

STRINGING & TUNING

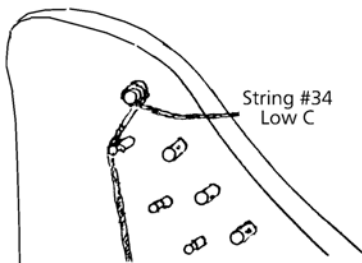
___1. Stringing a harp is somewhat of an art. We recommend that you read through these last pages of directions completely before beginning, so you know what to expect. Please also listen to the cassette tape "Stringing/Tuning the Harp" (included with hardware) before beginning. You'll gain lots of insights into the art of stringing, along with a joke or two for your performance repertoire by listening to this cassette.

It is not uncommon for people to call us in a panic because their harp either a) won't stay in tune, or b) keeps breaking its strings. Careful installation will do much to eliminate these problems. We string this model harp regularly and tune it up to concert pitch right away with rarely a broken string, but it takes a little patience and concentration.

The strings are numbered from 1 (for the smallest) to 34 (for the longest), and they are color-coded to help guide you as you play. "C" strings are all red, and "F" strings are blue.

___2. Start at the bass (longest) end of the harp with string #34, a long red string that is very thick. Push the plain end of the string through the lowest hole in the **SOUNDBOARD** from back to front. Pull it all the way until the knotted end contacts the **REINFORCEMENT BAR** inside the harp.

NOTE: If the color on the strings should happen to fade, you can restore it with permanent marker.



___3. Thread the other end of the string through the last **TUNING PIN** near the point of the **NECK**, pulling it through the pin, but leaving enough slack below the pin to allow several windings before coming taut.

___4. Use the **TUNING WRENCH** to turn the pin clockwise (from the viewpoint of the tuning wrench on the backside of the **NECK**) and guide the windings neatly around the **TUNING PIN**.

___5. As the string begins to tighten, place it in the groove of the **GUIDE PIN** as shown.

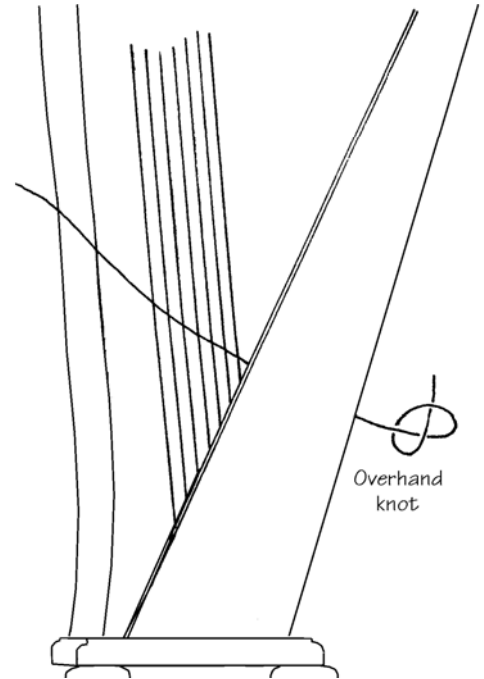
CAUTION!

These **WOUND STRINGS** are very fragile and expensive to replace. 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 you increase the tension.

___ 6. Thread the other 6 wound strings in the same way, taking care to keep them in the correct order. When you are satisfied with installation of these strings, use a wire cutter to clip off the excess wire, close to the TUNING PINS. These sharp ends are *dangerous!* Cut them short so they won't poke you or catch on your clothing.

NOTE: Pull straight through the hole, not at an angle, to avoid scratching the nylon against the brass eyelet.

___ 7. The remaining 27 strings are plain (monofilament) nylon that have no knots tied in them yet. You may insert these strings from the front of the harp, if that is easier, and then reach inside the back to find the end. Tie a simple overhand knot at the end, as shown.



Put a drop of Superglue or Krazy glue on the knot, then pull the knot tightly against the inside of the SOUNDBOARD (right away, before the glue has set up). No, we don't want to glue string to the harp, we just want to "freeze" the knot itself, so the slippery nylon doesn't untie itself when the string is tuned up to pitch.

Thread the other end of the string through the next TUNING PIN, pulling it through the hole until there is only a little slack in the string below the PIN. How much slack? About 2-4 inches. You'll catch on—too much slack makes for bulky accumulations of string around the TUNING PIN, and too little means you won't have enough to even wrap once around the PIN. Ideally, you'll have 3 to 5 wraps of string around each TUNING PIN for security.

Turn the PIN clockwise with the tuning wrench as you take up the slack with the other hand, guiding the string as it winds around the pin. As the string begins to tighten, place it in the groove of the GUIDE PIN.

Helpful Hint

Do not accumulate a lot of windings of string around the TUNING PINS, especially with the thick bass (low) strings. They become bulky and cumbersome. If you have that problem, turn the TUNING PIN backwards to unwind the string, then pull more of the string through the hole and tighten again.

Once the string is satisfactorily installed, you may clip off the excess nylon close to the pin (leave $\frac{1}{4}$ " stub), and tune the string up to its proper pitch (no, it won't stay in tune yet, but it helps to begin stretching it right away).

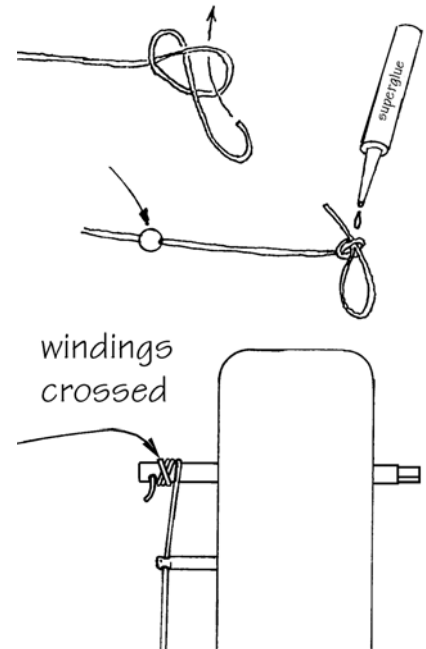
___ 8. Install all six of the large (.060") strings this same way, taking care to put the colored ones in the proper positions. We have included one spare clear string in each bundle in case you break one.

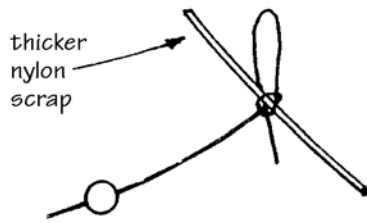
___ 9. When you come to the mid-range strings (sizes .050" and .040"), thread a small plastic bead onto each string, as shown, and then tie the bottom knot a little differently to give it more bulk. Start with the same overhand knot, but before tightening it, push the loose end part way back into the knot, just to add one more thickness of string to the knot.

IMPORTANT: It is necessary to also anchor the tops of these strings (and all the lighter ones) securely to the tuning pins, as follows:

Guide one or two windings of string on the TUNING PIN, then guide the next winding over the others so the string helps "pinch" itself tightly to the PIN as you tune it up to pitch. If you don't do this, you will surely experience string slippage and breakage, especially in the upper half of the instrument.

___ 10. The next two sizes of strings (sizes .036" and .032") are thinner and more fragile. Take care to avoid scratching them as you install them, and don't forget the PLASTIC BEADS and the Superglue!





____11. The last five strings are the most delicate. Take your time with them. This nylon is so thin that even a double knot will sometimes pull through the hole in the bead. The solution is to insert a short piece of thicker nylon into the knot to make it bulkier, as shown.

When all the strings are installed, tune the entire harp up to pitch so the instrument begins to adjust itself to the tension.

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 ones F notes. Middle C is string number 20 from the top. The lowest note is two octaves below middle C.

NOTE: Expect it to take 50 tunings before the harp will stay in tune well. That means if you only tune the harp once a week, it will take a year for it to settle in! So we recommend tuning it two or three times a day. Persevere, and be patient! It should get better each day. If you find that it does not get better each day, then something else may be wrong. Take a good look at the "Care and Feeding" page at the end of these instructions. There is no reason for this harp to be unstable in tuning.

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