

The Buckeye Backcheck

Newsletter of the Columbus Chapter of the Piano Technicians Guild

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MESSAGE FROM THE PRESIDENT



Members,

We had a small turnout for our meeting at Otterbein College. Thanks to Kim for providing snacks and a Steinway grand for us to use for our technical for the evening. After a short business meeting, I gave some ideas on tuning unisons to the group. We then moved to the stage to tune a few unisons on the the piano. I noticed that Kim uses rather large felt mutes in her tuning process which I think is something worth

consideration. I demonstrated tuning a unison then others joined in to give it a try. My point was that for me the unison is the hardest interval to tune because there are so many overtones to match, and so many other factors enter into the process. Even if you are using an ETD to tune unisons, you need to check them aurally as the tuning device is only tuning at one harmonic of the unison.

Strings need to be the same length, diameter, seated at the bridge, level, mated to the hammer, tuned to the octave with all strings unmuted, and stay in tune when played hard. Also, the hammer needs to be properly voiced. One point that is important to me in the tuning process is, after you are done tuning, to hold down the damper pedal and slap all the keys hard, and then go back and clean up the unisons. Then you are finished! I hope some of the things we have talked about at the last three meetings will help those who are interested in taking the tuning exam. We have talked about temperament, octaves, and unisons and next month at Mark's shop he will explain the finer points of stringing as we have a hands on stringing for our technical. Then I am excited as we travel to Bryan's shop to see a technical on installing a new soundboard. All these things work together with our artistic abilities to make the piano a beautiful sounding instrument. It's all about the music.

John Schmoll, R.P.T.

President

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Chapter Meeting Minutes March 20, 2012

The meeting was held at Riley Auditorium, Otterbein University

Attendance:

John Schmoll, Mark Ritchie, Ron Kenreich, Chris Burget, Kim Hoessly, Doug Meszaros, David Stang

Treasurer's Report:

The Chapter has \$2,574.45 in checking.

Old Business:

There was a brief discussion about the unauthorized use of PTG logos and claims of affiliation with the Guild in advertising and on web sites by a former member who left the Guild several years ago. Information was forwarded to the Home Office via our RVP for further investigation by the legal department.

A group picture of the Chapter is tentatively scheduled for the April 2012 meeting.

The April meeting will be held at Mark Ritchie's shop and will cover more tips on restringing.

The May meeting will be held at Bryan Hartzler's shop and will cover soundboard replacement.

New Business:

There was no new business.

Butts & Flanges

David Stang related an experience he had with a George C. Steck Grand where a metallic buzz was heard when the lowest two plain wire strings sounded. He said it sounded almost as if one of the strings was vibrating against its damper wire, but visually it appeared to be too far away to do so. It was mentioned that it still might be a possibility as strings in full vibration can move in ways and distances that are not immediately apparent to the naked eye and often move in seemingly unexpected ways - vertically, horizontally, and longitudinally all at the same time. This led to a

broader discussion of possible causes of buzzing sounds and techniques for isolating them. Sometimes these are hard for one person alone to isolate and may necessitate one playing the note while another searches for the source of the noise. A few other suggestions included: checking hinges for loose/missing screws; loose glue joints on the perimeter of the soundboard, as well as the ribs; vibrating sostenuto tabs; loose bolts/parts in the lyre system; loose foreign objects vibrating on the soundboard; sympathetic vibrations from other strings that are not fully dampened causing "ghost ringing"; objects elsewhere in the room vibrating. These are but a few of the possibilities.



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Technical Presentation: Unison Tuning

The technical portion of the meeting began with John Schmoll offering some of his observations of unison tuning and why the unison is often considered "the most difficult interval to tune". This difficulty stems from the fact that the unison has so many coincident partials while intervals have fewer. Not only does the fundamental need to be pure but so do all of the higher partials. It is possible that even just a 0.1 BPS at the 1st partial may lead to, perhaps, a 1BPS at the 10th partial and/or 1.2 at the 12th, and so on. The slightest beating at a lower partial will cause multiple beating simultaneously at higher frequencies. This is also why it is generally considered best to aurally tune unisons for this reason - most tuning devices only listen to one partial at a time. So, one needs to listen to the whole sound and the unison is ultimately judged with all of its strings unmuted. This led to a wider discussion on the subject.

All of the above considerations mentioned assume that all the strings of the unison are the same speaking length, width, diameter, distance from hammer and probably a dozen more factors. However, in the real world, this sometimes is not the case. Slight imperfections in any of these can lead to impurity in the unison. This is where John Schmoll mentioned that experience in stringing pianos proved to be invaluable to him and really helped inform him first hand of all the factors that come into play here. Tiny details here can make a huge difference later. A twist in the string may change its vibrational pattern ever so slightly therefore changing its partial series. Uneven string height can lead to improper "string timing" throwing them out of phase with each other. Inaccurate notching at the bridges, kinks in strings, wild beats, corrosion, uneven wear on hammers, and mismatched windings on bass strings can also cause problems. Some of these can be remedied or at least partially addressed while tuning, while other problems require greater measures. Sometimes just being able to recognize what problem might exist is half the battle. In the case of mismatched bass strings, sometimes the only solution, short of replacement, is actually choosing a single partial (as opposed to the above stated practice) and use that as the basis of how the unison should be tuned for the best possible blend.

We then moved to the stage and several members took turns tuning and offering other observations. We further discussed hammer and muting techniques and using other intervals to check unisons. Some members like to use 3rds (or 10ths and 12ths) and compare the beat rates with one or more of the strings sounding. If one pair or combination has the same beat rate of another then you know they are in tune - similar to the practice of setting an A to a fork and the F2. This can be useful when there is so much overtone "garbage" that it is difficult to isolate certain pitches. It was also mentioned that using intervals in this way to test unison purity may come in handy during the tuning exam because the examiners will test for impurity at certain partials in certain octaves, but only if a note sounds out of tune. They test the 4th partial in octave 3 and the 2nd in octave 4 - so use the 3rd below and 10th below, respectively, in those octaves if a note is giving you a problem.

Other random points included the possibility that on some pianos moving the outside strings may cause the center one, or an adjacent string on the next unison, to shift slightly. Minor needling and sanding of hammers and releveling strings can also be used to reset string timing. Also, if possible, try to make the fewest needed movements of the hammer so as to not upset the tension of nearby notes.





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www.ptgcolumbus.org



Che belle pianoforti!

<http://www.pianofortegioiello.it/inglese.html>

Columbus Chapter of the Piano Technicians Guild

President John Schmoll, RPT
Vice-President Mark Ritchie, RPT
Treasurer Ron Kenreich
Secretary Christopher Burget

*Contributions and pictures for
the Buckeye Backcheck and the
web page are always welcome,
(even if they are only
peripherally related to pianos)!
- Chris Burget*

Upcoming Events

Chapter Meeting

Tuesday, April 17, 2012, 7:30pm

Mark Ritchie's Shop
6262 State Route 605
Westerville, OH 43082
614-855-7704

www.ritchiepianoservice.com

Topic: Restringing Tips

Map Link:

<http://g.co/maps/3jgpp>

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Comments, articles, and advertising requests may be sent to the editor:

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