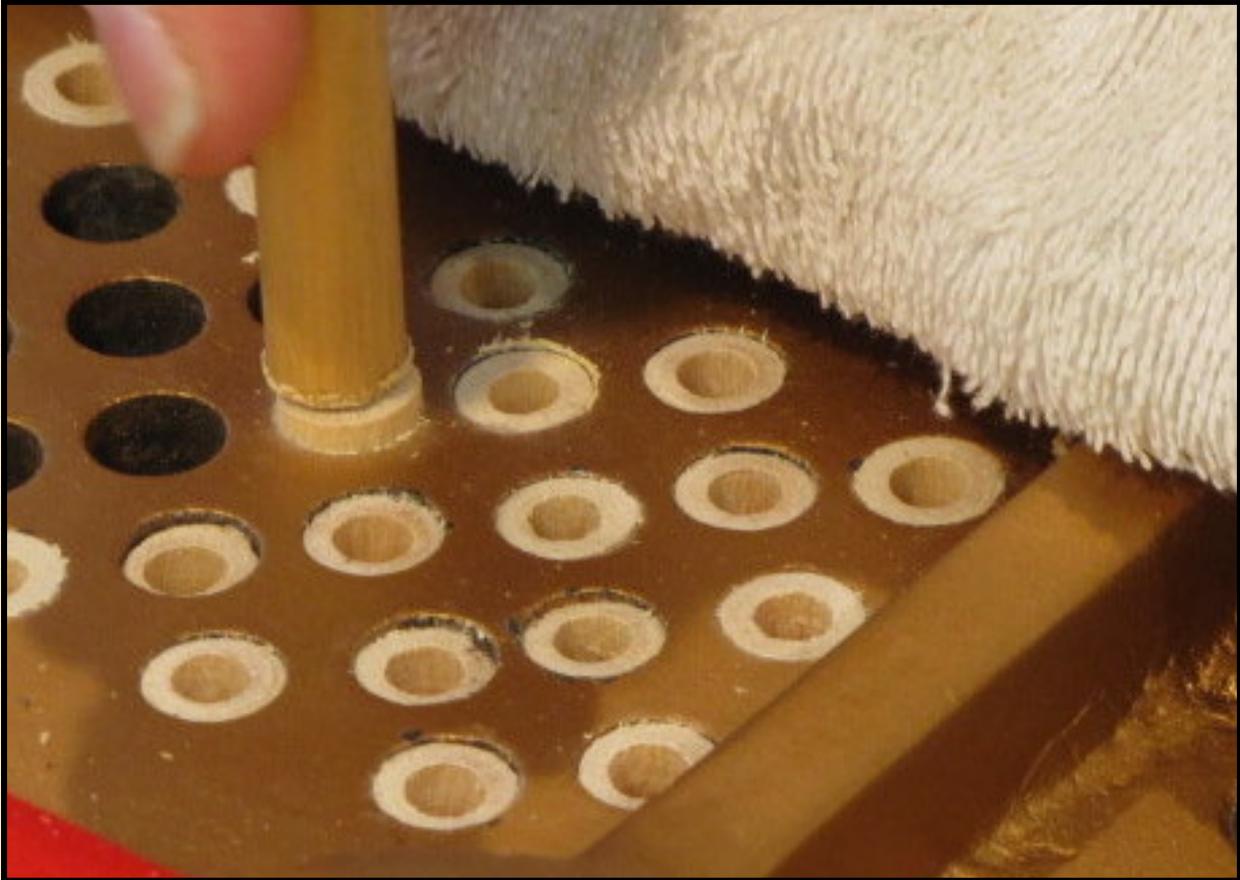


Schaff Piano Supply Company Presents:

Installing Tuning Pin Bushings

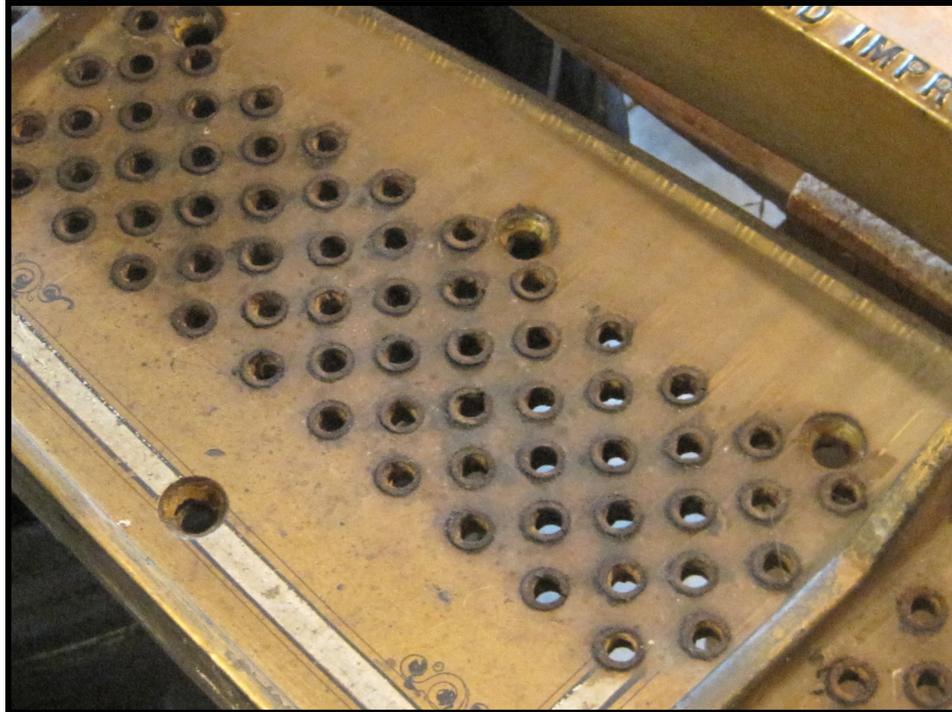
Basic Step-by-Step Procedures

Belly Work



By Chuck Behm

Installing Tuning Pin Bushings



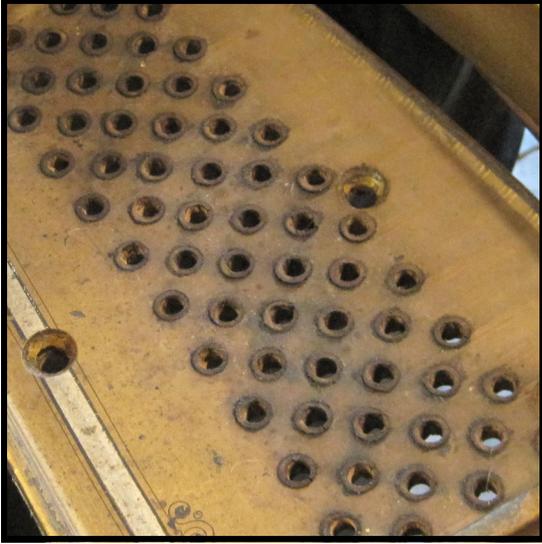
-Rationale-

When repinning and restringing a piano, the technician has a decision to make as to whether or not to remove and replace the old tuning pin bushings. On occasions when the plate is out of the piano for pinblock replacement, or for either cleaning or repainting the plate, it is a simple choice in that it is really easier to just knock out the old bushings and replace them rather than to try to save the old. When the plate is staying put, however, as in the case of a repinning / restringing job utilizing the old pinblock, removing the old bushings is more work.

Bushings are important for tuning pin stability, in that they provide support for the pin in between the top of the pinblock and the bottom of the string coil. New bushings not only have a pleasing appearance, especially when seen in contrast to a newly finished case, but provide uniform support where an old set of bushings may not.

In any instance where a decision could be made one way or the other, I would recommend going the extra mile and doing the job right, to avoid having regrets later that you didn't take the time to do the job when you could.

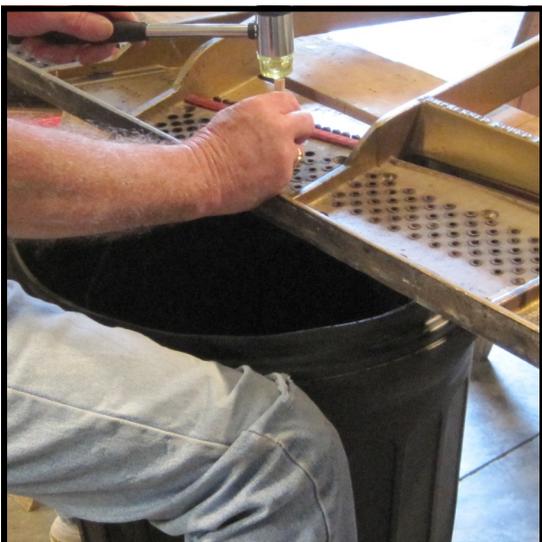
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Step 1: The easiest time to remove old tuning pin bushings is when the cast iron plate is out of the piano in the course of a pinblock replacement job. Support the plate on sawhorses so that the tuning pin bushings are not prevented from being tapped out.



Step 2: To prevent stray bushings from rolling all over your shop floor, pull up a waste basket to fit underneath the plate as you work.



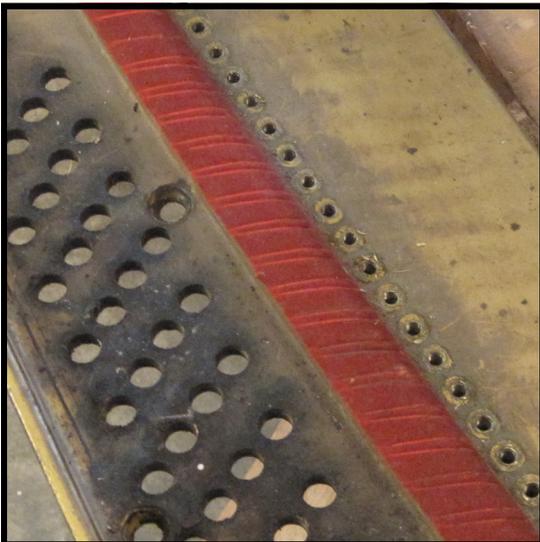
Step 3: By sitting on a stool, you should be able to pull yourself up to a handy distance from the plate to work. Tap the bushings out into the waste basket using a mallet and a wooden punch.

Caution: Avoid using a metal punch to tap out or install tuning pin bushings. Chipping the lacquer finish of the plate is all too easy when a hard metal punch is used.

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Step 4: Each bushing should pop loose with one or two good taps of the mallet.



Step 5: At the same time that the tuning pin bushings are removed it's a good idea to remove both agraffes and under string cloth in order to properly clean and refinish the plate.



Caution: *If agraffes are removed, be sure to keep them in order so that they may be returned to the same hole. An easy way to do this is to simply string them on a piece of piano wire as they are removed from the plate.*

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Step 6: Before installing new tuning pin bushings in the plate, the pin block should be supported from underneath. [Pinblock support jacks \(Cat. No. 800\)](#) or a [pin block support \(Cat. No. 799\)](#) are both proper tools for the job.



Step 7: Use a piece of hardwood above and below the jacks to even out the pressure. Turn the screw of the jacks up until the pinblock is firmly supported.

Caution: *Do not over-tighten the support jacks. Serious damage to the plate could result from excessive upward pressure!*



Step 8: Select the correct size of tuning pin bushing. Compare the lengths of available new bushings to the length of a sample old bushing. [Tuning pin bushings \(Cat. No. 346A, B and C\)](#) are 7/16" in diameter and are the common size for most older and some newer pianos. A smaller 13/32" size of [tuning pin bushings \(Cat. No. 345A, B and C\)](#) are available for newer pianos that have been drilled with a slightly smaller hole.

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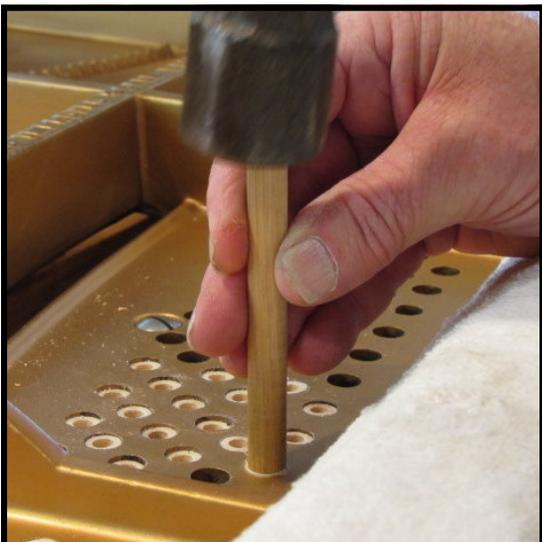


Step 9: Have a container of the correct size of bushings close by the work area. Drape a towel over the front of the stretcher while you work to avoid scratching or bumping the finish.



Step 10: Start each bushing by lining up the bushing with the hole, then rapping it once or twice with a **ball peen hammer** (Cat. No. MF-1916). Make sure that the bushing is going in straight.

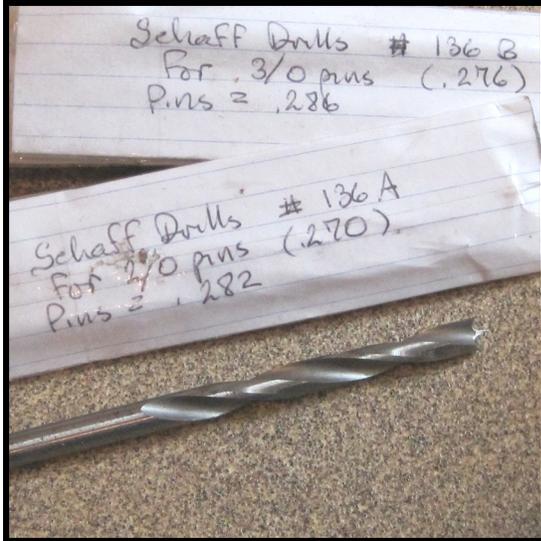
Caution: Be *extremely* careful when wielding your hammer in the vicinity of the struts of the cast iron plate, as shown in the photo.



Step 11: Finish tapping each bushing in using a wooden punch the same diameter as the bushings.

Note: On most pianos, the bushing is tapped down until it is slightly recessed below the upper level of the plate. It is important that the bottom of the bushing be in contact with the top surface of the pinblock.

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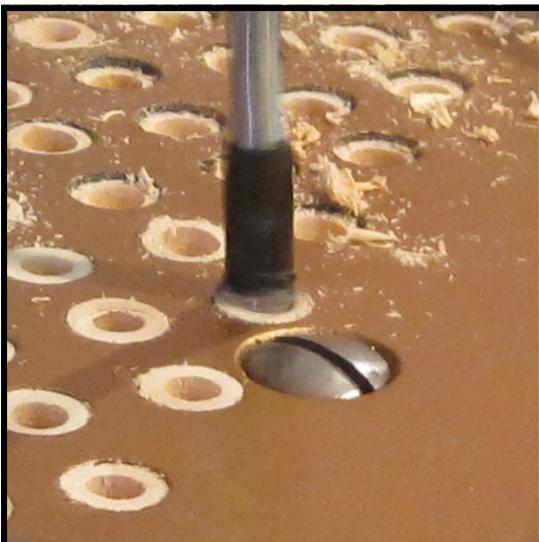


Step 12: Once the tuning pin bushings have all been tapped in place, they need to be reamed for the size of pin that is to be driven, using a [tuning pin drill](#) (Cat. No. 136 A, B, C, or D).

Hint: *A convenient holder for your Schaff drill bits may be easily made from an index card, folded over, labeled and protected with clear packaging tape. Make one holder for each size of bit. With a rubber band around the set, you're good to go.*



Step 13: A depth gauge for your drill bit should be made. I would recommend using tape instead of a store-bought metal depth gauge. The tape will be less likely to mar the finish of the plate. Either masking tape or electrical tape works well for the job.

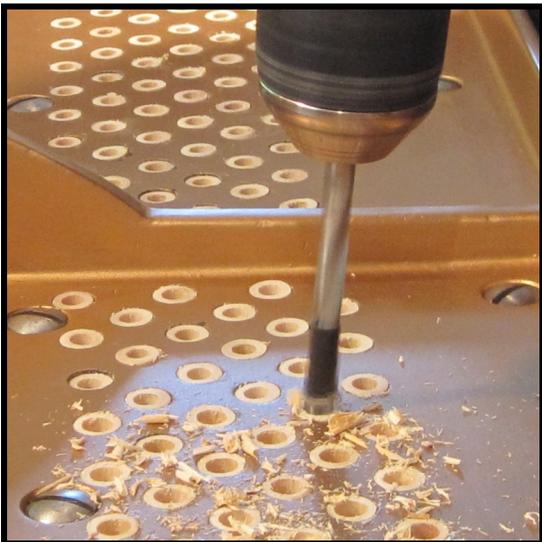


Caution: *Refresh the tape often during the operation to avoid having it bunch up, thus throwing the depth of the cut off. If you drill too deeply, your drill bit will be down into the pinblock, possibly enlarging the top of the hole slightly. In this photo, it can be seen that the tape is beginning to bunch up and should be replaced.*

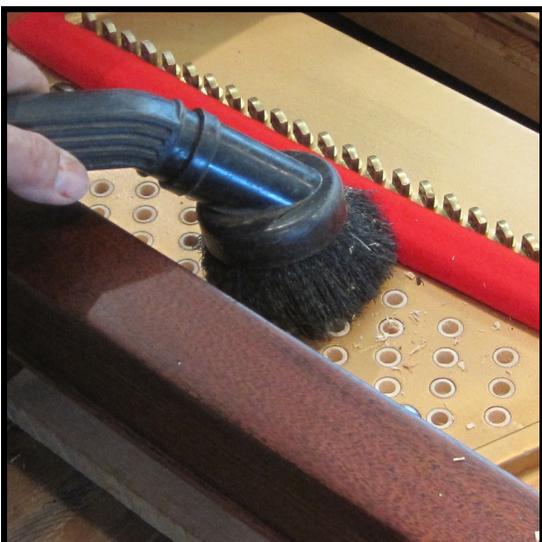
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Step 14: Quickly drill each hole. An in and out motion with the drill following a pattern as you work will make short work of the process.



Step 15: It is a good idea to angle the bit slightly as you drill to match the angle that the pinblock was drilled at. The typical angle is 7 degrees off of the vertical tilted back away from the strings.



Step 16: Once the set of bushings has been drilled, finish the job by vacuuming up the work area in preparation for the next step in the restoration process.



The Beauty of the Work

One of the moments that is the most enjoyable in this line of work is when everything starts coming back together in the restoration of a vintage instrument. The wonderful combination of colors of the plate, the pins and strings, the felts and the woods is breath-taking. What an inspiring creation is the piano! And that's just from the standpoint of its appearance! Add in the mechanical intricacy of the action, all the parts working in harmony to produce its glorious sound.

And what a sound! The piano is truly the most capable instrument when it comes to reflecting the depths of man's soul. The range of expression on the piano gives the artist the ability to speak from his inner depth in a way that is beyond comparison.

Bringing such a creation back to life is such a satisfying job, that the word 'job' really doesn't seem adequate. Passion would be closer by far.

Let others in this life toil their days away in cubicles, adding and subtracting endless columns of numbers for some faceless entity. Give me a shop, and tools and a piano that needs some loving care, and I'm happy man. This is work that is real!

Tools and Supplies

For your convenience, the tools and supplies necessary to complete this procedure are listed with corresponding catalog numbers.

Tools:

- Pinblock support jacks.....Cat. No. 800
or
- Pin block support.....Cat. No. 799
- Ball peen hammer.....Cat. No. MF-1916
- Tuning pin drillsCat. No. 136 A, B, C, and D

Supplies:

- Tuning pin bushingsCat. No. 346A, B and C
- Tuning pin bushings.....Cat. No. 345A, B and C

Important note: Ordering information is given for the use of Schaff account holders only.

**To order, call Schaff Piano Supply at 1-800-747-4266,
or go on-line at <http://www.schaffpiano.com/>**

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Notes on Procedures