



Billy Sheehan

DiMarzio's work with **Billy Sheehan** spans over 40 years, from the original double cream **DiMarzio Model P[®]** pickups that Billy started with in 1978, to his **Will Power[™]** pickups, to our newly engineered **Relentless[™]** pickups.

We recently sat down with Billy to discuss his hands-on approach to pickup modifications.

Photography by Larry DiMarzio



Larry DiMarzio: Hi Billy. Thanks for taking the time to talk with us. You've been modifying the shape of your bass pickups for years and there were several incarnations before we created this new set.

Billy Sheehan: I know. It was early on in my original P basses, before I put in my first set of DiMarzios. My stock pickups buzzed every time that I touched the pole pieces; the same sound you hear when you aren't holding the strings or touching any other metal on the bass. Occasionally, I even heard it when I was playing. I checked a few other basses to see if that was the case and apparently, they all kind of did that to one degree or another.

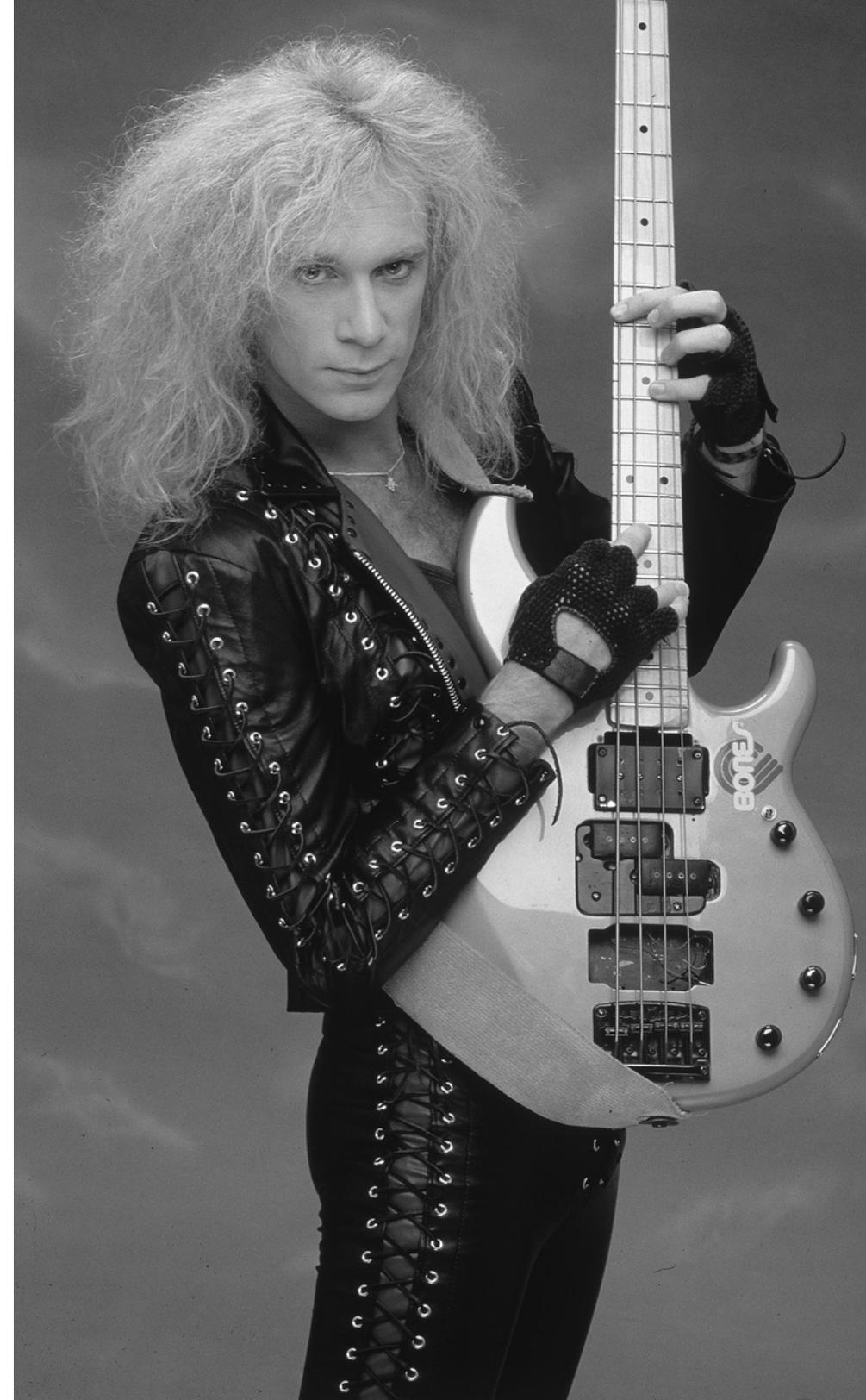
So I screwed the pickup down and out of the way, far enough that my fingers couldn't hit it and create that buzz. But then I discovered that I couldn't play the same anymore. [Clarification: he couldn't play because he sometimes rests his fingers on the pickup.] My solution was to screw the pickups down but build them up with epoxy, artificially raising the pickup surface and creating a place for my fingers to rest.

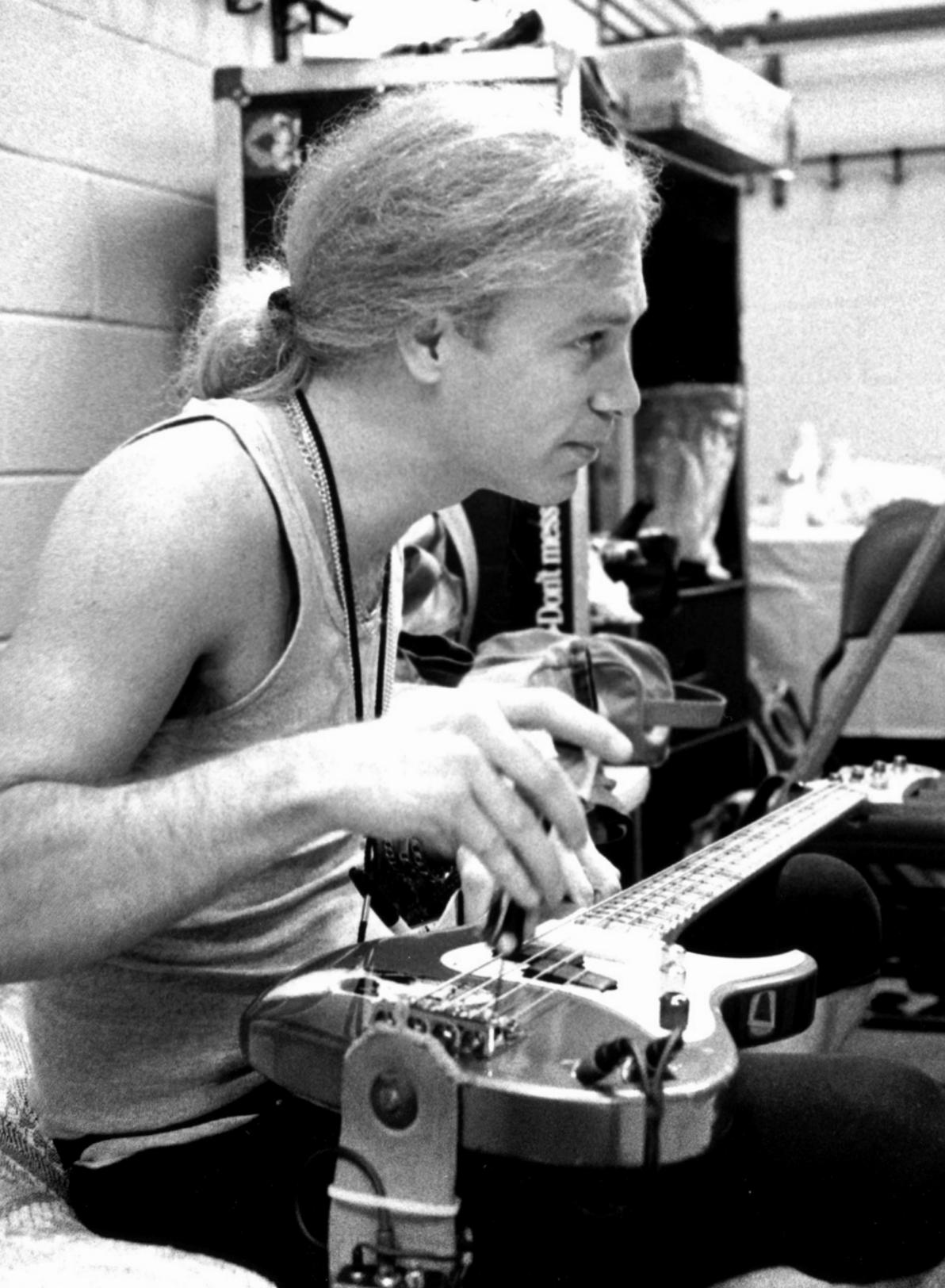
I didn't realize that my fingers resting on top of the pickup were serving the same purpose as when a standup bass player is playing over the fingerboard, rather than the gap between the strings and body; it keeps your fingers from overshooting and grabbing too much or undershooting and not grabbing enough. That same approach became really essential to my style.

When I installed the first set of DiMarzios, they offered me several advantages, one of which was those hex screw poles that I could screw down. But I still wanted a specific shape under my fingers, one that essentially followed the radius of the neck and strings.

Larry: You also rest your thumb on the edge of the pickup, right? I think that you had even built some sort of a ramp over the pickup mounting screw on the "G" string side, so that you wouldn't feel that hard corner hitting against your finger.

Billy: Right. I like to anchor my thumb on the edge and, after playing so much, I would naturally round down and wear off the edges of the





mounting tang. Then, when I would change the pickups, the new edges would tear me up. So, I started modifying that part of the pickup as well.

I like my bass to always feel like an old, comfortable pair of shoes.

I recently performed my pickup modifications for a friend of mine who is a well-known bass player. He picked up my bass and commented on how much better it played than his, even though we play the same model bass. I explained that it was the pickup shape and once I modded his like mine, he told me that it was life-changing. Now, with these new pickups, everyone will be able to benefit from the increased playability and I think that it's going to be a game changer for a lot of players.

Larry: You've been showing me your modifications for quite some time and my initial take away was that I didn't know how to incorporate them into a production version.

Spring forward to NAMM, two years ago. You showed me a pair of hand-machined plastic pick-up covers which included a lot of the modifications that you've been doing through the years — dropping the angles and rounding over the corners. I looked at them and flipped! I thought they were the most beautiful, well thought out update that I'd seen.

I definitely wanted to build you a new set of pickups using all your improvements. Every time a design goes from the initial concept to a finished pickup it presents challenges.

I sent your covers to the NYC team and we started making a few more improvements.

One of the important initial steps was to determine which material would be best for the cover. My New York



team suggested metal, and I thought, not only can we consistently fabricate the right shape with metal, but it will also offer the added advantage of extra shielding.

After receiving the first set of drawings, I realized that we needed to get this design down to the bare essentials. You had already reduced the screws mounted as low as possible with the plastic covers and when I looked at the new drawings, I said, "Just eliminate them completely." We can build the pickup on a 1/8-inch circuit board and that becomes the mounting system. I think we then sent you the first set of new pickup prototypes.

Billy: Yes, just before 2020 NAMM. But you didn't show them to everyone because you wanted me to give them a thorough road test.

Larry: What was your initial impression of the Relentless™?

Billy: Well, I was a little concerned because all the pickups I had were either covered in plastic or epoxy. If the strings or my fingers hit them, they didn't make any sharp or bright sounds through the amp. So I was a little worried that the metal would create an audible clink or clank sound. But, as soon as I put them in, there were no extraneous sounds. It was totally dead, completely quiet! I'm not sure what you used to fill them up but it worked out great. And it's better now, because that metal is not going to wear down like my old plastic and epoxy mods.

Larry: The way we implement the metal covers also really quiets the system down from a standpoint of radio frequencies, microphonics, and general room hash. Using your cover shape, I'm planning to create three new Precision replacement pickups: a vintage early 60s style, your model, and an updated version of my original DiMarzio Model P® that I invented in 1976.

I remember telling you that I anticipated these to be much quieter but they really exceeded our expectations. We measured about 6db less noise. That means more perceived signal from the bass, greater dynamic range, and improved dimensionality.

Billy: Yeah, that's really a significant amount of noise reduction. And I think that the circuit board is a great move. You can just run the traces you need to the outputs. It fits perfectly and it's much more stable than a little chunk of wire coming out of the plastic.

Larry: We really sealed these pickups tight, too. As with all DiMarzio products, we try to make them as bulletproof as possible.

Billy: Right on. That's a factor for me too. I used to smear epoxy down into the bobbins and coils, just to make sure that they were sealed from any moisture. When I'm playing in the summertime, outside, or in a hot club, there's a steady stream of sweat coming from my chin that hits the instrument. It eventually takes a toll on potentiometers, wiring, and everything else. So I'm really excited to see that this new design seals them to an even greater degree.

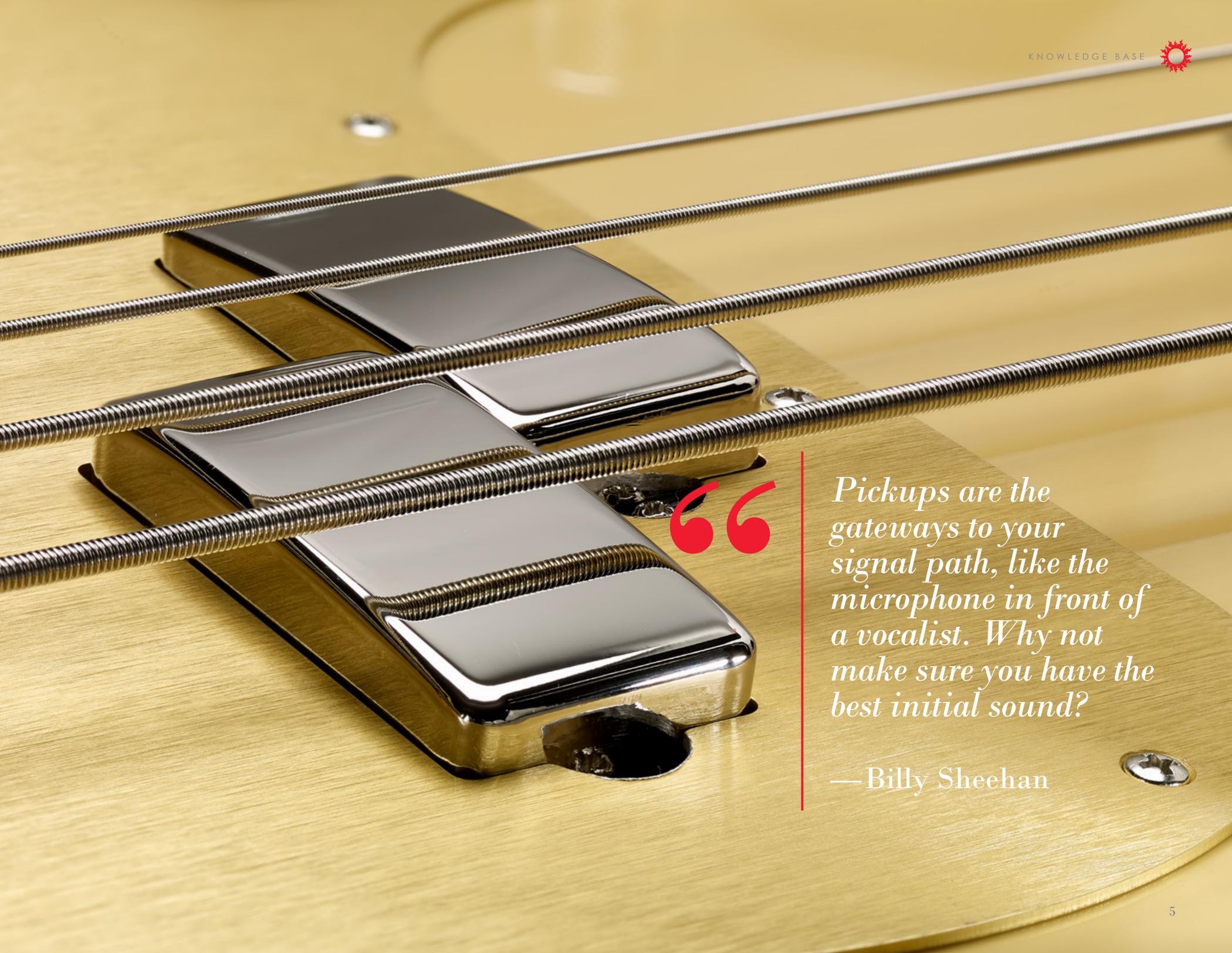
Larry: That's the beer test. If you can pour a beer on it and it still works, then you know it will survive the road. I always wanted to shoot a video of a DiMarzio pickup at the bottom of a glass of beer, then take it out and show that it still works.

When I designed the original DiMarzio Model P®, I had this idea of creating a P Bass pickup that was significantly louder ... I don't know, probably two to two-and-a-half times louder than a stock Precision Bass pickup.

Billy: They're easily that much louder!

Larry: But I also but reoriented the magnetic field so that the entire field shape is much more efficient than what Fender did. Theirs was like a shotgun mic with a very narrow focus, whereas my design spread that field out, which is part of the reason that when you play the DiMarzios soft, they're quieter and when you hit them hard, there's a huge dynamic response. But, then I heard you play them and I said, "Oh my God, I never thought that they could sound that good!"

Billy: The increased output and dynamic range are really the goals. And the sound I get with them prompts a lot of people to ask me if my



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—Billy Sheehan

bass is active. They don't believe that it's entirely passive. For a long time, it fooled engineers. Even Mick Guzauski, who is one of those engineers with a golden ear — one of the best in the biz, period — he's done records for Mariah Cary, Amy Winehouse, Usher, etc. This is back in the 70s when he was still in Rochester, New York. He built a preamp for me. (I sure wish I still had it!)

He would tell me, "Don't worry about clipping the input." And I would say, "Um, well, watch this!" I would play a couple notes, and sure enough that clip light would go on instantly. I always thought it was a great advantage to have that much output and I still do. Pickups are the gateways to your signal path, like the microphone in front of a vocalist. Why not make sure you have the best initial sound and the strongest signal level?

Larry: So active pickups were never your thing?

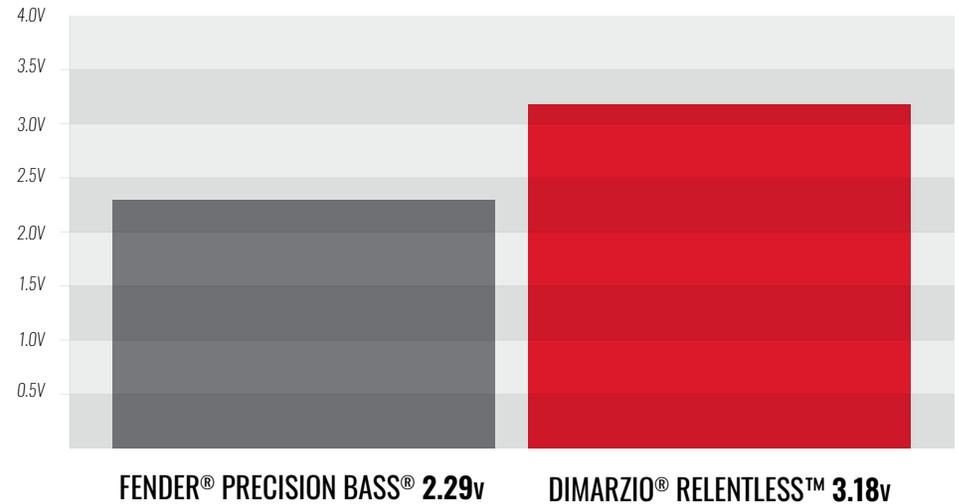
Billy: No. For me, they just open up a whole new set of problems. I always make a joke about it when I do a clinic or a seminar. One of the questions I get a lot is, "Why don't you use active pickups?" I tell them that when you're on stage, all kinds of things can and will go wrong. Maybe the monitors are feeding back, the drummer drops a stick, or something else is wrong and the engineer is giving you a dirty look. Somewhere in the back of your mind, no matter whose fault it is or what the problem is, there's this nagging little question: "Is it the battery?"

You always have to put in a new one, and maybe it was bad when I it came out of the box. Either way, it's a weak link in the chain that can cause trouble. So the active thing was never for me. Some guys do it; they love it; it's their thing and God bless them. That's cool. But from the time that I got my first set of double cream DiMarzios from you, there was plenty of output and I didn't have the concerns of phase issues and dynamic limiting.

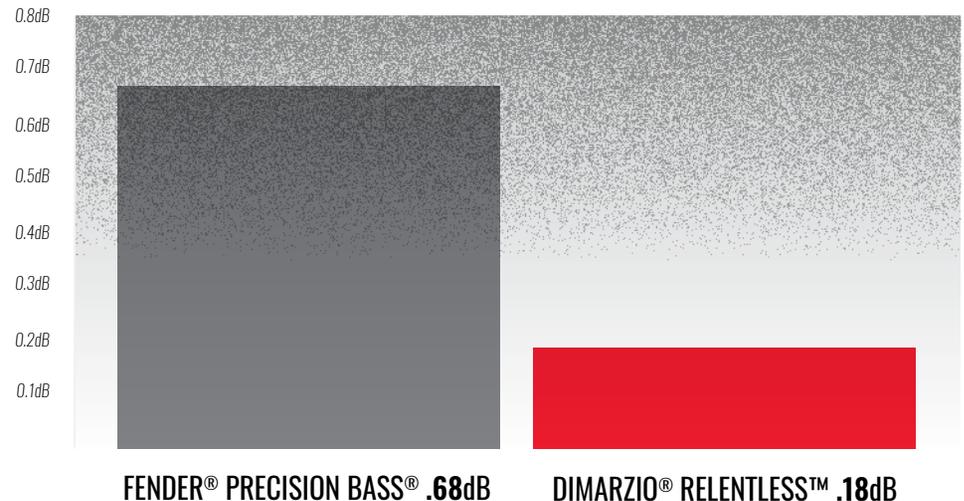
Larry: Do you recall when you came to DiMarzio?

Billy: Oh, man it was definitely the late seventies. In fact, it had to be seventy-eight because I just looked at some photos with the original

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DiMarzio pickups in my bass, and I was wearing the pants I bought when I went to London to work with Michael Schenker.

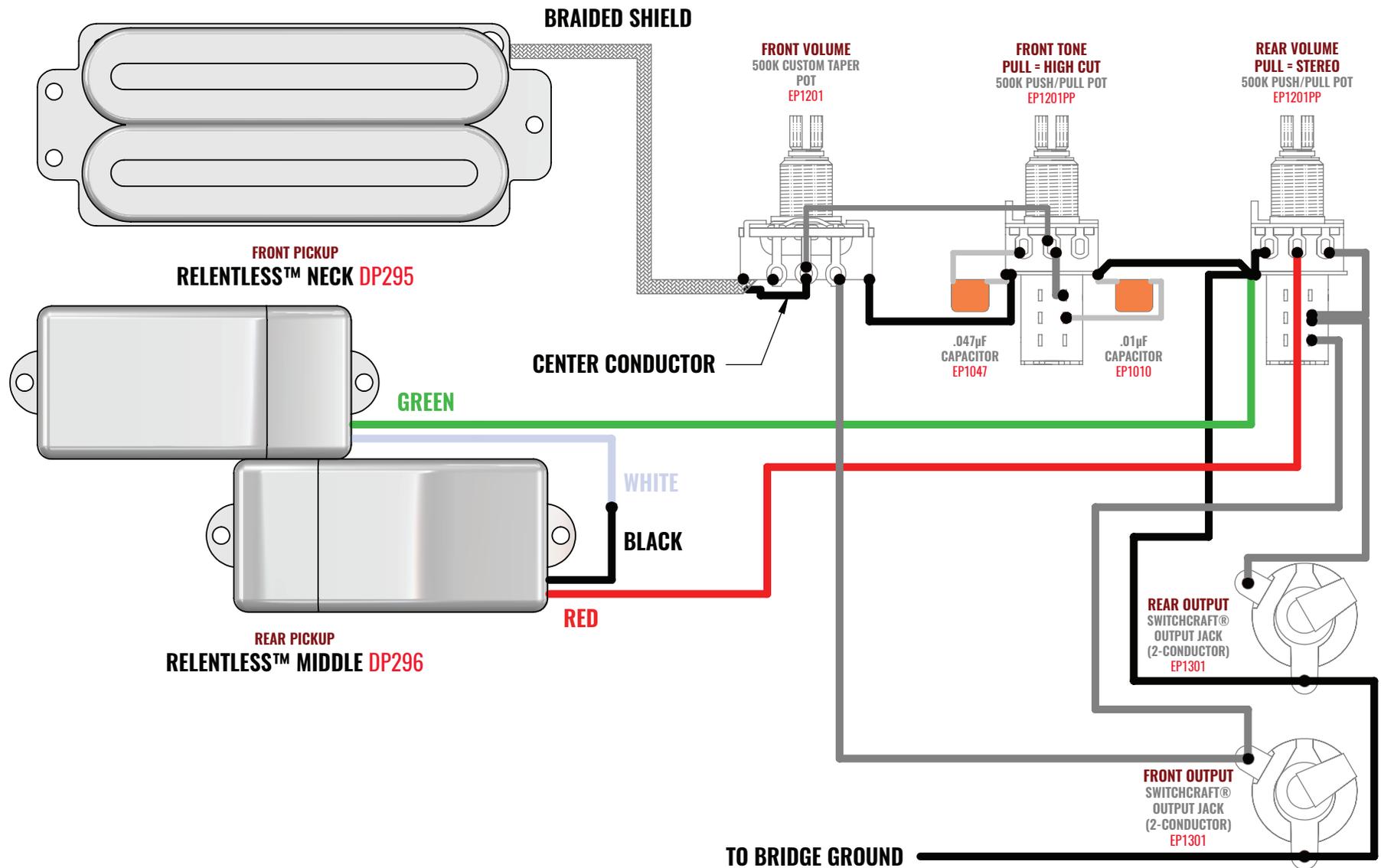
I first called DiMarzio after seeing an ad in *Guitar Player* magazine about a direct replacement pickup that would give me more of everything. We came from a generation of inquisitive, hands-on kids, so pulling out the old pickups and trying something new made complete sense to me. We'd take the screws off just about anything and look inside to see what was going on in there, start poking around, and then maybe change something to see what it did. I think Ed Van Halen was the same way. I don't think that kids are doing that so much anymore, but they need to. I know there are musicians who are ready to retire and they've never even looked inside their instrument. Not every great race car driver has to be a superior mechanic, but it's nice if they at least understand how the car works, so that they can tell the mechanic what the car needs. This understanding is really essential to me. I believe it was the same spirit that prompted you to start the replacement pickup boom.

Larry: Well it's funny that you mention that. I didn't have money growing up, but I had that same mindset. If I wanted something, especially if it was pricey, I would try to figure out what made it work and build it myself, sometimes improving it. That's really how I ended up designing the original DiMarzio Super Distortion®. I saw a way to improve upon an old design and give players the sound that they wanted. From that first pickup to these new modern designs, it all stemmed from a natural curiosity and my approach to innovation.

Billy: We've both been fortunate to have a lot of success as a result, but I try to tell people that success comes in many forms. It's not always about a hit record or a sold-out show in front of a thousand screaming fans. It's really about personal satisfaction, which is honestly what still drives me to work so hard every day.

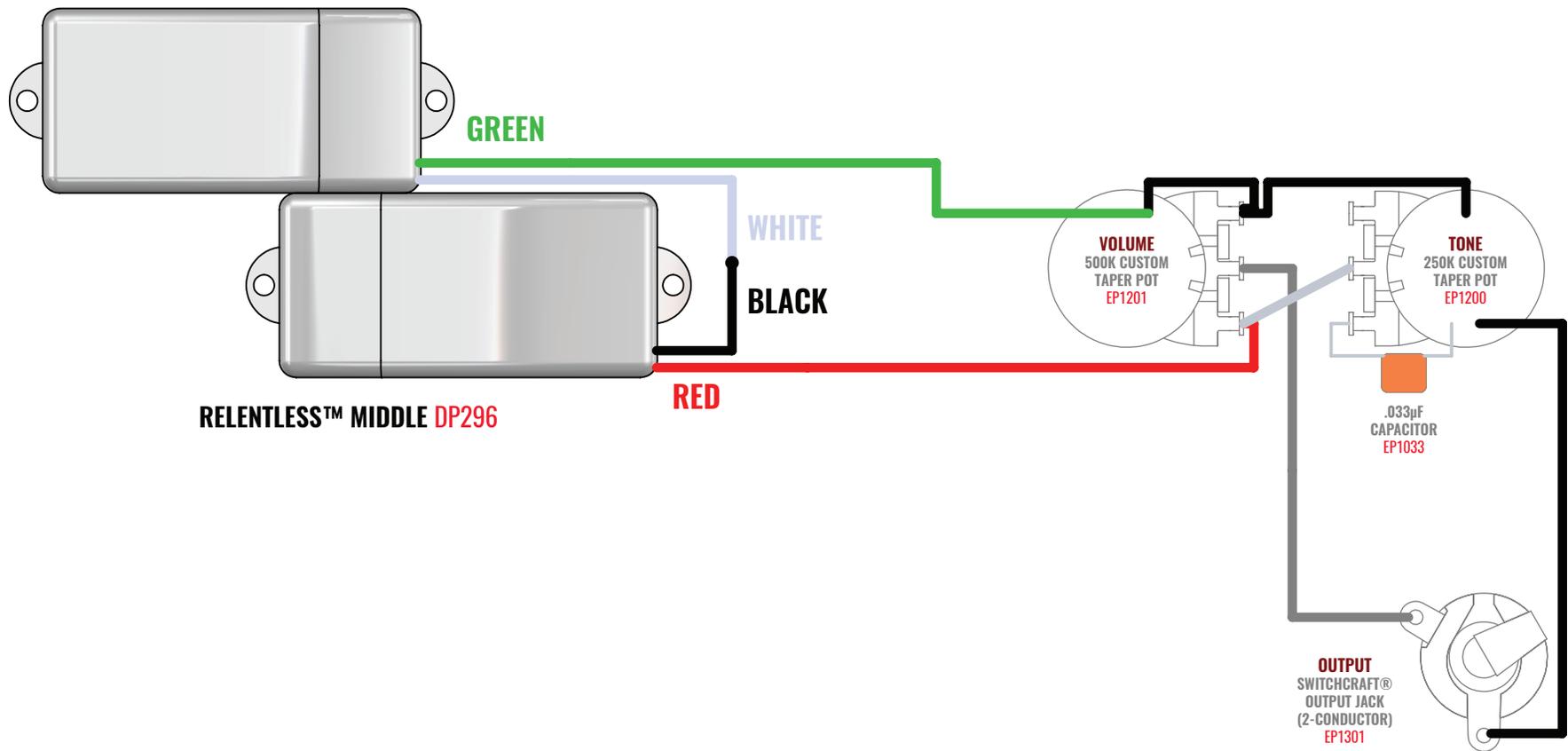
Larry: Thank you, Billy. As always, it's been a pleasure.

Billy: Thank you for everything, Larry. ⚙️



Relentless™ Billy Sheehan STEREO WIRING

This wiring designed by Billy Sheehan allows 2 individual outputs. For a complete wiring kit including all the hardware in the diagram above, [click here](#).



Relentless™ Middle P-Bass

The standard install diagram for Relentless™ Middle in any Precision Bass. For a complete wiring kit including all the hardware in the diagram above, [click here](#).