

Small Shop - Big Results



Pinblock Panel Installation in Grands Using Paper Patterns – Part 3

By Chuck Behm
Central Iowa Chapter

In last month's installment of the series, the process for routing out a cavity in a grand pinblock was discussed. This month, we will look at the procedure for cutting, fitting, and drilling the pinblock panels.

To begin, a second set of paper patterns needs to be made. The first set, mapping out the original field of pin holes, has been set aside and will be put into use later in this installment. For now, however, what is needed is a pattern tracing the outline of the cavity, so that the panels can be cut to fit.

To produce a pattern, tape a piece of contractor's paper over the area routed out in the pinblock and lightly crease the paper edge by running your thumb along the edge. I decided that for this job I would cut the pinblock in segments to make the project more manageable, with the seams under the struts of the cast iron plate. Furthermore, with the curvature of the segments to take into account, I would produce a tight fit between the leading edge of the pinblock panels and the rear of the cavity, but leave a $\frac{1}{4}$ " gap on the opposite side which would be shimmed after fitting.



Photo 1: Cutting the panel on the band saw.

Cut your pattern with scissors along the crease, spray the underside lightly with an adhesive to create a temporary bond, and flatten out on a blank of pre-cut pinblock material of the correct thickness. Use the edge of a pencil to mark heavily along the edge of the pattern (Photo 1 inset), then peel back the pattern and reposition overlapping the pencil line by $\frac{1}{4}$ " to mark the opposite side. Cut on the bandsaw (Photo 1).

Since the router bit was perpendicular to the face of the pinblock, a 90 degree angle is required in cutting the panel. This differs from when one cuts a pinblock to butt up against the flange on the underside of a cast iron plate in a more ordinary installation. In that type of situation, the flange almost always slopes back from 90 degrees, requiring that the bed of the band saw be adjusted to produce the correct slant.



Photo 2: Chalking the wall of the cavity.

Use plumber's chalk to heavily coat the back edge of the cavity (Photo 2). Then, putting the panel in position, use a chisel and small prybar for leverage to compress it against the chalked edge (Photo 3) to mark the high spots.



Photo 3: Marking the high spots.

This photo also shows the reason for leaving the 1/4" gap on the opposite edge. With an ordinary pinblock installation, the trailing edge of the pinblock is exposed, and

is thumped with a rubber mallet to produce the high chalk marks. In this case, the fit must be checked by some other method.



Photo 4: Filing off the high spots.

Remove the panel from the piano, place in a study vise, and with either a coarse file, or a drum sander on a drill, file off the high spots marked in blue (Photo 4). Make sure that you are removing some of the pinblock material under the chalk each time, and not just removing the chalk from the wood. Expect to go through this procedure numerous times to achieve a tight fit. More and more chalk will appear along the edge of the pinblock panel as the fit improves.

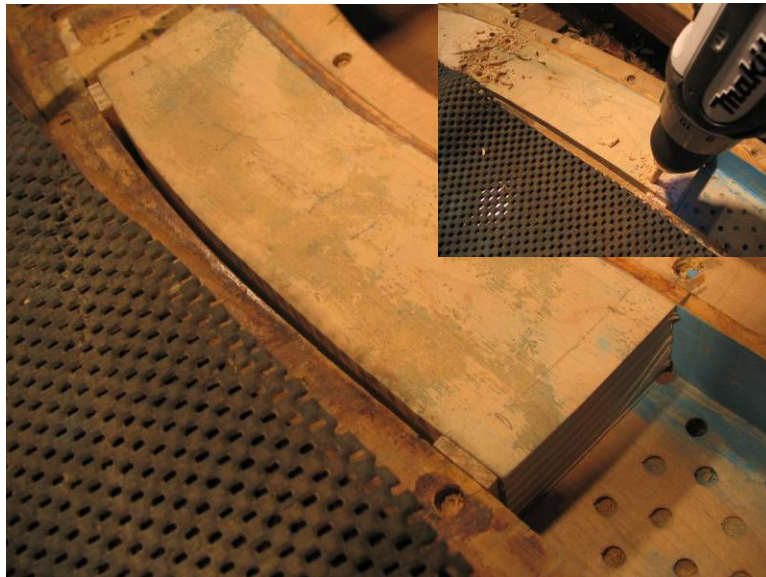


Photo 5: Panel fit in place.

Once a tight fit has been achieved, place the panel in the cavity and use shims to snug the panel up against the leading edge (Photo 5). With the panel in place, drill a $7/32$ " hole in each corner through the panel and the floor of the cavity (Photo 5 insert).

Drill these holes where they do not interfere with pin holes. Tap upright hammer shanks into these holes to guarantee the accuracy of the fit later on, once the panel has been removed and drilled, and is ready for final installation.



Photo 6: Producing a flush upper surface.

With a small block plane, shave off the excess pinblock material on the top to produce a level upper surface that is flush with the fitting beads (Photo 6). If the blade of the plane begins to dig down into the fitting bead, you are going too far. Feel the edge with your thumb to ascertain a level edge, and use a straight edge from one fitting bead to the other to make sure that there are no humps in the pinblock material.

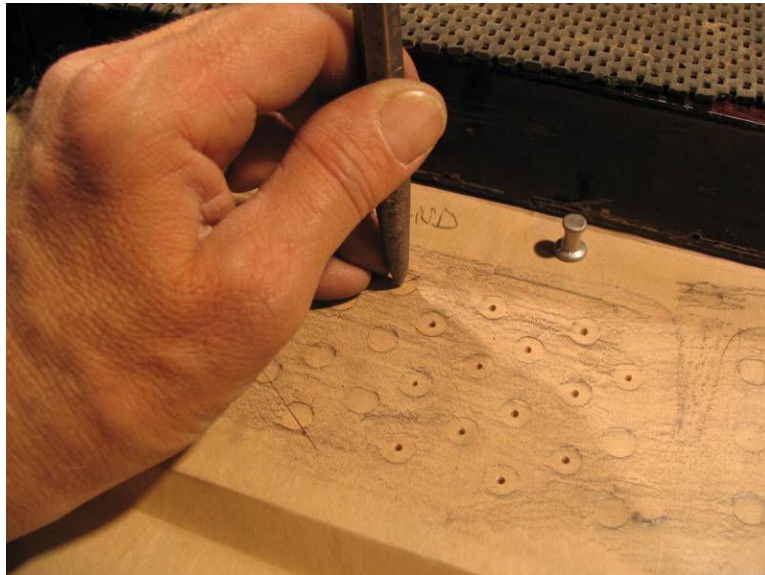


Photo 7: Marking the pin holes.

Once all the panels are fitted, held tightly in place by shims, and positioned with hammer shanks, it is time to mark the panels for pin holes (Photo 7). Retrieve the paper

pattern which was used to create a record of the layout of pins on the original pinblock and use stick pins to position the pattern over the new pinblock panels. With a mallet and punch, mark each hole in the exact center.



Photo 8: Drilling the panels.

With all the holes marked, use a flat-bladed screwdriver to remove the shims. Use a spinet hammer shank to tap the positioning hammer shanks all the way through so that they drop out onto the keybed underneath the pinblock. On the drill press, drill the panels with the bed of the drill press set at the correct angle to produce the same slant to the pinholes as what the original pinblock had (Photo 8). Notice the use of a ‘third hand’ in the photo. A 2 X 4, held in place with a pair of Jiffy clamps, aids in keeping the panels held in place while the drilling is taking place.

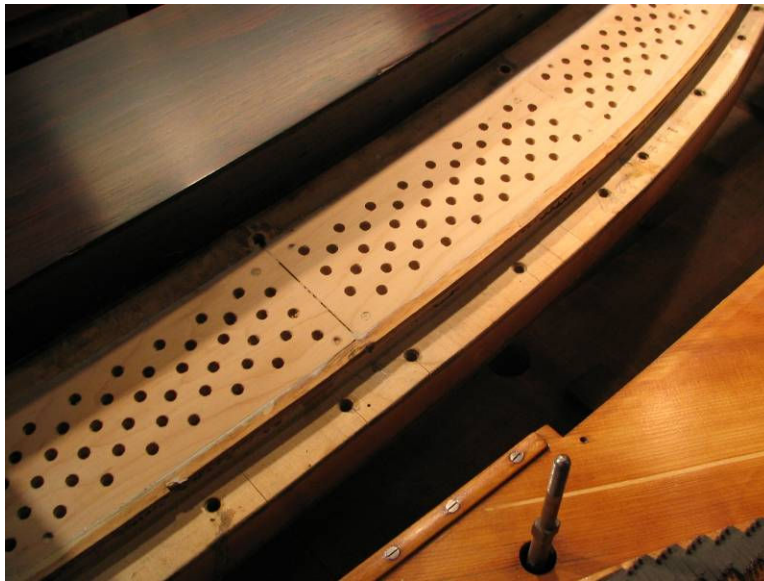


Photo 9: Panels glued in place.

Once the holes are all drilled, reposition the panels using the hammer shank guides and shims, and glue the panels in place (Photo 9). Whether you use epoxy, Gorilla Glue (my choice) or another adhesive, carefully ream out any glue which squeezes up into the pinholes before the pins are driven.

In next month's installment, I'll show how to make maple veneer overlays to cover the dress up the exposed pinblock. We will replace the plate, cut new felt for under the strings, and repin and restring, thus finishing this portion of the project.

Chuck Behm is the owner of River City Piano Restorations in Boone, Iowa. He can be contacted at behmpiano@gmail.com.