The Art of the Pitch Raise

Michael Gill

2/18/2008

Everything is an art. When you take something and improve it, in many cases beyond the expectations of the customers, you are an artist. Bill Smith and Frank Morgan were Michael's mentors.

The old pianos really should be preserved. There are increasingly fewer around, and they come from a music era that is now gone. There is a lot of money in repairing old and antique pianos. There are very few technicians who work on square grands and bird cage pianos. These were instruments that used to be played on by everyone.

When pitch raising, get through as quickly as possible. Start by tightening all the bolts to make sure they are solid. Strings will break long before plates will. Don Galt took filings off of a plate and calculated the tensile strength of the plate. Piano tension is about half of the tensile strength. The only plate that broke for Michael was an old Kimball upright with a loose nose bolt, and the break happened at that spot.

Rather than raising the pitch above and letting it drop down, Michael raises the tone directly to the spot. In the bass, Michael does not use a mute. He listens to the tone being raised, and then matches the other string to the tuned string. For the treble, Michael uses a chopstick – an idea from Jim Burton. He roughens the tip with a checkering file so that it doesn't slip out. Nathan uses a pap mute. In the treble, Michael does not use mutes. He listens to the string he is pulling up, then matches the other two strings. You can hear them blend without wasting the time spent muting. With a chopstick, it is possible to cover a lot of territory quickly.

The tension of the strings on an average piano is about 3500 pounds. Years ago people used to brush on Liquid Wrench and silicone to lubricate the friction points to avoid breakage. There can be deadness, false beats and loose connections such as agraffes and bridge pins, and these buzzes and rattles need to be repaired. The initial quick pitch raise reveals the problems. Teaching someone else how to tune improves your own tuning. For pianos with lots of false beats, start by seating the strings on the bridge. This can be done simply by pressing down on the string with a chop stick. Tap the bridge pins down, in case any are loose. Frank Hopfinger took the metal end of a ball point pen and tapped it down over a bridge pin to give it more body. Epoxy will take care of loose tuning pins.

Set the temperament. Bob Steele tuned with C, then a fifth down below. Measure these notes with the lower tenth. Go up an octave, and then balance the fifth and the fourth. Work around these points. After the temperament is set, Michael goes down and tunes the bass next. Going up the treble, Frank Morgan used fifths along with octaves. The fifths enable a tiny bit of stretch. After he tunes the treble, he then goes back and checks the bass. Finally, Michael brings in the unisons in the middle section. He mutes the side strings quickly with his finger to check for drift. When pitch raising, pianos shift. Sometimes a raised string may not seat properly and will shift.

When tuning a grand, the soundboard actually collapses. The notes on the extremes compress the soundboard less than the notes in the midsection. Simply tightening loose plate bolts can raise the pitch of the piano. For Michael, the first rough

pitch raise takes about twelve minutes. The second tuning takes roughly twenty minutes. The final tuning takes about forty-five minutes.