

# the ToneQuest

*The Player's Guide to Ultimate Tone*

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## Report™

**INSIDE**  
Introducing  
Nashville's Top  
Guitar Shop, Joe  
Glaser & the  
Incredible Plek  
plus ...  
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Whoop Ass  
(revisited). Our  
picks for new lit  
tle big amps!

## Glaser Instruments

**T**here are literally thousands of people in this world who will work on your guitars or amplifiers. For some, it's their passion, and for others, it's just a job. If you are fortunate enough to have found a skilled pro to guide and assist you in



your quest for better chops or better tone, you already know what a rare and inspiring gift such help can be. Sooner or later, old instruments need TLC that can range from neck sets and refrets, to fixes for bungled pickup and jack installations, assorted cracks, breaks, and other symptoms of age or neglect. Our favorite bargain vintage guitars like National acoustics (body by Gibson) Supros, Silvertones, Kays, and Harmony Jupiters and Rockets absolutely require the attention of a clairvoyant craftsman who can make these instruments truly playable, and the rewards these instruments offer should not be ignored.

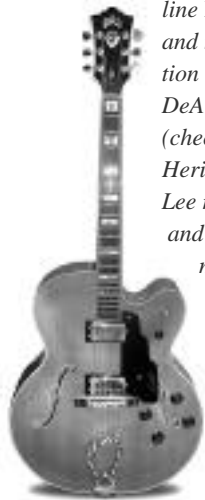
[www.tonequest.com](http://www.tonequest.com)

Guitars that remain overlooked and under-valued in the market today can often become personal favorites with just a few thoughtful upgrades, and examples include just about any Guild ever made, non-vintage Gibson

Firebirds, old and new Epiphones (the current Asian Epi 335's and Les Pauls can sing on the cheap with a simple pickup and pot upgrade), top-of-the-line Yamaha electrics, and the current-production Guild Bluesbird, DeArmond, Hamer, (check out the Newport), Heritage, and Ernie Ball guitars (the Albert Lee model gets a big thumbs up). And even new and more expensive guitars can be elevated to magical divining instruments in your search for the perfect note with a fret dress or refret and a setup performed by a patient and experienced pro. But know this — there are more bad fret jobs in existence than there are good ones, and the difference counts. As Ken Parker said, "It takes the patience of a saint to do good fretwork."



Kay



Guild X-500

And there is the issue of buying instruments sight-unseen and having them shipped to you with the seller's enthusiastic assurance that the guitar or amp is "all there." Well, yes, it is all here, but how can I be certain that what is "here" has always been "here?" Even sellers with the best intentions can be fooled, and in today's vintage market you would be foolish to buy NOS tubes, vintage amps,

or collectible guitars that are advertised as "original" without promptly having them checked out and verified as such to the best of your ability.

Most of us could use a good tech for that purpose alone. Guys that know tubes can spot re-labeled Chinese "Telefunkens" and Siemens "Mullards" in a second. Guys that know amps can spot non-original work and replaced components in a heartbeat. And guys that really, really know guitars will tell you that while obvious repairs are, well... obvious,



Hamer Newport



Ernie Ball's Albert Lee Model

plenty of people today possess the skill to completely obscure and age a refinish job, a non-original rout, broken headstock, rewound or replaced pickups, non-original wiring, hardware, and binding, or even completely replaced bridges, necks, tops, backs and sides on vintage guitars. Validating the originality of a vintage instrument today can be very dicey.

Believe it. Atlanta builder and repairman Jay Riness once made a replacement neck for a vintage D'Angelico and later discovered that the guitar had been sold as original for \$80,000. Yes, Jay was that good, but we can assume that the owner of the D'Angelico suffered a sudden onset of memory loss in the blinding glare of all that green. Dave Tiller at Midtown Music has resorted to taking his vintage purchases to a local medical office to have them X-Rayed and the film read by a local guitarist/radiologist. I once took the plunge during my second stage of vintoiditis and bought a refinished but otherwise original 1956 hardtail Strat for \$4,500. No



attempt had been made to disguise the refin as aged (done by the wonderful New York painter Jack Pidgeon), the

Stackpole pots were authentic, as were the tuners, bridge, neck plate, and pickups (well, they looked and sounded old). I never really doubted that the guitar was "all there," but the truth is, someone with the appropriate skill could have patiently acquired some old parts for \$1,500, plus maybe \$300 for wood, and built a '56 from scratch with all of the proper pin router holes and penciled neck and body dates present and accounted for. Today, that Relic in the corner has never looked or sounded so good.

Whether it's a time capsule example of a vintage guitar or an expertly-crafted fret job, when we are treated to perfection, it's often accompanied by the realization that our past assumptions may have been more than a little flawed. What we thought was "good" or "real" winds up not looking quite so good after all! So begins our introduction to this month's cover story, as we introduce you to Joe Glaser and the gang at Glaser Instruments in Nashville, Tennessee.

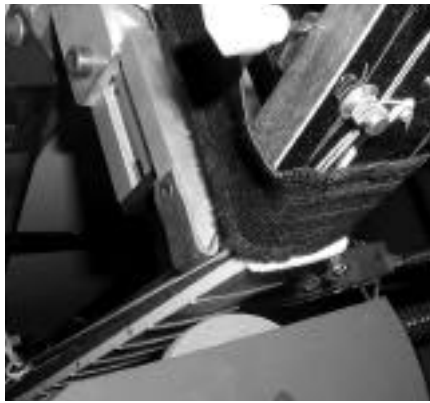


Joe & Gerhard

Talking with Joe Glaser about guitars and the amazing Plek machine created by Gerhard Anke, Berlin, you get the impression that if it were not for the steel guitar, Joe may have

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become Joe Glaser M.D., FACS (Fellow, American College of Surgeons). Like a good surgeon, Glaser's continuing education remains a work in progress, and his insatiable curiosity and love of all things related to the guitar have enabled him to establish the most revered and respected restoration and repair "practice" in Nashville. As you can imagine, Nashville is home to a very tough crowd... Neatly tucked away in a quaint house on a quiet mixed-use residential cul-de-sac, Glaser Instruments is a destination for many of the world's most talented guitarists, including lots of high-profile residents who have never been associated with Nashville or country music. During our last visit in October, Joe introduced us to a familiar looking chap who was intently discussing the wiring in his Rickenbacker. "David, do you know John Kay?" On another day it could have been John Fogerty, John Sebastian, Peter Dinklage, Ray Flacke, Scotty Moore, and a host of other Nashville Cats, all of whom will indeed play better than I will. When they need their guitars fixed, they see Joe.



We heard rumblings last year about the mysterious contraption Joe had bought called the Plek, and it was initially described to us as a machine that could "refret a guitar." Well, not

quite, but what the Plek does is precisely dress each fret along the entire length of the fingerboard with a precision and flawless consistency that is beyond the capabilities of man. Since the Plek can analyze the neck and frets under full string tension, it compensates for neck relief and the travel of each vibrating string as it dresses and shapes the frets. How many of *your* guitars have frets with the crown intact? The Plek can also be programmed for individual player-preferences based on whether or not you do a lot of string bending, for example. And it can minimize the effect of defects such as the fingerboard hump above the 12th fret that we've all seen in production guitars. This hump, or "kick" causes the string height to be too low above the 12th fret when the action is set for the proper string height below the 12th fret, and it's like playing two guitars — one that is set up perfectly for you, and another which is not. This neck "kick" is very common, and a truss rod adjustment won't help.

Does the Plek make enough of a difference to justify the \$129.00 expense? On a well-made instrument that you intend to keep and play, *absolutely*, and especially if you've owned

instruments in the past that you've had to fight. After all, the point of having a top-quality instrument is supposed to be all about tone and playability. If you find yourself consciously making adjustments in your technique to compensate for uneven action and uneven frets, the Plek can free you to relax and let the music flow rather than fighting the guitar, and that's a *giant* step, in our opinion.



James Pennebaker and I succeeded in pulling Joe out of his shop long enough for a long Mexican lunch recently, and as our conversation progressed, we couldn't help thinking that here was another human being that had managed to find his true calling in life and

live his dream. It doesn't get any better than that, and we wish the same for each and every one of you throughout this New Year. Enjoy...

**Glaser**  
INSTRUMENTS

**TQR:** Let's begin at the beginning, Joe. How did this all materialize for you?

It started with steel guitar. One of the only things in my life that I knew I had to have was a pedal steel guitar. I heard it as a little kid and it just got to me. You hear people talk about reading a particular poem or touching purple silk and suddenly their whole life is laid out in front of them... like that. The steel guitar was the most captivating sound I had ever heard, but I was also living in the wrong part of the country to be much exposed to it. I heard the pedal steel on the radio as a little kid in Denver, Colorado on the *Rocky Mountain Jamboree* Radio Show that this baby sitter listened to. By the time I was in high school, I had a steel and began learning how to play it, but I ran into the problem of it not doing what I wanted it to do, and not really sounding as good as the players I had heard growing up. Mechanically, the pedals and knee levers on my first decent steel weren't up to date. It was an old Sho-Bud crossover, meaning that all the pedals worked on both necks. I got it from Bobby Black, who played with *Commander Cody*. It was painted with a black crinkle finish on the ends and it had Brazilian rosewood necks and cabinet. In retrospect, it sounded terrible when I played it, and when I listen back to one of the old *Commander Cody* records with that steel, it sounds just as bad, though Bobby Black was truly great, and I understand why it was for sale. Anyway, I was determined to make it sound better, and I immediately got into rewinding the pickups. It's a familiar story... I took the black paint off of it and buffed out the aluminum ends,

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because everybody's pedal steels by that time were shiny-looking. I basically re-built the thing. I started out with a hacksaw and a hammer, and I eventually had to learn machine shop technique to work on it properly.

**TQR:** Did you know anything about pickups when you began rewinding the Sho-Bud's, or did you just wade in with gusto?

I didn't know anything about *anything*. It was the classic, "I wonder what makes this thing work?"

**TQR:** Ah, but by that time you were possessed...

I guess I was obsessed by the music. When you think about it, players spend a lot of time in their room when we're young. Hours and hours fighting something that's not going very well. If you stick with it, joy will follow eventually. But with steel, playing a note and blocking it at the same time is difficult. Otherwise, all ten strings will ring together forever. Plus, you're using both feet and both knees. Flying a helicopter would not be harder.

**TQR:** Especially without having any lessons...

Yeah... just listening to records. Anyway, I re-worked that steel and learned how to do things like wind coils. In fact, I took a job at a machine shop so I could learn how to work on my steel. I was going to college at Stanford University at the time, and I enrolled in some classes in mechanical engineering. I also learned wood working and electronics — enough to get into trouble. Then I started playing in bands, and I was completely fascinated by Clarence White. I thought he was as close a connection to god, both as an acoustic and an electric player, as there was on earth. From the word of god to the hands of Clarence... Albert King, as well. Those were the



two guys. My steel playing was really inspired by them as well as Buddy Emmons, Lloyd Green, Ralph Mooney, etc. I was living in the Bay Area at that

time, and I began building guitars, I was working in a machine shop and part-time for a cabinet-maker, and I combined all of that. I learned how to spray. I'd take any job I could get that would further my knowledge or skills. One of the places where I worked manufactured focusing magnets for particle beam accelerators — huge electromagnetic coils. These were "pickups" about the size of a car that created a

magnetic field that could be used to focus a particle beam. A beam of electrons, for example, will stay in place as long as there is a negative field around it, and if you reverse that field just as the electrons pass through it, you can push or accelerate the beam toward light speed so that, colliding it with other matter, it becomes possible to create and study the frag-



ments — short-lived particles not readily found in nature. So they wound these huge coils as well as some really tiny

coils, and I would sneak in there at night and wind pickups. I'd work 8 hours there and another shift in the machine shop on my own. I had some really long days — sleep for 3 or 4 hours each night and play on the weekends. I learned a lot of great stuff.

**TQR:** And after this apprenticeship and your enrollment at Stanford, what did you do?

I was playing in a little band out there in the Bay Area in the early '70s — California Country or whatever you want to call it — *New Riders of the Purple Sage* kind of music. We played a lot of the old Porter Wagoner stuff, early Buck Owens, Osborne Bros. It was so square that it was hip. In the same way that most white kids were huge students of the blues, I was that, but also a huge student of '50s and '60s country music.

**TQR:** Real country music...

Yeah, I had found all 80 or so original old George Jones records and I knew who played on them and what they played. I really studied that. My girlfriend at the time was the singer in the band and played bass, and she decided to move to Nashville because there was nothing going on with country in California, so we moved here only to find out that Nashville was in the throws of the Ronnie Milsap, Barbara Mandrell era... the totally wrong time to move to Nashville for the music we loved. We just toughed it out. I'd get hired to play and I'd tell people that I wasn't very good by Nashville standards because I had not learned the Nashville style. It's not only a different playing style, but you were expected to kick off every current tune on the steel, exactly like the record. For a while I knew nothing that wasn't at least 15 years old. They'd tell me that it didn't matter that I wasn't very good — they just needed a steel on stage (laughs). I really started building guitars here, too. We lived out in the country, and I built guitars with string benders knowing nothing about how they were supposed to work. I

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basically used the design behind the Sho-Bud crossover mechanism.

**TQR:** You didn't know about the Parsons B-bender?

I had never even seen one at that time, and I had no idea what it was like. My first B-benders weren't terrible, but they borrowed nothing from anything anyone else had done.

**TQR:** Who invented the pedal steel?

**James:** Whether they know it or not, everybody was influenced by Bud Isaacs, who was the first to play one on a recording.

**Joe:** He had a non-pedal steel one that Shot Jackson put a coat hanger on, I believe. I think it bent to a four chord, pulling the thirds and fifths together.

**James:** Paul Bigsby made some pedal steels...

**Joe:** And Alvin Ray played those Gibson Multichords... I think you can take it back to the harp, which had pedals for changing keys. The first string benders for guitar that I am aware of were patented in 1918, and even though Gene Parsons made the first one anyone ever thinks about, there were several prior to that. Even Fender patented a string bender that was an adaptation of their steel guitar.

**TQR:** So you just toughed it out here in Nashville despite the scene having changed...



I built a few guitars. I like older country music, so I built Fender-style guitars —Teles. They were worn and comfortable guitars a lot like the Relics ultimately became. They were shiny

when they were new, but I used so little lacquer that they didn't stay that way for long. I quickly learned that the less finish you use and the more attention you pay to the kind and weight of wood you use, the better the guitar is going to sound. Bill Hullett taught me a lot about Telecasters. He was the guy here in Nashville who really knew and loved them. I just sort of built these things and then I'd go show them to people and they'd say, "Oh, man, can you build a 335?" That's what was ruling back then. A few people showed interest in them, like Jim Olander, now in *Diamond Rio*, who was



a banjo player (that explains everything). He understood the bender thing, and I had a double bender at the time. He bought a guitar, then Ricky Skaggs and Steve Wariner... then I was building guitars and doing repairs on the side.

**TQR:** Did building guitars for those players do a lot for your career?

As these guys became better known, yes. I was tremendously influenced by Emmy Lou's early bands, and Ricky had been a part of that. But when Ricky decided to become a country artist, nobody knew him as that. He was known as a blue-grass guy *deluxe*. I had followed him since he and Keith



Whitley as preteens had been part of a Ralph Stanley band. He put out his first country record about the same time I built him a Tele-style electric 5 string mandolin with a string bender. He became more popular and I was building electric mandolins as a result, and then he started

playing electric guitar after Ray Flacke left his band, and I started doing more guitars. I was mostly interested in building things that had been a part of a particular period in music, like the 6-string tic-tac bass that was on the old George Jones records. I started making 6-string basses when no one knew what they were, or cared to remember. I'd bought an old Dano off the wall in a little shop in California and I thought they were great, so I built knockoffs of the Danelectro 6-string. But I had to sort of plant the concept with players. Same thing with the Tele. No one was interested in Teles in 1978.

**TQR:** You can say that again... even in Nashville.

I planted the seeds, and it was a symbiotic relationship, but I really didn't do things that I didn't want to do. I have always loved early to pre '69 Fender stuff. I was very interested in Teles, the 6-string bass, and electric mandolins. I had become fascinated with electric mandolins because of a Johnny Gimble solo on an old Hank Thompson recording called "Momma Don't Allow." His tone and his licks were just so

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good. It was really unbelievable. Well, I got to know Gimble, and he had an old Gibson mandolin with a pickup on it that Leo Fender had wound. When the pickup finally broke, Johnny called me up and I rewound it. That was a moment — doing work for Johnny Gimble in the footsteps of Leo Fender.

**TQR:** Were you working out of a shop by that time?

I was working in one tiny room off the kitchen of my rented old funky country house. It was \$100 a month on 250 acres. I had all of my tools on wheels — the drill press and everything else, because I could only have one thing in the room at a time, it was that small. So I would roll in whatever I was using — a radial arm saw or whatever — and roll it back out when I was done. And I was spraying outside year-round. Even when it was 12 degrees outside I'd spray, and I became really interested in what happened when spraying in extremely cold weather, because they always tell you not to spray when the temperature is below 70 degrees. If you do it right, you can use the cold weather to make the lacquer behave like hot lacquer does. There are some really interesting benefits of spraying in the cold... You heat up the guitar and heat up the lacquer and go out into the cold to spray, and you can put a lot of finish on in one step, and it gels instantly and dries very nicely. I don't do it anymore, but it was just another one of those things that isolated individuals learn. At one point I embezzled some really beautiful curly maple from Glaser Instruments that I had acquired with the help of Paul Reed Smith, and I made kitchen cabinets with it. It was wood that was too soft to make necks (another lesson that I learned), but the cabinets turned out to be really stunning. I used a urethane that was extremely hard to spray, and at room temperature it would fish-eye, and I couldn't figure out why. So I waited until the weather turned cold. It was 3 below zero on New Year's Day, I opened all the doors in the shop and sprayed the stuff and it turned out really beautiful. For one thing, body wood is so dry when it's that cold, and it just sucks the finish into the pores as it goes into shock as its temperature drops. That's more than you ever wanted to know about that!

**TQR:** When were you able to move in-town from the country and hang a shingle in Nashville?

About 1983 I rented an old laundromat building in the boonies for \$100 a month after working in the house for something like 4 or 5 years. Suddenly, I had to think about things like phone, electricity, and rent, and making a living instead of just making what I wanted to make. I started hiring various guys and I was really building a lot of instruments — almost everything with string benders. At some point I have employed at least 40 or 50 different musicians in this town — great players, songwriters — many of whom initially just

came to hang out and I paid them. Eventually, I got way behind building guitars — like two years behind — and I got really sick of having to constantly blow people off, so I stopped building and did repairs. I liked doing that, and by that time I had 4 or 5 employees. About 1994 we moved into Nashville proper and into a great space.

**TQR:** You seem to have come full circle though... You started out only doing what you wanted to do, and now you're back to that in terms of the work you do personally.

Yeah, I quit building altogether about 6 years ago, though I still do a few things from time to time. I built Emory Gordy a Tele last year since I had promised him one, and I'm building an electric mandolin for John Fogerty. I was so impressed by Fogerty when he lived here — not just by what a great musician he is, but how he took lessons from a bunch of guys here and really studied the guitar. People like Bill Hullett, Ray Flacke... I lent John an electric mandolin and he really got into it, so I decided to build one more. His enthusiasm is contagious. I hope to grow up to be like that.

**TQR:** Are you still doing heavy restoration work?

Yes, but again, it tends to be instruments that we are particularly interested in, or it's for people we like too much to say no to. We have a rosewood J200 in the shop that's being completely restored now, a couple Larson Brothers, old Martins,



Fenders, etc. Hunter is really the guy who spends time doing the acoustic work and he has a very nice touch. My involvement is mostly in problem solving and deciding the direction we're going to take on things. "What's going on with this instrument and how are we going to approach the restoration or repair?" Two heads are always better than one. I get involved in cosmetic stuff — patches, touch up, making holes go away... In the early '80s I had been doing relic finishing on old guitars. Take a '54 Strat, fill the buckshot holes, hide the humbucker rout, paint faux grain, sunburst it and make it look old. I was playing in a band with Tom Murphy at the time, and I was doing this stuff and we talked a lot about what you could do — the tricks. Around the time when they

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started doing Fender Relics I stopped, because they could do it full-time, and for me it was just a part-time thing. Like 6-string basses... When Jerry Jones began building them there was no longer any point in me doing 5 or 6 a year when he could build 60. Plus, I went to a guitar show and saw an old restoration of mine being blessed as original by a very well known vintage guitar expert. Right in front of me... Then I bought a '59 Telecaster from some guy only to realize that I had reliced it some years before and I'd forgotten about it.

**TQR:** You bought it as original...

I bought it as being original, and I felt really, really stupid...

**TQR:** We've heard a similar story from John Sprung. Do you see a lot bogus "vintage guitars" that the owners believe to be original?



How can you know sometimes? People are really good now.

Beautiful work! I can tell the difference between razor-cut checking and real finish checking, but Vince Cunetto (the originator of Fender relics) did some stuff

that just blew my mind. That Tele that you have, James, completely blew my mind. I would not have known that guitar wasn't original. I tried to start a little thing through the Association of Stringed Instrument Artisans (there is a newer name) to talk about the ethics of relicing — to get all of the relic pickups marked as such at the factory, and to get Murphy to mark the guitars he was doing. My theory was that something marked as a Murphy was going to be worth twice as much anyway, because he's a great artist. Eventually, they will be worth more... There are thousands of guitars that were built in the '50s, but only a comparatively small number that Tom Murphy can do in his lifetime. Everybody fought it though. It bothered me a lot.

**James:** The whole relicing thing has been going on for hundreds of years in the violin family.

**Joe:** Those violin guys have got some chops. They make us look like children. I'd loved to have studied with someone that good! I still do relicing just in doing repairs. For example, if someone brings in a pre-war Martin with a piece of the headstock missing, I enjoy putting it back together and making the damage go away. The Tele that I bought back was one of those guitars in which I had filled a rout for a humbucker and matched the grain — the whole bit. A few months later, I

was getting ready to resell it to a friend of mine and we took it all apart. You know how you do that because you just never know? I was pretty certain that the Tele was all straight, but when we took it apart you could see a very faint halo underneath the pickguard from a humbucking pickup. Then I started looking at it, and I had signed it in the neck pocket. That's pathetic.

**TQR:** That's pretty damn funny. What are you spending most of your time with now in terms of the work that comes into the shop? Refrets, neck sets... that kind of thing?



Yes, day in day out. Hunter does acoustic repair — neck sets, replacing bridges, installing pickups... We try to do good instruments and avoid the ones that aren't worth

working on. Hunter stays backed up on acoustic repairs,



Floyd is full time in refrets... We have the Plek machine that dresses frets, and that's basically keeping two guys busy. Dave is full-time doing setups on Silvertones, Gretches, etc., and I spend my time tying ends together, doing touch up work and endless challenging things like replacing a broken truss rod in an old Fender neck and

making it invisible... Personally, I like small jobs with a high



degree of difficulty. One thing I enjoy doing is trying to fix old Fender pickups. They have a tendency to just die after 30 years or so because the solder joint at the eyelet may corrode or the wire breaks somewhere inside the coil. About 80% of them are repairable without rewinding the entire coil. You can plug them in and often tell by the sound whether they are broken at the beginning of the coil, at the end, or in the middle. I learned this working at the place I mentioned in California. One out of four of the huge coils they built would have a short in it, and they had a guy with test equipment who would find

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the short, so I have applied what I saw them do to pickups. Usually the wire is just pulled apart somewhere, but it's so delicate that it's easy to screw it up. The good news is that if an old pickup is broken and the chances are 80% that you can fix it, it's worth the risk. That beats sending it out to be rewound when it can truly be repaired, sound, and look original. The more you do it, the better you get at getting in and

getting out with the pickup fully restored. Otherwise, that other 20% go off to Lindy Fralin and still end up with a great sound and look, just new wire and not quite as woody sounding. My day is full of little novelties like that. Today I'm making a couple of pickguards for some 1940's L5's — tortoise shell. Even the repro's you can buy today don't look right, so I'll make them and age them, yellow the binding and date the back. Hofner neck resets... I've been doing those a lot. They are fun. Every Beatle bass in the world seems to have come out of the closet.

**TQR:** Neck resets with the old Gretsch guitars are common, sooner or later...

Yeah, they weren't put together to stay together, and no two of them are the same. That applies to the Hofners, and there are as many versions of Gretsch neck sets as there are Gretsch guitars.

**TQR:** The joints are different?

The way they're cut. Our joke in the shop is they would hire a guy to do necks at Gretsch, show him a picture of a neck joint, fire him after one and the next guy would be given a



picture of the other guy's joint, and so on. The way the pickups were cut out in a Gretsch in the '50s appears to be by electric drill.

**TQR:** They weren't using a template?

No... The pickups don't seem like they are in the same place on any two guitars. You can't take a pickguard off an old 6120 and put it on another one. You can't take a neck off an old Gretsch and put it on another guitar — not in a million years. The frets run wild, too. We

had a Gretsch at the shop yesterday... their jigs were way off, and on their signature models they might add another fret and cut it by eye. From across the room you could see it's not straight. But that doesn't mean they're not great guitars.

**James:** There is a charm about them.

They're truly great instruments — they're just not *precision*. Same thing with a Delvecchio. One thing about Nashville, though... People expect guitars to play in tune, and I have spent a lot of time fret correcting and learning from the experience. It may or may not make sense. Even though people here are intensely anal about tuning, isn't the charm of some instruments the fact that they don't play in tune? Is part of the sound of a Gretsch the fact that it may be a little out of tune



as you play up the neck? Like the high pole piece on the G string on a Stratocaster pickup... It was

designed for a wound third string, but who uses those much anymore? It may not be a correct, but people expect to hear it.

**TQR:** The warble...

Exactly.

**TQR:** In your experience, what's the biggest misconception that guitar players have about their guitars?

That they can be played in perfect tune. Buzz Feiten, bless his heart, invented a great thing — repeatable calibrated tweaking. I recall that Johnny Smith used some elaborate system that involved tuning at three or four different places on the neck. People have long been moving the nut. There are compensated nuts. But piano people have known for years that you aren't ultimately going to make something sound 100% pleasant. You'll make it sound *legal*, but thirds are always going to sound sharp. People who bring a guitar in and play a chord up the neck with a third on top and say, "This isn't in tune, but the piano was" — they are in a dream. The only advantage that a piano has is that it has more strings per note, so it choruses with itself. The sound is less harsh, but it's no more in tune than a guitar. You can temper-tune a guitar just as well as you can a piano, and stretch tune it too. And we should. There is a quarter tone difference from the bottom of the keyboard to the top, but you don't hear it. If you don't do that, it becomes obvious though. People intonate with the harmonic, but that's not how you play a guitar, either. Buzzy Feiten invented the idea that you would tune a guitar under real-world conditions — a modern concept.

There's a guy here named Mike Holloway — a left-handed

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blues player. He used to work for me, and when he intoned a guitar it would play pretty sharp up the neck for the rest of us, but not for him, and there was no way that I could understand that happening. If you're stretching the strings too much when you fret so hard, you have to pull the saddles back. That I got, but Mike had the opposite effect, and we went round and round over it like a freak of science and nature or a left handed phenomenon like tub drainage in the southern hemisphere. Finally, one day I was making him play for me, and I noticed that he actually stretched the strings *toward* the bridge, which made them play flat, which is exactly the opposite of what most humans on earth do. He loosens the string between the fret and bridge. So how do you set intonation when you don't know if someone grips the guitar hard or soft or how they play? The misconception is that setting intonation is just about turning a few screws until the octaves line up on a tuner. Nonetheless, tuners have been a great blessing. I remember seeing the *Quicksilver Messenger Service* in the '60s and watching them tune for 25 minutes. And it wasn't all drugs...

**TQR:** Electronic tuners have really helped, because there can be some nights in a hot, noisy, crowded club when it's really tough to get tuned up and stay there all night.

**James:** I saw *The Band* here in Nashville a few years ago, and I really enjoyed watching them tune up. It was no big deal for them to take their time. Levon walked off to the side of the stage to bum a light off someone. No big deal. That's not the way show business is now.

**Joe:** You can tune while you're playing and nobody even sees it happening.

**TQR:** Do you work on many new instruments?

Yes.

**TQR:** Would you agree that the construction and consistency is better than it has ever been?



Sure. I think guitars were built really well up until the end of the '50's, and there were really nice instruments made around WWII by any measure. Today, everyone's quality has been spurred on by companies like Paul Reed Smith and Collings. Taylor made Martin build better. Santa Cruz made Martin build better, and now vice versa... There is still a lot of

emphasis placed on costly finishes and perfect chrome at the expense of things like fretwork and setup. Finish appearance is the biggest monkey on manufacturers' backs. Things like flamed tops and getting guitars through production with no flaws or imperfections seem to take priority over sound and feel.

**James:** I can attest to that from my time working at Jackson-Charvel. If the finish didn't look like the glass on a coffee table, you couldn't ship it.

**TQR:** It's amazing when you think about guitars going through a factory and not getting a scratch on them. It's really easy to drop a screwdriver on a top when you're putting the wiring in or setting the action. We've all done it.

**Joe:** And people who deal with plating... the tiniest flaw is unacceptable, even though one week after you've owned a guitar the plating will start to tarnish and the finish gets nicked. *If you play it*, that is. We have customers who are like that, and we cater to them, but I have trouble believing that that should be the top priority.



**TQR:** That's why the Relics are so nice. You never have to worry about that first ding.

Plus, they sound like a million bucks because they had to put the finish on so thin to go through it and make it look old. Those Fender Relics are great sounding guitars.

**TQR:** True, although the weight can be pretty inconsistent — 6.5 lbs. to 8 lbs. Gibson really works at keeping the weight of the Historic Les Pauls at or below 9 lbs. One of the best-sounding Fender Strats I ever owned was heavy, but I don't seem to keep the heavy ones. Same thing with heavier goldtops. It's got to be brutal sorting bodies by weight in a high production shop.

**James:** I know when Vince Cunetto was doing the Relics at Fender, there was a cutoff in regard to weight, and he didn't get any bodies that were above the cutoff.

**Joe:** That's what you have to do, and it's really hard to maintain that. I like Vince's era of Relics a whole lot. They were just great. I haven't seen too many recent Relics, but five years ago if I had been buying a new guitar, I wouldn't have thought about getting another thing on earth.

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**TQR:** Let's talk about the Plek machine. Can you describe what it does?



The Plek is a computerized tool that scans an instrument strung to pitch, generating graphic views of the fret plane, fret heights, fret shape and placement, fingerboard relief radius, humps and bumps — basically everything you

always wanted to see well but couldn't. Within an extremely accurate map of the neck on the computer monitor, the operator creates a virtual fret dress incorporating any individual real world preferences, then the strings are moved aside and the Plek does that dress, applying complex relief calculations to the particular action and string gauges on that guitar, accurate to a resolution of .00005 in.

**TQR:** And is it being accepted well by your customers?

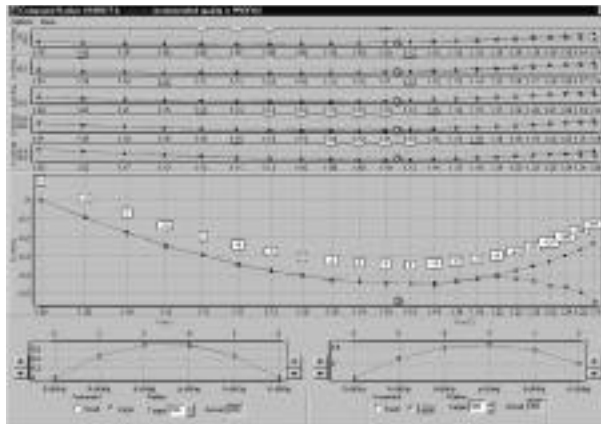
People like the work that it does a lot. They were pretty afraid of the machine because the process costs more, and it does cost a little more, but not a lot. People do talk about their guitars sounding better, which surprised me. I suppose that's because it puts a consistent, equal center on the frets and it allows maximum clean attack everywhere, given their action. And you hear those two things, as well as feel them. People say fret dressing is an art, right? But to me, the Plek machine is like a guitar tuner. Today, I can't imagine living without a guitar tuner, and now I can't imagine not being able to see what's really going on with the neck. It's not like sighting down the neck from either end and trying to see past the optical illusions to where the high spots are, or playing it and



figuring out where the high and low spots are and what problems are due to string quality. It's like discovering a major tool family, just like with calipers when I first began using them. Even though manual fret dressing is an art, I can do a virtu-

al fret dress with the Plek and account for every possible consideration — whether or not I want any particular compound radius further up the neck because a player bends and likes low action, or if I want lower frets in the first position to keep

a hard grip in tune while leaving higher frets up the neck for vibrato... All of those things that I have always taken into account when I hand dress frets are still done, but once the parameters are programmed into the Plek, I'm turning the actual work over to the most accurate and consistent employee in the shop, or the US, for that matter. It's not like I plan to do my best fret dress and execute it pretty well, because life is tricky. With this tool, it is executed *perfectly*. That's the



result of technology gone right, to say nothing about the benefit of doing the hyper-accurate analysis scans with the neck at full string tension. It has powerful viewing capability. You can look at a graph or topo map of anything. Its like X-ray to a broken bone. Goodbye to the witch doctor. A difference of .003 of an inch is a night and day difference in playability, but that's a typical tolerance. Now we hold a tenth of that or even less and do it in an ideal relief. That's important, too. The master-level guesswork is gone. The neck jig was a great idea, but you can't hold a neck in place with the kind of tolerance that can make or break a great fret job, nor fight the bizarre contours that occur when string tension is released. The Plek measures each fret relative to the fingerboard, then when the strings are pushed aside, it levels and shapes them perfectly regardless of the effect of the tension release. The only similar effect that I've ever seen is that device that Ken Parker has that truly simulates string tension as the frets are dressed and polished. But not everyone is a genius.

**TQR:** It doesn't get any better than the fretwork on a Parker.



They take huge pains in putting the frets on level and they do it to get that 99% playability. It's incredible. When I get guitars in the shop that are

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brand new, I enter them into a database as “new” since we maintain records of how the fingerboard and frets scan out on the Plek. You’d be surprised how most of the brands we love the best — acoustics and electrics — are haphazardly fretted and dressed. Or every other one looks poor. It wouldn’t matter so much, but when you play the guitar, the string leaves the fret that you’re playing at such a slight angle and clears the next few frets by so little that accuracy is critical. It’s worth thinking about. I really like being able to see all of this magnified; the fret plane, the fingerboard, twists, ski jumps, the actual radius everywhere, what the truss rod really does. Why should this critical playability be a product of garage-level voodoo?

**TQR:** When we interviewed Ken, that was his big complaint — that only guitar players would put up with spending a couple of thousand on a guitar and immediately have to refret it.



If you’re lucky enough to have someone who can do it right, even *most* of the time. Everyone thinks they do, even if they don’t have a clue. There are some guys who do really good work, but in my experience, there are more that don’t. They continue on with great courage, but they don’t do the guitar or the player justice. There is no real standard.

**TQR:** Like speaker reconing... Until you experience it really done right, you have no point of reference.

And the same is true with amp repair guys. In Nashville there are two or three guys that are really gifted, and there are four or five others that are potentially gifted but just too bizarre to deal with. If you have a good relationship with someone that does good work, you can be a happy person, but take this whole phenomenon on a national scale and your chances of being a happy guy are slim. Like acoustic pickups... at one point when we were using a lot of lavalier mikes for acoustics, I just got tired of recommending stuff because I realized that I didn’t know what I was talking about. We used this one because so and so used it and another one because so and so used it. Finally, we rigged up something that allowed us to switch out these acoustic mikes really quickly and we A/B’d something like 10 different mikes on stage with a P.A. The difference in the hierarchy of the different mikes tested in different sized rooms was unbelievable, and most of the mikes we had been recommending and using we never ordered again. The Joe Mills mike was head and shoulders

above everything else, along with the Shure SM98. But all 10 had equal reputations. When people ask me what we like, my answer is that I like what people come back to me and tell me they like. So many times we hear that something is the best they’re ever heard, and 6 months later they’ve taken it out. I don’t even want to hear about what they like for the first 6 months. Look at the way Yamaha builds... they don’t pay any attention to stuff like a locking tremolo until it’s been out in the market for awhile and survived.

**TQR:** The same thing can be said about guitars, can’t it? You go through so many different models and styles with variable features and tones — different pickups, solidbody, semi-hollow... It’s like finding friends in life. You meet thousands of people but perhaps a handful will become a permanent part of your life, if you’re lucky.

You have to go back and think about what has happened over the years. How many Strat pickups are there now?

**TQR:** Do people come to you and ask what are the best pickups to put in their Strat or Les Paul?

That’s tough. What do you tell them? You know Lindy Fralin holds up over time. In this market, Lace Sensors have come and gone, EMG’s have come and gone as the big thing. Hum cancelling this, hum cancelling that. What do you stock? Do you stock one of everything? I’ll bet you there are 140 different Strat pickups, at the very least.

**James:** And you don’t know whether you like a pickup until you’ve bought it.

**Joe:** You put it in and it doesn’t have what the last one had and you feel really good about it for awhile... it’s like



girlfriends or something. At least this one doesn’t nag... But it turns out that the old one wasn’t so bad. It would almost be better if it were like auto racing where everyone

runs with the same car and it all comes down to performance. Sonny Landreth will sound like Sonny Landreth no matter what.

**TQR:** And we *never* will...

Look at all the trouble people go to in trying to get someone’s tone.

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**James:** Guys that are going to get a tone are going to get it.

**Joe:** Hum cancelling issues are real with single coil pickups, and professional studio-quality lavalieres should sound great, but 99% of this stuff is used by people who will never have it in a professional environment. On the one hand, we're talking about overkill. Maybe some of the people who



Peter Stroud

send us guitars from out of town are really dealing in overkill, but what do you do? Do you blow off people like James who are out playing gigs and can hear the difference and care about the difference? They are the flagship people, but of the millions of pickups that are made, only a few of them will be used professionally. Still you never know who might be serious, no matter who or where they are.

**TQR:** A lot of pickups wind up in a drawer or on eBay... We're trying to help people avoid that disappointment.

The Internet... look at the chat rooms. This almost replaces playing or practicing. There have always been somewhat dysfunctional people who sat in their rooms and did nothing but play. The term for them is "great musicians," but today there seem to be people who have taken that dysfunction and turned it into tracking down what everybody else does and then arguing about it. I refuse to go to the chat rooms. It's quicksand.

**TQR:** They do like to eat their young... it gets even worse with amplifiers.

**James:** Leo never bothered matching tubes (laughs).

**Joe:** There was an entire discussion that someone mentioned to me about people using magnifying glasses to look at pictures of old Telecasters on record jackets, studying the pickup height adjustments and saddles because they were all in supposedly perfect tune on the old records and they "aren't any more." I've got a customer who will fly to different cities and measure the specs on vintage guitars *if and only if* he can verify that they have never been adjusted. He has this theory that Leo Fender had turned this into a science... Still, it always comes back to Albert King. He wanted his guitar to sound and feel right, but beyond that, he didn't care.

**TQR:** But at the same time, people want to know what people like you know, and there is value in that, although it won't help you play like Albert...

And I do pay attention to a lot of things and we learn, but those tend to be little, practical things rather than earth-shaking revelations. For instance, we don't use harmonics to tune, because they don't necessarily agree with the fundamental



note of the string. We play a note at the 12th or 17th fret and on the open string and balance all of that stuff. But I used to only do that at the 12th fret and call it

a day. Turns out that we play a lot above the 12th fret, so we test that. The nut is *everything*, by the way. A lot of companies have only recently learned to cut a nut properly. Many used to do it by measuring between the string and the first fret, and do that before they set the action on the guitar. If the action is kind of high and you cut the nut in that manner, you might end up with the nut too low when you're finished. Judging by new guitars, people seem to have learned that you can reference the nut by touching the string down between the second and third frets, looking at how it clears the first, which makes the nut function as just another fret in a series on the neck. It's pretty simple, and you can teach it to anyone and it always works precisely. We do leave the nut about .004 high, which you can easily see this way. They either do it that way or not, but there are huge companies that don't know this and don't do it like that. Martin had the bridge in the wrong place for 10 years. Through the '70s the bridge was about .080 inches too close to the neck. How did that happen? All of those guitars play sharp up the neck. Maybe they had retooled, but how do you go for 10 years and not know? There had to be people there that knew, but they must not have talked to each other. The top priority with most companies seems to be the finish. They don't bother to dress frets, and if they do, they do it really quickly. They don't do much set up.

**TQR:** They file the crown off of the frets.

**James:** The way the big companies have to operate is on lines of credit from the bank. They make a commitment to ship a certain number of guitars each month, and they have to meet that commitment to survive.

**Joe:** Can you imagine doing that month after month? All you have to do in theory is get one month ahead, and you'd never have to suffer through that again. But you're right. They do that, and then they just start throwing stuff out the door. On the flip side of that are the people who pick stuff to pieces as if they had a lifetime to build one guitar. It must be miserable to be a manufacturer and have to deal with people who buy a guitar and obsess over all these little things that the manufacturer can't possibly deal with. All the while they are doing great work and controlling costs. They're humping every day, and it's a tough life.

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**TQR:** How do you deal with this stuff every day? You know... the guys who want to talk about every little detail and inconsequential, arcane factoid and myth about their guitar. I see them in stores and repair shops and man, once they get started, there's no stopping them. Find me a hole to drop into...

David, one of my jobs is knowing how to end that stuff, because my guys are polite and can't. A well-meaning player can pin Floyd to his bench for 25 minutes and that's a total loss, so one of my jobs is to cut that off. Also, every now and then we just have to tell people that we just can't help them — can't make them happy. We like you, but we can't help you. I don't like doing that, but we can't spend hours with people just talking about things. We can't do a \$30 job and talk about it for two hours. You just have to cut them off.

**TQR:** Joe's Barbershop...

Yeah, it's not easy. On the other hand, I will blow off three entire days to educate myself and learn something. If a builder or repairman is in town, I'll take the time to spend the time to learn something from them. We regularly take on jobs that are not going to make money if we can learn new techniques from it. It's our continuing education. **TQ**

*Anyone interested in learning more about the Plek is invited to contact Joe Glaser. The Plek is also currently in use in California by Gary Brawer, and will soon be in operation at Westwood Music, Los Angeles.*

*Glaser Instruments, Nashville, TN  
1-615-298-1139*

*Plek  
Gerhard Anke, Berlin, Germany  
www.plek.com*



We've had four guitars refretted at Joe Glaser's shop during the past two years, and the last two were dressed on the Plek. If your reference point for evaluating fret work, action, and playability is based on the average used or new guitar or the average fret job, the level of work performed at Glaser's shop will be a dramatic and significant step up. Sure, you can get lucky and occasionally find a used guitar that was refretted by a patient and capable craftsman, and good fret work and setups can be found on some new instruments, too, but *most* new and used instruments fall short of our expectations at some level. We're being critical and subjective, but the difference between superior fret work on a guitar that plays great

and feels like an old friend (or can quickly be set up to be) versus the struggle and compromise that the vast majority of guitars offer is a big difference indeed. With few exceptions, when you buy a guitar today — *new or used* — don't expect superior fret work or a precise set up.



The instruments we had refretted at Glaser's were all slightly used, barely played, high quality guitars with original frets. All of them went to Joe with common playability issues and they came back with none.

The first was a mid '90s, \$350 Japanese vintage reissue Telecaster with a slab board and original "vintage" wire. Joe's fret wizard, Floyd, installed medium Dunlop wire and the results instantly transformed the Tele into a superb instrument by any measure. (In case you missed the original review article, we also installed a set of Harmonic Design

Vintage Plus Tele pickups with a white "stealth" cover for the neck pickup to give the Tele the appearance of an Esquire). The quality and vibe of that 6 lb. Japanese reissue was just



stunning. Ditto with the next refret we sent to Glaser — a '94 Custom Shop Aztec gold Strat with a *huge* V neck. We selected medium-tall Dunlop frets, and Floyd's work was exceptional again, although the mechanics required to handle the unusually mighty girth of that V neck eventually prompted us to sell it with regret and an aching left hand. A barely played 1997 '54 Les Paul Goldtop was

our first guitar to meet the Plek. We had chosen jumbo wire, and the Plek dressed them to perfection, with a just "worn-in"



smoothness and feel, and the crown fully intact. The guitar felt as if it had been played and broken in (it never really had), rather than the harder, tougher, less forgiving feel of new factory frets. Now the Paul played perfectly along the entire length of the neck, where there had previously been a definite hump above the 16th fret that caused the action (and our playing technique) to change. The bar had

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been raised again by our first experience with the fret level and dress performed by the Plek, and we began to understand just what the accuracy and precision of the machine could offer. Playing this guitar had become *effortless*. For the first time, we were no longer consciously or intuitively compensating for any characteristic anomalies in the frets and fingerboard. Think about that... After searching for over a year, we also recently acquired another Custom Shop Aztec Gold Strat from the same production run of our first Aztec Gold Strat



with the Big V, but this one came with a big, but more forgiving C shaped neck profile. We immediately sent it to Joe to test and verify the results we had experienced with the '54 Les Paul. Floyd expertly installed Dunlop 6100 jumbo wire, and on to the Plek went the Strat. The results were identical to our experience with the Les Paul. Not only did the guitar play flawlessly

along the entire length of the neck, but the frets had the same perfectly smooth, new-but-broken-in feel that we've come to identify with the Plek. Incidentally, we also installed a Callaham trem block on the Strat, a new set of Callaham saddles, a vintage slotted Callaham string retainer, and our new favorites among the Custom Shop Strat pickups — Fat '50s. The Callaham saddles are exceptional, and we believe they



contribute to enhanced resonance and sustain as much as his steel block. As for the Fat '50s... they are perfectly voiced

in the image of the Custom Shop '54s, but with just a few more turns of wire on the coils for a deeper midrange tone without being dark, muddy, or sounding overwound like Texas Specials. We strongly recommend the Fat '50s, which seems to have gone relatively unnoticed among all of the Custom Shop options offered by Fender today. They are usually available on eBay for \$129.00/set, and with the money you save, you can order the hardware upgrades from Callaham.

While it's tempting to try and describe precisely what the Plek does by resorting to a string of inadequate and tiresome adjectives, this is the best we can do: *The Plek simply brings us closer to perfection*. However, there is a lot more involved in creating great playing guitars than merely yanking old frets, pounding in new wire, and throwing your guitar on a

machine. It takes considerable skill, patience, and experience to do repairs really well, and fretwork is just one aspect of the craft. So let's review many of the most common faults we see in new and used guitars which also make up much of the work done by guitar repair shops such as Glaser's.

### Poorly Cut Nuts



We frequently see nuts that have been cut too high or too low, and both are undesirable. String spacing is also critical — especially with Fender guitars with maple necks. A poor choice in the material used for a nut can also kill your tone (like plastic). Bone is good, Corian is good (used by Gibson) and it wears longer than bone. Graphite is butt-ugly, and steel and brass? No thanks.

### Where's the Crown?



Lots of guitars new and old are afflicted with fret wire that has been filed flat. Filing frets is OK for leveling *if* the frets are then re-crowned, but frequently they aren't, and this is the most common reason we've had to refret

new and used guitars. Flat frets don't cut it. You'll play better, and your tone will improve dramatically with properly dressed frets, *crown intact*. You can really hear the difference.

### Uneven Frets

Instruments with uneven frets will buzz in different areas along the neck despite raising the action or adding relief. Poor preparation of the fingerboard and the fret slots during a fret job can create more problems than the refret was supposed to solve, including uneven frets, intonation problems, back bow, and compression of the fingerboard. For years, Fender actually installed fret wire by pushing it into the slot *from the side*. Pulling wire that was installed in this manner can cause fingerboards to chip severely around the fret slots unless the person doing the work is experienced in working with these necks specifically. Preparation usually separates the pros from the hacks, and it's often an aspect of the job that you can't see. But you will certainly *feel* the difference.

### Neglected Truss Rods

Every used guitar we've bought for review in the past 3 years has needed a truss rod adjustment, and only one has ever failed to respond to our satisfaction (an old G&L). Bowed necks generally don't bother us one bit, and we're continually amazed by the number of 5-30 year old guitars we find that have never been adjusted. People must be afraid of lifting that

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truss rod cover or pulling the neck, but there's really no need to be... Verify that any guitar you are evaluating is tuned to concert pitch before you sight the neck; most guitars hanging on the walls of music stores are often at least a whole step flat, which will give you an inaccurate read on the neck relief. Understanding how various truss rods work and adjusting them properly comes with experience, but it's usually a simple procedure requiring a very few turns, at most. You may have to adjust a truss rod several times over a few days before the neck seems to finally settle. *Always* loosen the truss rod before you begin tightening it, and with truss rods that adjust at the peg-head, it's a good idea to place a very small drop of lubricant on the nut. Truss rods can add or decrease relief (bow), but they will not cure problems caused by uneven fingerboards, or the humps we've referred to at the tongue, where the fingerboard extends over the body of the guitar.

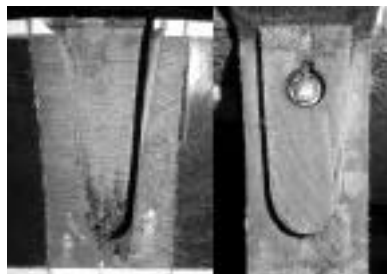
## Neck Twists



The easiest way to spot a twisted neck is by sighting the horizontal plane of the headstock to the plane of the body of the guitar. We've seen neck twists on

expensive new guitars that were being showcased under hot spotlights in the "listening rooms" of megastores, and on other guitars that appeared to have been exposed to heat, moisture, or extremely cold temperatures. Don't keep your guitars in an environment that you wouldn't be comfortable in yourself!

## Time for a Neckset



After 50 years, our 1952 Gibson J45 finally needed a neck set this year. It happens, and a sure tip off is high action on a guitar that has been adjusted for extremely low action at the

bridge, either by adjusting the bridge height very low on an electric, or cutting down the saddle on acoustic guitars. For experienced repair shops, neck sets are part of their daily routine, but they can still be done badly, with hideous results. Ugly, ain't it?

## Setups

Jay Riness once told us that a thorough setup required a minimum of two hours, and longer if he was working with a guitar that he had refretted and in which he had installed a new nut. To be fair, the subtleties of player preferences can't possibly be accounted for when new guitars are setup at the factory, and

it's up to you to customize your preferences for high or low action, string gauge, and neck relief. When it comes to fully enjoying your love affair with the guitar, there is no substitute for superior fretwork and a setup that is precisely tailored to your playing style and preferences. We don't think you should settle for less, and you'll play and sound better as a result. So stop procrastinating, and start working with what you got! **TO**

## Bob Weil's



*Bob Weil's Visual Sound effects pedals are continuing to receive glowing reviews for two fundamental reasons: they sound great and they are very reasonably priced. We recently sent an H2O Liquid Chorus & Echo to James Pennebaker in Nashville, and after running it with two amps in his studio, both James and Danny Flowers had their own H2O pedals in just a few days. James also took his H2O to a session produced by Stephen Bruton in Austin, Texas for Marcia Ball, and the H2O wound up on several tracks on the record. Another Austin resident, Eric Johnson, also uses the H2O, and Johnny Hiland, the Master of the Telecaster, has been using all of the Visual Sound pedals for years. What's Bob's secret for success? Let's find out.*

**TQR:** What did you initially want to accomplish when you first began to build effects pedals?

It all started on November 8, 1988. I needed a volume pedal, so I went out and bought an Ernie Ball mono volume pedal, and after a short time I became frustrated with it. The volume taper was too abrupt near the end of the pedal travel, and it didn't have a visual reference. So I went out shopping for a volume pedal with some kind of visual reference to set levels by. Much to my amazement, nobody made such a thing, and I thought, "How can it be that nobody has made a volume pedal with some kind of 0-10 reference on it?" So I set out to make one myself. I could see that my Ernie Ball pedal just had a pot and a string, so obviously the volume part of the pedal was easy. But what about making a 10 LED scale to go with it? Over a period of years I figured out how to make a visual volume pedal with a 10 LED scale, and I made a couple of prototypes. Musician friends of mine saw it and immediately wanted their own, so I patented the whole "visual" concept for pedals, and in November, 1994 I jumped into business with one product — Visual Volume.

To summarize the first three and a half years of business in one word: Ouch! If there was a mistake that could be made, I probably made it. Visual Volume was well-received for a volume pedal, unfortunately, volume pedals simply don't sell as fast as effects pedals. We did try a few prototypes of other pedals like Visual Metal, Visual Blues, and Visual Wah Volume, all with less than impressive results. We also came out with a neat little buffer box called Pure Tone, but that also didn't rock the world

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with sales. Finally, I invented the overdrive/distortion pedal of my dreams, the Jekyll & Hyde Ultimate Overdrive. It wasn't "visual," but it was exactly what I had been wanting for years



as a guitar player. One problem — just when I was about to have a big success with Jekyll & Hyde, I ran out of money! It had been over 3 years since I started and it looked like the end of the road.

However, a couple of overseas distributors were desperate for the Jekyll & Hyde, and they offered to help me out by paying for their orders before I even made the pedals. The timing and amount of help was so extraordinary that I had to recognize it as the hand of God in my business. I actually wanted to go out of business at that time, but He evidently wanted me to keep going. How could I say no?

**TQR:** What was the chronology of the development of the current line of pedals?

About two years later we came out with the Route 66 American Overdrive. I came up with the name of that pedal before I even figured out what to put in it... remember, I have a marketing background. The name conjures up pure Americana, so I went with the classic country/blues combination of compression and overdrive. Two other effects that I use constantly in my own rig are chorus and delay, so in 2001 we came out with H2O Liquid Chorus and Echo — a beautifully lush sounding pedal that is highly versatile, just like the Route 66 and the Jekyll & Hyde.

**TQR:** What are some of the unique design features you've developed in each of your pedals?

One of my primary design goals was to provide two completely independent effects in one housing. That way, when you buy one, you're really getting two. In addition, the two effects had to be natural combinations that guitarists use all the time, and they had to be truly professional sounding effects that I would use myself — effects that not only sounded as good as what I already had, but even improved on the sounds that I'd been able to get from other gear. I even designed the footswitches close enough to gether so you could hit them simultaneously to turn both effects on/off, or switch from one to the other with a single step. And they had to be as bullet-proof as possible, so I gave them solid steel housings and reliable electro-mechanical switching.

The two effects in the Jekyll & Hyde are a TS-808 clone

overdrive (Dr. Jekyll), and a JCM800 inspired distortion (Mr. Hyde). The Jekyll channel uses the legendary JRC4558 chip and really does a great job of impersonating an old 808, with the usual Drive, Tone, and Volume controls. The Hyde channel can sound like just about any distortion you want it to, covering styles from Blues to Metal and everything in between. It also has its own set of Drive, Tone, and Volume knobs, plus an EQ knob for radically altering the mids (yes, it can do the "Metal Zone" thing if you want it to), and also a "Sharp/Blunt" switch which is basically a Bright switch for the Hyde channel. Each effect is pretty versatile, especially the Hyde, and the combinations of the two can be all over the map tone-wise.



Next up is the Route 66 American Overdrive. Just like the Jekyll channel on Jekyll & Hyde, the Route 66's overdrive channel is also a TS-808 clone, JRC4558 and all. The only difference is that the Route 66 version also has an overdrive

bass boost switch if you want to add a little more bottom end to your tone. The reason I added this option is that the old 808's and TS-9's tend to cut your bottom-end frequencies a bit, especially with single coil pickups. So, if you like the 808 sound, but want some more low-end for your Tele or Strat, just flick on the bass boost. The second channel of the Route 66 is a very unique compressor that's worth the price of admission all by itself. In many ways it has the heart of a Dyna-Comp (or Ross Compressor), but I did some modifications and added a couple of things to that basic foundation. I always thought the Dyna Comp should have a Tone control, but it didn't, so our compressor has a very effective Tone control with a broad sweep. I also knew that lots of guitarists like the clean boost of the Klon Centaur and other pedals like that, so I incorporated a clean pre-amp into the compressor. That makes more sense than trying to get an overdrive pedal to be a clean boost pedal. With the Route 66 compressor channel, you can set it for very mild compression with an enormous amount of clean boost, or you can get the classic "Dyna Comp squash", or something in between. And you can set the Tone control to just the way you like it. Because of the warmth generated by the pre-amp, I know a lot of guys (especially country players with Teles and Strats) who leave their Route 66 compressor on 100% of the time, just because it makes the guitar sound better. It also works quite well with bass.

H2O is another pedal that I really designed for myself. I've always been a nut about chorus and have always used delay

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— especially analog delay. I liked the old Rockman and Ibanez choruses of the late 70's and early 80's, so that was the basis for designing the chorus in H2O. However, I often found those pedals to add a bit too much signal boost and high end harshness. They still sounded great,

so those were minor complaints, but when you're designing something you get to take care of the minor things as well as the majors. H2O's Liquid Chorus really has a great range of sounds, from a light phaser type of sound, to lush chorus and even a surprisingly good medium Leslie sound. In fact Johnny Hiland (Nashville Tele monster) was telling me the other day that guitarists come up to him all the time at gigs looking for his Leslie cabinet. They can't believe it when he points to a chorus pedal. Having Speed, Width, and Delay Time controls on the chorus really makes it versatile.

On the Echo channel, the goal was to make it sound just like my old Ibanez analog delay, but with digital technology that would allow it to get up to about a one second maximum delay (3 times longer than analog delays). I much prefer the natural echo sound of analog delays, but I know a lot of guys who don't use them because the max delay time is too short. So, I went the digital route, but tweaked it to death until it sounded just like my old analog, and I think, even a little better. The controls are the usual Echo Time, Repeats, and Effect Level. No programming required, as usual. There's also a Short/Long rocker switch which you can hit on the fly if you're careful to change the range of the Echo Time control.

**TQR:** How have you addressed the issue of true bypass, line loss, and noise reduction?

True bypass has become a buzz word among guitar players in the last few years because many pedals that don't have it can really take the guts out of your signal and cut highs as well when they're bypassed. The Vox wah pedal is a classic (and extreme) example of this. Other pedals, including many in the Boss line, are not that bad. Visual Sound pedals have something which I think may be better than true bypass that I call Pure Bypass. The buffering system in our pedals was taken from our Pure Tone pedal. This pedal was built originally for guitarist Neil Zaza, who needed something to clean up his bypass tone for all the pedals he used (Vox wah included). Pure Tone, when placed first in the chain, made it sound like you were plugged straight into the amp even when going through notorious tone killer pedals. We ended up selling about 200 of these to very happy tone-conscious guitar play-

ers before we put it into Jekyll & Hyde as an added feature. So, if Jekyll & Hyde or Route 66 is first in your chain, it will buffer everything that follows it as well as itself. The Pure Bypass buffer also keeps the Hyde circuit stable. In the early stages of design, I noticed that the Hyde circuit was prone to oscillation and feedback until I put the Pure Tone circuit before it. Somehow, it left all the good characteristics intact and eliminated the ugliness.

H2O has a simpler, Boss-style buffer in it which also works quite well at buffering the pedal itself. Of course, if you're using Jekyll & Hyde or Route 66, which would be placed before H2O anyway, it wouldn't matter. Also, if you're using H2O in an effects loop, which many guitarist do, it's immaterial.

Regarding noise reduction, I've addressed this two ways. First, once the circuits were designed, I tweaked them a bit more to get optimum tone while minimizing hiss. It's a bit of a compromise, actually, since sometimes the best sparkling tone is accompanied by hiss. But I think I achieved very good results on both counts with all the effects. Second, I have an excellent consulting engineer who lays out the circuit boards for me to minimize noise.

**TQR:** What are some of the similarities or improvements that you've made over the classic pedals?

Some of the classic pedals of yesteryear were truly great effects. We didn't mess with the TS-808 circuit too much on the Route 66 and Jekyll & Hyde pedals, because the original was darn near perfect. However, having the Pure Bypass circuit put in, along with our unique switching system, and the bass boost on Route 66, makes it even better. Modern components have tighter tolerances than the original ones, too, which makes the pedals more consistent. As I mentioned before, the compressor on Route 66 takes the best of a classic design and adds some very useful and musical elements to it. With the chorus channel on H2O, we borrowed a lot of elements from late 70's and early 80's chorus pedals, like the Delay Time adjustment that the old Rockman and Ibanez choruses had, but kept the ranges of all the knobs musical. I never could figure out why chorus pedal manufacturers designed knobs that, when turned up all the way, made the pedal sound like unmusical noise. When all the knobs are cranked, the H2O pedal sounds like a nice medium speed Leslie.

**TQR:** How are you able to offer a quality product at prices that are significantly below the boutique price point of +\$200.00?

About 6 years ago I took a trip with my business advisor to Taiwan and he set us up with a small, family-run factory with

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whom he had worked on some other projects over the years. I had been trying to make things work with contract manufacturers here in the US, but we had nothing but problems and high costs. It seems that most of the contract manufacturers here in the US who have anything approaching reasonable prices hire south-of-the-border labor and don't train them very well. Taiwan has a large population of educated workers who make a large chunk of the world's high-tech electronics. While the prices are not as low as I might be able to find in mainland China, the quality overall has been very good and I've developed a good relationship with the people there. We buy in fairly large quantities compared to other boutique companies, so that, combined with off-shore manufacturing, keeps the prices down. There are always going to be people with the mindset that, "If it's not expensive, it must not be the best." You pay a lot of money for certain logos, but that doesn't make the product superior. Visual Sound pedals are definitely not the most expensive, because I want to give real tone to real people, not just the relatively few wealthy players out there. If you think about it, virtually all of the resistors, capacitors, diodes, and IC's that you find in boutique pedals are actually made in Asia. Switchcraft jacks... made in Mexico. Carling switches... the same. And if it's a choice between me going out of business or a US contract assembly factory losing one relatively small customer to Asia, well, there's not a lot to think about there.

**TQR:** What's ahead for Visual Sound?

We have plans to re-introduce the Visual Volume pedal sometime next year with a new cool look. Several players have asked about a tremolo effect combined with something else, so I'm thinking about that too. I should also mention that our 1 SPOT space-saving adapter, which came out last year, is doing very well. We recently added two converter plugs, which allow the 1 SPOT to work with Line 6 modeling pedals and also the older style DOD/MXR/E-H pedals with the headphone style power jacks. So now, if your pedal is 9V, the 1 SPOT can probably power it. In fact, it can easily power your entire pedalboard all by itself with the addition of daisy chain cables, which we also have. **To**

Visual Sound, [www.visualsound.net](http://www.visualsound.net)  
800-686-3317, 615-595-8232

## U N D E R 20watts of **WIMP ASS**

*It's been 3 years since we first published "Under 40 Watts of Whoop Ass" with the capable and inspiring tutelage of Dave Boze, and we're still getting positive feedback from the timeless appeal of those little big amps. Ah, but power is fleeting*

*indeed, and we've come to learn that even 30 watts can prove too stout for cozy club dates and playin' the cockaroo at home. Enterprising solder jockies know this too, and we thought you would enjoy visiting the **Under 20W Chapter of Club Whoop Ass** as we begin the New Year, so please step inside and unwind...*

Assembled for your consideration are five stellar examples of low-power bliss created by some of the true visionaries in amplifier design — the Carr Mercury (8W), Cornell Plexi 20W, Siegmund Midnight Special (12W), the Victoria Victoriette (15W) and the Roccaforte Custom 18. Now, if you're thinking this is going to decay into a "shootout" — not so fast, *hombre*. Shootouts require winners and losers, and you'll not find a single loser in this bunch. These amps are *all* good, and every one of them deserves your attention. As for which may be the best for you, consult the *I Ching* and bravely quest forth with the knowledge that the path you have chosen is your destiny. Given a choice, we'd own them all.



The **Carr Mercury** wins our design award for new amps. Reminiscent of days past yet derivative of *nothing*, the Mercury is an incredibly toneful 8 watter that can hit 12W dimed. The heart of this amp is a single

KT66 power tube that gushes tone. Steve Carr has typically held nothing back in the design of the Mercury, which includes reverb, 3 boost modes, and 4 power outputs ranging from 1/10 watt to 8 watts, controlled by a single chickenhead knob. Add a Carr Kingpin 12" speaker, and this amp can deliver clean headroom at club levels, plenty of tube-saturated overdrive, and all-out mayhem at volume levels that promotes late night home recording and jamming. Our favorite setting is full power, *cranked*, but the signature Carr boost circuit that bypasses the tone stack is beefy and rich, with no hint of the dreaded and freaky faux-overdrive found in cheap amps. You can really gig with this 8 watt amp, and it seemed especially well-suited to every guitar and pickup type we could throw at it. The Mercury is destined for greatness.



An in-depth *ToneQuest* interview is in the wings with the father of the **Plexi 20W**, Denis Cornell. Co-designer of the

later model Sound City amps built in London, and a former Vox engineer for JMI founder Tom Jennings, Cornell recently built the 2x12 amp now being used by Eric Clapton

-continued-

(equipped with Tone Tubby hemp cone speakers). When we saw the Plexi 20 at the Arlington Guitar Show, we had to have it. *Damn*, what an amplifier! The Plexi 20 is Cornell's unapologetic tribute to the original Marshall, and if that's your cup of tea, this is your amp. Beautifully hand built throughout, the Plexi 20 features a single tone and volume control for each of its two channels, with the second channel being slightly brighter than the first, with more gain. Dual EL84's provide plenty of punch, rich harmonics, and a gorgeous, round, full tone that is neither harsh, too trebly, or lacking in bass response. We are blessed with the presence of visionaries such as Denis Cornell, who clearly understands what inspiring guitar tone is all about and how to create it. Afterall... he was there when it all began.



Austrian by birth, Chris Siegmund is another visionary whose work transcends the ordinary, and the **Midnight Special** is no exception. Rated at 12W, the Special is meticulously built using premium

capacitors and resistors, including many classic NOS components. Siegmund also uses octal preamp tubes, along with a vintage NOS rectifier and single 6L6. Features include a transformerless reverb circuit that can be bypassed for extra gain, plus Volume, Mid, Treble, and Bass controls, an extension speaker jack, high and low power switch, Mercury Magnetics transformers, and a Vox Blue G12 speaker. Like the Carr, the Special is a real head-turner, but then, all of these amps qualify as serious, professional tone machines with looks that kill. The Midnight Special is a great midnight-hour amp, but it also passes the test as a terrific small club amp. Its voice is deep, articulate, and sophisticated. The Special wasn't intended to be a high gain amp with intense distortion characteristics, but it excels brilliantly with overdrive pedals, and the reverb bypass does kick in an extra level of crystalline gain while beautifully preserving string definition and harmonics. The combination of P90's and the Special is absolutely orgasmic, and there is a lot of magic to be discovered in this magnificently built amp.



Victoria founder Mark Baier has reinvented himself several times since we first met at the 1999 NAMM show, and the aliases he's used on his NAMM name badge have created legends like *Karl Lafong, Sam Bisbee, Kam-El Paugh, and Tungsten Hurl*... But

whatever you may call him, we can confidently state that his greatest achievement to date is the **Victoriette** amplifier. Why? The Victoriette is a silky smooth and jaunty gem of a clubber with some of the best reverb and tremolo we've ever heard, coupled with a unique dual EL84 hand-wired circuit that marries the best of Fender tweed and blackface tone with a healthy dollop of AC15 thrown in for a good growl. Best of all, Victoria is notorious for their willingness to couple an amp with just about any speaker and combo configuration you fancy, from a 1x12, to a 2x10, 1x15, 2x12, or... how about 8x10's for you harp players? The Victoriette is the pinnacle of Fender-esque amplification in a small package, pure and simple.



Doug Roccaforte's forté is building rockin' amps. Roccaforte amplifiers *scream*, and to lift the cover from one for the first

time is to behold craftsmanship that will permanently alter your standards for fit and finish. The **Custom 18** is Doug's respectful version of the Marshall 20W Lead circuit, and it overdrives with a pure and flawless fidelity that will immediately transport you to new and unexplored creative vistas in your quest for tone. Yes, you *can* play and sound like that, and this *is* your guitar... Hell, we don't know quite how he does it, nor do we pretend to understand how *any* of these tone-savants can start out with a chunk of stamped steel, a several dozen caps and resistors, wire and tube sockets, and lay it out like some kind of slick alien decoder puzzle that unravels the mystery of the universe. But the Roccaforte Custom 18 is fully capable of creating the momentary suspension of disbelief. Yes! I can sound like (*just fill in the blank*). And you *can*. Like all good little Marshall-inspired amps, the Custom 18 uses dual EL84's, point-to-point mojo, and those oh-so-shiny Mercury Magnetics transformers. If sweet vintage Marshall tone and flawless craftsmanship is your thang, the Custom 18 will rock your world.

All of these amps range in price from \$1,400 to \$1,800, but considering that blackface Princeton Reverbs have reached \$1,000, our picks offer outstanding value, priceless character, and inspiring tone. We also understand that not everyone may have the resources to invest in a +\$1000 amp... No worries! We recommend a vintage silverface Fender Princeton Reverb modified with a new baffle board fitted for a 12" speaker. **TO**

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Siegmund—[www.siegmundguitars.com](http://www.siegmundguitars.com)

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