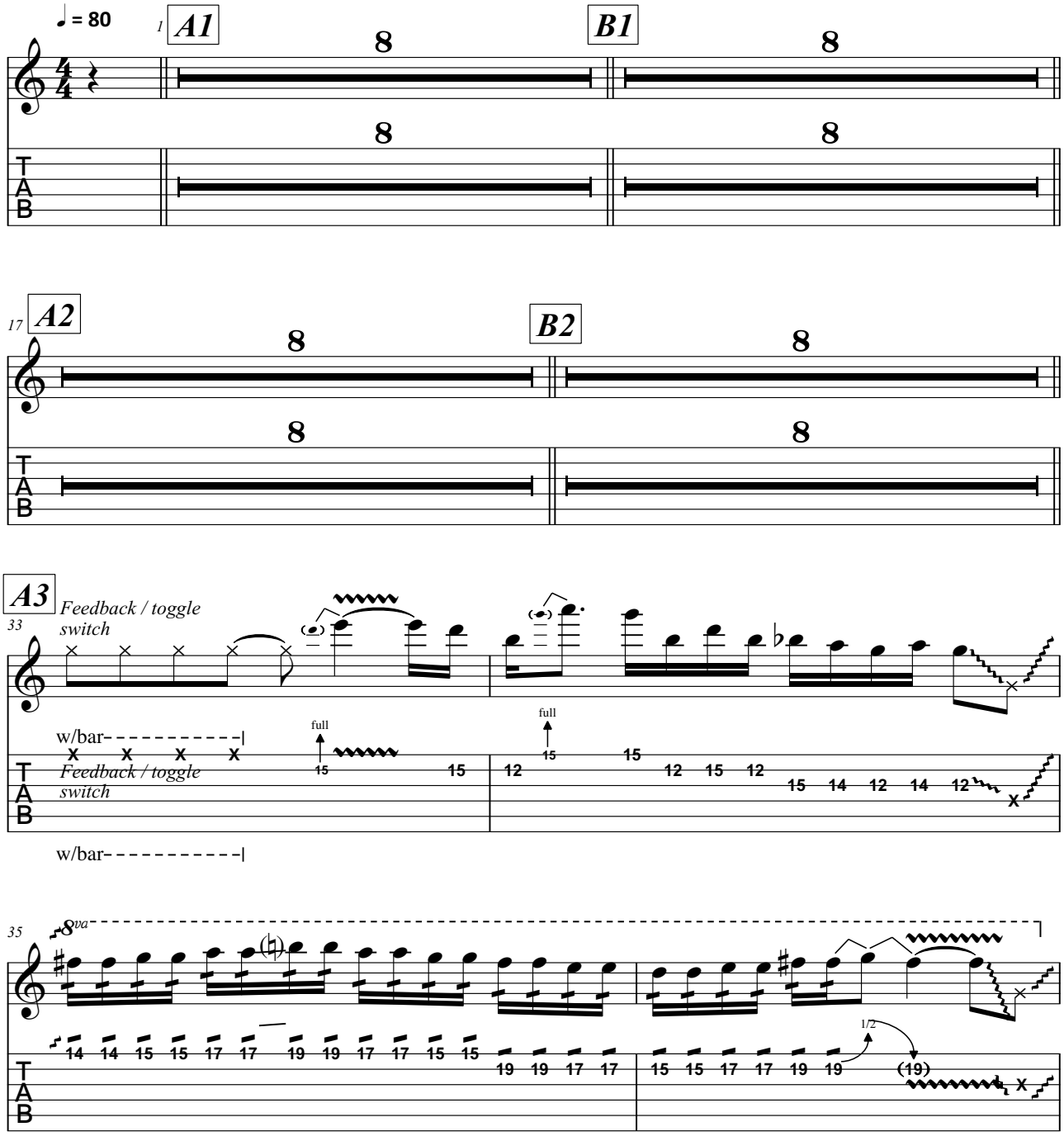
Tab 18.3 Appears at 3:05 in video lesson

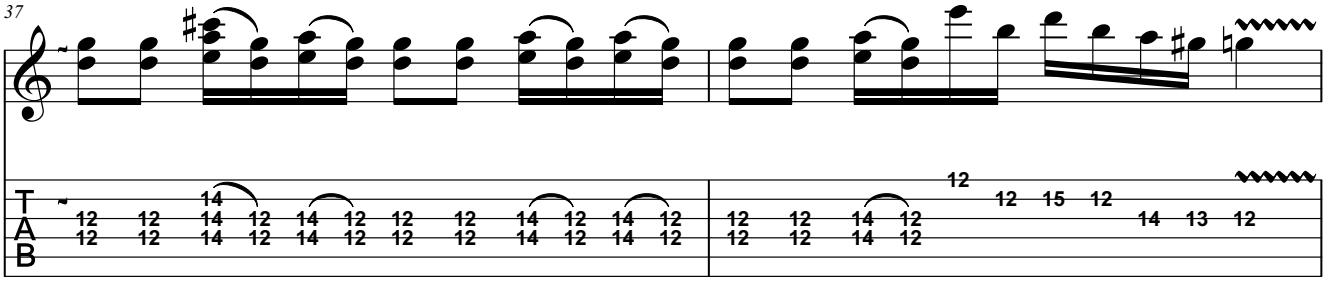


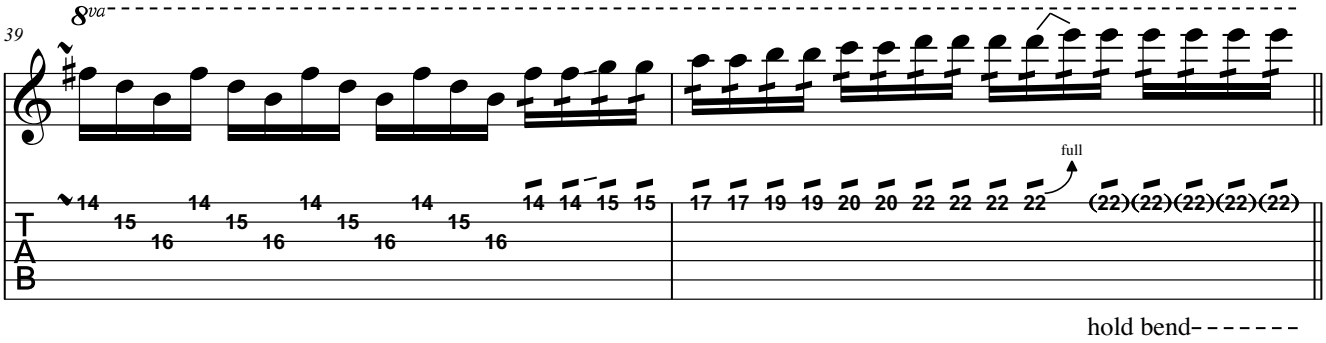
Tab 18.4 Appears at 3:51 in video lesson

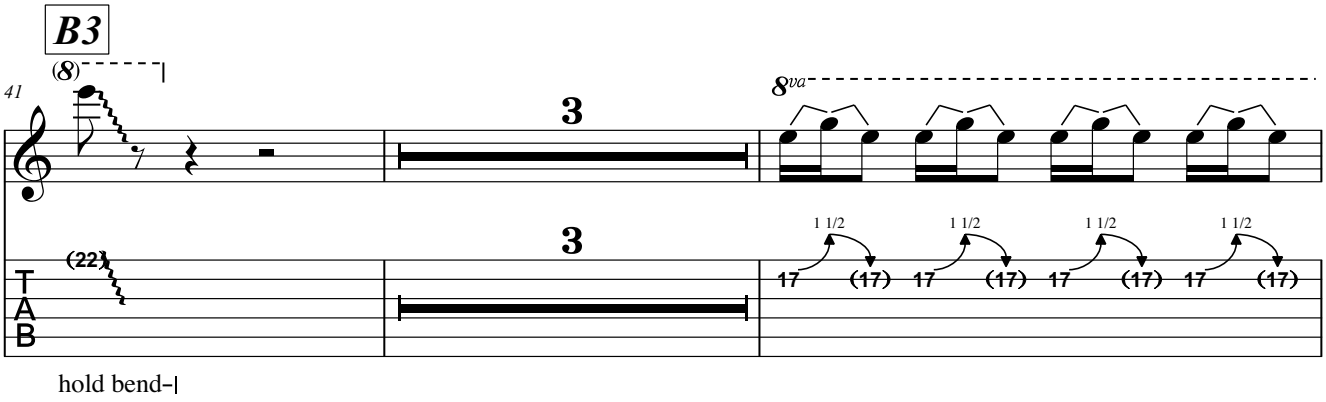


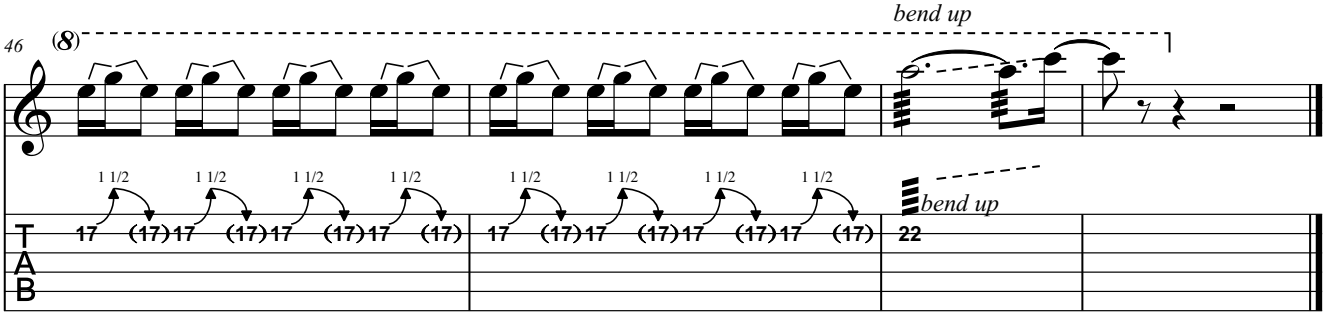
Tab 18.5 Appears at 6:53 in video lesson




37
T
A
B


8va
39
full
T
A
B
hold bend-------


B3
(8)
41
8va
3
3
1 1/2
T
A
B
hold bend-|


bend up
(8)
46
1 1/2
bend up
T
A
B

TOM MORELLO

X LYRICS AND MELODY

"Give the world a window into who you are."

CHAPTER 19

LYRICS AND MELODY

SUBCHAPTERS

X_UNLEASH YOUR INNER POET
X_FIT YOUR LYRICS INTO A CHORD PROGRESSION
X_START WITH A MELODY, THEN ADD THE WORDS
X_SING YOUR TRUTH

CHAPTER REVIEW

Tom was in his 30s and well into his music career before he started writing lyrics and singing his own songs. Like a lot of emerging singer-songwriters, he cut his teeth performing at coffee shops on open-mic nights; for the sake of anonymity, he called himself "The Nighwatchman." Initially he thought his lyrics would be strictly political, in the style of old union songs, but what he tapped into ran much deeper and was more personal—a reflection of how he sees and responds to the world.

Lyric writing in its essence is a way of processing and sharing your own feelings and perspective. Tom describes it as "putting on your poet's eyes." And like all other aspects of successful songwriting, it must be an authentic expression of who you are. This is why so many singers insist on writing their own lyrics—and why Tom says you should never take it personally if a singer doesn't respond to your ideas or suggestions.

Combining lyrics and music is yet another example of how inspiration works hand-in-hand with craft. The inspiration is the words you choose, the melody you create, the chord progression you play; the craft is figuring out how to bring those three elements together. For instance, you could start with a full set of lyrics, a poem you want to tell, and then find a chord progression and melody that fits those words exactly as written. But you could also begin with the chord progression and melody, then adapt those same lyrics so they work with the music, even if that means cutting a few words or even entire stanzas.

LEARN MORE

Tom's late bandmate from Audioslave, Chris Cornell, discusses the songwriting approach for his solo album *Higher Truth* in this 2015 interview with *Songwriting* magazine.

To dive deeper into the songwriter's approach, check out Paul Zollo's book *Songwriters on Songwriting* (De Capo Press, 2003), in which Zollo interviews some of the greatest song-writers in history about their processes.

ASSIGNMENT

In talking about his early days playing as The Nightwatchman, Tom mentions a songwriting group he joined that not only provided feedback on his material but also gave him assignments from week to week, like writing two new songs. Look to see if there are any songwriting groups in your own area—and if there aren't any, consider starting one.

Following Tom's example in this chapter, write lyrics for a verse and a chorus. As you sing

them, try to find a chord progression and a melody in the moment that fits the words exactly as written. Then, set the lyrics aside and create a hummable vocal melody that fits that same chord progression. Once you have the melody, try reincorporating your lyrics, tailoring them as needed.

Students should practice writing a song based on the lyrics they have made, or they can start writing the chords to set the mood and then add lyrics. Several types of chord progressions are listed here in G Major, a key that contains many open position chords. Play with these chord progressions as the bases for your lyric and melody writing. Feel free to alter these progressions by changing the number of bars a chord gets, or by sticking multiple chords in a single bar.

If you're more advanced, learn the Roman numerals of these progressions and transpose them to different keys.

Key = G 4/4 time

HAPPY CHORD PROGRESSIONS

- | G | Em | C | D |
- | G | C | D | C |

SAD CHORD PROGRESSIONS–
RELATIVE MINOR TO G MAJOR = E MINOR

- | Em | D | C Am | Bm |
- | Am | C | Bm | Em|
- | G | Am Em | Em | Bm|

LONG CHORD PROGRESSIONS

- | G | C | Em | Am | C | D | D |
- | C | D | G | Em | Am | D | G | G |

SHORT CHORD PROGRESSIONS

- | G | Am |
- | D | G |
- | Em | C |
- | Em | Am | D |

TOM MORELLO

STUDIO RECORDING

"There's no magic pill.
Record, record, record, record."

CHAPTER 20

STUDIO RECORDING

SUBCHAPTERS

CHAPTER REVIEW

Every producer and engineer has their own ideas about the right way to make a record. The truth is there is no "right way." What works best for one band and one type of music can absolutely ruin another. The only thing that matters is that you capture the essence of what makes your music special. In the case of Rage Against the Machine, that meant putting the band together in a small room, mic'ing everything up, and ripping through songs as if it were a live show. A lot of producers would reject that setup because it doesn't allow you to isolate each individual instrument, but when Rage tried to do it any other way the songs lost their power.

It's never been easier or more affordable to make a great-sounding record than it is today. The big studios are still around if you have the budget and want to have that experience, but for a relatively modest investment it's possible to set up a fully functional home studio that you can record in whenever the mood strikes. For that matter, you can make an entire record on a laptop or an old analog four-track. The main thing is to record as often as you can, even if it's by yourself. (If you don't have access to recording equipment, you can use your smartphone.) Get comfortable with the process. Experiment. Don't worry about trying to make everything perfect—Tom personally prefers hearing that slightly imperfect human element in a song because it makes the performance more genuine.

The only person who can ultimately decide when your music sounds right is you. Trust your instincts—but also trust in the people around you. If you're working with producers and engineers, solicit their opinions. Defer to their expertise when you don't know what to do. Treat them with respect. What you want is a situation where everyone in the studio is working together as a team to create the best recording possible.

LEARN MORE

Rage Against the Machine recorded its first album at Sound City, one of the most storied recording studios in the world. A short list of landmark records made at the studio would include Fleetwood Mac's 1975 self-titled LP; Tom Petty & the Heartbreakers' *Damn the Torpedoes*; Neil Young's *After the Gold Rush*; and Nirvana's *Nevermind*. Nirvana drummer Dave Grohl would go on to make a documentary about the studio's history many years later.

If you're interested in learning more about recording techniques and principles both in the studio and at home, *Tape Op* magazine offers free digital subscriptions (plus free print subscriptions in the United States) and covers a wide variety of musical genres and production styles.

ASSIGNMENT

Put on a pair of headphones and cue up the following songs by bands Tom mentions in this chapter: Helmet's "Unsung," Van Halen's "Runnin' With the Devil," and Led Zeppelin's "Immigrant Song." Pay close attention to the left and right channels and how different the guitar sounds when it's double-tracked in stereo versus when it's a single guitar sound coming right up the middle.

Once you've done that, move on to some of your own favorite recordings, noticing how the guitar is positioned in the mix. Does it sound like it's just a single track? Is it triple-tracked, with guitars on the right, left, *and* in the center? Does the volume of the guitar go up and down at different points in the song?

The best way to understand how these production choices work is through your own music. If you have access to a multi-track recorder, try recording a single riff, then double-tracking and triple-tracking it. Once you've done that, you can move the position of each track around in the stereo field, mimicking the mixes of your favorite recordings. What you'll notice is that production choices are always deliberate, each one contributing to the distinct feel of the recording.

CASE STUDY: “KILLING IN THE NAME”

“To me it sounded like this jagged kind of elf music, but incredibly, every time that song’s ever been played in front of humans, people lose their minds.”

CASE STUDY: “KILLING IN THE NAME”

SUBCHAPTERS

CHAPTER REVIEW

“Killing in the Name” was Rage Against the Machine’s first single—an unconventional choice by the record company, given both the song’s structure and its explicit lyrical content. It’s also a great illustration of how the lessons Tom has imparted throughout this class, from the original moment of inspiration all the way through the final recording, contribute to a classic song.

The song began as a “drop D” riff that Tom discovered while teaching a guitar lesson. Remember that this is how many songs begin: with a simple riff that you happen upon just through the act of playing. The next day in rehearsal Tim and Brad contributed their own ideas, gradually turning the riff into something that resembled a song but wasn’t yet complete. In fact the first time it was performed live, it was still just an instrumental.

Jamming as a group is what gave the song life. As Tom tells it, it’s a “pure example of a band’s chemistry creating something greater than the sum of its parts.” When it came to crafting and arranging the song, however, the band also found ideas and inspiration outside of itself. Though it isn’t immediately obvious, parts of “Killing in the Name” are modeled after “Good Times, Bad Times” by Led Zeppelin and “Born in the U.S.A.” by Bruce Springsteen.

Tom then added extra guitar flourishes to give the song texture and dynamism: notice the way he mutes the main riff on the first verse; the lick he throws in while playing rhythm on the second verse; the “chukka” sounds he adds between chords on the “do what they told ya” part. Then there’s the solo, where Tom breaks out his Whammy pedal set two octaves up, leading straight into the free-for-all section that precedes the song’s climax.

Recall that in Chapter 3: Riffs, Tom discussed the importance of playing music that suits the tone of your instrument. The initial riff for “Killing” was written on a Telecaster with a single coil pickup, and when the time came to record the song, that’s the guitar Tom brought into the studio. But the Telecaster, even when double-tracked, didn’t quite have the heaviness Tom wanted for the album.

Tom’s solution was to triple-track his guitar parts, with the Telecaster straight up the center and a Les Paul with humbucker pickups stacked right and left. In other words, he preserved the integrity of the riff’s original tone and feel, but as he recommended in Chapter 20: Studio Recording, he experimented with multitracking to achieve the massive sound you hear on the record.

LEARN MORE

Check out the full recording of Rage Against the Machine’s first public performance.

TOM MORELLO

LIVE SHOWS: PHILOSOPHY AND NERVES

"It's all right if in your journey you try on a bunch of different hats, but hopefully you'll eventually set on something that feels very, very true to yourself."

CHAPTER 22

LIVE SHOWS: PHILOSOPHY AND NERVES

SUBCHAPTERS

X_ FIND YOUR AUTHENTIC SELF ON STAGE
X_ TRY DIFFERENT PERSONAS
X_ REALIZE THAT EVERYONE GETS NERVOUS
X_ PLAYING ALONE: REVEAL YOUR SOUL
X_ RESPECT YOUR AUDIENCE AND YOURSELF

CHAPTER REVIEW

Every band, even the biggest bands in the world, had a first show. More than likely it was in a small venue in front of a small audience and Tom would guarantee you the band was nervous. Nerves are only natural when you're doing something you've never done before. Even if you've played thousands of shows, if you put yourself in a situation that's entirely new and foreign to you, like headlining a massive outdoor festival like Coachella, then you're going to feel nervous. Don't let that stop you. The only way to get past it is to keep getting up onstage.

Connecting with an audience is all about truth and authenticity. Gene Simmons breathing fire and spitting blood in front of 10,000 people exists in a completely different realm than Tom playing protest songs with an acoustic guitar in a coffee shop, but in both cases when you watch them perform you believe that they're doing exactly what they want to be doing. It's not a pose. There's an honesty and conviction that the audience can feel.

Once you find your audience, don't take it for granted. Show the audience respect and hold up your end of the bargain. Playing shows and touring offers you the chance to see places, meet people, and have experiences you never would otherwise. But things that happen offstage can easily become a distraction or even turn self-destructive. Never forget that it's the music that matters most and the shows are the reason you're there to begin with. If people are going to pay money to see you play, Tom says, "you better be ready to rock their asses."

LEARN MORE

If you're curious to hear more about the first gigs of legendary bands, check out these reminiscences from Colin Greenwood of Radiohead, Joe Elliott of Def Leppard, and Dave Evans, the original singer of AC/DC, a band that didn't even have a name when they played their first show and made up many of the songs on the spot. You can also check out this NME round-up of 35 first shows, which includes bands like Nirvana, the Smiths, U2, Led Zeppelin, the Doors, and the Beatles.

You don't need a club or bar to book you before you can play in front of an audience. In some cases you don't even need to leave your house—lots of people play their earliest shows in their own basements and back yards.

If you've never booked a DIY house show and are interested in putting one together, here's a primer filled with helpful suggestions.

Similarly, you don't need a booking agent before you can go on tour. Booking a tour on your own is by no means easy, but with planning, patience, and realistic expectations, it's entirely possible. Musician Ari Herstand offers his advice on booking a successful independent tour in this article for ASCAP.

ASSIGNMENT

Find a way to perform live. Whether it's playing for your family and friends with your garage band, going to the local coffee shop singer-songwriter night, live streaming a show on social media, or booking a show for your band at the local rock club, just put yourself out there and perform for an audience. The time is now!

TOM MORELLO

LIVE SHOWS: PRACTICALITIES AND PERFORMANCE

"People don't come to hear the hits. People don't come to see you play the notes right. People come to see you present and in the moment every moment."

CHAPTER 23

LIVE SHOWS: PRACTICALITIES AND PERFORMANCE

SUBCHAPTERS

CHAPTER REVIEW

The only thing that can prepare you for what it's like to play live is getting out there and doing it. It's a given that when you're onstage things can and will go wrong: guitar strings will break, speakers will blow out, the batteries in your pedals will run out of juice. There are steps you can take in advance to prepare for those sorts of mishaps, like bringing an extra set of strings, pack of batteries, or even a backup guitar. Rage Against the Machine would even get together before shows to talk over things that went wrong the night before and try to anticipate what could go wrong next. But no amount of preparation can completely prevent the unexpected. The best you can do is gain enough experience that when something bad happens, you're able to maintain your composure and keep playing the gig.

Knowing that shows often go wrong doesn't mean you should play it safe onstage. The reason people pay money to see you is they want to be present with you in the moment while you're making music. Of course you want to be at the top of your game for them, so do take the time to warm up before you go on—and if you're on tour, make sure you're taking care of your body and getting as much rest as you can. But don't be afraid to take risks during your performance. Throw caution to the wind. Try stuff out just for the hell of it. If something doesn't quite work or you mess up a few times here and there, it isn't the end of the world. So long as you and the audience are connected and sharing an experience, that's what makes a show special.

The audience also doesn't necessarily expect you to play every song exactly the way it sounds on a record—which is fortunate, because there are times when that's not only difficult, but physically impossible. If you overdubbed a bunch of different guitar parts à la Jimmy Page, you may have to pick the part that you think carries the most melodic weight and discard the others.

There's an element of friendly competition in how Tom approaches a show. He always wants his band to own the night. That motivation informs a lot of his decisions when it comes to setlists. His feeling is that a band shouldn't hold anything back: play the best songs you

have in a tight set with no filler. The order in which you play them is a lot like sequencing an album—you're creating a narrative. Only in this case, your audience is directly in front of you, giving you feedback in real time.

Always keep the audience, the venue, and the vibe of the night in mind when you're putting together a set list. If you were planning to open with a slow, mellow song but the band that just finished got the crowd worked up into a frenzy, don't hesitate to switch it up. If you're first on the bill, try to set the bar as high as possible for the bands that follow. If you're the headliner, try to top everyone who played before. And always remember the old show biz maxim to leave the audience wanting more. Brevity is underrated. Don't overstay your welcome.

LEARN MORE

Every band has a few horror stories about the worst gigs they've ever played—and for years, music writer Jon Niccum has been compiling the best/worst of them. His Web site, WorstGig.com, offers a searchable database of stories arranged by band and even by category, including "dangerous malfunctions," "insane fans," and "wrong venue." You can also check out Niccum's book, *The Worst Gig: From Psycho Fans to Stage Riots, Musicians Tell All* (Sourcebooks, 2013).

ASSIGNMENT

Study the setlists of your favorite bands to understand the way they structure the narrative of their shows. If there's a particular band or artist that you have in mind, many unofficial fan-run websites maintain an archive. Some bands have set lists on their official sites as well, including one of Tom's favorites, Led Zeppelin.

Experiment with different setlists during practice. First, put together a tight, 30-minute set with your best songs and record yourself playing the set all the way through. When you've done that, play and record the set again, this time with the songs arranged in a slightly different order. Once you've tried it a few different ways, listen back to your recordings and notice how the mood and energy of the set changes each time. The next time you play a show, you can refer back to these setlists and figure out which one best suits the venue and audience for that gig.

TOM MORELLO

BANDS AND COLLABORATION

"Looking inside and deciding who you are really are—and not compromising that—will draw musicians to you who recognize and appreciate that authenticity."

CHAPTER 24

BANDS AND COLLABORATION

SUBCHAPTERS

- X_PICK THE COLLABORATION SCENARIO THAT'S RIGHT FOR YOU
- X_ATTRACT COLLABORATORS WITH YOUR AUTHENTIC SELF
- X_HANDLE THE FIVE BAND PROBLEMS
- X_KEEP YOUR EARS OPEN TO CREATIVITY
- X_DON'T BE AFRAID TO LET GO
- X_FORM A BAND RIGHT NOW

CHAPTER REVIEW

When you start playing music with other people, it's important to be open and honest about what sort of dynamic works for you. If you think of yourself as a songwriter with a singular vision that you don't want to compromise, then you should make your fellow musicians aware of that up front. Let them know that whatever contributions they make to the music, the overall direction and final decisions will be up to you. If you're on the other side of that equation, where you're playing in a band as more of a hired gun, you'll need a certain amount of humility and a willingness to listen and follow someone else's lead.

A true band, however, is a collaborative effort. Everyone involved gets a voice. That means there will be times when you and your bandmates butt heads and have disagreements about all kinds of things. If there's a specific idea you feel strongly about, by all means stand up for yourself, but always listen to your bandmates and consider their perspective. Communication, both in the traditional and the musical sense, is key. Each member of your band is going to have their own point of view and their own individual style, but when you come together and the chemistry is right you'll be able to create music far more powerful than anything you could create on your own.

LEARN MORE

The Sex Pistols existed for less than three years and released only one album, *Never Mind the Bullocks*, but are credited with almost single-handedly igniting the '70s punk scene in the UK. Not only did they inspire Tom to start his first band, but they directly led to the formation of such legendary groups as the Clash, the Damned, Joy Division, Siouxsie and the Banshees, and the Buzzcocks.

In addition to the books listed in the Learn More section of Chapter 16: Rock Songwriting Fundamentals, the Sex Pistols story is detailed in the autobiography *Rotten: No Irish, No Blacks, No Dogs* by singer John Lydon (St. Martin's Press, 1994); *Lipstick Traces: A Secret History of the 20th Century* by Greil Marcus (Harvard University Press, 1989); and the documentary *The Filth and the Fury* (2000).

ASSIGNMENT

If you don't already have one, go start a band! Write your own songs, play covers, it doesn't matter. All it takes is the desire to make music with other people. There's no reason to wait. Put yourself on that path and see where it takes you.

X GEAR: TOM'S GUITARS AND AMPS

"It's kind of an island of misfit toys with six strings."

GEAR: TOM'S GUITARS AND AMPS

SUBCHAPTERS

CHAPTER REVIEW

Tom's First Guitar: The $50 Kay Special

Tom's first guitar was this cheap replica of a Gibson SG. Its action (how far the strings sit above the neck) was particularly high, making it more difficult to play.

Gibson Explorer

This was the first guitar Tom bought with his own money and the one that saw him through all those eight-hour practice days. He called it the "shark fin" due to its shape and initially wanted it because it made him look like a member of the Scorpions.

Arm the Homeless

Tom had this guitar custom-built at a shop in Hollywood and in the years since he's changed virtually everything about it except for the body. This is the guitar he's used on "89 percent" of the songs he's played live and in the studio. "Arm the Homeless" is an homage to Woody Guthrie. Tom drew the hippos himself.

Black Telecaster

Tom plays this Fender Telecaster with single-coil pickups whenever a song is in drop D tuning.

Whatever It Takes

When Tom started playing coffee shops as the Nighwatchman, he did so on this guitar. Not only does it remind him of the nylon-string acoustic he used to play in his old Hollywood apartment, it's the guitar he most associates with the "second act" of his music career, and thus holds a special place in his heart.

Ovation Breadwinner

The $50 Kay Special may have been the guitar Tom ended up with, but *this* was the guitar he wanted. Many years later he finally tracked one down. He used this guitar for overdubs on "Sleep Now in the Fire" and also on his *The Atlas Underground* record. The symbol with a heart lined up in crosshairs is a tribute to "political troubadour" Joe Hill, who was executed by a firing squad in 1915.

Soul Power

Tom played this black Fender Aerodyne Stratocaster during his years in Audioslave, wanting a different sound and vibe than he had in Rage Against the Machine playing his "Arm the Homeless" guitar.

Creamy Guitar

Bought in a Toronto pawn shop for $40 Canadian, this "particularly bad" guitar might not even be made out of real wood. Tom bought it just because it looked cool. He then played it on the Rage song "Tire Me," which won the band its first Grammy.

Guerrilla Radio

This is a custom-built Ibanez semi-hollow body with onboard effects that Tom says never worked all that well. It does, however, have a great paint job. As its name indicates, this is the guitar Tom used for the recording and video of the Rage song "Guerrilla Radio."

Black Spartacus

Another acoustic that Tom uses for the Nightwatchman, Black Spartacus is also notable for its insignia: the Morello coat of arms.

The Music Man Amp

When Tom played punk rock in his mom's basement, he ran his guitar through this combo amplifier propped up on a chair. Later, when he got to see the Clash play a show in Chicago, he noticed Joe Strummer had the exact same amp on stage—and he also had it propped up on a chair. "It made me realize this is not something that I can one day do," Tom says. "I'm doing it."

The Marshall Cube Amp

Tom readily admits this 20-watt solid-state Marshall is not a great amplifier. But paired with the leopard-print guitar he bought in that Toronto pawn shop, it's the amp that won him his first Grammy. "Some absolutely bullshit equipment that somehow we conjured some magic from," he says.

LEARN MORE

Take a look at this list of a few famous guitarists' beloved axes in *Rolling Stone*.

ASSIGNMENT

Every guitar has a story. What does your guitar (or guitars) mean to you? Take some time to appreciate the instrument and think about how its narrative plays a role in your life as a musician and person.

CONCLUSION

"Envision something that goes beyond what anybody's imagined before."

CHAPTER 26