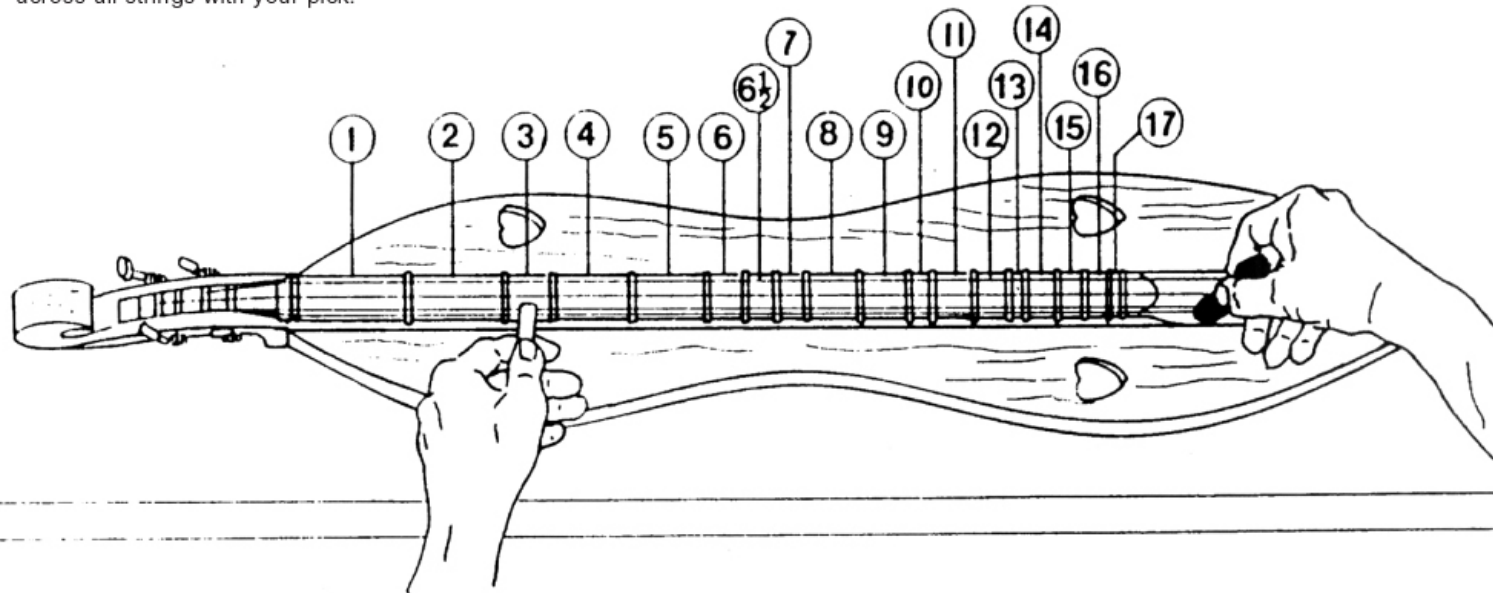


# HOW TO PLAY THE DULCIMER

The number above each note shows the fret to be "noted."

Place your index finger over the melody strings and press down (the first 2 strings when the peg head is to your left). Do this in such a manner that your finger does not touch the adjacent strings, which will be strummed for the "drone" sound.

The first note in "Aunt Rhody" starts with the 5th fret, the "mi" in do re mi." Hold down with your finger on the 5th fret and strum across all strings with your pick.



## AUNT RHODY

Traditional

C 5 5 4 3 3 G7 4 4 6 C 5 4 3

Go tell Aunt Rho - dy, Go tell Aunt Rho - dy,

G7 7 8 7 5 4 3 3 G7 4 6 5 4 3 C

Go tell Aunt Rho - dy her old gray goose is dead.

## BROTHER JOHN

(Frere Jacques)  
French Song

C Chord throughout

3 4 5 3 3 4 5 3 5 6 7 5 6 7

Are you sleep-ing? Are you sleep-ing? Broth-er John, Broth-er John,

7 8 7 6 5 3 7 8 7 6 5 3 4 0 3 4 0 3

Morn-ing bells are ring-ing, Morn-ing bells are ring-ing, Ding ding dong! Ding ding dong!

\* 0 is a tone picked or included in a strum, but not pressed by noter. It is known as an "open string".

# MOUNTAIN DULCIMER KIT

Hourglass Model. Solid Cherry.

# Folkcraft

INSTRUMENTS

## PHOTO & DIAGRAM SHEET

**PHOTO 1**

**PHOTO 2**

**PHOTO 3**

**PHOTO 4**

**PHOTO 5**

**DIAGRAM 1** Jig Piece

**DIAGRAM 2**

**DIAGRAM 3**

Align 3/8" line with edge of Scroll

Draw pencil line

Top Piece

Align 3/8" line with angled end of tail

**DIAGRAM 4**

Matched top

**DIAGRAM 5**

Nails

**DIAGRAM 6**

Fingerboard

Scroll

Soundboard Side

Table

Notch

**DIAGRAM 7**

Scrap Wood

Fingerboard

"C" Clamp

**DIAGRAM 8**

Top Piece

Jig

Sides

**DIAGRAM 9**

**DIAGRAM 10**

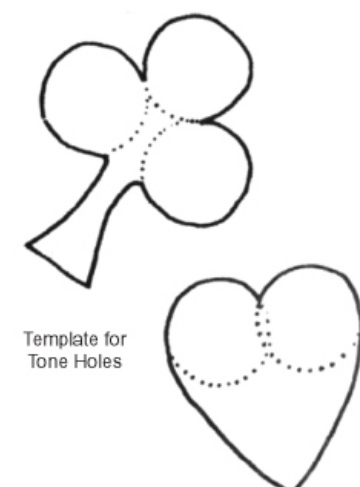
Holes for anchor pins

Use nut piece as guide for hole placement of the string anchor pins.

Top View

**DIAGRAM 11**

Wound String



# MOUNTAIN DULCIMER KIT

## Directions for Hourglass Model

This kit has been designed for easy craftsmanship and will produce a high quality, traditional hourglass shaped dulcimer.

### The Parts List:

1 Scroll Head	1 Heel Cap	1 Fingerboard
1 Top Board, 1 Bottom	1 Tail Block	1 Jig Piece
2 Pre-Bent Sides	1 Bridge	1 Nut
1 String Set	4 Anchor Pins	1 Pick
4 Tuning Gears with Screws	2 Gluing Wedges	Multiple Nails

**Required Tools:** Sharp utility knife, dovetail or coping saw, hand or electric drill with a 1/16th” bit, small hammer, small Phillips screwdriver, small diagonal wire cutter, two (2) C-clamps with at least a four inch opening.

**Optional Tools** that would save you time if you had include: Assorted wood files, assorted drill bits, a Stanley Sur-Form Shaver (reduces sanding time).

**Necessary Supplies:** Glue (Elmer’s Carpenter Glue or Franklin Tite-Bond), two (2) sheets of 80 grit and 120 grit sandpaper, one (1) sheet of 220 grit sandpaper, one (1) pad of four zero (0000) steel wool, one (1) tack cloth, Formby’s Tung Oil Finish, a piece of 2x4 at least 10” long, miscellaneous pieces of scrap wood, heavy books to be used as weights.

*Please read directions carefully. Be sure you understand all of the procedures and have identified all parts before beginning construction.*

### Step 1 - Glue Heel Cap and Tail Block

Find the 1/8” x 1 3/4” x 2” heel cap piece. Using a C-clamp glue heel cap to the smaller end of the angled tail block as shown in Photo 1. Allow two hours for the glue to dry before removing the clamp.

### Step 2 - Glue Sides

The pre-bent sides can now be glued to the tail block. You will need the two small triangular gluing wedge blocks from your parts bag and a C-clamp. Refer to the “exploded view” shown in **Photo 2** for the next procedure. Apply glue to the angled sides of the tail block and make sure the longer curve of the sides is toward the tail block. Press and slide them toward the narrow end of the block until they are stopped by the piece used in Step 1. Make sure both sides are flush in height with the block. Position the small triangular gluing wedge blocks against the sides and attach the C-clamp as shown in **Photo 3**. DO NOT use glue on the triangular blocks, they will be used at a later time. Allow two hours for the glue to dry. Dry fit the sides on the opposite ends into the angled saw cuts of the scroll head as shown in **Photo 4**. DO NOT force the sides into the slots. If they do not fit, sand the inner surface lightly until they can slide easily into the slots. Glue them in place. Glue the two small triangular blocks (used as clamping aids above) into the space between the slides and the scroll head as shown in **Photo 5** and allow to dry. Position the jig piece (**Diagram 1**) temporarily in between the sides at the lower longer curves to expand the width of the dulcimer at its “waist” and “hip” as shown in **Diagram 2**. Moving the jig piece towards the “waist” expands it. Moving the jig piece towards the tail expands the “hips.” The final dimensions are not critical to the sound, it is an aesthetic choice. However, the “hip” dimension can not exceed 6 3/4” or the bottom will not fit. DO NOT glue in the jig piece. It is held in place by the tension of the sides and is removed in Step 5.

### Step 3 - Create Tone Holes

The tone holes can now be cut (See templates on diagram sheet). The heart shape is a traditional tone hole design for dulcimers, yet many people create their own design. It makes no tonal difference where the holes go or how

many you have. However, the width of the hole can not exceed the diameter of a U.S. quarter or it may affect tonality. Find the two book-matched top pieces. These pieces were cut consecutively from the same large board making the grain pattern identical. Examine the pieces carefully and decide how you would like the wood grain to face before cutting the tone holes. Take one piece and draw a 3/8” line in from the edge along its entire length. Now place the body assembly on the top piece. Position and draw the pencil mark as shown in **Diagram 3**.

Remove the body assembly. The pencil mark represents the space available for tone holes. Tone holes are usually located at the center of the curves in between the fingerboard and the edge of the body.

Place the second top piece under the piece you have just marked. Make sure the grain on both pieces is facing the same way.

Draw or trace your tone hole design on the marked piece. A drill may be used to make the round parts of the holes. Drill through **BOTH** pieces to make sure holes will be located in the same place of the top boards. Now use a knife and/or files to shape the rest of your tone hole design. When the holes are complete, fold open the top pieces as shown in **Diagram 4**.

### Step 4 - Fingerboard & Top Piece

Center the fingerboard between the two top pieces. Placing one hand on top of the fingerboard and the other hand on the underside of the top piece, turn the three pieces over simultaneously without reversing the order. The two pieces can now be glued and tacked to the fingerboard. Run a thin bead of glue on the ledge of one side of the hollow cut in the underside of the fingerboard. To ensure a neat job, slide one top piece onto this ledge until it is even with the edge of the hollow at its start and along its length (**Diagram 5**). Drive a small nail at the center of the fingerboard into the ledge. Make sure the top piece is still even with the edge of the hollow and continue to drive in more nails, spacing them three to four inches apart. If you are building a kit with a cherry or walnut top, pre-drill the top for the nails with a 1/16” bit rather than nailing directly through the top into the fingerboard. This procedure should minimize the potential of the top splitting. Avoid nailing through the strumming hollow (**Diagram 5**). Repeat this procedure with the other top piece.

*NOTE: The slot that remains in between the top pieces when attached to the fingerboard is intentional and adds to the volume of the instrument.*

### Step 5 - Fingerboard Glued to Body

The fingerboard and top piece assembly can now be glued to the body assembly. Place the body on your work table so that the scroll head overhangs the table and the small notch on the bottom of the scroll butts to the table (**Diagram 6**). If any height discrepancy exists between the scroll head, sides and end blocks, wrap a sheet of 60 grit sandpaper around the piece of 2x4 and draw it over both sides of the body until all surfaces are even. DO NOT favor one side over the other or you’ll have unwanted dips. Apply a generous bead of glue along the sides and top surfaces of the end block and large scroll head notch. Place the top piece assembly on the body assembly and butt the fingerboard against the scroll head (**Diagram 6**).

Center the fingerboard with the tail block. Attach one C-clamp on top of the fingerboard at the juncture of the scroll and fingerboard, and another C-clamp on top of the sloped end of the fingerboard. Use wood scraps under the clamps to prevent marring the surface (**Diagram 7**). CHECK AND MAKE SURE NOTHING HAS SLID OUT OF ALIGNMENT. Weight the edges of the top pieces to insure good contact with the sides. To do this, place scrap wood pieces (higher than the fingerboard itself) alongside the fingerboard and weight with heavy books (**Diagram 7**). Look at the seam between the top and sides. There should be some visible glue squeezed out. If not, adjust the position of the scrap pieces and/or add more weight. Allow to dry for two hours.

*NOTE: If the sloped end of the fingerboard extends beyond the dulcimer, it may be cut flush with the tail block and rounded over with sandpaper.*

### Step 6 - Create the Body

The jig piece (**Diagram 1**) can now be used as an aid in tracing the shape of the body on the top, as well as the bottom later on. Slide the 1/8” top into the slot of the jig so that the longest leg of the jig is touching the side piece and the shorter leg is visible (**Diagram 8**). Hold a pencil against the end of the jig’s shorter leg and move the whole jig piece along the side of the dulcimer (**Diagram 9**). The pencil mark produced will automatically follow the contour of the sides. Using a sharp knife, cut along the pencil line. It will take at least five or six passes before the knife will cut through the top. Sand the cut edges carefully, starting from the peaks of the side curves down to the valleys, until flush with the sides. Start with 60 grit paper, progress through 80 grit, and then 120 grit.

### Step 7 - Glue Bottom in Place

Turn the dulcimer over, fingerboard down, and suspend it off the table by using scrap pieces running parallel with the fingerboard. Apply glue to the side tail block and scroll. Place the bottom in position by butting it against the small notch in the bottom on the scroll head (**Diagram 6**) and weight with heavy books. Check to make sure it does not slide out of position by “floating” on the glue. Also check for even glue squeezed out between all attached surfaces. If not, add more weight. Dry for two hours and then follow trimming and sanding directions from Step 6.

### Step 8 - Sanding

Sand the edges of the heel cap piece (**Step 1**) flush with the sides using 60 grit sandpaper. The 80 grit sandpaper can be used for rounding all edges and the 120 grit sandpaper for the final sanding of all surfaces. Check carefully for any excess glue and scrape it off with a utility knife blade or a piece of glass. The glue is stronger than the wood, so scraping will work better than sanding. Thoroughly dust off the entire instrument with the tack cloth and apply your finish per the manufacturer’s directions. Lightly sand between coats with 120 grit sandpaper to smooth raised grain and dust thoroughly with the tack cloth before applying additional coats. When satisfied with the finish, buff the entire dulcimer with 0000 steel wool.

### Step 9 - Adding Strings

Hold the instrument in the playing position with the scroll head to your left and the strum hollow to your right. Take two right hand tuning gears (sprockets on right) and place them in the scroll head holes closest to you. Now place the left hand gears in the holes on the opposite side. Install the gears by pre-drilling 1/16” pilot holes through the gear plate into the scroll head, then use the provided small Phillips head screws to attach. Find the two rectangular plastic nut and bridge pieces. These pieces will fit into the 1/8” slots provided on the fingerboard. They are NOT glued in place and should fit snugly. They may have to be sanded slightly to fit into the fingerboard slots. These pieces are equal in size so they can be placed in either slot. Notice the six grooves in the tops of these pieces. The grooves that are 1/8” apart should be the closest to you when the dulcimer is in the playing position. Strings 1 and 2 will go in the two grooves closest together. String 3 will go in the groove approximately in the middle of the nut and bridge pieces. String 4 will go in the groove furthest away (**Diagram 10**). The unused grooves are for a more advanced style of playing in which all strings would be equally spaced.

*NOTE: To have strings equally spaced, string 3 would be moved over one groove toward string 4 and string 2 would be moved over one groove toward string 3.*

Remove the bridge piece and place it flat on the sloping end of the fingerboard with the grooved top facing toward the tail end of the dulcimer. Once again, the two grooves closest together for strings 1 and 2 are where the anchor pins attach to the sloping end of the fingerboard. Use the same string spacing as described above.

*Note: The mark for the second anchor pin should be placed above or below the first so the “ball” ends of the two strings closest together don’t interfere with each other.*

Place bridge back in slot. Use the 1/16” drill bit and drill holes for the anchor pins, making them perpendicular to the sloped end of the fingerboard (**Diagram 10**). Tap in the anchor pins, leaving approximately 1/8” showing. Take the brass ball of your first string and place it over the first anchor pin. Thread the string through the hole in the shaft of the first gear closest to you. Pull enough excess string through the hole to get your hand on the edge between the fingerboard and string. Wind the string on the gear shaft by turning the gear head button clockwise. Attach String 4 in the same manner. Then attach Strings 2 and 3 (**Diagram 11**).

### Tuning your Dulcimer

There are a variety of possible tunings. The easiest tuning is called “Ionian,” which involves tightening the fourth string to reasonable tension (D below middle C on the piano). Press down this string at the fourth fret space going left to right (tuning gears on left). Strum it and tune the other three strings to match the resulting sound (should be the A below middle C on the piano). It’s that simple!

We stock a wide variety of dulcimer instruction books, recordings, pitch pipes, electronic tuners, carrying cases and other accessories.

### Playing your Dulcimer

In the Ionian tuning, the two strings closest together are used for playing melodies. The third fret up from the nut is “DO.” Continuing on from DO (moving right) is RE, MI, FA, FA#, SO, LA, TI, DO, extending on for another full octave. Moving left from the original DO point would be TI, LA, and with nothing fretted, SO. Initially you can strum across all four strings leaving the two wider spaced strings unfretted. They provide a constant chord or drone background to accompany your melody strings. It is typical in written dulcimer music to number the fret spaces. This is called tablature, or tab for short. The numbers start at “0” for open strings (nothing fretted), then continue “1,” “2,” “3,” “4,” “5,” “6,” “6 1/2,” “7” etc.

Remember that “3” is DO. See the back of the diagram sheet for a sample song.

We hope you enjoyed building your dulcimer and using our kit. Now the fun begins...Playing it!

