



Down But Not Out: Drop-Tuning Like a Pro

For those few who may be unfamiliar, drop tuning is the practice of tuning the strings on a guitar to pitches that are lower on the scale than the traditional [E Standard](#) (E2, A2, D3, G3, B3, E4) guitar tuning. This term can refer to tuning all the strings of a guitar down the same amount and retaining the same modal shapes (at lower pitches) across the fretboard; [tuning the 6th string down from E to D](#) to open up new chord shapes and make power chords fret-able with one finger; or any number of other alternate tunings.

Whether we want to make our chords easier to sing along with; we're after a darker, heavier guitar sound; or we just want to try something new; the fact is that drop tuning has been done by players for a variety of reasons for decades. With so many artists making awesome music right now using extra-low tunings (especially on the heavier side of the genre spectrum), it's easy to understand how a player could be inspired to give it a try for themselves.

Indeed, a great many of us are, but when doing so, we may be missing a number of *crucial steps* that would help us play and sound a lot better along the way.

So, we want to drop-tune a guitar.

Neat!

What do we need to do – just tune down the strings to the lowered pitch we desire?

Sure!

But wait – if you’ve ever turned a tuning machine before, you may have noticed that the lower you tune a string, the more bendy and floppy it gets. If we’re just going to a common drop-D tuning or Eb “standard” tuning (where every string is just tuned one half-step, or fret, lower) occasionally, this bit of reduced string tension probably isn’t a very big deal. In fact, [Eddie Van Halen will sell us a product to do exactly that.](#)

However, if we’re going for something more extreme like a lot of modern metal bands use; or if we’re looking to make drop tuning a long-term element of our musical palette; some adjustments are needed to compensate for the change in string tension compared to when our guitar was tuned to E Standard, and keep our guitars playing the way we’re used to.

Strings



The first and most obvious thing we may need to address when changing to a drop-tuned setup is string gauge. Generally, to maintain equal or near-equal string tension, we go up a string gauge for every step we drop tune. In practice, this means that if we normally play with .009 to .042-gauge string sets in E Standard, we should go to .010 to .046 for Eb Standard, .011 to .049 for D Standard, and so on.

Sounds simple, right? It is.

Here's the rub: by changing our string gauge, we create the need for other adjustments to our guitar in order to keep it sounding good and playing well. Which brings us to...

The Truss Rod



Ah, nefarious truss rod, ye mystic purveyor of trepidation! Thou hast no hold o'er me! Nor dost thou quicken mine breast with fear! Thou art mine own to command, for I wieldeth the iron will of the Rock Gods!! ...And an allen wrench.

For real, though. Truss rod adjustments are the simplest, easiest guitar adjustments to make that like 80% of all guitar players are totally uncomfortable with even trying.

When we change tuning and string gauge, we may need to make an adjustment here. The one-to-one rule of tuning-to-string-gauge is only a general guideline, and we will likely still wind up with slightly more or less total string tension on our neck than we had before, which could easily cause it to have more or less neck relief (curve) in it than it used to.

I recommend reading [this article](#) by my [Seymour Duncan](#) blogging colleague, [Orpheo](#), who explains the whole truss rod thing in detail and will get you through it with no problem. Come back here when you're done.

The Nut



The nut is the little straight piece of material behind the first fret of the guitar neck with slots in it that hold the strings in position as they come down from the tuning pegs and go across the fretboard. These come pre-cut from the guitar manufacturer to accept whatever string gauge ships from the factory on our guitars (usually .009 to .042).

Moving up a string gauge can turn the nut into a problem area, because the slots may be too narrow to properly hold our new, thicker strings. This can introduce string buzz and, more commonly, string binding (where the string actually gets stuck in the nut) that causes the guitar to go out of tune abruptly while playing, especially if it has a tremolo bridge (unless that bridge is a locking tremolo like a Floyd Rose, in which case the guitar does not have a traditional nut and cannot bind).

The way to fix this is pretty simple: file the slots! It's easy to do, but **be careful!** Filing a nut slot too wide or too low can introduce a whole new set

of problems. For that reason, it's best to go slow and easy. File them out little by little, using as little downward pressure as possible. Remember, the goal is to make the slots a tiny bit wider, but not any deeper.

I prefer to use a special set of files I purchased from [Stewart-MacDonald](#) for this purpose, but if you don't have any files of your own, you can get by with a little high-grit sandpaper wrapped once under a guitar string. Just slide the sandpaper-wrapped string through the nut slot a few times until it can pass through smoothly without binding up and you're good to go.

The Saddles



Similarly to the nut, if the bridge has saddles which are grooved to hold the strings in place, they may require filing once we change string gauge. This is less-commonly necessary than nut filing, though. Typically, if we aren't having any problems with string binding or breakage at the saddles before we change strings, it's not very likely that we'll run into new issues there afterward.

If the saddles do need to be filed, you'll need to use an actual file. Bridge saddles are made of materials like brass, aluminum or steel. A little sandpaper on a guitar string isn't going to do much there. In this event, proceed in the same slow, easy manner we used with the nut. Saddles filed too wide or too low will need to be replaced, but that problem is easy to avoid if we're careful.

The Action

Once we've adjusted our truss rod and filed our nut and saddles as needed, it's time to address the string action. Action just describes the distance of the strings from the fretboard. Our hands and ears will tell us whether the action needs work. Too much string buzz, or notes fretting out when we bend the strings? Raise the action. Too hard to play, or notes going sharp when we fret them? Lower the action. Bang. Boom. Easy.

There is no right or wrong when it comes to string action, only personal preference. What is right is whatever feels and sounds good.

There are, however, two guidelines to heed when adjusting action. They are:

1. Adjust string action from the **bridge**, by raising and lowering the bridge and/or saddles. Action can be affected by other things, namely bridge angle (on a tremolo-equipped guitar) and neck relief, but **neither** of these factors are recommended for changing the action of an electric guitar, due to the other things they can throw out of whack in the attempt.
2. When adjusting a bridge with individual height-adjustable saddles, be conscious of and try to match them to same the radius of the fretboard (the curve of the frets under the strings). Doing so will give our guitar a consistent feel across all the strings, making sure it stays nice and comfortable to play.

Intonation

Adjusting intonation, or as I like to call it, the-absolute-very-last-step-of-any-guitar-setup, is the act of increasing or reducing the length of the strings on a guitar to make it play in tune up and down the neck. This should always be the final step of any setup and even most regular string changes, because string length is affected by virtually every other setup adjustment as well... But intonation adjustments only affect intonation, so saving that step for last means we can get our intonation dialed in as accurately as possible without screwing up other elements of a setup we've already performed.

Good intonation is immediately more important to anyone who has ever tried to play a guitar that *wasn't* properly intonated. You tune it so the open strings are in tune, play a chord anywhere above the third fret, and

CLANGABRANGALANG!!! The guitar sounds like a grade school band recital. [No bueno.](#)

After what we've just done to it, the intonation of our guitar is most definitely gonzo right now. First we put much thicker strings on, then adjusted the truss rod, and finally changed the action; all of which have worked together to throw intonation off. Thankfully, getting it right again is cake. It just takes a little patience.

Follow these steps:

1. Plug the guitar into the fastest, most accurate electronic tuner available.
2. Tune the strings to the desired pitch.
3. With all the open strings tuned perfectly, fret the sixth string at the twelfth fret and pluck it. Observe whether the tuner reads flat or sharp.
 1. If flat: With the appropriate tool, adjust the sixth string saddle a little closer to the neck.
 2. If sharp: Adjust the saddle a little further from the neck.
4. Check it again and readjust as necessary until the open note of the string and the string fretted at the twelfth fret both read as in tune on the tuner.
5. Repeat for the rest of the strings on the guitar.

That's it. We're done.

Our guitar is now fully calibrated for our new dropped tuning, and we've put in the work to make sure it remains stable, toneful, playable, and in-tune. That's how to drop tune like a pro.

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Drop-Tuning Like a Pro Part II: Guitars Built for the Job

In [Part 1 of our series](#) on “What is drop tuning a guitar,” we investigated the how-tos. From truss rod maintenance to filing your guitar’s string nut, that article has all you need. But drop tunings also gave rise to a world of electric guitars that are custom-built for the job. And that’s what we’re going to dig into in Part 2.

First, let’s look back at Part 1 to answer the question, “What is down tuning a guitar?”

“Drop tuning is the practice of tuning the strings on a guitar to pitches that are lower on the scale than the traditional E Standard (E2, A2, D3, G3, B3, E4) guitar tuning. This term can refer to tuning all the strings of a guitar down the same amount and retaining the same modal shapes (at lower pitches) across the fretboard; tuning the 6th string down from E to D to open up new chord shapes and make power chords fret-able with one finger, or any number of other alternate tunings.”

Though down-tuning a guitar is common in every genre, it is pretty much the standard for modern metal. Compared to what we’ll call classic metal, it is heavier, more technical, and way more devastating than ever. Therefore, it requires instruments that can keep up with these demands.

Guitar builders large and small have answered the call. And they do it by employing some of the most significant technological advancements to the craft since we first dropped pickups in a plank of wood.

Three of these design tweaks stand out among the rest:

1. Extended Scale
2. Extended Range
3. Multi-Scale

Extended Scale

Extended-scaled electric guitars have been around for a long time. Even in the 1950s and '60s, we had Fender's Bass VI and the Danelectro Long Horn bass. Though called basses, both of these instruments featured 6-strings and tune up like a guitar. But thanks to their much longer scale length, they could handle tunings a full octave below a standard guitar. This gave guitarists a familiar platform to handle bass duties on the gig. It also gave rise to Tic-Tac bass, giving rise to the down-tuned voice.

A direct cousin to these bass/guitar hybrids is the baritone guitar. Usually tuned from B-B, they occupy a tonal range somewhere between a guitar and the Bass VI. But both instruments owe their sonic weight and power to their extended scale length.

Tech Tips:

Scale length is the length of the vibrating section of a guitar string, measured from the nut to the bridge saddle. The longer the scale, the more tension on the string.

Scale lengths differ from guitar to guitar. But baritones often employ a 27" length, which is 1.5" longer than most Fenders and a full 2.75" longer than your standard Gibson. Because of this, extended scale guitars keep the string tension much tighter, resulting in better intonation and playability.

Ok, back to modern guitars.

Walk into any guitar store today, and you're sure to see a handful of direct descendants of the early extended-scale guitars. Metal-minded brands like Ibanez, ESP, and Schecter all offer production 6-string models that employ

the design. And you'll find them factory-tuned in everything from Dropped-C to the baritone's B-B. And with high-output pickups, thin neck profiles, and aggressive styling, there's no questioning what these guitars are built to do.

"But aren't there already 7- and 8-string down-tuned guitars?"

There sure are!



Extended Range ([7-](#), [8-](#), & [9-strings](#))

Many people who ask how to tune down a guitar for maximum heaviness would do well to consider an extended range instrument. They are the most popular of all low-slung designs, after all. But it wasn't Tony Iommi or even [Dimebag Darrell](#) that invented this pummeling twist on guitars. It was shred superhero Steve Vai and his 7-string Ibanez Universe (Tuned Low B, E, A, D, G, B, E).

Yet, even being prominently featured on the iconic *Passion and Warfare*, Vai still wasn't responsible for the lasting legacy of the design. That award goes to the twisted tones and ground-shaking riffs of Korn.

By embracing these "unpopular" Universe 7-string guitars, Korn upped metal's intensity and pushed heavy riffs to a level that, in many ways, remains the standard. And though the 7-string was the perfect marriage of

6-string familiarity and baritone punch, Korn took it a step further, turning their Ibanez Universe guitars down an additional whole step.

From the moment “Blind” hit the airwaves, it set off an arms race among guitar builders. Overnight, every company had new 7-strings on the rack. Most were definitely metal-looking. But even companies like Fender and Gibson joined in with some of their more traditional models.

The manufacturers weren’t the only ones in the fight. Bands also began pushing the instruments forward. Eventually, this never-ending quest for heavy led 8-string guitars and the meat-grinder rhythms of Meshuggah. Still among the world’s heaviest bands, their line between guitar and bass began to blur, turning the band into one gigantic, rhythmic machine.

Springboarding off of Meshuggah’s might, other 8-string devotees like Animals As Leaders mixed in next-level technique and musicality. This forward-thinking music blew open a new universe of musical possibilities for extended range guitars.

Again, players needed a new guitar to handle it.



Multi-Scale

As the tone and technique wars raged, players once again pushed the limits of their extended range and scale-length guitars. Players used to ask how to tune down a guitar. But now we asked how to keep these crazy-low down-tuned guitars to play in tune.

Sound familiar?

Making the scale length longer wasn't going to cut it this time. Some guitars were already pushing bass length, and players didn't want to compromise the 6-string feel of the higher strings.

The answer was multi-scale or fanned fret guitars. Angling the string nut to offer a longer scale on the low strings and a shorter scale for the high strings solved the string tension issue. But to resolve the tuning side of things, the guitar's frets had to be slanted at different angles across the fretboard. The most aggressive angles are near the highest fret and the string nut, gradually straightening until meeting at the 12th fret. This look is how the design earned the nickname "fanned fret."

Whether utilized on down-tuned 6-strings or extended range instruments, multi-scale construction solves the intonation and string tension problems, allowing players to continue their boundary-pushing quest. And believe it or not, it's easy to adapt to when playing. Maybe that's why you see multi-scale acoustics and classical guitars joining the party.

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