

# An Interview with American Bass Maker Nick Lloyd

by David Gage

Over the last 15 years, along with the incredible rise in the technical skills of bassists around the world, has come a new golden era of string bass making. A leading dean of this new school of bass making is Nick Lloyd, one of America's new icons of bass making from Cincinnati, Ohio. Nick's instruments are known for their consistent fine tone and liquid playability with pared down classic modeling. They are designed with today's playing requirements in mind. I had the pleasure of an e-mail conversation with Nick.

— David Gage

**David Gage:** Why do you build string basses?

**Nick Lloyd:** I came to bass luthiery in the early 1990s and saw a very different craft and market than we do today. Large antique basses were being cut down to make them more playable. Factory German and Czech basses were seeing repair and restoration work that far exceeded their value. I believed that, if I could learn bass making, I might have a chance to build a new instrument that matched the craftsmanship of the modern violin makers and matched the playability demands of advanced bass playing technique.

**DG:** Did you study string bass playing? How long and with whom?

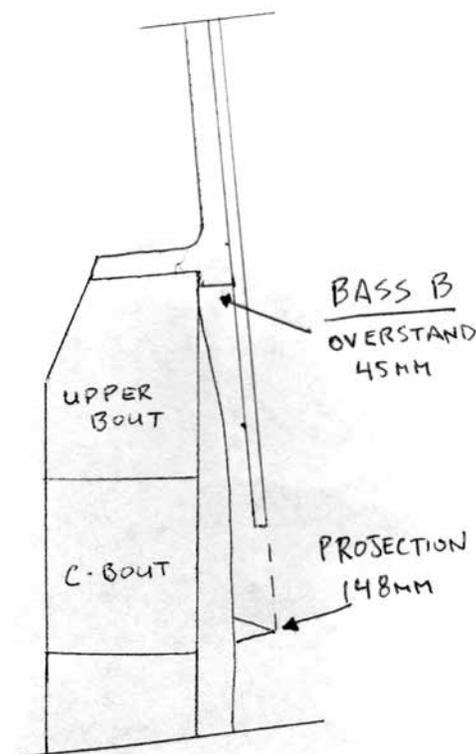
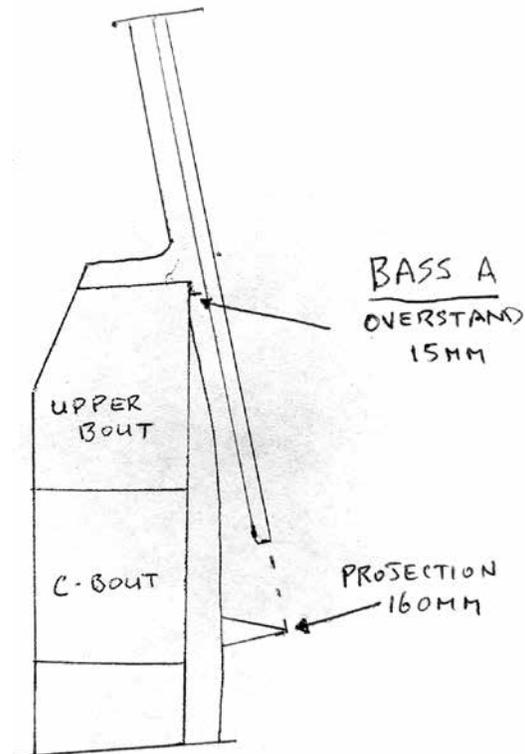
**NL:** I grew up playing in the string orchestra program of my public school system in central Iowa; first meeting of the bass was age 8. By the time I finished high school I was gigging in community orchestras and jazz groups. I moved to Boston in 1993 and studied with bassist Nick Tsolainos. It was also in Boston that I met my first bass luthier, John Styklunas.

**DG:** You mention having a chance to match the craftsmanship of contemporary violin makers; who are these violin makers that most inspired you?

**NL:** In general the level of craftsmanship in violin making/restoration has been higher than bass luthiery. Specifically I've been influenced by modern makers Paul Hart and Gregg Alf.

**DG:** It is true that through the 1990's the technical abilities of emerging bassists were rapidly improving. This fits in with what many of us believe, that better playing inspires better making. This sounds as if this is what happened to you?

**NL:** Definitely. The users of the object define the physical needs of the object. In other words: a comfortable bass will make more bassists happy. Also, the rising frequency of airline damage to double basses has really put a challenge in front of bass makers to come up with a better solution to neck set design and construction.



Figures 1 and 2 drawn by Nick Lloyd.

**DG:** What were your initial ideas to match the playability demands of advanced bass playing technique?

**NL:** Initially it was big C-bouts for German bows and enough of a sloping outline into the neck joint area to facilitate thumb position. However these advanced techniques are naturally more demanding of the bassist's body and I've observed too many cases of self-injury. So later I started focusing on the overall neck angle and neck projection to insure that the entire left arm/shoulder is not stressed. To illustrate I will describe two extreme examples of neck sets: Bass A [Figure 1] has an overstand of 15mm and a neck projection of 160mm. Bass B [Figure 2] has an overstand of 45mm and a neck projection of 148mm. The resulting neck angle of Bass A is too "strong" and creates a pinch point in the left elbow. Conversely the neck angle of Bass B is too "weak" and creates a pinch point in the left shoulder. The repetitious nature of playing means these pinch points add up to physical stress, aches, and very likely long term injury. In addition, younger bass professionals tend to muscle their way through the earlier parts of their career, only to discover their bass has been fighting them for years.

I'm currently using a neck set of 35mm at the overstand, a 150mm neck projection, and consistently receive feedback from bassists how comfortable my basses feel.

**DG:** Obviously your bass playing experience has informed your designs as a maker. What other design considerations have you contemplated to facilitate easier playing? For example lessened rib depth at the upper bout where the body contacts the back just below the neck butt? Some makers create a "quarter cut" or interior kerf in the upper bout to bend the back toward the top, lessening the rib depth. I think in general, you don't do this? Your instruments' rib depths tend to be on the smaller size with a gradual taper from the the bottom of the lower bout, getting less deep all the way through to the top of the upper bout.

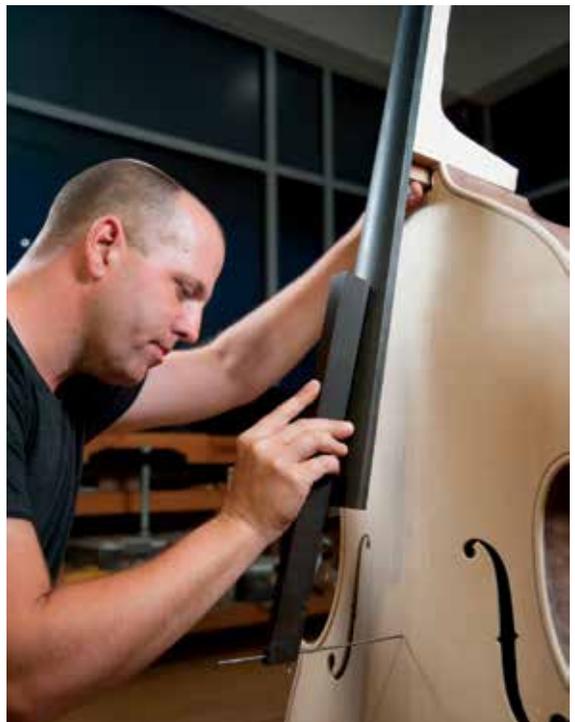
**NL:** I've found that the big rib depths found on old English and Yankee basses only create hurdles for the left hand, forearm, and ultimately the player's range of motion. In addition the flatback "ladder" bracing method commonly seen in old basses is the main contributor to back plate cracks. Both of these considerations have led me to utilize a crease-less flatback, a diagonal bracing pattern, and a rib structure that tapers overall from a deep 8.5" lower bout to a 6" depth at the neck joint. Interestingly enough I've come across French basses from the 19th century that used this solution of a tapered rib structure. So I'm not doing anything that new... rather picking up where another luthier left off. This technique of cutting an interior kerf and then adding a cross brace is really for the history books. It adds weight, deadens the acoustic response where the player's body meets the box, and increases the opportunity for more cracks.

Rib depth is also related to the initial voice of the box. We've all seen the bass change in the last 30-40 years, and with that change comes a slightly different voice. Many contemporary bassists want mid-range, clarity, projection, and still a core low-end sound that rattles the floor. The older aesthetic was more of an organ-pedal voice with not a lot of mid-range. My experience is that a deep rib bass lends itself to this older aesthetic, and one that doesn't do as well at auditions.

**DG:** I know that you make commissioned instruments with a specific player in mind. How far will you or can you go to try to create what that player is looking for?

**NL:** I will go to any reasonable length to satisfy the customer's demands. Some years ago a shorter bassist contacted me asking for a high-C 5-string bass and with a C-extension. They had suffered left arm injury, thumb position was causing too much pain, yet they still wanted to play all the classical repertoire. I built their bass and it's been in professional use every day since. It's not something I would have come up with, but it's what they wanted. Hopefully the bass will be around for a few hundred years, and I'm confident it will make another player happy in the future.

**DG:** This is a break from the traditional violin maker's approach where the player is not allowed so much input in the maker's decisions. A virtual 'Luthiers Know Best' scenario. Due to all of the varied styles of music required to



Setting the neck, checking the neck projection. Photos courtesy of Tom Patterson.

be covered by bassists, it's necessary to really listen to the players in order to really make a tool that is versatile and useful in their careers. Because of a history of this need to know many different types of music, bassists have a leg up on the "new global economy" that has been such a treacherous path for all musicians in recent years. Could you comment on this and maybe give us an anecdotal musing with respect to this?

**NL:** The bass only exists to be played, therefore the playing community decides what sells and what doesn't. The violin hasn't gone through the tremendous change and renaissance that the bass has in recent decades, so I feel the comparison is a bit different rather than similar. The first example that comes to mind is the "neck-off" solution to flying with a bass. Violin makers don't have to deal with this at all, even on cellos! But to get back to my earlier point of ergonomics: basses must be comfortable to play and not cause injury to the player. Much of my bass model's design comes from listening to players, and simultaneously keeping the craft at a level of violin luthiery.

**DG:** The "neck off" or removable neck string bass is much more popular than I might have imagined 10 years ago. Could you tell us about the design of your removable neck on your basses?

**NL:** I use the neck-off mechanism designed by Canadian luthier Jim Ham, who invented this solution in 1995. I first saw his solution at a VSA convention in Salt Lake City in 1997. I was intrigued but wanted to wait and see how the bass community at large responded to it. The neck set on a bass is the most important component of the entire instrument. Introducing a neck-off mechanism raises questions like "How does it sound?" and "How long will it last?" Over the years I've observed many different neck-off solutions in basses, and some of them shouldn't have left the workbench. In the end I decided Jim's solution was superior and a few years ago I contacted him and asked if he would supply me with his mechanism. He agreed and I've been using them with great success. My customers have had zero problems assembling/disassembling their bass, and positive feedback about the overall sound/response of the bass.

The core of this neck-off mechanism centers around a fully-lined aluminum channel and aluminum "frog." Many current travel neck solutions involve some sort of wood to wood pressure points and contacts. Over the years of use these wood contacts will wear and "slop" will develop in the neck joint. This system is constructed and installed so the joint will never wear and slop will never develop. The aluminum frog slides inside the channel and allows the bassist to adjust their string heights without using threaded wheels in the bridge. The height

of the strings or "action" is adjusted by a small hole on the back of the bass. A 3/16 Allen wrench is used to move the entire neck forward or backward, and this smooth adjustment is done under full tension after the instrument is set up.

Just as important is what happens inside the maple neck. Inside the maple bass neck is an L-shaped carbon fiber bracket. This bracket runs down the entire length of the neck (under the ebony fingerboard), turns inside the heel, and continues through to the end of the neck foot. Having this carbon fiber bracket not only reinforces the wood grain of the neck, but insures that the pressure points are carbon fiber to aluminum. A 3/16 Allen wrench is used to assemble/disassemble the neck from the body. Removing the neck and packing up can be done in just 15 minutes.

**DG:** When a maker creates a "solo" instrument, it's generally presumed to be intended for the classical solo repertoire. When making a non-commissioned piece do you have a genre of music that you are trying to fit into? For example a "jazz" or "classical" bass?

**NL:** My non-commissioned basses fall into two string lengths, and two sizes. 3/4-model 40.5" string length and 7/8-model 41.5" string length. A solo instrument, to my definition, is one that is used alone and not in a bass section. A majority of freelancers and touring bassists from multiple genres are demanding as much from their basses as any classical solo bassist. The 3/4-model is offered with a detachable neck, as the commercially available detachable neck bass trunks only fit 3/4 size basses. The 7/8-model is for the customer that wants more of a blending, section sound with a pronounced sub-woofer voice. Ultimately I want to build a comfortable box that is acoustically resonant and with a very quick response. The final variable that decides how the instrument will



**Nick's adjustable, removable neck system.**

sound is in the setup, and that setup is only determined by the customer and their genre of music.

**DG:** So you don't think one top plate wood, for example, bows better than another and along with a good setup the instrument will be more "open" or more conducive to mainly bowed playing?

**NL:** I used to think that flatter arching lends itself for pizzicato and a more peaked arching is best for arco. Now I am focused on building the most resonant, acoustically responsive box and the pizz vs arco optimization will be done at the setup stage of the instrument. To be honest, most professional bassists are playing all kinds of music, and sitting in a section with a full-time salary is just a percentage of the work available to my customers. I also can't predict what kind of music will be played on my basses in 100 years. And every bass luthier knows you can bring out different tonal colors with strings, tailpieces, endpins, fingerboard shape, bridge style, sound post adjustments, etc.

**DG:** You have experimented with several different top woods and back woods. Can you tell me what your experiences with these different woods has been and where it has led you to today?

**NL:** I've built basses using Sitka and Engelmann spruce fronts, as well as back/sides using walnut or maple, and necks using walnut and maple. Currently I'm working through a log of 300 year old walnut and 400 year old Engelmann. The walnut lends itself to a darker sound and that requires adjusting the arching to bring out the midrange voice. Historically basses have been built using a variety of tonewoods, i.e. poplar, willow, walnut, maple. The softer wood's biggest challenge is how it reacts to varnish ground and color. I get this question a lot and the answer to creating consistently great sounding basses is to acquire enough tonewood for 10-20 basses. Every bass that I finish informs my working knowledge of the specific log that I am dealing with. It isn't so much an issue of what kind of wood I am using, rather how well I know the wood's characteristics... and this only comes from working with the same raw material, over and over again.

**DG:** That's a very interesting approach. It's true that with so many variables, it's difficult to control the results, especially if you are using different materials (various woods) with each new bass. By using basically the same wood you can start to really stockpile information to help get repeat results or results that can be better predicted. Was this a preconception or idea so that you then set out to make a series of basses out of the same wood, or was this discovery made out of necessity, you only had this wood to work with?



**Scraping the back.**

**NL:** It came as a preconception. There are many variables with bass design, construction, and I wanted to minimize variables sooner rather than later in my career. Having a large supply of raw material is a big factor in establishing a consistent product, and I've been able to focus on smaller variables instead. I usually tweak or modify one variable per bass, take copious amounts of notes and measurements, and see where the bass ends up. After building 36 basses I finally feel like I have a grasp on how everything works... and doesn't work!

**DG:** Do your top graduations vary according to the height of the arching?

**NL:** That's a good question. A rule of thumb is a flatter arching likes a slightly thicker plate, and a higher arching vice versa. The arching height of my last ten basses has been around 42mm, so my graduations are fairly consistent from bass to bass. But to be more specific: luthiers need to be more aware of the thickness at the sound post. Graduations should be no less than 9mm in this area. There is a lot of pushing and pulling going on between the bridge/sound post and graduations like 7mm and 8mm are an open invitation to sound post cracks. I understand the desire to make the top plate light and resonant, but it's our responsibility as luthiers to build an instrument that is structurally healthy, not just loud.

**DG:** Now a few quick technical questions. In general how thick are your bass ribs? Are all your ribs the same thickness?

**NL:** About 2.5mm. Yes, all the ribs are the same thickness.

**DG:** Do you make your own varnish? What is your varnish theory?

**NL:** Yes, I make my own varnish. My varnish theory is fairly down to earth: It doesn't so much matter what kind of varnish you use. The goal is to finish the bass so it is sealed/protected, contains some color, isn't too thick, and brings out the organic beauty of the wood you are varnishing over.

**DG:** Do you make your own purfling, and what is your method of creating the channel and insetting it?

**NL:** Yes, I make my own purfling using figured cherry for the center strip, as it blends in nicely with the natural colors in walnut. Like many violin luthiers I use the Tom Croen purfling tool that fits on a Foredom handpiece. All of the purfling miters are cut with a knife.

**DG:** What glue do you use in the center seams of your backs and tops?

**NL:** Hide glue.

**DG:** Do you use anything other than hide glue anywhere on your basses?

**NL:** The aluminum mortise used in my neck-off basses needs to bond to the cedar body block, so I use a special epoxy for the aluminum/body block glue joint.

**DG:** I know that it is difficult and perhaps presumptuous to assume that one can judge what an instrument will sound like from a few of its components as there are so many variables and factors that determine sound. That's why we at many points have to rely on intuition and the memory of whatever experiences we have had. This is not an exact science. That having been said, have you experienced a particular combination of wood that has surprised you?

**NL:** I was surprised by a walnut/spruce bass that my teacher Daniel Hachez built. It opened my ears to the possibility of using different woods for the back and sides, and it got me to build my first walnut bass.

**DG:** What was the most difficult wood you had to work with? Was it worth it?



**Nick installing his cherry wood purfling.**

**NL:** Hands down it has to be ebony. There have been some terrifying fingerboards that have come across my bench... boards with knots, rosettes, and reversed grain going every direction. I'm sure you've seen plenty come through your shop, as well!

**DG:** Indeed we have! During the few times that I have had the pleasure to hang out with you I have noticed a very clear and organized style under that relaxed, loose presentation. Do you have a mechanical construction background?

**NL:** Well if you consider mechanical construction to include professional cooking then yes. My organization comes from years of being in kitchens. There are many similarities between a bass workshop and a restaurant. Raw materials come in and are prepped, assembled, and finished. Customers make appointments/reservations and bring with them an idea of what they want and don't want. Workshops and kitchens run better with lots of light, smart storage, and clean open tables.

When teaching bass luthiery demos I bring lots of handouts with measurements etc., so my time is best spent with people, and not just chattering off a bunch of data.

**DG:** To date, what is your happiest or most satisfying moment as a luthier?

**NL:** Conventions and awards are fun, but getting the phone call a few months after a customer has one of my basses is always the most satisfying. This person trusted my work and reputation, bought a bass, and now took 15 minutes to call me and say "This is better than I imagined. Thank you."

**DG:** What awards have you won?

**NL:** Certificates and medals for tone/workmanship at maker's competitions in the U.S. and Denmark. The most surprising award I've received is the 2007 "Friend of the Bass" from the ISB for my Katrina Basses project.

**DG:** OK, so you started like most of us by playing the bass. Was there some epiphany or one moment that inspired and in fact drove you, to make basses? I know you said that you thought that you could make a bass as good as the violin makers make their violins. This sounds more like

a secondary thought and not an initial great inspiration setting your heart on fire.

**NL:** My heart has always been linked to the bass and other bass players, and when I found out I could make a living doing just that... I went for it. That was the first epiphany. Now I wake up every day to this beautiful instrument and all the great, colorful personalities that play it. By and large bassists are some of the most down to earth, laid back people you will ever meet. Freelance bass playing in Boston in the early 1990s also taught me several things... and here's my second epiphany... I don't like conductors, touring, first violinists, loud guitar players, saxophonists that take 30 choruses of solos, club owners, and drummers with bad time. In other words I love self-employment, setting my own goals, and managing my own schedule. All of this added up to a long term focus of becoming a bass maker, and I predicted it would take 20 years before I was building full-time. That's definitely been the reality. 

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