



Small Shop - Big Results  
**Grand Action Reconstruction – Part 8**  
**(Replacement of the Original Let-Off Buttons)**  
By Chuck Behm  
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With the reinstallation of the posts for the let-off buttons having been completed (see last month's issue), I thought for a brief, happy moment that I was on the down-hill run. This moment was brief indeed.

The old let-off buttons, however, did not want to cooperate when it came to being put back on the old posts. At a rate of approximately one of every four buttons, they cracked in half when pressure was applied to twist them back on.

I tried various approaches to putting them on. I scrapped the idea of reaming the holes out after I tried it on a couple buttons and found that redrilling even slightly produced too loose of a fit – the buttons could be easily turned on with my fingers only. I attempted to keep pressure on the button with the fingers of my left hand while slowly turning the button onto the post using the capstan screw regulating tool with my right. Upon the third try using this method, the button broke so completely that it fell off the post altogether in two pieces (center button in Photo 1 below).



*Photo 1: Not out of the woods yet, I'm afraid.*

By the time I had installed one section of buttons on the posts, I had a collection of eight broken buttons. This did not bode well. The problem, I decided, was not in the size of the pilot hole for the threaded post, nor was it in the method of putting the buttons back on. The problem was that the buttons, like the rest of the parts of the action, were over a century and a quarter old, and they were brittle.

Before giving up for the day (and it had been a long one), I decided make a stab at fixing the problem by applying Titebond to the broken buttons (Photo 2), then knocked off for the day.



*Photo 2: Ducks in a row.*

Morning light found me thumbing through my Schaff catalog, looking to see what was available in the way of new buttons. I had tossed and turned over the issue of what to do during the night. I really didn't want to delay the project once again – things were going together and I had a feeling of momentum going that was energizing. After so many detours and roadblocks on this job, the day that I could slide the action back into the piano in one piece, and have a playing piano seemed tantalizingly close. If I could just make the original buttons work, I could get the rail reinstalled in the action, and move ahead.

The decision to order new parts was made not because I didn't believe I could make the old parts work – regluing the broken buttons back together was a simple process, after all. I knew that I could with a bit of work make the original buttons operational for the time being. The decision to place the order was made because of my concern for the technician down the road – the guy who innocently would take his capstan tool to try to adjust the let-off of a note just a bit, only to have the button crack in half. What a pain that would be!

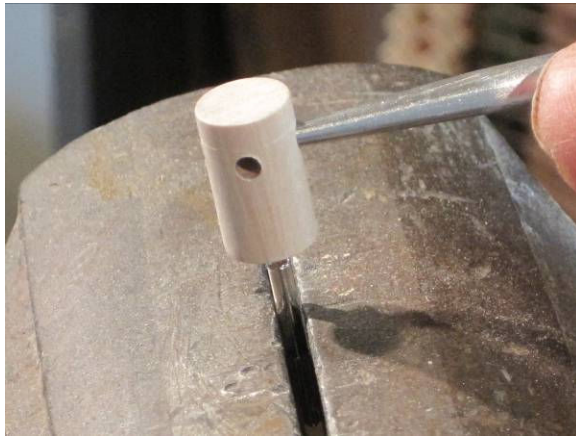
So, without further ado, I turned on my computer, got on the Webstore page, and placed the order. There were, after all, other steps I could be attending to in the interim. That is one thing I enjoy about shop work - there are always other pots on the burners, so to speak. If a project runs into a temporary roadblock, it doesn't take much imagination to find something else to work on. There were, after all, a new set of hammers waiting to install on the WNG composite shanks, which I had been stalling on getting a start on – I would be using a thick viscosity of C.A. glue, and was a bit hesitant to try it out. Deciding that there was no point of waiting any longer to tackle the hammer job (the subject of next month's installment), I got to work and put the button job out of mind for a few days.



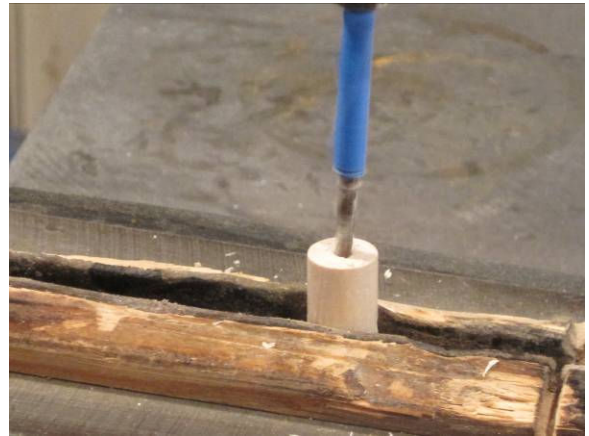
*Photo 3: Reinforcements sent from Lake Zurich.*

Several days later, when the package from Schaff Supply arrived (Photo 3), the hammers were successfully installed (details to follow), and I was ready for a fresh start on finishing the hammer let-off rail, now that I was armed with new parts.

The first step was to remove the posts that the new buttons came installed with. I was not about to pound out the old posts for a second time!



*Photo 4: Backing up and off the new posts*



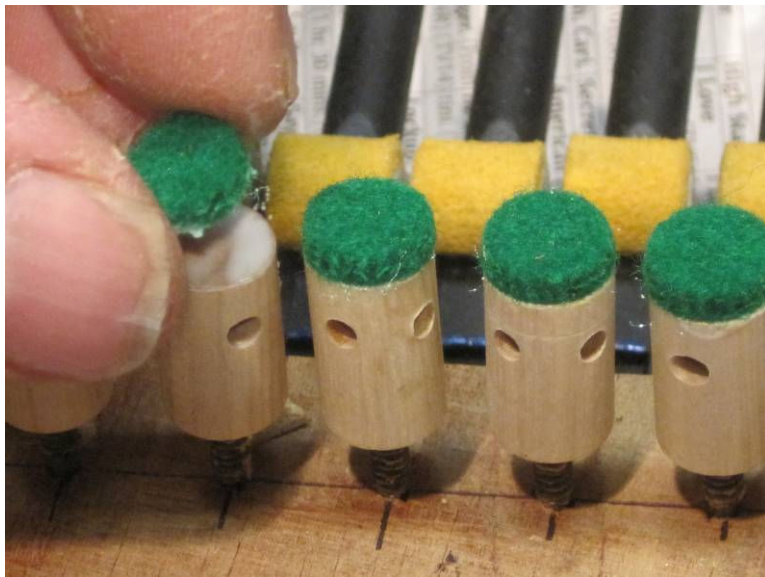
*Photo 5: Enlarging the pilot hole.*

One at a time, I put each button / post assembly in the vise, and backed the post out with the capstan tool (Photo 4). The new posts being a smaller diameter than the old versions, I then reamed out each hole for a tight (but not overly-tight) fit (Photo 5).



*Photo 6: Smooth sailing.*

Finally, things were back on track. The new buttons from Schaff went on the old posts without a hitch (Photo 6). I felt good, knowing that potential problems down the road had been eliminated.



*Photo 7: Putting a cap on it.*

Felt punchings are supplied with the new buttons, but not attached. I used PVC-E glue to finish the job (Photo 7).



*Photo 7: Ahh! Mission complete.*

Next month, the job of hammer installation. One lesson I learned using C.A. glue in place of the traditional glue I use for installing hammers on wooden shank- adjustment speed matters!

As always, I would invite you to stop by if you happen to be in the area. I'll put the coffee pot on. Who knows, I might even spring for donuts.

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