

Your James Jones Hammer Dulcimer Owner's Manual

A Brief History

According to Paul Gifford's history book on the *The Hammered Dulcimer* the instrument didn't appear as we know it until the 15th century in Europe. The instrument evolved from early psalteries; stringed instruments plucked with the fingers. The dulcimer was introduced into and adapted by many different countries with unique names, tunings, construction and playing styles. The dulcimer eventually provided the inspiration for the development of the piano. The dulcimer came to both the Orient and the United States around the 17th century. The Chinese and Koreans developed some of the most sophisticated versions.

In the United States the instrument initially enjoyed widespread popularity due to its simplicity and portability. A number of hammer dulcimer factories sprang up to meet the demand. Around 1900 Lyon and Healy sold their model of the hammer dulcimer through the Sears-Roebuck catalog. Popularity waned in the mid 1900s although we are now experiencing a revival particularly in folk music.

Construction

Your instrument is a unique combination of various hardwoods, soft tone woods and hardwood plywood. Depending on the model 20 to 50 hours of work are necessary to shape the wood, wire and pins into the dulcimer you have purchased. Your soundboard is either redwood, Engelmann Spruce, mahogany, cedar or a combination of the above. These tone woods coupled with the internal braces are the most essential to the quality and duration of your sound. The tightly jointed rails and pin blocks give you an instrument capable of withstanding the extreme tension. Northern maple pin blocks and a Finnish birch laminated back give you stability for maintenance of tuning and overall strength; an instrument that should stand the test of time. Hardwood bridges capped with acetal rod support varying gauges of corrosion resistant tinned music wire, phosphor-bronze or wound strings. These strings stretch between nickel plated tuning and hitch pins. Each sound-hole motif on my Custom models is individually designed making your instrument unique.

Your instrument is finished in either a water based satin lacquer or a oil-poly combination.

Accessories include one set of playing hammers and a tuning wrench.

Stands

You will need some sort of stand to support the instrument for playing in either a seated or stand-up position. There are a variety of options available in a fixed height stand or adjustable. Check out my accessories catalog or my web site. In a pinch you can use a table and a couple of books to give you a comfortable playing angle. Any angle from 5 to 30 degrees is fine. Anything steeper and you'll feel like your playing uphill. For protection a commercially made soft case is available through my shop.

Care and Humidity

Your dulcimer should last a lifetime if given the proper care. Avoid temperature and humidity extremes. Wood swells and contracts in response to the amount of moisture in the air. Extremely low humidity (below 40%) can cause wood to shrink. Cracks can result. (See section on cracks) If the humidity in your house is exceptionally low you can either try to create a micro environment by leaving the instrument in its case when you're not playing it with a Dampit (a gadget for adding humidity available at most music stores) or create a macro change by humidifying the room. The latter makes it easier as you don't have to keep taking your instrument in and out of the case and it's in general healthier for both you and your instrument. High humidity usually causes no harm although it will occasionally distort the soundboard temporarily. High temperature (the trunk of your car, direct sunlight, wood stoves, etc.) can damage your instrument by softening the glue and weakening the joints.

To preserve and maintain a satin lacquer finish just keep the instrument clean with a soft rag. I tack a small 2" square of cloth on the end of a dowel for dusting under the strings and carry a 1" nylon paint brush to dust around the pins. Avoid a build up of dust on the instrument.

Splits and Cracks

Most of you will read the above paragraph on humidity control and agree with the conclusions but not take the necessary precautions to protect your instrument from low humidity. Many of you live in Northern climates where heating seasons are long and dry. Hammer dulcimers rely on a large expanse of restrained or bound wood for the soundboard. This wood will expand or contract depending on the relative humidity in the room. When the humidity is low for long periods of time such as in the winter time your soundboard and instrument literally shrink. The instrument and soundboard can accommodate some shrinkage but there is a threshold beyond which the wood splits. Don't worry. It is not the end of world. These types of cracks are not structural flaws and will usually not even affect the tone of the instrument. Cracks should eventually be repaired either by a qualified repair person or myself. Please don't try and repair it yourself. You only have one chance to do it right and you are probably going to make it impossible for me to repair it properly. I would prefer you send the instrument back to me at the end of the heating season when the crack is at its widest. There is no charge for crack repair. Just make sure you pack and protect your instrument well as I don't want to have to make other kinds of repairs as well.

Splits can occur elsewhere especially in pin panels around and between hitch and tuning pins. This again is not structural and can be repaired when it is convenient. Splits in the frame should be taken seriously as this indicates some type of major structural failure is imminent. This type of failure is rare although it can happen if you drop the instrument. Loosen the string tension and return it to me as soon as possible.

Strings

Although I use tinned music wire which is corrosion resistant, strings unfortunately will eventually corrode. Sweaty fingers and just moisture in the air can tarnish and rust the strings. The tone of a dirty rusted string ceases to be true to pitch and will begin to sound dead. Periodic cleaning will prolong string life. Take 600 weight wet and dry sandpaper available in any auto supply store or 0000 steel wool and rub each string until bright again. Follow with a lightly oiled cloth. If the corrosion is too bad, or the strings are due to be replaced see the section on string replacement. Under

normal conditions wire strings should last for many years. If you are performing and demand peak performance and tone I recommend replacement of the wound strings at least once every two years. If they're sounding dead replace them.

Tuning Pins

If a tuning pin should begin slipping, there is a remedy. As a tuning pin is basically a fine threaded screw in a slightly undersized hole what has usually happened is either the wood has dried out or the pin has worn the hole leaving the pin in an oversized hole. I recommend removing the pin completely and lightly coat the interior surface of the hole with Super Glue using a toothpick to spread a very thin film. Be very careful not to drip some of this glue on the finish or you'll have a spot you can't get rid of easily. You may want to mask the hole with a paper punched piece of masking tape or just a small piece of paper. Wait 20 minutes and re-insert the pin in this now smaller diameter hole. If it was not enough to hold repeat the process. If you need an expedient fix you can insert a piece of paper which should be held up while screwing the pin downward. The paper effectively increase the diameter of the hole and will usually work until you can make a more permanent repair.

Bridges

The most vulnerable parts of the instrument are the bridges as they already are under a lot of stress from the down pressure of the strings. Additional force could cause the bridge to split so avoid letting anything hit the bridges or letting the instrument fall over on its face. A protective case makes sense if you plan to ever leave home with your instrument. Soft cases are available through my shop.

Buzzes

Before you ever began searching for buzzes or anomalies make sure your instrument is in excellent tune. Sometimes what can sound like a buzz is just two strings in a course which are not tuned in unison. Once you are satisfied that the instrument is in excellent tune and you still get what you consider buzzes proceed. 99% of all buzzes on my instruments are caused by insufficient string contact on the plastic or metal saddle running in the groove on the long narrow bridge on the

right side of the instrument. Locate the offender by striking the suspected course vigorously with your left hand while your right hand attempts to mute the buzz by pressing downward with a finger along that saddle. The buzz is caused by a string which is neither down hard on the saddle or clearly off the saddle. The string is 'hovering' close enough to the saddle so that when the course is struck it buzzes against the saddle. The solution is to loosen the tuning pin and string enough so that you can rewind the string closer to the bottom of the tuning pin (to make greater contact with the saddle) or rewind the string slightly higher on the pin which would lift the string clear of the saddle. Either way you should have eliminated this type of buzz. You may have to check all the courses before you find the offending string. Sometimes buzzes may occur because a bridge shifted and the string rattles against a bridge when struck hard. To eliminate these you going to have to tap or move the bridge slightly using the same technique described in the tuning section. Move the bridge enough to give the vibrating course enough clearance.

Occasionally on my larger instruments the wound strings may have become too close together so that when struck hard they literally bang into each other. If that seems to be the case separate the individual strings in the course by pushing them apart.

Playing Hammers

I have tried to make a playing hammer which will work for most of you but there are a lot of different styles of playing hammers out there. I suggest that you try other playing hammers you run across as you may find a set that suits you better. You can also experiment with other materials glued to the striking surface other than the leather. Make sure you find some sort of container to put your hammers in as they are a bit fragile. Avoid leaving them in your back pocket. You'll inevitably sit on them or if they're on the floor your bound to step on them.

Tuning Wrenches

Included is a T style tuning wrench. I recommend this type and therefore include it with the instrument but there is another type called a gooseneck. The gooseneck gives you a very fine touch but because of its extension beyond the pin and not over the pin like a T

style there is a tendency to press down and eventually loosen the pin in its hole.

Tuning

Tuning is essential for a lot of reasons. Your instrument will sound horrible if out of tune, you won't be attracted to playing it and your cat will never forgive you. If one of the pair of strings making up a course is slightly off pitch, the course will sound dead or worse. If working in unison the strings will produce a sound both strong and pleasant. Learn to recognize the difference. Keep your instrument in tune to itself but also make sure you keep it at concert pitch A 440; especially if you enjoy playing with other people. It is impossible to re-tune your instrument every time you want to play with someone so keep your instrument right and let other musicians tune to you. Your instrument will probably arrive slightly out of tune. You will end up tuning it a number of times over the space of a couple weeks as the strings stretch and the instrument adapts to its surroundings. Eventually it will stabilize and you won't do much tuning at all. My instruments are known for staying in tune.

To tune you need something to tune to such as a tuning fork, a pitch pipe or piano and a lot of patience. You've got a lot of strings to get in tune. A guitar or something that could be out of tune won't help you. I recommend buying a chromatic electronic tuner and a tuner cord if you have weak pitch recognition. The tuner cord is a device which allows tuning in noisy environments as it plugs into the electronic tuner and clips onto the dulcimer thereby reading the vibrations directly from the instrument. Both devices are available from my shop.

Treble Bridge Adjustment

All my dulcimers are based on what is now the standard in the United States : a fifth interval treble bridge. Treble courses, a course being a pair of strings, are located on either side of this bridge with the higher tones to the left. The tuning pins for the treble courses are located to the left.

Standard is a bass bridge as well. Bass courses are played only to the left of the bridge. The tuning pins for the bass bridges are to the right. You have no playable courses to the right of the Bass bridge. Off-

set bridges on the top end of the 3/13/12, 3/17/17, 3/16/15/8 and the 3/16/18/9 Custom Performance are designed to give additional chromatics facilitating the playing in the key of A. As the instrument grows in size what is gained is chromatics and additional bass range. Check the tuning of your instrument against the tune chart included with this Owner's Manual. Make extra copies of the tuning/string gauge chart as it is a very important piece of paper!

Tuning a note on one side of the treble bridge results in the intended fifth on the other side as well, assuming the bridge is properly placed (see bridge location if you suspect it is not right). Once the first three notes of any scale are tuned most of the rest of the dulcimer can be tuned by octaves. Tune an A on the right of the treble bridge and then count up four courses and you have an A on the left side of the treble bridge. Once you get the A in tune the other side a D should automatically be in tune. This relationship holds for the bass bridge as well. Go over four and you have an octave.

As the instrument ages the strings will sometimes begin to dig into the acetal rod on top the saddle which makes them stick. The sticking causes uneven tension and as result an inaccurate fifth. A quick fix is to just lift the strings allowing the strings to equalize tension. If it keeps happening loosen the strings and rotate the acetal rod to offer up a fresh surface. Eventually all your rod will need replacing. They are not glued into the bridge slots.

The fifth interval treble bridge is only that if it is in the correct position. I do my best to insure that when it leaves my shop it is in the right place but I have bad days too and occasionally the bridge gets shifted by a blow. Make sure its not just the result of the strings sticking on the saddle. If that's the problem and you move your bridge you've just lost the fifth interval. If you suspect that the bridge is not right it may be moved by tapping the bridges' base with a cutoff fat children's pencil with the erasure end reduced to about 1/4 inch. Using this pencil and a hammer tap the base and only the base of the bridge to nudge it in the direction necessary. If the left side is sharp in relationship to the right side than move the bridge to the right and au contraire. If you tap on the upper portion of the bridge you will break the bridge!

Learning to Play

I recommend you either purchase one of the excellent learning packages I offer or find a good teacher or both. There is no substitute for a teacher. He or she will motivate you to practice and inspire you. Ask me for a recommendation. I have a number of teachers on file and can refer. For those of you who insist on going it alone, the following is a very brief introduction to the instrument.

First of all make sure the instrument is at a comfortable height and at an appropriate distance away. You may play while sitting down or standing up. Most performers prefer standing up.

The instrument is played with hammers. You may have a set with hard and soft surfaces available in one hammer or a single sided hammer. The hard face gives you a crisp, clear, more metallic sound while the softer leather creates a muted more mellow sound. The hard face is used most with other instruments as it will 'cut' its brighter tone making it more distinctive offering more contrast. The soft faced tone is nice for some pieces but should be used sparingly. Many people prefer to practice using the muted tone.

Hold the hammers between the thumb and forefinger using the forefinger as a pivot point. The thumb can now easily pivot the hammer up and down. Let the hammer hit and bounce off the strings. Stay on one note until you feel comfortable. Get your whole arms into the stroke. Loosen up. Practice hitting the string with the right than the left hand alternating the stroke on one note. keeping it even. Experiment by trying a single bounce than two and than three bounces in quick succession. Later you can use these quick little bounces as one way of embellishing a tune. When that's comfortable you can begin to work out scales and simple tunes by first striking one note with one hand and the next note with the other hand and so on. To successfully play tunes up to tempo, you must avoid getting your hands crossed as you play notes going across the treble bridge. Work out an efficient hammering pattern. Play the tune slowly at first building speed later. You than should begin to make the tune your own by adding chords either by playing two notes together or by striking a rapid succession of notes leaving them ringing. Fill in some of the silences. The embellishments you create as you add things to a simple melody will make the tune unique and

contribute something original. It will also help to listen to recordings of how other people have interpreted traditional material. Hearing original compositions is always a pleasure as well. I offer a great number of recordings of hammer dulcimer and am more than willing to offer my recommendations.

Learning scales is always a good place to start. From there you can graduate to simple tunes you know or can learn by ear. Eventually it makes sense to learn to read music. That knowledge will open up a whole new world of music not otherwise available. Important aspects of learning to play are listening to others, practice and playing with other musicians. Playing with others is something to work towards. Many of you will say I could never do that. Its not true. You can always find someone else who is approximately at your level who would be willing to work with you. Playing together and sharing music is extremely stimulating. The experience is a real motivation both for learning how to play and learning new songs. The next step of that sharing is performance where your sharing with a greater number of people. There are also many dulcimer clubs and dulcimer festivals all over the United States that are inspirational and instructive. The camaraderie of people at all levels of competence is of great benefit to the learner. For information on many of these festivals subscribe to the Dulcimer Players News. Remember if you record anything with your instrument please send me a copy.

String Replacement

Eventually you'll have to replace a broken string. It makes sense to have a few extra strings on hand in case one goes. Strings are available from my shop (see your string gauge chart) Fortunately strings don't break all that often. The steel strings rarely break just the occasional high note. The phosphor-bronze is another story. It is considerably more fragile and at higher tension. The wound strings don't usually break but go dead a little sooner.

Gather together the proper tools and the proper gauge wire (see string gauge chart). I recommend a good quality 6" needle-nosed pliers and a 6" diagonal wire cutter. Don't buy cheap imports as they will dull easily. Wire used for dulcimers is extremely hard. You may want to fashion a small piece of cardboard that could be taped near the pin your working on to protect

the face of your instrument from a slip of the pliers or tuning wrench. A pair of safety goggles or glasses can offer your eyes extra protection. Carefully remove the broken wire making note of how it was attached. Using your tuning wrench back out or unscrew the tuning pin until there is just a bit of thread showing. The tuning pins are just like screws. If you don't back them out after a string breaks they just keep going down into the hole.

All strings are supplied with a loop already on the string. You'll need two per course. Check your string gauge chart. Restringing with looped strings is accomplished by placing the string loop onto the appropriate hitch pin. I recommend using masking tape to hold the looped end on the hitch pin while you thread the string through the appropriate hole in the opposite bridge and then run the string past the correct tuning pin cutting it off about 1" past the tuning pin. Attach the free end to the tuning pin making sure you have backed out the tuning pin prior to installation. Push the wire through the hole in the correct tuning pin until it sticks past the hole about 1/8 of an inch. Using a sharp needle-nosed pliers, bend this end up at right angles. Look at other pins to see what it should look like. Support the pliers against the pin. If you try to make this bend floating in space many of you will slip and redecorate the face of your instrument. Make sure the wire is bent up. If it points down it will scratch your soundboard as the tuning pin is twisted in. Do this carefully. After bending take your tuning wrench and wind the wire onto the bottom of the tuning pin until the string is tight and up to pitch; you want to make sure that you've got good contact between the wire and the side bridge saddles.

Complete Restringing

I offer the service of restringing your instrument completely when you get to that point. I recommend you take advantage of this service. Doing it yourself would be painful. You will pay me as much for the string as it would cost for me to do the whole job. If you choose to have me do it just UPS the instrument to me using the original box, a guitar box obtained from a local music store or a bicycle box. Instructions on packing are on my web site. The price of re-stringing varies depending on the size of the instrument.

Trading Up

Some of you have purchased Student Models, 12/11 Customs or 15/14 Customs. This may be your first hammer dulcimer. I'm hoping the instrument falls on fertile ground. If it does and you find yourself outgrowing your instrument I offer the option of trading your instrument in on one of my larger models. Depending on its condition I usually can offer you 75% of the original purchase price of both the instrument and the case towards any other model. My larger models are designed to give you a full four octaves and more chromaticism.

Other Accessories, Instructional Material, Recordings etc.

If your looking for a source of things supportive of you as a hammer dulcimer player, I offer loads of accessories, instructional materials, electronic tuners, recordings, pickups, etc. Check out my web site.

Suggestions

I am always looking for ways to improve the tone, playability, durability, appearance, and range of my instruments. As I am not a player I welcome your suggestions at anytime. Jot me note when the thought comes to you. I also love to get recordings of your progress. Thanks for choosing my instrument. I hope you enjoy it for years to come.

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