

Step-by-Step to Professional Banjo Set-Up

By Tom Nechville

The following procedure can make a world of difference in how your banjo sounds. Following these steps will help revive your old banjo, and is a concise guide for achieving optimum sound on any traditional banjo.

1. Determine if you need neck bow adjustment through truss rod adjustment. Check the straightness of the neck by holding down a string at the first and last frets simultaneously. You can then inspect the distance between the tops of the center frets and the straight line of the taught string by tapping the string with your thumb and watching the string move. I like a rather straight neck for best intonation. There should be a distance of less than a millimeter (.012-.020"), But make sure your neck is not too straight either. Normally a clockwise twist of the truss rod (accessible from the peghead of most banjos) will reduce the bow and straighten out a neck. 2 way truss rods will work conversely if you have a back bow.

2. Take off the resonator, and look inside. If you have a Mastertone style banjo (including most Bluegrass Banjos), there will be one or usually two coordinator rods inside. While holding the bottom rod itself from turning (by using a nail or small screw-driver stuck through the small hole in the coordinator rod), loosen the nuts on each side of the wooden rim opposite of where the neck attaches. Then make certain the neck is securely fastened to the rim without shims or other obstacles in the way of a solid neck to rim fit. (If you have a visibly bad neck joint, you may want to scrape or sand down any high spots to get a better fit, but beware that this step is best left to a professional repair person.)

3. You should finger-tighten the loose nuts on the inside and outside of the rim, then give them a light tightening with a wrench without stressing the rim and tone ring assembly. You may have improved the neck attachment and removed any stresses put into the rim and tone ring from overly tight coordinator rods. It's a mistake to use the rods for more than a small action adjustment, however I have seen banjos that simply are not playable unless the neck is forced to create sufficient back angle. Whenever possible, changes in playing action are best accomplished by changing bridges or re-cutting the heel to the appropriate angle.

4. If the head is stretched out and even with the top of the tension hoop, or seems to be broken, it's time to change it. I recommend Remo medium crown frosted heads. Even head tension is perhaps the most important step to professional sound. During re-assembly you may want to look out for sticky or rusty nuts and lubricate if needed. If you have installed a new head, get all the nuts equally finger tight while squeezing the tension hoop down. If you have done a good job finger tightening, then you can start near the neck and go all the way around with the exact same twisting motion. Continue to go around with progressively shorter twists, being sure that you treat each nut the same. Be aware that uneven twisting will lead to uneven head tension. During your final 2 or 3 tightening revolutions, you might use your sense of torque and add a very slight extra twist when the nuts seem easier to turn. If you have an ear for it, tune your head to a G# which normally is about 92 on the Drum Dial. Otherwise, just gradually tighten it a bit at a time until the head is VERY EVENLY tensioned and the tension hoop is level all the way around and the head does not yield much to pressing it in.

4. Check that the tailpiece nut is secure. Start with the tailpiece straight (not pointed down). I like to tighten Presto style tailpieces until it touches the tension hoop and actually begins to teeter upwards slightly. Tailpieces are often a cause of buzzing, and inefficiencies of sound transfer. You might consider replacing old tailpieces with a Nechville in-line tailpiece. Avoid cranking down on the tailpieces to keep a more open sound.

5. Relocate the bridge for correct intonation. This is done by checking the harmonic at the 19th fret and comparing the note to the fretted note at the same fret. If the fretted note is sharp, move the bridge toward tailpiece; if the fretted note is flat, move the bridge forward. Check the banjos tuning and evaluate its playability.

6. If your string height is around 1/8" away from the 12th fret, you are in luck! Try the banjo and see how it sounds. It's possible, however, that you have changed the neck angle and the resulting string action, and you either have strings laying on the frets or more likely, the action is way too high.

7. Install the correct height and weight bridge for the banjo. It is best to have a little more height in the center of the bridge for the best playability and the least string noise. Nechville makes the Enterprise Bridge in all sizes between 9/16 and 7/8". The Enterprise is the only bridge I know that is weighed, radiused and

compensated for optimal playability. If you still can't achieve low enough action with a 5/8 (or absolute minimum 9/16") bridge, you may want to visit a luthier for increasing the neck's angle to accommodate a tall bridge, or consider a new neck with Nechville's Flux capacitor adjustable connection. I like to use the tallest bridge that will give me comfortable medium action, but keep your bridge under 3 grams for normal sound.

8. Fine tune the bridge placement as outlined in step 5

9. If your bow is correct, but still need to tweak the action, a combination of small adjustments is best. Very slight coordinator rod adjustment can be made by first loosening the inner and outer nuts under the tailpiece. If the action needs raising, loosen the outside nut and tighten the inside nut. If the action needs to be lowered (which is usually the case), loosen the inside nut and tighten the outside nut. In extreme cases it is also possible to leave the top rod a bit loose in its attachment to the neck, and then heavily tighten the inside nut at the tailpiece side of the banjo. Going too far with these nuts will egg-shape the rim and may cause damage - so be careful.

10. The last step is evaluating and plotting your next plan of attack. You may find that improvements were made but overshadowed by newfound fret buzzes that appear after lowering the action. In this case, leveling the frets is in order. (a subject for another seminar) Frequently it happens that clearing one problem exposes another. Listen carefully to each string both fretted and open. If you get fuzzy or dull sound on the open string, but not on the fretted string, your nut slots need attention. They may be worn out and too low. You can revive the nut with a careful layer of super glue and bone dust in the slot and re-shaping the slot. If you are happy, quit and enjoy playing the banjo. If you are a typical picky player like me, you'll never stop looking for improvements. You'll continue to tinker until you finally decide it's time for new Nechville Helimount banjo.

Last Note: Let us know at Nechville if you have any desire to upgrade your banjo for you. We have the ability to custom build, and rebuild almost any instrument. We now install sleek Nechville necks on traditional banjo pots, and offer a wide range of banjos, parts and services for banjoists.