

types over others... With a little tweaking the MOFO sounds great with every one of our guitars.

Zinky wasn't exaggerating when he said that the MOFO doesn't produce any of the strange, dissonant artifacts that some amplifiers reveal when pushed hard or driven with a pedal. If you're uncertain what we mean, we're referring to flatulent low end, nasally mids and grinding, saw-toothed, rizzy, zizzy treble. Examples? Many Fender silverface amps, and certain other modern Fender and Peavey models with 'boost' switches, along with plenty of other mid-priced amps with gain or boost circuits.



What you can expect with the MOFO are gloriously rich overdriven tones that can be managed using the

Gain and Volume controls much like the controls in an overdrive pedal. The Retro setting on the OD switch is just what the name implies – a smooth, complex and interesting sound, dynamic and real with no hint of contrived faux overdrive. A sound that reveals all the attributes of your pickups and guitars without obscuring or masking their fundamental voice. Flip the OD toggle to MOFO and sustain and distortion are increased, still manageable with the Gain and Volume Control mix. And we repeat: the tonestack and EQ controls provide an amazing range of settings that never seem to overwhelm the power section or speakers, even with Bass and Mid settings increased beyond what we would consider to be normal settings. The MOFO simply delivers an incredibly versatile choice of essential voices and levels of clean and overdriven tones with all types of guitars and pickups, and its exceptionally musical character at all settings is off the chart.

Note to those who play mainly at home... While we would describe the MOFO as a powerful performance amp, you should also know that it performs brilliantly at lower volume levels suitable for home jammin.' We set the Overdrive Gain and Volume levels at just 9-10 o'clock and we were surprised and impressed with the full fidelity and authentic sustain, drive and dynamic feel of the amp at low volume – a sound that is far superior to amps with master volume circuits set at low volume levels. We also like the compact design of the MOFO head and cabinet, which includes a standard FX Loop, extension speaker jack and 4/8/16 ohm switch. The build quality is impeccable, and while the 2x12 cabinet weighs over 50 pounds and the head plus 30, all that

rock solid Baltic Birch makes a difference you can hear in an extremely roadworthy package.

Well, gang, what are you gonna do? Here's another review of a delicious tool in a world where there is no shortage of supposedly delicious tools... too many, perhaps, and certainly too many for you to experience them all. Is the MOFO potentially your amp of luv? Could be. We can assure you of this – it is one of the most uniquely toneful and versatile amplifiers we have ever reviewed in these pages, new or old, and a definite contender in the ultimate Quest for truly signature tone. Head: \$1499, 2x12 cab: \$559.00 [TQ](http://suprousa.com)

<http://suprousa.com>, 928-522-0800

Gibson Historic Firebird I



Last year we were swapping e-mails with Dave Rogers, owner of Dave's Guitar Shop in Lacrosse, Wisconsin, when he informed us that he was placing a large order for Gibson Custom Shop Firebirds. Intrigued, we asked if his order included any single pickup Firebird I models. It did, and we suggested that perhaps we could have at least one loaded with Jason Lollar's Firebird pickup for a future review article. Dave agreed, Gibson agreed, and we now have a Historic Firebird I here for your consideration. Why a Firebird I rather than a dual pickup model? We remain convinced that single pickup guitars often possess an entirely different vibe and attitude from otherwise identical dual pickup guitars, verified by our past experience with Les Paul Juniors and Fender Esquires. We can only speculate on the reasons why – perhaps it's the elimination of the magnetic field and additional string pull of a neck pickup coupled with lower levels of capacitance than a standard harness with four pots. Additionally, cheaper single pickup guitars are often equipped with a wraparound bridge instead of a stop tailpiece and tune-o-matic, and we know that makes a difference you can hear.

The stock Gibson Firebird pickup is just too hot n' nasty for our taste, and to the Custom Shop's credit, they didn't hesitate to load the Firebird I with Jason Lollar's version. Those who enjoy bashing companies like Gibson and Fender would

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benefit from understanding that both companies are populated with long term employees whose passion for the guitar and knowledge of history and construction far surpasses that of their critics. It's easy to be a self-made 'expert' on the Internet, but those guys wouldn't be so quick to speak if they were to walk the production floor with any number of the managers with decades of experience working at Gibson and Fender. Remember that the next time you're tempted to trust the opinion of an 'expert' on the Net.



Before we get to the Firebird, let's linger for a minute on the subject of pickups. We get more calls and e-mails on prospective pickup and amplifier purchases than any other topics by far, yet the

custom pickup market remains mired in ridiculous hype and misinformation largely perpetuated by sheeple and pickup winders who rely on spinning tall tales to separate themselves from the pack. Who better than Jason Lollar to blow a clear, fresh breeze through the fog? Listen up, because you can only get this here, and what he is about to share will allow you to become credibly informed while possibly saving you time, aggravation and money:

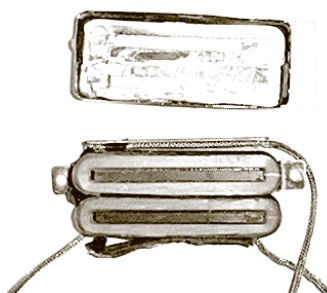
TQR: The original Gibson mini-humbucker was developed for certain Gibson-made Epiphone models, and as original equipment on the '69 Les Paul Deluxe. Yet many people still confuse them with the original Firebird pickups, which appeared years earlier. Can you describe the specific features and differences in construction, materials and tone between mini-humbuckers and Firebird pickups?



The obvious difference between the two is the minibucker has adjustable poles and the Firebird has no visible polepieces, with solid metal pickup cover. The

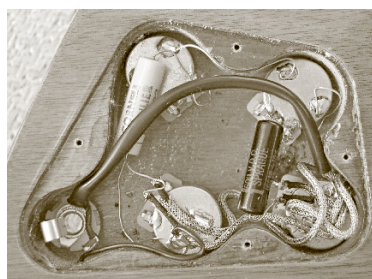
minibucker is similar in construction to a full size humbucker, with one magnet that is located underneath both coils with one side of the magnet touching the bottom of the adjustable poles and the other side touching a steel slug inside the other coil. The screws (adjustable poles) are much smaller in a mini than in a fullsize humbucker, and the fixed-pole coil has a single

piece steel blade or bar rather than six individual slugs located under each string in the non adjustable coil, like a PAF. Another difference is the bobbins (the plastic spool-shaped former the coil is wound on) are smaller and have a narrower, taller profile than a PAF bobbin. A mini is 1-1/8" wide compared to the 1-1/2" width of a PAF. This means the coils are approximately 1/2" wide compared to the 3/4" width of a PAF bobbin. Consequently, you can't put as much wire on the mini, and the pickup is narrower, which is partially responsible for a brighter tone than a wider pickup. My Minis sound similar to a typical full size PAF, but they are a little brighter overall. They also have a lot of the smoothness in the mids and bass and share a similar quality to the distorted tone of a full-size PAF type. In some cases, the mini can outperform the PAF in a guitar paired with a darker amp that has more midrange. The mini will jump out and beat you over the head where the PAF will sound buried or somewhat laid back and subdued. Old Gibson minis typically have a little brighter overall tone and a little less output than the pickups I wind.



Firebirds have a bar magnet in each coil. The absence of steel inside the coil changes the inductance, which in turn affects output and frequency response. The overall tone of the Firebird is more like a single coil – less bass, brighter

tone, more defined, and as you push your amp into distortion, the bass remains more focused and tighter than the mini-humbucker. Mini-humbuckers played dirty have more of a grinding tone to the distortion that most people would quickly identify as a great "rock and roll" sound. Firebirds are a little more Fendery sounding and percussive. Mini's played dirty have a more aggressive tone, while Firebirds are a little cleaner. Played clean, the mini has a smoother attack with fuller bass response – similar to a PAF. Firebirds are more of a "fat Fender tone" but can sound smooth if you play in a manner that accents it. The overall tone of the mini is more focused, like playing in a small room, and compared to the Firebird, it feels a little more compressed. The Firebird has a bigger soundstage.



I've said this before, but when I design or compare pickups, I use two guitars that are as close to each other as they can be in every way. I match all the pots in both guitars and use the

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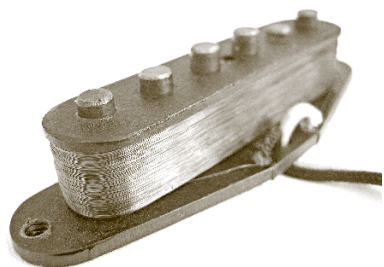


same length of hook up wire for the volume and tone pots. I can install different pickups in each guitar and really hear a small difference. Once I note the difference, I'll take the pickups out of both guitars and switch them so the set of pickups in guitar A is now in guitar B and I test them again to rule out any difference in the guitars. The average person may have two different Les Pauls for instance, with pots in each that are far off spec from each other. That alone will skew the results and lead to erroneous conclusions. Even with matched electronics, guitars of the same design made of the same materials can have very noticeable differences in tone and dynamics.

There are people that claim to wind each pickup for an exact result according to what the guitar is made of, what amp you play it through and for the style of music you play... Taken to that extent, this is pure bullshit. Collecting information to help the customer decide what they need is one thing, but by no means can that go as far as predicting what a particular piece of korina will sound like paired with a rosewood board, maple neck with stainless steel frets and Callaham saddles played through a '66 Twin Reverb used for playing "blues..." (whatever they mean by "blues"). Take ten Les Pauls, install the same set of pickups in each one and they are all going to sound somewhat different and occasionally, dramatically different.

TQR: Scatterwound... What does this mean and why does it matter whether a pickup is scatterwound or not?

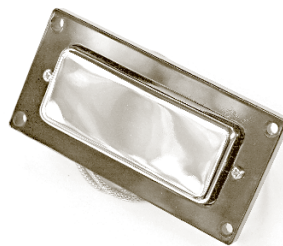
Scatterwinding just means there is a random pattern or a wide spread between each turn of wire on the pickup – you don't have layer after layer of wire laying next to each other. It can also mean that each layer of wire has a different amount of turns before it changes direction and laps back over the



previous layer, such as 10 winds to the left, 15 winds to the right, etc. All other factors being equal, you'll generally get a little brighter tone in a scatterwound pickup and it also has some effect on how punchy or compressed the pickup feels. In some cases you may not want a wide scatterwound pattern. I make some

pickups with more turns per layer for specific purposes. In my opinion, there is a big myth about "handwinding..." People throw that term around as if it's a magic act, but you can still make a bad sounding hand-wound pickup. The overall design of the pickup and the materials used have more effect on the outcome than whether it is hand-wound or not. Rewinding pickups of dubious origin just so they can now be handwound is often an exercise in futility – you may or may not get any improvement. More important is paying attention to all the details, from the magnets to the pickup cover. I can wind a pickup on a commercial machine and wind one by hand, analyze them for frequency peak, inductance, resistance and have two matched coils based on what the test equipment reads.

TQR: It would seem that the materials you use for these pickups might be uncommon or more difficult to source – magnets, wire, etc. Are there any challenges specifically unique to making mini humbuckers and Firebirds?



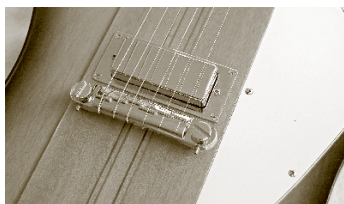
Assuming you know what you are looking for in the first place, finding high-quality parts is always a challenge, and equally important is obtaining a consistent and reliable supply. It's one of the most difficult aspects of

this industry. Parts and supplies are the number one liability for guitar builders, pickup makers and amp builders. For example, the magnets for the Firebirds are a specific size that are not a stock item, so I had to have several thousand made in different grades of Alnico. So even though I managed to find the right parts, I still had to lay out a lot of cash to get the magnets made to spec. I could only do that because I had a good feeling about the potential demand of the Firebird pickup design over time, and we have made a lot of them.

TQR: Materials vs. technique... How much variation exists in the materials (wire, magnets, covers) available to pickup builders today?

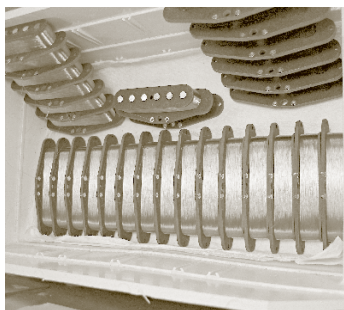
Inconsistency in materials will stop you dead in your tracks, and I constantly monitor it. I have resorted to having wire made specifically for me in large quantities because it was the only way to ensure consistency from spool to spool. Previously, if I wound a Strat coil off one spool to 8000 turns and 6.2K resistance and wound another from a different spool to the same turn count it might read 7K – too much of a variation for me. As I mentioned before, magnets are not all made the same, and neither are pickup covers. I have them made to my specs now rather than buying off-the-shelf parts because

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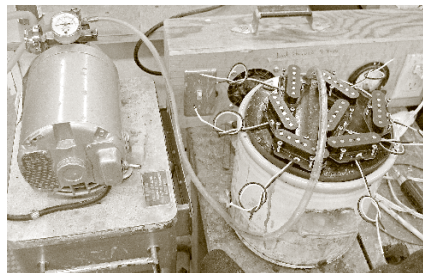
I would get things like humbucker covers that were different thicknesses from batch to batch. I thoroughly test everything that comes in my shop, including

actual, controlled listening tests. You might think of these things as minor differences, but they all add up. If you don't have consistency, you don't have much. I have to be confident that when you buy a pickup, it is exactly what I designed – not an acceptable approximation. “Close enough for rock & roll” doesn't cut it. Are you OK with being “almost” in tune? I have a small balance scale that I use to make sure my parts are the same, and I measure all of the magnets we use and weigh



them. In the past I have made identical pickups with magnets from different manufacturers to determine which manufacturer to use, and this is typical for any part I use. And I never wind just one coil – I wind a large batch of the same type

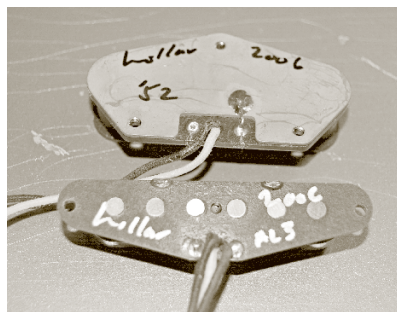
in order to determine the actual specs for each spool. I check each batch against previous batches to ensure consistency. If a batch of 30 coils comes out at 5.6K and another measures 4.9K, I'll strip them all and wind them again. China and Korea are making guitars better than ever, but I have yet to find an overseas company that really ‘gets’ pickups. Their materials are never consistent. If you contact a manufacturer and ask them to build a part to a specific spec and tell them if they perform you'll buy thousands of them, they don't seem to care. “Close enough for Seoul” isn't close enough for me. There is a company advertising Korean or Chinese pickups that are supposedly “boutique” and they like to suggest that buying American-made custom pickups is a rip off. If you consider that they pay about \$6 for a humbucker and sell it to you for \$60, maybe it's not such a good deal. You know, it seems if you advertise something enough in print or on a web site, someone will believe it no matter how off base it is. There is so much bad information being spread about pickups that I can easily sympathize with players trying to wade through it all. Most of the guys that really know what they are doing



don't hang out on the Internet very much – they are way too busy and don't have the time or an interest in perpetuating useless dogma.

TQR: Potting... To what extent does potting affect the sound of a pickup?

Unpotted pickups usually have a funkiness about them – an extra vibe or presence that disappears once you use wax potting or a solvent-based film coating like shellac. Humbuckers will have some pick click – you can hear the pick hit the cover. With Teles, they must have some funk on the bridge pickup, but one has to be careful not to make it so microphonic that's its actually hard to use. I can tell very quickly if a pickup is microphonic, and I *like* that sound. It really belongs on a Telecaster. I wind my coils pretty tight and use minimal potting, and in the past I never used potting. You can pot a pickup so completely that it produces a very dull sound with no liveliness to it. Wax will dampen microphonics pretty efficiently, and the film coating used in late '60s Fender pickups will have less of an effect. Potting also helps



hold the pickup together, keeping the outside layer of the coil from shifting over time and becoming more microphonic, which is pretty common with older pickups. The

other day I had some unpotted humbuckers in my rig. Understand that Clapton and all of those guys playing through Marshall stacks back in the '60s weren't playing with potted pickups... I was playing a set through a brown Pro cranked with no problems, and then I handed the guitar to one of the other guys and screech weeee zhanng! He couldn't control it, don't ask me why. It's really odd that there would be such a difference between the two of us, but there is no way to tell except for the acid test.

TQR: To what extent does the material used for pickup covers affect tone?

Well this is something that people often disagree on. I believe it does make a difference and I can say that because of the way I test things. A thicker nickel silver cover is going to dampen more highs than a thinner cover – I know this for



sure. Brass and aluminum dampen even more, so it's an important part of the mix to me. I know of a company making “exact reproductions”

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of PAF pickup covers and I can tell you if you are looking for a more transparent-sounding cover, this is a case where following an old formula doesn't get you where you want to be.

TQR: What's your advice on discovering new sounds from pickup swaps successfully?



Figure out what you don't like about what you have now and list the qualities you want. Start out generalizing and narrow the focus as you go. You may want more bottom

end with a smoother feel between each note, or you may want the opposite – tighter bass with more “spank.” Perhaps you want more midrange with some growl or grit to it, or less, for a scooped “Fendery” sound. Do you want top end with some body to it or more treble cut? Could be you are just after one thing, like a hotter or lower output pickup... Think about what you want, but also realize that you may not get everything all at once. Voicing pickups can be like squeezing a balloon... If you want less bottom end, you'll get more top. The more you think and plan ahead before consulting with a pickup builder or a spec sheet, the better your results will be. *TQ*

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The Goods



If you are interested in savoring a heavy dose of the Gibson Firebird, Johnny Winter has pretty much defined that sound

on his many excellent recordings. We suggest listening to “Busted in Austin,” although we found a 1970 video of “Be Careful With a Fool” featuring Uncle John Turner and Tommy Shannon on Danish TV that is also well worth your time – especially if you consider yourself to be a blues player. Never mind that Johnny happens to be playing an early '60s Epiphone Crestwood with New Yorker pickups... It really

didn't matter. For a more contemporary Firebird treat, hit Kal David's web site and buy some of his music. You can also reference our November 2001 cover story on Kal. Again, *especially* if you consider yourself to be a blues player...



We've devoted more than a few pages over the years to various Firebirds, and we can report that the current Custom Shop version is meticulously and beautifully built, light in weight yet very well-balanced, and it's by far the best player of all the Firebirds we

have owned. As you may have heard, Gibson has been making rosewood fretboards this year using two thinner pieces that are glued together to achieve the required thickness of a traditional fretboard. Why? Well, as you also probably know, a very large supply of wood used for fingerboards was confiscated in a raid by the government in 2009. Wherever Gibson is sourcing rosewood now, apparently they can't get boards thick enough for fingerboards, hence the glue-up. We're not going to attempt to clarify or speculate on the reason why Gibson has been singled out or what the exact nature of the government's complaint against them may be, but based on our own experience and that of others whose opinion we trust, the 2-piece rosewood boards don't seem to affect the sound of the guitars one way or another. Of course someone will eventually claim otherwise, just like the dumbasses that would want you to believe that the Historic Les Pauls built with Brazilian rosewood fingerboards a few years ago are worth twice as much because they sound twice as good. No, they don't, unless you're trying to sell one...

Back to the Firebird I. We've already commented on the subtle adjustments that are required to play these guitars, beginning with remembering that the tuners are in reverse order. That's OK, you'll tune the wrong string a couple of times and that'll be the end of it. Stepping off the curb on a busy street in London while looking the wrong way is potentially much



worse, in't it? The Custom Shop Firebird is actually a breeze to negotiate and it feels exceptionally comfortable, whether played sitting down or hung from a strap. You'd think the Firebird would be top heavy by its appearance, but it isn't,

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