Piano Potpouri

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11/17/2007

Tuning

We need to preserve the art of aural tuning. When you follow your own work you learn what it takes to tune a certain piano. For example, Yamaha P2's go out of tune a certain way. Since the bass is the most stable, it is often quickest to do the first fast tuning by tuning to the bass. Ten degrees of change in temperature will change the piano the most at the tenor break; it doesn't un-tune evenly. How can we make the least amount of changes to make the piano sound as good as possible? Rather than tuning until the lights stop, tune so they are drifting in the opposite direction of where it was. Ryan loves tuning. He loves the feeling that this is an expression of what he can do.

After tuning thousands of pianos, what can be done to tune better? Then the art becomes tuning in a more musical or interesting way. Play intervals during the tuning to make the experience entertaining in itself. Make the whole tuning interesting and turn into little musical events. Provide the client a piano tuning performance. For many people, tuning is an occasional event, and for many tuning is a mystical thing. There is a talent to developing your art.

Ryan used to labor and sweat over the last octave. Now he doesn't care as much about the top octave. The PTG exam is very picky about the middle two octaves. The tolerances widen toward the extremities. At the top, the tolerance is six cents. When you're young, you have lots of energy, but you spend it doing lots that don't produce many results. As we get older, we learn to be more efficient and productive while exerting less energy. We get better at spending the time at what makes the difference and get good at getting right to the root of the problem.

Ryan tunes with two strings open. As he moves into the fifth octave and hears that, say, a school piano is beating about three beats flat. Tune the next string to the beat rate of the one that's out, and push it a little sharper. Play intervals with an open note and place a finger on each side to determine which beat rate is what you want. Using a finger to mute each of the strings is a quick way to determine which string in the unison went out. Try raising a piano in pitch with two mutes and no strip. Paps mutes work well. With these, rough up the surface and they won't come out as quickly on their own.

Keytops

Keytops are difficult to do well. Piano Tech has a long turn-around time and costs about $300. Roger Gable does excellent work. Yvonne's work is also good. Rob Carter specializes in key tops. For his economy job he doesn't plane the wood down. He uses pyrolin, the old stuff with a nice vintage look. He charges only $140 and lives in Federal Way. He is the least expensive around.

Regulating

Let-off

To adjust let-off, the space between the butt and the jack top is the after-touch. Well-adjusted let-off can work its way closer, which creates baubling. Turn the let-off screw a little farther, push the key down, then with the let-off tool, push the top of the jack back so the lower part pushes up into the let-off button felt and creates a little groove.

When the jack is not returning under the butt, if you adjust the lost motion, the key won't return under the butt. This might make one think that the keys are weighted wrong. Drilling out the leads to make the keys return is not the right answer. What has happened is that the springs have become weak. An obvious red flag is finding a few broken jack springs.

The Little Red School House class starts out with leveling the keys. If the jack springs are not putting sufficient weight on the keys to begin with, the leveling was done for naught. Replace the jack springs and things will work much better. Feel the resistance of the jack; a weak spring and a strong spring feel noticeably different. The more coils in the spring, the less stress it takes. Consoles are more front-heavy, whereas old uprights are weighted more in the back. The Fandrich piano is weighted more in the front of the key.

Console dampers

Consoles will often have overly strong damper springs, and the dampers lift way early. This gives an awful, heavy touch. Reach up underneath and behind the action and adjust the spoons with your finger between the strings and the damper levers. Depress the key and push the spoons in to make the dampers lift later. To go the other way, take the key out and force the whippen down to bend the spoon out to make the lift earlier. This stresses the flanges, but it's quick. Another way to change the touch is to weaken the damper springs. Check with the customer, because people get used to what they have.

Use beeswax from a beeswax candle to lubricate the squeaky spring on the dummy damper lever. VJ lube also works well.

Voicing

They say that you can't voice a piano until it is completely regulated and in perfect tune. Darrell Fandrich says that at least a few notes should be voiced at every tuning. You can get a ball-park change with a fairly low amount of work with Ryan's technique. For example, a twenty-year-old Yamaha will start to get pretty bright. Ryan spent less time tuning (45 minutes) and then more time bedding the key frame and voicing. He deep-needles straight down between the string grooves on the tips of the hammers. It doesn't kill the tone or muffle or mute it, but it has an immediate effect by taking the brittleness and edge off the sound. The tone becomes more fundamental. If the hammers are too grooved this won't be as effective.

Starting with 36 grit strips, and going down to 60, 120, 240, and 400, he quickly shapes each hammer. Take off the edges with the biggest grit. The finer the grits, the finer angles are removed. Pull up from the bottom back, then pull back on the top. You

don't have to always pull towards the strike point. This is a quick way to shape in the house; then vacuum. In the shop, a meticulous hammer shaping job takes about two hours.
Do certain acts that make people know that you are on their side.
Ryan found an LED flashlight with a laser at Walgren's for $6. He read some thank-you letters from some of his jobs.

Tools

Piano Tech's Mitsutoyo gauge can measure thicknesses of cloth. There are a couple different sizes of these gauges. This is useful for matching punchings to the originals. Compare new bushing cloth to ironed bushing cloth. Ironing bushing cloth is a way to pre-size the cloth, making it about 10 thousandths thinner and keeps the glue from penetrating into the cloth so much. An ironed felt punching will be significantly thinner than the originals. Piano Tech's light green punchings are a better quality and don't compress as much as the cheap ones. Balance rail punchings are more crucial than front rail punchings, so 1/1000 inch can be significant. Use this tool to measure tuning pins when re-stringing, and put the thicker ones on the bass for more tension. Measure the back rail cloth to match the original. The low bass strings can be measured in the piano.

Ordering the right string is not always the perfect answer. Buy two sets of universal bass strings, because in a bi-chord, both strings must be universal. When the weather changes, the sound will change noticeably because the core wires are different. If one is a universal and the other the original, if the unisons flip at all, the difference will really stand out. Of course, it is always best to copy the original, and it would actually be a good idea to replace both strings for the same note.

Ideas To Make the Job More Fun

You will never regret buying anything that makes your job easier.
Anything that takes just a little bit of the stress off your work makes your job that much easier over the year.

Impact hammer

Reyburn just came out with the lightest impact hammer available. The anodized finish makes it stronger. You can almost give each string the same whack. Because this hammer is light, it is possible to do very light taps. Roll built a bulky impact wrench, but it was rather heavy.

Earplugs

Earplugs make the tuning amazingly more enjoyable. Ryan tunes by ear with soft earplugs in his ears. Tuning without earplugs will definitely damage ears. It's like wearing sun glasses on a bright day. The clouds become clearer. Your fatigue level is down. There is a muscle attached to the studious bone, called the pedious bone, which contracts when there is a loud sound. With earplugs, that muscle will not contract and you hear better. Earplugs also screen out the background noise.

Misc.

- Piano Tech's drill bit is 2-4/1000's bigger than the standard shank boring bit. This eliminates the need to ream the hole.
- Ryan charged $3500 to rebush keys & replace brass rail flange to wooden flanges turned out to be a low bid – it took a full two weeks.
- The formula for converting center pin size to thousands: Measure it, subtract by 10 and divide by two. For wire, subtract five. How do you remember the difference? "Wires" is five letters, and "center pins" is ten letters.
- Cut up old temperament strips for cushioning knocking upright pedals. If you cut it the right size it will be pressed into place and doesn't even need to be glued in. It takes only a couple minutes and makes a big difference to the customer.