



BANJO
MAINTENANCE
MANUAL

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INTRODUCTION

Congratulations on your new Goodtime banjo! Your new banjo will bring you hours of enjoyment and musical expression. This manual was written to help you maintain your banjo in peak playing form. Just as the car needs the oil changed and the engine tuned up now and then, your banjo periodically needs to be tightened up and adjusted.

Just as neglecting the routine maintenance on a car reduces its longevity and comfort, forgetting to maintain your banjo will prevent it from keeping that sparkling bright sound you loved when it arrived from the factory. Realize that your banjo is a delicate instrument. Never leave it out in the sun, in a hot car, or out in freezing weather. This can cause damage to the banjo that will shorten the lifetime of musical pleasure you were after when you bought it.

It isn't difficult to maintain your banjo if you understand what needs to be done. That is our goal with this booklet, to help you keep the sound and playing comfort that you felt on the first day your banjo arrived! There are things you need to do after each playing and things that only need to be done every few months, depending on how often you play. Have fun learning to get to know your new banjo! We have made the information as thorough as we could. Always feel free to call the Deering factory if you have any questions not covered in this booklet. We love hearing from our customers and urge you never to hesitate to contact us.

One final word, HAVE FUN! Your musical journey has just begun!

SPECIFICATIONS OF GOODTIME BANJOS

- Banjo length: 38 1/2" Openback model or 39" Resonator model
- Neck Length: 26 1/2"
- Neck Width at the nut: 1 1/4"
- Scale Length from Nut to Bridge: 26 1/4"
- Bridge: 5/8" Three footed maple-ebony
- Extension Nut: 10/24" x 3/4" x 5/16" coupling nut
- Bracket Nut: 9/32"
- Coordinator Rod Nut: 5/16" Hex Nut National Fine, Use a 1/2" wrench
- Banjo Case: for Openback - 11 1/2" round, or for Resonator - 13 1/2" round

DAILY MAINTENANCE

The continued good quality of your banjo is dependent on your daily efforts to maintain it. It is best to develop a routine to do every time you put your banjo away. For example:

1. Wipe the fingerprints and smudges off the metal parts with a Deering Care Cloth or a clean cotton rag; then run the cloth up and down the strings and fingerboard. If you don't wipe the metal parts off, the acid from your skin will react with the metal and tarnish or eat it away as time goes by. Keep a clean cloth in the case.

2. Remove the capo, if you used one. The pressure of the capo against the back of the neck for long periods will eventually mar the finish.

3. Set your banjo in the case carefully so that you don't bump the fifth peg. After several bumps the fifth peg might suddenly fall out.

CLEANING

Both wood and metal parts should be cleaned and polished every three to six months or more often if needed to keep your banjo looking it's best.

FINGERBOARD CARE

If you notice grooves wearing into your fingerboard, one possible cause is playing with long fingernails. Keep the fingernails on your fretting hand clipped short.

If you notice grooves in your frets, this is normal wear and tear, however if it happens within a year you may be pressing harder than necessary when you fret the neck and may be creating more fret wear than normal. Try using a lighter touch.

CLEANING cont.

FINISH

Waxing the finish of the neck and resonator protects as well as shines it. Use the Deering Wax Cloth which has wax in the cloth and is much neater and easier to use.

Whenever possible, you should wash your hands before playing your banjo. This will help remove any substances (lotions, aftershave, etc.) which could harm the finish.

To protect the finish, avoid vinyl or plastics, such as simulated leather banjo straps which contain solvents that may react with the lacquer finish and mar it. Avoid commercial furniture polishes containing harsh chemicals or silicone which can eventually ruin the finish. If you spill water or alcohol on your banjo, wipe it off immediately because it can leave a cloudy spot.

HEAD

If you prefer a clean head, use “Formula 409” or similar cleaner and a white cotton cloth.

METAL PARTS

The metal parts have a thin outer coating of nickel. You can polish nickel parts with an automotive chrome polish, not cleaner, but it is easy to get polish caught under the hooks when you do this. So, we recommend that you use the Deering polishing cloth along with the preservative cloth which will protect the metal after you clean it. You can use the Deering polish cloth to wipe fingerprints off daily without harming the plating.

EFFECTS OF TEMPERATURE AND HUMIDITY

The survival of your banjo depends greatly on the environment you put it in. Made largely of wood, the banjo is easily affected by changes in temperature and humidity. Deering aims to keep the factory at about 70-77 degrees Fahrenheit and 35%-45% humidity, and these are the optimum conditions for your banjo.

It is important then, that you take all possible steps to maintain your banjo at room temperature. A rapid change in temperature, or exposure to cold can create cracks in the finish called “lacquer checks” that are not repairable under the warranty.

If you must take your banjo out in freezing temperatures, keep it in the case. When you bring it inside, let it sit in the case so that it can come up to room temperature slowly.

Allowing your banjo to become too cold or hot invites a crack or warp in the wood. Heat, as is often found in a closed car on a hot day, can soften or blister the finish and change the contours of the wood, causing the neck or resonator to warp.

Humid weather increases the moisture content of the wood, causing it to expand or swell. A gradual increase in humidity won't generally do permanent damage; but high humidity in combination with high temperature can weaken glue joints or even open them up.

As you get used to adjusting your banjo, you will find that a couple of minutes now and then, making the needed adjustments, will improve the sound immensely. General use and weather changes will cause your banjo to need a good tune-up now and then. It is to your advantage to become proficient at making adjustments from the start.

TRAVELING WITH YOUR BANJO

If you plan to take your banjo with you on a trip, there are several precautions to ensure its safe arrival at your destination.

The first and most basic precaution is to take it in a case. This will protect it from dents and dings. If you are traveling by car, pack your banjo inside the car, not in the trunk where it might cook or freeze. Keep it in the case, and cover the case with a blanket so that the banjo isn't in direct sun.

If you are traveling by plane, check out with your airline before your departure date. Try to be first in line, so that the storage compartments are not filled. Never put your banjo underneath the plane in the baggage compartment unless you have a flight certified case.

ADJUSTMENTS

CAUTION ABOUT DOING YOUR OWN ADJUSTMENTS

Before you start tinkering with your banjo, there is something you need to think about. What happens if you break the hanger-bolt or something? This is not uncommon when someone completely new to banjo adjustments starts tinkering with his/her banjo.

A reputable repairman usually guarantees his work and repairs any mistakes he makes, or replaces the instrument if he breaks it. If you break it, however, you will suffer the loss.

We recommend that before attempting any adjustments, you read this manual carefully, and take your banjo to a reputable repairman. Watch him work on it and ask questions. So that next time, you will be more familiar with how to do the adjustments yourself.

TIGHTENING THE HEAD

Your banjo should have a tight head in order to have its clearest tone. It should not be too tight or the bass notes will be stifled.

Tighten the head with a 9/32" bracket wrench.

Tighten each hex nut just a fraction of a turn, going around the rim several times, keeping the tension hoop level, until they are all tight. You may get to a point where the hex nuts squeak when you tighten them, indicating the head is getting very tight and you should be leery of tightening further, but you can continue some past this point.

BROKEN HEAD

The head is broken if no matter how much you tighten, some of the j-bolts aren't getting as tight as others, if the head will not tighten, or obviously, if it is ripped. This doesn't mean that anything is wrong with your banjo, heads do wear out. A head can get brittle with age, so replacing a broken head is just part of owning a banjo. A banjo head has no set life-span.

CHANGING THE HEAD

If you're not confident in your ability to change the head correctly after reading this section, please have a qualified repairman do it for you while you watch, so that next time you will be prepared to do it yourself. If you have a Goodtime resonator model, you will first have to remove the resonator before you begin the process outlined below.

1. Remove the strings, tailpiece, and bridge. Take notice of how the tailpiece was adjusted, so you can replace it where it was.
2. You will need to loosen and remove the neck on your Goodtime banjo to change the head. Begin this process by loosening one of the two 5/16" nuts at the tailpiece side of the pot assembly; one will be on the interior of the pot/rim and the other will be on the outside of the rim. You will have already removed the outer nut when you removed your tailpiece.
3. Now go to the side of the pot assembly/rim where the neck is attached. Remove the small nut and washers around the upper hanger bolt. You will see a small portion of that screw sticking out of the pot, above your coordinator rod.
4. Your next step is to loosen the coordinator rod itself. You will simply need to turn it like you would when removing a nut. This will expose the other hanger bolt holding the neck in place. Remove the rod and washers.
5. You should now be able to back the neck out to remove the tension hoop and banjo head once you have removed the j-bolts.
6. Loosen all the bracket nuts with a bracket wrench, and then unhook the j-bolts from the tension hoop, *leaving the j-bolts attached to the rim.*



7. Remove the tension hoop and head. Be sure to note how the tension hoop was lined up so you can replace it correctly. Goodtime tension hoops have a seam that goes under the tailpiece.
8. Clean all the parts.
9. Put on the new head.
10. Put the tension hoop on over the head, making sure it fits evenly around the rim; no one side should be higher than the other.
11. Hook the j-bolts back over the tension hoop, first anchoring 4 bolts evenly spaced around the rim, and then filling in the rest of the j-bolts, just finger-tightening them. You will tighten them to tension in a later step.
12. Tighten the shoe bracket screws with a screwdriver before tightening the head. Keep the shoes straight.
13. Now reattach the neck to the rim. You want the fingerboard of the banjo neck to have the frets parallel to the pot. Be sure the neck does not sit at an angle to the head/rim. Begin by attaching the small nut to the top hanger bolt. Remember to replace all the washers at the hanger bolt and coordinator rod holes.
14. Now attach the coordinator rod to the lower hanger bolt with the inner 5/16" nut and washer on the coordinator rod. Be sure to replace the small washer on the neck end of the coordinator rod, and the inner 5/16" washer on the tailpiece end of the coordinator rod.



15. Put the tailpiece over the outside end of the coordinator rod and reattach the outer 5/16" nut.
16. To tighten the head, start on one side of the neck, and tighten each bracket nut with the bracket wrench only 1/8 turn, going around the rim several times until the head becomes tight. (See section Tightening the Head for how tight.)
17. Tighten down the tailpiece with the 5/16" nut on the exterior of the pot/rim.
18. String the instrument up.

CHOOSING NEW BANJO STRINGS

We recommend using only light gauge strings on your Goodtime banjo to prevent undue stress on your neck.

Buzzing is caused when a string vibrates against a fret. The harder you pick, the more likely that a light-gauge string will vibrate enough to hit a fret. But technique also comes into play here, if you get the string to vibrate parallel with the fingerboard you can do amazing things without causing buzzes.

Good quality strings are essential to good tone. Don't sacrifice your banjo's tone by trying to save a few pennies on strings.

Eventually you will learn to recognize when your strings have lost their responsiveness. You can also see if you need new strings by running your finger along the under-side of the string, checking for pits or grooves worn into the strings by the frets.

Strings should be changed a minimum of every couple of months minimum if the banjo is played in moderation, and once every couple of days if it is played a lot. Old, worn, or corroded strings are a major cause of poor banjo sound.

CHANGING THE STRINGS

The following sequence of steps will ensure that the bridge remains in the correct position and your banjo stays in tune while changing the strings.

We recommend that you lightly mark the position of the bridge in pencil on the head, in case the bridge falls over or is knocked out of place while changing the strings. This will save time in the initial repositioning of the bridge. Refer to the bridge placement section of this manual for specifics on correct bridge placement.

1. Take one string off.
2. Rub pencil lead into the nut slot to allow the string to slide more easily when going into tune.
3. Re-tune the new string to the other strings on your banjo.
4. Continue the steps 1 through 3 for each successive string.



HOW TO THREAD STRINGS

The proper tuner for each string is shown. The string is passed through the string hole near the top of the string post from the center of the peghead toward the edge of the peghead.

The string is wound around the post in a direction away from the center of the peghead. Pass the free end under the attached string so the first wind is around the post above the string end.

The free end is then bent up and the string continues to be wound around the tuner post in the same direction so the next wind goes under the string. This way the string is clamped between two winds and will not slip. A string should pass around the shaft at least two full winds to clamp it.

If you don't like getting pricked by short string ends, then before you clip the string off take the end and pass it back through the tuner hole looping it back on itself, pull it tight and clip the string next to the tuner post. The string end will slip back inside the tuner post and will not have a stray end sticking out.

THE BANJO NECK

A Goodtime neck, correctly adjusted, has a slight curve in the fingerboard. A curved fingerboard allows the strings to meet the frets at the same angle all the way up the neck. This allows for lower action without buzzing than is possible with a flat fingerboard.

** THE ACTION TEST --- Measure the clearance between the top of the 22nd fret and the bottom of the strings. Low action is about 1/8" clearance, any lower is too low. Many professional pickers prefer their action at 1/4" clearance.

Low action is not necessarily desirable because if you pick hard, low action can cause buzzes by not providing enough space for the string vibrations. Hammer-ons and pull-offs are clearer with higher action.

Neck adjustments are used mainly to adjust action and to correct buzzes, for specifics see the Trouble Shooting Section.

COORDINATOR ROD ADJUSTMENTS

The coordinator rod's main function is to firmly anchor the neck to the rim, making the banjo a stable unit. The rod can also be used for action adjustments.

1. Use a nail or Allen wrench to hold the lower rod still by passing it through the hole in the coordinator rod while you adjust the nuts. If you let the rod turn when making the adjustment, it may loosen the neck joint, in which case, you will need to tighten the rod back up to the hanger-bolt to keep the neck joint tight before continuing to adjust the nuts.
2. Using a 1/2" open end wrench, turn the nuts to adjust the action while holding the lower rod still with a nail.

TO LOWER THE STRINGS loosen the nut on the inside of the rim and tighten the nut on the outside of the rim.

TO RAISE THE STRINGS loosen the nut on the outside of the rim and tighten the nut on the inside of the rim.

Turn the nuts only a 1/4 of a turn at a time and then check the action. Over-turning the nuts can break the rim, strip the hanger-bolt, or pull the hanger-bolt out of the neck. Make sure all nuts are snug when you are done.

See the Trouble Shooting Section for specifics on Action Adjustments.

NECK ALIGNMENT TO THE RIM

On a Goodtime banjo, the neck alignment to the rim is carefully set at the factory and is not designed to be easily tampered with. If you feel some adjustment is necessary, have an experienced repairman do it.

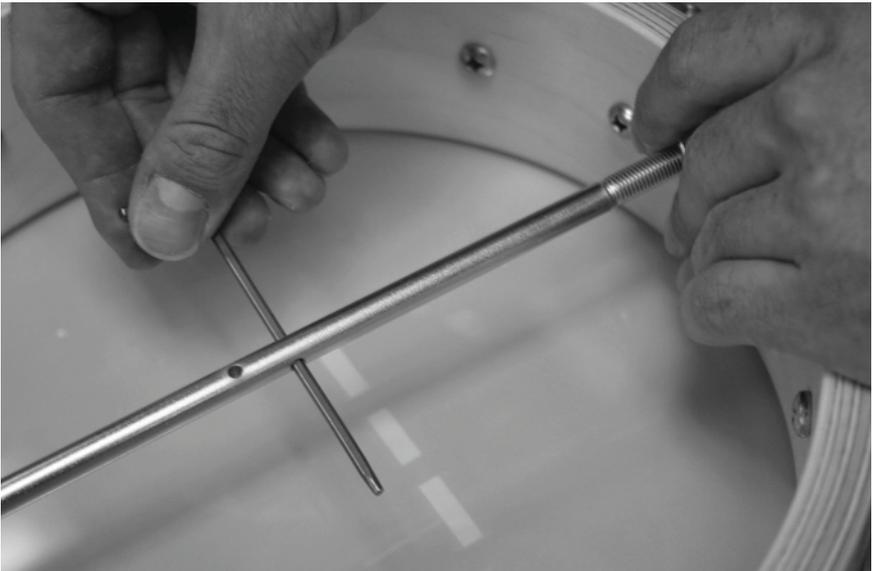
THE LOOSE NECK

A loose banjo neck will detract considerably from the sound of a banjo because the instrument is no longer one solid unit and the vibrations are not able to carry through the instrument properly.

A banjo neck can become loose due to adjusting the coordinator rods and allowing the rod to turn when adjusting the nuts. Insert a nail in the hole in the rod to hold the rod from turning when adjusting the nuts to change the neck angle.

To do this you:

1. Place a nail through the hole in the coordinator rod to keep it from turning.
2. Loosen the coordinator rod nuts on the rod.
3. Make sure the neck is lined up properly with the tension hoop. It should be parallel to the hoop, not skewed in any direction.
4. Place a nail through the hole in the rod and turn it tighter to the neck.
5. After the rod is again holding the neck on tight, adjust the coordinator rod nuts to re-set the action. See Coordinator Rod Adjustment Section.



THE BRIDGE

Bridge placement is critical in getting the best possible sound from your banjo. There is a specific place on the head where the bridge should sit for correct harmonic adjustment.

Your banjo was set up at the factory to take a 5/8" bridge and the neck alignment is based on this bridge height. Do not try to adjust the action by lowering the height of the bridge.

The size and design of the bridge will affect the sound of your banjo. Lowering the bridge creates less pressure on the head and a sound loss results, the banjo becomes less responsive and even muddy sounding.

Thinning the bridges reduces the weight and mass of the bridge to create a thinner, crisper or less bass sound. Thinning the bridge too much can weaken the bridge.

When curing buzzes in an old bridge or putting on a new bridge, take a V-file and V-groove the bridge slots with a 45° angle downward toward the tailpiece so that the string makes contact right at the face of the bridge. Do not make the slot deeper.

It is important to set the bridge exactly. If the bridge is as little as 1/32" out of place a large amount of sound quality is lost.

HOW TO SET THE BRIDGE

1. For an approximate setting, place the bridge perpendicular to the strings - 26 3/16" from the nut, in spite of the 26 1/4" fret scale length, because strings do not vibrate according to the exact calculations of physics.

2. To get the bridge set exactly, use harmonics:

On the first and fourth strings, play the 12th fret harmonic by lightly touching the string above the 12th fret while plucking the string. This should ring clearly, and is called "chimes."

Now play that string again while fretting the 12th fret right behind the fret wire. These two notes should be the same if the bridge is in the correct place.

If they aren't the same, move the bridge:

AWAY from the **NECK** if the fretted note is **HIGHER** than the harmonic note.

TOWARD the **NECK** if the fretted note is **LOWER** than the harmonic note.

This is done for the 1st and 4th string. Note that the bridge may end up slightly angled, like the saddle on a guitar. This is normal. The 2nd and 3rd strings will not be in harmonic tune. This is also *normal*. A straight bridge sounds better on a banjo than a compensated bridge. With a straight bridge, when the bridge is properly set to be in the correct place for the 1st and 4th string, the 2nd and 3rd string will *always* be off a small amount.

90% of all the professional banjo players use a straight bridge, and don't worry about the 2nd and 3rd strings. The other 10% use a compensated bridge. The 2nd and 3rd strings will be more in tune, but usually they are still not perfect. The responsiveness of the compensated bridge is *not* as good as a straight bridge.

What this means for you as a goodtime banjo owner is that unless you have perfect pitch, set your bridge with the 1st and 4th string, and don't worry about the 2nd and 3rd.



TAILPIECE ADJUSTMENTS

For a crisp tone the tailpiece should be close to the head. Higher adjustment gives a more mellow tone. Where you set the tailpiece is up to you. A good approximate setting is 1/8" off the head.

You can slide the tailpiece up or down by loosening the nut on the rod where its attached.



IMPROVING BANJO SOUND

A great sounding banjo is not an accident, it has been set up and tuned in, just right.

The banjo, more than any other stringed instrument, must be correctly adjusted to bring out its best tone. Each adjustment is important to the overall sound of the banjo.

Miraculous results are obtainable when an unkept banjo is readjusted. If your banjo doesn't have the magic it once had, you'll find this checklist helpful in restoring its original life.

1. New strings
2. Hardware tight, no rattles
3. Neck tight to the rim
4. Head tight
5. Bridge in the correct harmonic place
6. Tailpiece set
7. Action set, coordinator rod
8. Tuned to pitch



BUZZES -- WHAT DO YOU DO?

1. First check the strings to see if you need to replace them. If you aren't sure, put on a new set.
2. Check the action, using the Action Test (in the Banjo Neck Section). If the clearance is less than 1/8", it is too low. See Coordinator Rod Adjustment Section to raise the strings.
3. Fret the neck at the first fret. If it still buzzes, check the bridge. A bridge buzz sounds like an annoying twang. See The Bridge Section for handling.)
4. If the neck buzzes unfretted but doesn't buzz when fretted on the first fret, the problem is the nut.

Deering nut slots are cut with special tools and procedures at the factory. You only run into nut problems if someone has tinkered with your banjo.

- Is the nut slot too wide? If so, loosen the string and lay a piece of paper across the string slot. Put the string back over the slot and tighten it so that it pulls the paper down into the slot. Tear all excess paper off, leaving only the paper in the slot to fill the excess space temporarily , until you get a new nut.
 - There must be a highest point in the string groove which breaks the string vibrations at the edge of the nut by the fingerboard, or the string will buzz in the nut slot. If this is the problem, seek professional help.
 - The bottom of the string should be 1/16" above the fingerboard at the nut. If it is lower than this, the nut slot is cut too deep. Give it to a repairman to fix.
6. If you have gone through all of the above steps and still have buzzes, then the problem is with the frets.

Expansion and contraction of FINGERBOARD wood due to changes in humidity can cause the frets to loosen and raise up, and the strings to buzz on high frets.

Frets will wear down with use, and buzzing can occur when pressing the string on a worn fret if the next fret down the fingerboard toward the head is not also worn.

To check the frets, lay a six inch ruler or straight edge on top of them and see if it rocks. If it doesn't lay flat on three or more frets, seek professional help.

ACTION TOO HIGH - WHAT DO YOU DO?

1. Check the bottom of the heel. If it is pulled away from the rim, see the section "The Loose Neck". If the neck won't pull tight to the rim, the hanger-bolts are stripped. Hanger-bolts can strip out if the coordinator rods have been cranked too tight. Seek professional help.
2. Adjust the coordinator rod to lower the action. See the Coordinator Rod Adjustment Section.
3. If you have adjusted the coordinator rod within its limit, and the action is still too high, a factory authorized repairman will have to reset the neck. This should be necessary only if your banjo has been tampered with.

ACTION TOO LOW - WHAT DO YOU DO?

Action lower than 1/8" is too low. Do not alter the bridge height to change the action.

1. Tighten the head, if it is loose. A loose head will sag and create even lower action. (See Tightening the Head Section.)
2. Adjust the coordinator rod. See the Coordinator Rod Adjustment Section.
3. If this doesn't do it, seek professional help.

IN CLOSING

There are several major banjo publications and websites you can use as resources:

Publications

- * Banjo Newsletter, P.O. Box 3418, Annapolis, MD 21403-0418
- * Bluegrass Now, P.O. Box 2020 Rolla, MO 65402
- * Bluegrass Unlimited, Box 111, Broad Run, VA 22014
- * The Resonator, P.O. Box 101025, Pittsburgh, PA 15237
- * Fretted Instrument Guild of America, 190 Berwick Drive, N.E., Atlanta, GA 30328

Websites

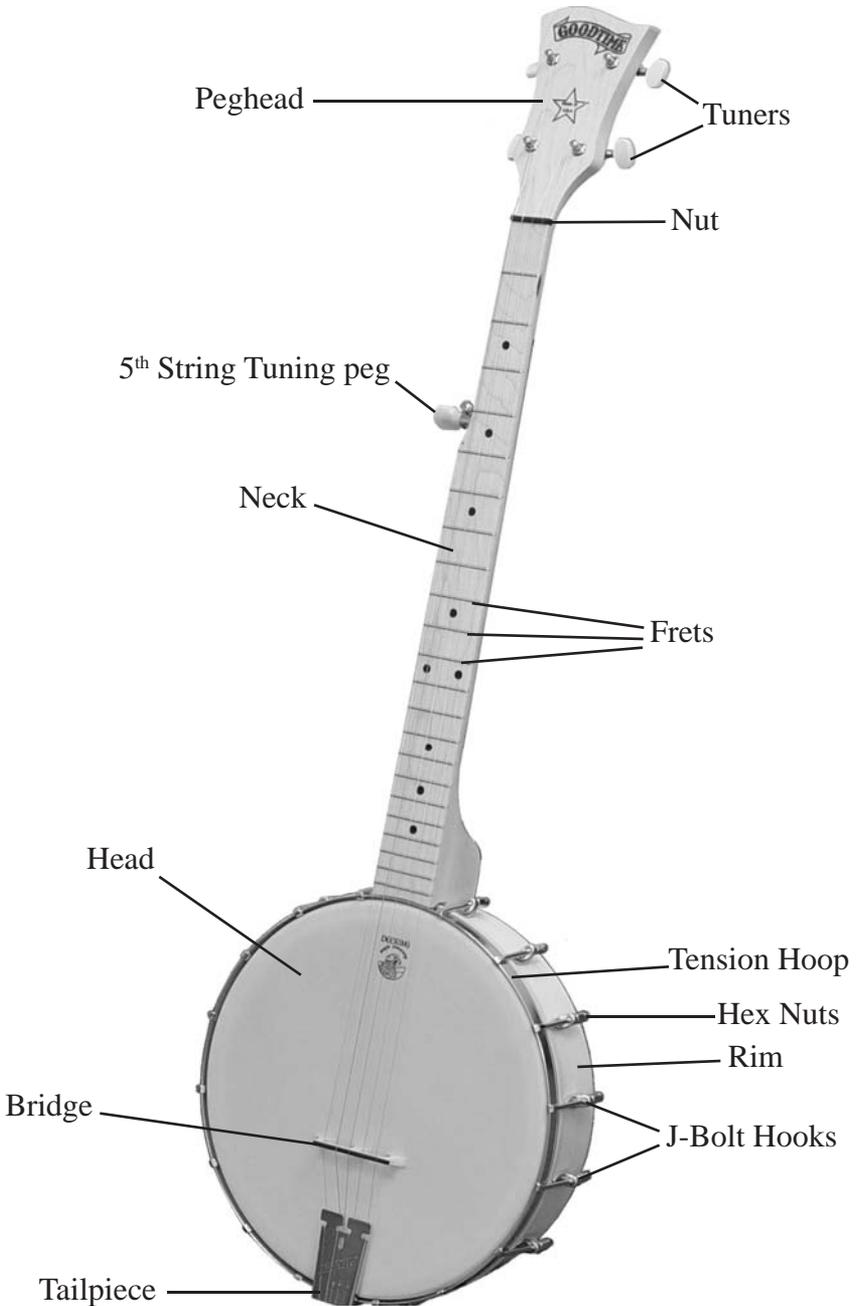
www.banjohangout.com
www.jazzbanjo.com
www.bluegrassbanjo.org
www.en.wikipedia.org/wiki/Banjo

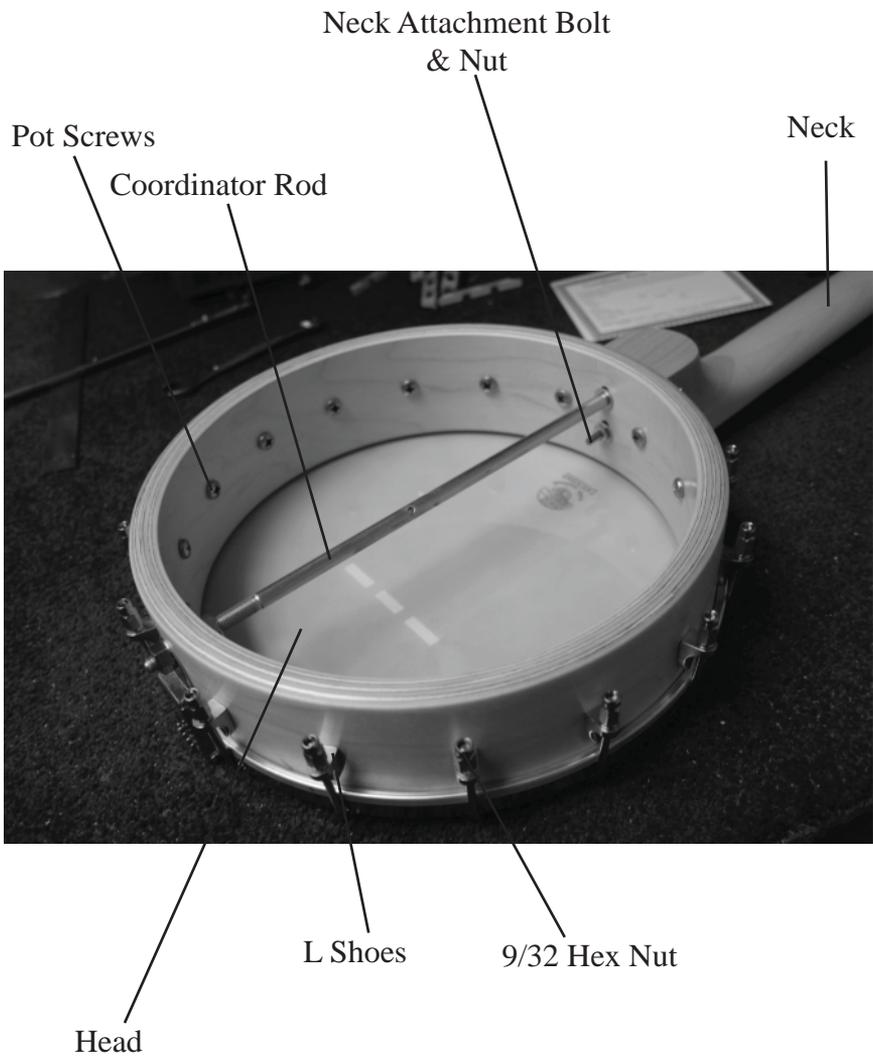
Each of these publications & websites will put you in touch with part of the banjo world. From them you will gain advice, insight and information which will enrich your banjo playing considerably.

We wish you lots of fun playing your banjo.

Sincerely, Janet and Greg Deering

BANJO DIAGRAMS





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