

JK HARPS BY DAVY C

DAVY J CLARK, HARP MAKER

FEATURING:

JOHN KOVAC PARAGUAYAN-STYLED HARP KITS, KOVAC MUSIC & VIDEOS, AND HARP ACCESSORIES

DIY HARP-MAKING SUPPLEMENT FOR KOVAC PARAGUAYAN HARPS

JK Harps by Davy C
Georgetown, Kentucky 40324
jkharp@outlook.com
(859) 652-3013

Table Of Contents:

Intro, Pg. 3

Corrections to the Harpmaking Made Simple Book (HMS), Pg. 4

Optional String Tuner Modifications, Pg. 5

String Path, Pg. 6

String Attachment - A, Pg. 7

String Attachment - B, Pg. 8

String Tuning Options, Pg. 9

Necessary Retaining Strip Additions for 29 & 36 String Harps, Pg. 10

Back Panel Retaining Cleats, Pg. 11

Harp Resources & Links Information

Mandatory & Optional Tuning Mechanism Modifications & Tuning Procedure Diagrams

Necessary parts are included with all of our kits or are sold separately.

Feel free to download this full color version of all these Documents and print them out.

Please, see our web store @ www.johnkovac.com [where you purchased our products], go to our **Harp Resources & Web Links** menu choice on our **Home** page to find **Davy C's Kovac Harp Resources** (in Full Color) for all the necessary & optional supplemental documentation to help in building your harp.

John Kovac-specified String Sizes (diameters) have changed from those listed in his books & kit plans.

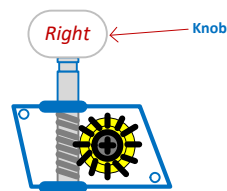
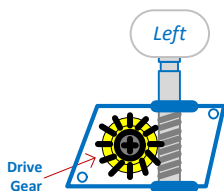
We no longer provide the strings diameter sizes suggested in John Kovac's original books and plans. In the 1990s, the Paraguayan makers suggested John decrease his string diameters to better match what the South American makers felt gave a better response from his Paraguayan-styled harps. So, John re-engineered them.

As a result, the strings we now provide will match the updated & reduced, John Kovac string sizes and are listed in our modern documentation for all of John Kovac's harps & kit harps.

How can I tell a Left Hand Tuner from a Right Hand Tuner?

A) The Left Hand Tuner's Drive Gear is on the **Left** side of the Knob.

B) The Right Hand Tuner's Drive Gear is on the **Right** Side of the Knob.



Should I use the optional Grommets supplied or not?

In John Kovac's original small harp designs, grommets are not mentioned or are optional. We supply them in our kits for your use. They help the harp's strings not cut into the soundboard over the long life of the harp.

Or, you can use an external, hardwood string rib on top of the soundboard in place of the grommets (like Cherry). (Similar to the rear string rib.) (Or, optionally use both, for mechanics & appearance.)

Thus, the grommets supplied with our kits or parts are updated in size compared to John Kovac's original instructions. Please, use the supplied grommets, found in the 3 or 4 various sizes, depending on the harp, instead of as originally suggested by John (this matches the newest string sizes, too).

When using our supplied grommets, disregard the original instructions concerning the size of the string holes. Instead, measure the largest portion of the grommet's shaft and drill a bit smaller pilot hole to match (per normal pilot hole protocols). Keep with the exact same string hole locations on the soundboard. Only, the hole size might differ.

After using the supplied grommets to determine your correct drill bit diameter, each grommet should fit snugly but, without deforming the grommet when it's being installed. Drill test holes first in scrap wood.

I use a rubber mallet to install mine. Fit is firm, not too tight or loose.

Amendments to the *Harpmaking Made Simple Book* (HMS)

Please, note the following anomalies found within the HMS book:

The templates are approximate guides to producing the components for your harp. If given measurements for a component, be sure to follow them first, using the templates as a rough guide to create the shape intended. The only templates not to approximate are the complete Neck and the Soundboard's string spacing. These two must be followed exactly.

Verify the harp's proper construction by first putting it together in a "dry fit" before adding permanent glue.

1) Pages 59 & 75: The measurements for the Tocito heights should be in Centimeters (cm), not Millimeters (mm).

2) Pages 64, 74: Start by adding 1/8 inch to the Front (top of page) & Back (bottom of page) of the Bottom plate. Dimensions should then match the necessary 7-½ inches. Ensure the 4 tabs are the correct distance front & back to match the round side slots in the Sound Chamber's sides. Trim any excess of the front & back, if any to match the face of the harp per John's instructions.

3) Page 80: Start with an increase in Pillar length by adding 1 inch to the top where it contacts the Neck. From there, when dry fitting the harp, verify the correct length allows for 45 inches of vibrating length, +/- .5" for the lowest bass C string from the top of its Soundboard's string hole to the bottom side of the its Bridge Pin Dowel. Trim any excess from the Pillar's top, if any.

4) Page 85A: Since John Kovac had to add the top of the Pillar on the same page as the bottom of the Soundboard, the left side of the Soundboard was necessary to reduce its template width by almost 1 inch. So this last template Soundboard page for each harp model requires extrapolation of its width from the above template on the previous page in order to match the above template's width. John lists the bottom width, in inches for each Soundboard in order to assist with this proportional widening of the template to match it right side. The only important issues are keeping the soundboard's center string rib straight & keeping its string holes at the exact center and distance from each other as you attach together the last, two bottom templates.

5) Page 85B: Start by making the Soundboard 43-9/16 inches long & the bottom width should be amended to 11-7/8 inches wide, not 12", at 96 degrees. The top should be 3.25 inches wide @ 6 degrees. Correlate the final bottom width per John's original Bottom Plate corner to corner width by adjusting the angle leading up to the top of the Soundboard while being careful to keep the string rib & strings in the exact center. Be sure the top treble B string's hole is located 2-13/16" down from the Top plate. Once you dry fit the harp, very carefully trim any excess bottom length & side lengths from the Soundboard, if any. All Soundboard Reinforcement Strips, etc., should remain in proportion to the Soundboard as shown on the templates.

6) Page 89: Start by adding 1/8 inch to the overall measurement of the Top plate. Second, adjust the 4 side tabs (2 per side) back or forth about 1/8 inch to match the Sound Chamber's round side slots. Also, ensure the Soundboard slot at the front of the Top plate is readjusted to match the Soundboard's position & aligns with the Sound Chamber's side slots. The Top plate should be 3-5/8 inches front to back. Trim any excess to match the front of the harp per John's instructions.

OPTIONAL MODIFICATION TO FIT STRING TUNER MECHANISMS ON TIGHTLY-SPACED NECKS

The Guitar tuner spacing used on Paraguayan Harps *sometimes* requires a modification of removing a corner section of a few of the tuner mechanisms.

See the diagram on the right.

Generally, this might possibly become necessary at the center of the Neck at the harmonic curve's steepest slopes. (Depending one's carefulness.)

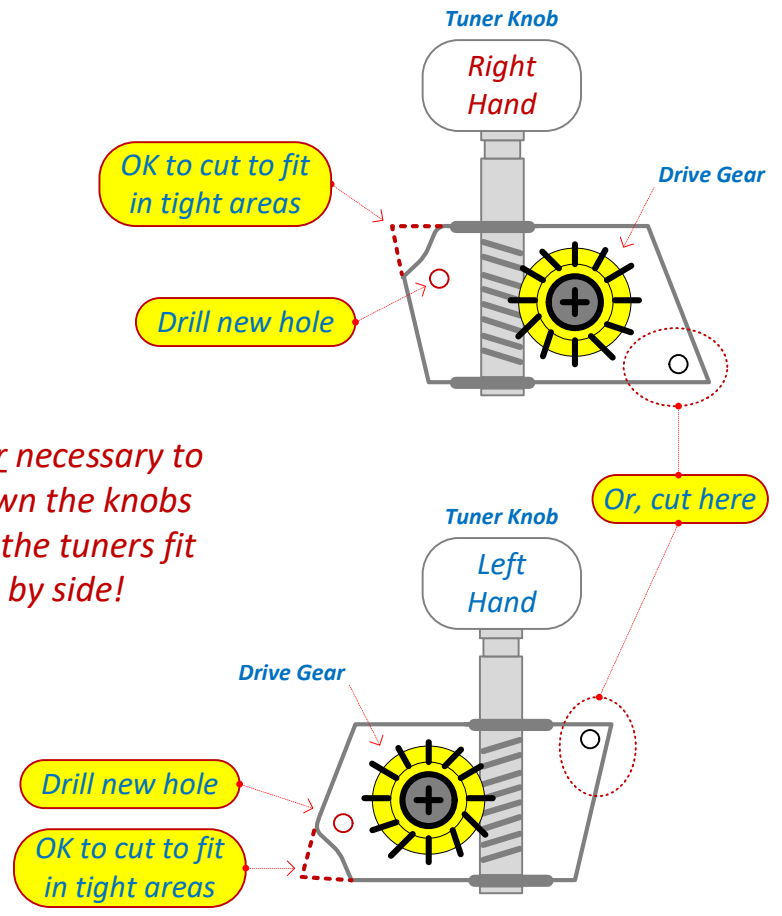
Grinding or cutting both work to remove the excess corner that may interfere with its neighbor's mounting plate.

Remove as little as possible.

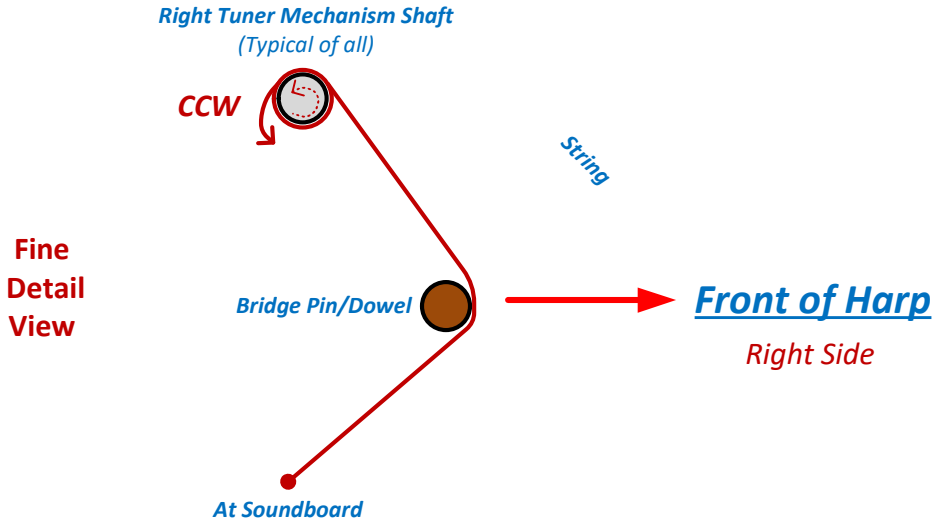
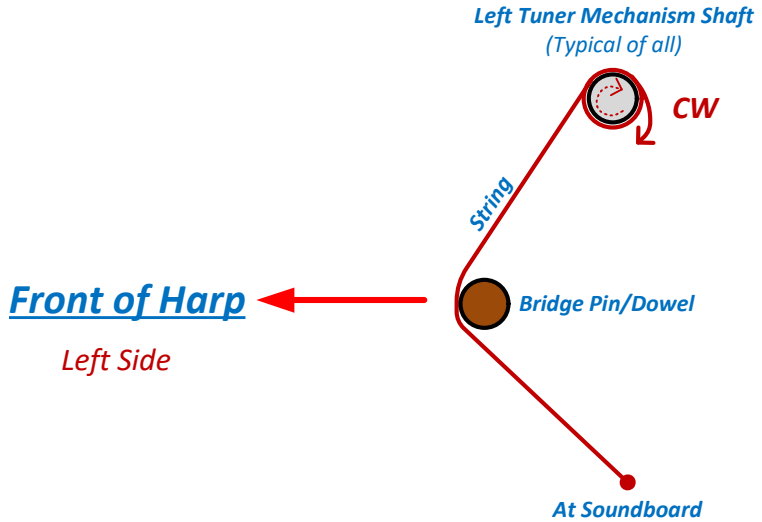
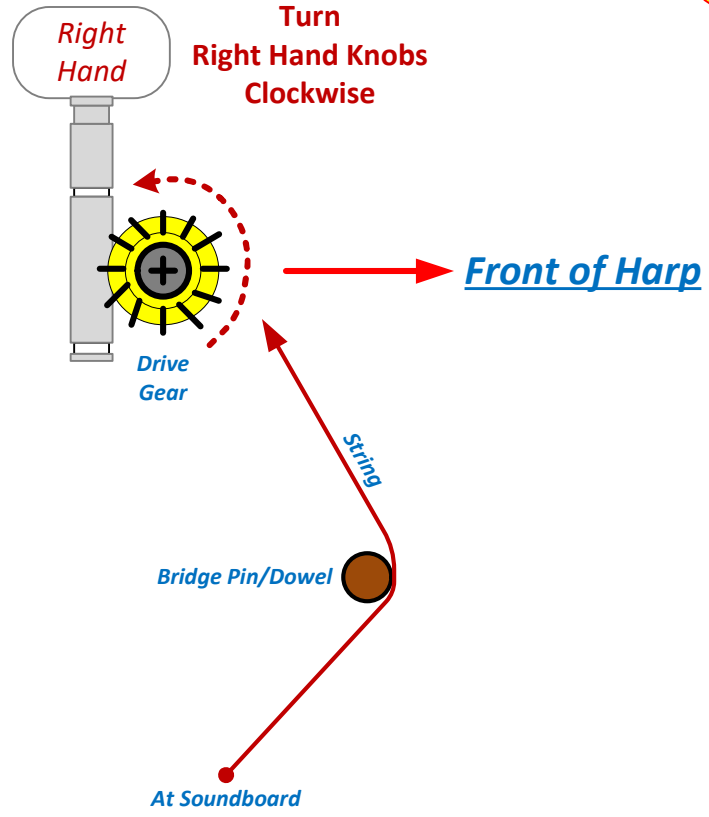
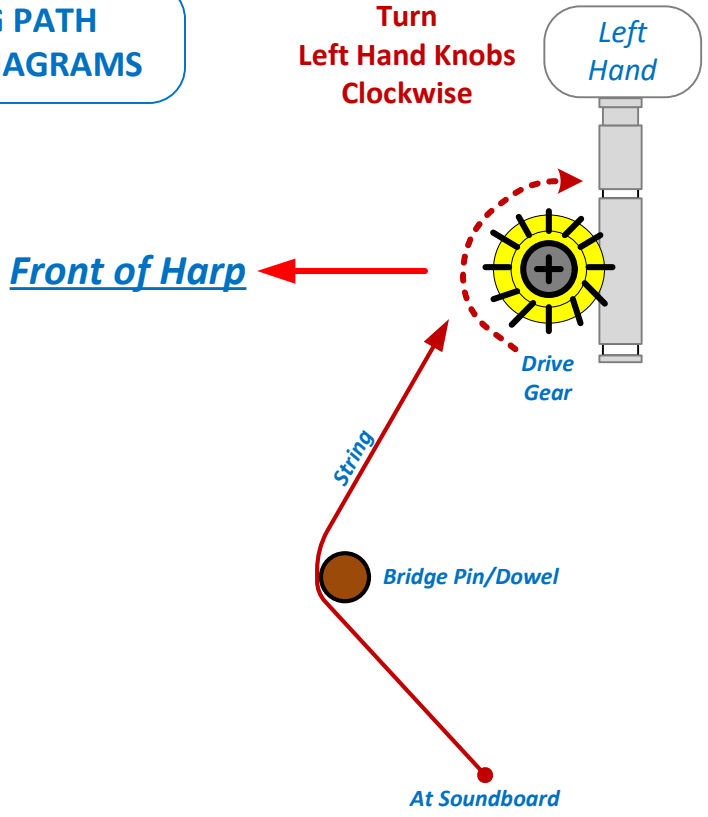
WARNING!

Always use eye & face protection when grinding or cutting metal parts.

It is never necessary to sand down the knobs to make the tuners fit side by side!



**STRING PATH
DETAIL DIAGRAMS**



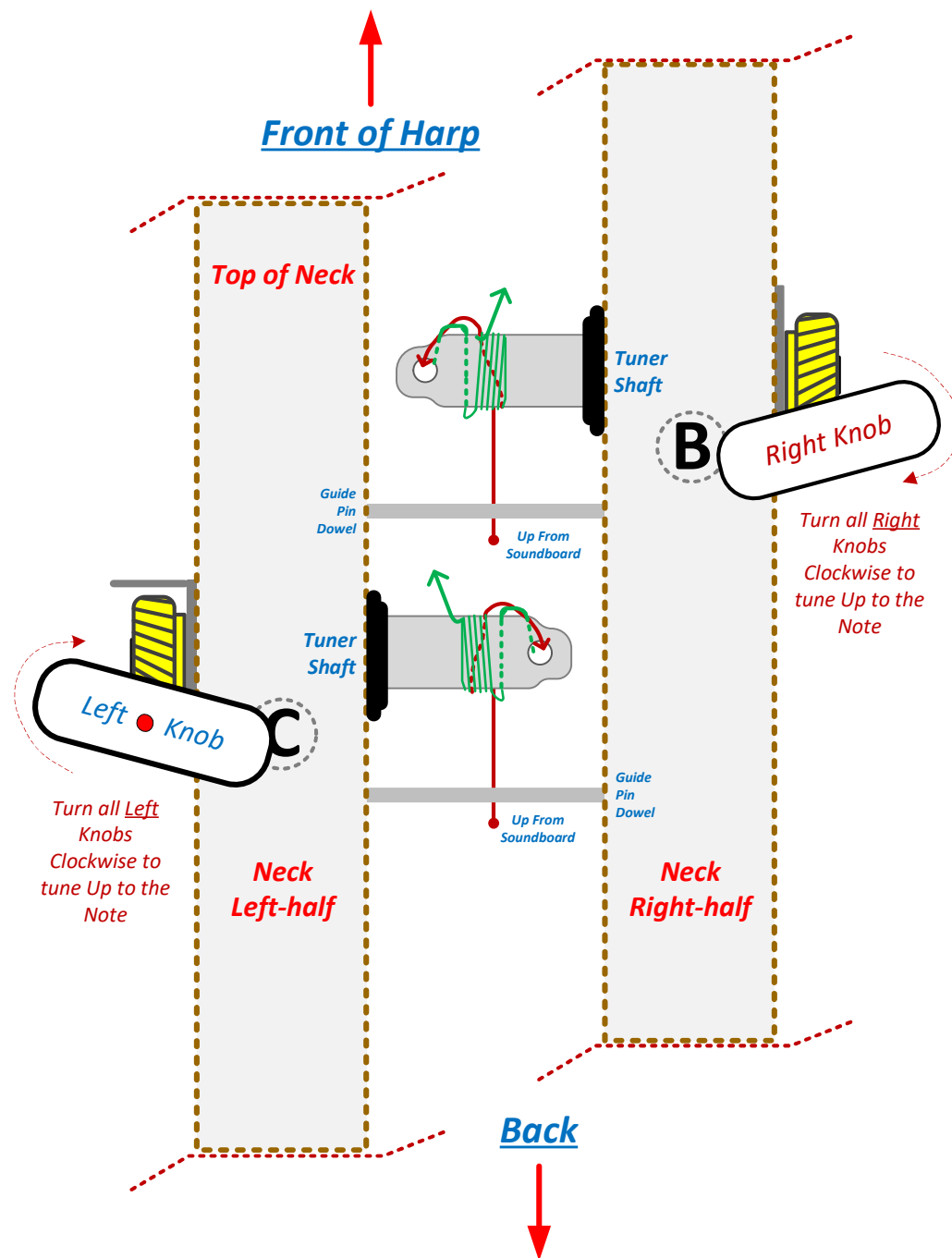
ATTACHING STRINGS TO YOUR HARP'S TUNING MECHANISMS

STRING ATTACHMENT & WINDING

Note:

- 1) Each string starts to thread on the tuner shaft opposite of its tuner knob.
 - 2) Each tuning knob turns Clockwise to tune up to the note.
- 1) Begin with the string coming up from the soundboard and in front of and under the guide pin dowel.
 - 2) Bring string up to the tuner shaft (Front on both Left & Right).
 - 3) Thread it [red] through the hole farthest from the knob.
 - 4) Pull the string through until it is pulled firm but not too tightly.
 - 5) As you start winding, pull the string to seat the string in the hole's edges while looping the leading length of the string around the string coming up from the guide pin. This whole process will lock the string under the up-coming string & help to keep the string from slipping on the tuner shaft once the shaft starts to turn.
 - 6) Hold the leading edge of the string as long as you can while beginning the winding movement in #7 below.

(Go to **Step 7** on the following page.)



ATTACHING STRINGS TO YOUR HARP'S TUNING MECHANISMS
Page 2

IMPORTANT!

Keep the string away from the wood edge while winding up the string. Wind it away, towards the middle of the shaft. Allowing string to build-up along side the wood will eventually lock up the tuner movement & severely damage the drive gear on the string tuner mechanism. (See above Caution!!)

7) Continue to wind the string, using your string winder till the string is relatively firm.

Ensure that the string remains in the middle of the Guide Pin Dowel as it is tightened up to pitch. It is easier to do this before the string has too much tension on it.

8) As the string gets tighter, ensure the string will hold on the tuning shaft without slipping out.

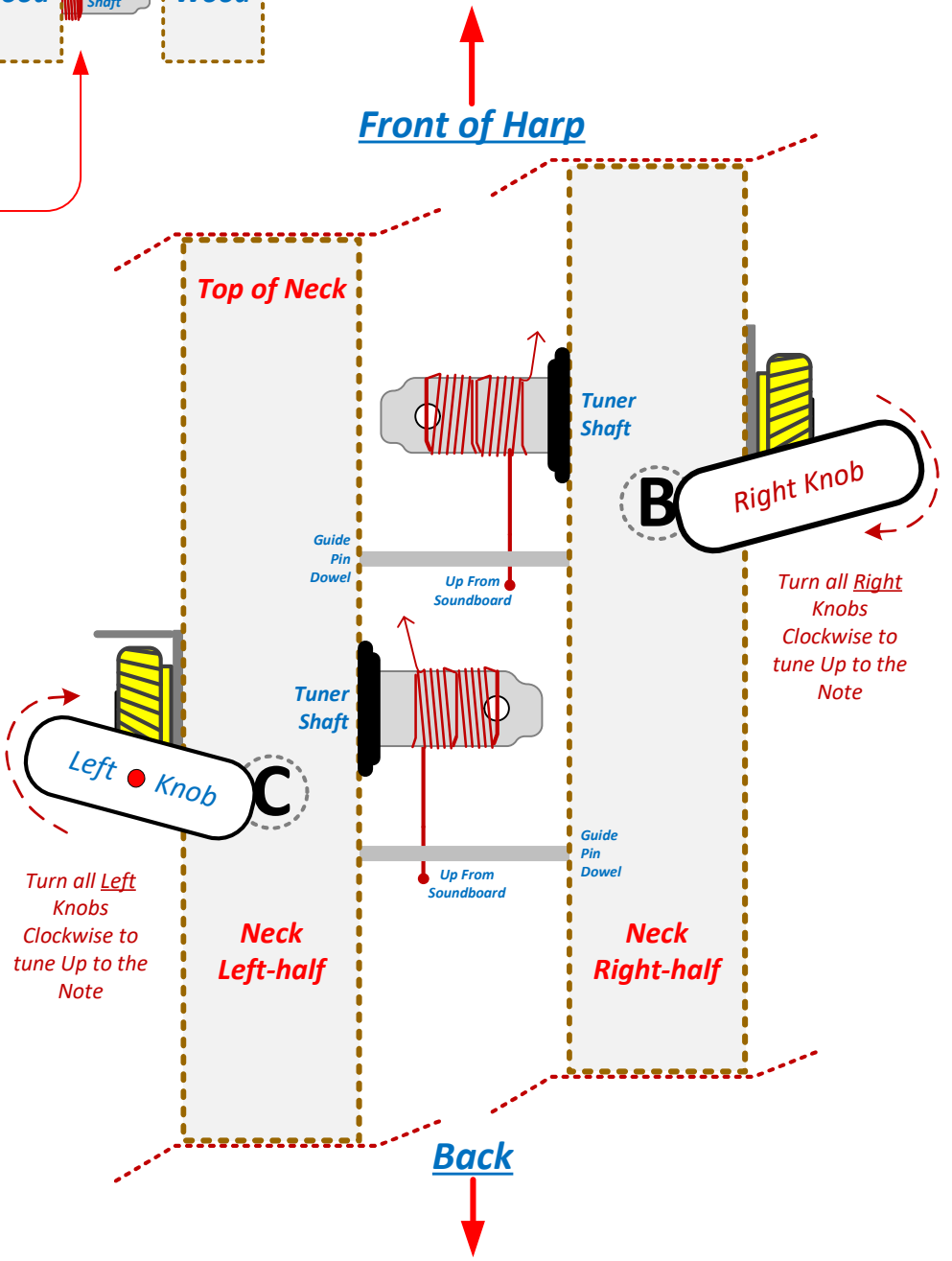
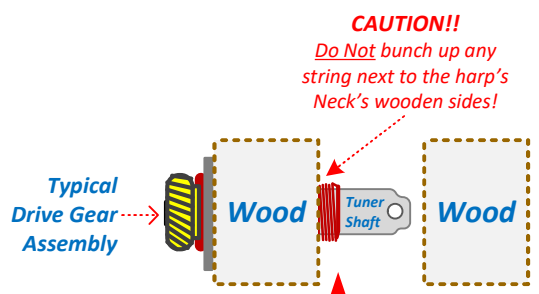
9) Also, ensure the string continues to wind towards the center of the tuner shaft, away from the wood (side) as the shaft turns.

10) Once the string starts to get significantly tighter & holds on the shaft, move to the next string.

11) Once all strings are attached, you can begin the tuning process.

CAUTION!

When winding DO NOT OVER-TIGHTEN!



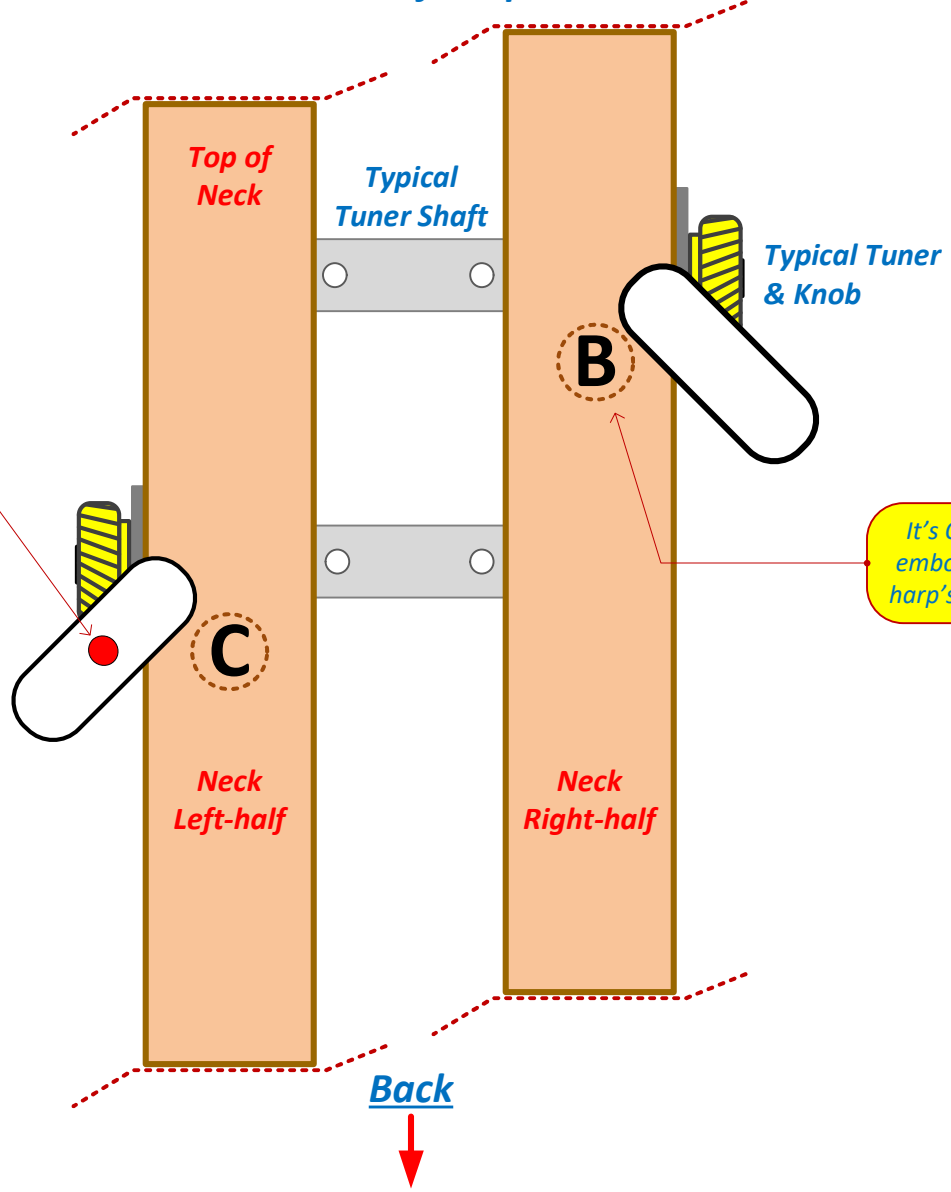
SUGGESTED MODIFICATIONS TO MAKE TUNING LIFE MUCH EASIER ON YOUR HARP

Front of Harp

See example to the right. After stamping, fill in with fine point, permanent marker.



It's OK to drill a small dent in the top of the tuner knobs & paint with colored Sharpie type pens. I use Red for C's & Blue to match the Blue F's. I also add Green for the A's.



It's OK to use a letter punch* set to emboss (indent) into the wood of the harp's Neck the letters for each string.

* Very inexpensive Punch Set at Harbor Freight Tools



Adding Two Front Soundboard Retaining Strips

Applies to the 29 & 36 String Kovac Harps found in the HMS Book.

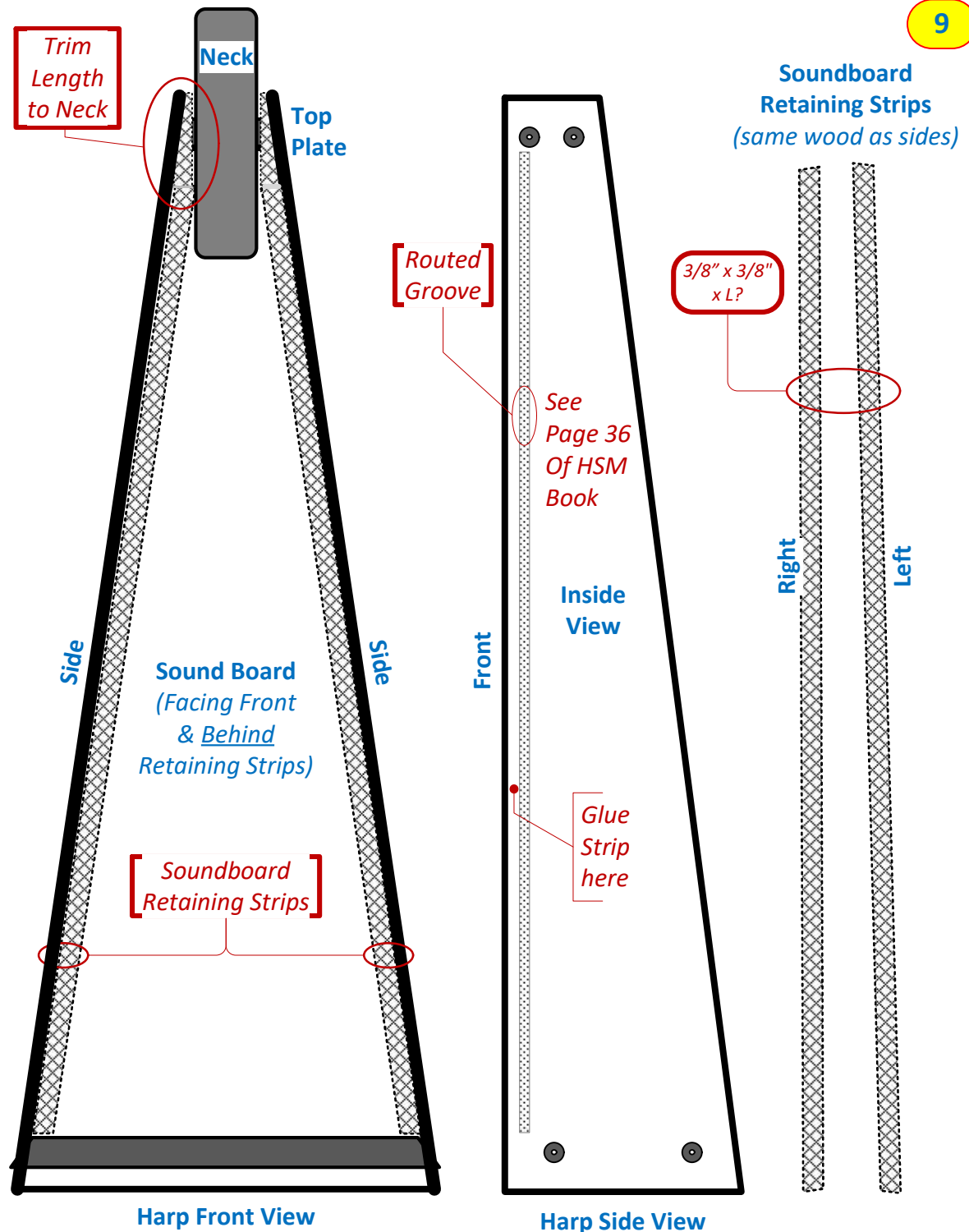
Recommended Modification

(See associated pages 36-37 of the HMS Book)

Adding Soundboard Retaining Strips

Through the decades, it was discovered the slight possibility of the Soundboard to pop out of its slot in the harp's sides. So, it is now recommended to add a front edge retaining strip; one on each front side of the harp (see the diagrams at the right).

- 1) Begin by first cutting 2 Strips at $3/8'' \times 3/8''$ between 2 & 3 foot long or to match the harp's full length. (Later, you will trim down to length & top width when ready to glue onto the harp.)
- 2) Use the same wood for the Strips as the Sides.
- 3) Glue & clamp the Strips, one for each side, to the front edge of the Side directly in front of & exactly flush to the routed Soundboard groove. When correctly installed, the Soundboard will contact the back of the Strips while it rests within its routed grooves.
- 4) Each Strip should be level with the front edge of each Side. Use normal sanding/planing processes to keep them level with each other, using wood putty as necessary to fill gaps.
- 5) Round the front, inside edges of the Strips as desired. Keep the Strip edges square & flush that are in contact with the Soundboard.



Harp Front View

Harp Side View

Adding Three Back Panel Cleats

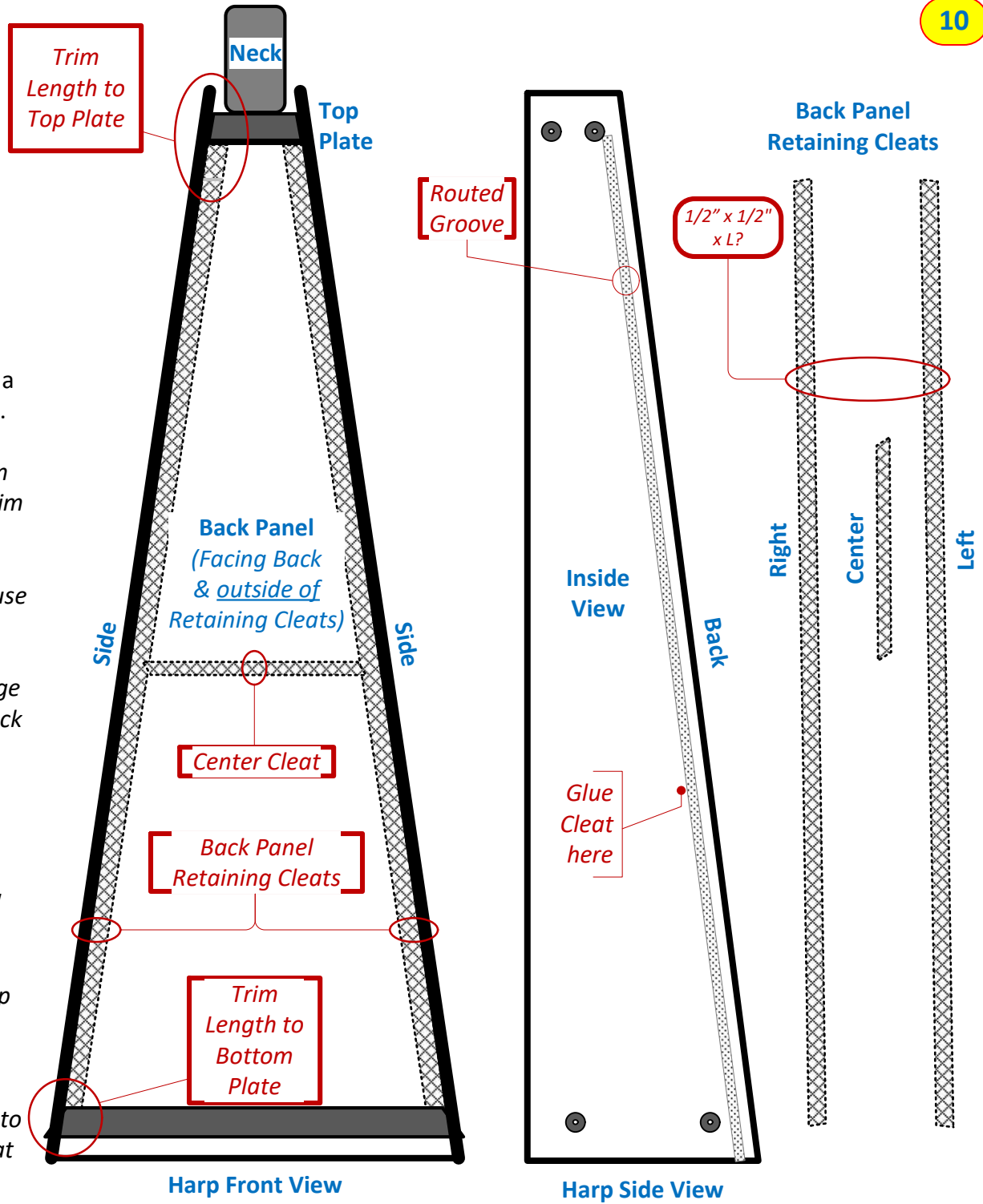
Applies to the 29 & 36 String Kovac Harps found in the HMS Book.

Recommended Modification (See the associated pages of the HMS Book)

Adding Back Panel Retaining Cleats

Instead of using string packed into the Back Panel's slot, use a Cleat System behind the Panel you can screw the Panel onto.

- 1) Begin by first cutting 2 wood Cleats at 1/2" x 1/2" between 3.5 & 4 foot long to match the Panel's size. (Later, you will trim down to length when ready to glue onto the harp.)
2) You can use the same wood for the Cleats as the Sides or use cheap pine.
3) Glue & clamp the Cleats, one for each side, to the back edge of the Side directly behind of & exactly flush to the routed Back Panel groove. When correctly installed, the Back Panel will contact the back of the Cleats while it rests within its routed grooves.
4) From there, once the Cleats' glue is dry, use decorative screws to hold the Panel onto the Cleats. Space about 6 to 8" equally apart, left & right, up & down.
5) Round the front, inside edges of the Cleats as desired. Keep the Cleat edges square & flush that are in contact with the Back Panel.
6) Following the above same procedures, add a Center Cleat to help stop buzzing. Once you have the fit, glue the Center Cleat to the Side Cleats. Use a couple screws spaced left & right to hold on the Back Panel.



Harp Front View

Harp Side View