



Anthony Jackson (seated, center) holds court with his Bass Collective graduating class. Fodera's Joe Lauricella is to his right, Collective Director John Castellano is seated to his left. Collective bass teacher Steve Marks stands at Anthony's far left.

A.J. Talks Shop

Anthony Jackson's Setup Master Class

BY CHRIS JISI

Traffic could be seen crawling up 6th Avenue outside New York's Bass Collective as the merciless midday August sun seemed to drain the horsepower from cars and trucks alike. Inside, however, was a flurry of activity as the 16 graduating students prepared for a special event: a rare master class on setup with session legend Anthony Jackson. Over the course of the informal 80-minute discussion/demonstration, Jackson—who was joined by Fodera Basses' Joe Lauricella—covered a wide range of thought-provoking issues on bass guitar setup,

maintenance, and design. Some highlights, in Anthony's words:

THE NATURE OF WOOD

Little attention gets paid to setup. Setup is traditionally done as quickly and cheaply as possible to make an instrument *just* playable—but I want to address proper instrument setup and raise consciousness about the importance of getting an ideal setup. All bass guitars can benefit from this.

To begin with, remember that we play wooden instruments. As we all know, wood behaves like a living material even after it's dead; it never stops moving, never stops changing. This means over the life of your instrument you will never have an absolutely stable setup. You will continually have to tweak it yourself—or, in more serious cases, take it to a professional.

Before you can do that, however, you have to develop the ability to recognize when factors like climate change have affected your instrument. Because if you're on an important session or live performance and your instrument has shifted and it throws you off, no one will listen to excuses about how your neck moved.

THE VIRTUES OF A ZERO-RELIEF FINGERBOARD

Your fingerboard is laid out with calculations to the thousandth of an inch showing exactly where each fret should go. But these calculations assume the frets are lying on a *flat* surface. Whenever you hear someone say the fingerboard should have a slight [lengthwise] curvature—the reason usually being to prevent buzzing—think about it. A curved surface changes the relationship of fret spacing, which

can affect tuning—although compared to a flat fingerboard the difference is admittedly quite small. More important, I believe a flat board simply feels better. So your neck should be as straight as you can get it. Yes, it's going to buzz, and you're going to have to stop the buzz. How? Proper setup.

To make a flat board usable, you must have level frets. Frets fresh from the manufacturer are seldom as level as they can be. If they were, you'd have to tack on hundreds of dollars to the cost of each instrument because it means a lot more labor. If you suspect something is wrong with your frets, or you've been unable to straighten your fingerboard, a meticulous setup is the only cure—and a fret-by-fret inspection is one way to start. Even if you don't think anything is wrong, it's always advisable to get an immediate after-sale inspection of your new instrument by a professional luthier.

BEHOLD THE NUT

Aside from a flat [zero-relief] fingerboard contributing to an even and responsive feel, improvement occurs by balancing nut height against bridge height. With a flat fingerboard it's possible to raise the nut slightly while lowering the action at the bridge. This produces a surprisingly even response from the very lowest notes to the highest without a big increase or decrease in the strings' height across the fingerboard. Regarding the higher nut: Guard against excess here, because as one presses down on the string it always goes slightly sharp. A nut placed too high will cause your 1st-fret notes, particularly on the heavier strings, to be even more sharp. The difference must be found by trial and error. But the principle combining straight neck, flat fingerboard, higher nut, and lower bridge is something you all should investigate. These adjustments absolutely must be made under the close supervision of an experienced setup person, and it may take several repeat visits to get right. It's worth it.

STRING TENSION & SCALE LENGTH

Over the years I've learned that the quality of your instrument's sound depends partly on how tight you can make the strings. We all know pianos come in different sizes; all are tuned the same, and yet the larger pianos are louder and sound better. An important reason is the length, and therefore the tension, of the strings. When you have a given thickness of string tuned to a given pitch, and you lengthen it without changing pitch, you need more tension. A longer string, all else being equal, has a stronger, more

accurate overtone series and better sustain. You may know I play an extra-long-scale instrument—36"—solely because with the same string gauge, a longer scale simply sounds better than a shorter scale. The price I pay is more difficulty fingering.

STRING BREAK ANGLE

Besides scale length there's another factor that determines string tension. On some bass guitars the strings run virtually straight across the nut with almost no bend. You should have some means of bringing the strings down behind the nut, even slightly. You can wind them low around the string post, but you don't want to depend on that. You want an absolutely firm system of keeping the strings bent over the nut, whether it's through the use of string trees, a C-clamp, or an angled headstock. My instrument's headstock has an extreme angle; this ensures isolation between the winding length of the string and the speaking length of the string, and it increases the tension. [Ed. Note: "Tension" and "feel" are often confused. As Rick Turner wrote in October '92: "For a set pitch, there is only one tension for a string of a given mass at a given scale length. Headstock angle, bridge-to-tailpiece angle, and the length of the non-vibrating parts of the string all have absolutely nothing to do with string tension. These factors can very much affect the feel of a string as well as the coupling of the string's vibration to the body or neck of the instrument. However, the feel and coupling of a string are not the same as the tension—which also affects feel and coupling, just to make this more confusing."]

MORE NUT & ANGLE OBSERVATIONS

Earlier I said the 1st-fret notes are always slightly sharp. Here's a good way to minimize this: When you first string up your instrument, you'll notice that the heavier strings in particular curve smoothly over the nut and therefore sit higher over the 1st fret. As the string settles in, this curve breaks a bit, creating more of an angle. The result is less distance to the 1st fret and a note that plays more in tune. The lesson: When you string up, force the string down over the nut. You can use your thumb, but this may be uncomfortable. A better idea is to use the shank of a screwdriver; supporting the neck with your hand, lightly press down each string right in front of the nut, just until the string is about to touch the board. It's also a good idea to take a piece of paper from your string packaging and run it up under the strings to prevent them from grinding into the fingerboard when you press down.

STRING SPACING

You've heard of the concept of adjusting your strings for equal center-to-center distance. But think about it. Take a given center-to-center measurement from strings 1 and 2. That same measurement for strings 5 and 6 will result in those strings being closer together; because they are fatter, their edges will be closer to each other. In other words, if you maintained the center-to-center measurement and kept adding progressively heavier strings, eventually the strings would touch.

The correct spacing to maintain is inner edge to inner edge. If you space your strings equally from edge to edge they will all be the same distance apart, even though the centers are further apart. The centers are not important, because you don't feel the centers when you play; you feel the edges of the outer wrap. They're what you want to have at an equal distance.

STRING SPACING & NECK WIDTH

Within the width of my fingerboard, the strings are as widely spaced as possible. Unless you have tiny hands, I think you can all appreciate a roomy feel at both ends of the instrument. Some believe that on 5- and 6-string basses tight spacing is easier to play. In the long run it really isn't. If you consider proper technique—which means keeping the thumb behind the fingerboard, instead of over the neck edge—you'll see that my instrument's neck could be even wider, yet I could still reach the strings. That said, however wide your fingerboard is, spread your strings out as much as you can if your bridge allows it. Not being cramped reduces fatigue. Your bottom string can be quite close to the edge without danger of push-off if you finger properly. Use care with the top string, however; a bit more distance is required to prevent pull-off, which is always more of a danger.

FINAL THOUGHTS

My main point is that the same setup principles apply to all fretted wood instruments. Whether or not you choose to follow my advice on what constitutes a proper setup, you must make the effort to maintain the quality of whatever setup you choose. Attention to maintenance and setup is ongoing and must be rigorous. Know your instrument and be responsible for evaluating its condition at all times. Remember, your relationship with wood is ever-changing—but I promise you, when you have a proper setup things just don't get any better. ♪