Dusty Strings

Replacing Harp Strings

About Strings

Harps strings do not have a predetermined lifespan—an individual string can last anywhere from a few weeks to a few years or even longer. You can help your harp strings last longer by keeping your harp out of direct sunlight (UV rays can damage nylon). Even so, it isn't unusual to break a string from time to time.

The wound strings on your harp are custom-made, so please contact your harp dealer or Dusty Strings for replacement strings. We include a string chart with each harp showing the string number, string gauge and note name for that harp. We also mount another small string chart discreetly inside the soundbox as a permanent record of the string set.

Caution: Use of nonrecommended strings may increase the tension on your harp and put its integrity at extreme risk, voiding the warranty.

In addition to replacing the occasional broken string, you may want to replace strings that have gotten old and stretched out. Signs of old strings include:

- If a string sounds dull.
- If it's hard for your electronic tuner to tell what the note is.
- If a wound string begins to unwrap.
- If the nylon wrap on a wound string stretches over the bridge pin *(figure 1)*.
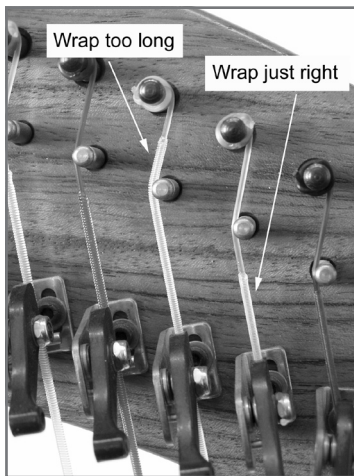- If you notice an overall loss in the harp's tone.

Figure 1: Wrap length

We recommend that you remove and replace a few strings at a time rather than taking them all off at once. On a number of our models, the string tension alone is what holds the neck and pillar onto the soundbox. If all the strings are removed at once, the two major sections of the harp will come apart.

> *Dusty Strings makes five types of strings. Please use the instructions that correspond with the type you are replacing.*

String composition

- Mid and upper ranges: nylon monofilament
- Lower mid range: nylon core with nylon wrap
- Bass strings on 32- and 36-string harps: phosphor bronze wire core with nylon wrap.
- Bass strings on 34-string harps: steel core with wire wrap
- Bass strings on Serrana 34: nylon core with wire wrap
- The gut string option has gut from the upper bass range to the lower treble range.

About Tuning Pins

Your Dusty Strings harp will have one of the following types of tuning pins:

tapered tuning pin

threaded tuning pin
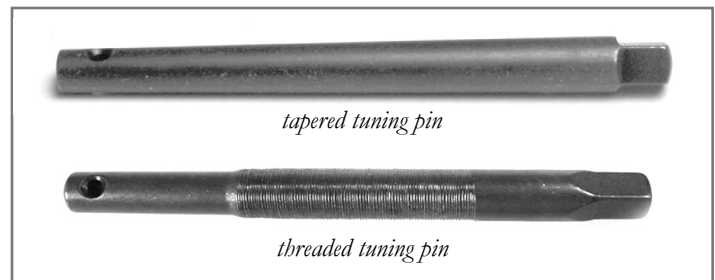
Tapered friction pins: Harps have traditionally used tapered friction pins for tuning. These pins work by being tightly pressed into a tapered hole in the harp neck, much like a violin peg. They can work loose due to changes in temperature or humidity, from getting bumped in transport, or from general day-to-day use. If a tuning pin becomes loose and won't hold its pitch, it can be re-seated using the following technique: Down-tune the string by half a turn and then tune it back up to pitch, adding a slight back and forth wiggle, all the while pressing inward as hard as you can. This will set the pin farther into the neck, providing the friction needed to hold pitch against the tension of the string. If you can't get the needed tightness, enlist the help of someone who has greater arm strength. If a pin gets pressed in too tightly, it can be loosened by pushing in on the string end of the pin while tuning the string down (counterclockwise).

Threaded tuning pins: In late 1998, Dusty Strings began using threaded tuning pins instead of tapered friction pins. These pins do not depend upon a tight set in a tapered hole

to hold the string, thus eliminating the occasional need to re-seat the pins. They are grooved with a very fine screw thread inside the neck, and while they look very much like traditional taper pins, they do need to be treated slightly differently. When replacing strings, you need to back the pin out, as if you are "unscrewing" it, by about three or four turns before putting the new string on. Since every clockwise turn of the pin will advance it by .010" into the wood, this step needs to be taken in order to maintain an even line of pins.
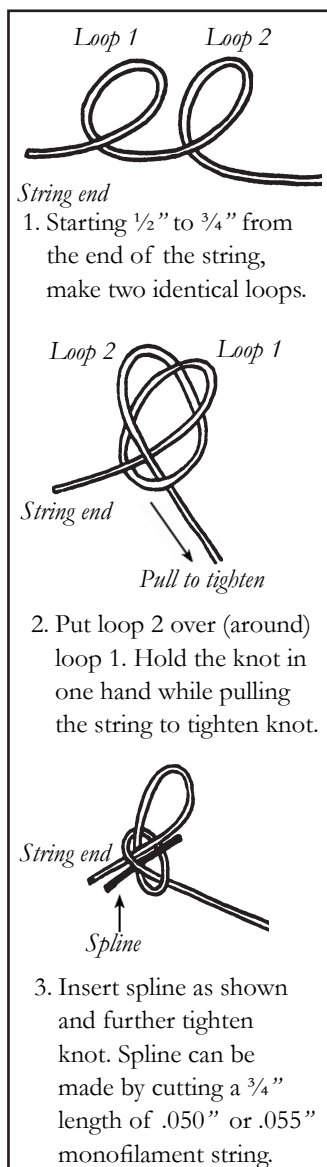
Eyelets

Eyelets are the little brass grommets in the soundboard that the string passes through. They are under a lot of tension and will sometimes crack or bend, so whenever you change a string, it is a good idea to inspect the eyelet to make sure it is in good condition. If not, we have packs of replacement eyelets available, so give us a call with the harp model, serial number, and string number. If a string is missing its eyelet, or if it is badly cracked, take the tension off that string immediately. Without the eyelet, the string will start to dig into the wood of the soundboard, and it is better to catch this early.

To Replace Nylon Monofilament or Gut Strings:

1. Wear eye protection. If your harp has threaded tuning pins, remember to back the pin out by 4 turns (refer to Tuning Pins section for more information). If you skip this step, the pins will advance too far into the neck, which could result in repeat broken strings.

2. Remove any remnants of the old string from the soundboard, inside the soundbox, and the tuning pin. Using your tuning wrench, align the hole in the tuning pin vertically.

3. Insert the new string through the string hole in the soundboard, from front to back. Reach around through one of the soundholes and pull it out a bit so you can work on it outside the soundbox.

4. Tie a harper's knot and insert a spline in the bottom of the string *(figure 2)*. Reuse the splines from the original

Figure 2: Tying the harper's knot

Loop 1   Loop 2

String end
1. Starting ½" to ¾" from the end of the string, make two identical loops.

Loop 2   Loop 1

String end

Pull to tighten

2. Put loop 2 over (around) loop 1. Hold the knot in one hand while pulling the string to tighten knot.

String end

Spline

3. Insert spline as shown and further tighten knot. Spline can be made by cutting a ¾" length of .050" or .055" monofilament string.

strings, or make a spline by snipping 1" off of a .055" gauge string.

Exceptions: For .050" and .055" strings, tie a harper's knot and use a leather washer instead of a spline. (Be sure to save the washer from the original string and reuse it.) For .025" and .028" gauge strings, tie an extra loop around the finished loop.

See knot-tying videos on our website for more help, or see https://DStrings.link/stringbuttons for an alternate method that is easier on the hands.

5. Grasp the free end of the string and pull the knot snugly against the inside of the soundbox.

6. Thread the free end of the string through the tuning pin.

7. Pull the string straight up until it is taut, and then pull the free end of the string toward the back of the harp, half way around the tuning pin, and pass it between the neck of the harp and the vertical part of the string below the tuning pin *(figure 3a)*.

Exceptions: In order to have enough loose string to get three or four wraps around the tuning pin, the 025", .028", and .032" strings need to be slack before being wound onto the tuning pin. For .025 and .028 strings, leave enough slack so that you can pull the string 1.5" -2" from its vertical line (figure 3e). For .032" strings, leave a half inch.

8. Pull the string end toward the back of the harp and then straight up. Hold it firmly in this position *(figures 3b and 3c)*.

9. Begin to tighten the string, making sure the wraps wind on toward the harp neck *(figures 3d and 4)*. The first turn

Figure 3: Starting a nylon string
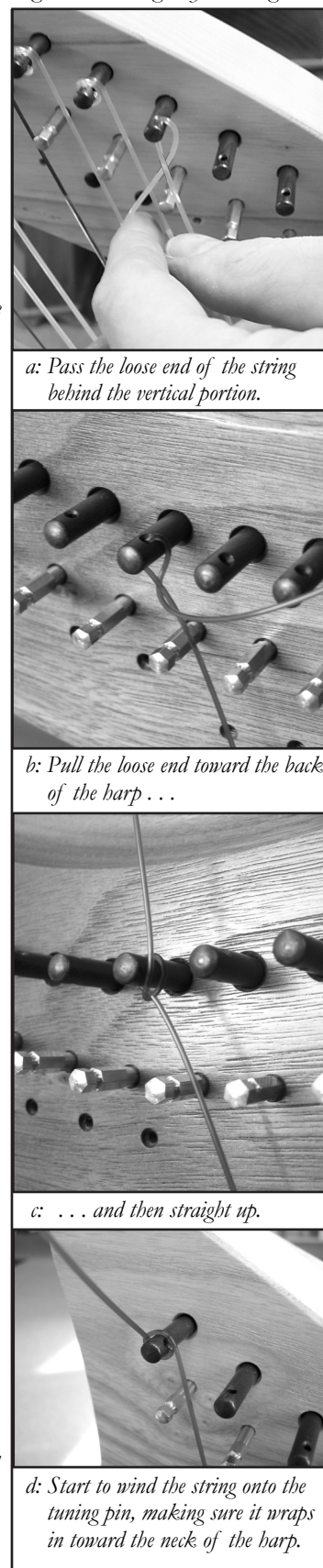
a: Pass the loose end of the string behind the vertical portion.

b: Pull the loose end toward the back of the harp . . .

c: . . . and then straight up.

d: Start to wind the string onto the tuning pin, making sure it wraps in toward the neck of the harp.

should pass over and secure the string end. You can let go of the string end, as you have now locked it in place.

10. Cut off the free end as close to the wrap as possible with nail clippers or wire cutters. Extra length is not only unnecessary but may scratch you or your harp.

11. Before the string is taut, make sure it is passing around the correct side of the bridge pin and through the sharping lever *(figure 5)*.

12. Continue turning the pin until the string is up to pitch. The monofilament strings stretch quite a bit, so they need to be tuned every day for a week or two until they hold pitch. You can hasten the stretching process if you want by tuning a new monofilament string slightly over pitch during this initial tuning period (up to 20 cents sharp).

To Replace Nylon Core/Nylon Wrap Strings:

1. Wear eye protection. If your harp has threaded tuning pins, remember to back the pin out by 4 turns *(see Tuning Pins section)*. If you skip this step, the pins will advance too far into the neck, which could result in repeat broken strings.

2. Remove any remnants of the old string from the soundboard, inside the soundbox, and the tuning pin. Using your tuning wrench, align the hole in the tuning pin vertically.

3. Insert the new string through the string hole in the soundboard, from back to front. Pull the leather washer snugly up against the inside of the soundbox.

4. Thread the free end of the string through the tuning pin.

5. Pull the string straight up until it is taut, and then pull the free end of the string toward the back of the harp (toward the soundbox), half way around the tuning pin,
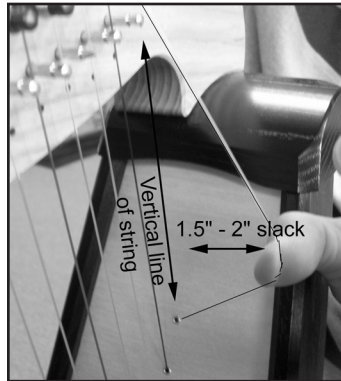
Figure 3e: Leave some slack

Vertical line of string

1.5" - 2" slack

Figure 4: Wind the string toward the neck.

Figure 5: Tuning pin, bridge pin, and sharping lever
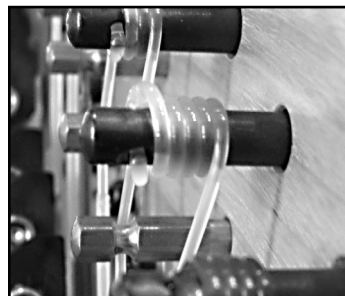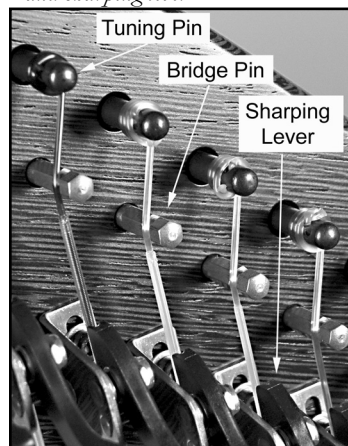

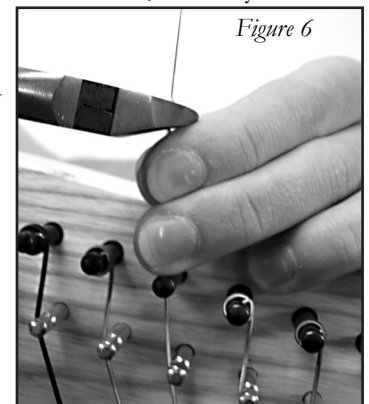Tuning Pin

Bridge Pin

Sharping Lever

and pass it between the neck of the harp and the vertical part of the string below the tuning pin *(figure 3a)*.

6. Pull the string end toward the back of the harp and then straight up. Hold it in this position *(figures 3b and 3c)*.

7. Begin to tighten the string, making sure the wraps wind on toward the harp neck *(figures 3d and 4)*. The first turn should pass over and secure the string end.

8. You can let go of the string end, as you have now locked it in place.

9. Before the string is taut, make sure it is passing around the correct side of the bridge pin and through the sharping lever *(figure 5)*.

10. Cut off the free end as close to the wrap as possible with nail clippers or wire cutters. Extra length is not only unnecessary but can scratch you or your harp.

11. Continue turning the pin until the string is up to pitch.

To Replace Bronze Core/Nylon Wrap Strings or Steel Core/Wire Wrap Strings:

Caution: Phosphor bronze tends to be brittle. You can unwind and rewind nylon strings if necessary to get the coils on the tuning pin just right, but phosphor bronze strings are likely to break at the tuning pin hole if you attempt to correct a sloppy winding job. Be careful, take your time, and don't tune bronze strings over pitch.

1. Wear eye protection. If your harp has threaded tuning pins, remember to back the pin out by 4 turns (refer to Tuning Pins section for more information). If you skip this step, the pins will advance too far into the neck, which could result in repeat broken strings.

2. Remove any remnants of the old string from the soundboard, inside the soundbox, and the tuning pin. Be careful when removing the razor-sharp pieces of wire. Use fine-nose pliers if necessary. To remove a string from inside the soundbox, twist and wiggle the ball-end of the string while pulling firmly until the string comes free.

3. Using your tuning wrench, align the hole in the tuning pin vertically.

4. Uncoil the new string a safe distance away from your harp, so that if it springs open, it won't scratch your harp. From the inside of the soundbox, carefully feed the string through the hole in the soundboard until the leather washer rests firmly against the inside of the soundboard.

Figure 6

5. Thread the free end of the string up through the tuning pin.

6. Pull the string taut, and

snip the string with wire cutters about two inches above the tuning pin *(figure 6, previous page)*.

Exception 1: *For string #36 (low C) on the FH36S or FH36B, there is not enough length to snip any off.*

Exception 2: *For string #34 (low C) on the FH34, Crescendo 34 and Ravenna 34, cut it a little longer to make sure there's at least 1/2" of the unwrapped core left on the string. With this string, it's best not to put a sharp kink in the wrapped section of the string.*


Figure 7

7. Slide the string back down through the tuning pin until the tip is flush with the top of the tuning pin *(figure 7)*. While holding the string in place with one hand and your tuning wrench in the other, begin winding the string onto the tuning pin.
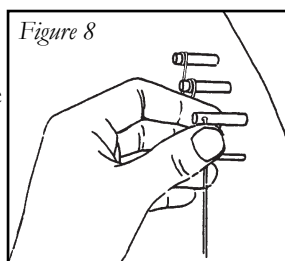
Figure 8

8. Pinch the string against the tuning pin as the string is being wound on *(figure 8)*. This puts some tension on the string and gives it tight, even coiling. You want the coils to lie evenly side by side *(figure 9)*. The metal core should not be "locked" under the first wrap as on other types of strings. Avoid having the string cross over itself at all as it winds around the tuning pin.
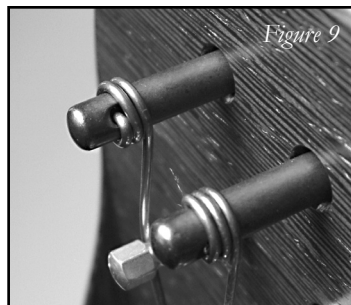

Figure 9

9. Before the string is all the way taut, make sure it is passing around the correct side of the bridge pin and through the sharping lever *(figure 10)*.

Figure 10
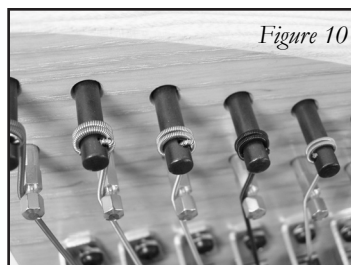
Caution: Wind very slowly, plucking the string all the while to make sure you don't go above pitch. Metal core strings don't stretch like nylon and will come up to tension faster than you expect.

To Replace Nylon Core/Wire Wrap Strings:

1. Wear eye protection. Remember to back the pin out by 4 turns *(see Tuning Pins section)*. If you skip this step, the pins will advance too far into the neck, which could result in repeat broken strings.

2. Remove any remnants of the old string from the soundboard, inside the soundbox, and the tuning pin. Using your tuning wrench, align the hole in the tuning pin vertically.

3. Insert the new string through the string hole in the soundboard, from back to front. Pull the leather washer snugly up against the inside of the soundbox.

4. Thread the free end of the string through the tuning pin, making sure to stop just before the wrapped section reaches the tuning pin hole *(see figure 11)*. If you pull it through any farther, you will end up with a kink in the wrapped section of the string, and this can cause the wrap to break and the string to sound buzzy.

Figure 11
end of wrap

5. Holding the string in place with one hand, use your tuning wrench to start winding the string onto the pin *(see figure 12)*. Pinch the string against the tuning pin as you wind to get tight, even coils, and make sure the coils progress towards the neck of the harp.

Figure 12

6. Before the string is all the way taught, make sure it is passing around the correct side of the bridge pin and through the sharping lever *(see figure 13)*.

Figure 13

7. Use nail clippers or wire cutters to trim the free end of the string close to the tuning pin.
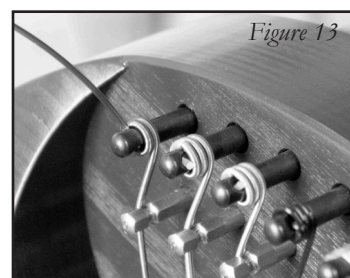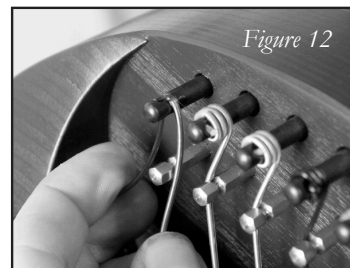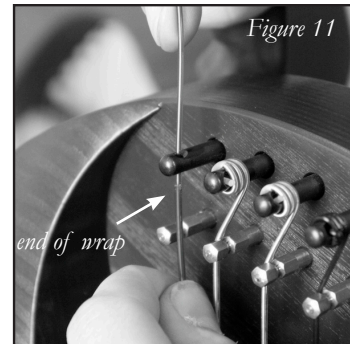
Be sure to call us with any questions!