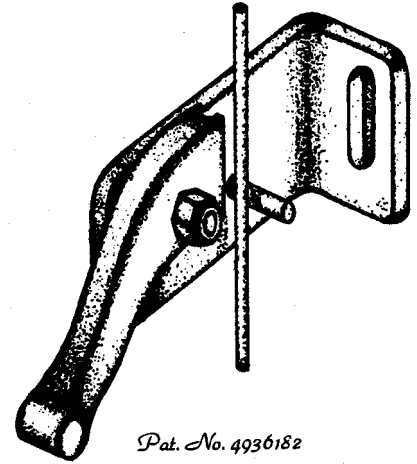


# LOVELAND BRAND SHARPING LEVER REGULATION

## GENERAL INFORMATION

Sharping levers may become loose over time and move out of proper alignment on the harp neck, causing incorrect intonation when engaged. Other factors may also contribute to the problem, such as a slight tilting of the harp neck, crowning of the soundboard, and/or movement of the bridge pins that hold the strings at the proper height. These instructions are written to help the harpist (or repair person) re-align the levers so they operate smoothly and accurately, with optimal tonal reproduction.

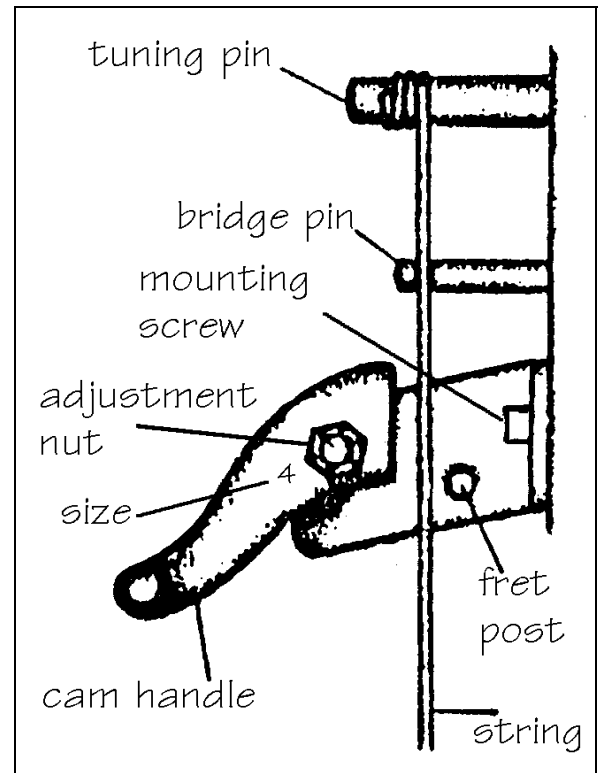


### Recommended tools:

Ball-end Allen driver  
Pliers or 1/4" end-wrench  
electronic tuner

1. Please note that Loveland sharping levers come in different sizes. There is a tiny number stamped into the plastic cam handle of each one (see illustration). These numbers relate to the thickness of the harp strings, which means you should be careful to avoid mixing up the levers on your harp.

Note that the #00 levers do not have fret posts. This size lever raises the pitch by simply having the end of the handle touch the strings.

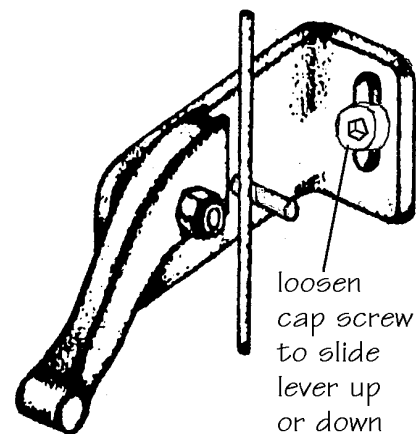


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Begin by testing the accuracy of a lever as follows:

a) Pluck the open string to be sure it is at the correct pitch without the lever being engaged (use an electronic tuner to assure accuracy).

b) Engage the CAM against the string by lifting the lever handle. Pluck the string again and check your electronic tuner. You want the pitch to be exactly 1/2 step above that of the open string.



NOTE: Electronic tuners indicate the half step in different ways. Some have just a light that indicates "sharp", where others will change the name of the note (e.g., C becomes C#, or A becomes Bb)\*\*. What is important is to watch the needle when you go back and forth from the engaged lever to the disengaged lever. The needle should continually point to the middle of the screen, or the "in tune" position, when you pluck the string. The closer you can get the needle to the in-tune position, the better.

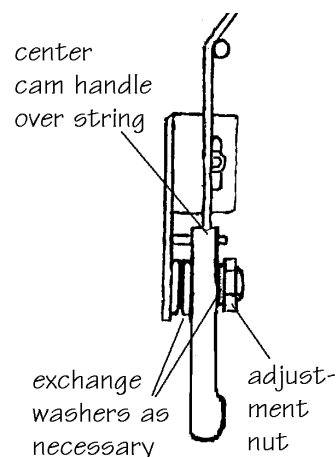
c) If the engaged lever raises the pitch more than one-half step, use the ball-end allen driver\* to loosen the cap screw and slide the lever upwards toward the bridge pin. Re-tighten the screw and try again. If the engaged pitch is too flat, slide the lever downward in the direction of the soundboard and try it again.

\*NOTE: A regular allen wrench will not work for this process because you must be able to hold the wrench at an angle.

d) Make sure to keep the lever centered over the harp string, as shown in the Overhead View.

If the cam handle is a little too far to the right or left of the string, you may exchange a washer from one side of the handle to the other by removing the adjustment nut. Use a small adjustable wrench or a 1/4" end-wrench to remove the adjustment nut, being careful not to lose any of the tiny washers. After shifting the washer, install the handle again and tighten the adjustment nut to your liking. The lever should operate easily but firmly.

OVERHEAD VIEW



**\*\* SPECIAL NOTE TO NON-MUSICIANS:** *There is no such note as E-sharp or B-sharp! When engaging the lever on an "E" string, the electronic tuner reading should jump from "E" to "F". Likewise, lifting the handle on a "B" string should make the tuner read "C". This is one of those quirks in music theory. What can we say...? The best use of levers on these strings is to tune the open E string to E-flat and the B string to B-flat. Then you will use the lever to raise the pitches to E-natural and B-natural, respectively.*

## TROUBLESHOOTING

Occasionally we run into a troublesome lever that cannot be adjusted to the proper pitch. If this happens to you, here are some options (no, throwing in the towel is not one of them!):

a) If the levered pitch is too sharp, even when the bracket is positioned as high on the neck as possible, then try tapping the brass bridge pin just a little deeper to lower the string height a tad. This gets fussy, because you don't want the string to touch the fret post when the lever is open, but you can come surprisingly close without causing a buzz.

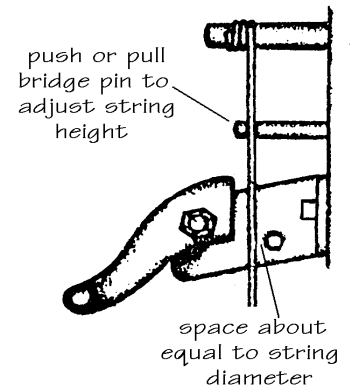
b) If step "a" does not solve the problem, you may want to exchange levers for the next smaller size lever.

c) If the levered pitch is too flat, even when the bracket is positioned as low on the neck as the slot permits, then try pulling the brass guide pin outward a little to raise the height of the string. This causes the string to be stretched more when the lever is engaged, thus raising the pitch higher. (If your harp does not have threaded bridge pins, use a pair of pliers or a side-cutter for the pulling. Use a thin scrap of wood or an adjacent tuning pin as a fulcrum for good leverage.)

d) If step "c" does not solve the problem, sometimes we just need to drill a new mounting hole for the lever because someone either miscalculated its position the first time, or else the harp has flexed enough over time to require a significant change in lever placement. If this is more than you bargained for, take your harp to a professional. The old hole can be filled with a bamboo barbecue skewer from the kitchen (toothpicks are too small), and nobody will ever know. Use a #36 drill bit for the new hole and a 6 X 32 bottoming tap for threading the hole to make it easy to insert the mounting screw.

e) Buzzing or rattling can occur when the sharpening lever is OFF if the string is too close to the fret post or the cam. Adjust the height of the bridge pin to correct for this problem.

f) If a string sounds funny (weak) when the lever is ON, then the lever probably needs to be tightened more firmly against the wood. Use your ball-end allen driver to tighten the mounting screw. Don't be afraid to turn the screw hard – we've never broken or stripped one of these screws!



## CONGRATULATIONS!

You have just accomplished the pickiest, most patience-testing surgical operation ever imagined for amateur harpists (and saved a bunch of money in the process). Pour yourself a glass of champagne and drink a toast to your perspicaciousness. You deserve three cheers and week's vacation!

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