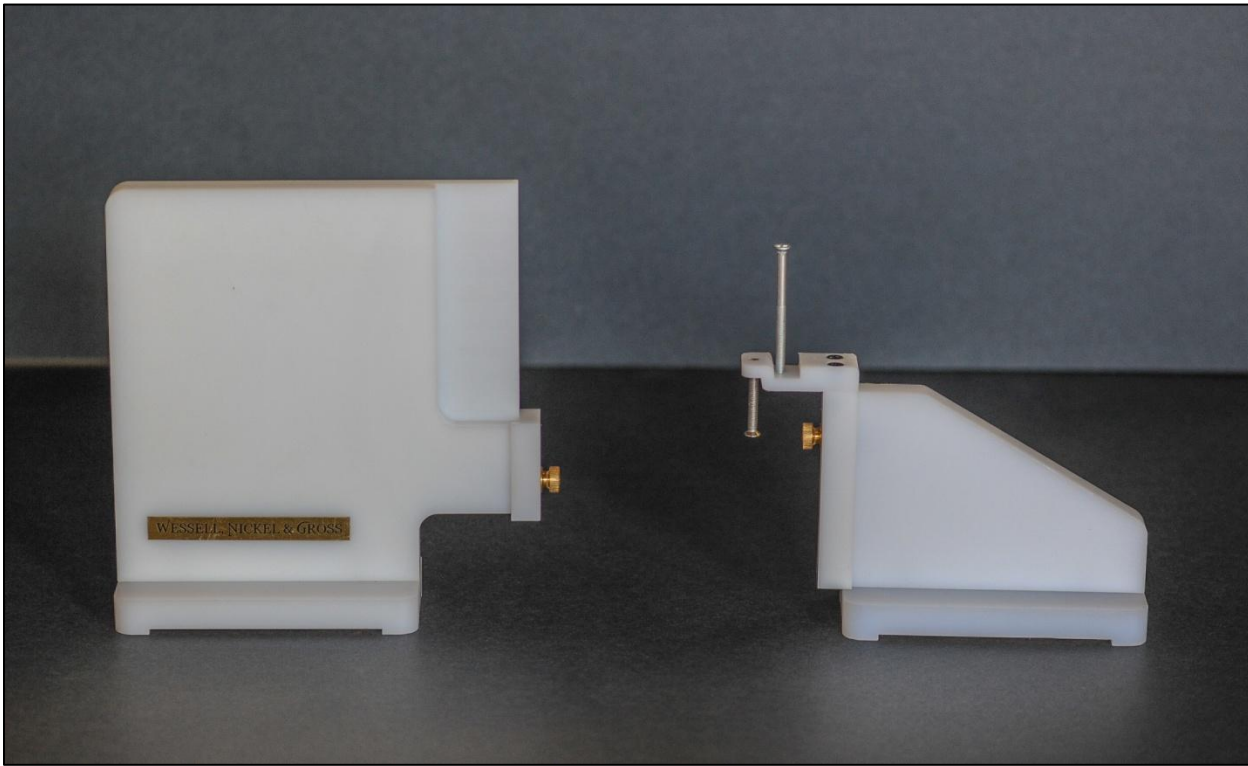


## Using the new Backcheck Height / Line Jig

The old WNG Backcheck System included two tools for positioning a backcheck so the check catches the hammer properly; the back check drilling line jig and the back check height jig.



The Backcheck Line Marking Jig

The Backcheck height jig

**The Backcheck Height Jig** works well as is and is valid in all circumstances so long as the standard WNG checking height of 7/16" or 11mm is observed.

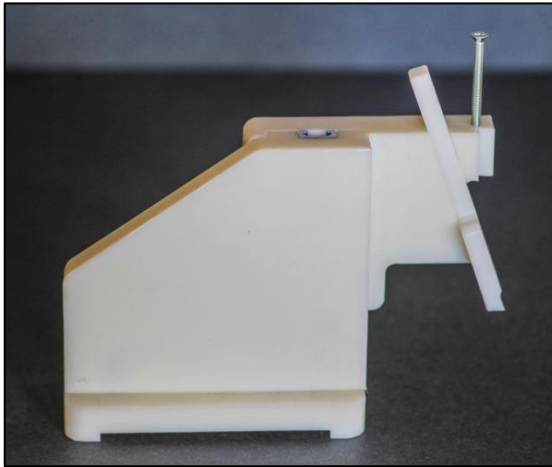
**The Backcheck Line Marking Jig**, however, can have problems. The tool was derived from a tool used by Mason & Hamlin to position backchecks. As designed, the tool takes no measure of any height in the piano or action instead providing a simple offset forward from the strike line to arrive at the line for the backcheck. The technician marks this line on the backcheck block and then drills the holes on this line.

This tool has the virtue of simplicity and, while this tool is optimized for a narrow range of distances between the bottom of the string and the top of the back check block, a substantial majority of pianos will fall in this range. For this reason the tool will work well for most pianos.

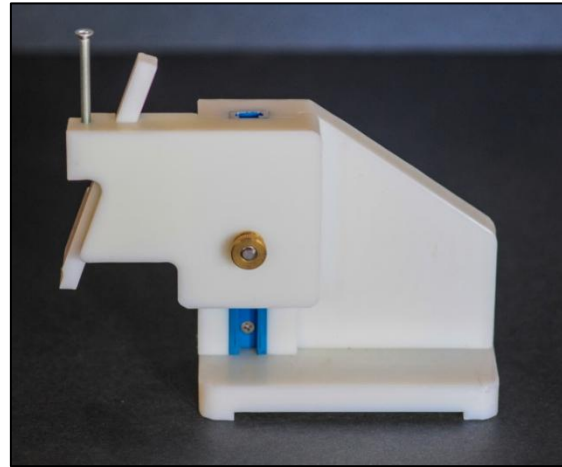
Not all however. If this distance varies much from the standard M&H distance the Line marked by this jig can cease to be valid. This would be true of pianos with very high or very low string height. Also, this would be true of pianos with very high or very low backcheck blocks. For this reason WNG designed a new tool that solves all remaining problems.

# The New Tool

The new tool combines the functions of both the Backcheck Line Jig and the Backcheck Height Jig into one tool. Variations in string height and the height of the backcheck block were the primary reasons that the old tool could yield an incorrect outcome. To solve this, WNG has designed a new tool that uses height for marking the drilling line as well as for setting the check to the proper height.

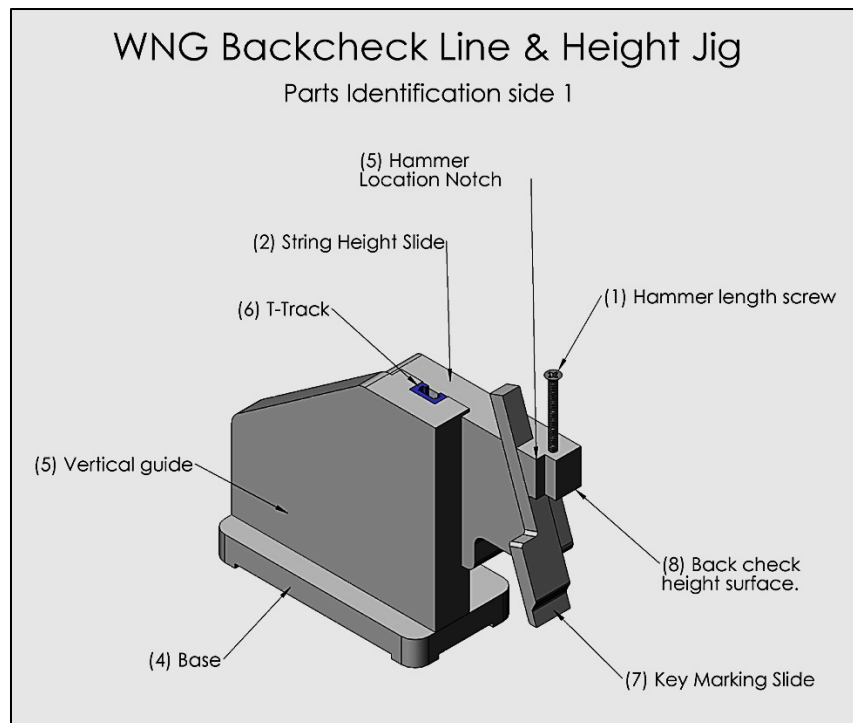


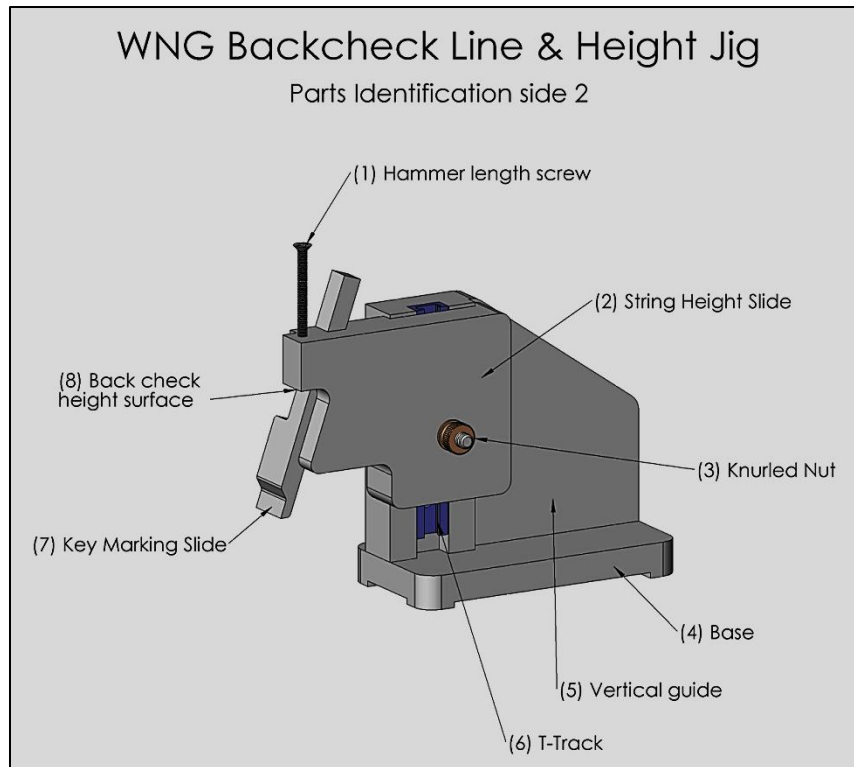
The Backcheck Line & Height Jig – Back



The Backcheck Line & Height Jig - Front

Below are a couple of drawings that label the various parts of this tool. Study this drawing as we will be using these terms throughout the procedure.

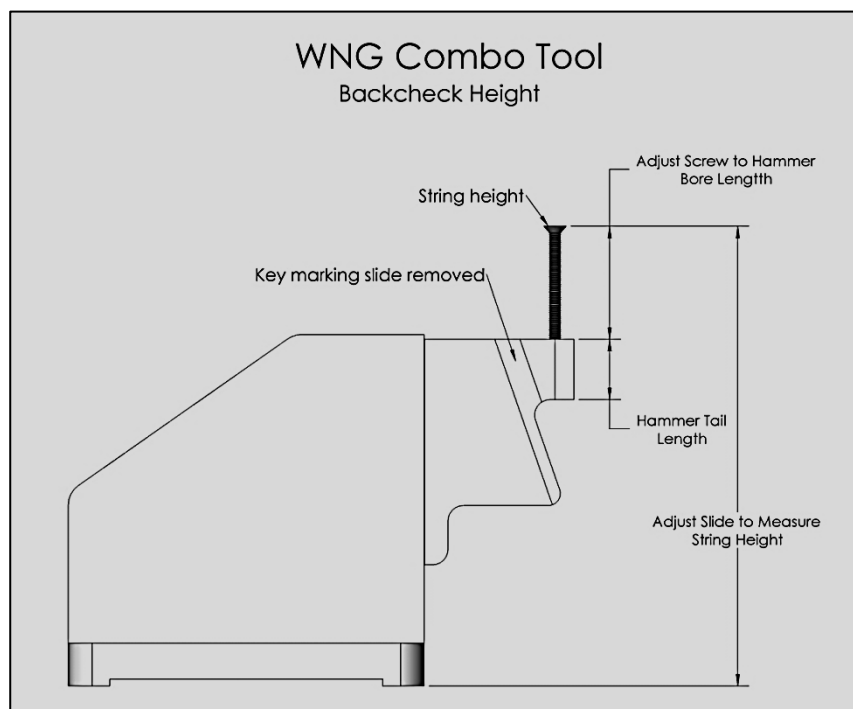




## Determine backcheck height using the WNG Backcheck Line & Height Jig

When used to set backcheck height the tool is used in much the same way as the old height gauge. The primary difference is that there is no adjustment for tail length. The 1" tail length is cut into the plastic slide with no adjustment allowed.

Below is a drawing that shows the salient features of the Combo Tool for setting backcheck height.

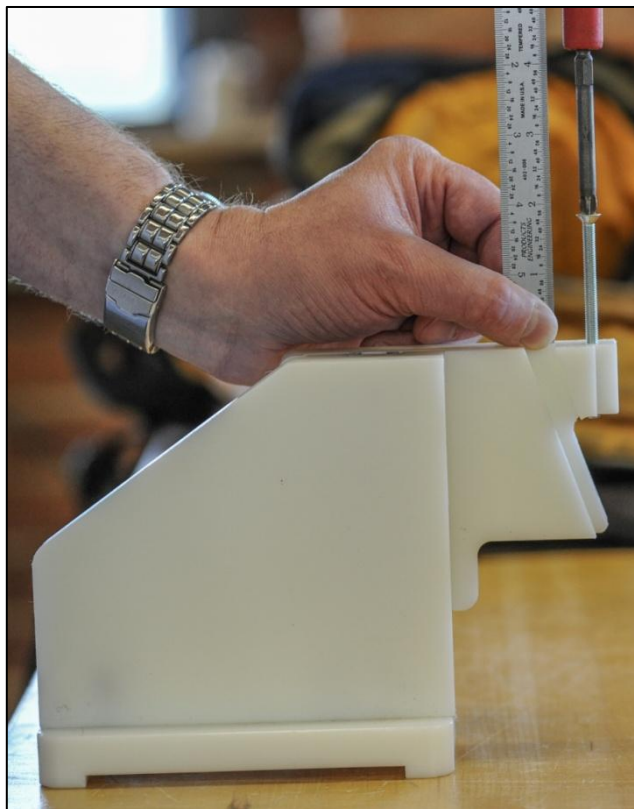


The following steps will allow you to easily set the backcheck height with this jig.

1. Measure the hammer bore length in the section you are working.

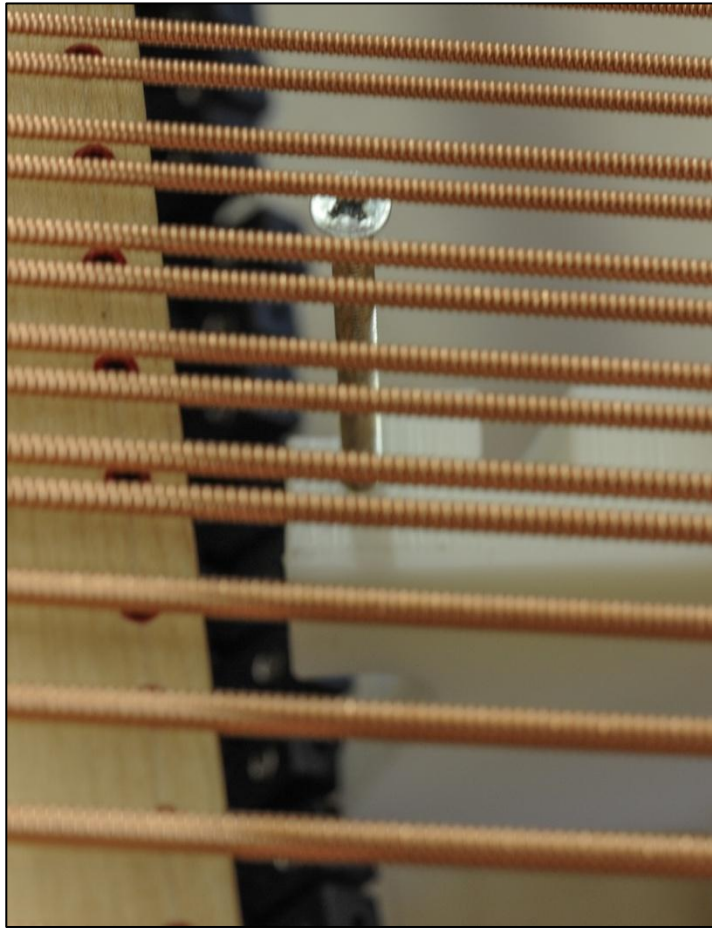


2. Adjust the top screw until the distance from the end of the screw to the plastic is the hammer bore distance you just measured.

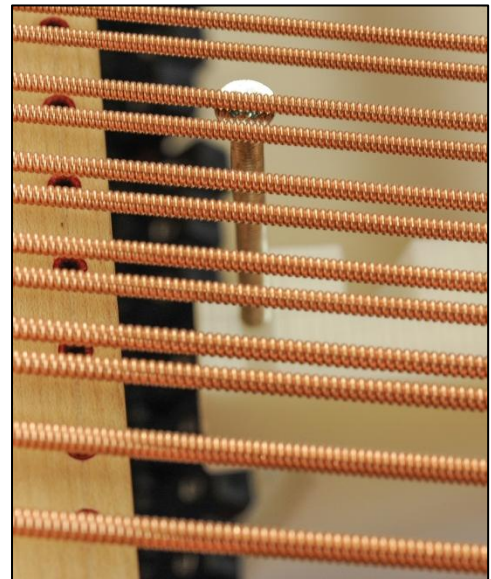
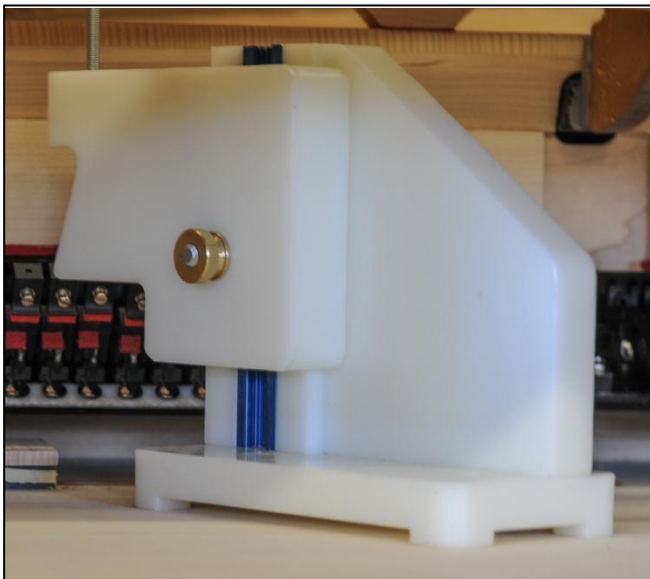




3. Lower the slide and place the tool under the strings in the middle of a section. This will provide a good average height for the section.



4. Raise the slide until the head of the screw just touches the strings. Make sure that you do not inadvertently bend the strings higher with the tool. It is easy to do.



5. Remove the **Backcheck Line & Height Jig** from the action cavity.
6. Block a key to the down position. This is the key position to measure the length of the backcheck. The reason for this is that the tool gives you the height of the backcheck when the key is at full depression.



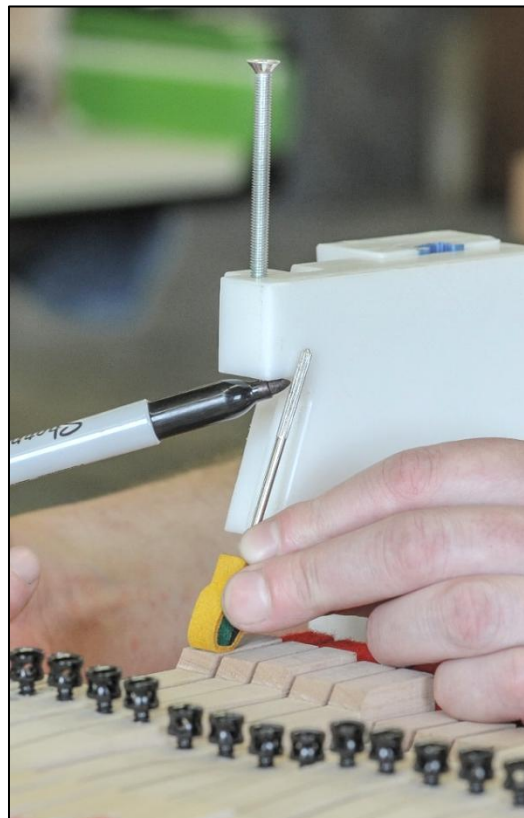
7. Position the Combo Tool over the keyboard. The Combo tool should be set for string height for this operation. Place the jig so that the backcheck height surface is above and a little behind the backcheck block.



- Place a trial backcheck next to the back side of the String Height Slide at the angle of the key marking slot. This is the angle that the check should be after insertion and adjustment. The backcheck height surface tells you where to mark the wire so you will be able to insert the check into the key at the proper height.

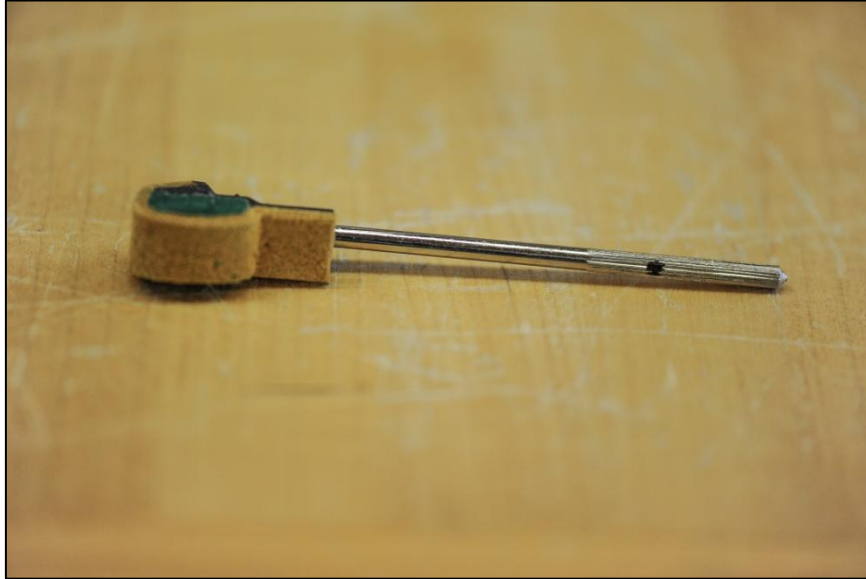


- Use a felt tip to mark the backcheck.





10. Mark the check on the front side of the backcheck. This allows you to see the mark when inserting the trial backcheck.



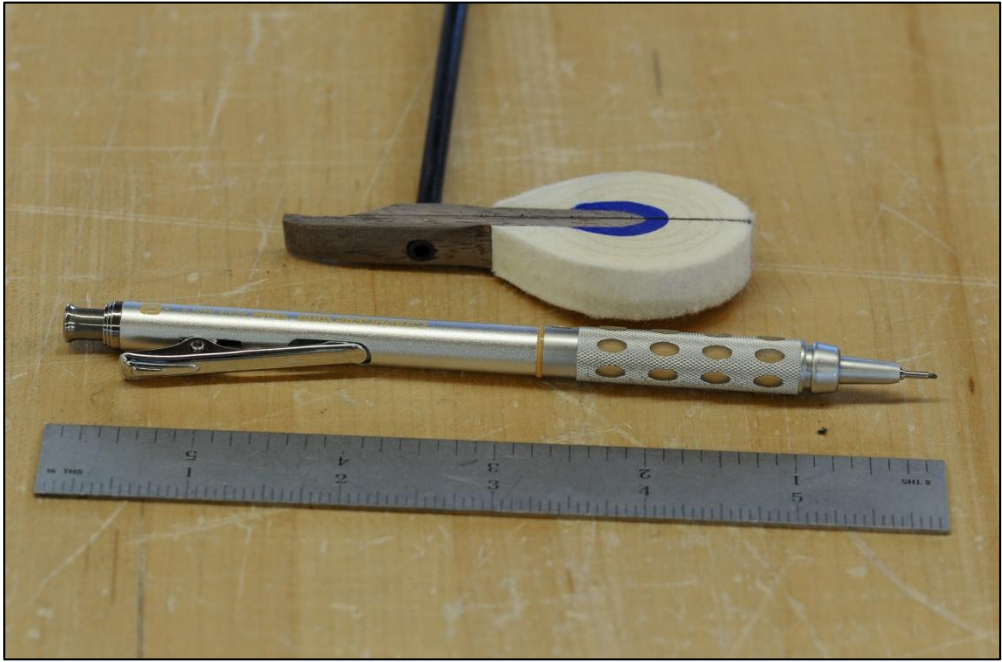
## Determine backcheck drilling line using the WNG Backcheck Combo Tool

1. Place a center line on a sample hammer such as #1, #72 or #88.

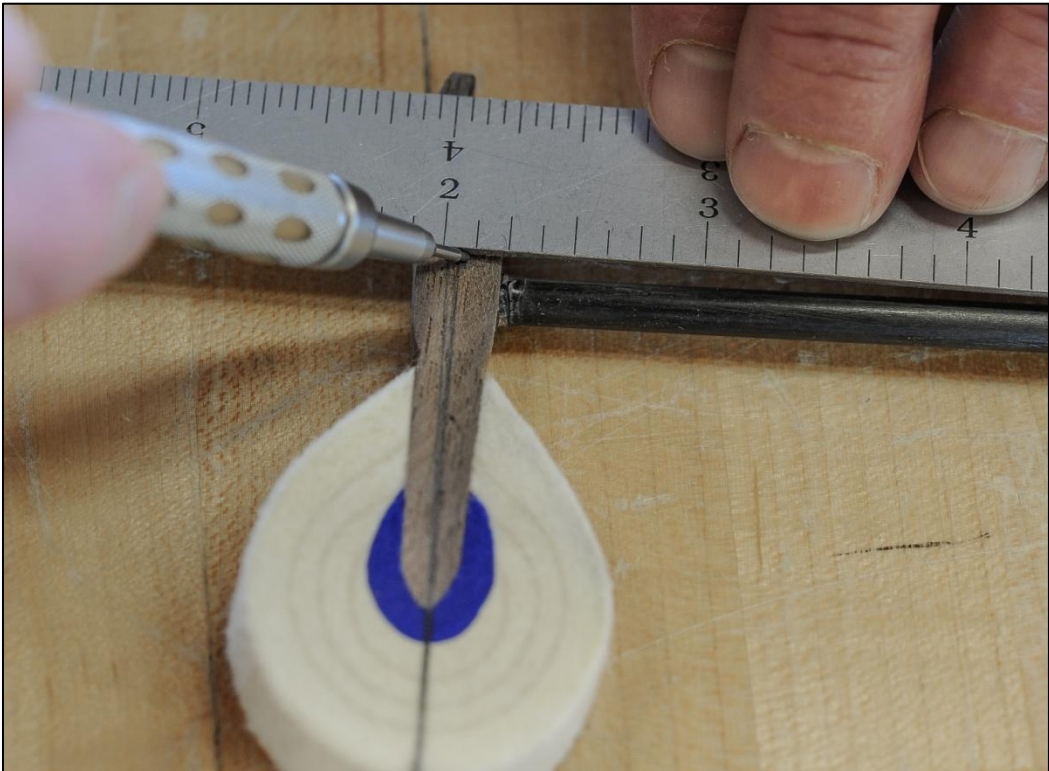




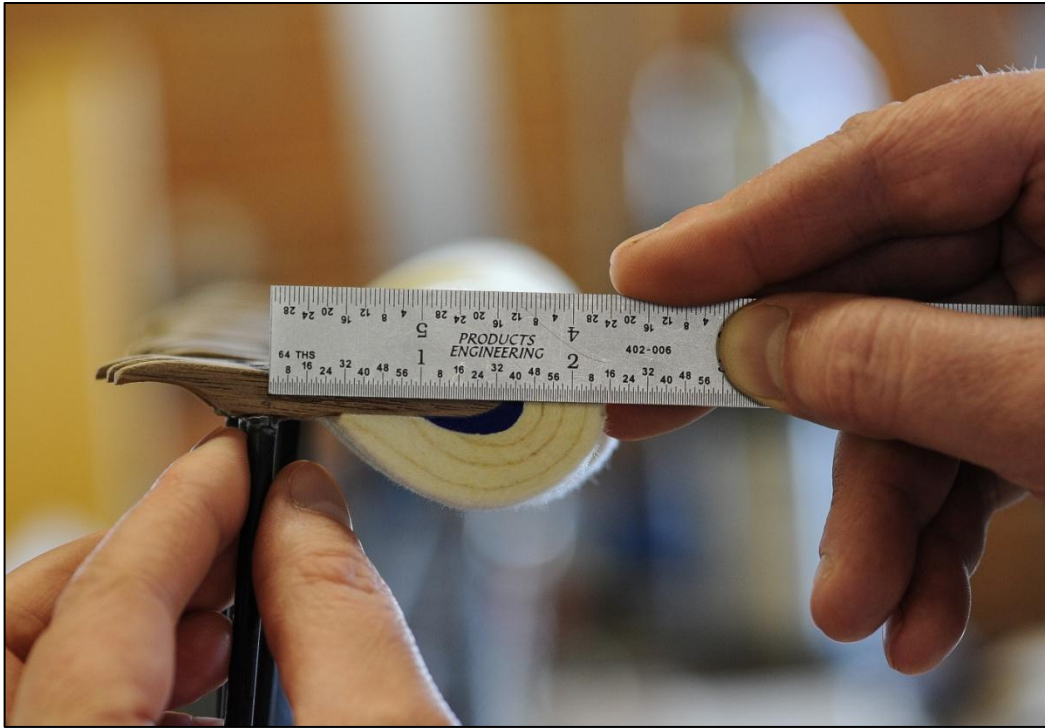
2. Use the following tools to make this line.



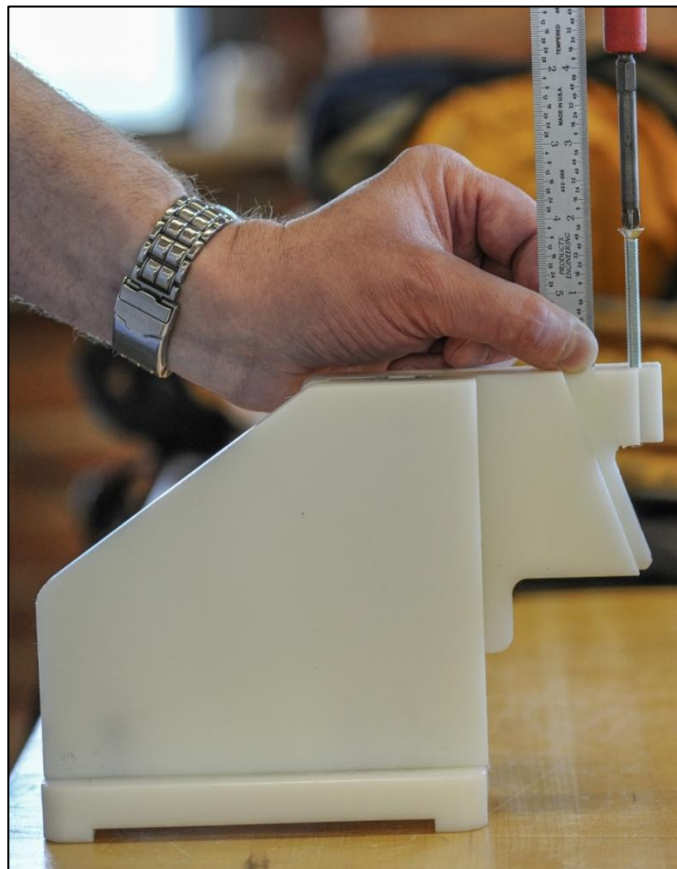
3. Place a cross mark on the center line that corresponds to the center line of the hammer shank.



4. Measure the hammer bore length in the section you are working.



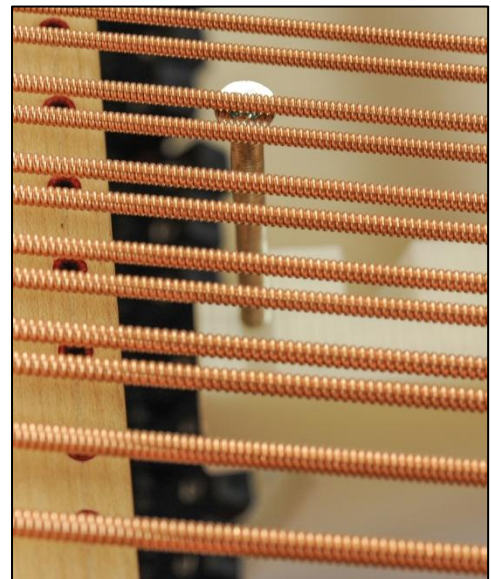
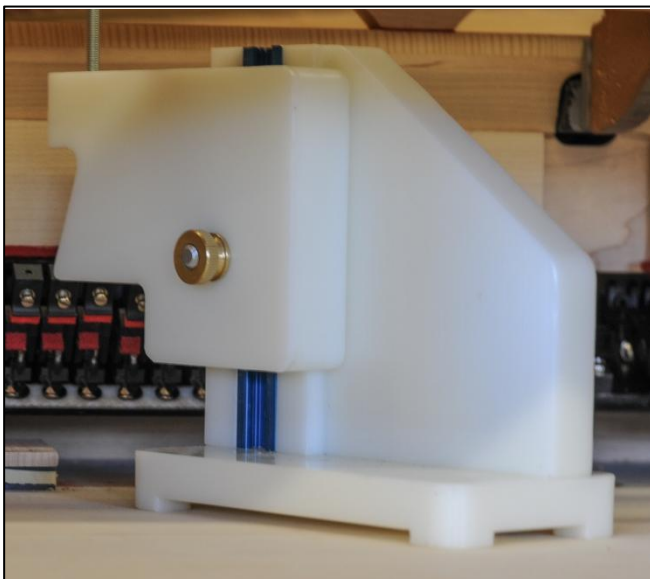
5. Adjust the top screw until the distance from the end of the screw to the plastic is the hammer bore distance you just measured.



6. Lower the slide and place the tool under the strings in the middle of a section. This will provide a good average height for the section.



7. Raise the slide until the head of the screw just touches the strings. Make sure that you do not inadvertently bend the strings higher with the tool. It is easy to do.





8. Remove the Backcheck Line & Height Jig from the action cavity and place on the bench behind a keyboard that has an action installed with the hammers glued on in the correct locations on the shanks. At this point the keyboard should have been leveled and dipped to the final specifications.

Locate the tool so that the point of the notch is placed on the intersecting lines drawn on the side of the hammer. This positions the tool so the backcheck line can be marked correctly in relation to the hammers as they are actually installed.



9. Place the marking slide in the slot and lower to the backcheck block. For this operation the key must be in the up position with the back of the key resting on the backrail cloth.





(Need pic of inserting slide into the slot)

(Need pic of lowering the slide down to the top of the backcheck block)



10. Mark the backcheck line on the key. Typically you do this operation on notes 1, 72 & 88.

