

# Small Shop - Big Results



## Simple Grand Pinblock Replacement, part 1 – Initial Measurement

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The job of pinblock replacement in a grand piano ranges from simple to complex. Just when we think we've seen it all in our shop, a new twist will present itself in the form of a type of pinblock installation we have not come across before, leaving me scratching my head and mumbling, "Alright, now, how in the world do we replace this?" Although I do enjoy the challenge figuring out something new from time to time, it is comforting when we pull the plate, and see that the pinblock is standard issue - one piece, and not mortised into the sides of the rim or the stringer.



*Photo #1: A piece of cake – by comparison to more complicated configurations*

With such a pinblock, duplicating it is a fairly straight-forward process of measurement, cutting, fitting and drilling (Photo 1). Although simple by comparison to mortised pinblocks, or blocks with multi-level faces that match up against the plate, there are still certain complexities to the duplication process that should be explained.

Since we deal with heirloom pianos, which are quite often brands that are off the beaten path, we see this type of pinblock on a regular basis. The mortised pinblock that one sees in Steinways, and other upper echelon pianos, are not often found in pianos of more modest manufacture. The pianos that come through our doors are more likely to be a mother's (or grand-mother's) instrument, often of a lesser known lineage, but of great sentimental value to the customer, and therefore worthy of being given 1<sup>st</sup> class service.

To begin with the job at hand, then, the pins, strings and plate must be removed from the instrument (See Feb., Mar., and May 2008 issues of Journal for a description of the process of plate removal). Before lifting out the plate, we remove all the plate screws, including those attaching the plate to the pinblock. When the plate is pulled, the block generally remains in the piano (Photo 2). Occasionally, however, an adhesive or sealer will have been used in between the block and the plate. In such a case, the pinblock will come out with the plate, and will need to be pried loose before proceeding.



*Photo #2: Plate is pulled, exposing the pinblock*

With the plate safely stored out of the way, remove the pinblock from the piano. Usually it will be resting on shallow ledges built into the inner side of the rim. If there are wooden spacers between the ledge and the pinblock, label these and store them with the plate screws to reinstall underneath the new pinblock.

Once you have removed the pinblock, measure its thickness to determine what pinblock stock you will need to order, or use from your supply. The most common thicknesses are 1 ¼", 1 ⅜" and 1 ½". If the thickness of the board you are replacing is in between two thicknesses, select the thicker pinblock material. Once the pinblock has been rough cut to size, you will plane it down to the exact thickness you need.

One note on purchasing pinblock material is in order at this point. Whichever type of pinblock you chose to use, and there are a handful of choices available, buy the narrow width only if this is a one-time job for you. If you intend to replace pinblocks on more of a regular basis, consider the purchase of a wider stock. My preference is the hardrock maple pinblock available from Schaff in a 22" width. From that width, I can count on cutting at least three, and sometime four pinblocks. We keep a supply of pinblock stock of each of the common thickness in a humidity controlled room. When a piano is torn down, then, there is no waiting for a pinblock blank to arrive from the supplier.

One other note – when you cut a pinblock from a wider piece of stock, leave the edge of the remaining material as it is – don't trim it square. That way, when you cut out your next pinblock, you can take advantage of the fact that one end is always wider than the other, and reverse the end that you're cutting the wide side from (Photo 3).



*Photo 3: How to make the most of 22" wide pinblock stock*

With the correct width selected, the next step is to prepare a paper pattern for marking your cut line on the new pinblock material. (Note – If you draw your pencil line directly on your new pinblock, then cut it, you'll find the slant goes the wrong way!)

To avoid confusion, a few terms need to be clarified. When I talk about the top of the pinblock, I'm referring to the wider face which is up when the plate is upside down on sawhorses for fitting the pinblock. The bottom of the pinblock is therefore the face which is against the plate. (Obviously, when the plate is flipped back over for reinstallation into the piano, what was the top of the pinblock is now on the bottom, but at that point you are finished working on it.)



*Photo #4: Marking the line*



Also, when I speak of the curved edge of the block, I'm referring to the long side of the pinblock which butts up against the flange on the underside of the cast iron plate. The straight edge of the pinblock is the long side closest to the keyboard and away from the flange.

Using contractor's or butcher's paper, then, draw a pattern of the pinblock to be duplicated. Place the top of the pinblock (the wider side) down upon the paper with the straight edge flush with the edge of the paper and run a sharpened #2 pencil along the curved edge (Photo 4).

Cut your pattern out, and turning it over, mark the side that was down on the surface of your workbench as Top (Photo 5). If you turn the pinblock back over, with the top facing up, and place the paper pattern on the pinblock so that it fits, what was underneath when the line was drawn will now be on top. I know this sounds trivial, but trust me, if you don't label it as such, at some point down the road you'll mark and cut a pinblock backwards, ending up with an expensive piece of scrap wood. I've done it.



*Photo #5: Always use labels to avoid confusion*

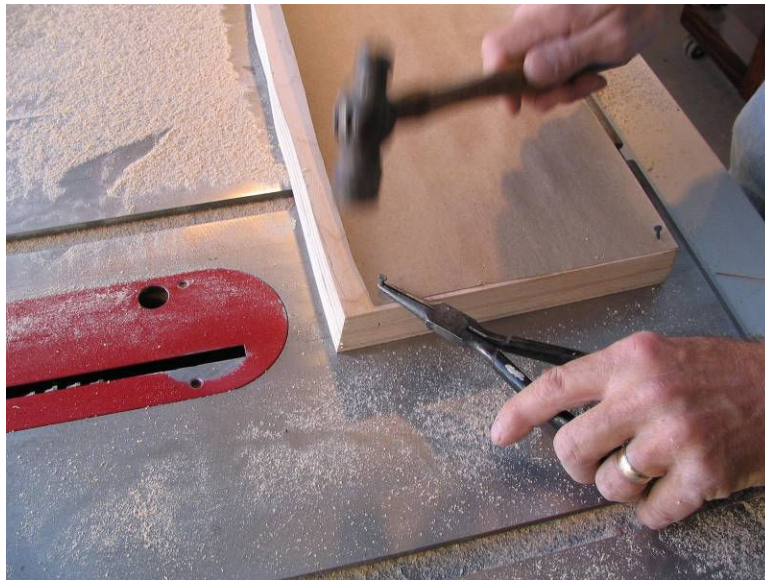
Affix the pattern to the pinblock stock (with the top side of the pattern up), and draw a pencil line on the face of the pinblock. If you're cutting from a narrow width of stock, lay the pattern out on the pinblock stock with the straight side flush against the side of the new pinblock material. Secure the pattern to the blank pinblock with tape or tacks, and trace a heavy pencil line onto the wood, following the curved edge of the pattern. With this done, you're ready to cut the duplicate block out on the band saw.

If you are cutting a pinblock from a new 22" wide piece of pinblock material, I would recommend doing the cutting in two stages. The first cut will get the material down to a manageable size, and the second will finish the job. Draw the line onto the wood using the paper pattern, but instead of having the straight edge flush with the edge of the pinblock material, measure over 1/2" and tape the pattern down from that point. With the line drawn, remove the pattern for the time being, then cut the pinblock using a saber saw (Photo 6). Once this first cut has been done, tape or tack the pattern to the pinblock – this time with the straight edge flush to the side of the pinblock (Photo 7).



*Photo #6: Cutting out a slightly oversized pinblock*

To cut pinblock material, even if it's only 1 ¼" thick, requires a good quality scroll saw and a sharp blade. I've got a heavy-duty Milwaukee saw that is up to the task, but I also have several cheaper models that balk at the job. Think of upgrading tools at this point if you have an inexpensive, low-powered model of saw. You'll never regret having the right tool for the job. (By completing this step, you've cut the weight of the material that you're working with from up to 50 pounds, to closer to 15. This will make the cutting of the exact shape of the pinblock much more manageable on the band saw).



*Photo #7: Tacks insure the pattern will not shift*

Now, retrace the outline of the pinblock, in from the first cut approximately 1/2". This narrow rim of wood, by the way, will be the only scrap produced in the procedure. Follow the edge of the pattern as closely as possible. Draw a heavy enough line so that it's clearly visible during the sawing operation. As you draw, it works best if you stay slightly ahead of your pencil with the thumb of you opposite hand on the paper, to keep the pattern from shifting its position (Photo 8).



*Photo #8: Marking the edge as precisely as possible*

Once the line has been drawn remove the pattern. At this point your pinblock is ready to cut on the band saw (Photo 9).



*Photo #9: Ready for final cutting on the band saw*

Next month – setting up you saw for operation and making the cut. Until then, best of luck with your projects.

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