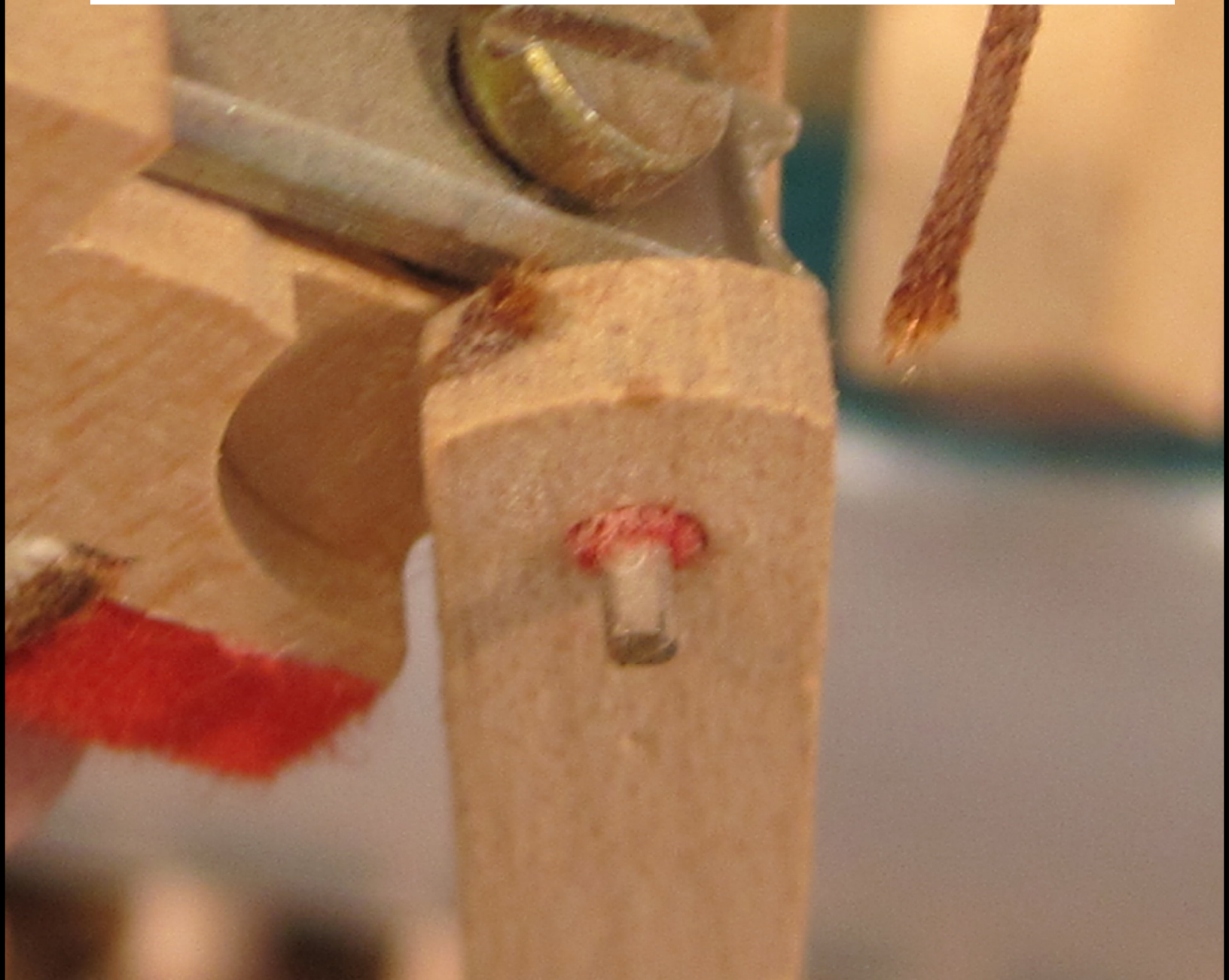
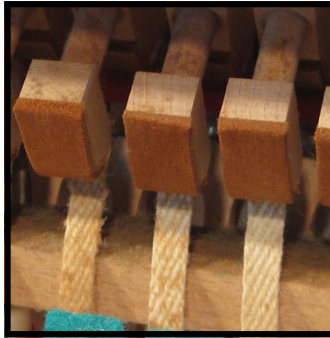


**Replacement of Worn
Asian-Design Hammer Butts and
Flanges
Promo Set Preview**

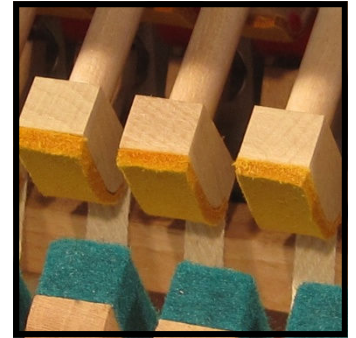


The Piano Owner's Heads-Up Guide to Important Piano Maintenance

Focus On: Replacement of Worn Asian-Design Hammer Butts and Flanges



Old hammer butts



New hammer butts

By the time that the braided cords used in Yamaha and Kawai and other Asian-

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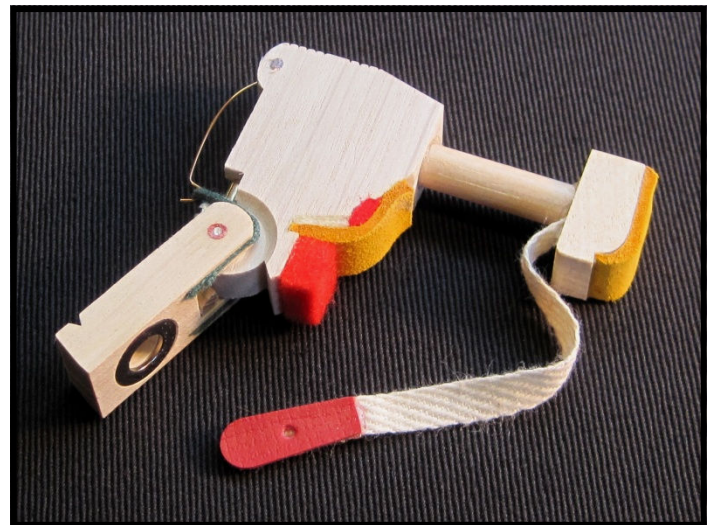
to break, other hammer butt assembly issues that cause performance. Felt and thinner, causing adjustments that were made in the factory to be off, and response to be inconsistent.

Your information Goes Here

Yamaha, Kawai and other Asian-made pianos have hammer butt assemblies that rely upon a small braided cord to hold an essential spring in check. After years of use this cord is prone to breaking (as shown in photo above), which causes the action to perform unsatisfactorily.

These braided cords on your piano are to the stage where they are either broken, or liable to break in the near future. Other wear issues related to the hammer butts and hammer butt flanges must also be addressed.

I would suggest replacing the set of hammer butt / flange assemblies. Additionally, either shaping or filing the hammers must be done, to prevent problems caused but excessive wear to the hammer felt. Finally, to complete the repair package, voicing the hammers and regulating the action is necessary to bring the piano up to its potential.



Resetting the adjustments (a procedure called "regulating") helps to a degree in such a situation, but since the cushioning power of the parts has been affected, getting the piano completely back to a "factory feel" is probably not possible using the old parts.

Overall replacement of worn parts is the most effective way to bring the piano back to its potential.

Heads-Up Preview

About This Preview Packet

The 24 main topics available for your free personalized promo or newsletter set all come in 2 versions—heads-up and full-length, both of which are shown in this preview packet.

Heads-up versions (see example on previous page) are always 1 page in length and as such are very direct and to the point. These shorter versions work especially well for pianos which have a number of repair issues in that a packet of them can be included with an estimate without creating a perceived overload of information for the owner. For my own business, I print multiple copies of heads-up for every topic covered thus far and carry several of each with me in my briefcase on tuning rounds in case I need to put a packet together. I spend a little more on printing expenses to have them produced on heavy-weight card stock, but the extra expense is well worth it, at least in my opinion—the promos have a very substantial 'feel' about them on the heavier-weight paper.

With a written estimate accompanied by relevant heads-up promos, a well-informed decision can be made more easily at the owner's leisure. This is especially helpful when the decision (to repair or not to repair) involves a discussion between joint owners of the piano—a husband and wife for example. The couple can sit down at the kitchen table together and go over the materials in an informed manner. Also, heads-up promos are great for any situation involving committees. If a half dozen repair topics are involved in a proposed restoration of a church piano, for example, the heads-ups can be passed around among committee members for everyone to become involved in the discussion and decision making.

Full-length versions (see example on following pages) go into enough detail that even your most discriminating customer will be satisfied. For my own use, I've printed off a single copy of each full-length version that I have in a binder which I also carry in my briefcase. Occasionally, I get my binder out if the customer wants more information on the spot. More frequently, however, are situations in which I ask my customer if they would like me to send the full-length copies of the topics concerned via email for further reading and consideration. Quite often customers do opt to see the in-depth materials.

Whichever version of the promos are put to use, the fact is that they work! In my own business, since I have begun giving out promos with estimates, the percentage of clients having recommended repairs done has increased steadily. In 2011, over 90% of the estimates which I gave were followed through with. Before promos, those types of numbers were way beyond what I ever saw. Other users of promos (see testimonials) have experienced similar results. Technicians have reported back that because of the promos, their businesses are doing better than ever before.

But enough about my own experiences and those of other technicians. Try a promo set out for yourself! Pick out a topic for your free promo set, and let us help you start building upon your own success story! Best wishes to your future!

Full-Length Preview

The Owner's Guide to Piano Repair



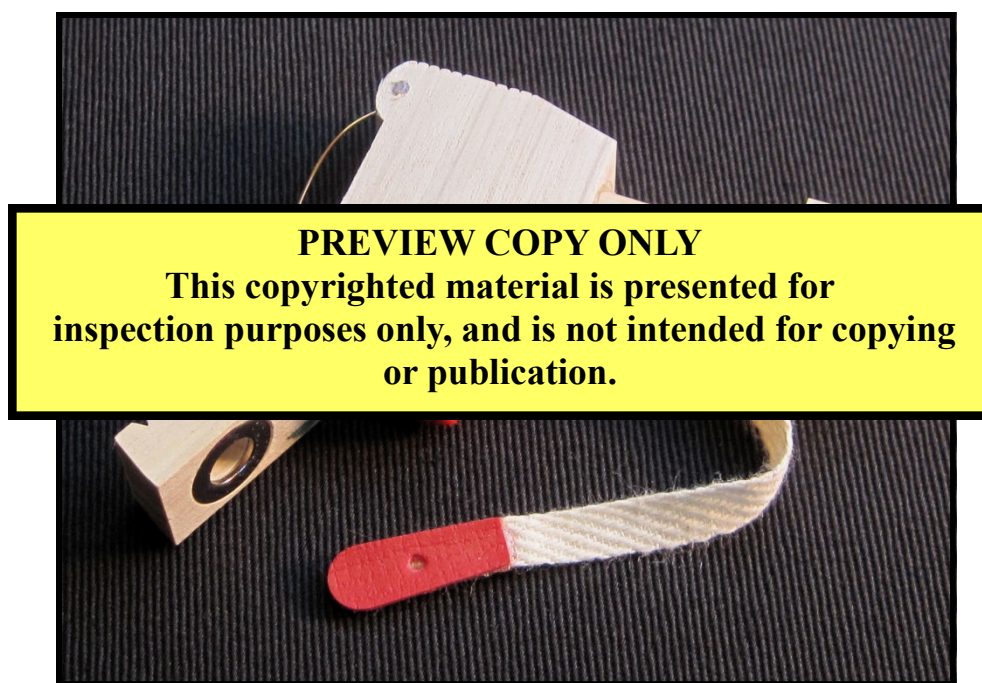
Focus On: Replacement of Worn Asian-Design Hammer Butts and Flanges

Information provided courtesy of:

**Your Contact
Information Goes Here**

The Achilles heel of Yamaha, Kawai and other Asian-made pianos is a hammer butt assembly that relies upon a small braided cord to hold an essential spring in check. After years of use this cord is prone to breaking (as shown in photo on cover), which causes the piano action to perform unsatisfactorily.

The braided cords on your piano are to the stage where they are either broken, or liable to break in the near future. Other wear issues related to the hammer butts and hammer butt flanges must also be addressed. **For the best results, I would suggest replacing the set of hammer butt / flange assemblies. Additionally, either shaping or filing the hammers must be done to prevent problems caused by excessive wear to the hammer felt. Finally, to complete the repair package, voicing the hammers and regulating the action is necessary to bring the piano up to its potential.**



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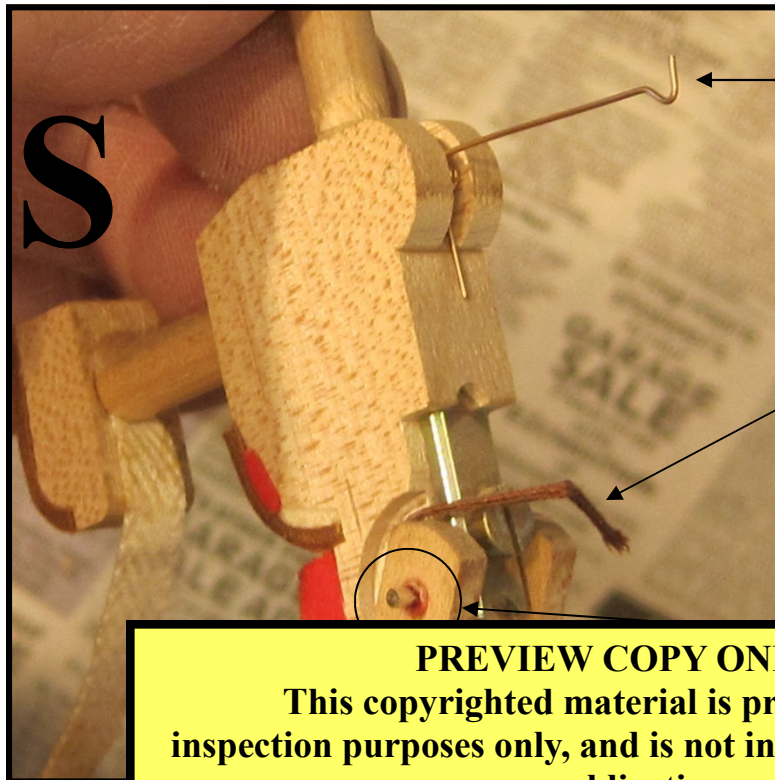
A new Asian-design hammer butt / flange assembly ready to install.

The following questions and answers are intended to help you decide whether to have your piano upgraded with new hammer butt / flange assemblies.

Wouldn't just replacing the broken cords be a cheaper repair option?

Cheaper, but unsatisfactory. The broken flange cords in your piano action are not the only part affected by wear and tear, just the most obvious. Other sub-components are worn as well in ways that diminish the performance of your piano. Worn action centers (the pivot points for the hammer butts consisting of brass center pins inside felt bushings) prevent accurate tracking of the hammers to the strings. Thinning and hardening felts which are meant to cushion the action parts degrade the fluid and quiet movement of the mechanism of the piano as it is played. **Overall replacement of worn parts is the most effective way to bring the piano back to its potential.**

The following photos of used hammer butt / flange assemblies from a 1980s Yamaha studio upright illustrate the most common problem areas.



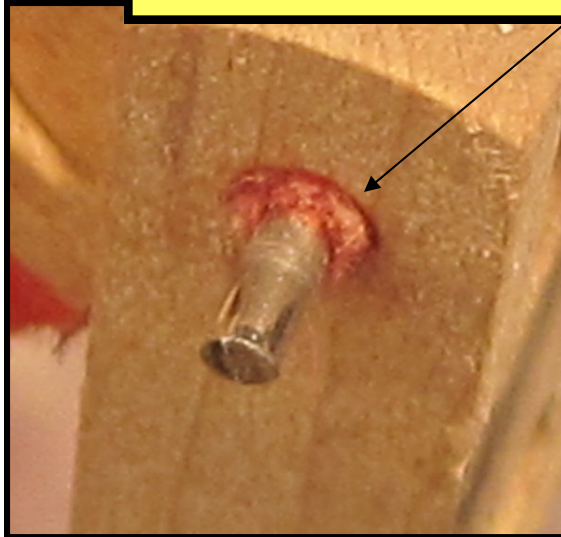
Hammer butt return spring: When held in check by the flange cord, this spring swiftly returns the hammer butt to its rest position so that it's ready to fire again the next time the note is played.

Flange cord: Although strong enough to hold the continuous tension of the return spring for decades, it eventually can give out and break.

Action center: The pivot point for the hammer butt. As the felt bushing and brass pin become worn, the fit of the pin loosens, causing sloppy play. The pins become loose of the wobble.

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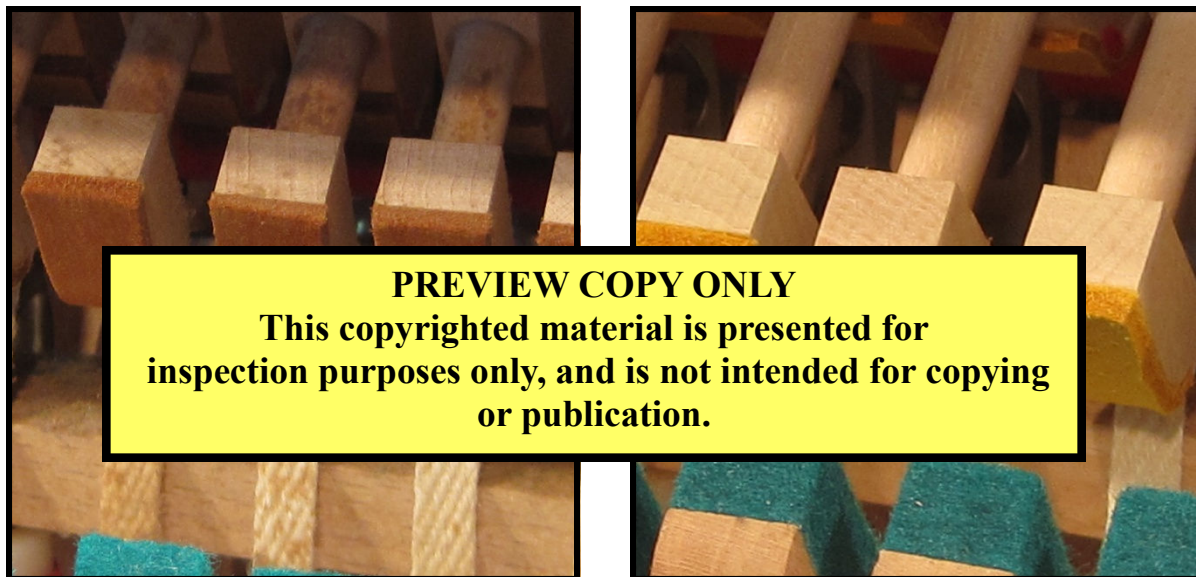


Although less obvious than broken flange cords, loose action centers also cause problems for the performance of the piano. Ordinarily, wear and tear of the felt bushing is the cause of overly loose action centers, but sometimes the brass pins themselves begin to wear away, as in the photo to the left. When an action center has thus loosened up, hammers wobble on their way up to the strings, striking less than a solid blow. In extreme cases, hammers may go off course to the point where they hit the wrong strings!

In the case of an instrument where both cords have broken and excessive wear to the action centers is noted, wear and tear has undoubtedly occurred to other subcomponents of the hammer butt / flange assembly as well. When excessive overall wear is noted, the best results for your piano would be obtained by first having a set of new, matching hammer butt / flange assemblies installed to replace the original set. Follow this by shaping or replacing the hammers and doing necessary voicing and regulation work, and your piano will be returned to its full potential for tone and touch.

Could you go into more detail about the problem with thinning and hardening felts that was mentioned as a reason for replacing parts?

By the time that the braided cords used in Yamaha and Kawai and other Asian-made vertical actions begin to break, other subcomponents of the hammer butt assembly often have wear-related issues that cause performance problems for the piano. Felt and leather cushions begin to wear thin, causing adjustments that were made in the factory to be off, and response to be inconsistent. Resetting the adjustments (a procedure called "regulating") helps to a degree in such a situation, but since the cushioning power of the parts has been affected, getting the piano completely back to a "factory feel" is probably not possible using the old parts.



Old hammer butts

Replacement hammer butts

Consider the above photos showing a part called the catcher, which is faced with a buckskin (or similar) covering. When a note is played, this part is essential to preventing repeated strikes (called "bobbling" notes). The buckskin surface wears thin over the years, especially on portions of the keyboard which are played more heavily. In the photo on the left showing a set of original hammer butts, the buckskin covering the center catcher has worn thinner than the two adjoining catchers. The photo on the right shows the new catchers of replacement hammer butts. Not only is the buckskin covering uniform in thickness, providing a consistent cushion to the parts coming together, but it has a better ability to make a secure contact with the backchecks (the thick green felts at the bottom of the photo). The rougher texture of the new buckskin will grab the backchecks without slipping, as older, worn buckskin is prone to do.

The new hammer butt / flange assemblies that would be replaced in your piano come as matched sets, and as such will give your piano very much of a "new piano" feel.

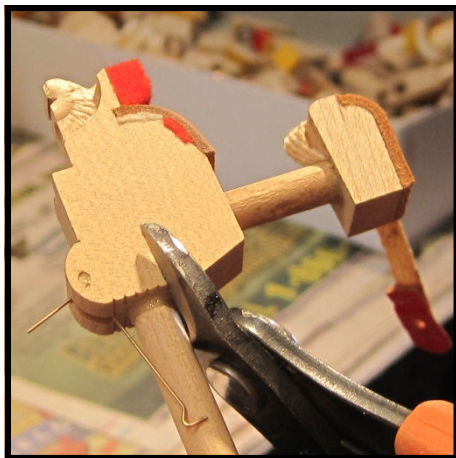
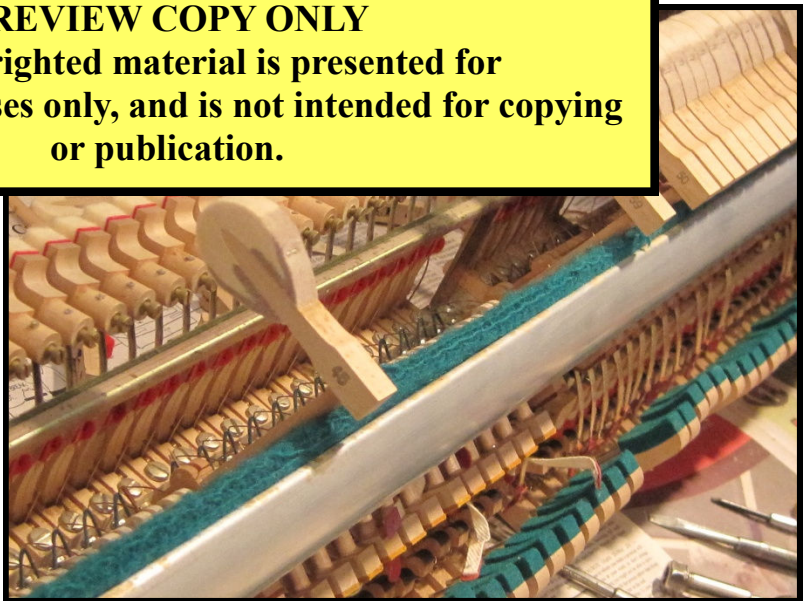
What are the basic procedures for installing a replacement set of hammer butt / flange assemblies?



The first step is to remove the original hammer butt / flange assemblies from the piano action. These are taken from the action by carefully unhooking the bridle straps, then backing out the flange screws holding each assembly in place so that each unit may be lifted out.

Since the piano action is a complex assembly, care is taken to ensure that parts go back together properly. When a section of hammer butt / flange assemblies is removed, for example, key assemblies are left in place to line up the parts as they are returned to the action.

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The old hammer butts are then removed from the hammer shanks, usually by using a pair cutters to cut along the grainline. Several cuts are required to remove the old part, at which time the shank needs to be cleaned of any remaining wood and glue.

Once this is done, the new hammer butt / flange assemblies are installed in the action.



The hammer shanks are then dry fitted into the new hammer butt assemblies. With all the hammers in place, careful alignment will be done, and only then will the parts be glued together.

Fitting the set of hammers to the action (and to the strings) is a precision job which needs to be professionally done.

Why is it necessary to combine the job of hammer butt / flange assembly replacement?

For hammers that are badly cut into by the strings of the piano, resulting in them having an outer layer of felt which is dead or pulpy. By carefully removing the outermost layer of felt, hammers can be brought back to life. For badly worn hammers, replacement will give the piano a new lease on life. With either hammer reshaping or replacement, time will be needed to voice the hammers for consistent tone.

With any job requiring replacement of action parts, attention needs to be given to regulating the action. At the very least adjustments directly affected by the installment of new parts need to be reset. Even better, with all the work being done, this would be the ideal time to do a complete regulation job to put the action of the piano back to its original settings, thus ensuring that the piano will perform up to its potential.

Having these related repairs done at the same time will maximize the improvement to your instrument, in that each component of the job complements the others.

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Attention given to maintaining your piano and keeping it in showroom condition will ensure that you find maximum pleasure in playing your instrument.



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New hammer butt / flange assemblies being installed.

"In business to bring your piano to its full potential."

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