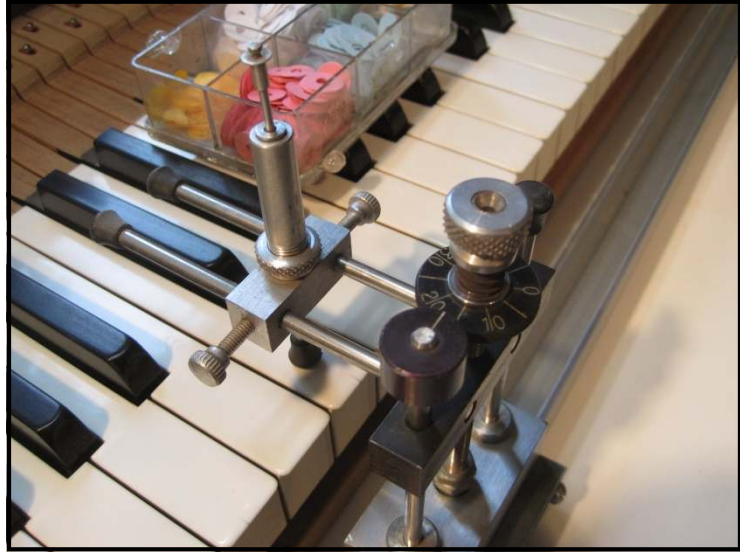
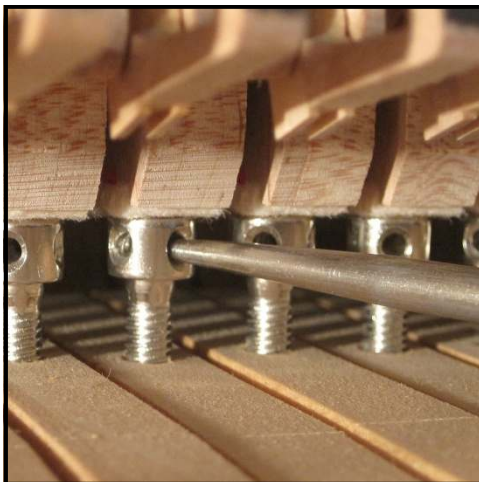


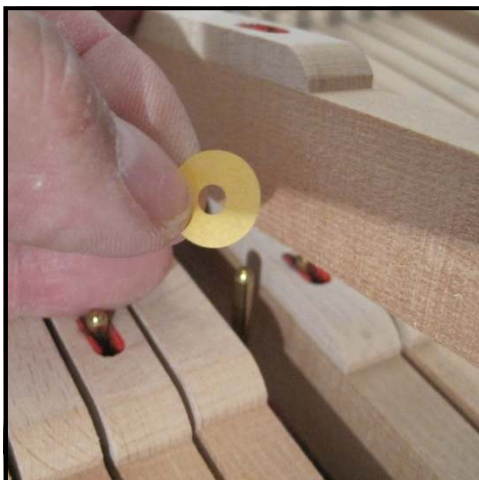
With the action in the workshop and on the bench and preliminary repair work done, the job of setting all important adjustments may be done with extreme precision. Each of the necessary settings is made for all eighty-eight notes of the piano, then checked and rechecked. Since every adjustment affects other adjustments, the process is not a simple "once and done" procedure, but more a process of refining the mechanism by going through the complete series of steps a number of times until everything is at the optimum setting.



A few of the steps involved and their significance are as follows:



Adjustment of capstans to raise or lower hammer height. Hammer height refers to the distance from the striking surface of the hammers to the underside of the strings. This is set at the optimum distance for the hammer to swing to achieve maximum power. Just as the amount of swing is important to a golfer when he hits the ball, too little or too much swing when a note is played on the piano is not desirable.

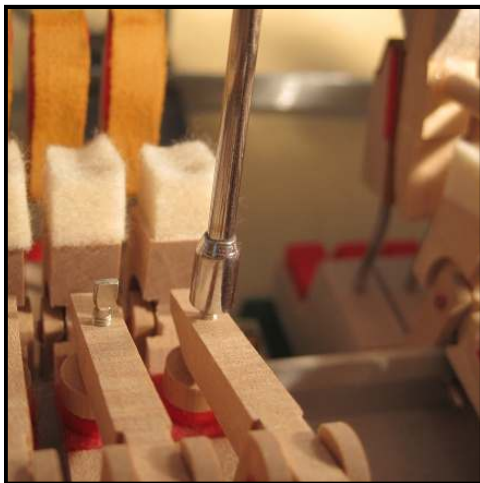
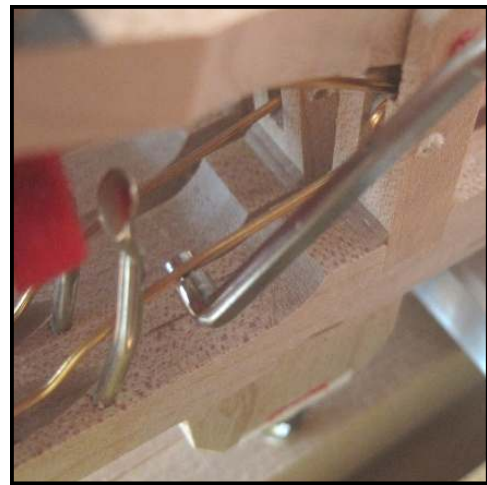


Insertion of leveling papers to level keys. Keys should be perfectly level from one side of the keyboard to the other. The keys rest on felt punchings, which sit on top of the balance rail. Leveling papers of differing thicknesses are then used to bring all the keys up to level. This is an exceedingly fine adjustment, with combinations of leveling papers used to create increments of .001".



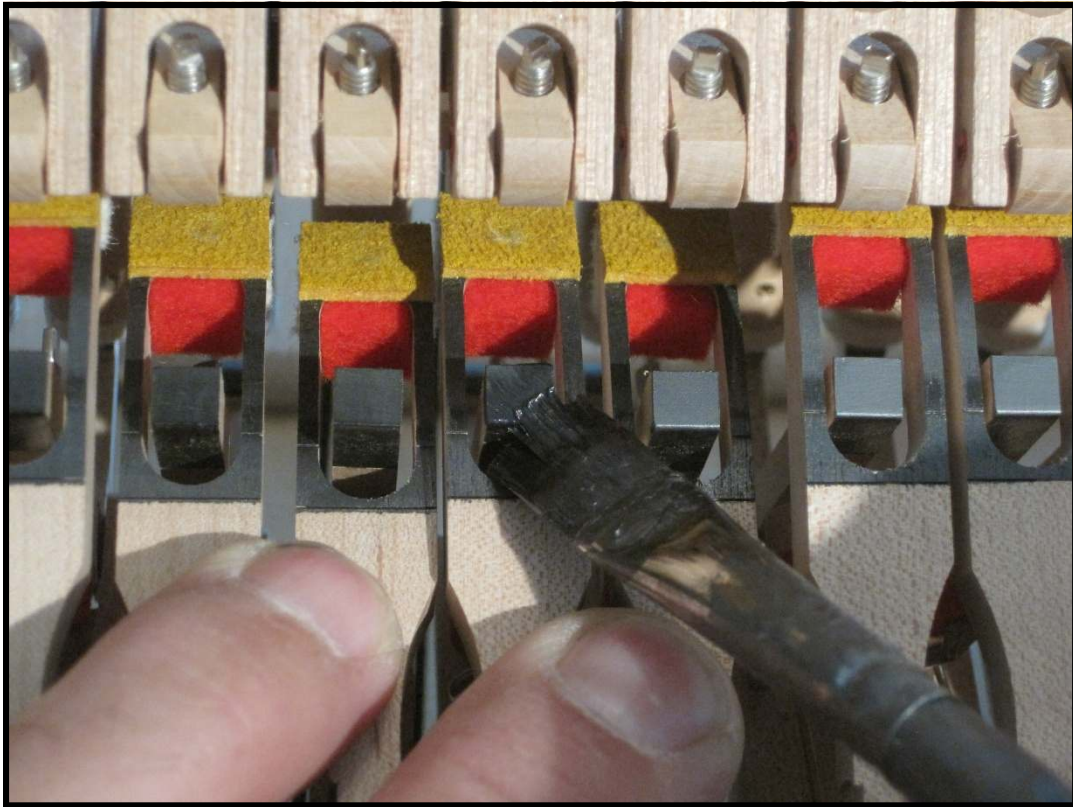
Adjustment of letoff buttons. The letoff button releases the mechanism in its upward motion a split-second before the hammer reaches the strings. This way, the hammer is traveling under its own momentum when it hits the strings, and is not just shoved into them. This adjustment is made such that the hammers release as close to the strings as possible so that when the pianist plays with an exceedingly light touch, the piano will respond.

Adjustment of the repetition springs. Each note has a spring which helps the action to "reload" before the next note. This is done immediately after a note is played but before the key even has a chance to reach its rest position. The setting of this spring is critical, in that too much tension may cause double striking hammers, and too little tension will cause a very sluggish or even non-working note.



Setting the height of the repetition levers. This adjustment goes hand-in-hand with that of the repetition springs. The repetition lever holds the hammer assembly in position so that the note is always ready to fire. It must be set ever-so-slightly higher than another part (the 'jack') that propels the hammer towards the string. This is so that once the note is played, the jack may slip quickly back into place.

These are just a few examples of the steps which need to be done. Depending on the make and vintage of the instrument, up to 40 steps or more may be involved in the regulation of your piano. Getting all the various settings perfectly "in balance" with one another is a lengthy and very technically challenging process.



Friction points of a grand action being coated with an action lubricant.

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Please advise me when you wish to have this repair professionally done.

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