Small Shop - Big Results

Grand Action Reconstruction – Part 6 (Installation of Hammer Shanks and Knuckles)

By Chuck Behm
Central Iowa Chapter

While work had been proceeding on certain parts of the Weber action, namely that of the keyset and wippens, other components had to this point not received any attention. The original hammer flanges / shanks were still in place on their respective rail. The time had come for getting to work on them.

Sidebar: One enjoyable aspect of a complex job such as an action rebuild is that there are so many different individual tasks to be performed. One doesn't have to do the same thing day after day, but may instead work on something different practically every day. Indeed, while for the purpose of writing these articles, the work has been presented in a straight-forward manner, in reality I tend to mix it up a bit more to keep things interesting. I might work on the action of a piano for a day or two, then switch to some work that needs to be done on the case, the soundboard or whatever else needs attention. I never come even close to feel burned out with my work. Just a thought, for those of you who might tend to get stuck in a rut.

Photo 1: Original parts

Photo 2: Replacement parts

The brittleness of the original action parts was clearly evident when I first pulled the action from the piano for a careful look. The number and variety of replacement shanks and flanges on the old action was an indication that parts had been breaking on a regular basis for quite some time. The replacement of the entire set of shanks and flanges, along with the other components of the action prone to breakage, was to me the only sensible course of action.

The new shanks and flanges had been ordered at the same time as the wippens, and were still in the box they came in. Opening the box up now for the first time, I was impressed by the quality of the parts and more anxious than ever to see them installed in the piano.

Photo 3: Positioning the knuckle.

Before installing the hammer shanks, I needed to glue the knuckles in place. I positioned the hammer shank rail on the action brackets and screwed it in place. (Hmm, is that the rumble of thunder I hear off in the distance?) I then put one flange / shank in its spot and screwed it down to check where the knuckle should be glued.

The WNG knuckles, much like the wippen heels discussed in an earlier segment, are made to fit in a several positions. The markings along the side of the shank where the knuckle goes are meant to provide a reference point for the technician to make sure that they are all installed identically. Once I had determined the desired placement for the knuckle (Photo 3), I was ready to glue them in place.

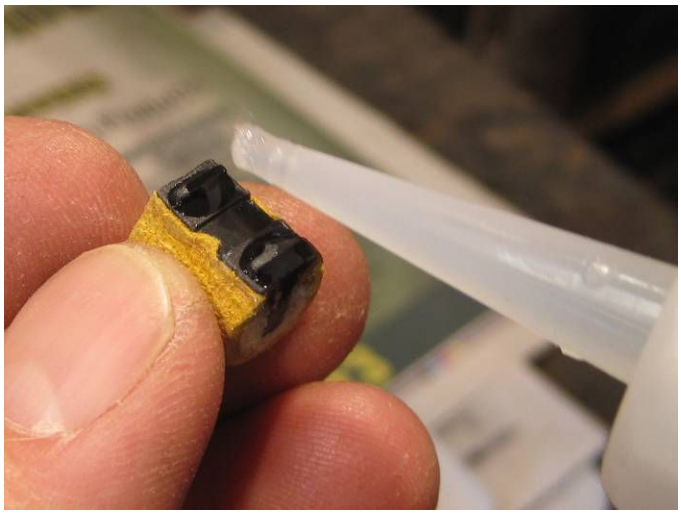

Photo 4: Application of glue.

This time, at least, I had called WNG to make sure of the gluing technique for attaching the knuckle (Photo 4). I used the correct CA glue in the correct amount ("a little dab will do ya."[and if you're too young to understand that reference – Google it!])

Photo 5: Applying pressure.

With a couple of drops of glue on, I then applied pressure for approximately 30 seconds. (Latex gloves would be an excellent idea in this situation – were my box of gloves not empty I would have had some on myself.)

Photo 6: Too much?

In what I suspect amounted to overkill, I then applied clamps to the knuckles for another 10 minutes or so (Photo 6). These medium strength spring clamps would probably not be condoned by WNG, but I imagine smaller clamps would be a good idea. I did have the presence of mind to try this on a spare shank and knuckle first (the Weber is short of 88 notes), and found no noticeable change to the shape of knuckle.

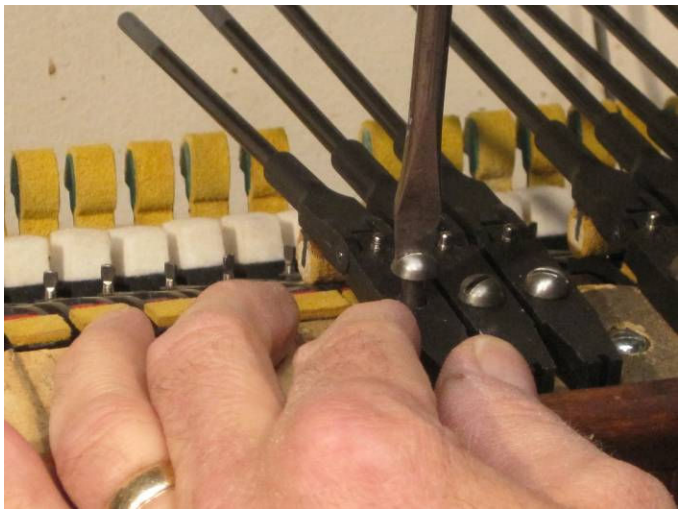

Photo 7: Screwing down the flanges.

With the knuckles affixed, I began screwing the flanges down to the hammer flange rail. I hadn't replaced the sandpaper covering the surface to which the flanges were attached (as I had for the wippen rail), and was feeling a bit guilty about it. As it turned out, my worry about that small detail was to be overshadowed.

Photo 8: The cloud slips over the horizon.

It was at this moment, with the entire set of hammer flanges installed, that I finally took a moment to look things over. Looking underneath the hammer flange rail, I noticed a funny thing about the jack / let-off button alignment. There wasn't any! The toe of the jack was not only not aligned with the center of the let-off button felt, it wasn't even hitting the felt!!

I stood for a long, loooong moment looking at this. The only other moment in the shop that I can remember staring at something for such a long time when I was moving a newly refinished piano from point A to point B in the shop, and the back leg popped out (I had forgotten to swivel the wedge into place). The back end of the piano crashed to the floor, leaving me standing on the end with the keys, staring down at the piano tilting at a

crazy angle towards the floor. I must have stood there for 5 minutes before daring to go around to the back of the piano for a look at the damage.

Although the world didn't end in that situation (the piano actually landed on the leg. I had to restrip it, do some veneer work and re-finish it, but it was solvable.) This, on the other hand, had me really worried. Was this something that could be fixed? I wondered.

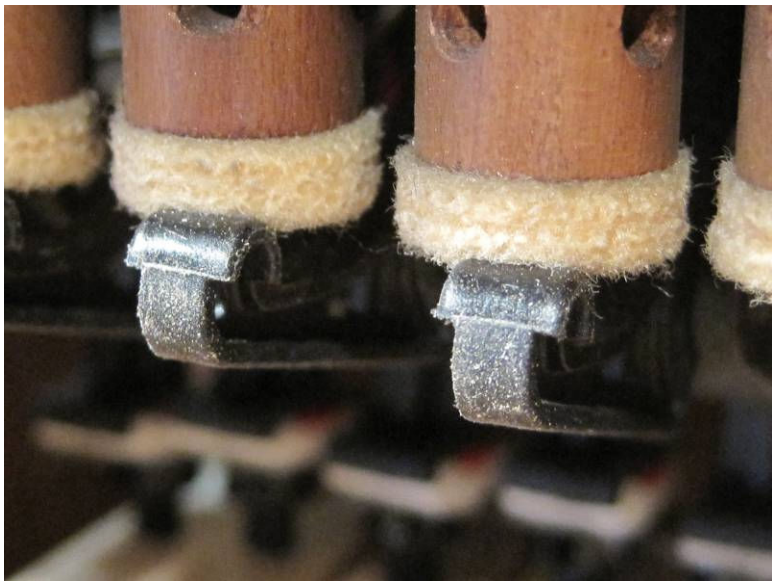

Photo 9: There's trouble – right here in River City!

There have been moments from time to time in operating my shop that I have questioned my intelligence. This was definitely one of those moments. I thought back to when I had looked over the new WNG parts over and had noticed what seemed to be a slight difference in the dimensions of the jacks – the end of the toes didn't line up perfectly with the original jacks. From that moment in time to this moment in time, I hadn't given this fact a second thought. "WHY NOT!" I asked myself.

The disheartening thing about this was that I didn't see any easy way out of this predicament. I was, as they say, in a pickle. I believe that problems always loom the largest when we don't see a solution. At that moment in time, I was at a loss as to how to proceed. Although the sun was in fact shining outside of the shop, inside the shop it felt cloudy indeed.

What to do, what to do? If you're in the area, stop by and we'll mull that one over. I'll have the coffee pot on.

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