Voicing the Ronsen Weickert special hammers

by Dale Erwin RPT & Ray Negron RPT 9-11-11

These protocols were initially designed by us for the Steinway B & D models but they work very well for all pianos. As a rule the bigger the piano and the higher the scale tension, the bigger, heavier, and stiffer the hammer needs to be to drive the system and make it speak in its respective acoustic environment.

Voicing Mixtures						
Ratio =	**14:1**	**12:1**	**10:1**	**6:1**	**4:1**	**3:1**
Lacquer (g) =	**8**	**9**	**10**	**15**	**20**	**25**
Acetone (g) =	112	108	100	90	80	75
Combined (g) =	**120**	**117**	**110**	**105**	**100**	**100**
	A 4 oz Hypo bottle holds about 120g					
Add lacquer to bottle & fill to the **combined** amount with acetone to achieve ratio.						

Voicing Protocols

Please read carefully and practice precisely for the best results

****Please note for our voicing solutions we us a nitro-cellulose lacquer with an approximate 25 % solids. Thin with Acetone or lacquer thinner.**

I do not recommend the use of plastic key top and acetone except in the top octave when needed.

With all solutions, the least that can be applied the better off the hammer is for the long term.

Bringing the hammers up: note all mixtures are referred to in this manner... 10 to 1.
This indicates the part 1 is the lacquer, and the higher number (10) is the acetone or lacquer thinner. When experimenting to find the right stiffness try only 1 hammer at a time.

In the Staple area:

Soak this area with a 3 or 4 acetone to 1 lacquer solution. I repeat.... in the STAPLE AREAS ONLY! Saturating the felt from the staple downward!! Do not allow mixtures to creep above 9 and 3 o'clock position! This treatment builds the bottom of the hammer making a good solid foundation for the top half of the hammer to work off of/push against. I recommend this for all Ronsen hammers. This is a traditional old school technique still used in some European factories. It is a 15 minute process. Perform in a well-ventilated area.

Note 1 thru 20. Bass

Bass section: On the Mono-chords only apply a mixture in the range of an 8 or 12 to 1 solution applied over the top. Let it soak down to the staples. Do testing on one note to determine the appropriate mixture for your situation.

The Result: The hammers should now produce a sound that is robust, focused, & present with a lot of tone color - a true, refined Steinway sound.

The Bi-chords-Bass

These notes will benefit from a weaker solution, in the range of 10 to 14 parts acetone to 1 part lacquer

Tenor

Note 21 thru 35 receive a 14 to 1 solution over the top. Result: Increased presence, sustain and attack.

Notes 35 thru 57 often receive NO solution over the top felt. However, sometimes this area may also benefit from 14 to 1

Treble

Note 58 thru 80 receive a soaking of about 10:1 to 14:1 over the top. Some sets may require a stiffer solution based on density and acoustic environment. Again, test a sample and determine the correct strength for your application.

Notes 81 thru 88 May require nothing at all but, if needed use a treatment of between 3 to 6 to 1. It depends on what you hear. If the lacquer doesn't produce enough ping use a dilute plastic solution

All lacquer should have 2 to 3 hours minimum dry time before judging the sound.

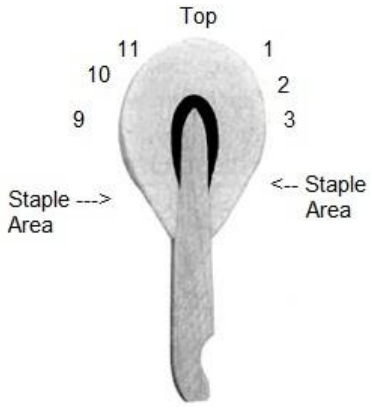
After initial treatment it is a great idea to encourage some play-in time to allow the tone to develop.
My own practice is to bring it up to a level that is just below the desired tonal level and allow for play in time to develop it further.

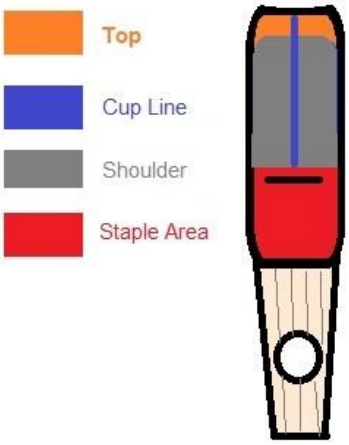
Needling the hammer down or opening up the tone.

To achieve this use a large no. 1 or no. 2 needle inserted deep at 9, 10, 11 and at 1, 2, and 3 o'clock position (shoulder). This is not a jabbing motion. The needle is pushed in as deep as the molding. This allows for the expansion of dense felt present in the cup line (center line) of the hammer to be released. This unloaded felt is utilized as more spring in the hammer. It increases the string and hammer contact time so, consequently the tone will darken as less energy is put into the high partial spectrum and the sustain will improve. The harsh attack will diminish as well. A few more sticks in the cup line may be required depending on the density of the hammer. Don't overdo this. This big needle really moves felt around.

Smaller tonal adjustment can be made with smaller needles in the usual locations. Overall if a harsh tone is present the technician must locate the harder/denser spot in the hammer and free it up. The smaller needle allows for probing of the denser spots in the felt without huge changes.

For Voicing help and consultation call Dale Erwin at 209-577-8397 or e-mail Erwinspiano@aol.com





When the hammers are cut apart the released pressure on the outer edge of the hammer causes it to "cup" If you drew a line down the middle of the hammer you get the cup line, shown here in blue. This is where the needles go.