HOW TO INSTALL OR REPLACE HARP STRINGS

This guide is meant to teach you how to install or replace the strings on your harp. This is a useful skill for any harpist and well worth your time to learn. It may seem difficult at first but if you take your time, read through these instructions, and watch the video online you will be successful!

Make sure you have your string chart handy. If you don't have your string chart, see if you can track one down. String charts for all Musicmakers harps are available online. Most other harp makers can provide you with a string chart if you ask. If you must, you can make your own string chart. This will be good information to have on hand!

Here is the link to the video about how to install strings on your harp as well as some other resources on our website: .

WWW.HARPKIT.COM/BLOG/HOW-TO-STRING-A-HARP

WOUND STRINGS

Most full size floor harps have some wound (composite) strings in the lowest octave because the lower strings need more mass to have enough tension to produce a good tone. These wound strings are custom made for each harp.

There are three basic types of wound string used on harps and it is helpful to understand the differences. If you look at one of our string charts you'll see a column labeled "Gauge". This column indicates the diameter of the monofilament nylons strings and the composition of the wound strings.

Figure 1 shows the bottom section of our Cheyenne Harp String chart. Strings 22-24 just show a number in the gauge column indicating a monofilament nylon string of that diameter.

Strings 25-36 have a few numbers as well as some letters that need some explanation.

String #	Note	Gauge	Code	Color	VL
22	Mid C4	.050	CHEY-C4	red	22-1/4
23	B3	.050	CHEY-B3	clear	24
24	A3	.055	CHEY-A3	clear	25-7/8
25	G3	.045/.008 NN	CHEY-G3	clear	27-3/4
26	F3	.045/.010 NN	CHEY-F3	blue	29-1/2
27	E3	.050/.010 NN	CHEY-E3	clear	31-1/2
28	D3	.050/.013 NN	CHEY-D3	clear	33-1/2
29	C3	.050/.015 NN	CHEY-C3	red	35-1/2
30	B2	.055/.015 NN	CHEY-B2	clear	37-3/8
31	A2	.055/.018 NN	CHEY-A2	clear	39-1/2
32	G2	.026/8/.020 SFN	CHEY-G2	clear	41-1/2
33	F2	.024/5/.008 SFB	CHEY-F2	blue	43-1/2
34	E2	.024/6/.008 SFB	CHEY-E2	clear	45-1/2
35	D2	.024/6/.010 SFB	CHEY-D2	clear	47-1/2
36	C2	.026/6/.012 SFB	CHEY-C2	red	49-3/8

FIG. 1

SFB
Steel Core, **F**iber Bedding, **B**ronze Wrap

FIG. 2

These strings have steel core, surrounded by a fiber bedding, and finally a bronze wrap. Figure 2 shows a C string so the wrap has been colored red.

You'll notice that the windings or wrap extend all the way to the end of the strings. The bronze winding will hold its shape even if cut. If you were to unwrap some of the winding you would expose the plain steel core.

.026/6/.012 SFN indicates a .026" diameter steel core, 6 strands of fiber bedding, and a .012" diameter wrap

SFN
Steel Core, **F**iber Bedding, **N**ylon Wrap

FIG. 3

These strings have a plain steel core, a fiber bedding, and a nylon wrap. You'll notice that the wrapping does not extend all the way to the end of the string, leaving the core exposed. The nylon wrapping won't hold its shape and must be tied off below where the strings need to be cut. If you cut into the nylon wrapping, the entire wrapping will unwind and the string will be useless.

.026/8/.020 SFN indicates a .026" diameter steel core, 8 strands of fiber bedding, and a .020" diameter nylon wrap

N/N
Nylon Core, **N**ylon Wrap

FIG. 4

These strings have a nylon core and a nylon wrap. The nylon wrapping does not extend to the end of the string and must be tied off below where you will cut the string. Do not cut into the wrapping on these strings.

.055/.018 indicates a .055" diameter nylon core with a .018" diamteter nylon wrap.

It's important to note that you must not cut into the nylon windings of the SFN and N/N strings. If you do, you will render the string useless.

SFB STRINGS

___1. Start at the bass (lowest) end of the harp and install the wound strings first. These strings come with a ball and washer so you don't have to tie any knots on the bottom of the strings.

Insert the string through the back of the harp through the lowest hole inside the soundboard. Pull it all the way until the knotted end contacts the back side of the soundboard.

___2. Thread the other end of the string through the corresponding tuning pin, pulling it through the pin. Clip the wire string about 1-1/2" to 2" above the pin. This will leave enough slack in the string to allow 2-3 windings before coming taut.

___3. Use the tuning wrench to turn the pin clockwise (from the viewpoint of the back of the tuning pin) and guide the windings neatly around the tuning pin. (fig. 5)

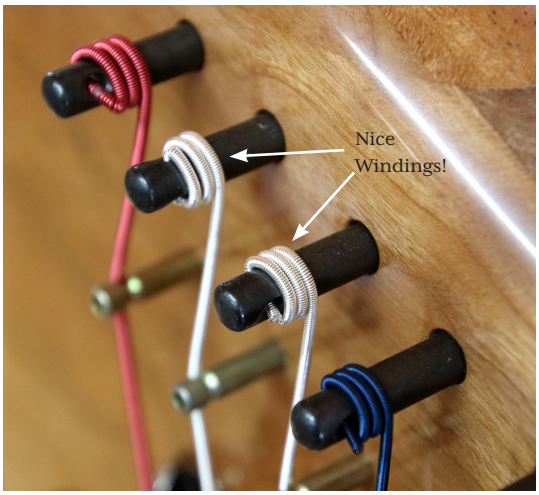


FIG. 5

___4. As the string begins to tighten, place it in the groove of the bridge pin. When you are satisfied with the installation of the string, use a wire cutter to clip off the excess tail, close to the tuning pin.

SFN STRINGS

___5. Figure 6 shows SFN and N/N strings successfully installed on the harp.

String any SFN strings the same way you installed the SFB strings. Be careful with the exposed wire core of these strings. They can easily scratch the surface of your harp.

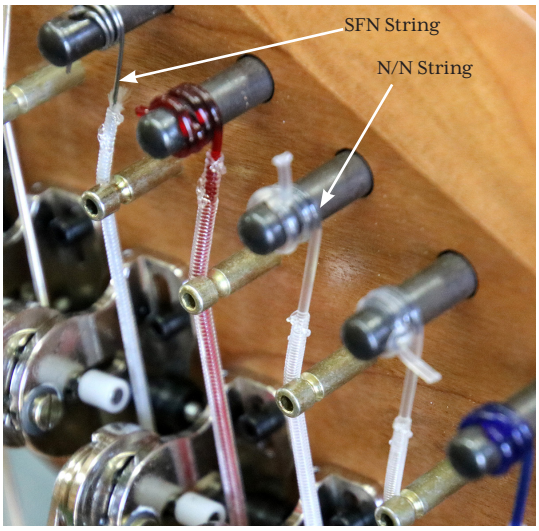


FIG. 6

N/N STRINGS

___6. N/N strings require a little extra attention. Pull the string straight through the hole in the soundboard, not at an angle, to avoid scratching the nylon wrap against the brass eyelet.

Before you trim the tail, you will need to "cross the windings." Crossing the windings is what anchors the top of the string to the tuning pin. Read the next step before attaching the N/N strings to the tuning pins.

CROSS THE WINDINGS

___7. When attaching the N/N and monofilament nylon strings to the tuning pins, follow the same procedure as you did for the bass strings. However, with nylon, it is necessary to also anchor the tops of the strings securely to the tuning pins, as follows:

Thread the string through the hole in the tuning pin. **Do NOT trim the string yet.**

Leave yourself enough slack to guide 1-1/2 windings of string on the tuning pin away from the neck.

Then guide the next winding back over the others (toward the neck) so the string helps "pinch" itself tightly to the pin as you tune it up to pitch. (fig. 7) If you don't do this, you will surely experience string slippage and breakage, especially in the upper half of the instrument.

Once the windings are crossed and the string is taut, you can clip the tail off the string.

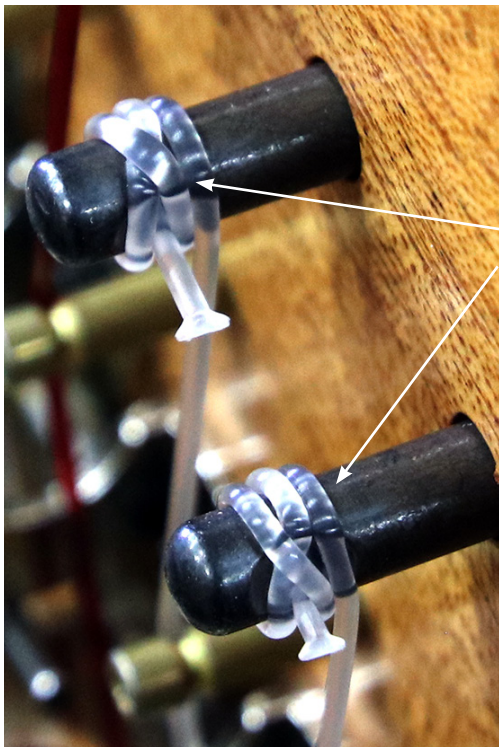


FIG. 7

MONOFILAMENT STRINGS

Monofilament nylon strings do not have knots tied in them yet. We find it easier to insert these strings from the front of the harp and then reach inside the back to find the end and tie the knot.

The knots we tie in the strings prevent the string from being pulled through the soundboard. So we have to tie progressively larger knots as the diameter of the strings gets smaller.

Overhand Knot

FIG. 8

.060", .055", & .050 STRINGS

For these strings, tie a simple overhand knot at the end, as shown in fig. 8.

Leave enough tail at the end of the string to push back into the overhand knot's loop. (fig. 9) This knot is sufficient to prevent the string from pulling through the soundhole. You can tighten the knot by pulling it firmly against the back of the soundboard.

Overhand Knot with tail tucked into knot

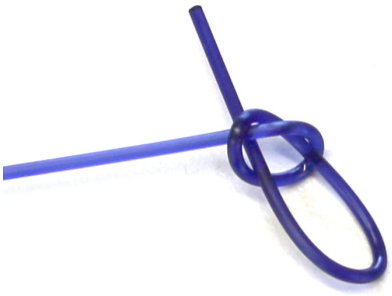


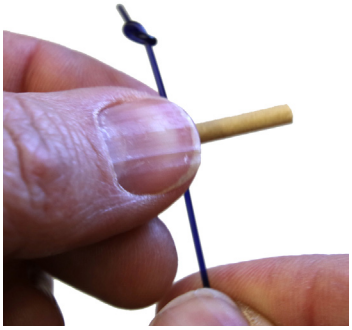
FIG. 9

.045" THROUGH .025" STRINGS

___8. For the remaining nylon strings (.045" to .025" diameters) you will need to bulk up the knot with a small wooden dowel. Begin by threading the strings through the soundboard.

Tie an overhand knot near the end of the string and pull it tight. Then lay the string on top of the dowel forming a 'T'. (fig. 10)

FIG. 10



Next you'll form two half hitch knots and loop them over the dowel one at a time. (figs. 11 - 16)

FIG. 11

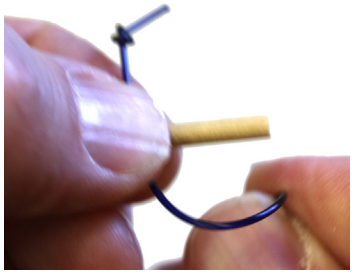


FIG. 12

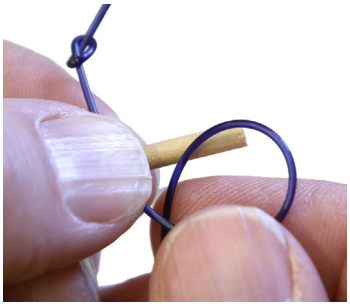


FIG. 13

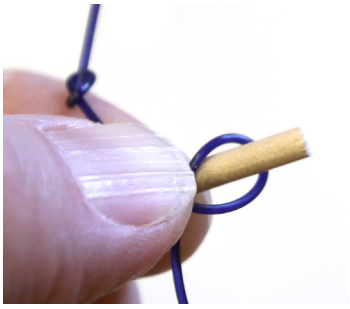


FIG. 14

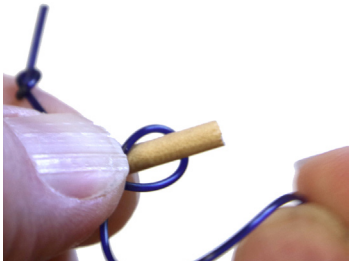


FIG. 15

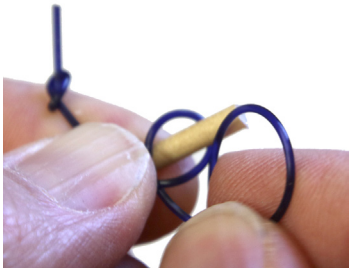
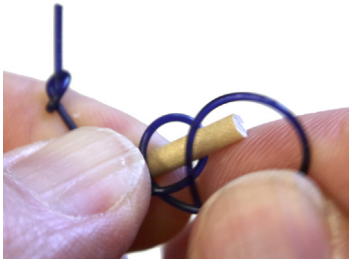
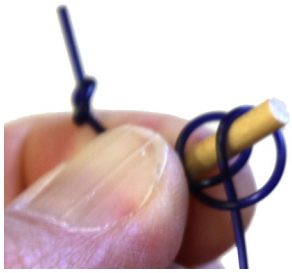


FIG. 16



Once both loops are over the dowel (fig. 17), pull the long part of the string tight against the dowel. The overhand knot will snug up to the dowel and prevent the string from pulling through the two half hitch knots. The dowel prevents the strings from pulling through the soundboard.

FIG. 17



___9. Attach the rest of the nylon strings to the tuning pins as described in Step 7.

SOME FINAL TIPS

Be sure to check out the video about chaning/installing harp strings on our website. All of these steps are explained and demonstrated in that video.

Do not accumulate a lot of windings around the tuning pins, especially with the thick bass (low) strings lest they become bulky and cumbersome. If you have that problem, turn the tuning pin backward to unwind the string, then pull more of the string through the hole and tighten again.

Wound harp strings are custom made for each model of harp. Some people break the first one they install by over-tightening. They don't expect it to come up to pitch so quickly. Take care to avoid that costly mistake. It is very helpful to pluck the string as you tighten it, so you can hear the pitch go up as your increase the tension.

Musicmakers provides full length nylon strings. Many of the smaller diameter nylon strings are long enough to provide you with 2-3 spare strings. Hang on to the cutting, label the string with the diameter, and save in case you need a replacement

TUNING

___10. When all the strings are installed, you can begin tuning the strings up to pitch. Expect it take around 50 tunings before the harp will fully stabalize. We recommend tuning it two or three times a day. Persevere, and be patient! It should get better each day.

The strings should all be tuned to the natural C major scale (white keys on the piano.) All the red strings will be C notes and the blue strings with be F notes.

Many people are not certain if they are tuning their harp strings to the correct octave. Tuning the strings an octave too low will result in flabby harp strings that don't provide much volume. Tuning the strings too high will cause strings to break. To make sure you are tuning your harp strings to the correct octave, you can double-check the pitch on our website with our "online tuner" at www.harpkit.com/freetuner.

You can also check your string chart. You'll see notes listed with a number after them (C4 or D5 for an example.) This is called Scientific Pitch Notation and is used to identify the octave of any given note. Middle C on the Piano is C4.

The octave number changes at every C. (fig. 18)

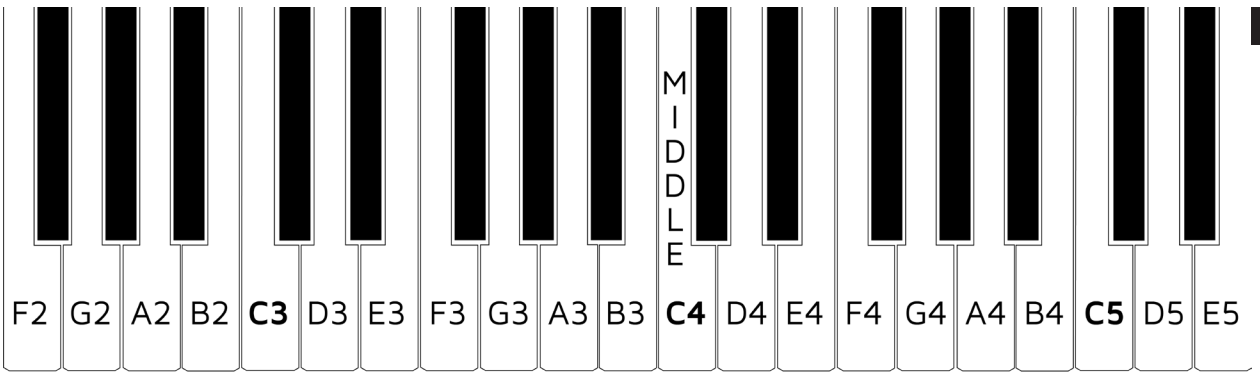


FIG. 18