42.30.10 Grand Action Let-off Jig

This tool allows setting grand let-off similar to the Yamaha method for vertical pianos. A group of hammers is supported at the desired let-off height by the jig. Then, one by one each key is played. If let-off is correct, a hammershank will barely wink and click against the jig as the jack escapes, brushing the knuckle. If the hammer does not wink, let-off is too wide, and if a hammer jumps noticeably, let-off is too close. The advantages of this method are: speed and consistency, and physical comfort—once samples are set in the piano, all other notes can be set with the action pulled out. You work in a comfortable position with good visibility.

1) Set samples: With the action in the piano, carefully adjust let-off on the first and last notes of each section (except at each end of the action use #3 and #86 instead). For the bass and tenor sections, set an additional sample in the middle of the section. Samples can be set visually, or with a lid hinge pin or other gauge.

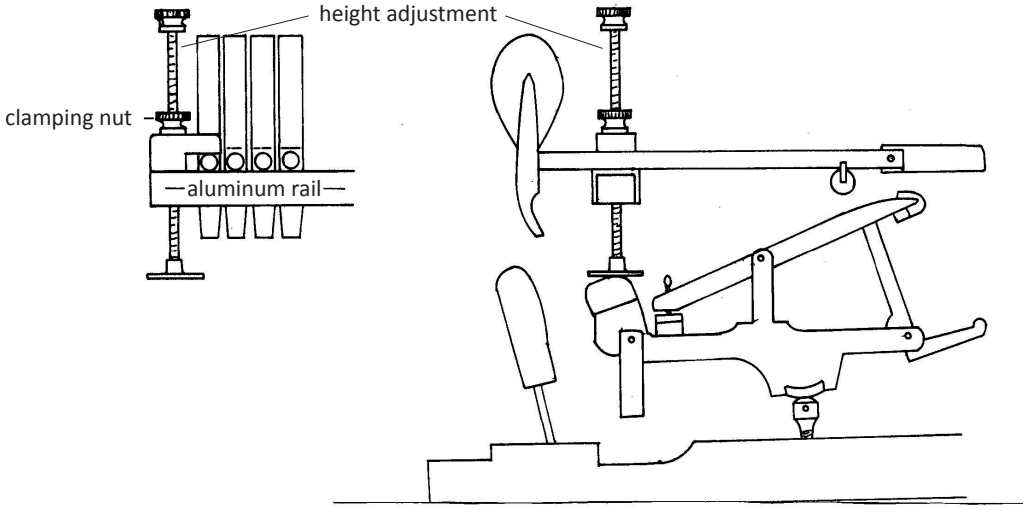
2) Attach jig to hammershanks: Slide the action out onto our Grand Keybed Action Support (or support action with your knees or move to a table). Raise a section of hammers and set the flat jig feet on the hammer rest rail or wippen rest felts. Set the shanks back down on the jig and clamp a shank to the aluminum rail at each end. The shank being clamped should not be a sample—that is why you did not use #1 or #88 as samples. Leave the lower knurled brass nuts slightly loose for now.

3) Adjust the height of the jig: Adjust the height of the aluminum rail until when the sample keys are played, the sample hammers just barely wink, and their shanks click slightly on the aluminum. Hold the lower nut and plastic clamp between thumb and forefinger while turning the top knurled nut—this holds the jig in place and maintains the clamp adjustment while the screw is turning. Go back and forth between both ends of the jig until your sample hammers just barely wink and their shanks click very slightly on the aluminum rail. Snug down the lower nuts to clamp the jig securely, and double check the samples. If a sample in the middle of a section does not agree with the end samples, set the jig to one end sample and the middle sample, adjust let-off on that half of the section, then reset the jig to the middle sample and the other end sample.

4) Adjust let-off in the section: Once the jig is adjusted to the samples, you can set let-off on all other notes of that section just by playing each key and adjusting its let-off button until the hammershank clicks just like the samples. Don't leave any hammers winking more than the samples or they will be etting off too close.

5) Adjust drop: Once let-off is adjusted, it is simple to adjust drop as follows: Remove the jig, then adjust drop on the first hammer for simultaneous contact between jack tender/let-off button and repetition lever/drop screw. This can be done visually, or by feel as a solid, single point of resistance in the key stroke. Using this hammer as a sample, adjust others for the same visual amount of drop. As a visual aid, hold the previous key depressed, with its hammer up in the aftertouch position - this provides a point of reference in judging the amount of drop of the hammer being adjusted. Feeling for the solidness of simultaneous jack & repetition lever contact is a good double check.

Note: Use of this tool assumes that hammer length (bore distance and wear) are even across each section, since let-off is referenced from the shanks rather than the hammer crowns.



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