ROGER SADOWSKY has his own ideas about how a guitar should be set up

The Guitar Doctor

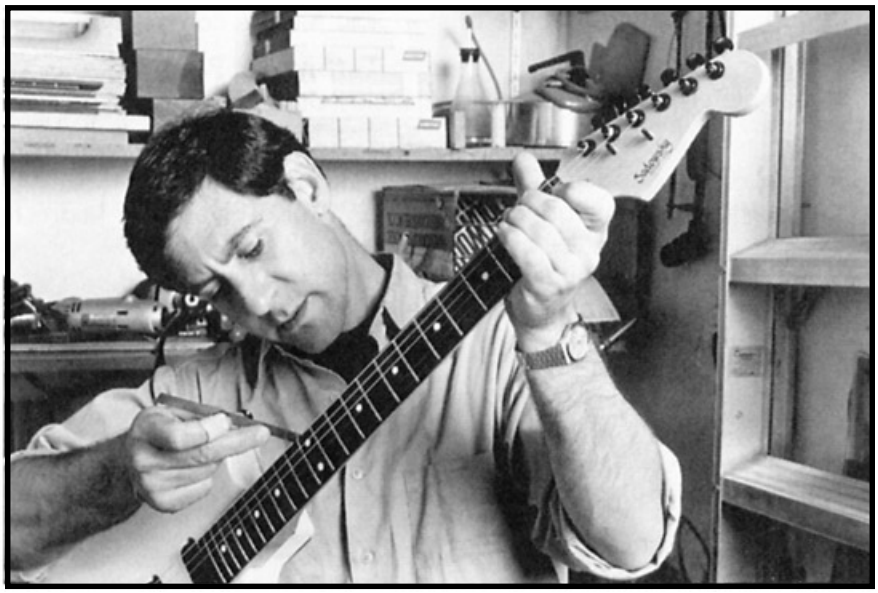
By Joseph Bosso

His clientele includes such luminaries as Bruce Springsteen, Prince, Sting, David Byrne, Paul Simon and Marcus Miller, among others (not to mention a couple of Guitar World staffers). A satisfied, loyal group of musicians that champions the efforts and expertise of Roger Sadowsky, a New York luthier who has, in a surprisingly short time, risen to the top of his field.

The secrets of his trade are the rewards of dedication to a precarious specialty, one with its own rules and concerns. Guitar repair is an area where ignorance can be costly, both in terms of dollars spent and in hours of artistic frustration a player might endure because of a malfunctioning instrument.

"My approach is pretty simple and honest," Roger explains, seated in his Broadway offices, where he is assisted by Jay Black. I establish a one-to-one relationship with the player. I want to know what kind of music they play, the kind of guitar they play. Wasting their money would be detrimental to both of us. I see no problem in helping to educate my clients as we go along. A good-sounding, good-playing guitar is the end result, but an understanding of what I do to achieve that is the added bonus."

Though Roger is the first to admit that a good deal of home guitar repair is analogous to self-surgery (also not recommended), he is firm in his be-



Sight Lines make for the Right Lines: Sadowsky checks alignment on a neck (above) and (below) action measurement.

lief that a knowledgeable player is also a valuable client, and that a fair amount of guitar care can and should be encouraged by the novice.

"One of the things that guitar players should acquaint themselves with is essentially how to maintain their instruments with an emphasis on set-up. We see that a lot of instruments need us to set them up about twice a year, due to weather changes.

"Technically, a lot of necks back-bow in the summertime; you can tell if your guitar does this by the fact that it'll buzz when you play in the first position. In the wintertime, it's reverse—the neck will warp upwards, and the action will become way too stiff."

To familiarize themselves with this procedure, Roger suggests that guitarists take a standard ruler that measures in 32nds of an inch and measure the distance between the top of the fret and the bottom of the string at the twelfth fret.

"It's pretty simple," he explains. "You should depress the string at the first fret—that way you get the nut out of the way—and measure at the twelfth fret. Hold the ruler on the top of the fret. In a normal set-up, it would be about two 32nds of an inch on the high E string up to about two-and-a-half 32nds on the low E string."

(Conversely, a bass player's set-up, according to Roger, is roughly two-and-a-half 32nds on the G string, and three 32nds on the E string. "That's a good, low action.")

"It's funny how intimidating this can be to some people," Roger says. "Guitar players are a special breed, with idiosyncrasies. If they want to learn to do this, I'm all for it. It's a kind of interim-maintenance job. We'll set the guitar up first, as we should, because strangely enough, a lot of guitarists have never felt how good a properly set-up guitar can play. Then, if they want to keep an eye on this for themselves, it's a good idea."

A common problem Roger sees in most new guitars is that of "choking," or "fretting out," a string that doesn't quite hit the peak note when bending. The problem? The fingerboard. The solution? A fret job.

"Definitely not recommended for the novice," Roger laughs. "A lot of people don't quite understand how this can be—a guitar that needs a fret job when it's new. The reality of it is that it wasn't the frets in the first place; it's the fingerboard that has the problem. There can be an excessive amount of curve in the fingerboard, and the only way to get to the problem is by taking the frets out.

"You can see this for yourself. Look at your guitar and see how the bridge is radiused to match the curve of the fingerboard, the saddles for D and the G string are higher than any other. The theory is that, if you bend the E string to where the G string normally lies, the saddle for the E string would have to be as high as that of the G string for the string to play cleanly. The only way for a string to bend cleanly in the upper register without an excessively high action on the outside strings is to reduce the curve on the fingerboard. If you play rhythm guitar, this might not necessarily concern you. But if you play a lot of upper-register leads or bend a lot of strings, this is something you should look into."

Roger is critical of the notion held by luthiers who address the same problem by leveling certain frets, a theory he describes as "ludicrous. It's completely looking the other way and cosmetically removing a nuance of the problem. Levelling frets to compensate for an irregularity in the fingerboard just results in low, flat frets that don't play well."

During his development as a technician, Roger has noted that the distance between repair work and guitar modification has narrowed considerably. However, an unnecessary repair job won't see the light of day at Sadowsky's.

"You can't dress up and fix an inherently bad guitar. I could do $400 worth of work on an instrument and it'll end up a gem. I could do just as good work on another guitar and it'll still be mediocre in some way. Well, just like anything, it was probably a bad guitar in some intrinsic way that no amount of work will really solve. A customer might come in and want to spend X amount of dollars either repairing or hot-rodding a guitar and I might inspect it and give him the advice that he's better served just taking the money and looking into new instruments. Sometimes the best repair or modification advice is knowing when to say no."

The art of guitar repair (or modification) is analogous to that of auto repair in many ways, and Roger agrees. "Sometimes a person should forge ahead and experiment, and sometimes it's crazy. I think if a person is handy with a soldering iron, he should try to replace pickups himself at least once. What I like is helping that person achieve a sound. Sound is so subjective. If your guitar sounds good unamped, you're off to a good start. if you want to replace your pickups and work toward something else, it's a perfectly valid thing. Don't do an irreversible job, of course; if the new pickups don't work out, be sure you can put the old ones back in."

With the advent of more sophisticated tremolo systems (i.e. Floyd Rose, Kahler, et al) comes a new set of problems and situations to look out for. Once again, Roger asserts that the player should educate himself with the possibilities available to him.

"It's apples and oranges, the differences between them. It's like rack-and-pinion steering and power steering. If feel is your main consideration, then Kahler is the one; if tuning is your concern, then it's Floyd Rose.

"Given that the locking systems work—and they do—there are problems. If you're dealing with a floating system and you break a string, then your whole

guitar goes out of tune. If you're doing Nashville licks and you're sustaining a bass string, your bass string is out-of tune. Also, floating gives a loss of sustain."

An alternative that Roger has found useful has been to insert a block in the back of the tremolo unit itself, thus enabling the player to push down on the bar but not lift up. "It's a trade-off that a guitar player must make, but it alleviates a lot of tuning problems. Besides, people generally push down on a tremolo bar."

"The other system I've developed is a locking system for a Floyd, which is accessible through the backplate. With my system you can completely lock the Floyd and turn it into a non-tremolo guitar in about five seconds. It's not the kind of thing you'll want to do during a song, but between songs, absolutely."

Sounds great. How does it work? "Well, that I won't tell," Roger laughs. "I do have some secrets, I guess."

As a third alternative, Roger recommends a system whereby on, say, a stock Strat-like bridge, only the two outside screws on the front remain (normally a Strat bridge has six screws on the front edge). The bridge is set up for "no pullback" by the insertion of a felt bumper on the base of the bridge (to avoid a harsh "clunk" when the bridge comes back). A teflon nut replaces the existing nut, the reason being that it offers the most resistance to string hang-ups (which can make you go sharp). Sperzel locking tuning heads complete the process.

"This set-up works very well," Roger states firmly. "The traditional bridge with two screws, no pull-back, teflon or graphite nut, Sperzel locking tuning machines and no string retainer on the headstock—it's a great system for most people who don't need to deal with luck nuts and wrenches."

If the world of guitar repair sounds a bit like preventative medicine at times, it is a comparison that Roger heartily agrees with. "As with medicine, it's an area that should have no secrets, really, my locking tremolo system notwithstanding. What I want to do is help my clients get the best out of their guitars, and themselves. If they can know a little more about their instruments, then they'll be coming to me for different things, new things, and then together we can elevate the art of guitar playing and repair to a higher plane. The more they know, the better I'll be."

Sadowsky sands the fingerboard on a Jazz Bass. Says Roger, "We love our clients as much as the instruments."