



GJD: So, let's go back and talk a little bit more about transformers. How do you pick your transformers?

BM: Well, it really helps if you have a good transformer manufacturing company to work with.

GJD: What do you mean by that?

BM: A company that has good communication skills to really be interested in finding out what I want for my amps. Also, that they be willing to build you different prototypes to test the amps until you find the right one. Another big thing is consistency and reliability on their end.

GJD: I assume that you order various transformers in bunches?

BM: Absolutely.

GJD: How do you then decide on which specific ones to order?

BM: Well as you know I have many different models of amps. Each one is voiced differently. The sound that the customer is looking for is most likely based on a specific voicing. A specific transformer is a big part of that voicing equation.

GJD: What is it specifically about a transformer that shapes the tone?

BM: It's my understanding that the grade of steel in the core of the transformer is really important. Some might even say that a higher grade of steel might yield a harsher tone. But honestly, with all the other factors involved it's probably not the most exact science. So-called better quality components don't always yield the best tone. I guess you could even say that it is true for wood for a guitar.

Sometimes really pretty stuff doesn't sound so good.

GJD: What has more effect on the sound, the power transformer or the output transformer?

BM: Typically many people would agree that the output transformer has more effect on the tone of the amp. But the power transformer also has a great effect. For example, if the power transformer is underrated, the amp will have much more sag. Which as you know, is a feel and tone thing that some people prefer. However, an underrated power transformer will run hotter and burn out quicker.

GJD: Which type of power transformers do you use?

BM: I try to use transformers similar to those of a Fender Twin Reverb. It's not overrated or underrated. It is rated right at its use. Leo Fender was a very frugal man and wanted to have components serve their purpose and keep track of costs at the same time.

GJD: So let's talk a little bit about the specific effect of the output transformer.

BM: An output transformer has a great effect because it's the final communication between the power tubes and the speakers. It's kind of like the final clear coat on a car's finish.

GJD: Can the output transformer be thought of as a faithful reproducer and magnification of the pre-amp?

BM: I guess that's one way to look at it. The output transformer has a finite range of frequencies that it can reproduce. It will reproduce those different frequencies at different amplitudes. So, the output transformer will not usually increase what is already there but it can decrease what is already there in a good or bad fashion.

GJD: Can the output transformer be thought of as a constant or a reference point; so the amp builder can tweak the rest of the circuit accordingly?

BM: Yes, absolutely. However, when I am trying to figure out what the proper transformers are for an amp, I have a little trick that I use. I have mounting brackets that allow me to temporarily mount the transformers. That way when I am testing them, I can swap them without ripping the whole thing apart.