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The Player's Guide to Ultimate Tone

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INSIDE

Exclusive! Dan Erlewine... The untold story behind the most prolific guitar repair authority of our time, plus Dan's tips on making your axe play and sound great!

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Dan Erlewine

Today, you can find at least one good guitar repair shop in every major city in the USA and in most European cities, as well. Tally them all up, and guitar repair shops would fill a small phone book to be sure, but some of the names we know best include Charlie Chandler in London, Joe Glaser in Nashville, Phil Jones and all of the boys working upstairs at Gruhn's, Bryan

Galloup in Michigan, Gary Brawer and Scott Lentz in California, Eric Miller in Seattle, Brian McDaniel and Peter Jones in Atlanta, Roger Sadowsky in New York, and George Goumas in New Jersey. Once we even stumbled upon a repair shop in a tiny Dutch village on the border with Germany — a long, long way from anywhere — and their work was remarkable.

Guitar manufacturers also employ some of the best artisans in the world. We were recently drawn to several stunning works of art in the Fender display at the Nashville NAMM show built by one of the many talented builders at Fender, John Cruz, and the Gibson Custom Shop is staffed from the top down with an impressive group of experienced builders with deep repair and restoration experience. The same can be said of PRS, Gretsch, Guild and Hamer, among others. We've definitely come along way since the day in 1976 when my search for a book on guitar repair turned

up just one — "Complete Guitar Repair" by Hideo Kamimoto (1975).

Search for a book or video on guitar repair today and one name tops the list — Dan Erlewine, author of the "Guitar Player Repair Guide: How to Set-Up, Maintain, and Repair Electrics and Acoustics," "How to Make Your Electric Guitar Play Great!: The Electric Guitar Owner's Manual," and a series of comprehensive videos on repair and set ups available on VHS and DVD through Stewart-McDonald. Of course, we have been using Dan's repair guide as a reference for years, and we knew all about "Lucy," the black walnut Flying V Dan built for Albert King, but when Detroit Boogie guitarist Michael Katon informed us during his upcoming interview that Dan was one of his biggest guitar heroes in the '60s, we slammed on the brakes... "What do you mean, exactly, Michael?" "Oh, man... Dan Erlewine was badass! He was the MAN around here — a totally badass blues player with awesome chops, man. I used to go see him every chance I got. He was a major influence in my life..." Within a week of hearing that, the phone rang one morning... "Hello, may I speak to someone about subscribing to The ToneQuest Report?" "This is David Wilson, the publisher — I'll be glad to help you..." "Oh, hello David — this is Dan Erlewine — I love your magazine!" It happens.

We are thrilled to report that Dan is now a member of our Advisory Board and a regular contributor to TQR, and you are about to discover some amazing facts about the life and times of Dan Erlewine (in addition to plenty of practical tone-tweaking tips you can take to the bank)! Enjoy...

TQR: How did your interest in guitars initially develop?

In 1953 my parents had a live-in 'nanny' to watch over 5 boys. Her name was Jane Espenshade, and she moved from Lancaster, PA to Ann Arbor with us that year. She was 18 and wanted to get away from the farm and her strict Mennonite family (plus thirteen siblings). Jane worshipped Hank Williams, and she played his records in her room with the door shut. I remember her crying all day long the day Hank died. In pictures that Jane showed me, Hank had either a Martin D-28 or a Gibson Southern Jumbo, I believe. My parents played a lot of folk music in the early fifties, including Marais & Miranda "Songs From The South African Veldt," (Josef Marais played a Martin 12-fret 000-28 on the album jacket).

They also played Burl Ives — Burl played a number of different Martins. I loved all the music, and my favorite was Josh White singing "I'm Gonna' Move… Out On the Outskirts of Town." Josh held a Martin 12-Fret 000-45 with a double black pickguard covering much of the face. I remember loving the look of the pearl inlays. It's odd that I wasn't begging my folks for a guitar, but I was just happy listening to them and looking at them. I did, however, plunk around on my dad's Favilla ukelele. I learned chords and simple songs from some books he had, and this was when Arthur Godfrey was big amongst certain not too adventuresome music lovers.

So, from '53 to '56, I followed my parents' tastes in music (much of which was influenced by TV — Tennessee Ernie Ford's "Sixteen Tons," Theresa Brewer's "Ricochet Romance," and the normal big band, Rosemary Clooney type stuff.

In '53 I got my own record player for my birthday, so when Elvis and "Jailhouse Rock," Chuck Berry and "Johnny B. Goode," and Ricky Nelson on *The Ozzie & Harriet Show* came along, I was ready. That was it for me! I realized that I could buy my own records and play what I liked. In '57 and '58 I faked playing guitar on the uke at school parties while my friend Leo Mahan lip-synched Rick Nelson songs (I was

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James Burton, and we both had the appropriate grease in our hair and 'DA's.) I still recall the weird feeling I got from Chuck's solo on "Johnny B. Goode" (I was equally enthralled by Scotty Moore's solo on Elvis' cover of "Houndog"). The guitar solo on that record fascinated me. I didn't understand what an 'electric' guitar was — someone called it that and I envisioned a crazy plug-in device that made the sound. I had a better idea when I saw James Burton on TV with Ricky Nelson.

When *The Kingston Trio* hit in 1959 with "Tom Dooley," there were those Martins again! In 1960 my older cousin David Vinopal had a banjo and Silvertone guitar, and he was a fast learner. He was into real folk music, and we went to see *Flatt & Scruggs* in concert at Ann Arbor High School. Lester had the famous D-28 with double black pickguards, and Earl put down his banjo to take a guitar lead on "You Are My Flower," (a Carter family song). He played what I think was a 00-45 Martin 12-fret to the body, using the C position chord capoed at the 8th fret (key of G). That knocked me out.

TQR: Did you take lessons, or learn strictly on your own?

David taught me how to play some of the *Trio* songs on his guitar (while he played banjo) and I was off and running. David also took me to the pawnshops on Michigan Avenue in Detroit, and I bought a Domino 6-string acoustic that was painted sunburst with white paint pin striping to simulate binding around the edge. That was my first guitar. I also saw my first electric guitars in the flesh, but I didn't understand them yet. I stripped the finish as soon as I got the Domino home, stained the back and sides, left the top natural, and shellacked the whole thing. Now I had my 'Martin.' My cousin David and I used to drive out in the country and take pictures of our instruments leaning against mossy trees and stuff like that. My dad was a very good hobbyist photographer, and he always had a darkroom. David and I would develop the prints and admire how cool our guitars looked (and banjo). Many years later, in our '30s, David and I performed together in Big Rapids, Michigan as *Vin & Earl — The Country Cousins*.

We played traditional mountain country music such as *The Blue Sky Boys*, *Stanley Brothers*, Red Allen, *The Louvin Brothers*, and some earlier string-band styles. David played mandolin, fiddle, and banjo, and I played banjo and guitar. During the 'Vin & Earl' days, I found David a 1920s arch top Gibson Mastertone banjo that was well played and sounded great. I removed all the hearts & flowers inlays, plus the peg-head inlay (probably shouldn't have done that), and inlaid them into a five-string neck I made. At a Gibson auction I had bought some original checkerboard stock that Gibson used in the early days. With it, I bound the banjo neck in checkerboard. I don't believe that it was an authentic thing to do, but it looked cool. For a 5th string peg, I carved a piece of deer horn in the shape of a guitar and inlaid copper f-holes in it on one side, and hearts & flowers on the opposite side. That's the kind of stuff I enjoy — doing a job that will only happen once.

TQR: How did you master woodworking so early?

My dad was great at carpentry and cabinetmaking. He had a woodshop in the 1940s, and we always had a shop and tools everywhere we moved. My dad's shop included a table saw, jointer, belt-sander, wood-lathe, drill-press and all the hand tools. Curiously enough, he never had a band saw — a band saw was as much a surprise to me as an electric guitar when I first saw one. My mother was an art major at the University of Michigan and an artist all her life, despite raising five boys. From infancy we had everything from crayons, pastels, charcoal, and oil paints, to copper-enameling supplies (including an enameling oven). So between my mom and dad, anything I needed to fabricate was easy. In my junior year of high school I cut pearl inlays from pearl buttons and inlaid them into the fretboard of a friend's Harmony Sovereign. They were birds — almost like PRS used in the early days.

TQR: When did you first find work in a repair shop?

When I graduated from high school in 1962, I hung around Herb David's Guitar Studio trying to get a job (I worked at McDonald's, and would bring Herb bags of custom-made triple-decker burgers as a bribe). The bribes worked, and one day Herb showed me a Gibson Southern Jumbo (looking back, I know how rare it was — it had rosewood back and sides). It had a huge hole in the lower bout of the bass side. Almost mocking me, Herb said, "Can you fix this?" "Yup!" I said, and took it home. I patched the hole from the inside with muslin soaked in Elmer's Glue-All, and then when that 'backer' dried, I filled the outside with layers of plastic wood. Once dried and sanded flush, I painted a picture of the sur-

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Back: John O'Boyle, Dan at 33, Herb (seated), floor: our "shop-boy," David Surovell

rounding wood with oil paints. When that cured, I finished over it with Krylon — a clear fixative for charcoal drawing. The finished product looked really good, and it certainly impressed Herb (I'm sure it didn't look too great six months down the road when all the components of the job shrank and cured). It wasn't enough to get me a job in the shop, but he did hire me as a salesman and guitar teacher. Eventually, I made it to the shop and worked there on and off until I was in my early thirties.

TQR: When did you begin playing in bands, and what types of music were you playing?

In 1962-63 my buddies and I started our first band, *The Spiders*, with Brian Jones on drums, Jay Edwards on vocal and Wurlitzer electric piano, Spider Wynn on bass, and me on guitar. We played Jimmy Reed, Chuck Berry, *The Kingsmen*, John Lee Hooker, and lots of R&B and blues from Detroit. My amp was a Gretsch Electromatic, and my guitar — my very first electric guitar — was a Harmony Rocket that didn't tune well. My very first *good* electric guitar was a brand-new 1962 Gibson ES-335, which I ordered through Herb David in 1963. I had been studying the little orange-covered Gibson catalogue that looked almost like a pamphlet, and it had color pictures of the models. I think it was a 1960 catalogue, because it still had the Les Paul listed. I got the catalogue at a Gibson demo. At Grinnell's music in Ann Arbor they would have Gibson endorsees like Johnny Smith in to demo guitars. When the fun was over, we got to keep the catalogues and start dreaming (the demo worked, too)! Anyway, to make a long story short, my musical career went something like this:

In 1962/1963 it was *The Spiders*. We played Friday and Saturday frat parties at the University of Michigan. I lost the ES-335 after Herb took it back because I didn't keep up the payments. Nevertheless, I started working at Herb David's in January 1963. I enlisted in the Navy in August, 1963, got pneumonia in boot camp and was discharged in October. Vietnam came along very soon thereafter, and I would *not* have been sent home for sure if the timing had been different. I re-joined *The Spiders* and rented a '59 Les Paul (that I later came to own) from Herb David's, and I had to return the guitar on Mondays (laughs). Some time in 1964 I quit *The Spiders* and went back to folk music and a Martin guitar (a '53 D-28 — Herb took that one back also — I was *very* bad). I worked at Herb's that year and gave guitar lessons. At the time, I was studying classical guitar, but I didn't get very far — not even on a lovely Harmony 163. I sold hundreds of Harmonys at Herb's. The 163 model was a wonderful entry-level, all wood, nylon-string guitar. I ran a coffee house, *The Golden Vanity*, in the summer of '64... *The Kentucky Colonels* played there for two weeks, and Clarence White killed me! He gave me my first guitar lesson, and after just one flat-picking lesson from Clarence, I threw away the fingerpicks. In the Fall of '64 I moved to San Francisco to be a guitar teacher. That lasted two months, and I returned to Ann Arbor and started *The Prime Movers* band in November '64. We played good time rock & roll and some blues for awhile. I bought a NOS '63 Jazzmaster and used that for perhaps a year. Robert Vinopal quit the band and was replaced by Ron Asheton. Ron had just started playing and perhaps he didn't feel comfortable playing publicly, because he didn't stay long. We hired him because we liked him and he was Iggy's pal. Later, Ron played guitar with Iggy in *The Stooges*. After Ron, Jack Dawson played bass. Jack played for many years and recorded with *The Seigel-Schwall Blues Band* from Chicago. Spider quit on drums at the same time because he


Robert Sheff, Jim Osterberg ("Iggy"), Michael Erlewine, Dan Erlewine, Jack Dawson Photo Courtesy Al Blixt ©

hated blues and we were playing more and more of it. We hired Jim Osterberg, a.k.a "Iggy" (later known as "Iggy Pop") as our drummer. Iggy and Jack liked blues too, and soon we became *The Prime Mover Blues Band*.

In the winter of '65 we heard The Butterfield Band in Detroit... Mike Bloomfield was playing his '54 Goldtop Les Paul, and Elvin Bishop had his cherry-red ES-345. Now I wanted the Les Paul that was still hanging on the wall at Herb's, where I was *not* working at this time. Herb had fired


Mike Bloomfield Elvin Bishop

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me for buying the Jazzmaster at Carty's Music in nearby Ypsilanti, Michigan. My defense was, "But Herb, you don't carry Fender!" and he *didn't*, but that didn't count with Herb... So I raced up to Herb's the next morning to find the Les Paul gone! My friend George Mallory had bought it for $135 only the day before. George was the leader and guitarist of *King George & His Royal Subjects* — a polished jazz and R&B band in Ann Arbor. George and I would often jam on country stuff and he played great Chet Atkins. I traded George the (newer) Jazzmaster for the Burst even-up. Right then, I didn't differentiate between a Burst with humbuckers and the P90 Goldtop — it just had to be a Les Paul. Even though I had borrowed it and played it a lot, it didn't mean anything to me that it was a Les Paul — to me it was just a nice electric guitar that I could play without having to buy it.


King George Dan

The Butterfield album hadn't come out yet, but we called the record store every day until it showed up. We did as the record jacket said — "Play this record loud!" It sounded like the band did in Detroit, almost... I think Bloomfield played a Telecaster on that album. Around the same time, the "Beano" album with Eric Clapton playing a sunburst Les Paul came out — one more reason to be glad that I had one. By the time we heard the Butterfield Band, we had hired Iggy Pop as our drummer and I worked at Herb's on and off while we played Chicago, Toronto, and all over Michigan.

In the spring of '67 I sold/traded the sunburst to Bloomfield for his Goldtop and $100 (and he really gave me the $100). I assumed that I would now sound like he did on the *East-West* Album. In late summer of '67 I spent two months in San Francisco and stayed at Mike Bloomfield's Electric Flag practice room at the Heliport in Sausalito, CA. We opened for *Cream* at the Fillmore (I believe that was Cream's first gig in America — *Fresh Cream* hadn't been released yet, but we knew who Eric was from *The Yardbirds* and John Mayall's album). We couldn't have missed Clapton — he was so great, and Bloomfield was raving about him. I know for a fact that Eric was able to weave a note-for-note BB King blues solo into one of *Cream's* songs that night. I'll bet he remembers doing it. It was a perfect rendition of BB's solo on "Sweet Little Angel" off the *Live At The Regal* album. I knew, because I had worked out the same solo — only Eric really had it *nailed*. Our drummer, J.C. Crawford (later "Jesse" Crawford, spokesman for the M.C.5 and the Rainbow People's Party) and I both knew the solo. We were shocked.

By this time, I had already traded the '59 Burst for Mike's Goldtop, which I played in San Francisco. Of course, then I wanted a Burst again because Mike had one. I did manage to get a couple more, but I could never afford to keep any guitar for too long. Also, I was searching for the right guitar for me, and most particularly, I switched from guitar to guitar thinking that my troubles with playing in tune and my technique would be solved by getting a different guitar. I tried a Guild Starfire for a while, too. I usually came back to a Goldtop, of which I owned 3 or 4 over the years.


Rich Dishman (drums), Dan, Don Bolton (singer/keyboard), Vivian Shevitz, bass

In late 1967 *The Prime Movers* broke up. I started a band with friends doing good time music — rock & roll, R&B, and some country. That was *The Jeweltones.* During that time I played a guitar that I should never have sold — a '59 Gibson ES-335. I bought that guitar because it looked like the guitar BB King had on the *Live At The Regal* album. His may have been a stereo version of the dot-neck ES-335 — you can't see in the picture, so I didn't know. I have always been pretty sure that particular guitar was Mr. King's favorite 'Lucille' of all, and it was stolen from him. He's had lots of Lucilles before and since, but when I interviewed him once, he said that he had always been sad that someone stole that guitar. Some guitars just can't be replaced. I also played a Gibson J-200 with a P-90 taped into the sound hole — I wish I still had *that* guitar, too.

In late '68 or early '69 *The Jeweltones* broke up and I went back to San Francisco with some Ann Arbor buddies — we were *Sam Lay's Mojo Workers* (Sam was the drummer on the first Butterfield album, known for the 'double-shuffle,' and singing "Got My Mojo Workin," just like Muddy Waters). Sam auditioned us in Chicago. He already had local Chicago guitarist and slide specialist Johnny Littlejohn on guitar, but

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he wanted a bigger band, so we had Billy C. Farlow on harp, Steve "West Virginia Creeper" Davis on bass, and me on guitar. With Johnny and Sam it was a nice five-piece. Frankly, I don't know the name of the place we played our first and only gig — wherever it was, we opened for Magic Sam. I'd already seen Sam on the West side of Chicago a couple times and his music is some of my favorite. The club might have been called something like Cow Palace, or Winter-something? Or it was *near* those places. I remember Elvin Bishop walking in while I was playing and I got very self-conscious. Well, Sam had a bad agent, so our bookings fell through almost immediately and he left us stranded with no money in San Francisco. We went down to the Puerto Rican section for a few nights and hung out with another old Ann Arbor friend, Bill Kirchen, who had recently moved out there. We sat in with his band each night and had fun. Kirchen said, "Danny, stay here, man — we're starting a band. George Frayne is coming out and others, and we are going to put together a big western-swing thing. It will be the new *Commander Cody & His Lost Planet Airmen*," (an earlier version had played in Ann Arbor a bit, and I had played with them a little). I thought that two guitars in that band was too much, thanked him for the offer, and went home. I was in love with my future wife, Joan, I was lonesome, and I never could have handled all the years those guys went on the road. I'm a wimp. For example, when Elvin Bishop quit the Butterfield Band, Mike Bloomfield, who was in *The Electric Flag* by then, called me and told me I could take Elvin's place! It scared me to death to think of playing that type of gig — *real professional*, in front of lots of people, living out of vans, never home — and I turned it down. I think that might have been when Buzzy Feiten joined Butterfield (he was a million times better than me anyway, and now he's a *billion* times better). So, after a few days of hanging with Bill Kirchen, I called Jim Schafer, my ex-boss and the owner of Krazy Jim's Blimpy Burgers — a famous Ann Arbor hamburger joint where I'd been working delivering sandwiches and burgers with a refrigerated truck on the sandwich route. Jim sent me the money for a plane ticket and to ship my equipment home, and I went back to work peddling hamburgers for awhile.


Elvin Bishop

TQR: After opening for *Cream* and hanging with Bloomfield, peddling burgers must have been either a hideous reality check or a tremendous relief...

By the end of 1969, I had given up on making it as a professional musician, plus, I got married that year to Joan (we have two daughters: Meredith, 31, and Kate, 23). It was time to settle down. I had been gaining repair and setup experience on a long uphill climb since the high school daze in 1960, so I opened "Erlewine Instruments" — my first official repair shop, in the fall of 1969. My logo was a four-pointed star, and for quite a few years I inlaid that into the fretboard as position markers and on the peghead of guitars that I built. From '69 'til '72 I played weekends in a country band with a great steel player, George Reed, in Detroit and the surrounding area. George introduced me to twin-guitar playing via the music of Ernest Tubb's backup band, *The Texas Troubadours* with Leon Rhodes and Buddy Emmons playing twin solos in harmony on guitar and pedal steel (soon Emmons was replaced by Buddy Charleton, an equally great pedal steel player). I was flabbergasted by Leon Rhode's guitar playing! I spent a couple years trying to learn that style and never quite got it. Much later, around 1997, I met Leon in Nashville and we became very good friends. Leon is a hero of mine and he knows it. When I visit Nashville we get together and talk shop and hang out. When I gave a fret clinic at the Gibson Repair shop, Leon came by with our friend Sonny Thomas and they jammed for us (Leon playing the early-60s Epiphone Sheraton which he made famous). Leon has always been a guitar fixer himself, and I was shocked to find out that my hero was watching my videotapes to learn about guitar repair! If you like western swing, bee-bop, and country-jazz but have never heard Leon Rhodes, check out *The Texas Troubadours* from 1959 until 1963.


Sonny Thomas, Dan & Leon Rhodes

TQR: And what were you playing now, Tex?

During my country days I was playing a white '58 Strat because I saw Buddy Guy play his sunburst '57 Strat in Ann Arbor at *The Canterbury House* — a coffee house that featured acts such as Doc Watson, Albert King, Robert Junior

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AC Reed & Buddy Guy Photo Courtesy of Al Blixt ©

Lockwood, *The Jim Kweskin Jug Band*, and others. Seeing Buddy made me want a Strat. That was the first gig Buddy ever had outside of Chicago, and I think it was the first time he fronted a band. That was quite the band, too — Jack Myers on bass, Odie Payne on drums, A.C. Reed on Sax — some of Chicago's best.

I had seen Buddy around '65 or '66 in Chicago at *Theresa's Lounge* playing with Junior Wells, but then he played a white Les Paul custom (3-pickups, the Les Paul/SG transitional guitar). *Theresa's* was not a very safe place for us to have gone, I think. We were lucky, because Bob Koester of Delmark Records was our tour guide. Without him we'd have been dead ducks. Little Walter sat in with Junior's band, or, I should say, "fell in." He was *smashed*. He had a suit on and his pockets were bulging with harps. "Man, what key you in?" he asked, but neither Junior or Buddy would tell him. Finally, Walter figured it out and came stumbling right up on stage in front of Junior and started blowin.' He could certainly play, even when he was drunk. By that point, Junior and Buddy must have had too much respect for Walter, and they let him play himself out (it sure didn't look like they were happy to have him up there — Walter may have burned a lot of bridges with the Chicago bluesmen — I don't know). I have always been glad that I saw Little Walter, because *The Prime Movers* played so many of his tunes.

A year later, my cousin Mark Erlewine came to Ann Arbor and became my apprentice. We became business partners until Mark moved to Austin, Texas in 1973 and opened Erlewine Instruments, which he now operates as Erlewine Guitars there. I closed my shop and went back to work in Herb David's repair shop. In my home shop, I built my first crude neck-jig and began experimenting with it. I didn't use it at Herb's though — he was pretty old-fashioned and traditional.


"Model One" 1973

Prior to that, I used various weights and bench-clamping set ups to get a guitar neck to cooperate so that I could fret it and have the neck come out in the right configuration after the fret job. I continued to work at Herb's until 1975, when, tired of the guitar repair business (I don't know why) I moved to Big Rapids, Michigan from Ann Arbor to be a carpenter. I did like swinging a hammer, but not enough. Soon I went back into the repair business and started Dan Erlewine's Guitar Hospital in Big Rapids in 1975.


"Model Two" 1975

In 1975 I made a new, improved neck-jig. This neck jig was still guitar-shaped so that I could clamp a guitar onto it, and it didn't tilt, but it was neater, cleaner, and nicer to look at. The original tilting neck-jig came along around 1983 — my friend Bryan Galloup, who was my apprentice at the time, discovered that if he pushed the table-top neck-jig over onto its side, he could control a Precision bass neck that was driving him nuts. We found that gravity has a great effect on the neck, and that by prepping in the true playing position, we gained great accuracy. There were many versions of the neck-jig over the years. Before I moved to Stew-Mac in '86, I built a batch of 10 neck-jigs. They were large maple benches with slats and clamps at one end, and a tilting top. Then when I moved to Stew-Mac in '86, we manufactured somewhere between 150 and 300 of them during my first couple of years there. It evolved into quite a table. Finally, we discontinued it around 1989 because it was so hard to make and hard to ship (plus it was perceived to be expensive — but it wasn't for what it was). The neck-jig remained as plans only, and people built their own until about 1999 when we re-introduced the smaller table-top neck-jig that we sell today. It's my favorite of all the neck-jigs that I have made and used. I mount mine on a tilting shop-


"Model Three" 1983


Elliot John-Conry with "Model Six" 2003

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stand. I also added a secondary tilt so that after the guitar is tipped over toward the floor (I tip it to 83°), I tip it on the other axis in the true playing position. It's a small difference, but I chase thousandths-of-an-inch when working on frets.

So, I ran the Big Rapids shop until 1986 when I moved to Athens, Ohio and went to work for Stewart-MacDonald with the mission of helping StewMac add guitars, repair tools and such to their long-running banjo and mandolin business. In time, StewMac changed their name from Stewart-MacDonald Mfg. to Stewart-MacDonald's Guitar Shop Supply (the name that remains today). At Stew-Mac we have very talented people. The building, repair, and tool design R&D team is packed with great woodworkers, machinists and players. The Along with me, the R&D team consists of Al Rorick, 52, a great guitarist, builder, and machinist who has 30 years experience working in shops... And there is Todd Sams — Ohio State banjo champ too many times to count; top mandolin and guitar player, flattop builder, repairman, woodworker and machinist. Todd runs the StewMac production facility... Don MacRostie is 58 (I'm older by a couple months, so he's just a kid to me). Don is a mandolin player, and a world-renowned mandolin builder (Red Diamond Mandolins), and has been working at StewMac in the woodshop and machine shop for well over 25 years. Don has designed and built all the intricate tooling that we use. Add those guys' experience to mine and we have over a hundred years combined experience in the luthiery business!

I have been at StewMac for nearly 17 years, and I've continued to run my repair shop on the side, and played in two bands over that time — *The Couch Slugs*, for 12 years, and a new band, *Dogtown*, for the past four years.

TQR: Let's talk about some of your more high-profile work for well-known artists, Dan.

My first 'big' repair was in 1969, the year I bought my first power tools and opened my own shop. I took a '55 Goldtop Les Paul and converted the cutaway, bridge angle, and controls to left-handed. I re-painted the top gold and over-shaded the back (especially the plugged area) in the same very dark brown walnut shade that some of those goldtops had. In 1970 or '71 I built a black walnut Strat with a maple neck for Jerry Garcia, and the most


black walnut strat

played Flying V that Albert King used over the next 23 years — Lucy — the black-walnut V. I used to like walnut a lot in the early '70s — probably still do. I thought of it as a cross between maple and mahogany. Of course, I had extremely *good* walnut, and a fair amount of it. It was 125 years old when I bought it in Ann Arbor, Michigan. That was 1969. In 1970 I made Albert King's Flying V from it. In fact, when I met him at the Ann Arbor Blues Festival in 1970, I coerced him into coming to my shop by saying, "I want to make you a guitar, Mr. King. I have beautiful black walnut that is the same color as your skin. You would look beautiful with it." Where did I get such nerve? He liked it, and came on over!

At the same Blues Festival, I met Johnny Shines. I got to spend a lot of time with Johnny and even play guitar with him at a friend's house for a whole afternoon. There is a tape around somewhere of that — I'd like to hear it (at least once). Johnny liked the feel of a neck that I had made for my 1939 Martin D-18 (I bought it without a neck). He asked me to make him one and to put it on one of his Gibson acoustics. In the photo, Johnny is clasping his hands and describing an inlay he wanted in the peghead of clasped hands made from "pearl of many colors, to represent all the races coming together." That's exactly what he is saying in the photo you see here.


Johnny Shines & Dan Photo Courtesy Stan Livingston ©

Recently, I got a request to build an exact replica of "Lucy" for a guitarist in Denmark. I pulled out the rest of the old walnut and brought it inside. I have saved this wood for 30 years, ostensibly to make furniture, and now I've decided to make a small run of these. He wants the inlay in the fretboard

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to alternate in pearl and abalone like Albert's was, and to say "BLUES POWER." Good idea! When I graded the wood, I found that I had enough wood to build 7 guitars. I looked for a day and finally found the full-size blueprint, if you can call it that, that I traced the day Albert came to my shop. Everything I need is there if I can figure out my measurements. I'd like to have one that says "CROSS-CUT SAW." The last time I saw Albert play, my wife Joan and oldest daughter Meredith and her best friend Ellen visited with him for quite some time. From that same walnut I built a number of Les Paul and Strat type guitars, and even some Kramer Baretta types. The building took place on and off in between the more serious repair work between 1971 and 1986, when I moved to Stew-Mac. During that time, I built two seven-string solid-bodies (before seven strings were popular at all), and several scroll-peghead electric basses. Probably the most fun guitar I made was the double-neck, carved-top guitar/mandolin shown here.

Joan Erlewine, Ellen Gaglian[illegible], Albert King, Meredith Erlewine, Dan Erlewine - circa 1990

Still, my greatest love was the repair work — especially the hard stuff. Like my friend Joe Glaser, I enjoy small, difficult jobs. Once I replaced the fingerboard on a round-lam, early-'60s Lake Placid Blue Strat. Later, I got a call from George Gruhn complimenting me on my work. Apparently, the guitar ended up in his hands and fooled even him, however, a story that came with the guitar let him know that I had done some work on it. I recall that the neck finish was worn to bare wood and very dirty. I also recall doing some kind of re-fin on the neck that included leaving the dirt or something, and 'antiquing' it. That was around the time (1984) that I was starting to mess around with making finish work look old. I can't imagine being good enough to fool old George, however! Over the years I've gotten to know George and all the guys in his shop. I consider them friends, and they're at the top of a list of people that I have great respect for. The entire repair staff are experts.

TQR: As your experience in repair has grown, what are some of the most common things you've seen?

Back in the '60s, practically anything could have been (and was) done by unqualified persons. Acoustic guitars?

* Glue slopped all over inside the guitar in attempts to glue *whatever*. I always figure the tech's arm was too big to do the job right. I am not a big person and I am fortunate in that respect because I seldom run into something I can't reach. Also, when I can't reach something, I think about it until I conceive of a tool or method to do the job, and clean up afterward, correctly.
* Bridges glued on wrong, glued poorly, or crooked (when a new bridge should have been fashioned).
* Bridge pin holes drilled or reamed clumsily and too large, with poor attention paid to the bridge (the heart of the guitar).
* Braces glued half-way, and poorly, making the second attempt much more difficult.
* All types of inadequate neck resets.

ELECTRIC GUITARS

* Inadequate setups — usually failure to match the bridge saddle radius to the fretboard radius, or to alter the radius from an exact match on purpose, for a reason.
* String slots cut way too deep and not spaced evenly on Gibson-style tune-o-matic bridge saddles.
* Tuner installations that are crooked, have stripped mounting screw holes, or have caused finish chips.
* Stop-tails and tune-o-matic bridges added to guitars that aren't located properly (not square to center, not in the right place for intonation).
* Nuts that are filed so that the slots are far too deep, causing muted or buzzy strings.
* An unbelievable amount of sloppy, downright silly custom wiring and pickup replacement — jobs that simply could NOT have worked.
* Plastic nuts slapped on good guitars by inadequate techs. Usually the job was done on a music store display counter, I think.

ALL GUITARS

* FRETS: One horror-story that befell lots of guitars was simply bad fretwork of all natures — especially in the 1960s when the majority of repair techs (few that there were) were folkies, and didn't like or respect electric guitars. How many

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times have I seen great guitars with a refret where the worker cut right through the binding with a saw and then installed the frets? Or, lots of would-be repair techs removed binding on great Gibsons to do the refret. They said that was the way it "had to be."
* Parts replaced, exchanged, or stolen by hip techs that knew they would have value when the parts didn't need to be replaced, just to sell a pickup or hardware.

TQR: Guitarists ought to be able to set the intonation on their electric guitars. Can you describe the procedure you use to do this?

Unless it is a Buzz Feiten setup, I compare the open string to the fretted note (not the chimed harmonic) at the 12th fret using a Peterson Auto strobe, or the Peterson VS1 tuner. As a player, I don't mind the G string octave being set a bit flat at the 12th fret. To me, it sounds better overall. Players *should* be able to set their own intonation. It isn't that hard.

TQR: How do you optimize the tone and playability of acoustic and electric guitars?

For acoustic guitars, assuming that all braces are tight and that the frets are good, and that the nut is clean with slots not too deep (1/2 the diameter of the string or a little less), the most important thing is *how you install strings*. One should use an inspection mirror when installing strings. Watch each ball-end and be sure that it seats into that little bit of a string slot in front of the bridge pin. The circle of the ball-end (think of it like the wheel of a car) should face forward, toward the headstock, so that the bridge pin pushes against the round surface of the ball-end. Properly strung, you should be able to slide a small steel rod through the holes of the ball ends because they would all be in line (the hypothetical steel rod would be at a right angle to the lengthwise grain of the top). I pay great attention to hand-fitting bridge pins on every guitar, always starting with un-fluted bridge pins and creating my own flutes of different sizes for each pin and string, also imparting a small notch for the ball end to somewhat catch into. The notch and pin 'share' the string wrap. I mark each pin with a sharp file with a hash mark. '1' through '5' marks for treble E to bass A, then nothing for the bass E. That way, the owner always gets the pins in where they belong.

Hand-fitted pins and careful stringing will make a *huge* difference in tone. After using a hand-jig that I made for cutting the individual flutes in non-fluted bridge pins, I now have a great tool for this that I have often wanted. My friend John Mikelson found some very cool bearings on e-Bay that would normally cost $300 — John paid $20. He asked Don MacRostie at StewMac to make him the tool you see here.We are working on a version that won't require $300 bearings, of course. John is a supplier of fossil ivory and fossil bridge pins and endpins to our industry.

TQR: And your tips for electric guitars?

Again, assuming that the frets are well done, and that the nut is clean with slots not too deep (½ the diameter of the string or a little less), the heart of the guitar is the *bridge* (even an electric guitar). Sure, the pickups and electronics are very important, but not as important as the guitar itself, as an instrument (hopefully) of wood and with the possibility for great tone acoustically. I will spend great time de-burring, polishing and cleaning all string contact points on Strat-style bridges (or a Tele). Gibson Tune-o-Matic saddles always need a great work over in my opinion. I call that 'deluxing' the saddles. Whenever possible, I like to start with a fresh bridge (unless a vintage owner has a serious thing going, and we can work that out). These days I prefer the TonePros AVRII for Tune-O-Matic replacement. I cut the string notches so that the string radius at the bridge matches the fretboard radius (or a chosen option of the customer), then I remove the saddles, and one at a time remove metal until only a slight string notch is left. Then each notch is filed to a non-sharp point, burnished with abrasive sanding cord from .015" to .050" in all the sizes in between, then I buff the piece on a large buffing wheel with Tripoli compound. The result looks like jewelry, and produces clean, great tone. The saddles you see here, by the way, started as un-notched, un-plated brass blanks. After shaping the string slots and imparting the correct radius to the saddles, I file, sand, and buff them. Finally, I re-plate them in nickel using a small plating system called "Brush-Plating," until they look like the right saddle, middle image. When I'm working on a vintage bridge, perhaps replacing only one saddle, I follow the same technique, matching the 'tumbled' look of old Gibson saddles The TonePros bridge works best for saddle re-shaping because it is designed differently than a Gibson. The saddle-adjust screws sit lower and I can notch into the saddle deeper when needed without the

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strings hitting the back edge of the bridge as they come from the stop tailpiece. If you study one of these bridges you will see what I mean. Also, The TonePros has a slight bit more longitudinal travel.

TQR: And are there specific tips that apply to *all* guitars?

I think the key to good tone is to have a neck that is straight under string tension (because it is under truss-rod tension). The stiffness that results lets the neck *drive* the body and produce good tone. If the player must have some relief, back off the rod, but no more than absolutely necessary. Some relief is

OK (I don't like it, or at least hardly any) as long as the truss rod is not loose and the neck doesn't have too much relief. Once a neck shows, say, .012" relief or more, it's like a bow and arrow — the neck is the bow, the strings are the bow string — push or pull the string, and the neck bends and moves, losing tone, in my opinion. I prove this to myself daily when I adjust my customers' guitar truss rods. As soon as I get the neck straight, the tone and woody resonance comes out. I always remove the truss rod nut first, lube it with Vaseline, machinist's wax, white grease or a Teflon lubricant.

TQR: Has fretwork on new factory guitars improved?

I think that overall, the fretwork is as good or better than ever with some makers, and average on less expensive stuff. The

imported stuff has better fretwork than it used to. Most brand new guitars need some attention to the nut, saddle, and frets after the sale. Serious fret leveling, and sometimes complete replacement is all that keeps many brand new guitars from being what you want. I always use my neck jig, which reproduces truss rod tension and string tension during the leveling of either the fret tops or the fretboard itself.

TQR: Have you had much experience working with stainless steel fret wire?

I have only used it twice, and I like the idea of it. It is tougher on tools, and I may have to ask a customer to buy me a fresh set of end nippers as part of the fret job. People are asking about it and wanting it. It *is* harder to use. I have some experiments that I am about to try with it to make it easier to use (but it may not work out).

TQR: We've been acquiring a wide range of non-vintage Stratocasters lately with the intention of documenting various characteristics of construction and tone among the Japanese vintage reissues, more recent American Vintage reissues, and Custom Shop and Relic instruments. We've noticed that some instruments were set up with shims, others not. What is the importance of a shim in bolt-on neck guitars?

Shims are used to tip the neck angle back (for a high bridge) and up (for a low bridge). At the factory, it's just a quick way of getting the neck geometry to work with a given bridge. Shims are required, I suppose, because perhaps the neck pocket wasn't routed to the perfect depth, the neck heel may be too thin or thick (rare, I would think), and because of the basic 'automotive construction' of a bolt-on neck. I never use small shims; I always find the thickness I need, then make a full-pocket shim going from the required thickness and tapering to zero. This supports the neck fully in the pocket. Small shims placed at either end of the pocket will cause the neck to warp and hump in the upper register over time. The neck bolts are clamping that wood tight, and the hollow created by the shim allows the wood to bend. Add to that the long neck before it reaches the body and the fulcrum that it creates, plus the pull of the strings, and you have frets that buzz in the upper register. Micro-tilt adjustments cause the same problem. Often I will re-rout the pocket on an angle. This takes a lot of trial and error, however, to know exactly how much to take off and where to remove it in order for the neck to fit the bridge. I never like the bridge saddles to be way high and at the end of the travel — it's too large a break angle for the strings coming over the saddles.

TQR: To what extent has the vintage guitar market been compromised by aged refins and frauds?

Well, the vintage market *has* been compromised. We have all heard of or seen re-finished guitars that look old (some could be brand-new guitars, even). We also know of entire guitars that are fakes — Les Pauls come to mind — combining woodworking and finishing of a very high level. Still, I think the best vintage experts and some of the craftsmen who do the work, are extremely hard to fool. Of course, the average buyer/seller doesn't have easy access to these people. I think in many cases I could tell an old guitar vs. a new guitar by *smell* alone. So, buyer beware! If you buy an original old Strat that you know is not a re-fin (but in reality it *was* refinished, and you don't know it), well then in a way, it is original — at least in your mind.

For repaired guitars, it's pretty hard to completely hide some repairs, such as finish work; most experts would recognize the work. However, if you bought a Gibson ES-335 that had a repaired loose neck joint (it happens) that was cleaned and

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re-glued, touched-up with lacquer, and it was impossible to know — then to me, that guitar is original. If it had a broken peghead that was fixed perfectly in all ways, I think the repairer should record that on paper and give it to the customer. Then the guitar should always have its "passport" with it. Tom Murphy marks the guitars that he works on so that they cannot be passed as forgeries. That is what I like to see all of them do. If someone does a great re-fin they should be proud of it and mark the guitar in one of the cavities. Some of the experts out there are doing work that should be worth *more* money with their name on it. TQ

PHOTO CREDITS: During the heyday of the Ann Arbor music scene in the 1960s and early '70s, a number of music loving photographer/friends took photos of musical happenings. Of the many photos that were given to me 35 years ago, I don't know who took most of them. With little doubt, any photos printed here would have been taken by my friends Tom Copy, Andy Sachs, Al Blixt, Stan Livingston and Tom Erlewine.

Next Issue: Part 2 — Dan reviews some remarkable restoration projects that may inspire you to hunt down a bargain beater with the potential to become a treasured keeper! Dan accepts repair work of all types — from nuts and fretwork to complex restorations. He also conducts 3-day weekend seminars in repair work (a favorite is a fretting, fret-dressing, nut-making, and setup seminar). You can do it!

Dan Erlewine, e-mail: rderlewine@frognet.net,
1-740-593-9072, www.stewmac.com

STATE of the TUBE MARKET REPORT

with MIKE KROPOTKIN

Your choice of tubes definitely matters, and there are specific brands of tubes — new old stock (NOS) and new — that can impart a subtle or even dramatic improvement in the tone of your tube amplifiers. So if tubes matter so much, what tubes should you buy, and if you decide to invest in the rapidly dwindling supply of generally superior NOS tubes, how can you be sure you're getting real new old stock (that's unused*) tubes? Experienced amplifier technicians are often an excellent source for tube recommendations. They routinely evaluate and install hundreds of new tubes each year, and they should be acutely aware of variations in quality and construction among different batches of otherwise 'identical' new tubes from the same manufacturer. We have learned that quality can vary by batch... They also should be able to tell you which brands of new tubes yield unacceptably high failure rates and microphonics, and which specific brands produce the best tone and dynamic response. We asked amp tech and NOS retailer Mike Kropotkin to provide us with an update on the state of the tube market in 2003, tips on spotting bogus NOS tubes, and recommendations on new and NOS tubes for your amplifiers based on current supplies.*

Things in the tube world have changed quite a bit since my first article for *The Tonequest Report, "Tubes 101" (Nov. 99, V1,N1).* There are more new production tubes available, fewer new old stock (NOS) tubes available, and the prices of NOS tubes have increased sharply. Lots of folks are trying to build lifetime inventories of the good NOS stuff so they will never run out. Not a bad investment — since supply has only one direction to go and prices will continue to rise. Tubes are arguably the best investment anyone could have made in the last five years. Even in the face of rising prices, demand for NOS tubes today is stronger than ever.

Supply

The largest US wholesaler of tubes has now run out of most NOS 'Joint Army Navy' (JAN) military guitar amp tubes. The only popular ones remaining are 12AT7's and 6V6GT's. A few years ago a retail dealer could just pick up the phone and order a sealed case of 100 guitar amp tubes from these guys… Those days are gone.

Good tubes are still available, but it's become more difficult to find them, and they *are* more expensive. I'm also convinced that there are some pack rats holding onto large supplies just waiting for the right price. And there are a lot of tubes available on auction sites, but beware! I hear stories of woe about questionable tubes bought at auction all the time. Sometimes I feel like I'm running a counseling service for tube addicts. "Well Joe, tell me how you felt when you realized that the Mullard tubes you bought turned out to be cheap Russian tubes with Mullard labels and boxes?" Unless you are capable of verifying tubes by their *internal construction*, you're taking chances.

Hot NOS Tubes

Philips 12AX7WA

Remaining supplies of NOS JAN (Joint Army Navy) tubes, once readily available, are GE and Philips 12AX7WA's, Philips 6L6WGB's (equivalent to 5881's) and 7581A's (a military version of the 6L6GC which has great tone and is super durable). Some retailers still have these in stock, but it's only a matter of time before they will be gone. Unless the government has more tubes to auction off, I estimate that the supplies of these tubes will be exhausted in the next two years.

NOS or NEW Tubes?

The longevity of NOS tubes exceeds that of new production tubes by a wide margin due to the quality of materials, superior workmanship and quality control formerly used in tube production. Metallurgy in Russia, Eastern Block, and other

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