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Official Publication of the Piano Technicians Guild

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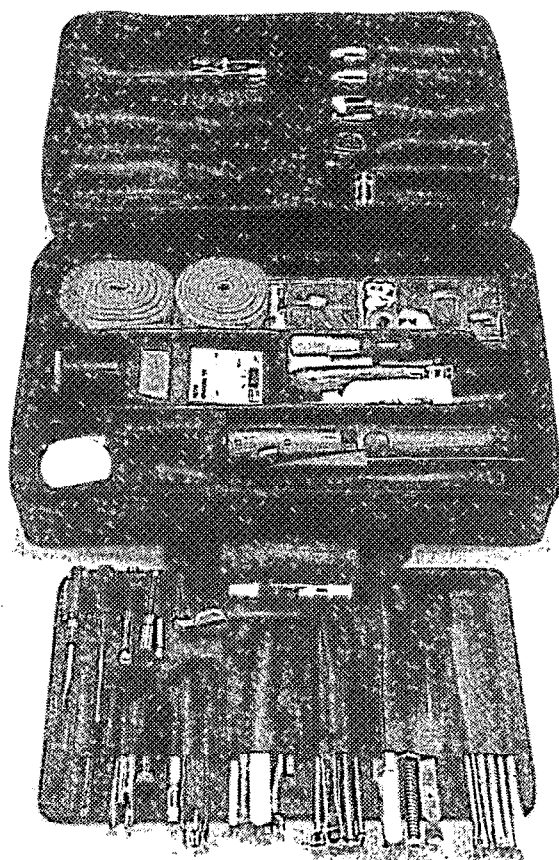
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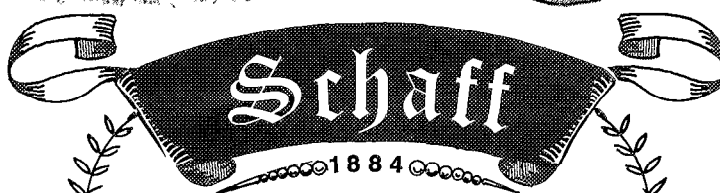
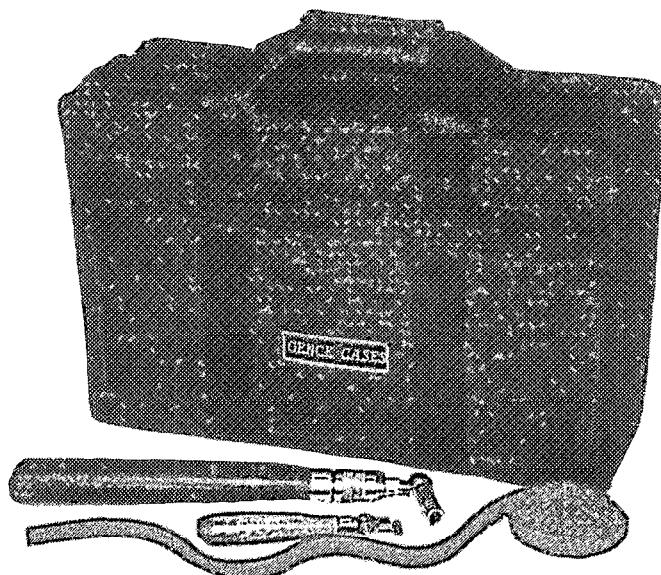
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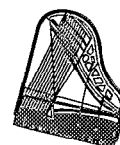
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EDITORIAL PERSPECTIVE

Searching for Chopin

A review of *Chopin in Paris*, by Tad Szulc, New York: Scribner, 1998. Hardcover, 424 pages of text, plus Appendix (List of Chopin's published works, by date and opus number), bibliography, index, and 8 pages of photos, paintings, and facsimiles, in black and white. US: \$30.00, Canada: \$42.00.

Today, almost 150 years after his death, Chopin remains the quintessential composer of music for the piano. Although Bach's *Well-Tempered Clavier* has

earned the sobriquet "The Old Testament," and Beethoven's 32 piano sonatas are referred to in polite company as the "New Testament," Chopin's works hold a place of special affection in the hearts of nearly all lovers of piano music.

Tad Szulc, a journalist whose previous work has dealt with world history and politics, is noted most recently for biographies of Fidel Castro and Pope John Paul II. No musician himself, Szulc's credentials (aside from his skill and experience as a researcher) for attempting this biography of Chopin seem to rest largely on his love of Chopin's music, and the fact that he grew up in a musical environment — counting noted Chopin interpreter Arthur Rubenstein as a family friend.



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Steve Brady, RPT
Journal Editor

Szulc's *raison d'être* for this new biography, when several existed already, was simple: "I found surprisingly few of the more thorough biographical studies satisfactory or effective in terms of conveying Chopin's personality lucidly." In researching Chopin's life, Szulc consulted the existing letters written to and by Chopin, although most have never been translated into English, and he visited all the sites where Chopin lived during the Paris years. As its title suggests, the book concentrates primarily on the years between 1831, when Chopin first arrived in Paris, having left his Polish homeland a year earlier, and 1849, the year of his death. Chopin wrote the vast bulk of his music during those years, although he did not remain in Paris the whole time. The book describes in detail Chopin's life with the novelist George Sand and her children, both in France and in Majorca, Spain. Szulc succeeds admirably in bringing Chopin and his world to life. After reading *Chopin in Paris*, I felt as if I really knew what the composer was like — his personality, likes and dislikes, and most of all, the incredible difficulties he suffered because of his health, which was poor virtually all his life.

Of particular interest to me (tuner that I am) were the few scattered references to the pianos Chopin played. He used Pleyels more than any other pianos (Pleyel even shipped "a fine piano" to Majorca), but there were many exceptions. Szulc quotes a Madame Peruzzi, who wrote about attending a soiree at the home of American banker Samuel Welles in 1837: "I, like everyone present, was enchanted listening to Chopin's mazurkas, waltzes, nocturnes, and c. (sic), which he played on a wretched square piano." Madame Peruzzi herself had "a splendid American grand piano which was placed in the large drawing room ... and there received Chopin, Liszt, and [Henri] Herz."

In 1842, Szulc writes, "Fryderyk was at the Pleyel, fine-tuned according to his detailed instructions..." Unfortunately, Szulc chose not to include documentary notes in his book, effectively preventing us from finding out exactly what those instructions might have been. Szulc also mentions that in 1845, Chopin wrote in a letter to his family: "I am not playing much because my piano is out of tune..." To me, it's gratifying to know that Chopin really did care, not only that his piano was kept in tune, but how it was tuned.

During 1848, the year before Chopin's death, he spent nearly three months in Scotland, where he played frequently in private homes and twice in public (plus a public performance

Continued on Next Page

Please submit tuning and technical articles, queries, tips, etc., to me:

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Searching for Chopin

Continued from Previous Page

in Manchester, England). He wrote from Edinburgh: "I find everywhere, besides extreme kindness and hospitality without limit, excellent pianos, beautiful pictures, choice libraries..."

Szulc handles the reasons and events that precipitated Chopin's break with George Sand especially well, and the scene at Chopin's death is painted in such detail that I felt as if I had been there. The many positive aspects of this biography surely outweigh the few negatives, such as the lack of documentary notes and Szulc's incomprehensible assertion, early in the book, that "the Polonaise in G minor ... was not published until 77 years after [Chopin's] death - 40 years after composition." Am I missing something here, or does this mean that Chopin wrote this piece 37 years after he died?

As I was saying, though, the "pros" outnumber the "cons" by a considerable margin. If you like Chopin's music, and enjoy a well-written biography that reads like a novel, you'll love *Chopin in Paris*. **RJ**

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COVER ART

Appropriate to the season, this photo shows a piano past useful life, partially covered with snow. The photo was taken in Leesburg, Virginia after a snowfall in January 1998, by Craig Turner of Alexandria, Virginia.

PIANO TECHNICIANS Journal

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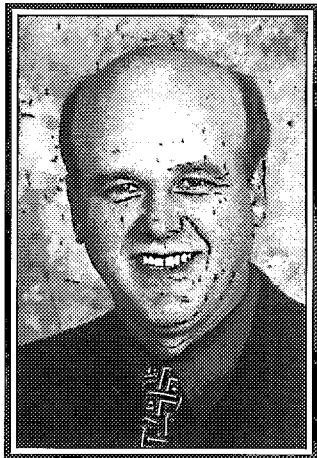
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Well, another year has come and gone, and it is time to take stock of the past year's activities. As an organization, PTG has made progress on many fronts, showing many of the strengths of an association that is maturing steadily, and thanks to the efforts of a great many dedicated volunteers and a very capable and dedicated staff, we can look forward to continued success in our mission of developing piano technology and making it available to



David P. Durben, RPT
PTG President

the industry.

We are continuing work on providing a professional *Journal* for years to come, with staffing changes that will allow our editor a much-deserved vacation (editor burn-out has been a particularly vexing problem in the past). The In-Home Repair Manual is in the hands of the proof-readers, and we hope to have it ready for purchase by Convention '99. The Reprint Kits on CD-ROM project is still closer to completion; we are hoping for a release by early '99.

On the membership front, we are looking forward to topping the 4000

mark sometime soon, and while the numbers reflect virtually no change in the percentage of RPTs to total membership, we can be encouraged by the work of various chapters and exam centers in the purchase of new equipment for exams. Also we should be particularly grateful for the work of the ETSC in recertifying record numbers of CTEs, and their tenacity in certifying new CTEs. They also gave a record number of exams while in Providence, and managed to oversee the revision of the tuning exam manual.

For my part, I am grateful to have had the opportunity to make a great many new friends, and to share some time with some old friends. The long hours of hard work have been balanced off with many good times. So with that, I would just like to say that I have really enjoyed working with all of the folks who keep PTG going. It has been a remarkable year for me, and I'm looking forward to another one in 1999. With your support and participation, it should be another great one!

Happy Holidays,
Dave

A handwritten signature in cursive script that reads "David P. Durben". The ink is dark and the signature is fluid.

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Endorsing the 7/8 Keyboard

Having just read the letters by Richard Brown and David Steinbuhler in the October *PTJ* about the 7/8 keyboard, I would like to share some of my experiences with it. As a result of my experience at the PTG conference in Rhode Island this summer, my own 1926 Steinway A (6'4") has now been retrofitted with a 42" keyboard by Mr. Steinbuhler's company. It has indeed been a "life changing experience."

At the convention as I sat at Mr. Steinbuhler's Steinway B with the little keys, I initially thought how skinny and strange the sharps looked. And it felt even stranger. My hand would invariably overshoot any large chordal structures. As long as the music stayed close and narrow, I was fine. The minute I had to lift, form an octave or chord in the air and come down, I missed. How disconcerting! Then I tried Chopin's C Major Etude, Op. 10, No. 1 – the one Mr. Brown describes as being written for small hands. I had known this piece for some time and was currently using it as a warm-up exercise at the beginning of my practice sessions, playing it very slowly, enjoying the rich sonorities of Paul Bailey's meantone temperament on my piano in the early morning. I was acutely aware that, though I loved the piece and its rich harmonies, I would never be able to play it fast enough to perform in public; my hand simply could not negotiate the wide leaps quickly enough. Now, suddenly, playing the 7/8 keyboard in Providence, I realized I could play that piece – fast! My hand could indeed play the wide intervals easily and quickly. I was hooked, and I was thrilled!

It now seemed possible that I could play the pieces that had frustrated me so in the past. As a college music professor 25 years ago, I played the "big" pieces that attracted me – Chopin's G Minor Ballade, Brahms' B Minor Rhapsody, the Prokofiev 7th Sonata. It took a long time for me to realize that my reach was invariably exceeding my grasp (literally) and that I really could not play that repertoire, that I should quit trying. And now, suddenly, with these funny looking little keys, I could quite possibly play the real pianist's repertoire. That was indeed a "life changing experience" and a "whole new world" for me. I am deeply grateful for Mr. Steinbuhler's expertise in creating this miracle and to the PTG for providing the opportunity for him to display his creation where I would find it.

I have had "Karen's Kleine Klavier" for just over a month now. The G Minor Ballade is almost performance ready. The Brahms Romanze from Op. 118 is a joy when one can play the tenths without having to roll. Gershwin's "I'll Build a Stairway to Paradise" is a

piece of cake, not to mention how good his second Prelude sounds when you don't have to roll the left-hand tenths. And even "The Entertainer" is now within reach with its parallel 6ths between fingers 2-5.

This is an idea which absolutely must be allowed to flourish. To start, I believe that all colleges and universities involved in teaching pianists should have at least three pianos with 7/8 keyboards: one for the concert instrument, one in a teaching studio and one in a practice room. And I believe that eventually, performance halls in cities and towns across the country (and around the world) will be equipped with two keyboards for their concert pianos enabling pianists with small hands, mostly women, the same opportunity as those with larger ones. Is there not a document called "Title Nine" which says that equal opportunities must be provided for women?

"Keyboards in the past have had varying widths for the octave. My own clavichord (after Hubert, c.1784) measures 6 3/16", my fortepiano (after Stein, 1780s) is 6 1/4", my Broadwood (1846, 8' concert grand, the same model that Chopin played in his London concerts) measures 6 9/16"! My original Steinway A keyboard is the current standard 6 1/2". The 7/8 keyboard octave is a mere 5 5/8". Arthur Houle, writing in "Clavier" magazine states, "...Chopin... indicated fingerings based on the narrow keys and light action of the Pleyel piano he used. By contrast, the keys on modern instruments are wider than those of earlier pianos, making the interval of a tenth nearly 1/4" larger. As a result some students have to stretch awkwardly to reach these large intervals in Chopin's music." (Or in many cases cannot reach them at all, I might add.)

Many people, when presented with the idea of a smaller keyboard, say with astonishment, "Why, of course! Why hasn't someone done it before?" Well, now someone has. It is an option. What follows now is our presenting the idea to our pianist friends and clients. I do firmly believe that pianists need to experience it themselves, and to take some time to do it. The experience must be at the keyboard, playing it. Mr. Steinbuhler's invitation for pianists to visit his showroom in Titusville, Pa. and play at their leisure provides that opportunity. For me, it was a slowly evolving process, to fully understand that being able to play an octave with an arched hand meant not only increased power, but an enormous increase in control. Playing with big hands is easier than playing with small hands. I know. I've done both!

— Karen Hudson-Brown, RPT
Charlotte, NC Chapter

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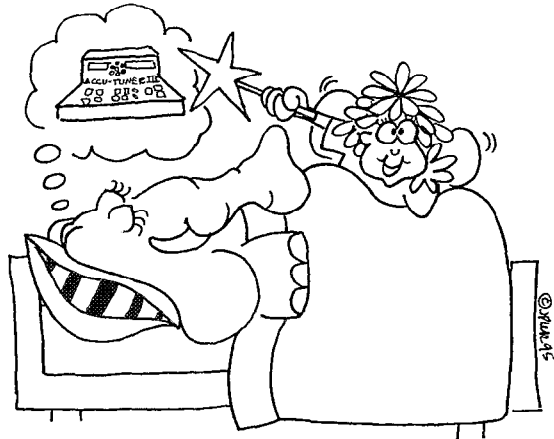
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Tips, Tools & Techniques

Prevent Tilter Disasters

Have you ever been in the process of setting a vertical piano back up, only to see the piano shoot across the room when the casters hit the floor as it breaks free of that screw clamp that is supposed to hold it to the tilter? A faster, safer, and less scary clamping method that I have found is to use a 2000-lb.

Nylon tie-down strap. The rubber-coated hooks will fit easily between the middle backpost and soundboard and wrap around the angle iron of the tilter. Secure the hook ends together, tighten the friction-held strap clamp, and you're on your way to an up-lifting experience.

Place a 2-x-4 under the rolling action of the tilter, and you've got the weight of the piano coming down on the casters at a more vertical position. With school pianos that have the twin dollies installed (the kind that protrude from the piano back), use wood blocks three inches thick to put less stress on the back casters. Do be aware that with three-inch blocks, you will lose some leverage, and more lifting strength will be needed.

— Alan Hallmark, RPT

Reprinted from The Richmond Update, newsletter of the Richmond, VA Chapter

Emergency Capstan Regulator

Some vertical key capstans have shoulders too narrow for any of the available capstan regulators. The key-rail prop nut screwdriver blade (#37 in the Schaff catalog) fits these almost perfectly.

— Kent Burnside
Bellefontaine, Ohio

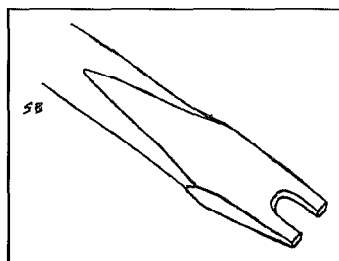


Figure 1 — Special slotted screwdriver blade for key upstop rail prop nuts.

Two Ways to Determine Length of Pedal Lyre Braces

When replacing missing wooden lyre braces on a grand piano with dowels [or even with brand new wooden braces from the factory! — SB], determining the exact length is usually a process of trial and error. Often, the proper length of each dowel may be slightly different. If it is too short, it will knock or fall out; if too long, it will stress the lyre mount. One very quick and simple method is

to extend an old telescoping TV antenna from the lyre socket to the keyed socket to get the desired length. You then loosen the lyre mounting bolts to remove the antenna, and then cut the dowels to this exact length. You repeat the procedure to be certain of a proper fit for the other brace, and be sure to label the ends of each dowel (i.e., T for Treble and B for Bass) to be certain of their correct positioning.

The method that I prefer, however, is a simple variation on the one above, but one that provides a still more-accurate and stable measurement:

1. Cut a 5/8"-thick dowel to a 20-inch length.
2. Slightly taper and round one end for some flexibility in fit and positioning in a variety of lyre sockets.
3. Drill a 15/16" hole in the other end, to a depth of 1 3/4".

4. Insert a 3 1/4" length of all-thread rod into the hole. Coat the threads and fill the hole with Protek MPL lubricant. This rod should turn easily as you use your fingers to extend or retract its length.
5. To use this dowel/threaded rod, follow the directions above for the TV antenna. This adjustable rod should accommodate any length of lyre brace you may encounter; most average about 22 inches.

— Michael Slavin, RPT

Reprinted from NewsLINC, newsletter of Long Island-Nassau Chapter

Tip for Sluggish Vertical Actions

If the touch on a vertical piano is too heavy and sluggish, check the bridle tapes. They may be under too much tension, thereby prematurely adding the weight of the wippens to the keystroke. The rule is to set the tension on the bridle tape so that the wippen just starts to move when the hammer is halfway to the string. Last year, I came across a large upright only a few years old that played like a stationary truck because the wippens started to move almost as soon as one touched the keys. Normalizing the tension on the bridle tapes made all the difference in the known universe.

— Andrew Margrave, RPT

Reprinted from NOVA Soundboard, newsletter of the North Virginia Chapter



Correction: RPT Del Fandrich, Hoquiam, WA, was incorrectly identified as Darrell Fandrich, RPT of Seattle, WA, on Page 27 of the October 1998 Piano Technicians Journal.

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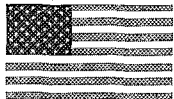
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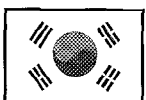
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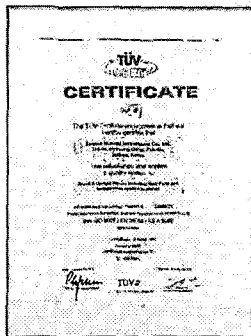
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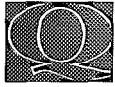
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Q&A/EDITOR'S ROUNDTABLE



Weber Let-Off Problem

Two weeks ago, I came across the following problem. On a routine tuning service call on a Weber grand, I noticed severe blocking of hammers due to inadequate let-off. In my service record I had noted making let-off adjustment two years previous. I contacted the Weber service representative, Bill Marciano, and he said the problem was due to "spreading action brackets." It seems as though this is a problem that has cropped up on some Weber, Young-Chang, and Chickering grands manufactured between 1989 and 1991. He explained as best he could how to replace the action brackets. I received yesterday the replacement brackets from the Weber company. Since I have never come across this problem before, or seen any write-up on it in the *Piano Technicians Journal*, I was hoping some of you who may have encountered this problem and replaced these brackets, could give me some pointers. Bill Marciano did mention to replace the end brackets first. He also mentioned "maintaining a 112 mm spread." I am still a little unclear as to what exactly this term "spread" means. Any suggestions would be appreciated.

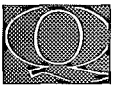
— Bill Hendrickson, RPT
Houston, TX



Steve Grattan: The spread dimension is the distance between the center of the center pin on the hammer flange and the center of the center pin on the wippen flange. Set this at 112 mm. and then test the regulation. Chances are that you will be close and may only have to undo your adjustments of two years ago. Check the regulation thoroughly to be sure.

To set the spread, first make sure the hammer flange rail is tightly secured. Loosen the wippen rail so that there is some tension on it, but with some movement available. Measure from the center of the hammer flange center pin to the center of the wippen flange center pin. Move the wippen rail in or out to the correct 112 mm dimension by wedging it with a wide blade one way or the other. Tighten the screws on the wippen rail and recheck.

They have a habit of creeping. As Bill recommended, do both ends first and then check the middle. If things have gone well, the middle will be okay. Sometimes it is a help to have someone else helping to hold the ruler. Be careful in your measurements and it will generally work easily.



String Breakage at Bridge

I ran into something today that I've never seen in almost 25 years of doing this type of work (maybe I've just been lucky). I was called to tune a 2-and-a-1/2 year-old Baldwin L. It had two broken strings, one on C6 and the other in the upper part of the tenor wound-string area. The unusual thing, to me, is that *both* strings broke on top of the bridge.

I discovered that the entire long bridge has this *very* rusty wire *only* on top of the bridge between the bridge pins. The pins are the copper type. The other tenor wound strings down at the end of the long bridge where this one broke are even more rusty than the others. They look like strings I've seen

on pianos that have had "swamp coolers" blowing on them for 20-30 years.

Another strange thing is that the bass strings on the bass bridge have *no* rust at all, except for the usual expected in a climate like Houston. The speaking lengths of the others and the waste-ends past the bridge are all normal, also. I'm going to call Kent Webb tomorrow in case this turns out to be a warranty type of thing, but in the meantime I thought I'd check and see if anyone else has ever seen this on a piano that new. The customer is very particular about the piano and is very concerned about this being a continuing problem.

I don't see how there is any way it could be just the wire itself because the rest of the lengths are fine. Could it be the bridge lubricant? Could the bridge itself have held moisture in the air long enough at some point for this to happen? Considering the type of wood normally used there, I wouldn't think so.

I'm out of ideas. Any out there? This is an Accu-just hitch-pin piano, so I don't really want to restring it even if that should turn out to be the only remedy. Any other suggestions?

— Avery Todd, RPT
Houston, Texas



Allan Gilreath, RPT: This sounds very unusual for a Baldwin of this vintage. (In other words, I haven't seen this particular problem on the bunch that I work on. More often I find rust at the string/felt contact points.) Do you have any other history on the instrument? For example, who's been working on it in the past? Why did the customer switch? Can you contact the other tech to see if anything was done to possibly cause this problem? (Although that's a difficult question to ask someone!)

Go ahead and check with Kent. If he does authorize restringing, these are a breeze to work on. He has the full instructions and it's one of the easiest restringing jobs in my experience. Hope all goes well and let us know what you find out.

Mark Graham: This may seem far-fetched — but then Avery has probably already thought of the usual possibilities. After a couple of experiences, whenever I see very localized rusting, I try to find out if there are cats. Mice can do the same kind of thing, but probably not in a well-maintained grand piano.

I've seen a few pianos ruined by cats, and the owner didn't even realize it. If I get to talk to God in person, I'm going to ask him what he put in cats that makes grand pianos so attractive to them.

Jim Bryant, RPT: Go ahead and don't worry about the Accu-just part; it is simple and very easy to work with. Sounds to me like a lubricant/chemical problem of some sort, but that is just a wild guess.

Paul Dempsey, RPT: Avery, I've seen exactly this same symptom in a "rebuilt" Steinway M, not much rust or corrosion otherwise but the strings on top of the bridge between the pins almost "fluffy" with rust.

Continued on Page 14

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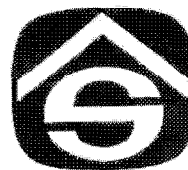
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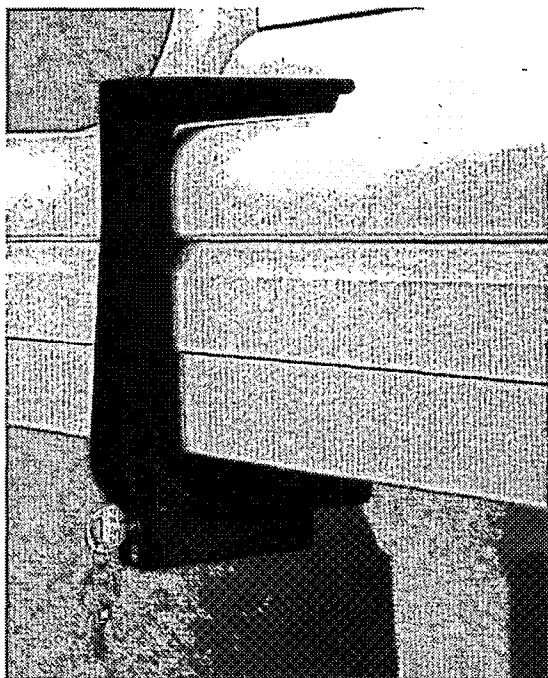
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Q&A/EDITOR'S ROUNDTABLE

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Conrad Hoffsommer, RPT: I haven't noticed bridge-top sections with this, but I have seen rusty sections where strings are in contact with felt/cloth like between agraffes/capo and tuning pins. I wonder if in high humidity conditions the felt/cloth doesn't retain the moisture long enough to allow the corrosion/rust to occur, and possibly a nice fuzzy layer of dust might not serve the same function atop a bridge? Just a thought.

Jim Harvey, RPT: Bridges are a means of conveyance *over* something, in lieu of going under, around, through, and so forth. This sounds more like a mouse interstate complete with rest stops to me.

Richard Moody: Sounds like roaches. I only saw this once, but wondered why it wasn't more common. They crawl along the top of the bridge and pee or poo or what ever they do. It causes extreme oxidation and the strings break on top of the bridge. This was in a (modern) upright. Something must have attracted them there. Maybe the worker had a tuna fish sandwich for lunch and didn't wash his hands before going back to work. They (roaches) like grease ... Look for signs of them.

Willem Blees, RPT: This sounds like a mouse has made a home in the piano, and his (her) favorite road in the piano is along the long bridge. See if you can find some other evidence of mouse droppings in the action, or under the plate somewhere.

Roger Jolly: From your description it sounds as if something has been spilled or, worse yet, some friendly rodents have been marking their turf. Look at the sides of the bridge and soundboard for tell-tale signs (stains and discoloration), and check the vertical laminations of the bridge carefully to ensure there is no separation. Coke and urine tend to be very corrosive. If, in the worst case, you have to restring a section, phone Kent and get a compound bearing gauge on loan if you do not have one. I think Baldwin supplies instruction on how to use the device. If you are using three-legged dial gauge from a piano supply house, 0.010" is very close with the center leg placed at the center of the bridge.

A few years ago I conducted some tests on a thermocouple, and galvanic effects (little electric currents that flow between dissimilar materials/and chemical action between metals) on bass strings. This sounds off the wall but if you have 1 to 10 mA of D.C. current flowing between the bridge pin and the string some kind of fluid is causing a galvanic effect, which will accelerate corrosion, and hence breakage. I have misplaced my test results and am going from a memory that may be added. You will need a DVM ammeter to effect this measurement (.200 microamp to 100 milliamp ranges). Now you must think I'm certifiable!



CA Treatment for Loose Tuning Pins

I've been reading some Internet posts about using CA glue to tighten tuning pins. I would like to know more about this procedure. Any particular glue? How

many drops per tuning pin? How long to let it cure? Any downside to this? Is one treatment enough?

— Jim Love
Midland, Texas

I just looked at a piano today that I think is the perfect candidate [for CA treatment of tuning pins]. It's a 1914 LeSage upright. There's no money for a good piano, and the present one has generally loose pins with a few that will turn under the weight of the tuning hammer. I haven't done the procedure before, and I would appreciate any advice from those who have done such repairs successfully. I would particularly appreciate realistic time estimates and any helpful tips on technique, or favorite brands/viscosities (especially on brands available in Canada). All advice gratefully accepted.

— Tim Keenan
Terrace, BC, Canada



Terry Beckingham: I have only tried CA glue on a couple of occasions, but I was not pleased with the result. It did have a positive effect on the tuning pin torque, but I found that the fumes tended to turn the plate web white. Also I found that the glue traveled up the pin to the coil and locked it firmly to the tuning pin. Perhaps I was not applying it correctly. Maybe some one on the list who has had more experience with it can outline the correct way to apply it. I used Hot Stuff Red™ which is very thin.

Lance Lafargue, RPT: Use thin. I'm not sure that brand matters much; I use Jet™. You could put a vertical piano on its back with a tilter, but I usually just put drops on the top of each pin (with the piano standing up), trying not to get any on the coils. You will probably use 1-2 oz. I put as much as I can without it running down the plate. By the time you're through with the treble, the bass is snug. I would wait 15-30 minutes to tune though. This has really worked well for me, and I do it with a clear conscience under the right circumstances only.

Don Rose, RPT: Inspect the piano and look at the bridges – if they have hairline cracks take along some thick CA glue and apply it to stop the cracks from becoming worse. Use super thin CA for the tuning pins (runs like water). Get it from a hobby shop in an 8 oz. bottle. Tip piano on back. Apply CA glue (lots). Leave piano on its back for one week. Tip piano up. Begin to tune. If you find an *exceptionally* tight pin, use a tuning pin punch and hammer to drive the pin and break the glue joint. CA glue *can* make the pin so tight it will shear off (blush).

This may be more important if the piano has been previously doped, if the piano has #1 pins, or if the pins are a bit rusty. Some people recommend driving right after application. I prefer not to and have had good results – this also leaves room for the breaking of the glue bond. Best of luck!



Repetition/Backcheck Problem

I am having a repetition problem with an action in a Steinway L, vintage 1940s. The solution is

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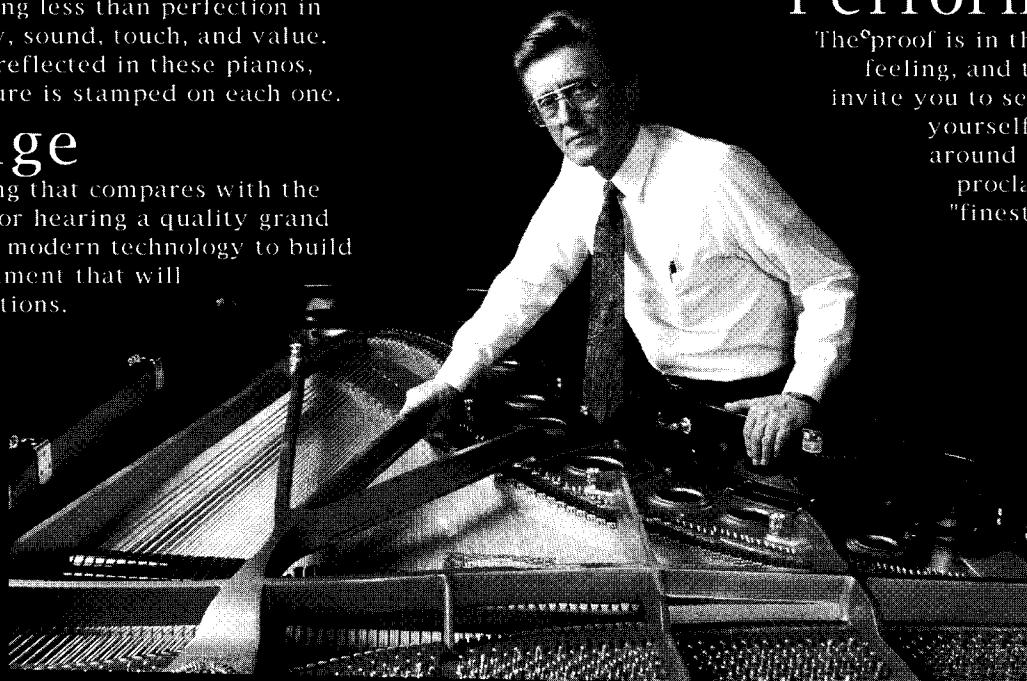
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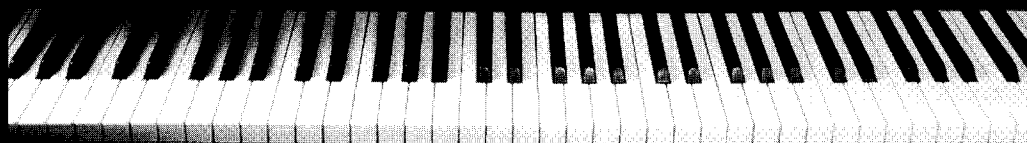
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Q&A/EDITOR'S ROUNDTABLE

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eluding me and I hope someone can give me some insight or better yet, the cure!

I started servicing this instrument several years ago. The action was extremely worn. My customer was saving money to have the parts replaced so I did my best to make the action function until the work could be done. He is a very good pianist and one of the problems was during a short but fast repetition, on one note, the backcheck would catch the tail of the hammer thus failing the repetition. (Two to four or five strikes and fast enough repetition that the key does not come all the way up.) I thought this problem was due to the extreme wear of the parts that made it impossible to get a good regulation. For a temporary fix, I affixed a strip of action cloth across the top of the wippen rest felts. (The shanks were very high due to hammer wear.) This solved the problem until the replacement could be done.

I have now replaced the parts, and you guessed it, the problem is still there. After experimenting with different backcheck angles, taller wippen rest felts, shimming the back feet of the action brackets (1/16" higher) and regulation changes, I have not found the cure. The hammer tails were shaped with jigs I made using the Spurlock method described in the *Piano Technicians Journal* several years back. I did leave the tails a bit longer than the originals. The measurement from shank center to the tail end, on the old hammers, was about an inch. I left the new ones at 1 1/8" but the radius of the tail shaping is the same. Comparing dimensions with a similar Steinway L here at school has shed no clues. As you can tell, I suspect a geometry problem but I cannot find where. Any help with this quandary would be greatly appreciated.

—Don McKechnie, RPT
Ithaca, New York



Charles Ball, RPT: I would be curious to hear which parts you chose for the action rebuilding.

We have had similar problems to solve here in the past, and usually the cause was due to the relationships among the various parts. For instance, I have found that shanks with a 16.2 or 17mm knuckle set do not work very well with original Steinway reps. Also, with these parts, there may be a need for a change in the spread specification.

McKechnie: For this piano I chose Renner shanks/flanges and wippens (with spring adjustment screw) and Isaac hammers. (Yes, I am aware of the argument between hornbeam and maple but I do not believe it is a factor here.) If there is a relationship problem I have not found it yet. I matched the knuckle distance and size with the old parts.

Ball: On the other hand, we received a new Steinway D last year which had a very similar repetition problem, and I tried many of the expedients that you mentioned, some at the suggestion of factory techs. Yet the problem seemed to gradually disappear on its own over time as the action settled in — whether due to or in spite of my efforts, I cannot say. I must say that whenever I have encountered a serious repetition problem like this it has typically been resistant to subtle adjustments, such as changing the backcheck angle, etc.

McKechnie: I have found this to be true on occasion as well. Wouldn't it be great if it just went away! As stated in my

post, geometry is suspect, but the "where?" is still eluding me. Capstan location, knuckles and shanks are not the problem in my estimation.

Well, here is the real kick in all this. I did a walkabout in the building and tried a number of different brands and found that I could make this happen on all! I must be getting good at it. Some of the actions have had parts replaced and some are original.

This begs the question about proper technique in playing. Not being a very good pianist, I need to consult about this. For a fast and short single-note repetition, I was taught to use fingers one through four in quick succession not one finger repeating rapidly. With my limited ability, I was able to get good repetition on the pianos I tested by using the multi-finger technique. When you get a chance, please try this out.

Obviously, I would feel better if someone discovered this as well! I will tactfully broach this subject with my customer. As stated in my post, he is a very good pianist, and I am sure he knows how to repeat a note in different ways. Perhaps it was our luck that one piece he was working on called for this type of one finger repetition. It must be stated that he is very satisfied with the action in all other aspects. Trills, touch and tone are no problem.

Rob Edwardsen, RPT: I have noticed on a number of pianos when tuning and repeating notes very quickly I can get them not to repeat but when playing them they seem to work fine. One piano is a B in a performance hall where some of the best piano players at Eastman have performed and no one has ever complained about a repetition problem. I would take your pianist customer around to a few of these other pianos so he could see first-hand that this problem is a shortcoming of many pianos, not just his.

Richard Moody: One teacher I had was a good pianist, another was a very good pianist. Both used to pull this rapid repetition "trick" two fingers, (one finger two hands — machine gunning, if you will) to test my regulation. (The hammer instead of checking would "catch" (bind) on the back check.) Their point was that ultra-fine regulation (especially repetition spring strength and backcheck height) ameliorates the problem, but in some notes and some pianos it can always happen. Which I eventually proved when I applied this test to their own pianos. One claimed he could make nine out of ten pianos fail on a certain Mozart passage.

Kent Swafford, RPT: I believe that the fact that any piano can be made to do this is mostly irrelevant. Some actions are much worse about this than others. To make sure we are talking about the same thing, on repeated blows where the key is not allowed to return all the way to the at-rest position, the backcheck works its way "down" until the hammer is close to the "at-rest" position, but is in check, and only releasing the key to the at-rest position will undo the jam.

I have seen this problem on several Steinways. I once had 2 Ds side by side, one had the problem, one did not. I swapped wippens and hammers/shanks from the same note on each piano and it made no difference. The repetition problem did not move with the action parts but stayed with the piano.

My best guess (and this is still a guess) is that this prob-

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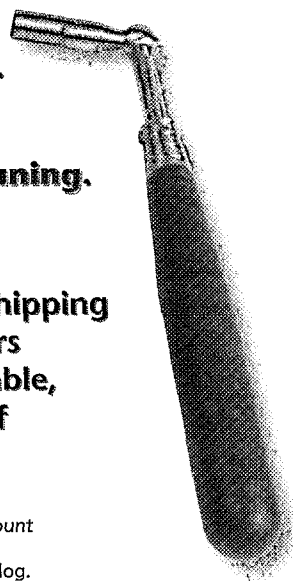
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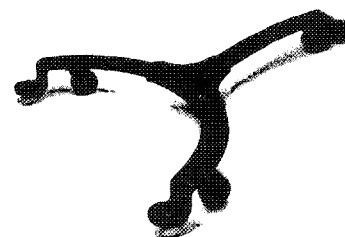
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Q&A/EDITOR'S ROUNDTABLE

Continued from Page 16

lem is the result of a combination of factors. The above-mentioned D got much better repetition after the hammers were replaced (with a set that was as close to a duplicate of the worn-out set as you will ever see), but the keys were weighed off carefully to better match the hammers. I for one would check the key-weighting as a contributing factor. Another thing I would check would be all the factors that go into allowing very high checking — tail shape, back check height and angles, etc. Make sure you can get high checking.

Just because the repetition is possible at one rate with one amount of partial key release, it does not necessarily follow that overall repetition is good. Are the keys so compliant, for example, that their flexing does not allow repetition at some particular speed? Check for floppy keys.

Don, be careful about broaching the question of technique with the customer. My own feeling is that the problem(s) may yet be found in the piano and not in the pianist.

Steve Brady, RPT: I agree with Kent that although most pianos can be caused to fail under certain types of repetition, certain pianos do seem to be worse than others. In my experience, the prime candidates for this problem are pianos where the hammer shanks at rest end up 3/8" or more from their cushions in order to achieve the correct blow distance. Another common indicator in these actions is loose pinning in any or all of the action centers. The pinning must provide enough friction that the repetition spring needs to be set fairly strong to make the hammer rise smoothly out of the backcheck. A third condition which often accompanies the problem is high hammer weight, necessitating excessive leading of the key fronts — all of which translates to excessive inertia in the action.

I've found over the years that one good predictor of whether this problem exists in an action or not is as follows: In a well-regulated action, depress a key and push the hammer down to the rest cushion, allowing the jack to escape as you do so. Slowly release your hand from the hammer and watch to see what it does. If the hammer pops right back up, the action should perform well in actual playing (again, I'm not saying you couldn't make it fail under a "repetition torture test" if you tried real hard, but actual playing is the only test that counts). If the hammer does not rise on its own, there will be definite repetition problems. If the hammer rises somewhat sluggishly, action performance will be somewhere in between. Whenever I suspect this particular repetition problem, I like to apply this test to all the hammers; typically the problem will exist in some areas of the keyboard but not in others.

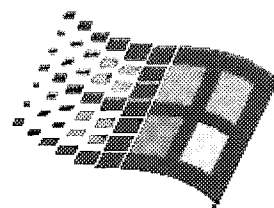
Newton Hunt, RPT: Okay, you have checked all those things so pick the worst offender and let's do some evaluation. First, check the pinning of the hammer

shank. Eight swings is the outside limit on this pin. If you get ten or more swings the spring will need to be weaker to prevent rebound upon release. Low spring tension is a major source of repetition failure. Six to eight swings is the envelope. The balancier pinning is also critical. Without the spring it should not move when swung but should move with a light finger touch. There should be perceptible resistance by finger pressure, otherwise, the spring tension will be too weak for good repetition.

Check the touchweight. Measure the up-weight and the down-weight. The average of the two (the weight resistance or "balance weight") must not be less than 34 grams and should be 38 to 40 grams. Much higher than 40 gets into the too-heavy range for any other than a professional and 42 to 48 can cause tendinitis in anyone. Determining if the capstan is in the proper location is more complex. You must have the up-weight, down-weight, hammer weight, wippen weight, key weight and exact key ratio. Subjected to Stanwood's formula, these will give you a strike ratio which determines if the capstan is properly located. In the Hamburg factory the action is assembled completely before being fitted into the piano. In New York they fit the keys to the case, set the stack to best tone at top and a mark at the bottom and then determine capstan location. This procedure does not allow for the capstan location to be consistent from piano to piano, unfortunately. **Big** difference.

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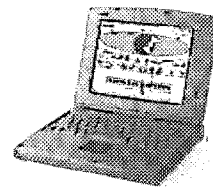
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Electronic Tuning Devices: The Limits of Accuracy

By Jim Coleman, Sr., RPT
Journal Contributing Editor

Accuracy

Many claims are made about the accuracy of the various electronic piano tuning devices. Let's look at it from a practical point of view. Among the Strobe-o-Tuner™, the Sight-O-Tuner™, the Yamaha tuners, the Accu-Tuner™, the CyberTuner™, and the TuneLab™, there have been various claims of accuracy starting with one-cent accuracy (1/100th of a half step), then .2 cent, .1 cent and now .01 cent (actually with the PC versions you could as well claim .0001 cent accuracy because they can easily do the math).

Most up-to-date digital equipment uses a quartz crystal frequency standard which is divided down to get to an accurate A=440 Hz. It is common in an orchestra to hear someone say, "Let me hear your A," because that is the generally accepted standard (there are exceptions to most rules). A frequency standard that is dependent upon a quartz crystal is quite accurate if the quartz is carefully adjusted with a trimmer to within a small tolerance.

Some of the early machines, such as the early Strobe-o-Tuner™, used the 60-Hz line alternating current frequency for their standard. All of the modern machines designed for use in tuning pianos are much more sophisticated than that. The early Sight-O-

Tuner™ (henceforth referred to as SOTs) depended upon Resistor/Capacitor circuitry using laser-trimmed resistors to achieve their best accuracy. Starting with the Sanderson AccuTuner™ (henceforth referred to as SATs) and the Yamahas (PT3, 4 & 100) and the computer-based systems, all utilize quartz crystals for their basis of accuracy. Most of these have algorithms for calibrating very accurately to this standard or an external standard. So, most of these more modern machines or systems can be relied upon for their internal accuracy.

The main problem lies in the display of this accuracy and the ability of the tuner (a person) to utilize this accuracy to the best advantage in piano tuning. Here is an example of how accurate one such machine and display can be.

The SAT has a circle of Light Emitting Diodes (LEDs) which indicate a deviation from an internal standard by a pair of opposing LEDs which rotate clockwise to indicate a tone is sharper than the standard, or they rotate counterclockwise to indicate a tone is flatter than the standard. One half rotation per second is equivalent to a 1 Hertz (Hz) difference from the standard prescribed. There are eight LEDs around the circle, therefore when the LEDs change from one

position to the next in one second of time, that is an indication of 1/4 beat per second (bps) variation from the standard. At the frequency of A=440, that amounts to approximately a one-cent deviation. If an orchestra member tunes within a one-cent deviation, the instrument is within 1/4 Hz of the 440 pitch and it would take 4 seconds to hear the first full beat deviation occur. This is generally considered accurate intonation in orchestral work. In piano tuning, we must do better. In the newer electronic machines, accuracy of .1 cent is a goal which we all try to achieve, and better if possible (depending upon the area of the piano being considered). Let's consider how still we must keep the LED patterns in order to achieve this kind of accuracy.

The "Four Lights" Principle

There is a point when the LEDs are rotating in one direction where four LEDs can be seen at a time (ignore the center LED which is there merely to indicate that the tone is sharp when the LEDs spin so fast you can't tell). I call this the fence-sitting position. The best I can tell, the four lights will be on for half the time it takes for the LEDs to rotate from one position to the next going in either direction. Therefore, if one tunes with a standard of just



keeping the four LEDs lit for one second, the accuracy is within 1/8 bps of the standard, or at the A=440Hz standard, it is within .5 cents accuracy. Below is a table that shows some interesting things in regard to achieving greater accuracy:

At 440 Hz, if the four LEDs stay on for one second, the accuracy is within .5 cents.

This is represented in the following chart:

I can't imagine an aural tuner in his right mind listening to a tone for 10

smoothness as illustrated in the lower line in the Table 1.

For any strictly aural tuners who may have taken offense at the last few statements, take heart; it has been proven beyond doubt that a room full of piano tuners cannot tell for sure, when merely listening to music played on two pianos, which piano is tuned in a "well temperament" and which is tuned in equal temperament (this was demonstrated dramatically at the '98 California State Conference). So, the slight discrepancies that may remain in

of tuning we are merely dreaming, in my opinion.

From the practical standpoint, it is not the cents accuracy that is read, but rather how long a stationary pattern can be maintained in order to achieve the hoped-for cents accuracy.

The problem gets tougher when one realizes that a piano tone is a transitory thing. Hammer technique and weight of key touch are more important than how many decimals can be read. This is seen to be true especially when one considers the point in time where the judgments are made. A heavy blow helps to settle the string, but at the peak of amplitude (loudness) the pitch is changing the most. Should one make the judgment as to whether or not the display patterns are stationary within the first second of the duration of the tone? Or should the judgment be made when the tone has settled down a bit and the pitch has also settled down?

Here is a technique that has proven to be helpful. Hit the key as hard as a concert pianist can, then immediately follow that with a soft tone which uses the more pitch-stable part of the tone for making a display judgment. This greatly improves one's accuracy, no matter which machine is being used. This is contrary to what quite a few beginning tuners do in that they tune carefully and then give a test blow to see if the pitch holds (it usually doesn't). Then they have to start all over again. I have seen beginners repeat this procedure over and over, not realizing that they are knocking the string out of tune instead of knocking it in tune. How much better and time saving it is to play hard at first, then test for accuracy, then repeat if necessary to zero in so that the softer, more stable pitch is correct.

Accuracy in the Bass Section

The point can be made that tuning in the bass can be more accurate when judged in cents rather than in beats. (See Table 2)

Continued on Next Page

Time in Seconds	Hz Dev.	Seconds/beat	Cents Dev.
Four LEDs on for 1	.25	4	.5
" 2	.125	8	.25
" 3	.08333	12	.1666
" 4	.0625	16	.125
" 5	.05	20	.1
" 10	.025	40	.05
" 20	.0125	80	.025
" 40	.00625	160	.0125
" 50	.005	200	.01
" infinity	1/infinity	infinity	1/infinity

Table 1

seconds to see if the first full beat has occurred. He goes for the most solid sound he can achieve. There is a parallel in this to what an SAT user can do. It is a readily observable fact that when four LEDs are lit, if there is any deviation from the prescribed standard, one pair of opposing LEDs will get brighter while the other pair will grow dimmer. With this in mind, it is much easier to determine and tune to the point where there is no movement at all. This approaches the "infinite" accuracy shown on the bottom line. In unisons, isn't that what we all strive for? I can't see a dime's worth of difference in aurally tuning unisons and tuning them with a sophisticated machine until it comes to dealing with wild string unisons. Then everything becomes a little "iffy." However, there is a distinct advantage for an aural tuner who also uses a sophisticated electronic machine. Aural tuning alone cannot boast the kind of accuracy which would place each note in the temperament within an accuracy of .1 bps (a little better than the second line down in the table above). However, with the aid of the machine, the aural tuner can have the best of both worlds. Cleaning up the very few variations that occur rarely in good pianos and then having the advantage of almost infinite

an aural temperament are not likely to be noticed while music is being played.

Lest anyone should think for a moment that this article is slanted against aural tuners, I have a challenge which should keep both aural and machine tuners humble. Try this: Tune a piano which has been prepared as in the PTG tuning test where half the notes are tuned sharp and half are tuned flat prior to your tuning. Have this tuning carefully recorded by a CTE with any of the approved exam machines. Then after the piano is detuned again, tune it again to see how close or far is the second tuning from the first tuning. I predict that neither the aural tuner nor the machine tuner will come within .3 cents for every note. Someone, please prove me wrong.

This brings us to the question: How important is .1 cent accuracy or .01 cent accuracy, or .001 cent accuracy? In unison work, I would say it is an important goal. In the other phases

At A440 Hz.	it takes 4 cents to measure approx. 1 Hz difference.	Note # 49
At A220 Hz.	it takes 8 cents to measure approx. 1 Hz difference	37
At A110 Hz.	it takes 16 cents to measure approx. 1 Hz difference	25
At A55 Hz.	it takes 32 cents to measure approx. 1 Hz difference	13
At A27.5 Hz.	it takes 64 cents to measure approx. 1 Hz difference	1

Table 2

Electronic Tuning Devices: The Limits of Accuracy

Continued from Previous Page

It would appear, then, that Cents measuring has an advantage in the bass. Well, let's make another table. (See Table 3) But first, we need to recognize that no one tunes bass notes by their fundamentals. Most tunings utilize the 6th partials and above to gain more accuracy and blend with the rest of the piano. The 6th partial of A0 (note 1) is E3. To make a 1 Hz change, it takes 10.4 Cents. Let's round that off

accuracy of our machines has gone beyond its practical usefulness in particular as far as the bass area is concerned. In the high treble area, most of us aural tuners cannot tune unisons much closer than within one bps. The very top notes have less than one second of useable tone. If one can just keep the LEDs from rotating more than 1/2 revolution, the standard can be maintained. Here again, the tones, being transient (changing) do not present a very steady pitch. Consequently, the various machines cannot display a very steady pattern. The best

The 6th Partial OF A0 is E3 (Worst-Case Scenario)

At E=164.8137	Time in Sec.	Hz Dev.	Seconds/beat	Cents Dev.
Four LEDs on for:	1 Sec.	.125 Hz	8	.4
"	1.25	.1	10	.32
"	2.5	.05	20	.16
"	4.0	.031	32	.10
"	12.5	.010	100	.03
"	125.0	.001	1000	.003

Table 3

to 10 cents for our table below. Now, since 1 Hz is represented on the SAT by one half revolution of the LEDs, then a quarter revolution would represent 1/2 Hz and the movement of one pair of LEDs to the next pair position is 1/4 Hz. If the "four light" principle is used and it represents 1/2 of the distance between LED positions, then if four LEDs stay lit for one second, that represents an accuracy within 1/8 Hz.

It is obvious that no user of an SAT is going to wait for four seconds to see if the four LEDs change to two LEDs. If one did, it would give .1 cent accuracy. One can judge the stillness by noting if one pair of LEDs is beginning to dim while the other pair is getting brighter (just as in aural unison tuning one can hear a beat begin to start and immediately correct). On the other hand, none of the machines will hold a steady pattern for four seconds, either, at that pitch. The energy of strings vacillates back and forth favoring various partials. As more energy goes into the 6th partial, it changes to a slightly higher pitch and then returns. The strings feed energy to the soundboard and bridges which pass it back and forth among the various "Chladni plate" forms on the soundboard. The tone of the lower notes on the piano is a moving thing. It almost seems alive. That's part of the beauty of a piano.

It appears to me at least that the

one can do is to slow down the pattern movement to less than a half revolution, perhaps a quarter or one-eighth revolution on some extremely fine pianos.

Where Do We Go from Here?

The area I see for improvement in tuning lies in the formulation of tuning curves which meet the needs of each individual piano. The ease of forming these tuning curves for the best benefit of the scaling of the particular piano is where we should look for improvement. We might also do well to arrive at some consensus as to what the ideal amount of stretch for a particular piano might be. As I see it at this time, there is a wide gap between what good aural and machine tuners see as the ideal tuning even for a concert grand. We might do well to pursue this rather than how many digits accuracy we can claim for our favorite brand of machine. The increase of the steadiness of the display of piano tones is a more practical goal. This can be helped in part by better strings, fewer false beats, better piano design, better hammers, better stability, and closer attention to the purity of the signal and the displays we now have, whether they be LEDs, graphic patterns, or strobe patterns. ■

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*The goal of giving students "the best" came true recently for Enrique Rosano, who helped the University of Arizona School of Music become an **All Steinway School**.*

Are Two Lids Better Than One?

By David Dutkanicz

The modern piano is one of the most Darwinian instruments – its evolutionary tree reveals centuries of innovations that culminate in today's grand species. A descendant of the cimbalom, the piano's present form began by 1700 when Bartolomeo de Francesco Cristofori first produced what Scipione Maffei described in 1711 as a "gravicembalo col piano e forte" (a harpsichord with soft and loud).

Over the next centuries, a process of natural selection kept refining the piano's construction and resultant sound. Whether they added escapement actions, dampers, leather and felt heads, or steel strings, inventors such as Silbermann, Stein, Zumpe, Erard, Broadwood, Chickering, and Steinway (to name but a few) never grew complacent with the state-of-the-art piano. Yet the 20th century, defined by its industrialism and inventions, has produced little in the way of piano innovation.

Has the piano achieved perfection? Not according to Daniell Revenaugh, who aims to make history with his latest invention, the Lower Lid.

Revenaugh is a pianist, conductor, and inventor based in Berkeley, California. He recently embarked on a five-recital "first-time-in-200 years" effort to perform the complete Schubert sonatas in honor of the composer's bicentennial. As a conductor, he has received accolades, in particular, for the premier recording of Busoni's mammoth Piano Concerto with John Ogdon (1968).

Revenaugh began toying with the idea of a bottom lid in 1992, while rehearsing in halls with less-than-ideal acoustics. Berkeley acoustician and director of the renowned Meyer Sound Laboratories, John Meyer, told him that sound moved much like light, bouncing around surfaces. If the top lid of the piano reflects and focuses sound out to the audience, couldn't something similar channel sound out from underneath the soundboard?

Determined to find out, Revenaugh clamped an unfinished piece of plywood to the back rim of the piano, and let the other end rest on the floor. The rather bizarre looking hybrid piano indeed projected more sound, although it aimed the notes at a curtain rod in the studio rather than at some imagined audience. After entertaining suggestions from numerous friends and colleagues, Revenaugh turned to Dan Newland – a sailboat racer and builder – for a prototype lid made of space-age, honeycombed carbon graphite, and determined the precise angle that would send the piano's sound out to strategic points in the hall.

Christened the "Lower Lid," the invention attaches to a grand piano in less than five minutes. Bicycle inner tubes line the inside of specially designed clamps to protect the piano's surface. The refined prototype weighs 11 pounds, a significant improvement over its 42-pound plywood predecessor. The lid's three pieces disassemble and store in a standard bicycle box, which airlines ship as luggage at no additional charge. Steinway estimates the price for the lid at \$3,500, a figure that would drop considerably if the lid were mass produced.

Revenaugh's claims of improved tones and sound appeared to bear scientific scrutiny. Tests conducted on May 24, 1996 in Carnegie Hall by David Andrews, of Andrews Audio Consultants of New York, using the in-house Meyer's SIM Sound System, produced hard data favoring the lid. Technicians attached a player mechanism to a Steinway concert grand to create, as nearly as possible, an objective performance for the experiments. The pre-programmed mechanism played the third movement of Saint-Saëns Second Concerto 25 times, while technicians alternately attached a Lower Lid or left the piano *au naturel*. Microphones placed around the piano and throughout the hall detected a 90-percent increase in mid-range output, and a 40- to 50-percent increase in overall output with the Lower Lid in place. Audiographs recorded fewer peaks and dips in the wave patterns, which accounted for a flatter, cleaner tone.

Apparently, the Lower Lid not only shot sounds previously lost in the piano's underbelly out into the audience, but made the overall tone cleaner as well. The difference in sound was akin to the effect produced by adding or removing the bottom half of a megaphone. Without a complete enclosure, the sound is free to wander and the tone dilutes.

As an added bonus, the Lower Lid serves as a mute when closed. In performance, especially with small chamber ensembles or in cramped performance space, this creates an extra shade of intimacy. But, more importantly, a closed Lower Lid can keep you on good terms with those downstairs neighbors who just don't seem to appreciate your late-night Hanon exercises.

Technology and practicality aside, some of the world's most prominent pianists

[Editor's Note: This article appeared originally in Piano & Keyboard and is reprinted here with permission of that publication and the author. — SB]

have performed repeatedly with the Lower Lid and sing its praises. After a recital at Berkeley, Radu Lupu called the Lower Lid "A very valuable innovation in piano technology." Andre Watts termed the improvement of the piano's tone at a Hollywood Bowl concert "undeniable."

Martha Argerich, alongside Cecile Licad, was the first to demonstrate the Lower Lid before an administrative Steinway audience at Avery Fisher Hall in 1994, and she used the Lower Lid for her pyrotechnic performances of Prokofiev's Piano Concerto No. 3 last fall in Montreal. The enhanced tone seduced Peter Serkin: "It is not so much that {the Lower Lid} amplifies the volume particularly, but more that it attractively enhances the tone, making it clearer and more vivid ... I recommend this Lower Lid very enthusiastically."

But despite the fanfare from high places, you still can't find a Lower Lid at your local music shop. Why? Because no one manufactures them yet. And why not? For one thing, Carnegie Hall refused to have it onstage.

Peter Serkin and the Carnegie Hall administration butted heads over a November 18, 1995 concert with the Orpheus Orchestra. While the administration deemed the Lower Lid permissible for rehearsal, it would not allow Serkin to use it for the actual performance. Similarly, the Hall would not permit Watts and Argerich to outfit their pianos with the Lid, even though neighboring halls had said yes to its use.

According to Judith Arron, executive and artistic director of the fabled concert venue, Carnegie Hall is "exceedingly careful about what we bring into the Hall ... and we will not rush into something new without proper testing, in an orderly and businesslike fashion."

Revenaugh originally planned to have Steinway & Sons mass produce and distribute the Lower Lid, but Steinway's initial enthusiasm cooled when Carnegie Hall dismissed the Lid. Steinway executives attended the 1996 test in the hall and other demonstrations, but, for a variety of reasons, the Carnegie chiefs-of-staff never did.

Others have also expressed doubts about the Lower Lid. Harold Schonberg, former chief music critic of *The New York Times*, told Anthony Tommasini in a *Times* interview, "A lot of what people hear has to do with psychoacoustics. Do you hear a difference because you want to?" In the same article, Ronald Coners, Steinway's chief concert technician, noticed that one could clearly hear an improvement in sound up close to the stage, but that farther back in Carnegie Hall, "{the Lid} did not seem to have that much effect." He also pointed out that Steinway never discouraged the use of the Lower Lid and that he didn't "understand the objection" from the Hall.

Now it seems Carnegie Hall is not the issue. In response to a direct question during a January 6, 1998 press conference, Arron said that Carnegie Hall would allow the use of the Lower Lid by any artist who requested it.

Revenaugh has already invested almost \$200,000 on behalf of the Lower Lid, not to mention how devoting time to promoting the invention has kept him from other professional activities. Four years ago the design received an international patent, but the metronome is clicking, and Revenaugh needs to find a company that will manufacture and market the Lower Lid.

Just before this magazine went to press, Steinway announced that "After considerable research and comprehensive

testing of the "Lower Lid" device, {they have} decided not to pursue further study or the rights to manufacture, market, or install such a device on Steinway pianos." However, a spokesperson for Steinway assured *Piano & Keyboard* that the company would "assist any Steinway artists who are desirous of using the "Lower Lid" in conjunction with their concert performance."

Despite this setback, it's unlikely Revenaugh will abandon his efforts to gain acceptance for his invention and get it into production. If nothing else, the brouhaha over the Lower Lid suggests

a lively interest in developments in the piano and piano music; on the other hand, it also suggests that a preservationist attitude has settled over what in the past was a continually developing instrument. But perhaps such reaction always greets innovation in a give-and-take that forces the new to prove itself over and over before it finds acceptance at the highest levels. ■

What the Critics Say...

"{The Lid} worked like magic, focusing the piano's sound and bringing it forward without distorting volume or tone color.

— Michael Fleming, St. Paul Pioneer Press, January 30, 1996

"Everything was clear and well balanced, which may have been due in part to the "lower lid" ... Mozart, who loved gadgets, would probably have heartily endorsed Revenaugh's lid."

— Michael Anthony, Minneapolis Star Tribune, January 1996

"And it's the most peculiar-looking thing imaginable In theory, the lower lid makes acoustical sense."

— Anthony Tommasini, The New York Times, December 6, 1995

42nd Annual PTG Convention & Technical Institute

Registration Fees

	Before June 18	After June 18
Member:	\$215	\$250
Non-Member:	\$315	\$350
Auxiliary Member:	\$75	\$95
Non-Auxiliary:	\$95	\$115
Banquet Ticket:	\$35	\$35
Auxiliary Tour:	\$60	\$75

Applied Skills:	\$25
Rebuilding Skills:	\$25
Grand Regulation:	\$35
Vertical Regulation:	\$35
Tuning Tutoring:	\$35

July 21-25, 1999

Look to the Journal for More Information on the 1999 Convention & Technical Institute at the Hyatt Regency Hotel in Kansas City, MO



By David Patterson, RPT
Toronto, ON Chapter

The Bartolomeo Chronicles

Bartolomeo Takes a Close Look

Bartolomeo carries on with his assessment of the never-before-seen piano. He knows the evaluation will cause him to invest time and effort now, but he will regain that time in the future as he increases the quality of all of his information. The findings he produces can be used to advise the piano owner, give recommendations, educate and teach the client, give immediate and exact quotations, and, in the future, give reliable, detailed consultation without needing to see the piano again.

His checklist allows him a systematic method that is built right into his paperwork. He never forgets a point; he is reminded to do routine checks that often cause discoveries or reveal oddities he might have missed; he doesn't need to think about the process, since the order is always about the same. The customer always recognizes that Bartolomeo is busy working and "getting to know the piano." Therefore, he is able to continue with his analysis or at least he is allowed to skillfully side-step a barrage of early pre-emptive queries. In fact, he uses the time to consider his approach to the service call, piano, or client and to figure out what he will say.

Tuning pin tightness is judged by feel without torque readings. Each section's first and last bottom row pins are tested by moving the pin and returning it to its original position. In any sour-sounding unisons, the wild string gets its pin checked. Overall results are summarized with terms such as good, fair to good, fair, marginal to fair, marginal, marginal to poor, or poor. Individual problems are recorded.

Bartolomeo takes out his flashlight, a small and common camping-style light with a halogen bulb, focusing beam, extra bulb, etc. Its light is too weak to use so he retrieves his two

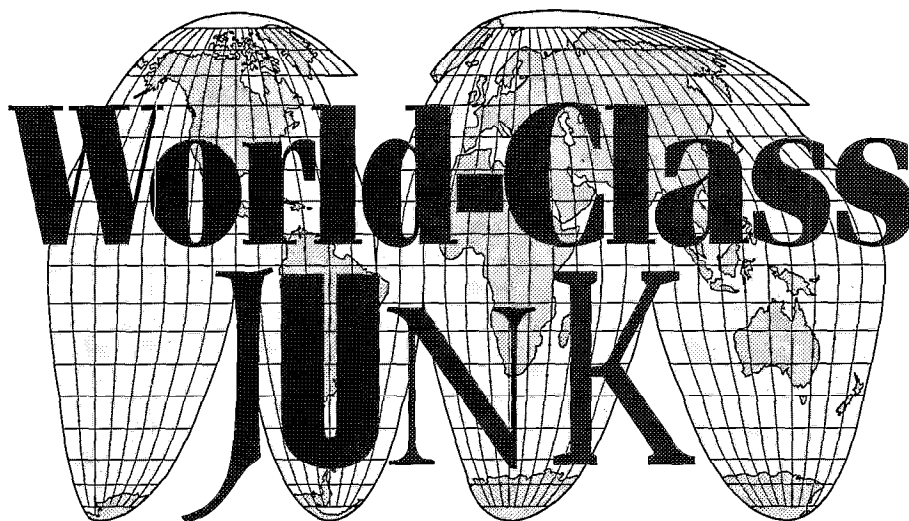
fresh batteries from his toolbox. As he replaces them he ponders his human frailties and surmises that someone in the workshop must have borrowed it and left it on.

He checks the bridges. He checks the soundboard, pulling the piano out from the wall a small amount if necessary. His ability to definitely determine the existence of bearing or crown is one of his critical skills, so he continues to learn as much as he can about it in his spare time. For bearing, he is aware of the limitations of his rocker gauge, and as a result carries the bubble style gauge, too. He recalls occasions when his rocker gauge, although lovingly filed level, fooled him: a string with negative bearing reading positive because the bridge-to-hitch pin angle is even steeper than the speaking length, or a slightly convex top to a bridge. The crown is judged by pressing a piece of household string against the back of the soundboard, beside the longest rib. One of his crown-checking strings is fitted, at either end, into 2" long, 1/2"-diameter dowels. The other is fitted into a pair of chopsticks. Both wrap and store easily; both allow the string to be conveniently passed behind the posts; both allow him to hold the string properly while viewing the light showing between the string and board. Bartolomeo examines bearing or crown only when he feels there is a need or when his sixth sense tells him he'd better check it out.

His assessment proceeds predictably for him as he moves from structural items to several mechanical and cabinet checks, pedals, etc. Even though he no longer requires 20 to 30 minutes, he still often spends over 15 minutes.

He is getting a feel for the potential of this instrument.

Next month, Bartolomeo checks the wood.... 



World-Class JUNK

Scotch Tape & Baling Wire

By Susan Kline, RPT
Feature Writer

Many pianos, especially older ones, develop an affinity for non-pianistic objects. Like a dog which gradually starts to look like its master, they reflect those who have owned them. Familiar subtypes include:

- *The Spirit of Christmas Past* – tinsel, pine needles, hooks for ornaments
- *The Seamstress Piano* – pins and needles, snaps, even thread
- *The Pedagogical Piano* – paper clips, gold stars (from years gone by, for children grown up), fancy little press-on seals (for today's children)
- *The Pencil Thief* – often in churches. Also collects other office supplies. Thirteen pencils and two pens from one piano is my best haul
- *The Savings Bank* – lots of coinage, sometimes thrown in on purpose (by one of the younger family members)
- *The Beauty Salon* – holes in the keytops from spilled nail polish remover, with maybe a nail file or two between the keys; inside we find barrettes, hair clips, or the old-style hair pins
- *The Kid Piano* – life is just a game. Playing cards, fragments of plastic toys, old school photos (from 1956), tokens from board games, Monopoly™ money
- *The Lunchroom Piano* – Sometimes found in schools, sometimes in homes near the kitchen or dining room. Ancient spilled soup on the keybed, sticky Coca-Cola™ residue on the nameboard hinge, rings from drinks on the key blocks, a very tired taco behind the bass hammers, shells of sunflower seeds, dog food under the keys....

Never mind, this is getting too gross. Besides, this month's article is really about strange things put into pianos on purpose – to repair them.

Owner Ingenuity

When I open a piano and find things like plaid shoelaces (with a spiffy metallic thread in the weave) used in place of bridle tapes, I assume that a self-reliant "Yankee Thrift" sort of character put them there, rather than a very rustic piano tuner. At least, I hope no one asked to be paid for doing it.

Bridle tapes seem to lend themselves to unusual expressions of ingenuity. I've seen neat little four-part braids of darning thread; cracking leather tabs reinforced with bright red nail polish; and old tapes without working tabs which had been glued to the tops of the backchecks. They even worked – sort of.

Plastic spinet elbows get their share of efforts, since they are critically important and the problem is easy to see, diagnose and reach. Early in my career I replaced a set of elbows for an anxious and unfortunate old woman in a very overheated apartment. Her neighbor had told her that she was wasting her money, because I wouldn't do it right and her piano wouldn't play and they'd only break again. Just what she needed to hear! She was already in deep mourning for her elderly friend, now deceased, who had always fixed

her piano when the elbows broke. I got the impression that she

resented having to call me, since she would have greatly preferred to get her old friend to work on them, as he always had. He had fixed about two thirds of them by putting the fractured ends together with airplane glue, using picture wire to strap the parts together. Then he added more glue to hold the picture wire in place. Once again, it worked, if you weren't too picky about things like lost motion.

These elbows were very easy to remove, since the heat of her apartment had rendered them a deep lemon yellow, and they were as fragile as spun sugar. I was careless but lucky taking the repaired action back in the car. When it fell down to the floor from the back seat none of the plastic flanges broke. I had not even been aware that it had plastic flanges, or that they would break almost as easily as the elbows. Wide-eyed innocence survives to tune another day.

Some objects have obviously been put in by owners long deceased, such as little net bags for long-used-up moth balls, or large empty jars in the bottom of the piano, with rings up the sides showing that they had been filled with water. Sometimes I find old sockets for light bulbs, the Depression's version of the Damp-Chaser. I doubt that many of these attempts to improve conditions for the piano were very effective, but I imagine they did little harm, either. ("The only way anyone ever killed a moth with a moth ball was by a direct hit." – Larry Scheer) However, when some amateur piano-fixer decides to replace moth-eaten front

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World-Class Junk

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rail punchings with misshapen little pieces of ordinary fabric-store felt, they can make a real mess of it, even if they

settled it in place over the end of the dowel (See Figure 1). Oh, it made the pedal work, all right, but he had included nothing whatsoever to muffle the clanking. I considered it to be sort

of a deaf man's piano repair. In comparison, someone's repair using rubber faucet washers on the ends of the pedal levers looked downright brilliant.

Then there was the woman who decided that the keys were too dirty, and washed them in the sink just before I got there....

And Our Colleagues Do Their Part

Please forgive me if any of you have ever employed these methods. I've seen them so often that I believe they were considered standard repairs a few years ago.

It seems so quick: just quiet the jingling pedal dowel

pin by wrapping it in masking tape. But look ahead just a few years: brittle paper, rock hard or granulated adhesive, jingling bad as ever. Well, perhaps plastic electrical tape? It doesn't get so flaky and dry, but on the other hand, the adhesive turns to black goo.

I don't like finding goo in pianos. I described the cloth alternative in my first article, back in the October 1997 *Journal*. Either residue can be removed with citrus solvent, by the way, once the dowel is out in your hand.

I have seen so many broken hammer shanks mended with black thread and glue that I can only imagine it was the standard practice 50 years ago. I have also seen dental floss used to hold glue joints while they set. I have seen hammer shanks mended with thread and gobs of airplane glue, which pleased me less. Still more disgusting were key buttons held on with brads (and sometimes split with brads). The worst shank repair I have ever beheld was a break down near the hammer butt, with finishing nails driven in on either side of the shank like a splint, coarsely wrapped with heavy thread and slopped over with airplane glue. It didn't work. The hammer was wobbly and hit the neighboring strings. The finishing nails, hidden by the globs of glue and thread, nicked my knife. Some people will go to *any lengths* to avoid replacing a shank. You'd think that the old shank extraction was a dental extraction. More about successful hammer

The Film-Can-With-Bolt
Pedal Dowel Extension
(cutaway view)

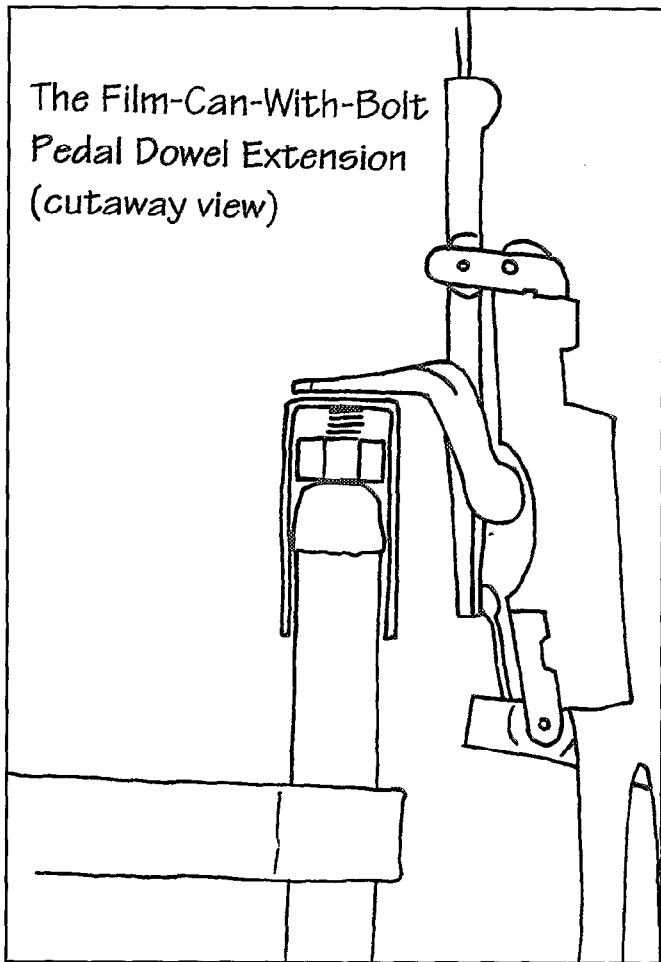


Figure 1

hack out cardboard into rough rounds and put the "hackings" (one can't call them "punchings") under the felt.

I have heard from various sources about some remarkable uses for lead fishing weights, but I have never seen any in action. Apparently they do a dandy job getting sluggish grand dampers to get down and do their stuff. They bring about a very interesting touchweight, though the key certainly "follows the pianist's finger!"

The nadir of home-made repairs, in my 20 years' experience, was an attempt to lengthen a pedal dowel that someone had decided was too short. The dowel was the kind that came through a metal guide, so it didn't have a pin in the top, but rather a piece of leather pulled over the end and glued on the sides. This unknown "fixer-upper" took a small metal film can (for a size of film now obsolete), put a large but short bolt inside it, and

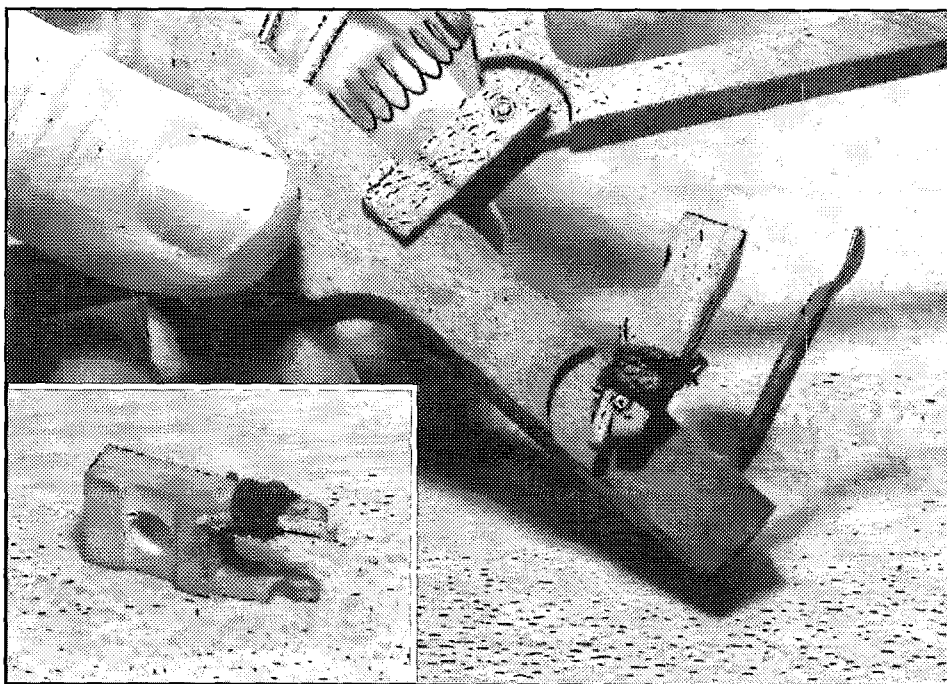


Photo 1 — Rustic wippen flange repair. The note did not work.

shank extractions later.

Don't Forget the Manufacturers

When repairing pianos, one finds traces of the makers. Bland paper punchings in pastel colors cost more than punchings made from old newspapers written in Yiddish, or from bits of old office paper with faded figures in neat copperplate handwriting. Cardboard from an old French cigarette package works perfectly well to shim a balance rail. These are merely signs that thrift was more highly regarded in earlier times than it is today.

When thrift is abandoned in favor of skinflint innovation, we see horrible little pianos where the hammer rail or back rail cloth was eliminated and sponge rubber substituted. I wonder if it lasted for 10 years or only for three. Perhaps the manufacturer called it "planned obsolescence." It seems to me that "planned extinction" might be a more accurate term. When people start building pianos so that they will purposely fail after a certain number of years, the remaining life span of their companies is usually a shorter time period.

Some of these inferior practices seem to have died out: skinny little wooden keys with hollow plastic casings around them; self-adhesive nameboard felt that falls off at a touch. Some less drastic changes that I nonetheless deplore are still with us: rubber used in more and more places, and sprayed Teflon™ coatings in place of woven spring punchings.

I don't know why, but manufacturers seem to have a touching faith in the noiselessness of Teflon™. Teflon™ is slippery, but by no means silent! I've often had to lubricate what appeared to be solid Teflon™ pedal housings in pianos only a year or two old. The squalling sounds they made were not subtle! I've glued spring rail punchings over the sprayed Teflon™ notches (when there was enough money for it) or added VJ lube to the spring ends (when there wasn't enough money.) This faith in Teflon™ is not limited to modest brands! Last summer I traced some unacceptable clicking in two middle treble notes on a concert grand to the Teflon™ posts holding in the repetition springs. The older method was to hold them in with center pins surrounded by bushing

cloth. Teflon™ powder on grand knuckles or Teflon™ spray for key pins is a great friction-reducer, but Teflon™ is not so great in places where it is replacing sound-absorbing materials like cloth or leather or damper cord.

My Favorite Materials

I have never used entertaining stuff like airplane glue, shoelaces, or faucet washers to fix pianos. For the most part, I use dull ordinary materials like leather, scrap hammer felt, bushing or action cloth, business cards, punchings of wool or cardboard, and bits of wood like Popsicle™ sticks or fragments of hammer shanks. All of these are durable and can be easily and dependably glued, and the leather, felt and cloth are sound-absorbing.

• Leather —

Is good to fill overlarge screw holes, and for places where something tough is needed. It is good sandwiched between rubbing parts and on pedal trapwork. It is good for protecting softer materials. For instance, I once worked on an overdamper piano where the pedal dowel was sliding past the part it should have been picking up. I built out the part with scrap hammer felt, and covered the whole thing with leather so it wouldn't come loose. Fine leather from a lady's glove can be used to repair a vellum hinge in an old sticker action piano.

• Scrap hammer felt —

Makes an excellent noise-free stop block, especially in trapwork. I've used it to line enlarged holes around grand lyre prop sticks. A small block of it does a good job of rubbing microfine Teflon™ powder deep into grand knuckles. It makes a fairly good substitute for a small paintbrush, or to spread glue or DAG™. I put it at the bottom of grand pedal sockets, to replace the dead rubber grommets. (I line the sides with leather.) I've used it as a guard for the sharp end of a chisel, or at the bottom of a tool holder where a broach or awl would normally make a hole. It can wedge a buzzing upright soundboard. Fill in your own applications: the stuff is not only versatile but cheap!

• Bushing or action cloth —

Replaces the original worn, missing or hardened cloth and is good for general noise reduction.

• Business cards —

Make good small shims, and can be folded as need be to take up space. For instance, if an antique pedal lyre has too large a gap at the top near the keybed, so it is shaky, folded business cards can firm it up. This is not a true repair, but it does no harm and can buy one time. Business cards used with a string height gauge are good for recording data on underlever and string height. For string height, the card can be rested on the lip of the main body of the gauge and the pin of the spring-loaded rod can be pressed through it. One repeats this for each section, labeling which is which. At home, it's easy to put the card back over the gauge pin and duplicate the old height.

I also use business cards looped and glued to themselves around power cords near outlets. The cards carry strident warnings to thrifty church members, so that they won't unplug Damp-Chasers.

Confession Time: I have used business cards under the front rail of grand actions to prevent seasonal knocking. At least this is honest, if not diligent; anyone pulling the action later can see who took the easy way out.

• Punchings of wool or cardboard —

Cardboard punchings make good small shims for case parts, so they won't bind. The cloth ones replace older ones used for cushioning by manufacturers.

• Bits of wood —

I use much less wood since I discovered leather for enlarged screw holes, but I still use some now and then to fill spaces, sometimes surrounding it with epoxy. For instance, two days ago I came across a battered small upright with a key capstan that had gotten driven to the side, so that it almost missed the

World-Class Junk

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wippen. I pulled the capstan straight, adjusted it to the right height, and wedged it in place with the small end of a broken hammershank and a dab of white glue. The tapered piece of hammershank was very handy, since the outer surface was curved, and just fit the enlarged hole beside the capstan. This was a rough repair, but I don't expect it to fail.

The Phantom Substance

Imagine using something to fix pianos which does its work and (poof!) *disappears*. No gummy residue. No flaking remnants. Sweet nothing. Not a thing in the piano that was not there before we started. I'm talking about vodka. I use it for more and more things which I used to do other ways. I can hear your witticisms already, because I think I've already heard every possible variation from our colleagues on the e-mail lists.

"Smirnoff or the grocery store generic?" one of them asked. Actually, this is not a gourmet application. If I'm going to drink something, it'll be wine. The piano needs the drink, not me, and I use bulk grain alcohol (Everclear™) from the local liquor store, diluted half-and-half with water. It's the cheapest ethyl alcohol I have found. I prefer ethyl alcohol safe enough to drink, because any solvent we use we breathe, and we absorb some that way. So, even though rubbing alcohol or denatured alcohol solvents aren't so *very* bad, I choose "vodka."

So, what do I use it for? Extracting broken hammer shanks, for one thing. After I read Bill Spurlock's article about shanks, which advocated soaking the old glue joint with wallpaper paste remover, my percentage of successful extractions doubled. However, wallpaper paste remover has a bunch of weird things in it. Vodka seems to be absorbed just as easily, and to soften the old glue just as well. So, whatever I used to do with wallpaper paste remover, I now do with vodka instead. For instance, I use it for removing old key bushings. I wet them (with the little plastic hypo-oiler bottle) and let them think about it for about half an hour. Most can then be pried out easily enough. The stubborn ones get another drink and a quarter hour

more. Since I started using vodka, only the most stubborn old key bushings ever need steam, which pleases me. Steam can loosen key buttons, and if overused can cloud the shiny surface of the key fronts. (You can smell the keytop material if they get hot.)

Vodka makes a good sizing solution for new flange bushings, and a good shrinking solution for tight center pins, especially if lubricants haven't already been used. It is a fairly strong shrinking solution, and if you want a weaker one, you can mix the Everclear™ or bulk grain alcohol with less water, so it is, say, a 70 percent alcohol to 30 percent water solution.

Vodka can be used to soften bright-sounding hammers. Sometimes I call it "steam in a bottle." Voicing requires practice and careful thought, so don't just splash the stuff on. Move slowly, try a little on samples, and don't go overboard. Be aware that if you soak the shoulders with vodka the tone may turn to mush, and be very hard to brighten up again. I've had good results with just a few drops on the strike point, tapering to only one drop per hammer in the high treble. The application has to be adapted to suit the particular piano and the taste of the owner.

Try this?

Finally, I have an experimental procedure that you might like to try. If this were software instead of piano technology, I would say it is in the "beta testing" stage. That is, I've used it once and had *dandy* results, but I've only used it the one time.

Picture a very old but very good upright (a Packard) with a brass rail and butt plates. Picture its fouled hammer flange bushings, doused with evil concoctions during its years in the South. Picture the brackets for (non-approved) Damp-Chasers fore-and-aft on the action rails, and the hammers still standing on air. Picture one half of the butt leather ruined through over-exuberant applications of alcohol. Picture my disgust.... The hammers and butts all had to come off the action, most of the flanges had to be rebushed, and one half of the butts had to get new leather. Then they were put back on, and the hammer spacing needed work. When hammers are held on by butt plates, the only way to space them is to heat and bend them, but these were dark brown and crackly dry.

I used the hot bending pliers, carefully and slowly, and the first one broke. I saw no reason why most of the others wouldn't break just as easily.

They were simply too dry to bend: they needed a drink! I took a little foam paintbrush, the disposable kind. I put a little vodka on it from a plastic hypo-oiler. I brushed all sides of a poorly spaced shank with it. My bending pliers were plugged into a rheostat (available from Pianotek Supply Company) and I had it turned to 50 percent. The shank greedily soaked up the vodka! When I put the bending pliers on it, I heard a light hiss, and it started to bend with great pliability. It got positively mild-mannered! As I worked, I discovered that it was easy to use too much vodka, and have it run down onto the butts, where I certainly didn't want it. The bending was so easy that I bent shanks too far, brushed on more vodka, and bent them right back again. I worried that after they had cooled and dried they might warp, but the next morning they seemed spaced just as I had left them the night before. As a minor bonus, the vodka doesn't ruin the brush, so it can be reused.

So, I hope that some of you try this untested procedure, with due care. Ever the worrywart, I wrote to Tim Keenan, who before he was a piano tuner was a biologist with a chemistry background. I asked him whether it might be possible to set an action on fire by soaking a small part of it with vodka and applying heat. He thought not: the flashpoint is low, but the quantities used are very small, and he said that the first thing to evaporate when heated would be the alcohol. Vodka is half water, which helps. He did recommend not using more concentrated solutions of alcohol.

Scotch™ Tape & Baling Wire?

So, have I really used Scotch™ tape and baling wire to fix pianos? The answer is a guarded "yes." I have used Scotch™ tape to hold down loose veneer when I had gotten some glue under it but clamping wasn't possible. It held the veneer down just fine. However, when I removed the tape it took some of the varnish with it, so I won't do that again. I did use baling wire one day, too. The upright in question had an obsolete action. My experience with it showed why the design had never caught on. It had

very strong hammer springs but a very weak way to attach the hammer spring rail to the action brackets. The spring rail was loose and flopping around. I ran some heavy wire around a bracket and the rail, looped the wire around itself, and twisted till it tightened. It worked, after a fashion. At least, it worked well enough that I left it in the piano for someone else to giggle over a few decades hence.

The Riddle

You may remember that in the October issue I posed a piano-noise riddle. To recapitulate, this was the problem: The piano was an ordinary spinet, but rattled when it was played. I played every single note, hard, and they were all quiet. As I started tuning octaves downwards, when I played around middle C along with the note an octave lower, I heard a dreadful rattling, like something hard was

touching the bass strings. I investigated: for the notes between G3 and C4, when I played them with the note an octave lower I got the miserable noise. Only when playing the octave. (Well, one also did it with a major 7th.) No other interval caused noise. There were no foreign objects in the piano. The rattling had been going on since the piano was new, 20 years or so before.

The Answer

The problem was that the action had been installed too close to the bass strings. When those few notes in the tenor were played and their dampers lifted, the bottom ends of the damper levers swung back toward the strings, and just touched the bass strings. Due to the steep angle of the bass strings, the wires that the damper lever ends touched just happened to be an octave below the upper notes. When the

octave was played, the lower note's string vibrated against the upper note's damper lever end, allowing the rattle to be heard.

The Cure

A long screwdriver could just reach the damper lever screws of the affected notes, so that I could take the levers out. Then I took a pocket knife and carved some of the wood off the bottoms of the levers, shortening them. They were still long enough for the pedal rod to contact them as usual. Putting them back in and getting the screw tightened was a chore, but not as much trouble as removing the action would have been.

So, the magical piano which could tell the difference between a minor 7th and an octave lost its unique powers, but also stopped annoying anyone playing it. ■

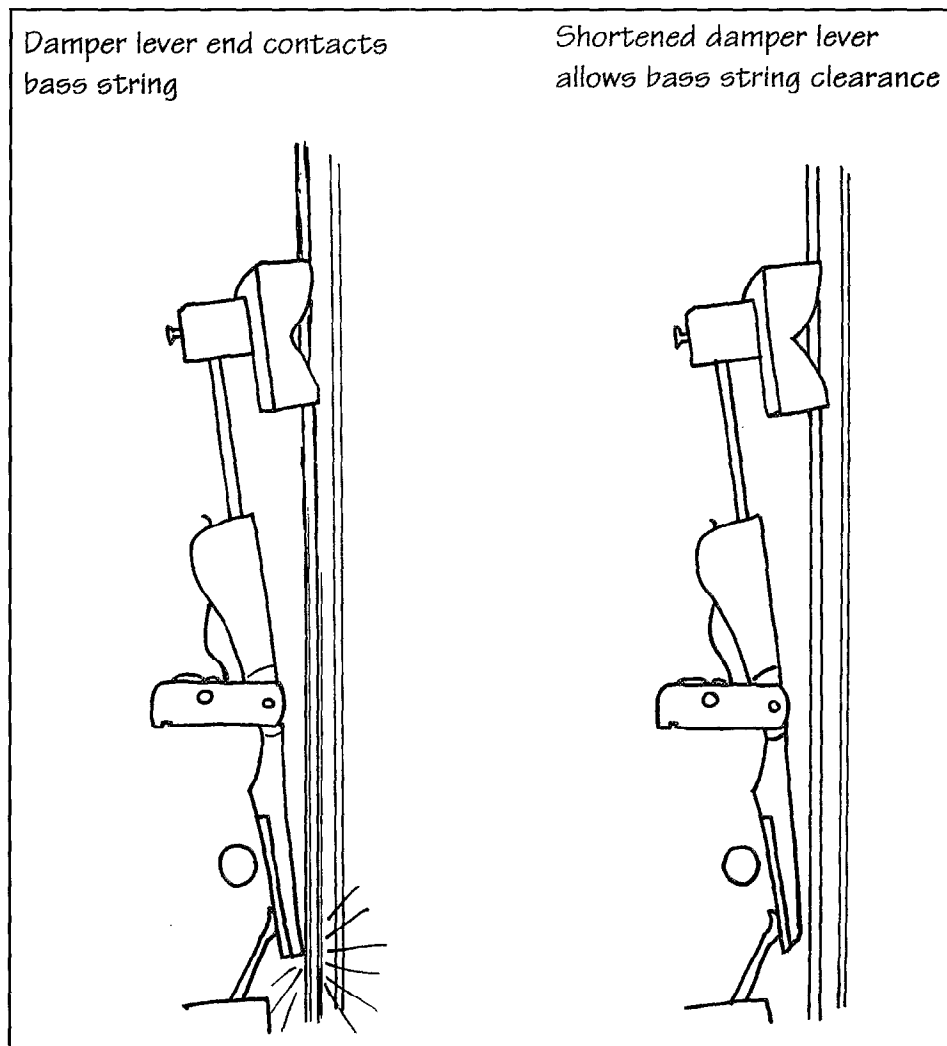


Figure 2



July 21-25, 1999
Register Early!

	<u>Before</u> <u>June 18</u>	<u>After</u> <u>June 18</u>
Member:	\$215	\$250
Non-Member:	\$315	\$350
Auxiliary Member:	\$75	\$95
Non-Auxiliary:	\$95	\$115
Banquet Ticket:	\$35	\$35
Auxiliary Tour:	\$60	\$75
Applied Skills:	\$25	
Rebuilding Skills:	\$25	
Grand Regulation:	\$35	
Vertical Regulation:	\$35	
Tuning Tutoring:	\$35	

HYATT REGENCY HOTEL
KANSAS CITY, MISSOURI

Trigger

Point

Self-Massage

For

Piano

Technicians

— Part VII

By Clair Davies, RPT
Bluegrass, Kentucky Chapter

The Back Muscles: Introduction

The muscles this month are the spine erectors, the quadratus lumborum, the piriformis, the tensor fasciae latae and the “back pocket” muscles – the gluteus maximus, medius and minimus.

I didn’t know I had muscles with names like that for nearly 60 years. My dad never knew either, and Dad’s anatomy, like mine, must’ve been Trigger-Point City. An injury from playing football in high school left him with low-back pain that tortured him all his life. If I had known then what I know now, I believe I could’ve fixed him – or could’ve shown him how to fix himself.

Among my dad’s possessions, after he was gone, I found the leather back support that he wore so much. It was made like a pair of small saddles, fore and aft, connected by adjustable straps. The buckles were corroded and the leather was discolored and stained with sweat. That old brace probably told as much about Dad as anything else he owned. Low-back pain takes the fun out of life. It’s a genuine handicap and it’s depressing. How can you be a nice guy if everything you do hurts? Your back hurts when you move and even when you don’t move. How can you get anything done?

My dad worked hard despite his back problem. He had a business to run and a family to support, so he’d cinch up, grit his teeth and go to work anyway. He didn’t deserve all the pain he endured. It was criminal that the healthcare community had nothing better to offer him than a bottle of pills and that old leather brace.

Massage Can Help Low-back Pain

In the clinic at the Utah College of Massage Therapy, I saw low-back pain in half the people I treated. The clinic was open to the public on Saturday and Sundays and massage was less than half price – \$20 for 50 minutes. That deal produced a lot of bodies for us to practice on, commonly more than a thousand every weekend.

Typically, my clients with low-back pain had been to every kind of practitioner in town before coming, as a last resort, to try massage, and the story was always the same. The pain itself had always been treated directly. The suggestion had never been made that their pain might be referred pain coming from somewhere else. They’d been told they had a bad disk, or a subluxation, or a curvature, or arthritis of the spine. No one had ever looked beyond the site of the pain.

Every one of these people had pretty much given up hope and was more or less resigned to living with pain. They were finally trying massage, but you could see they were skeptical that massage would fix their real problem. They thought it might at least relax them and might be worth an outlay of 20 bucks. The results were always a surprise to them.

The terms I used in communicating with these much-abused folks about their back pain were new to them. They’d never heard of a trigger point. They had only a fuzzy idea of what referred pain was. They had no idea they had psoas muscles in front of their spine that could be making their back hurt. It was a novel idea that their “back pocket” muscles could be sending pain up to their back. The quadratus lumborum? What on earth was that?

The Latin and Greek names for the muscles don’t contribute to enlightenment. They’re intimidating and hard to remember. Unfortunately, most of these muscles have no other names. If we mean to understand our pains and learn to deal with them, there’s nothing to do but assimilate the language. These foreign sounding muscles are part of us. The quadratus

lumborum and all the rest are us. It's too bad that we have to grow up, and remain, so ignorant about things so completely personal.

With my clients in the clinic, proof of the reality of referred pain was easily demonstrated on the massage table. The pain they felt was usually at about the level of their belt or a bit lower. Pressure on a trigger point in the quadratus lumborum (they're right at kidney level), or in the gluteus maximus, medius or minimus (the back pocket muscles), or in the piriformis (you sit on them), or in the psoas (in front of the spine) would reproduce or accentuate their belt-level pain.

Massaging the trigger points in those seemingly far-removed places consistently allowed my clients to get up off the table with greatly diminished low back pain and sometimes none at all. I never had much of a sales job to do about the concept of referred pain. The massage spoke for itself and was very convincing. The client always wanted to come back and be worked on again. Every success made me more and more a believer too. But the best part is that self-massage can be done on all those muscles.

The Gluteus Muscles

Trigger points in the gluteus muscles are the sneaky kinds that usually don't hurt unless massaged deeply. But they refer pain nevertheless, and the pain they cause is felt in the lower back, the hips and occasionally down the back of the leg (pseudo-sciatica).

The Theracane™ works really well on the gluteus muscles. (See Figure 1) Since the Theracane™ is more comfortable used over a layer of cloth, you can keep your pants on and just aim at the back pockets and search until you find a tender spot. Only a little bit of work here can have an immediate effect in attenuating the pain felt in the lower back just a few inches further up. Another excellent way to work the back pocket muscles is to get into bed with a tennis ball. Draw the leg up on the side that's being worked and move around on the ball until you find a place that hurts. Then just let your body weight down on the ball and move slowly back and forth across the trigger point. As usual, the object is only to increase circulation and soften the spot some. Too much work at one time on a trigger point can make it more irritable. With practice, you'll get a feel for it.

The last time I had a really bad spell of low-back pain – the frightening kind that ordinarily signifies days or weeks of limited activity – was the last time I was rubbing out a newly lacquered grand piano top. I

was right in the middle of the job, up to my elbows in black lacquer mud, when I suddenly got that sickening catch in my low back, right below the beltline. I had to stop and grab hold of the table to help me straighten up, and I couldn't lean over again without a repeat of the sharp stab of pain. I figured I was finished for the day and guardedly went in to clean up.

After washing my hands, I had the good sense to get the Theracane™ and give it a try on the gluteus muscles – not on the back muscles, mind you, where I felt the pain. Anyone would naturally think it to be the back muscles that I'd strained, leaning over locked in position like that for half the day. It's the back pocket muscles though, the gluteus muscles, that carry the weight. Only a few minutes of massage on the gluteus medius let me go back to work. I worked the muscles again after finishing the day, and I had no more low-back difficulties from the event. My relief came quickly and was absolutely free.

The Hip Muscles

The piriformis and several other small muscles in its vicinity are hip rotators. They are found at the level of the bottom of the back pocket. They have a somewhat different function than the gluteus muscles, but everything in the back pocket region is usually involved together. When trigger points are found in one, trigger points will be found in all. The piriformis and other rotators are massaged just like their "northern" neighbors, with the Theracane™ or a tennis ball. Pain from the piriformis, however, is a little different in that it is felt mainly on site. That is, the area right around the piriformis will ache when it has active trigger points. A very common cause of trouble with this muscle is long spells behind the wheel of a car or truck. The primary

symptom will be discomfort in the lower hip of the right leg, which during a long drive is apt to lie spraddled on its side, rotated outward. In this position, the piriformis is kept shortened and tight, the classic condition that promotes trigger points.

The tensor fasciae latae is the thick muscle on the side of the hip and is very active during walking, climbing or running. Trigger points cause pain on the side of the hip and down the outer thigh to the knee. They're easily massaged with the Theracane™ or supported knuckles.

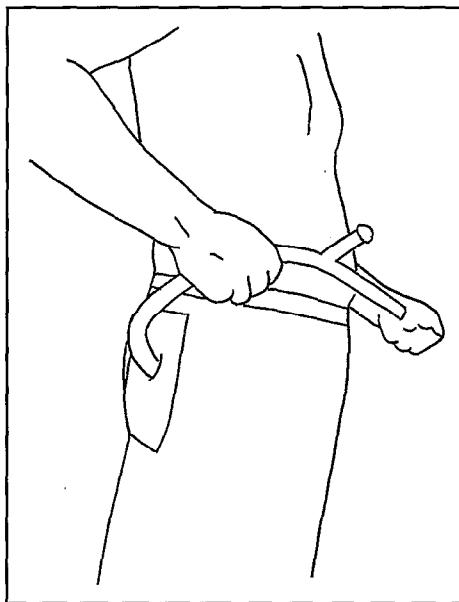


Figure 1 — Massaging gluteus muscles with Theracane™.

The Spinal Erector Muscles

The erectors, the long muscles on either side of the spine, are

Continued on Next Page

Trigger Point Self-Massage for Piano Technicians — Part VII

Continued from Previous Page

made up of several separate sets of muscles with somewhat varying functions. Pain generated by any of them is typically felt near the trigger point, although some referral up or down the spine can be expected. The “vertebra out of place” experience is due to overload of these muscles. Tightening in an erector muscle can in fact pull a vertebra to one side, causing it to be “subluxated,” a high-flown term meaning “out of alignment”. It makes more sense to be direct with the problem and treat the muscle contraction itself and its trigger points, rather than by forcing the vertebrae back into place. Many chiropractors agree and are incorporating trigger point massage into their practice. Massage of the erectors can be accomplished with the Theracane™ or the tennis ball. (See Figure 2)

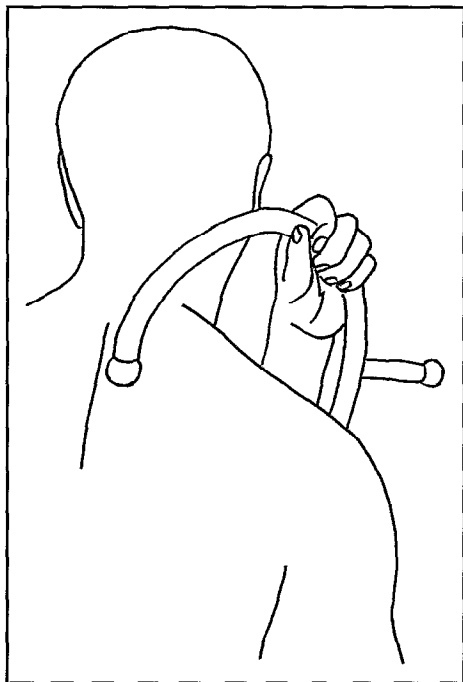


Figure 2 — Massaging erector muscles with Theracane™.

The Quadratus Lumborum Muscles

The quadratus lumborum muscles lie just under the erectors and a bit to the outside. They're thick rectangular muscles at about the level of the kidneys and when they have trigger points they make the back hurt further down. Search for trigger points along the edge of the mass of heavy muscles at the base of the spine, between the ilium (the top of the hip bone in back) and the lowest rib. A supported thumb here is very effective for ischemic compression. Dig deep. (See Figure 3) In addition, trigger points may be found right along the top edge of the hip bone where the quadratus lumborum attaches.

According to Travell and Simons, the quadratus lumborum is commonly overlooked as a source of low back pain and “pseudo-disk syndrome.” Chronic, debilitating pain after back surgery more often than not can be traced to trigger points in the quadratus lumborum. It's sobering to speculate whether these very trigger points may have been all that was wrong in the first place.

Prevention is the Best Treatment

Even with the best professional massage or self-

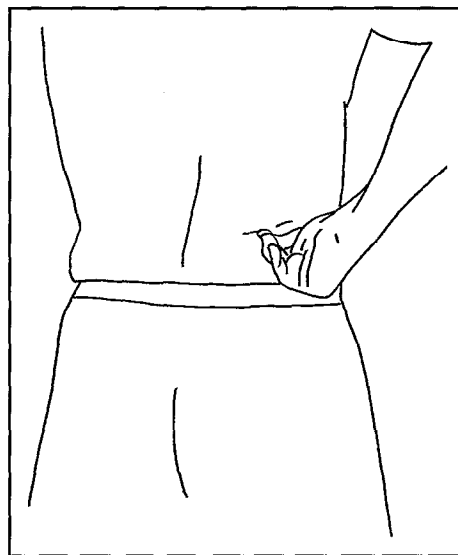



Figure 3 — Massaging quadratus lumborum with thumb.

massage, low-back pain seems to like return engagements. It might be wise to consider the factors that tend to perpetuate this problem. A single overload of the muscles that send pain to the lower back is something anyone should have the sense to avoid. Don't bend over to lift things. Don't try to lift too much.

Everybody knows these things. And why not begin leaving piano moving to the professionals? You have too much to lose from a stupid accident.

Fortunately, Trigger Point Self-Massage can keep us from suffering too much from our errors. It's good to know that even the scariest pains in the back may not be serious at all. You may not need back surgery. There may be no reason to give that possibility a single thought.

I encourage you to be compulsive about getting acquainted with the muscles discussed here. Make a study of them. Explore them. Locate the trigger points. Get a grasp of how referred pain works. Embrace this new technology. The information is there. In regard to pain, there's no reason for any of us to go on being victims of our own ignorance or the ignorance of others.

Next month, the all important legs and feet. 

How I Tuned The Grand

By Michael J. Kurta, RPT
Northern Michigan Chapter

I received a call from the music director of one of the Midwest's most famous summer resorts, The Grand Hotel, on Mackinac Island, Mich. It seems they were unexpectedly without a piano technician. Their nine instruments needed attention, not to mention their jazz weekend concert coming up, featuring Boots Randolph and Pete Fountain.

So, early Sunday morning, I grabbed my tuning case and headed for the docks here in Mackinaw City. Arriving at the island after a 20-minute ferry ride, I boarded a horse-drawn taxi as no motorized vehicles are allowed on the island. I reported to security and was taken to the general manager who then introduced me to the pianos I would be servicing that day. It would prove to be a nonstop tuning experience. My first patient was an older Steinway B that had been moved from the hotel on a horse-drawn flat bed dray to an adjoining garden area under a tent. This was to be the venue for the aforementioned performers and their bands. Challenge #1. What a hubbub of activity! Chairs and tables on the lawn being set up for 400 guests. Barbecue grills coming in, food and drinks being set up, and in addition, the sound crew laying cable, setting up, and calling "testing, one, two" incessantly. Talk about competition with the piano tuner! Is a smile crossing the faces of those of you who have been through this before?

To add fuel to the fire, the piano had been outside in extremely humid conditions, so as my trusty Accu-Tuner™ and I were finishing setting the temperament at the top end, a recheck of the bass revealed it had already begun to move away from where I had set it not 20 minutes before. A second trip up the scale seemed to settle things down. I had been told that the pianists playing today were somewhat aggressive toward pianos, so bearing that in mind, I really pounded the keys to settle the strings into a stable tuning.

By now, the hotel's music director had arrived and was wondering why I wasn't finished yet, as the show was to have started five minutes ago. Working under pressure is not the most pleasant experience, but sometimes we have no

choice. I indicated I could either give him a fast job or a good job; which would he prefer? That got me 15 more minutes. The B was ready to play.

The next order was to tune another Steinway in the dining room, and for that I had only a window of one hour and 10 minutes before guests would begin arriving for lunch. The competition this time was rattling plates, silver and glassware as tables were being set, accompanied by Jamaican waiters singing and shouting to one another. A kind request to the maitre D' reduced the noise to an acceptable level. An hour and five minutes later, I put another notch on my belt.

The next two were duck soup. These were bar pianos, the first, a nice Gordon Laughead console in a relatively quiet location. The only hindrance here was waitstaff who, not being busy, hung around the piano asking questions. Lots of questions. The second bar piano was a new Young Chang console finished in gloss white, located at the top of the hotel. This time the problem was mine and not the establishment's. The view from this spot was so magnificent and all-surrounding, it was hard to keep my mind on the job at hand. Luckily, these pianos were not badly out of tune, so they went quickly. I enjoyed a short visit to the employee cafeteria for a good free lunch (yes, there is such a thing), then went back to the trenches. Next were two lovely 64-note Melodigrand consoles. If you've ever seen one of these PSO's (piano shaped objects, for our newer technicians) you know what they are like. If Bösendorfer is on one end of the scale, Melodigrands must be on the other.

Finishing these, I walked down to the tea garden where the entertainers were breaking between shows. I was asked to "touch-up" the piano before the headliners were to play. "Sure," I said confidently, as I took my tuning hammer and rubber mute from my case. Here was a good lesson in mind control. If

you've ever been scrutinized by 400 paying guests waiting to see the star performer and not you, you'll know what I mean. But I told myself, "ignore those folks and just do your job." Fortunately, only about 10 unisons needed correction, so when the stagehands had finished rearranging things, I was finished also, and the show went on as planned.

Now on to the next challenge. The Wreck of the Hesperus! In the hotel's theater sat a Monarch five-foot baby grand that obviously had a hard life. It was scarred and battered, everything was loose: lid, legs, music desk, and in addition, the pedal lyre was being held up to the keybed by a Gideon Bible wedged under it. Just a quick "tune" was the order on this one, the repairs would have to wait until another time. Fine with me; bad regulation, wild strings, jumpy tuning pins and all, I was glad that one was behind me. By now, the show in the garden had ended and I was summoned to tune the Steinway which was now rumbling and lurching up the cobblestone walk to the hotel behind two tired horses. The maintenance men at the hotel had moved this piano many times before, and in no time had it set up in the lobby/parlor of the hotel where a formal cocktail party was about to begin. Another time-sensitive tuning. Not too bad this time, although I was instructed not to be too loud: "It disturbs the guests." Here are some of the comments, all in fun, written or said to me while tuning this last piano. "Hurry up, I'm ready to play!" "We believe in you." "It's obvious you love piano and are a dedicated performer. However, I suggest you change teachers and find one who can teach you some chords and fingering." "Maybe I can help. What tune are you trying to play?" "Thank you for a most interesting recital."

Finally at 7:00 p.m., my day was done. I had seen the best and the worst in pianos, had tuned in difficult conditions, and had seen the hotel and entertainment businesses from a different angle. It gives one an appreciation for other ways of life. If you've been counting, I have mentioned only seven pianos; the account of the remaining Kawai grand with the violin bow stuck inside the action and the wild ride in the woods will have to wait until I see you in person. It was a grand experience! ☐

The
Tuner's
Life

THE PUZZLER

By
Dan Levitan,
RPT

Puzzler #14 —

The Case of the Broken Strings

AUTHOR'S NOTE: The technical idea for this month's puzzler comes to us courtesy of Sid Stone, RPT. Thanks, Sid!

5:01 on a Friday afternoon. I had just closed down the shop for the weekend and was on the way out the door when the phone rang. I hesitated for a moment, then reached over and grabbed the receiver.

"Smuckers Piano Shop, how can we help you?"

"Oh, what a relief." It was a woman's voice. "I'm in such a jam, and I need somebody really good to help me out of it. With a name like yours..."

"Yes, yes, I understand. What's the matter?"

"You see, I recently picked up a used piano at the Salvation Army. I do so like to support their efforts. I've had several tuners come look at it, but they all say it has so many broken strings that they really have to replace them all, because otherwise they'll just continue to break. But I can't possibly afford that kind of work. I'd like you to tell me if it's really true."

"I'd have to see the piano first. Where are you?" Turned out she was right on my way home, so I took down the particulars and in 15 minutes I was ringing her doorbell.

She was elderly, a little frail; she greeted me warmly and showed me to the piano. It looked like it had been spending too much time in a dive somewhere. A scuffed-up case, a sustain pedal almost worn through, and a few cigarette burns on the last few keys in the bass. I played it briefly; the floppy keys could certainly have benefited from a rebushing, and the odd bangs, buzzes, and thunks told me she was right about the broken strings. I took the book of hymns off the music desk, lifted the lid, and looked inside. I saw what I wanted to see, and with a smile turned to my new client.

"Lady," I said, "we're in luck. Yes, you've got quite a few broken strings, but after we replace those, I guarantee you that no more will break. In fact, if they do, I'll fix 'em for free."

How could he be so sure?

Solution to Puzzler #14 —

The Case of the Broken Strings

When he lifted the lid he wanted to see at what point the strings had broken. They had all broken at the upper bridge, as they would have under the stress of a forceful blow. It was clear from the condition of the rest of the piano that it had indeed often been played hard, but the kind of use he now anticipated it would get would not, he felt, be nearly enough to cause further breakage.

Puzzle mail (snail mail only) should be sent to Daniel Levitan, Puzzle Editor, 530 First Street #6, Brooklyn, NY 11215. Elaborations on previous puzzles will be printed, even at the expense of the puzzle editor's dignity. Especially welcome are ideas and suggestions for future puzzles, subject to whatever modification the whim of the editor may deem necessary.



Industry News

Nikolaus Schimmel —

Strong Advocate of Piano Climate Control Technology

Dampp-Chaser Corporation, manufacturer of Dampp-Chaser Piano Climate Control Systems, continues expansion into global markets with its unique product. Nikolaus Schimmel, of world-renowned Schimmel Pianos in Germany, has been quite instrumental in the growing popularity of piano climate control throughout Europe. In appreciation for Schimmel's support, recently in Frankfurt, Germany, Dampp-Chaser CEO, Robert Mair, presented an award of appreciation to Schimmel for his efforts in raising public awareness of the need for

Dampp-Chaser Systems.

In his concern for the well-being of high-quality acoustic pianos, Schimmel has endeavored, for years, to inform piano technicians and consumers about the need for piano climate control systems. He is quoted in the Dampp-Chaser brochure and video: "The best way to preserve the value of fine grands and up-rights is to automatically regulate the relative humidity right within the instrument ... with a System from Dampp-Chaser Corporation."

In Schimmel's technical manuals, he recommends the Dampp-Chaser System after describing, in detail, the damaging effects of humidity fluctuations to soundboard, wood, wool, keys, voicing, tuning stability, touch and tone. Schimmel is especially committed to safeguarding piano touch and tone as they are recognized as the most perceptible quality characteristics of Schimmel pianos for over a century.

Dampp-Chaser Piano Climate Control Systems now protect over 250,000 grand and upright pianos, world-

wide. The electronic System includes, primarily, a Humidistat, a Humidifier, and a Dehumidifier which work in a cycling action to control relative humidity levels inside the piano to an average recommended 42 percent continuously. Endorsed by all major piano manufacturers, this added protection avoids costly repairs and extends the useful life of the piano markedly.

Dampp-Chaser Systems are sold to piano owners by technicians/tuners and piano retailers who purchase the systems through major piano parts suppliers throughout Europe.

Only technicians and tuners are qualified to install the systems.

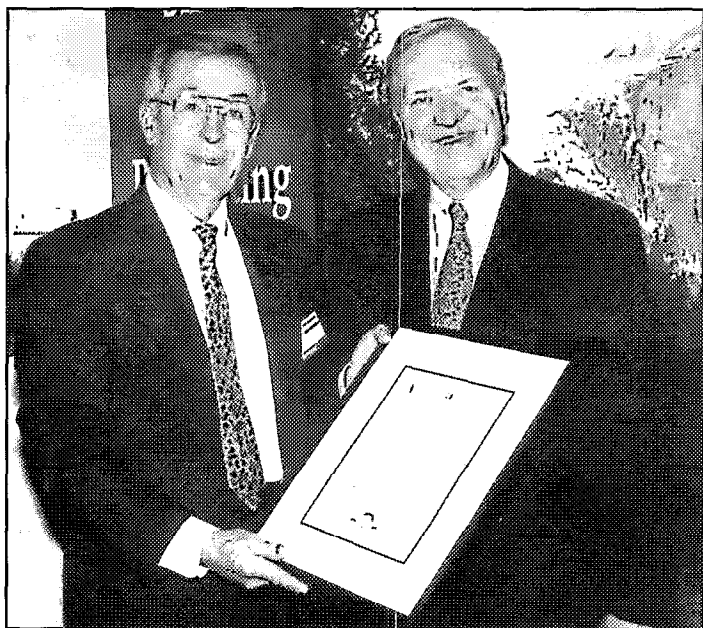
Pianosoft Tops Performance Software Charts —

Over 375,000 Sold Since 1989

Buena Park, Calif.—

PianoSoft™ and PianoSoft™Plus, the musical software developed by Yamaha and distributed by Hal Leonard to support the Disklavier®, has become the best selling line of name brand performance software in the musical entertainment industry. According to Brad Smith, marketing manager for Hal Leonard, the publishing conglomerate that partners with Yamaha to license, manufacture and distribute the musical disks, more than 375,000 titles sold since 1989.

While PianoSoft provides piano performance support for the



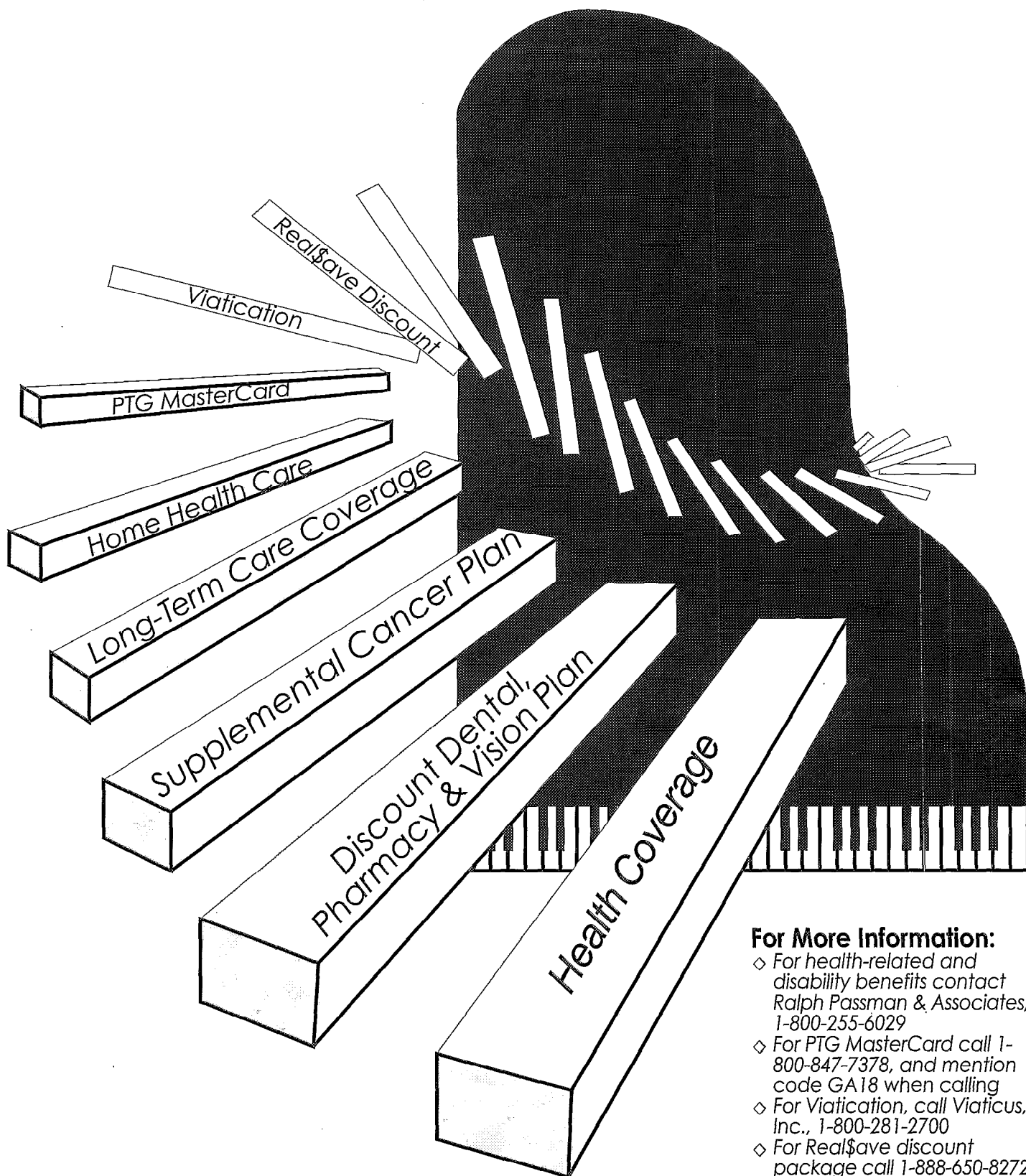
Robert Mair, left, presents an award of appreciation to Nikolaus Schimmel in Frankfurt, Germany

Continued on Page 39



The Privileges of Membership

Because members' personal and professional circumstances change over time, the products and services offered by PTG must change as well. The number of membership benefits available through PTG recently expanded with one idea in mind: to meet members' needs by providing quality products and services at a competitive cost.



For More Information:

- ◇ For health-related and disability benefits contact Ralph Passman & Associates, 1-800-255-6029
- ◇ For PTG MasterCard call 1-800-847-7378, and mention code GA18 when calling
- ◇ For Viatication, call Viaticus, Inc., 1-800-281-2700
- ◇ For Real\$ave discount package call 1-888-650-8272

Industry News

Continued from Page 37

Disklavier, PianoSoft Plus takes the innovative concept one musical step further by providing piano performance with accompanied orchestra, performed by a Yamaha tone module. "The onboard tone generator of the newer Disklavier models allowing playback of PianoSoft Plus disks has been a great success and has significantly increased the

popularity of these performance disks," says Smith.

There are approximately 350 titles available. The best selling new releases for PianoSoft include "Love Songs of Lennon & McCartney," "Jelly Roll Morton" and "Debussy Piano Works." In the PianoSoft Plus format, the hot sellers include "My Way — Frank Sinatra's Hits," "Les Miserables" and "Tchaikovsky Piano Concerto

in B Flat Minor." Upcoming releases include music from Duke Ellington and the Carpenters.

Commenting upon Hal Leonard's 20-plus year relationship with Yamaha, Smith said, "Yamaha does what they do best in creating the master for the software. Our forte is the distribution and licensing of the software. So it's a productive and successful marriage."

Nominations for 1999-2000 Officers due by Feb. 1

The Nominating Committee is soliciting nominations for President, Vice President, Secretary-Treasurer, and for Regional Vice Presidents. Any chapter may submit a nomination. An RPT may offer a nomination for himself/herself or for any other RPT in good standing. Names must be submitted no later than Feb. 1, 1999, to be included in the Nominating Committee report, which will be printed for the Council session in Kansas City in July, 1999. Nominations may be sent to the Home Office, to me directly at 45 Allen Mill Road, Amherst, MA 01002-1612, or to any of the Nominating Committee members:

Ward Guthrie
2 Cloning Lane
Bozeman, MT 59718
406-587-4088

Carl Lieberman
121 Clubhouse
Venice, CA 90291
310-392-2771

Leon Speir
7110 Forney Road
Dallas, TX 75227
214-381-0212

Fred Tremper
110 Baird Music Hall
Morehead, KY 40351
606-783-2478

Richard Bittering, 1st Alt.
209 Saddleford Ct., N.
Lancaster, PA 17603
717-293-8639

Jim Ellis, 2nd Alt.
114 West Newkirk Lane
Oak Ridge, TN 37830
423-483-9534

CALENDAR of EVENTS

January 8-9, 1999

ARIZONA STATE SEMINAR

School of Music, Arizona State University,
Tempe, AR

Contact: Rick Florence (602)926-4328/(602)965-6760
119 E. San Angelo, Gilbert, AZ 85234

February 12-14, 1999

CALIFORNIA STATE CONVENTION

Hyatt Regency, Long Beach, CA

Contact: Peg Browne (714)530-4768
11511 Wasco, Garden Grove, CA 92841

March 11-14, 1999

PA STATE CONVENTION

Holiday Inn Central Greentree, Pittsburgh, PA

Contact: Dan Sittig (724)266-5497
1209 May Street, Ambridge, PA 15003

April 8-10, 1999

PACIFIC NW REGIONAL CONFERENCE

Provo Park Hotel

Contact: Vince Mrykalo (801)378-3400
694 North 100 East, Provo, UT 84606

April 23-24, 1999

FLORIDA STATE SEMINAR

Ft. Lauderdale Marriot

Contact: Mark Shapiro (561)451-2136
23360B S.W. 53 Ave., Boca Raton, FL 33433

April 30-May 2, 1999

NEECOS / New England Eastern Canada Seminar

Hotel Gouverneurs, Quebec

Contact: Isabelle Gagnon (418)822-3550
6769 Royale, L'Ange - Gardien, QC G0A 2K0

All seminars, conferences, conventions and events listed here are approved PTG activities. Chapters and regions wishing to have their function listed must complete a seminar request form. To obtain one of these forms, contact the PTG Home Office or your Regional Vice President.

Once approval is given and your request form reaches the Home Office, your event will be listed six-months prior and each issue until the month in which it is to take place.

Deadline to be included in the Events Calendar is at least 45 days before the publication date; however once the request is approved, it will automatically be included in the next available issue.

Piano Technician Insurance Program

By Jerry Kiser, CIC

Recently, there have been numerous inquiries about the business insurance program that is available to all members of the Piano Technicians Guild. In an attempt to explain the various options available through this program, following is a summary of the policy and its viability to the members. It is a very good program, both in coverages and pricing, and it has responded well to a number of losses that have occurred. We are very fortunate that the insurance policy is underwritten by SAFECO, one of the nation's leading insurance companies. SAFECO has worked diligently to tailor their program to meet specific needs of the piano tuner/technician.

Get the Liability Coverage You Need

Business Liability insurance covers bodily injury and property damage liability as a result of negligence caused by a piano tuner/technician. This includes: *Premises and Operations, Products and Completed Operations, Owner's and Contractor's Protective, Contractual Liability, Personal Injury and Advertising Liability, and Fire Legal Liability*. It is written with a "per occurrence limit" of \$1,000,000 for losses with no annual aggregate, which is unique to the industry. The policy is written on a comprehensive form covering the tuner/technician for negligent acts resulting from his/her operations, with a \$250 property damage deductible. The policy *does not* cover workmanship, as that would make it a maintenance policy. However, liability covers the *resulting damage* that the tuner/technician may cause arising out of his/her work. Again, workmanship — *the actual work being performed by the tuner/technician* — is not covered and not available in the industry.

Some property damage liability examples are: a) *Damage to the floor might occur as a result of moving a piano in a client's home*, and b) *Accidental damage to an expensive vase or painting at a customer's home*.

Examples of bodily injury liability could be, a) *Working on a piano and a string breaks, hitting the client in the face*, or b) *Customer's child drinking a cleaning solution*. This is bodily injury resulting from the technician's actions.

Protect Your Tools & Client's Property

Property insurance protects your investment in tools and equipment. This coverage is extended to cover your tools while on your business premises as well as in transit to and from job sites in vehicles operated by you.

Customers' property which is in your care is also covered. This is extended to cover your clients' property while in transit or at your business premises. Piano Technicians Insurance also covers your clients' property while it is in the care, custody or control of one of your subcontractors.

The property coverages are broad with the primary causes of loss being fire, windstorm, explosion, vandalism and malicious mischief, burglary and theft, water damage from broken pipes, and earthquake. The general exclusions are as stated in the policy, but are primarily wear and tear, latent defect, employee dishonesty, processing, or any work upon property itself. The deductible for a loss under this contract is \$100 per occurrence, except earthquake.

Cargo coverage is included while a tuner/technician is moving a customer's property under his/her direction and care, in a vehicle.

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Optional Coverages Available from SAFECO

Additional optional insurance coverages available from SAFECO are: a) *Your owned stock held for sale including supplies*; b) *Your furniture, fixtures and improvements*; c) *Your computer and software*.

This is an overview of the program which is specifically designed for the technician. This is a volunteer program, supported by the membership of the Piano Technicians Guild. I personally manage and supervise the PTG business insurance program, and have been involved with it since 1986. The program was strengthened this year with the change of insurance carriers to SAFECO.

A member can purchase the basic program for a low premium of \$250. This includes \$2,000 coverage for tools, \$10,000 bailees customer's property, \$10,000 cargo and \$1,000,000 business liability. These limits can easily be increased in increments for a small additional charge. Our new partnership with SAFECO allows us to entertain larger technician operations than in the past. We are delighted how well this insurance program has responded to the needs of the members.

If you need further information, please call me to discuss your needs. The toll-free number is 1-800-528-0170.





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Have a Merry & Safe Holiday Season

As many of you know, our younger son is a lieutenant in a fire department in the western suburbs of Chicago. He always mentions that Christmas time is the worst time for fires because we are always so busy with extra projects, and many times our guard is down. I hate to leave this final month of the year on a negative note, since we all had such a good year, but I also want to remind you what can happen when we are not careful. I saw the following message on his bulletin board at the firehouse the last time I visited him, and would like to share it with you. Do be careful and have a safe and happy holiday.

The Enemy

I am more powerful than the combined armies of the world.

I have destroyed more men, women and children than all

the wars of all nations. I massacre thousands of people every year.

I am more deadly than bullets, and I have wrecked more homes than the mightiest guns.

In the United States alone, I steal over 50 million dollars each year.

I spare no one and I find my victims among the rich and the poor alike, the young and old,

and the strong and the weak. Widows know me to their everlasting sorrow. I loom up in such proportions that I cast my shadow over every field of labor.

I lurk in unseen places and do most of my work silently.

You are warned against me, yet you heed not. I am relentless, merciless, and cruel. I am everywhere, in the home, in the

schools, in the factory, on land, in the air, and on the sea.

I bring sickness, degradation, and death yet few seek me out to destroy me. I crush, I maim, I devastate — I will give you nothing and rob you of all you have.

I am your worst enemy — I am rampant fire.

Please be careful with your Christmas trees and your Hanukkah lights. We want you with us next summer in Kansas City. And remember to spice

Renew Your PTGA Dues

How quickly 1998 flew past. I enjoyed meeting with so many at the state conventions and at the Convention in Providence. Now it is time to send your membership renewal to me, the Treasurer, Marilyn Raudenbush, for the 1999 year.

Each year we try to send renewals to past members for the past five years. However, there are many who have changed their address. Please send your new information to me, so that you will be a PTGA member for the 1999 year. If you have been a member prior to 1994 you will not be receiving a renewal form. We still want each of you to join the PTGA.

The PTGA is an important part of the PTG. We support the PTG and their programs. We are actively involved in raising money for the Scholarship Fund. We want you to be part of the PTGA so please send your \$15.00 membership to PTGA c/o Marilyn Raudenbush, 20 North Laurel St, Millville, NJ 08332-4148. I'll be looking forward to hearing from you.

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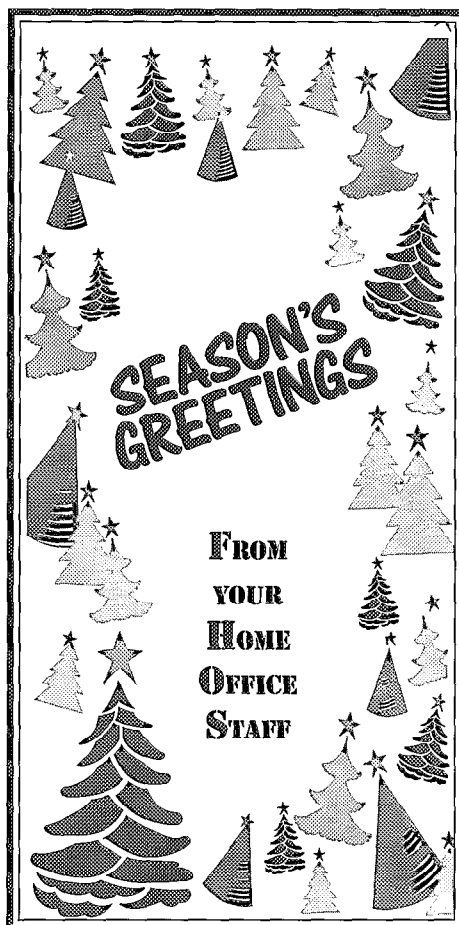
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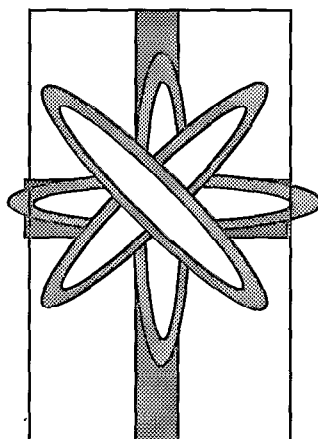
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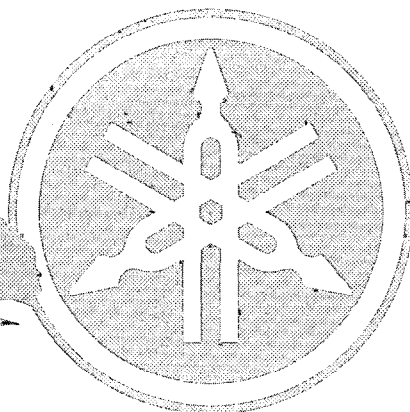
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GAZETTE

December 1998

YAMAHA



How a 3.5 inch disk can assist your next service call.

Unlike the other Yamaha Piano Service Consultants, most of my work is at the Yamaha headquarters in Buena Park, CA. The services I provide are focused on pianos utilized by



Mark Hullibarger

Yamaha Artist Services (YAS) for concerts or promotional venues held on the West Coast. This work can be from basic piano service, to various types of repair or concert preparation. In addition to the concert grands, smaller grands, and professional uprights, numerous Disklavier grand and upright models are also used in the YAS inventory.

I have worked on several hundred Disklavier pianos for Yamaha and enjoy the challenges these pianos offer.

One of the most useful tools I have for working on Disklavier pianos is a 3.5" 2DD floppy disk. (While new Disklavier pianos can use both 3.5" 2DD floppy disks and 3.5" HD floppy disks, the 2DD disks can be used in all Disklavier pianos.) I use the record and playback capability of the Disklavier to

assist me in maintaining the piano, both acoustically and from a Disklavier standpoint.

SYMPATHETIC BUZZES OR RATTLES

If I hear a sympathetic buzz or rattle coming from either the piano or from something in the room when playing certain notes, I record a "song" of those notes. I put the Disklavier in Song Repeat mode and play back the recorded song from the disk. Now, I can get up from the piano bench and go looking for the cause of the buzz or rattle. The Disklavier serves as my "assistant."

VOICING

Being able to hear the voicing of the piano from a location other than the bench can be quite helpful. Again, a song of the notes I want to evaluate is recorded. With the Disklavier playing the song back, I can move to any location in the room to "listen" to the voicing.

DISKLAVIER SYSTEMS CHECK

Before I even begin working on the piano and again, just before I leave the instrument, I record a song playing each key and depressing the shift and damper pedal. I play back the song while watching and listening for each key and the two pedals to play back. This test is the fastest way to check the various systems of the Disklavier.

Recording a song is easy on a Disklavier piano.

1. Turn on the POWER switch.
2. Insert the floppy disk.
3. Press the RECORD button.
4. Press the PLAY/PAUSE button.
After hearing the beep, begin recording.
5. Press the STOP button to end the recording.
7. Press the PLAY/PAUSE button to begin song playback.

If you do not have a 3.5" 2DD floppy disk to use when servicing Disklavier pianos, call Yamaha Piano Service at (800) 854-1569. They will be happy to supply you with one at no charge.

Mark Hullibarger started his career as a piano technician in 1974 and became a Registered Craftsman in January 1977. In July 1981, he passed the new tuning exam at the level of Examiner, and started the new tuning exam for the South Bay chapter. The most enjoyable aspect of his business is trouble shooting piano problems, but his focus has been specializing in Disklavier service. He tuned his first Yamaha piano in 1975. In August 1989, he attended the first Disklavier Piano Service Seminar, and also graduated from the Yamaha Performance Piano Service Seminar. He has been a Yamaha Piano Service Consultant since 1992.

Mark and his wife Cam reside in Manhattan Beach, CA with their son Dustin and daughter Amber.

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Customer Support

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