Renaissance Bass Instruction Manual

For the Following Models

RB4, RB4FL, RB5, RB5FL, RB6 and RB6FL

Construction Overview

The "Renaissance" series of acoustic-electric basses were designed by luthier Rick Turner to deliver the finest in "acoustic" tone in plugged-in situations on stage or in recording studios. Our fretless basses in particular are known for being able to deliver extremely "acoustic" compatible tones, and the instruments can sound remarkably like upright basses when played for that kind of tone.

The instrument bodies are constructed from fine tonewoods sawn in our own shop much the way full bodied acoustic guitars are made; these are not hollowed out solid body guitars . The bodies are semi-hollow with bookmatched tops and backs; the sides are bent, and a solid Western red cedar centerblock runs the full length of the interior to provide a resonant and solid foundation for the D-TAR Timberline pickup system co-designed by Rick. This method of building the instrument provides un-matched acoustic-electric performance at any volume level by controlling resonances and imparting the warmth of the wood to the pickup system.

Necks for the basses are made of carbon fiber reinforced hard maple with a "scarfed" peghead joint that keeps the grain running with the string pull and strengthens the neck against breakage. A two-way truss rod allows a full range of neck relief adjustment. The rosewood fingerboard is a thick-sawn veneer bent over the gently arced surface of the neck face, an unusual construction method that has proven to result in necks that are extremely stable under a wide range of climactic conditions. .

Electronics

Timberline Piezo Pickup System

While it is commonly thought that the tone of amplified guitars is all about the pickup, in fact the best pickup systems impose as little tone as possible on the guitar and really just deliver what is there…the vibration signature where the pickup is located. The essence lies in not restricting either the frequency response or the dynamic range of the pickup, and Rick Turner has been in the forefront of wide range, high response pickup design for over forty years.

History

In the early 1990s Rick was searching for a better approach to undersaddle pickups which have the advantage of getting the full response of the vibrating strings as they are located in the direct path between the bridge saddle and the top of the guitar. Undersaddle transducers (commonly called USTs) get their musical information from the same place

an acoustic guitar body gets the string signal; they have the additional advantage of being quite feedback resistant. These pickups generally use materials that exhibit "piezo-electric effect"; they are electrically unstable crystal and polymer compounds that kick off and take back electrons when they are stressed or vibrated. When properly electronically interfaced with amplification, piezo pickups can have incredibly accurate frequency response and very wide dynamic range.

During Rick's research he came upon a very unusual piezo material, a coaxial cable in which was made of piezo ceramic ground up and suspended in a rubber matrix. This had originally been designed for long passive sonar hydrophones to be towed behind submarines in the cat and mouse games of the Cold War. Just coincidentally, this piezo cable was available in a diameter suitable for installation in the saddle slots of standard acoustic guitar bridges. When installed in a curve bottomed saddle slot, the coaxial pickup proved to have a more complex tonal pickup characteristic as it was less directional...it didn't pickup simple vertical vibration, but also it picked up some of the lateral vibrations around a full 180 degrees of the bottom of the pickup giving a warmer tone. The first experiments with this new guitar pickup concept were done in Jackson Browne's "GrooveMaster" recording studio, and the results were encouraging enough for Rick and Bob Wolstein to start a new company, Highlander Musical Audio, in which Rick continued for a couple of years until his guitar making and the design of the Renaissance line of instruments took over all of his time. During this period of Renaissance Guitar Co growth, Rick found another source for coaxial pickup material that gave him more flexibility in designing different pickup lengths that would allow him

to make anything from a short dulcimer pickup on out to pickups long enough for six string basses, zithers, and virtually any type of stringed instrument.

There remained one last issue which, while considerably lessened by the piezo cable, yet remained as a nagging issue: "Piezo quack", a harsh and unpleasant, "in your face" quality with a nasty edge of distortion. For the Renaissance line of instruments, Rick decided to go with an 18 Volt on-board preamp system which would give twice the "headroom" and wider bandwidth than the more normal single 9 Volt battery power. The new higher power system proved to work spectacularly well, not for delivering more output from the guitar, but rather in allowing enough more dynamic range for the pickup to deliver undistorted, "quack" free sound. This eventually became the basis for the D-TAR Timberline pickup system that is at the heart of Renaissance instruments.

Control System

The Timberline is a simple system that has an internal trim potentiometer for bass equalization of up to about 4 dB of boost at 100 Hz, a common frequency for the air resonance of typical acoustic guitars. In addition there are detented controls mounted on the upper bout of the body for volume and a smooth treble roll-off tone control.

The current Timberline system uses two 1.5 Volt "AA" cells with a unique voltage multiplying circuit that takes the 3 Volts from the batteries and boosts it up to 18 Volts to get the headroom so important to these instruments. This combines the advantage of the

high voltage system with the low cost of "AA" batteries. Batteries turn on when you insert a ¼" plug into the output jack, and battery life can reach 240 hours plugged in.

Neck Adjustments

Renaissance bass necks are now fitted with the Mark Blanchard-designed "differential thread" double acting double truss rod. This unique design uses different thread pitches at each end of the rod, giving the effect of being "geared down" for very precise and easy neck relief adjustments. It takes more degrees of turning the 9/64" truss rod through an arc for the neck to move, but the result is that lower torque is required to do the job.

The degree of neck relief or forward bow that is correct differs for each player's style, the gauge of strings you prefer, and the action height you find comfortable. We recommend working with a qualified luthier to get relief and action optimized for your playing style.

We do suggest that you or your luthier NOT try to do the entire task of adjusting neck relief by turning the truss rod alone. The carbon fiber in the necks makes them strong and extremely stiff, and it is best to clamp the neck into a slight exaggeration of what you are trying to accomplish with an adjustment, and then turn the rod. This lessens the torque load on the truss rod.

Renaissance fretless basses have rosewood fingerboards treated with Waterlox, a tung oil varnish that toughens the surface of the wood. We have found that fingerboard wear is far less of an issue that many would imagine it to be, and that hard played Renaissance basses can go years without needing any significant dressing of the fingerboard. Long term, the fingerboards are quite easy to replace should there be excessive wear.

Action Adjustments at the Bridge

Because all Renaissance basses feature an acoustic guitar-style bridge with a non-adjustable bone saddle, action adjustments must be accomplished by sanding the bottom of the saddle to lower action, or shimming or replacing the saddle for higher action. A viable alternative for lowering action is to shim the very end of the neck to tilt the neck back a bit. We suggest that you have any action adjustments done by your luthier.

Finish Care

We finish Renaissance instruments with a combination of tung oil and/or epoxy sealer coats, catalyzed urethane sealer, and polyester build and top coats for gloss finishes, and catalyzed satin urethane for our satin finish. Most necks get all satin; the bodies of the Specials get the satin urethane; our Standard Series have gloss poly tops with satin backs and sides.

These are extremely tough finishes which hold up well to wear and tear. The satin finishes will tend to shine up in areas that are in constant contact with your hands or clothing.

You can use mild guitar polishes with any of our finishes or just keep the instruments clean with a damp cloth.

We use several coats of penetrating tung oil varnish on the fingerboards and bridges of our instruments. An occasional refresh with a product like Dr. Duck's AxeWax or Howard's Feed'n'Wax will maintain the beauty of the wood and also protect the wood from acids in sweat or oil from your hands.

Rick Turner

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