## Small Shop - Big Results



Simple Grand Pinblock Replacement, part 3 – Fitting

By Chuck Behm Central Iowa Chapter

When you first put your newly cut pinblock in position on the cast iron plate to check the fit, don't be disappointed if it doesn't fit like a glove. There will almost certainly be gaps between the block and the plate, but rest assured those gaps would have been much wider if you had not exercised care in cutting the pinblock to size.

Two possible fixes present themselves at this point. Either the gap may be filled with a filler, such as an epoxy or fiberglass (or shims, as in the case of the original pinblock for this piano [see Photo #2 above]. This is done by some factories and rebuilders alike, with varying degrees of success. The only real advantage to this method, in my opinion, is that it's quick, and therefore cheap. The other solution is to actually fit the pinblock to the plate, by grinding off the high spots until the pinblock makes contact with the flange along its entire length. That is the method which I'll discuss. Done with the right equipment, it doesn't take as long as you might imagine. It's worth the extra effort to know that the job is done right. Cutting corners, while it may save a bit of time here, and some material expense there, ultimately results in a cheaply made or rebuilt piano – which does nothing but sully the reputation of our industry as a whole.

To fit the pinblock to the plate, place the plate upside down on a pair of sawhorses. Use a piece of plumb chalk (Photo 1) to heavily coat the inside of the flange that the pinblock butts up against and position the pinblock in place.



Photo #1: Chalk it up



Photo #2: Improvement is needed here

Now, push the pinblock firmly up against the flange of the plate. Most likely the fit will be close in places, but not so good in others. Gaps such as seen in Photo 2 above are unacceptable. The pinblock needs to be seated securely against the flange of the plate.



Photo #3: Tap, tap, tap

With a rubber mallet, tap the straight side of the pinblock in several spots along its length to mark the high spots (Photo 3). *Caution: Before this step, make sure that the block doesn't rock back and forth. Put a hand on either end of the pinblock and alternate sides that you push with. If it does rock, you must locate the fulcrum and concentrate on grinding it down first. Otherwise, if you grind down the 'high spot' on either end, you will just increase the amount of rocking that you get.* 



Photo #4: Initial contact

Photo 4 shows what the curved face of the pinblock is likely to look like after the first trial run with the chalk and the mallet. The blue spots represent the high points – places where the plate and block are making contact. By grinding those areas down, more and more contact will result.



Photo #5: This set-up grips the work firmly

Place the pinblock with the curved face up in a woodworking vise (or better yet, in a pair of woodworking vises, as in Photo 5). Clamp the vise down securely to prevent the work piece from slipping. I line the faces of my woodworking vises with cork, which can be cranked down very tightly on the work piece without fear of ever damaging the surface – even on finished pieces.

To grind off the high spots, I use a drum sander with a coarse grit (Photo 6). A high-torque, plug-in drill that won't slow down when taxed makes the job easier. While



Photo #6: This job is a real grind

grinding off the blue spots, make sure you are taking off wood from underneath the chalk – don't just use the grinder to clean off the chalk. After removing wood from all the high spots, rechalk the flange, put the block back in place on the plate, and tap it again with the mallet Repeat the process until a line of blue spots runs the entire length of the pinblock. Figure anywhere from 25 - 50 repetitions will be needed to achieve a close fit, as seen in Photo 7.



Photo #7: Who needs 'glass'?

One last hint: Check the angle between bottom of the flange and the webbing of the plate. If it curves slightly instead of being an abrupt right angle, use a hand held router with a laminate trimmer to put a corresponding curvature on the edge of the pinblock.

The old rule of thumb about not being able to insert a business card any where in between the pinblock and the plate is thus an achievable goal, if one is tenacious. The highest form of craftsmanship, in my opinion, is when one is particular about the details *in the places that the customer never sees*. Only when we hold ourselves accountable to do the best work possible, given our knowledge and experience, may we hold our heads high knowing that we are, indeed, craftsmen.

Next month, using the plate as a template in drilling the pinblock. Until then, do your best work.

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