

Heli-Mount Owner's Manual

The following is owner's setup and adjustment information for Heli-Mount acoustic banjos. Scroll down and find the answers you need.

Head Adjustment and Replacement:

There is no quicker or easier banjo to adjust and maintain than the Heli-Mount.

1. If you plan to change the head, loosen the strings just enough to remove the bridge, and follow steps 1 through 12. For simply adjusting head tension, follow steps 2-4 and 12.
2. Remove the resonator fastening screws, and carefully remove the resonator. Then place the banjo face down in your lap for steadier handling and to prevent scratching.
3. Fully insert the pinion wrenches into opposing holes of the threaded flange ring. Make sure wrenches go all the way into flange holes.
4. Loosen the head by turning the pinion wrenches clockwise. Tighten it by turning wrenches counter-clockwise. Considerable force applied equally to each wrench is required to move the threaded flange ring when head is at or near playing tension. Brighter tone increases with higher head tension.
5. After removing the Heli-Mount retaining ring, be careful not to nick or bend its threads or the threads of its housing component, as this may impede the smooth operation of the Heli-Mount.
6. Remove the rim and the tone ring to gain access to the head. Again, take care not to damage the threads of the Heli-Mount's housing when removing the tone ring.
7. When the Heli-Mount is disassembled, clean out the thread grooves and gear with a toothbrush. Using the toothbrush or a rag, apply grease or oil to the helical internal thread of the Heli-Mount frame, if desired.
8. When replacing a head, make sure that the head's outer bead is flush against the tension ring, and is clear of the screws on the tailpiece. (Note: A Remo high crown head or equivalent is recommended.) High crown heads allow the head's playing surface to rise up higher than lower crowns do.
9. Carefully replace the tone ring and the rim, seating the tone ring firmly down into the head. (Note: If you have a custom model with pickups, you should now align the rim for proper pickup remounting.)
10. When all other components are in place, you may begin threading in the Heli-Mount tension ring. Make sure the ring is even all the way around. Note that it is best to first

back-thread the tension ring by hand (counter-clockwise) until its threads seat evenly with the threads of the housing component. When you are confident that the threads will engage properly, you may begin threading the flange ring in by hand. (The flange ring itself tightens clockwise while the wrenches turn counter-clockwise).

11. Once the hand threading becomes difficult, fully seat the pinion wrenches into opposite holes of the tension ring for tightening. Turn both wrenches counter-clockwise until turning becomes difficult. Apply equal torque with both pinion wrenches and continue twisting until head is tight.

12. Finding Optimum Head Tension

Brilliance and volume will generally increase with higher tension. For bluegrass, you'll want a tight head. It should not yield from pressure, but only flex slightly when pushed in. Many players "tap test" the head listen to its pitch. G sharp is a good tension to strive for, but it is difficult to detect a specific pitch from a head. After having encountered stiff resistance from the wrenches, you still may find that the head still needs more tightening. With the wrenches plugged all the way into opposite holes, take smaller twists, and then move the wrenches to 2 other pinion holes and twist again. Continue the sequence of changing holes and taking small twists.

You will eventually reach the point where additional tension does no good and you will want to back off the tension until some warmth returns to the tone. After setting the desired tone, remount the resonator and replace the resonator screws. In order to properly judge your setup, you may want to reevaluate and re-adjust after playing a day or two. Once your optimum tension is reached, it should remain there indefinitely.

Bridge Replacement

(Note: Read this carefully as it is crucial that the bridge placement is correct in order to obtain the best performance from your banjo.)

1. For best results, use only the compensated Enterprise bridge available from our factory.
2. With the standard Nechville scale, the bridge should be placed 13 3/16" down from the 12th fret on the head. Be sure the 3rd string compensation notch or concave portion is toward the neck.

(Note: To fine tune the bridge setting, use a harmonic technique called "chimes.")

3. Lightly touch the 3rd string above the 19th fret while plucking. This clear ringing sound is called "chimes."
4. Play the string again while fretting the 19th fret just behind the fret wire. If these two notes are exactly the same, your bridge is set correctly.

5. If the fretted note (from Step 4) is higher than the harmonic note (in Step 3), move the bridge slightly toward the tailpiece. If the fretted note is lower than the harmonic note, move the bridge slightly away from the tailpiece. In each case, repeat Steps 3 and 4 until both notes are exactly the same.

6. Once the proper bridge location is found, it is suggested that you lightly mark the bridge position on the head with a pencil. This is to insure the proper setting of the bridge in event that it is knocked out of place.

String Replacement

(Note: To insure that bridge placement is not disturbed, it is suggested that string replacement is done one string at a time.

1. After removing the first string, you may rub some pencil lead into the slot of the nut, allowing the string to slide more easily into tune.

2. After running the string through tailpiece and over the bridge and nut, pass the string through the peg hole from the center of the peghead toward the outside.

3. Leaving a little slack in string length, kink the free end of the string in the opposite direction (forming a figure "S" or a reverse "S." Pass the free end under the existing string length and pull it up trapping it between the string and the tuner post.

4. Remove any slack by pulling on each section of the string, turn tuner knob until slack is taken up. Make sure the strings come off the inner side of the tuner post

5. Repeat above process with remaining strings.

Tailpiece Adjustment

The Nechville tailpiece comes adjusted for your banjo from the factory. If desired, the 2 small mounting Allen screws can be re-adjusted to angle tailpiece from side to side, moving the strings toward either side of the neck. Tighten right screw to orient tailpiece toward right. Tightening the left screw angles the tailpiece to left.

The larger screw in the end of the tailpiece is the break angle adjustment screw. Putting pressure on this screw lowers tailpiece, increasing break angle and generally brightening the sound. The Heli-Mount also works well with this screw completely removed for a natural open tone. Most players prefer only slight tension on this screw.

Neck Adjustments

(action adjustment)

1. Before attempting to adjust the neck, first make sure that the head is tight and then test the action by measuring the clearance between the top of the 12th fret and the bottom of the string. Low action is around a 1/8 inch gap. Any less is too low.

(Note: Remember that tightening the head also raises the action, so does loosening the truss rod. See below.

2. If you want to raise the action, carefully turn the body over and place in your lap. Use a 5/32 inch Allen wrench to loosen the neck's interface adjustment. Hold the neck in the desired position, and lock it in place by retightening the Allen screw.

(Important Note: If the Allen screw goes in all the way and the neck is still loose, the neck should be removed and the anvil in the plunger will need to be screwed exactly one turn in, with the 5/32 inch Allen wrench.

3. If you want to lower the action, you must first loosen the strings slightly before following the procedure in Step 2.

4. If you wish to remove the neck, simply remove the tailpiece, back out the Allen screw about 1/4 inch, and pull the neck free from its anvil and plunger mounting assembly.

(Note: The plunger should not be tightly fastened to the mounting bolt in order to allow for neck adjustment.)

Truss Rod Adjustments

The truss rod is used for adjusting the amount of bow in the playing surface of a neck. A properly adjusted neck should not be back bowed or even perfectly flat. For clean tone it is best to have a small amount of forward bow.

(Note: It is important to read all instructions first.)

If you have tried all other neck action adjustments and the action is still impeded by an improper neck bend, carefully follow the steps below. (If you are not comfortable with truss rod adjustments, is suggested that you take your Heli-Mount to a reputable repair shop.

1. Test the truss rod setting by placing a capo just above the 1st fret while holding the string down at the 22nd fret and measuring the clearance between the top of the 7th fret and the bottom of the string. The clearance should be approximately the thickness of a business card. (Remember that overall string action adjustments are done at the Heli-Mount/neck interface.)

2. Remove the truss rod cover and mark a line on the truss rod nut. This is to give a point of reference from its original position.

3. Carefully set your banjo on a sturdy padded surface, with the peghead facing toward you and the neck facing away. Take a 1/4 inch deep socket wrench or nut driver and engage the truss rod nut. Turn the nut only slightly, about one eighth to one quarter of a turn. Again test the truss rod setting, and do so with each successive turn. It is also possible to view down the edge of the fingerboard and actually see the amount of bow changing.

Troubleshooting

(Note: Most procedures have been simplified by the Heli-Mount design.)

Loose Neck

If there is any play in the neck, follow the directions in the second paragraph of the "Neck Adjustments".

(Note: If the Allen screw goes in all the way and the neck is still loose, the neck should be removed and the anvil in the plunger will need to be screwed exactly one turn in with the 5/32 inch Allen wrench. If the neck is still loose, it is suggested that the entire plunger be tightened to its mounting bolt. Do Not tighten the plunger so far as to make it immovable.)

Before attempting to adjust the neck, first test the action by measuring the clearance between the top of the 22nd fret and the bottom of the string. Low action is around a 1/8 inch gap. Any less is too low.

Buzzes

If there are any buzzes during hard picking, hammer-ons, or pull-offs, your action is too low. Follow Steps 1 and 2 in the "Neck Adjustments" section. Very rarely you may encounter a high or low fret as the source of your problem. Have frets examined by a qualified luthier for dressing or possible replacement.

Action Check

Follow the procedure in Step 1 of the "Neck Adjustments" section. If neck is improperly bowed, see Truss rod adjustment .

If the bow is adequate but the action is too low, carefully turn the body over and place it in your lap. Use a 5/32 inch Allen wrench to slightly loosen the neck interface for adjustment. Hold the neck in the desired position and lock it into place by retightening the Allen screw.

Off Pitch

If your banjo is off pitch, when played up the neck, follow Steps 3 and 4 in the "Bridge Placement" section. If your banjo is not equipped with a Nechville "Enterprise" compensated bridge, procuring one would help overall intonation. Also make sure neck is not overly bowed, see truss rod adjustments.

Bridge Check

To check the bridge, use the "chimes" technique described in the "Bridge Placement" section.

First lightly depress the 3rd string above the 12th fret while plucking. Next play the string again while fretting the 12th fret just behind the fret wire. If these two notes are exactly the same, your bridge is set correctly.

Rough or Protruding Fret Edges

During extreme dry spells, the neck wood may shrink leaving uncomfortable fret ends protruding. Consult a qualified repair person to file and polish the fret ends, while the weather is still dry.

Caring for Your Heli-Mount

Cleaning and Treating

(Note: Wood parts should be wiped off after playing to insure lasting beauty. Metal parts need only occasional dusting.)

1. The head can be cleaned with any mild household cleaner like 409. You can even use a scrub pad on tough stains, but take care not to scratch any wood or metal parts.
2. The fingerboard should be cleaned and moisturized with with Lemon oil at least once a year. Preferably in the late Fall. Treat the inside of the resonator the same way.
3. The finish on the neck and back of resonator can be cleaned and buffed with a non-abrasive cotton cloth and plain water. Small scratches can be polished out with a bit of automotive rubbing compound and a cotton cloth. Polish until the finish is smooth. Deep scratches will require professional attention. Periodically rub the inside of your resonator with lemon oil or a similar product to prevent drying out.
4. Metal parts may be plated, so it is important not to use abrasive polishes. You can use "Never Dull" non-abrasive cotton wadding to polish any nickel plated parts intended to shine. It leaves a protective film that allows you to simply buff periodically with a clean cotton cloth. The Eclipse Heli-Mount frame is Teflon coated so cleaning is easy. Clean threads and gear with toothbrush when disassembled and apply a bit of clean grease to the threads.

Storage

It is suggested that your banjo be stored in its case when not in use. This is to avoid the potential exposure of extremes in temperature and humidity. Cases protect from these sudden changes by slowly graduating any climatic change.

Increased humidity swells and expands wood, while dry periods cause shrinkage.

While the high-tech finish on your Heli-Mount is extremely durable, and we have never seen this problem with Nechville banjos, sudden changes in temperature or exposure to cold may cause cracks in the finish of your banjo called "lacquer checks." Try to keep your instrument within temperature ranges of 60 to 80 degrees, and 35 to 60 percent humidity. Pay attention to weather reports forecasting sudden changes in humidity and dry periods.

Travel

When traveling, always keep your banjo in its case. If traveling by car, cover your case with a blanket to avoid its exposure to direct sunlight and sudden temperature changes. Do not store it in the trunk during sunlit days. If traveling to dry areas, it may be wise to purchase a case humidifier.

Air Travel

If you are going to travel by plane, it is best to have a hard shell case. When making reservations, ask about insurance and if special arrangements can be made to carry your banjo on the plane with you. Often times the banjo will fit in the overhead compartment and it is good to keep in mind that in many cases flight attendants will provide tailored assistance for you. Another advantage of the Heli-Mount is its unique ability to remove the neck from the body assembly. Then the neck and body can be separately wrapped protectively in suitcases or easily carried on in protective handbags. We are working on a new flight case specially designed for airline travel.

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