

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

Focus On: Replacing Upright **Hammer Butt Springs** 

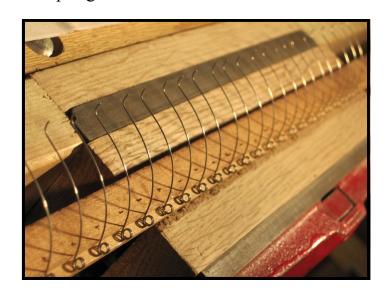


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Hammer butt (or hammer rail) springs perform an essential function in the action of the vertical piano. Each time a note is played, the hammer must swiftly return to rest position. The hammer butt spring is responsible for this task. Although these springs are simple in design and typically need no maintenance over the life of a piano, they can be easily bent or knocked out of position. In some cases, the spring metal becomes brittle and breakage occurs. When this happens, broken springs may either be replaced individually or as a set. The hammer butt springs on your piano are showing signs of brittleness, and either spot replacement or the replacement of the entire set should be considered.

For an on-the-spot replacement, a hammer butt repair spring may be used to replace a broken spring. The repair spring has a brass clip that may be screwed onto the hammer spring rail, as shown in the photo at the top of the next column.

Repair springs are an acceptable and affordable option which is most appropriate when a limited number of springs are being replaced. For a quality restoration, however, the use of original-type hammer butt springs (as shown in the photo below) would be a better choice. By doing so the new springs would most closely match the piano's original specifications. Also, by replacing the entire set of springs instead of just those actually broken, future problems caused by brittle spring metal would be eliminated.



**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.

<u>Heads-up versions</u> (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.

<u>Full-length versions</u> (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: Replacing Upright Hammer Butt Springs

Information provided courtesy of:

Your Contact Information Goes Here Hammer butt (or hammer rail) springs perform an essential function in the action of the vertical piano. Each time a note is played, the hammer must swiftly return to rest position. The hammer butt spring is responsible for this task. Although these springs are simple in design and typically need no maintenance over the life of a piano, they can be easily bent or knocked out of position. In some cases, the spring metal becomes brittle and breakage occurs. When this happens, broken springs may either be replaced individually or as a set. The hammer butt springs on your piano are showing signs of brittleness, and either spot replacement or the replacement of the entire set should be considered.



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A new set of original-type springs being given final adjustments in the action.

The following commonly asked questions have been answered to give you the information you need in order to decide whether or not to have hammer butt springs of your vertical piano replaced individually or as a set.

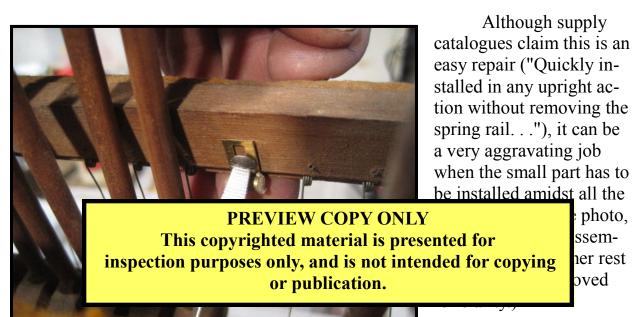
With hammer butt springs being so simple in design, what goes wrong with them that they bend or become knocked out of position or broken?

Many times the simple act of retrieving an item which has fallen inside the action of the piano, such as a pencil or paper clip, causes the springs to be bumped out of position. Other times a spring will slip out of position on its own during hard play. When the effort is made to reposition a spring it is very easy to bend the spring the wrong way or put a kink in the spring metal. Also, loose springs will sometimes jam up against the hammer butt and will become bent in that way.

Once a spring has a sharp bend in it, it is more likely to break. Especially as a piano ages, springs in the piano action are prone to metal fatigue, increasing the chance of broken springs.

# For fixing the occasional broken hammer butt spring, is there an on-the-spot solution available?

Yes. For an on-the-spot replacement, a hammer butt repair spring may be used to replace a broken spring. The repair spring has a brass clip that may be screwed onto the hammer spring rail, as shown in the photo below.



The screw supplied for the repair clip is tiny, and even when using a special screw-holder, it can be a challenge to get started. Especially when trying to hold the clip in place with one hand, maneuvering the screw around the hammer rest rail and hammer shanks without the screw popping off the screw holder can be an exercise in frustration.



# For a vintage instrument that is being restored, is the use of repair springs the best method available?

Repair springs are an acceptable and affordable option which is most appropriate when a limited number of springs are being replaced. For a quality restoration, however, the use of original-type hammer butt springs (as shown on the next several pages) would be a better choice. By doing so the new springs would most closely match the piano's original specifications. Also, by replacing the entire set of springs instead of just those actually broken, future problems caused by brittle spring metal would be eliminated.

Is the replacement of a set of hammer butt springs with an original type set of springs a complicated repair, or is simple enough that it may be conveniently done in the customer's home?

With the amount of time involved in the repair, it would probably be best to do this repair in the workshop. One advantage would be that while in the shop, other issues with the action of the piano could also be addressed.

Hammer butt springs are obviously simple in operation . What makes their installation complicated?

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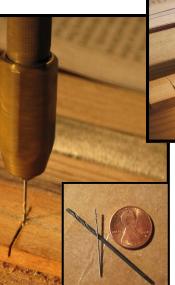
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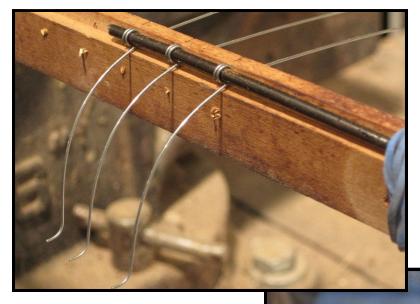
wire

free.

The spring rail felt on the back of the rail is scraped off and will be replaced at a later stage in the process.



A .025" hole is next drilled in the hammer butt spring rail for the tail of each spring to be inserted through. (The insert shows the size of this drill bit in comparison to a penny, and an ordinary 1/16" bit.)



The tail of each new spring is then inserted though the original hole in the rail. (The short sliding wire helps keep the coils of the springs in line while the process is being completed.)

The long tail of each spring is then pulled through the tiny hole which has been drilled. (This step allows the

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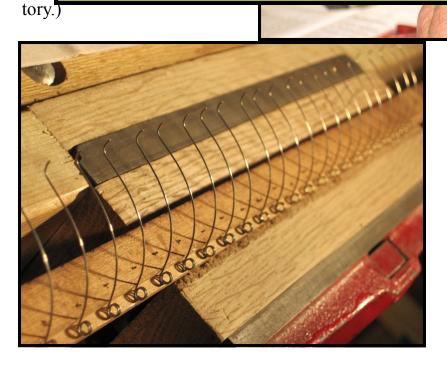
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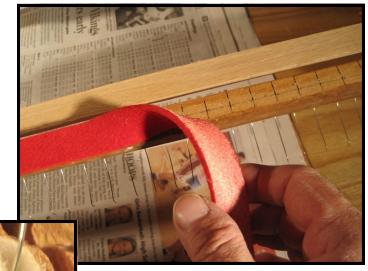
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The springs are given fine adjustments while the set is held in place in the vise so that each of the springs lines up perfectly with its neighboring springs. Adjustments from side-to-side, and up and down are required to even out the line.

A new length of fresh spring rail felt is now glued to the back of the hammer spring rail. It is essential that this felt be of the correct width and thickness. This felt is clamped in place in a press overnight to ensure adhesion.



When the new set of hammer springs are reinstalled into

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end is formed.

Are there other repair jobs which should be done in conjunction with this particular repair?

Yes, if the action is in fact worked on in the shop, it would be the ideal time to make any other necessary repairs.

In particular, with a new set of hammer rail springs, it would be highly appropriate to install new felt punchings to line the hammer butt groove that the springs fit into. In the photo, hot hide glue is applied to the

hut-

back of a felt punching prior to installation.



A net set of hammer rail springs helps complete an upright action restoration job.

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

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