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Journal

October 1993

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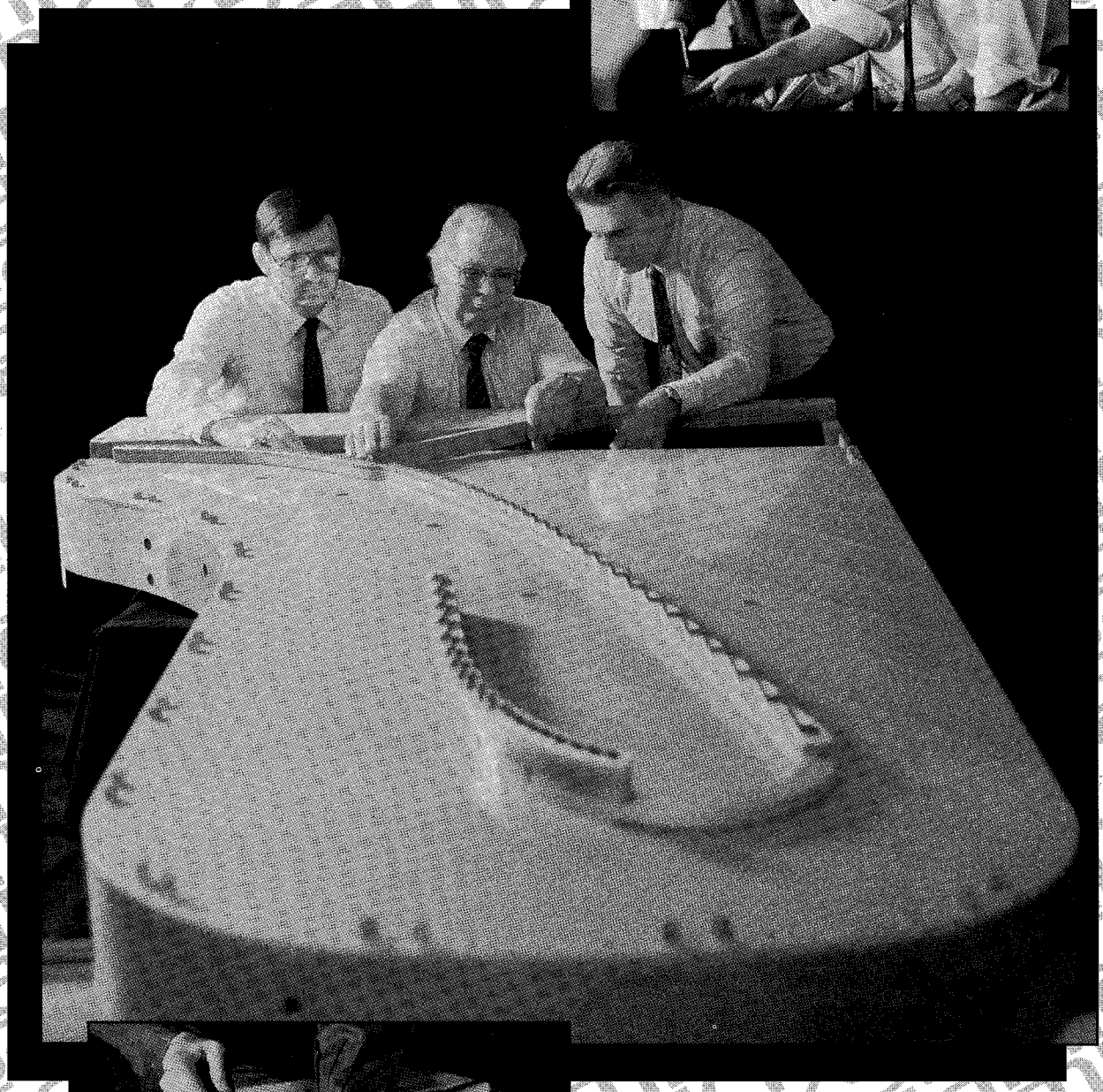

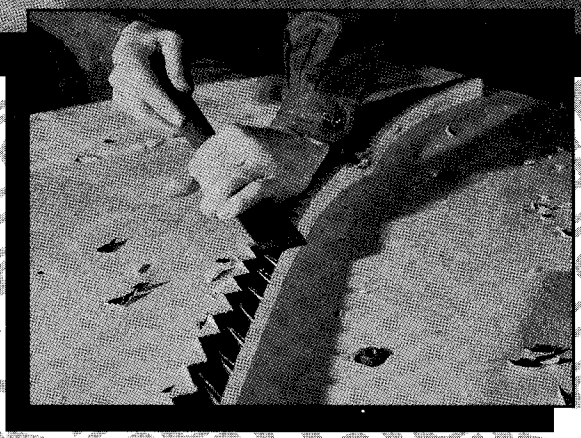

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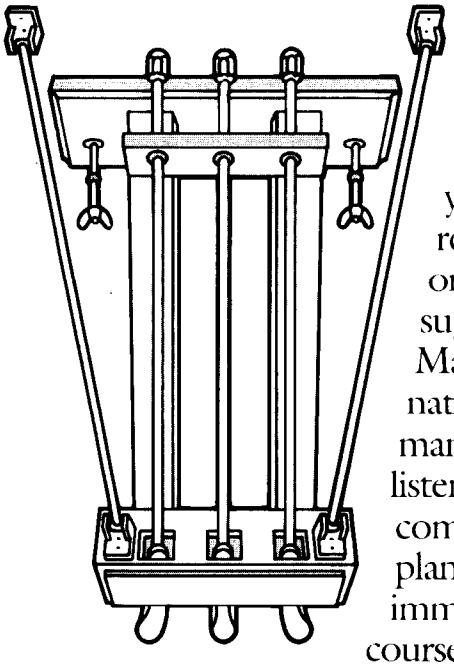
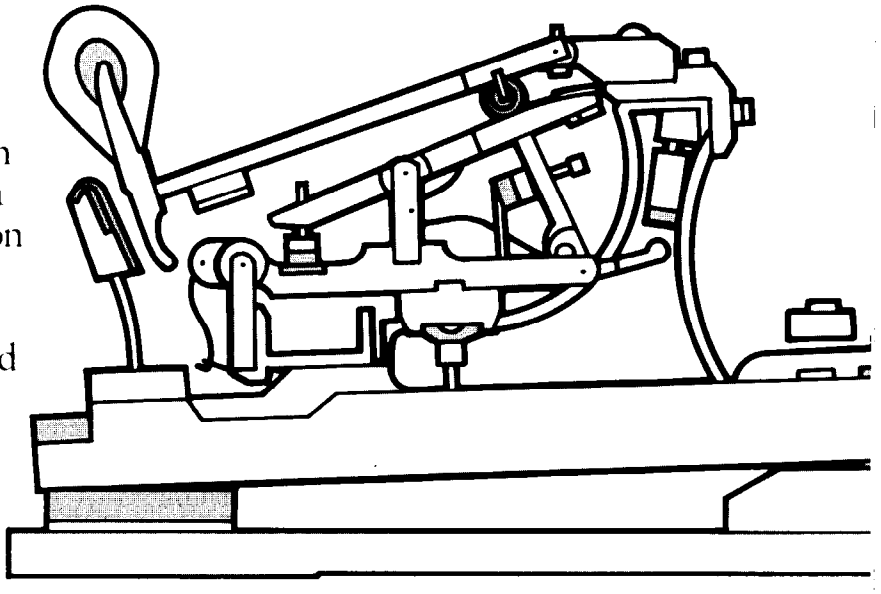
ON THE COVER

About the cover: The photo is the handiwork of photographer Marcus Williams, and is entitled "Below deck with the CF-III." I feel the "deck" is perhaps a concert stage, and not an aircraft carrier. The tuner prefers to remain anomymous. Should we start another guess-who contest?

How we to silence

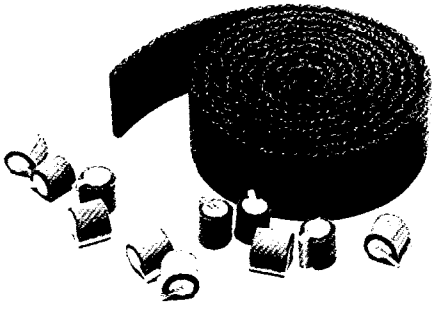




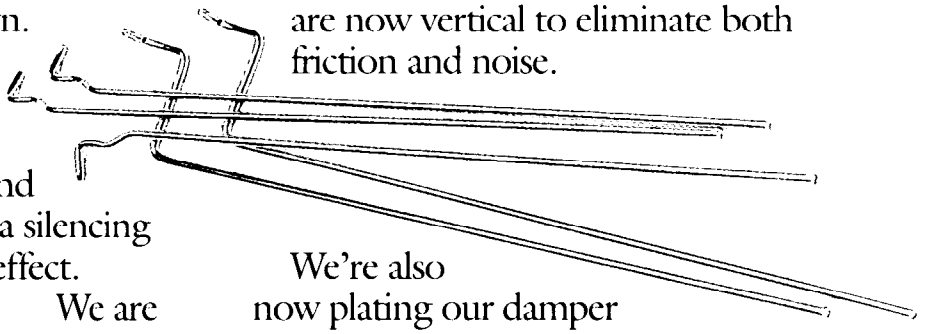
Several of you have recently written or phoned with suggestions. Don Mannino, our national service manager, read and listened to your comments and planned an immediate course of action.

Some of you have suggested that we lessen the amount of mechanical noise in our pianos. With the help of your suggestions, we've come up with a number of ways to quiet our pianos down.

For starters, we've changed the knuckle core felt, whippen heel cloth and keyboard rail cloth in our grand actions to softer materials for a silencing effect.



We are now fastening our grand pedals to the pedal box bottom instead of using nylon dowels in the box sides. And the grand pedal rods that previously had been angled in slightly are now vertical to eliminate both friction and noise.

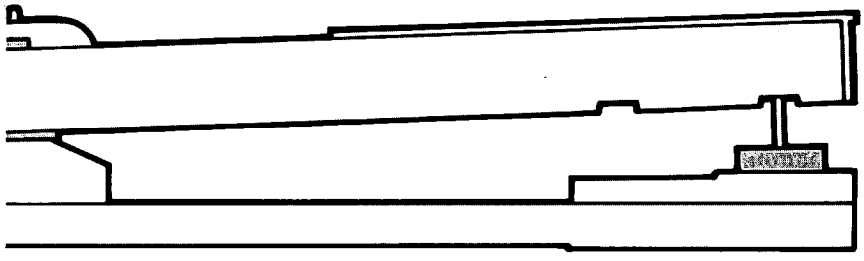


We're also now plating our damper wires more heavily and smoothly to decrease wear and corrosion as well as reduce noise where they pass through the guide rail.

In addition to diminishing noise, we've

are plotting our critics.

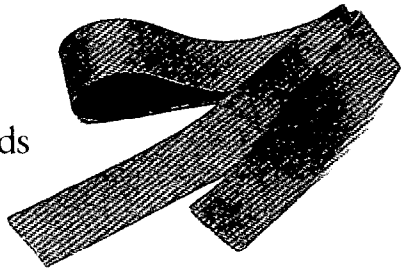
also lightened our touch through the repositioning of jack tenders and letoff buttons, and the use of auxiliary whippen springs in selected models. In response to your comments and suggestions about our action, we've now introduced a lighter



weigh off standard, as well.

We're also excited to have discovered a truly remarkable grade of English bushing cloth for our action centers and keys. Its superior properties will dramatically increase action longevity as well as create a noticeably smoother touch.

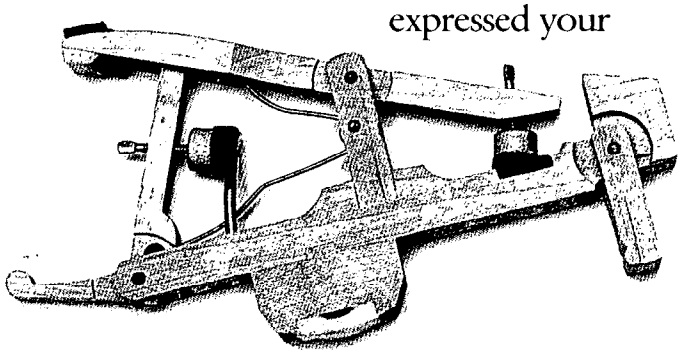
On his latest trip to the factory, Don expressed your concerns to our manufacturing department heads and production engineers. Within six days,



they began implementing improvements and refinements. And within a week, many of these were already in use in our pianos.

Striving to build a perfect piano is not an easy task. It's a challenge we eagerly face each day. But we're getting there thanks to all of you — our not so silent partners.

To share your comments and suggestions on how we can continue to improve our pianos together, please write us at Young Chang America, Inc., 13336 Alondra Boulevard, Cerritos, CA 90701, or call us at (213) 926-3200.



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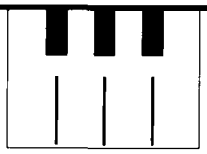

President's Message

Great Expectations
The PACE Checklist

Last month in this space I introduced the PACE program, a strategy designed to help Associates achieve RPT classification while it promotes further learning by *all* members. The PACE Lesson Plans—which debuted last month—are a core part of this program, providing an ongoing curriculum for hands-on learning sessions. This month I would like to introduce the second key element: The PACE Checklist.

While the Lesson Plans provide opportunities for hands-on learning, the Checklist sets expectations, defines a path, and records progress. The PACE Checklist booklet-which has been sent to every Associate member of PTG-actually contains two checklists. The first is a Reference Checklist which lists essential reading and reference materials and a basic minimum tool selection, and suggests study activities and experiences for the student of piano technology. Also in the booklet is the Exam Readiness Checklist, which records progress toward readiness for the RPT examinations. Items on the Exam Readiness Checklist are to be checked off by the Associate member's mentors as specific skills are demonstrated.

The idea for this checklist came originally from Michael Kimbell, RPT, and his wife Edith Kimbell. Michael and Edith drew inspiration from the British Crafts and Guilds system which has operated for over 100 years. Here are Michael's words:

"The British Guild, like us, has examinations (for example in textile arts): like us, they have some examinees who have taken intensive courses of study or degree programs, as well as others who are more or less self-trained. However, in addition to the big examinations they also have, at the chapter level, mini-technicals, mini-demonstrations and mini-exams/quizzes on individual topics, all intended to guide the apprentice step-by-step towards the big examination. For example, in the PTG, flange repinning would be briefly demonstrated; at the next chapter meeting the Associates would bring in a repinned flange or two for approval. Other topics would be string splicing, unison tuning, 4-2 octave tuning etc. Each Associate would have a one-page checklist of items, corresponding to all of the items on the technical and tuning exams. When the majority of the items have been checked off, the Associate is truly ready (in his/her eyes as well as ours) for the examination. All of this assumes that the Associate has met us halfway by acquiring and studying the various handbooks, and preferably by taking a really good correspondence course or program of study in piano technology."

The Kimbells' checklist idea merged beautifully with the concept of the Lesson Plans, versions of which had been suggested by several members, including Asa Wilkerson, Brett Dearing, and Richard Bittner. Our Exam Source Books, the Lesson Plans and the Checklist in combination will provide solid content for our PACE curriculum. Specific suggestions on how chapters and individuals can customize this program to meet local needs will appear in the *LeaderLetter* and future *Journal* articles.

Such resources have been requested by Associates and RPTs alike. The PACE Program is our answer. While it provides Associates a more structured educational program, it also puts the ball back in the Associate's court by stating the expectation that a professional technician will participate in PTG's goal of advancing the profession. The Checklist and Lesson Plans are actually work assignments, which—when pursued—will help one to learn and achieve RPT classification. The end result will be more well-qualified technicians in our trade, improved piano service for clients, and a more vital PTG.

We want to create the expectation that all professional piano technicians will continue to learn and will, along the way, measure their progress against the RPT exams. Further, for technicians at any level of professional development, PTG aims to provide valuable and innovative learning opportunities.

As evidence of our commitment, this year PTG has formed a special Panel on Educational Goals to study our programs and strategies. On this panel, we are fortunate to have the talents of: Chairman, Michael Drost, RPT, Central West RVP; former instructor of piano technology, Dr. Albert Sanderson, RPT; Doug Neal, RPT, instructor at

PACE
Professionals Advance through Continuing Education
CHECK LIST

Western Iowa Tech; and LaRoy Edwards, RPT.

If you have input to offer on what our educational goals should be and how we can achieve them, please forward your comments to Michael for the panel to consider. We expect exciting things for the future as PTG meets the challenge of providing information and education to today's piano technicians, and qualified service to our industry!

Jean K. Henry

William Braid White Library Donated

Foundation News

One day in the late 1940's, while reading Music Trades Magazine, Fred Odenheimer saw an advertisement offering the library of William Braid White for sale. Fred purchased the books, sight unseen, from W.B. White's son in Chicago who was handling the estate after his father's death. For over forty years the books were stored in the Odenheimers' home in Los Angeles; but this spring, Fred donated the entire collection to the Piano Technicians Guild Foundation in Kansas City.

The Foundation is establishing a museum in the new Home Office building and the White book collection is a valuable addition to the facility, since an archive and library are integral to the plans. Foundation President Bruce Dornfeld, in accepting the donation, noted the broad range of subject matter as well as the quality of the books, many containing elaborate decorative plates and illustrations. "The Foundation is proud to preserve the library of William Braid White, one of the most important historical figures in the history of piano technology in this century," says Dornfeld. White was famous for his 1917 book "Piano Tuning and Allied Arts" as well as numerous other writings. However, he also was instrumental in founding both the ASPT and the NAPT, the two organizations that eventually merged in 1957 as the Piano Technicians Guild. According to Fred Odenheimer, White also wrote a regular column for many years in Music Trades; his writing drew on his knowledge of science and acoustics as well as piano technology.

Over the years, Fred has gathered even more books, which he also included in his donation. Fred began tuning in 1947, studying at LA Trade Technical College after finishing his stint in the Army. Later, in 1955, Fred took over the instruction of this training course and went on to train technicians there for twelve years. He had envisioned establishing a student library as part of the school in LA. Since that never came to pass, he is pleased now that his book collection has found a place of honor with the Foundation.

In July 1994 the Foundation will officially open the museum and archive in Kansas City as part of the PTG Annual Convention. Books from the White library will be part of the display. Plan to visit this July! For more information about the Piano Technicians Guild Foundation, contact Bruce Dornfeld, President.

Fern Henry, RPT

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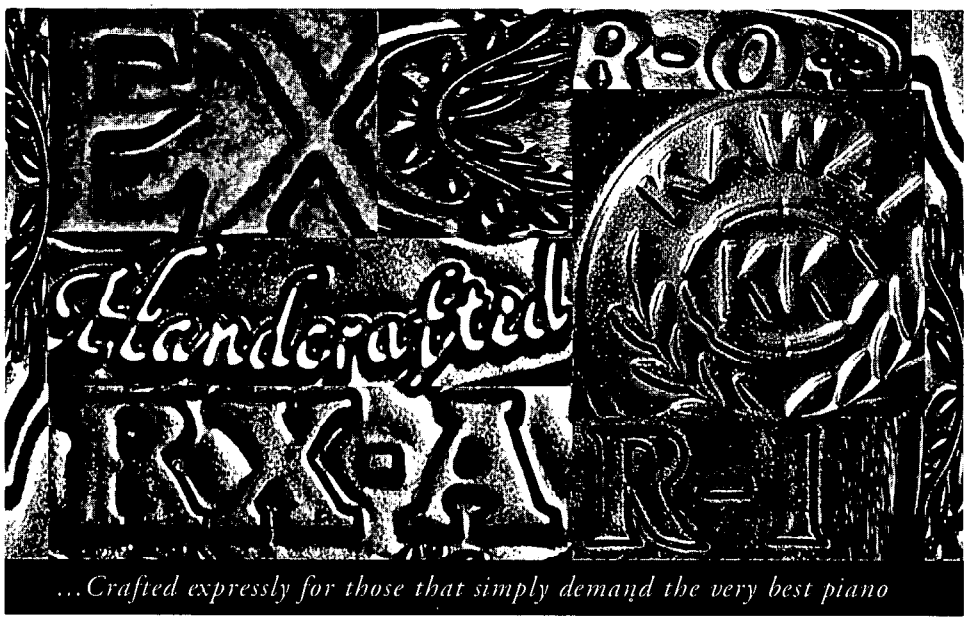

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Technical Forum

Milwaukee There Was a Draft For You

Jim Harvey, RPT
Editor

Thanks to Don Valley for that title, and from whom I stole it! No reviewer was assigned classes to attend, only to report on those they *did* attend and found interesting for their own purposes. Trying to arrive at a formula for presenting the various reviews proved frustrating. Instead, I'm just going to run with the various styles of reviews as they were presented to me. Some are tickler style, others are more detailed. A couple are even duplicates (with differing perspectives), but *none* are at the expense of causing you to not want to attend the particular class.

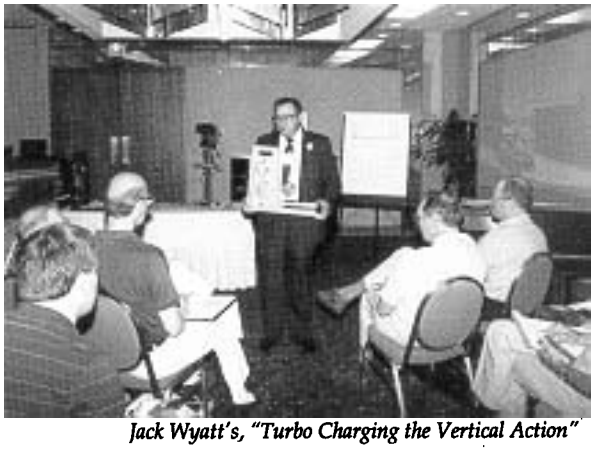
Let's face it: the idea is to provide tidbits of information, to encourage you to want to continue your pursuit of piano technology by attending future seminars and conventions. The reviews also benefit those like me, who did attend the convention, but were busy with other agendas. In my case, other than taking pictures, I only attended my class. I later realized I'd heard me before.

Don's material is presented first, since he also provides his tongue-in-cheek style of humor narration to some of the *non*-class activities.

Milwaukee—Knowledge on Tap. A city with a heritage of liquid assets. The convention registrant had a variety of technical draughts to choose at leisure. Those who chose to take part in the 1993 technical institute drank it all in and came away inebriated with new knowledge and excitement over ideas and skills nowhere else available.

This was the first time the annual convention was staged in a combination of buildings—two, that is. Classes were held in both locations connected by a walkway over the street. Exhibits in the convention center had a lot of elbow room; browsing was easy and comfortable. This was the "hands on" place. A catalog picture is worth a thousand words; the product brochure is very helpful. Yet, to play it, feel its resistance, work it over, see it in real-life size—whether it is old or new to the market—makes the difference as to its usefulness in your arena.

Jack Wyatt, in his class, Turbo-charging the Vertical Action, showed the effectiveness of experimentation and research he has accomplished whereby the vertical action can develop amazing improvement in power and repetition just by some slight changes—not requiring great amounts of time. This "draught" would have given you insight into improving conditions to satisfy the more demanding musician who has a vertical piano.



Jack Wyatt's, "Turbo Charging the Vertical Action"

People are interested in soundboards! **Andre Bolduc**'s knowledge of wood properties saw a room packed with people "tapping" knowledge enabling them to discriminate wisely in critical situations. Integrity was the word. If you put a new board in a Mason & Hamlin piano, is it still a Mason & Hamlin? If you determine the board is bad, should you determine to change it? What factors cause the rebuilder to choose between shimming and replacing? You could have tapped in on these answers, too!

Mini-Techs—sessions of 30 minutes each featuring a narrower topic than the full class. **Ray Chandler** was in charge of organizing these. And they were *practical*. Not much sense tapping into something unless you will get something out of it!

Why Knot? was taught to a large class by **Bruce Stevens**. With a pair of small vise-grips, a very practical technique was taught and it was not for naught. It was an easy in-the-field way of doing that little chore that still makes many technicians shudder away from. They would rather not than knot.

Ivory Restoration. **Steve Brady** displayed the use of dental materials (their epoxies) in repairing chipped ivories. Reasons were given as to why not to use dental products and tools. The finished results brought the key back to original appearance—every technician should really have tapped this one!

Stringing, Tension, Torque, Tuning Pins, a three-hour class by **Joel Rappaport**, covered the exacting process of stringing the piano properly, with professional results. Consistency in torque, block drilling, and coil uniformity were all shown along with the resultant effect on stability. This was one of those classes telling the stringer what is already known but confirming the need to remain diligent and not waver from exacting techniques.

Ruth McCall showed how Shaping Up Can Be Painless! With the use of the Foredom tool and a spe-

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Ingo Hoffman
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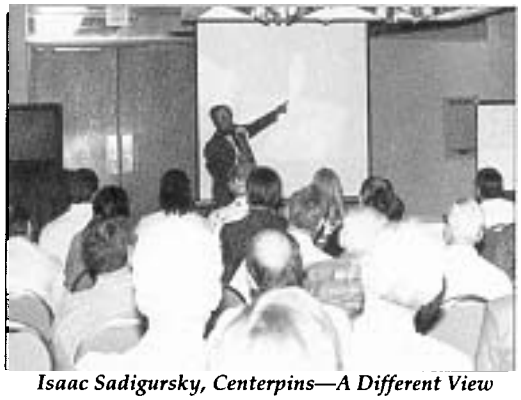
cially designed hand-held sander, those hammers can be recrowned in the piano without concern for other action parts being in the way. Besides that, the nose will be perfectly square to the strings! How? Well you should have been there to tap this one.

Did you ever get frustrated with endless repairs on the damper action in a grand piano? Well, Renner's new kit will allow retrofitting into grands. **Rick Baldassin** and **Chris Robinson** team taught this class on understanding the design and fitting principles, taking out the scare of such a procedure. Now accessibility to the new damper trays with all the trimmings is ours. This class gave its members a real uplift! Knowledge on tap!

For you rebuilders who are always wanting to streamline your shop procedures, **Dave Snyder** had a lot on tap. Several "draughts" with regard to jigs made will cause your repeated tasks to happen with more consistent results. With such ingenuity, resultant safety and accuracy produce finer products and higher profits because of less down time and fewer re-do's.

Do you know how to identify which center pin is causing the "click"? I do, because I attended **Isaac Sadigursky**'s class on center pins. Now, that's a terribly miniscule item for a full class! Not really. And it is just this type of in-depth teaching that gives the convention attendee the advantage over those who do not sacrifice time and money to make more money in less time. Do you know how to correct fish-tailing hammer travel? You would feel comfortable with this problem as well as with many more head-knocking frustrations had you chosen to tap in on this one. The draught was good and was worth the price paid.



Isaac Sadigursky, Centerpins—A Different View

Rheostat Light Switch Technology? No, this was not the essence of the class subject matter, but when **Jim Harvey** stages a class, one never knows all the valuable, practical, sensible procedures the attendee will exit with. The *foundation* of the class came from techniques displayed to streamline spinet elbow replacement. A good tap with a full draught.

Dampers. Ever since piano time began, this has been like worn rusted water lines—they tend to leak. Well, according to **LaRoy Edwards**, the frustration is unnecessary. And, from all evidence of successful results, he knows what he is talking about. There is even a reason why dampers should *not* be glued in place in the piano. They should be glued prior to installation. Ever wonder why? Had you been there to tap this session, your leaks would easily be stopped and your seating capacity would of course be very certain!

Mary Smith, "The Ins & Outs of Vertical Dampers"

Do you have an attitude? Are you occasionally frustrated because those "simple" shop tasks that you completed quickly are still giving problems? **Bill Spurlock** convinced the class members that simple jobs are not so simple! No reason to make them hard; just perform each item with meticulous care. Don't you want to end up with factory results in your own personal shop? Bill does. He showed how you can, too. All circle cutters may look the same, but they are not. Do you know the difference? When you replace wippen base cloth, do you significantly decrease noise? You could know how. Have I whetted your appetite yet? This class made people glad they went to Milwaukee.

Willis Snyder's expose' on piano diagnostics was phase I. Phase II will be in Kansas City next summer. Are you concerned with a piano needing a change in the action spread? Are you frustrated with knuckles bigger than what you are replacing? Do you know what measurements are critical to the proper working of the piano action? Snyder has a way to clarify all these problems easily without getting into the realm of restructuring. A full classroom tapped this subject.

Pinblock Plugging is a viable method, especially for verticals and antique grands. **Tim Hast** is seasoned at this kind of repair and performs with ease this type of repair, even to cutting his own plugs in his home shop. The process needs to be in a planned order, or the technician can mess things up. The results are very predictable if done according to a scheme. A very practical class on a subject needing understanding. Another one tapped in!

Don Valley, RPT

With all due respect for the multitude of seminar class offerings, some of the best is yet unsaid. It is not all business. There is some pleasure. At the receptions put on by our manufacturers and suppliers, there is lots of space for interpersonal relationships. Each evening featured a specific spread of imagination. Tuesday evening started it all off with Randy

Potter spreading out lots of chips and salsa surrounded with other pickups and lots of iced drinks. A real nice relief between two full days of Council business.

Wednesday evening saw the official opening of the convention—The Opening Assembly. The enjoyment of this event comes from seeing who all is there from around the world and around the country, as well as those honored with special recognitions and awards. Following this assembly was the ribbon cutting for our first gaze throughout the exhibit hall. More on this later!

Thursday evening's reception by the Baldwin people brought on an array of mouth-watering and taste-tempting items from which to choose freely, as well as "all the drinks you can eat." This is tied to a musical event when the winner of the PTG Auxiliary scholarship winner is featured in a brief concert. Friday evening features all that Yamaha's Disklavier can do, both the vertical and grand models with all their appurtenances. This is also flanked by lots of joy for the palate and plenty of cold drinks to satisfy the taste as well as the thirst.

(Above) Larry Caldwell & (right) Randy Potter accept awards from Don Valley for completing the Passport to Excellence CEPlan.

The Golden Hammer Banquet on Saturday evening gathered the membership in the more formal environment of such an event, with those of distinction being honored. This is the occasion to recognize the immediate past president. As Nolan Zeringue went to receive his remarks from President Fern Henry, there was a standing ovation of such force that one would quickly identify PTG's appreciation of his nine years on the Board and the accomplishments under his administration.

A first this year was recognition of two RPT members who had completed the Passport to Excellence Continuing Education plan. The first was Larry Caldwell followed closely by Randy Potter.

Awarding the Golden Hammer is the high point of the banquet recognitions. This year it was awarded to John Travis. Because of illness, John was unable to be in Milwaukee so Michael, his son,

received the award for him while a video film was taken of the event.

Following the banquet a rare pleasure was afforded us by Steinway—that being a concert presentation by Roger Williams. Probably bringing him into the fore some years ago was that cascading rendition of "Falling Leaves." From then he has had scores of "golden record" releases. That same eloquence was shared with the banquet set closing off a long week of business pressures. Tomorrow morning would be the final set of classes prior to the close of the '93 Technical Institute.

Oh, Oh! I just remembered I forgot! That self-installing muting strip in the exhibit hall. Well, maybe I can make it. And then, maybe I can't since it is 10:30 and it closed at 6:00 and won't open until next year in Kansas City.

Speaking of exhibits, there were dozens of them. It ran the gamut from the new pianos from all the manufacturers to such things as total arrays from the supply houses (sure beats mail order) and on to works of art carved from old junk piano hammers and then, as always, tons of new products, improved products, and new idea generators to make all these work. Browsing for several hours this past week sure did give me some confidence that my shop is well equipped and that I, as a PTG member, am really on the cutting edge of the trade. If for no other reason to attend these great events, that of confidence building makes it worth it all. In fact, I found an end to my search of something I had been shopping for nine years!

Now, hadn't you better get yourself out of low gear and set aside enough to afford you a week away from your little corner of the world and get yourself to Kansas City in '94? If you don't, just like this year, you'll wish you had.

Don Valley, RPT

Resolving Customer Complaints. Having adequate technical skills is no longer the only requirement for a successful and profitable piano service business. In these times one also needs business skills as well as social or "people" skills. Although some of us are attracted to this business because of its independent nature, that doesn't mean we can ignore the skills needed to communicate effectively with our customers, whether we start the job, or in, perhaps, ironing out complaints.

Evelyn Smith starts her class with the premise that "customer service is at the foundation of all that we do" and we should "exploit every opportunity to exceed what the customer expects from us". In her former life, she worked as director and trainer in a dispute settlement center. Now, I ask, who better to teach this class?

Some eye-opening facts were presented about why customer service is so important.

1. Loss of customers because of bad service. The average business never hears from 96% of its unhappy customers. For every complaint, the

average company in fact has 26 customers with problems.

2. *Happy customers give referrals.* The most important things a customer can give you are repeat business and referrals.

3. *Financial rewards.* It costs five times more to get a new customer than to keep one you already have. Those who perform better service charge 8-10% more than their competitors.

As hard as we try to avoid them, occasionally situations become highly tense and emotional and communication begins to suffer as a result. Smith offered a few suggestions for just those moments. The first task is to learn to listen. Often we are in danger of thinking we understand each other when we don't. "Seek first to understand, then to be understood." She credits this wise advice to Stephen R. Covey, author of *The Seven Habits of Highly Successful People.* Remembering the following points are sure to help in most difficult situations:

1. *Listen with genuine concern.* (Remember this is your good name and reputation at stake here);

2. *Ask open-ended questions to determine the source of the problem.* (Avoid asking "why" questions);

3. *Don't blame others, or make excuses.* (Empathize and show concern for the problems being experienced, without admitting guilt);

4. *Restate what the customer tells you.* (Paraphrasing what has been said helps make sure you *really* understand the problem.)

5. *Agree to a course of action.* (Attempt to find a win/win situation);

6. *Follow through.* (You are only as good as your word).

In order to better experience these ideas first-hand, the class paired off and took part in some cleverly designed role-playing scenarios. These vignettes were quite realistic and very similar in what you may encounter in your own interactions with customers.

Hopefully, you will be able to employ some of these suggestions, and be able to resolve your conflicts with some good sense and sensitivity. Evelyn Smith offers a class that should be required training for anyone who has ever had a call-back or complaint from a customer. Did I leave anyone out?

Jeannie Grassi, RPT

The Stigma of Hearing Loss. "Everybody is coming out of the closet nowadays," says **Joe Garrett**—"everybody except the hard-of-hearing, and among that group, especially, hard-of-hearing piano tuners." Almost everyone except newborn babies has some amount of hearing loss, and the sooner we face the problem and do something about it, the better.

Joe, with assistance from hearing professional **Jim Nidelkoff** of Starkey Laboratories, effectively presented the need for hearing protection, as well as the wide array of help available for those with hearing loss. Many of the decibel readings of a tuner's everyday environment are at or above unsafe levels. For example, piano tuning ranges from 80 to 85 db, stringing a piano from 100 to 105 db,

and a 3/8" drill registers around 104 db. Unsafe levels begin around 90 db. More than two hours of 100 db level sound is considered unsafe, and may damage hearing.

Ordinary ear plugs or muffs usually take out too much of the sound to be useful for piano tuners. Custom-made ear protectors which are molded to the shape of the ear canal, and which attenuate the proper sounds, are available now. Although comparatively expensive, these protectors may be used during tuning, and will successfully protect the hearing from damage.

The technology of hearing aids is changing so rapidly that even the hearing aids that Joe Garrett bought only three years ago are somewhat behind the times. It is now possible to get a hearing aid so small that it is not visible. These aids fit very deeply in the ear canal, and may be designed to amplify the frequencies needed by piano tuners. However, the cost may be as great as $2,000 *per ear.*

If you have some of the following symptoms you probably have some amount of hearing loss: asking people to repeat; strained personal relationships, misunderstood conversations, fatigue and stress, social withdrawal, difficulty understanding children, turning up the volume on the TV.

Danny L. Boone, RPT

Partial Hearing—Your Greatest Asset. Getting across the two main points of this class was easily accomplished by **Jack Stebbins**, who skillfully used several vivid demonstrations. The subject was not about hearing difficulties, but about that which we use everyday in our work—partials, or harmonics, or overtones, if you prefer. The use of partials in tuning unisons and octaves was the main thrust of the class, and Jack stressed first that in tuning unisons, the higher the partial you choose to listen to, the better chance you have of achieving a pure unison, and second that in tuning octaves, stretching is not something you do, but something that happens.

Ed Dryburgh, "Secrets of the Superglues"

Using a large plastic device, Jack demonstrated how the partials of each tone of a unison come into tune, beginning with the fundamental and proceeding through the higher partials. The fundamentals of a unison can be acceptably tuned without all of the higher partials being in tune, but if the higher partials are tuned, the fundamental and lower partials will automatically be in tune.

In another interesting demonstration, Jack used a rope attached to a saber saw to illustrate the harmonic divisions of a vibrating piano string. When the saw was turned on and the rope stretched, we could see the rope divide into two, three, four or more segments. The tighter the rope was stretched, the more segments were visible.

Jack also used the technique of "ghosting" to demonstrate the presence of beats in the higher partials in what appeared to be perfectly tune unisons and octaves. The most intriguing demonstration, however, was at the end of the class when Jack demonstrated "difference tones" by actually whistling a duet—whistling two notes of a well-known musical composition at the same time! What talent!

Danny L. Boone, RPT

Bill Brandom, "Disklavier Master Class"

"I Hate the Way My Piano Sounds", Nick Gravagne. This three hour class targeted the fundamental questions of which components generate tone in a piano, how to know what to look for when troubleshooting tone problems, and how to deal with a myriad of complexities in piano work and get results.

The class presentation began with theoretical aspects of piano building relative to tone production, and then continued on with a comprehensive discussion of every major constituent part—the rim, plate, capo bar, soundboard/bridge system, strings, and the mechanical actions, relative to tone generation.

As the class moved from one component to another, Nick highlighted downbearing, soundboard tapering and construction, and capo bar/plate problems in fine detail.

He explained that a piano is made up of complex systems of individual components. Each major constituent part of a piano has its basic functional use relative to its particular manufacturing design. Within this network of components some parts are energy reflectors or resonators—such as the rim, while others are energy robbers.

Energy robbers interfere with the efficient transfer of energy between one part to another. Some common energy robbers we are familiar with are plate bolts, loose screws, loose key bushings, and loose action centers.

Nick filled the class discussion with many suggestions on how to specifically remedy tone production problems without tearing down the entire instrument, versus part replace-

ment and/or rebuilding to effect a significant change.

He then set up for class discussion a typical scenario where the client complains, "I hate the way my piano sounds", and the class joins in brainstorming solutions to the problem, given the parameters and details Nick set up for the discussion. This was an excellent informative class that you must not miss next time around.

Janet Leary

An Illustrated History of Piano Manufacturing in North America. **Charles Heuther**'s class on the history of piano manufacturing in North America featured an interesting slide presentation of piano factories in the 1800's through present times, including factory work-in-process, old time tool catalogues for the trade, and varied photos of unusual piano/furniture combinations built to increase piano sales.

In the heyday of the piano industry there were six weekly magazines for the piano industry. Factories even had their own art departments. These in-house art departments gave manufacturers the availability of creating "special occasion" instruments like the Steinway "Wave" piano, which included a painting of Niagra Falls. Charlie explained that factories would often hire teams of workers to build their instruments. If the worker team would find better wages at another factory down the street, they would literally pack up their tools and move on.

The passage of time hasn't changed the crucial topic of marketing, however. In the 1930's George Nessig was seen passing out announcement bills, titled "Why it Pays to Have Your Piano Tuned Regularly", and "How to Care for Your Piano", to people getting off New York subways.

This class was a great change of pace from the "how to fix" classes we generally attend. It was chock-full of interesting history and insight.

Janet Leary

Grand Concert Service and Regulation
This single-period class was offered twice during the 1993 Technical Institute; the following is a review of the first (Thursday) session.

Instructor **Kent Webb** is the Technical Services Manager for Baldwin and Wurlitzer. The program was in a fast-moving lecture/slides format, with handouts on Baldwin grand technical specs, including a more generic grand action geometry diagram. The latter has a formula relating action dimensions which allows you to take measurements and calculate how the action set-up might be improved.

This session wasn't just about concert instruments; much of what was said applies also to your everyday grands. It was a pretty big bite for ninety minutes, but the material was covered amazingly well, and with an abundance of useful detail considering the limited time. This seemed to be a class for more experienced technicians

who have some idea of what concert service means, but want to see it through different eyes. I must say that we seldom see an instructor as sharp as Kent Webb, who, in spite of what could have been a fatally distracting projector problem was able to present a wealth of information in a short time; I don't think anyone went to sleep. The cordless remote-switched slide projector did seem to have a mind of its own ("Sorry, I didn't do that!"), occasionally jumping forward or backward as if controlled from the Steinway booth in the exhibit hall. I'll have to ask Karl Roeder how *he* did that. (Just kidding, Karl!) Following are some of my gleanings from this session, to give you just a taste of the details.

The first thing to do in a concert service situation is to play and familiarize yourself with the current condition of the piano; the three areas of concern are touch, tone and tuning. Tuning can be a diagnostic tool. Feedback from the artist can be very helpful, as can having the piano in concert position on stage. Be attentive to tone as well as to action and pedal noise. You should listen to the piano from the audience area if possible, and make notes of your evaluation and the artists' concerns. This helps establish your priorities if time is limited. Get the big picture first.

Check the regulation. Make what improvements you can in the time available. Take touchweight measurements to diagnose touch problems, and analyze the results using simple formulas. The friction component of touchweight (Fr) should be 12-16 g (18 g max), and the weight component (Wr) should be 34-40 g for most concert instruments. Kent's simple alternative to the usual brass weights is stacks of nickels and pennies. One nickel is about 5 g, and one penny is about 3 g.

The chart below illustrates how you might diagnose action problems from measurements. Line 1: heavy hammers; note that downweight (Dw) and upweight (Uw) are both relatively high. Line 2: tight action centers; note low Uw and high friction Line 3: OK. Line 4: loose action centers, power loss; note low Dw and Fr.

	Dw	Uw	Fr	Wr
1.	65	30	17.5	47.5
2.	65	10	27.5	37.5
3.	50	20	15	35
4.	45	25	10	35

The instructor went into some detail in how you deal with each of these situations; in some cases you focus on reducing friction with such products as Protek, Slide-All, powdered Teflon and even silicone-naphtha solution (a.k.a. "Wurlitzer juice") and in other cases you focus on a needed repair with such procedures as repinning, bolstering the knuckles, etc. The important thing is that you quickly and correctly diagnose the problem so you don't waste time on the wrong treatment. Don't hose down a stiff action with shrink solution if the problem is heavy hammers. Be selective in using shrink solution only on those centers that need it.

Other subjects Kent touched on in this class included the Baldwin plate suspension system and Accu-just hitch pins. He went into some detail on how to use a downbearing gauge (and a few other tools) to check and reduce bearing in weak areas of the piano, particularly in the 5th-6th octaves. This illustrated how the unique Baldwin system makes selective bearing changes possible in the field when appropriate. Among other user-friendly Baldwin design features noted were the new adjustable lyre braces—twist to tighten. Just another reminder that we all have a friend in Arkansas.

In addition to weak tone, we sometimes find also in the 5th-6th octave capo area an overly excitable or noisy front duplex. Kent suggests placing a small drop of white (PVC) glue on each string between the string rest and capo; this changes the pitch of these string segments and gets rid of the noise without the power loss you get by killing the duplex with felt strips.

In the useful tool department: find a screwdriver with a blade to fit the balance rail glide stud slots, and install a piece of drill rod through its handle at a right angle to the blade for added leverage in adjusting the studs.

Regulation short takes: you can make gross adjustments of any repetition spring that has a coil by tightening or loosening the coil. This includes butterfly springs as well as a variety of screw-adjustable springs. Setting hammer blow distance initially a little shorter than normal allows you a bit more flexibility to increase or decrease aftertouch as needed by raising or lowering the hammer line. Many dowel-type let-off rails can be removed to set jacks, and reinstalled to set let-off. Let-off for concert instruments can be adjusted aurally, and then a small safety factor added.

There was much more of interest here than I can relate in this space. I was going to write a book, but Harvey wouldn't let me. Suffice to say, if you have a chance to catch a Kent Webb class, it will be well worth your while.

Michael Travis, RPT

BET (Basic Elements of Tuning). This was an excellent class for the beginning piano technician. **Jim Coleman, Sr.** stressed the importance of tuning clean unisons. Once you can tune clean pure unisons, tuning the rest of the piano should be no problem. When you are tuning unisons and only unisons you are checking them with all the tests you will eventually be using to test your temperament. Jim demonstrated hammer techniques, the Coleman-Defebaugh beat locater, and one of my all-time favorites, ghosting. Everyone has a different way of muting the piano, and Jim is no exception. He uses a split mute and has developed a method of mute moving with the least possible movements.

Jim's sidekick in this class was **Mark Anderson**, the creator of the

Well-Tempered Tutor, a computer program (for Macintosh computers only). Mark was able to simulate the beats that you would hear when tuning a temperament. This was very helpful in isolating the beat, and made it easier to hear.

It was nice to have a tuning class for beginners, and for those wanting to get back to the basics.

Gina Bonfietti

I Hate the Way My Piano Sounds. One of the reasons your customer may hate the way their piano sounds is because it was poorly designed. A piano with a big, thick, hard rock maple rim will produce a bigger, fuller tone. If you have a big, thick rim and you still hate the way your piano sounds, then maybe some energy robbers have attacked your piano.

Energy robbers may consist of loose plate screws, cracks and worn parts. Or maybe the capo bar has grooves in it and needs to be filed. A soundboard with no crown and a bridge with no down bearing or too much positive bearing will also create a poor sounding piano. Nick, armed with many props, explained the different ways of evaluating and then dealing with these and other tone related problems.

For a more detailed evaluation of **Nick Gravagne**'s discussion, refer to the "Good Vibrations" section of the June, and other, forthcoming issues of the *Journal*. You may get the text, but you will have missed a lively and entertaining class.

Gina Bonfietti

Everyday Voicing was a first-rate class in instruction and content. **Bob Davis** and **Dale Erwin** had numerous visual aids that enhanced this presentation. A highlight was the hammer demonstration where they replaced 12 hammers on a Steinway B with hammers from various pianos and voiced them to a consistent full tone. What was especially interesting to me was their in-depth explanation of what effect a hammer has upon the strings. This class was not simply "stick the needle here." A string's vibration pattern was shown and discussed, as well as the fact that hammers have "energy". Also why cheap hammers are *so* cheap and lacking tone. This class is highly recommended. Read the July and August "Everyday Voicing" section of the *Journal* to get a taste of the class.

Gina Bonfietti

Shop Procedures for Fun & Profit. **Jim Harvey** discussed various methods for having an efficiently run piano shop. You know, the kind we all dream of—clean, well-organized, and having tools where they belong.

- Jim suggests bench setup(s) for the jobs you do the most often, so all the necessary tools and supplies are at your fingertips.
- Buy two of the same tools that you use most often and keep one in your tool box and one in the shop.
- To clean dirty knuckles, use Renuz-It, and that's all.
- Use automotive body putty for low spots when refinishing plates.
- A clock in the shop can help you track your labor hours on each job. At the start of the job, put the clock at 12:00, stop the clock at breaks or interruptions, and when you're done you can easily determine the amount of time each job took. This information can help you with future estimates.

Jim's last handy-dandy idea was a little strange, but he believes it is a better way to perform the replacement elbow task. Jim suggests that it is better, more efficient, and will create a better playing piano if we replace the whole sticker assembly (elbow, wire, and regulating button) instead of just the elbow. He gave a slide presentation and handout to support his beliefs, so it must be true.

Gina Bonfietti

New Damper Action Installation & Retrofitting the Grand Action, Rick Baldassin & Chris Robinson. Quality Grand Action & Key Restoration, Wally Brooks. For anyone involved in

action work all three classes are a "must see." Wally's approach has a "nuts and bolts" practicality to it, while Chris and Rick approach the subject from a theoretical/technical angle. Regardless of style, the information available ran wide and deep. Detailed processes were outlined to greatly enhance one's ability to execute a first rate action job. These three classes were an action rebuilder's delight and should be attended as a series. Each class contained comprehensive procedures and tips for preventing and solving problems, while restoring the performance of grand actions to their optimum. The most exciting aspect of all three classes is the realization that availability of new parts to technicians is increasing along with flexibility to accommodate variations in action design.

Renner and Tokiwa action manufacturers have long been recognized for their meticulous workmanship and consistency in a field where slight variations in materials and cutting tool technology can wreak havoc. Through the persistence of Wally, Chris and Rick the manufacturers are producing "universal" parts for rebuilders. We owe a debt of gratitude to these fine technicians for their hard work.

Kits are now available from both Brooks Ltd. and Renner USA that contain an assortment of separate components that can be tested on an old piano when you're pricing a job. Wippens have been broken down to their separate components of wippen arm/repetition lever, jack, flange and heel. Shank and flange components offer variations as well. The Renner damper action comes without a scale drilled so it can be customized. Often, it seems the more we try to improve the performance of an old action the more we find out what there is to be done. Truly durable work often requires new materials, which often negatively impact design parameters of the action if you can't get parts that fit. Now, with this new service, very tight tolerances can be maintained and design flaws can be rectified.

Kevin Leary, RPT

Closing Notes:

1. Thanks to all of the reviewers for a job well done!
2. Congratulations to John Travis for his years of untiring service to the Guild. Incidentally, John was also celebrating his "Golden" wedding anniversary during the convention. For safe-keeping, Michael hand-carried John's Golden Hammer award on the flight back home. The idea was to present the award to John while showing him the video tape of the standing ovation from the assembly. Photographs were to be made to record John's reaction. More as that "develops".
3. Along with other things, I'll have a couple of additional comments on the convention in next month's issue.

jh-J

PACE

Professionals Advance through Continuing Education

LESSON PLAN

Technical Lesson #2

Key Bushing Field Repair

By Bill Spurlock, RPT

This monthly lesson plan is designed to provide step-by-step instruction in essential skills. Chapters are encouraged to use this material as the basis for special Associate meetings, or for their regular meeting program, preferably in a hands-on format. This method allows the written information to be transformed into an actual skill for each member participating.

This lesson will present methods for doing a professional job of replacing key bushings in the field repair situation, such as when only one or two keys need rebushing. The principles and desired end result are the same whether bushing a single key or a whole set. However, when rebushing an entire set of keys in the shop special methods can be used to assembly-line the job for best efficiency. Also, hot hide glue is best for the shop situation, whereas yellow wood glue is more practical in the field.

Getting started

In order to pursue any serious study of piano technology, one must obtain basic resources. Catalogs from several piano supply houses, both large and small, are essential; besides offering the necessary supplies, their pictures and item descriptions are valuable sources of information. Piano manufacturers' service manuals are also essential sources of valuable information. Most are available at no cost. Most important to participating in this Lesson Plan series are the PTG Exam Source Books, both the tuning and technical versions. Articles in these books will serve as reference material for the lessons.

Hands-on session set-up

This job is easily taught to a group in a hands-on format. Obtain the following parts and materials for the session:

- A few old keys, preferably with keyframe, or an older upright piano or grand action.
- Assorted thicknesses of high-quality key bushing cloth.
- Yellow wood glue.
- Key bushing cauls to match the size of keypins used.
- Sharp razor blades.
- Wallpaper remover, brushes and water containers.
- One set of all tools and materials shown in Photo 1, for the meeting leader.

Note: If time allows, the old bushings can be removed from the keys as part of the meeting program. However, this will require approximately 20 minutes soaking and subsequent drying time.

Estimated lesson time

45 minutes

Tools & materials participants must bring

Participants must obtain and bring all those items shown in Photo 1. Key bushing cauls for .146" keypins are specified, as these are the most common size found in American pianos, and are the size keypin used in the technical exam.

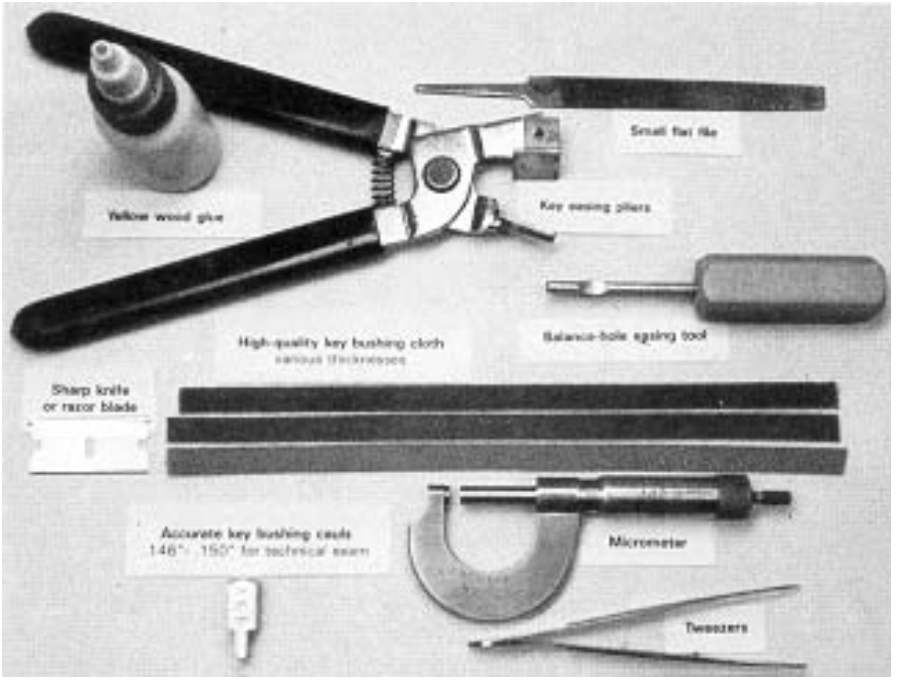
Assigned prior reading for participants

All articles in chapter VII; also topic Key Rebushing, page viii; PTG Technical Exam Source Book (PTG Home Office, 816-753-7747)

General instructions

A properly rebushed key will have quality, firm bushing cloth well-glued (but with no excess glue soaked through the cloth or squeezing out around the edges), extending 3/16" to 1/4" into the key mortises. The bushing should be sized to closely match the keypin; this sizing should occur as a result of the gluing/clamping procedure rather than by extensive use of key easing pliers afterwards. This method gives a more accurate, stable result and also avoids unnecessary damage to the keys from excessive easing (crushing) of wood. I suggest the following procedure:

Technical Lesson #2 begins on the next page



Technical Lesson #2
Key Bushing Field Repair

For this lesson:
The meeting leader as well as the participants should have or obtain one set of all the tools shown here.

PACE
Professionals Advance through Continuing Education
LESSON PLAN

Photo 2: Apply water/wallpaper remover solution to the old bushings, allow to soak until they remove easily. Allow the keys to dry in a warm dry place for 10 minutes or so.

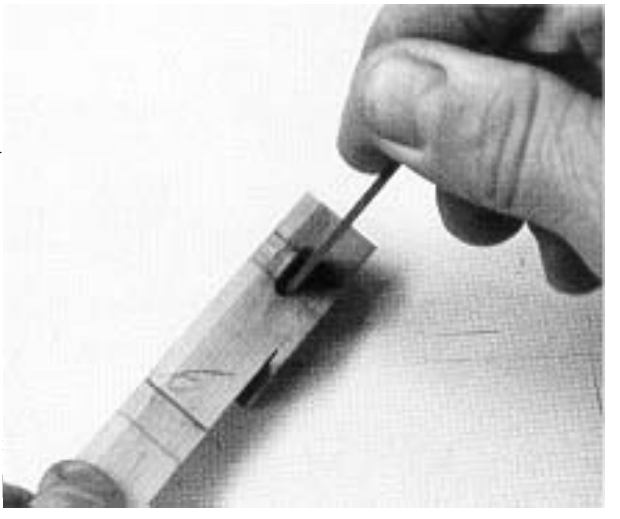


Photo 3: Clean any rough wood fibers or glue globs from inside of mortises using a small file.

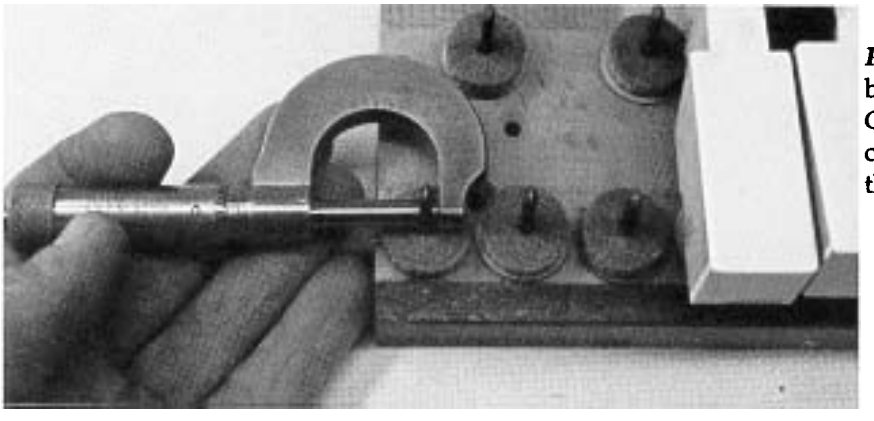


Photo 4: Measure the keypins, both front and balance rail. Choose appropriate key bushing cauls (matching or a few thousandths larger than the pins.)

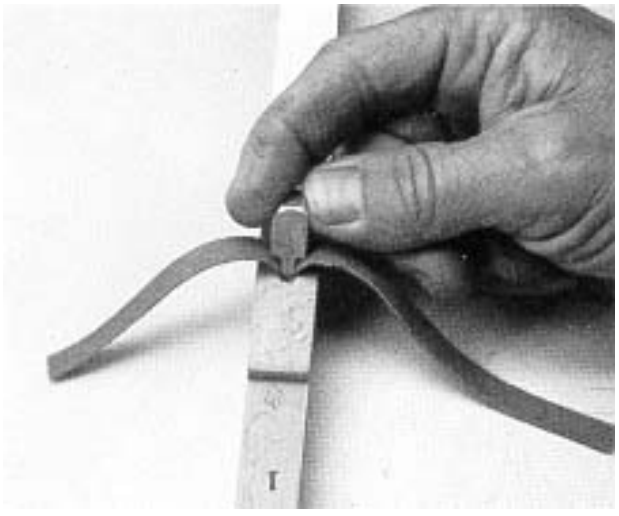


Photo 5: Select the correct thickness of cloth for each rail by looping it into the mortise and testing the dry fit of the bushing caul. Caul should fit snug but not too tight; e.g. you should be able to pick the key up by lifting on the bushing caul, but two or three shakes should cause the caul to pull out.

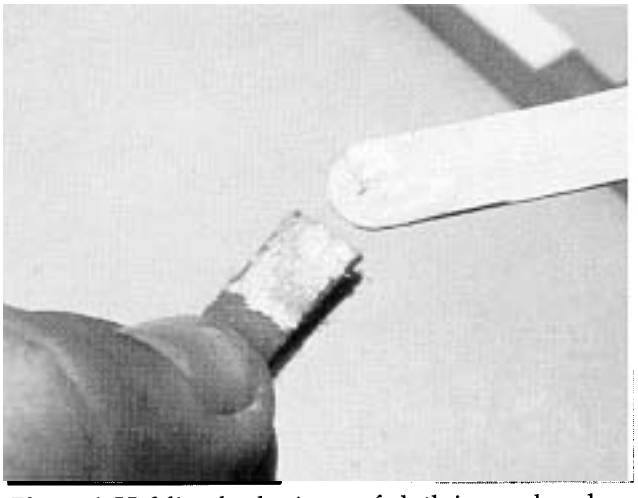


Photo 6: Holding both pieces of cloth in one hand, apply a thin, even coat of glue to about 3/8" of both pieces. Avoid dry spots or excess. While hot hide glue is best in the shop, it is impractical in the spot repair situation; instead use yellow carpenter's wood glue, which will grab fairly quickly and can still be steamed out later if necessary. Cold liquid hide glue is not advisable since it sets too slowly for felt work.

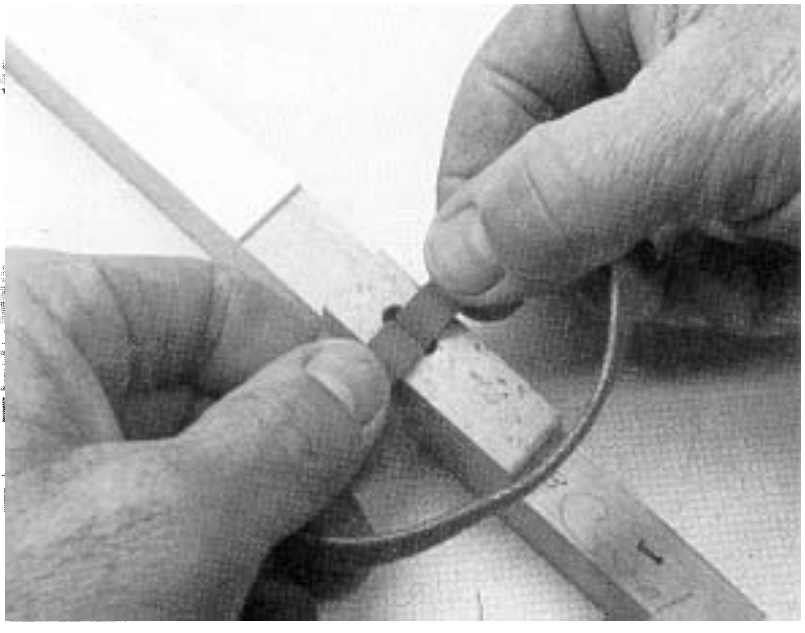


Photo 7: Position both pieces of cloth into the key, butting their ends together and estimating for 3/16" depth into the mortise.

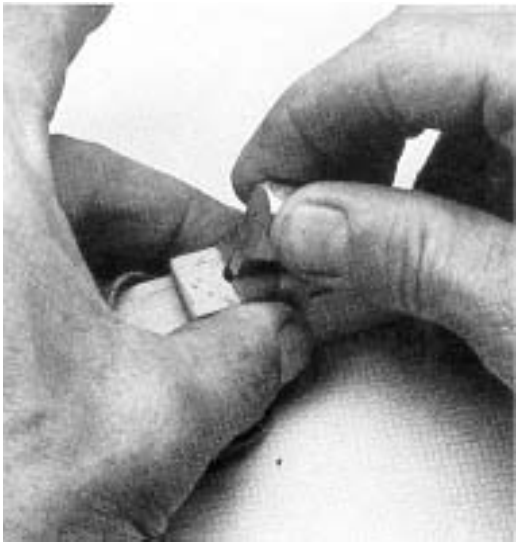


Photo 8: Holding the cloth against the outside of the key, insert the bushing caul.

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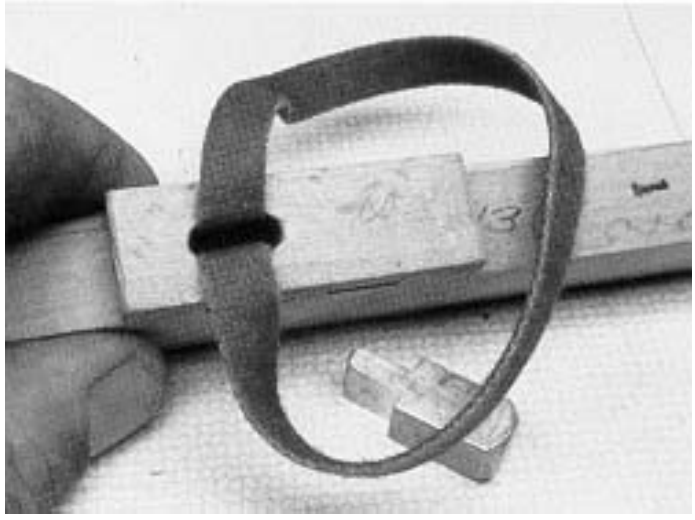
Photo 9: Immediately remove the caul and look down into the mortise to check for proper cloth depth. If less than 3/16", reposition the cloth. If depth is more than 1/4", pull it out slightly. When you are sure the depth is correct, re-install the caul firmly.



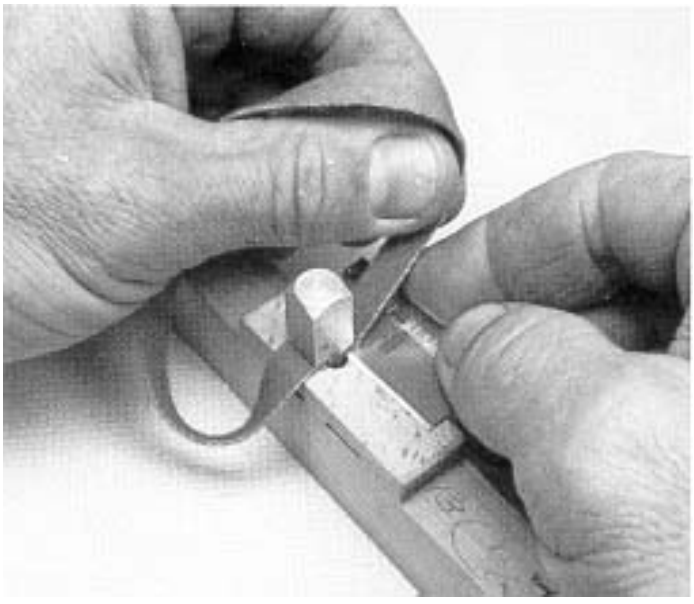
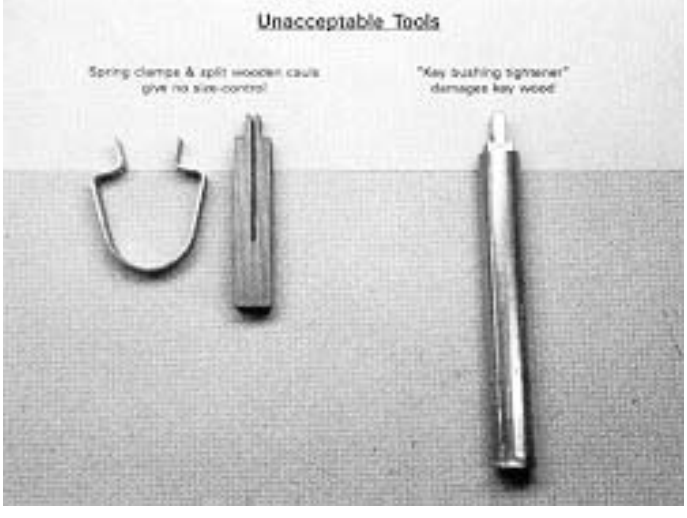


Photo 10: Trim the cloth flush with the key button (balance rail) or flush to the shoulders of the bushing caul (front rail). Use a sharp knife or razor blade and avoid letting the cloth shift. Allow the glue to dry at least 20 minutes, preferably in a warm dry place. (In the field repair situation, allow enough time for very thorough drying if time allows.)



Follow up

As with any new information, participants should practice this procedure on their own until they can perform it easily with consistent results. Practice, along with obtaining the necessary tools, will reward the technician with the skill as well as the knowledge to do the job.

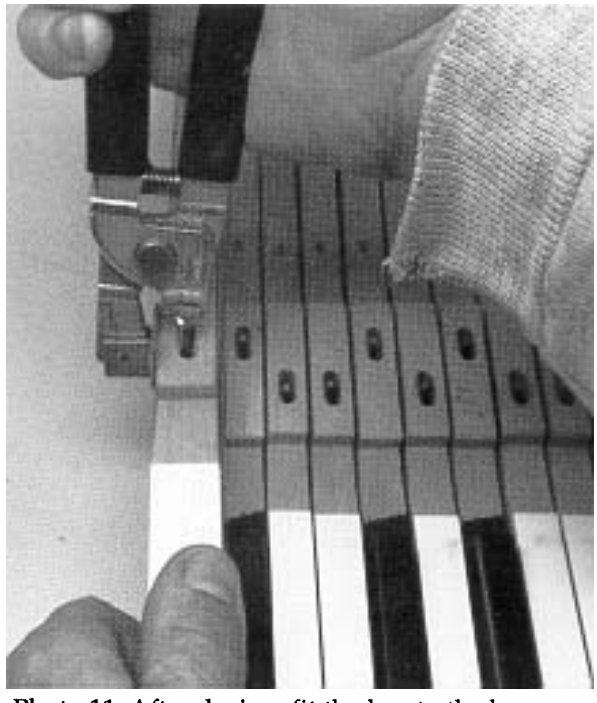


Photo 11: After drying, fit the key to the key frame. First, check the fit of the balance pin hole in the key bottom. If too tight (key will not slide down the pin by its own weight), ease carefully by inserting the balance pin hole easing tool through the top of the key. By turning the tool you can compress the inside of the hole either fore-and-aft or side-to-side as necessary. Ease just until the key will drop onto the pin; the key should not be loose on the balance pin. If the caul size and cloth thickness were correct, the bushings should fit the pins closely. Using key easing pliers, ease if necessary (an equal amount on both right and left sides of each mortise) to allow a very slight but perceptible side-to-side key movement at both front and balance rail bushings.

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Tuning Lesson #2

Tuning Hammer Sensitivity

By Michael Travis, RPT

This monthly lesson plan series is designed to provide supervised practice of tuning skills as a supplement to independent study and practice. Chapters are encouraged to use this material as the basis for special Associate meetings, or for their regular meeting program. Each lesson is designed to take about one hour, with about four participants. Participants are assumed to have essential reference materials and tuning tools (see PACE checklist) and access to a well-scaled large upright or grand piano for independent practice.

This lesson consists of observing and practicing varieties of hammer techniques, with an emphasis on learning to make small tuning pin movements. Each participant will practice small movements by performing a tuning exercise twice. The group will evaluate the technique with the instructor's guidance. After taking this lesson, participants will know how to practice this skill on their own, and will learn that good hammer technique includes being very sensitive to the movement of the tuning pin.

Chapter meeting set up

These lessons are most conveniently taught to a small group of four or five. Each group should have its own piano and RPT instructor. Each piano should be in a quiet environment for close listening. Avoid using pianos that present serious obstacles to tuning, such as deeply grooved or misaligned hammers, string termination noises, etc.

Estimated lesson time

60 minutes/4 participants

Tools & materials participants must bring

NOTE: the "Coleman Beat Locater" (available from Superior Instruction Tapes) will be needed in upcoming units on interval tuning. Group orders are suggested.

Home study assignment for participants

Read: "Tuning Corner" by Ben McKlveen, *PTJ* 3/92, pp 27-29 (the primary source for this lesson); Ben tells you how to work on developing sensitivity in your technique, and why. Also, from *The PTG Tuning Examination: A Source Book*: "Some Thoughts on Unstable Tuning," by Daniel Bowman, pp 127-28 (*PTJ* 2/89); "Letters" by Rick Baldassin, pp 129-31 (*PTJ* 4/89, letter from Norman Neblett).

Practice

Do the hammer technique exercise (see below). Try for fifteen or more discreet tuning pin movements. (Thirty to forty may be possible).

General instructions

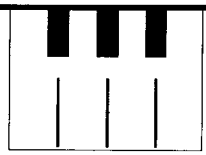
In this session, the focus will be on how to develop the skill needed to make small tuning pin movements. This will be done by having each participant practice the following exercise.

Hammer technique exercise: on a low midrange trichord unison, mute off the right string and lower the left string one semitone, so it's the same pitch as the next string down. (The instructor should do the detuning during the lesson.) Then tune it back up, making as many small movements of the tuning pin as possible. Springing the pin without turning it does not count!

While keeping their own count, participants should use whatever method they feel comfortable with for the first try, and then should follow the instructor's suggestions for a second try. The instructor should observe a participant's technique in the first try, being on the lookout for obvious problems in posture, tuning hammer position, etc., and offer suggestions preceding the second try. Each participant should have a total of about ten minutes practice time, along with forty to fifty minutes of observational time. Both time segments should be beneficial.

Perhaps the best way for the instructor to teach this exercise is by example. (Please prepare for this lesson by reading the "Home Study" material above and trying the exercise in advance.) Note that the skill this exercise trains for is tuning hammer technique, but not necessarily string settling technique. We might call it tuning hammer sensitivity training. Going first allows you a brief period of commentary on what it is you're trying to do, what you feel in the tuning hammer, and some of the control factors you find important. Emphasize that not everyone will be comfortable doing exactly the same things you do, and that the only "right" way to tune is the way that works for the individual tuner, provided that acceptable results are achieved in a reasonable time.

To conclude the lesson, or if there is extra time available, have a close look at the tuning hammers participants bring. Are they good quality? Do the tips fit the tuning pins of this piano, or are they too small/too large, or excessively worn (rounded points inside the "star")? Finally, please encourage participants to keep working with unisons, but also to practice the hammer technique exercise on their own.



Good Vibrations

In past articles of this series we discussed hammers in a general way. Briefly, we know that "hard" hammers produce a hard tone which is percussive, thin, and encourages less than the best (for a particular piano) decay characteristics. But what is a "hard" hammer, or a soft one, or a resilient one, or a "hot pressed" one? And how do we treat these various rascals as we find them in our customer's pianos?

Running concurrently with this series is a fine set of articles by Dale Erwin and Bob Davis. They have been covering many necessary and interesting aspects of tone and tone work including hammer mechanics and its relation to voicing. We'll not duplicate too much here. What we will do in this and subsequent articles is discuss the types of hammers and tone conditions we find in the field, and what to do about them when 'bringing a piano up" to better levels of performance and tone.

HARD TONE HARD HAMMERS

By Nick Gravagne, RPT
Contributing Editor
New Mexico Chapter

Customers and Communications

Getting back to our terms "hard", "soft", etc., what do we make of all this? curiously, and in all of life, certain aspects of inanimate objects mirror the perceptions of our minds, hearts and souls — life's experiences. The phrase "caught between a rock and a hard place" has meaning for us because rocks and hard places are not fun places to be caught. Water and air, though, are fluid and inspire unlimited motion and freedom.

Regarding the piano, much of its inanimateness more than hints at lifelike meaning for us as we search for words to express what we see, hear, and feel. I find this approach not simply interesting but *useful*, to me *and* my customers. The early piano makers knew something of this. Notice that a piano's soundboard, bridge, and rim (and sometimes plate and strings) were referred to as the "belly." What could better? Herein lies all that fiery, boiling visceral stuff, the guts of the piano, ribs and all. When the piano has lost its belly it has lost its guts. It has lost its through loss guts primarily interestingly, of crown and, tired of fight- it has grown downbearing. ing the stress of anymore. No No belly for it no tone. These belly, no stress, metaphors. are, of course, metaphors are But good they speak to memorable, and customers us. Many of my when engaged have chuckled in such discussions, but they have never forgotten the point either.

Hammers and tone also have short and useful expressions which may seem like oversimplifications; but in the simplicity lies an often elusive truth. As an ample belly bellows out in ample tones, a hard hammer whacks out hard tones, and a soft hammer thumps out soft tones. Our customers can easily follow this. "Reading" our customers is just as important as "reading" tone.

Some people enjoy hearing about the internal, nonlinear aspects of hammer compressibility. Others view such verbiage with suspicion, as "pianoese", and prefer to simply know that hard hammers make hard tones — and that to make the tone softer the hammers must be made softer. But *never* make the mistake of underestimating your customer's intelligence.

Hard Hammers Are Stiff and Rigid

Now, as far as we technicians are concerned, hard hammers producing hard tones are rigid as opposed to flexible or springy, or soft. Virtually always it is this harder and harsher tone that has our customers complaining. Hammer rigidity occurs in several ways: a) the hammers have packed in after months or years of use. The denser felt, especially right at the striking point, is the cause of hard and percussive tones; b) when the hammer was made, the felt was stretched and pressed in the usual way and simply needs to be relaxed by needling and acupuncture. These hammers and the tone they cause have a kind of tonal anxiety. c) the hammers were typically pressed followed by a hot dressing which facilitated uniform shaping but also introduced an all-around packing-in and denseness. These hammers are stubborn and at times require unusual techniques of persuasion; d) the hammers are rigid due to the presence of lacquer or other hardening substances. These may be good hammers turned bad by tuners who didn't know the difference between prudence and substance abuse. Or the hammers may have been properly juiced at one time, but after years of pounding, the felt has been cut through to a lower crust.

Don't Miss The Obvious— Hard Hammer Crowns

When hammers repeatedly hit strings they not only pack in, but they pack out too; i.e., they widen at the shoulders as they flatten and groove at the top. Denseness is a word we often use to describe hammers. But denseness has *no* meaning all by itself; it only has meaning relative to something else. Thus, due to the way hammers are pressed, we can say that the center portion of the hammer is more dense than the outside portions, which simply means that for a given volume of felt, say a cubic centimeter, there is actually *more* felt near the hammer moulding than near the outside surface of the hammer. So after a hammer has been sufficiently crushed in ordinary playing it is more dense than it once was, particularly at its crown. Although such a played-in hammer may require some deep needling, *most if not all of the tonal problems are hammer crown related.* That hard, whacking, thin and percussive tone will be heard even if nothing else but the hammer crown is too rigid, too hard. In all pianos in service, suspect the hammer crown first!

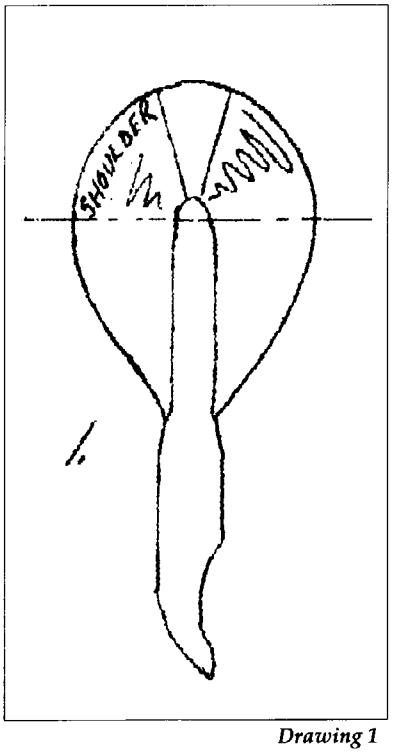
A typical scenario/pitfall is this. The customer, an owner of an eight year old Kawai, has started to complain about a harsh tone which used to be much sweeter. You look into the piano crown, bearing, string seating, and hammer condition. The first items more or less check out, but the hammers are grooved and packed. Your customer agrees to have them shaped. You shape the hammers, remove every vestige of groove, try the tone — and both you and your customer, who were both agog at the outset, are not aghast. The tone is even worse, more piercing than a smoke alarm. So, avoiding the crown of the hammer like a good little technician, you needle and needle and deep needle the shoulders and needle some more in order to "open up the tone" (a phrase you heard at a seminar) only to find that you and your customer have dropped from aghast to agony. Not only is the tone still bright, but now it has lost all firmness, focus, and attack.

In final desperation lacquer is added to the shoulders in an attempt

to at least bring the tone back to where it was *before anything* was done. Now if all this isn't enough, the "lessons learned" are actually mis-learned: "You can't do anything with these hard Japanese hammers!" "Voicing only works for those truly gifted in our ranks." And the worst, "I'll never be any good at voicing."

Needles As Probes First!

Ironically, the problem area of the hammer was never touched — the hammer crown. Unless you are very secure with certain piano makes, or a particular set of hammers and how they respond to voicing techniques, needles should first be applied to hammers as exploratory probes. Apply a single needle and start low on the shoulders and work up to the area of the crown, but not yet into the crown. Does the needle easily penetrate the felt, or does it seem to want to bend and totally resist entry? Does it enter easily in the lower shoulders, but as the top of the hammer is approached can you feel great resistance? This latter condition is very common on many pianos, and was the condition in our Kawai scenario. Once the hammers were shaped, very little (if any) low to mid shoulder needling should have been done. We'll talk about what *should* have been done in a moment. First we must understand the importance of shoulders. Like human shoulders, a hammer's shoulders are in the role of supporting something.

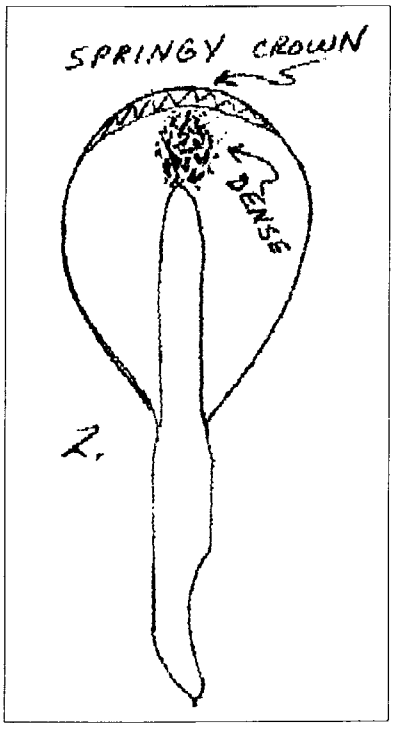


Drawing 1

Think of the old ads with Atlas supporting the world on his shoulders. Hurt Atlas's shoulders and he drops the globe; and hurt or destroy a hammer's shoulders and the tone drops out. It has no support, firmness, focus, or power. A hammer's shoulders exist according to **drawing 1**. Note that the top area of the shoulder is more responsible for attack, focus and power than the lower part. All this isn't to say that shoulders should never be needled. If the probe needle easily enters the higher shoulder area with little or moderate pressure, leave well enough alone for now. If the probe needle is difficult or impossible to push into the shoulder, then the shoulder and everything below it is too dense, or hard, or packed, or lacquered. Such a hammer will probably be quite hard at the crown also, and will require some serious deep needling in the shoulders and plenty of "sugar coating" at the crown. There are easier and less destructive tricks available to us, and we'll get to them later.

Sugar Coating The Hard Hammer

Sugar coating is another great phrase. Where did it come from? It implies sweetening out the tone, doesn't it? It also implies a sprinkling of something onto a surface. Sugar on cereal. In the case of a hammer, sugar coating means shallow needling right across the crown of the hammer and down about 1/16 or even 1/8 of an inch (and sometimes even a bit more in extreme cases). Remember, a hammer should be the "iron fist in the velvet glove": a firm and rigid interior but with a springy exterior. See **drawing 2**. When a hammer has a hard and inflexible crown, the tone will be hard and percussive. Sugar coating introduces the springy top so essential for round tone and better decay. When sugar coating I prefer to



Drawing 2

use a voicing tool dedicated to only this purpose. The needles project the required amount only so there is no danger of driving the needles too deeply. The tool is used by striking and jabbing the hammer top several times and checking the tone. The process is continued until the tone rounds out. How many strikes? As few as five or as many as twenty. Whatever it takes.

Try Snake Oil Too

The problem with too much needling (scores of strokes or stitches) anywhere on the hammer, shoulders or crown, is that the voicing may not last. This is especially true of sugar coating. If you must pulverize the crown in order to round out the tone, the felt fibers will have been seriously disturbed. And seriously disturbed felt will be much more easily cut by the steel strings than undisturbed felt. So when the strings cut through the sugar coating the tone will once again become harsh and pingy and, guess what, a light filing with sandpaper strips will make matters worse as the springy top is further removed.

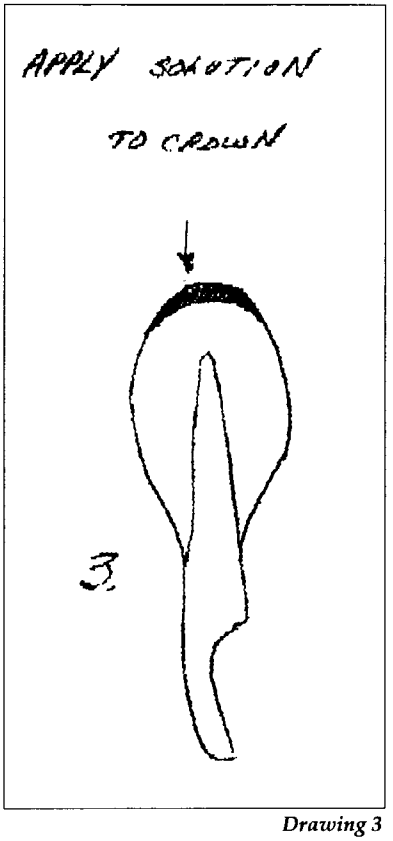
A great way around these circular difficulties is to soften the felt with fabric softener. I first learned of this from technician Dennis Gorgas. Two brands of fabric softeners are Woolite and Snuggle. The liquid as it comes from the bottle is usually blue and gloppy. Thin it seven parts of rubbing alcohol (isoprophyl) with one part of softener and shake well. For best results mix the stuff up in a hypo-oiler as available from piano supply houses, and dispense it from the oiler directly on the crown of the hammer. See **drawing 3**. finally, direct some heat from a hair dryer to accelerate the drying process and you can try the tone immediately. The results are startling and much longer lasting than when major sugar coating is required since the felt fibers are relaxed rather than split, chewed up, and separated. If the tone is too mellow (usually not the case) the top—most surface can be strip sanded with 100—grit paper in order to brighten the tone.

Use this technique on those hard hammers which will not respond to ordinary needling. Hammers which have hard and dense shoulders can also be fabric-softened. Apply the solution directly to shoulders and let sink in 1/4 inch, give or take a bit. Not only will this relax the felt but, when dry, allow needles to be effectively used. The solution, by the way, is also effective on lacquered hammers.

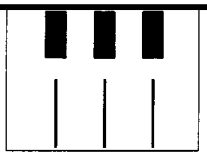
Summary

One of the overriding concepts of these articles is practicality. It's easy to say replace the set of hammers with new and be done with it! It is also easy for us as technicians to fall into the "perfection trap." If we can't make it perfect, we don't want to bother with it at all. Our customers want value, the most improvement for the dollar. If we can't make it perfect can we make it better? And for a reasonable price? It is up to us to make our service efficient and affordable.

This can only be done by getting to the heart of the technical and tonal problems quickly, and by using proven techniques to accomplish the job. The Kawai scenario is a case in point. The technician misdiagnosed the problem with the tone, despite that he or she may have beautifully shaped the hammers. The job took two or three times longer than it should have, was ten times more stressful, and failed in the end. Success comes from knowing what works, and financial reward from making it work in the least amount of time. **J**



Drawing 3



Everyday Voicing

Is There A *DOPE* In Your Shop Too?

Bob Davis, RPT, and Dale Erwin, RPT
Modesto Chapter

Well, you'd think that after four articles, if we weren't to the end at least we'd be to the beginning! We're not, so a word of explanation is in order: if it seems to you that we are doing these articles in semi-reverse order, you're right. It makes a lot of sense to do a voicing series starting with preparation of the piano, then hammer filing, then tools, juicing, needling, etc. However, we decided that more of us were familiar with preparation and filing than were familiar with some of the other material we have presented, and we wanted to get to the nitty-gritty first, so that we could start practicing the more difficult skills. We have also explained why the skeleton of theory had to come before the flesh of technique.

The subject of juicing, doping, lacquering, hardening, or whatever you want to call it, is sure to ruffle some feathers. Some technicians say they wouldn't consider using hardeners, and that hammers which won't work without lacquer should simply be replaced. There is no doubt that improper lacquering can cause a big problem faster than you can say "M#$@p%ft." Also, felt is a wondrous material, and probably most technicians would agree that we don't want to give up too much of the qualities for which we use it. However, hardeners are just another tool, and have a place in our bag of tricks; there are situations in which they are the best (and sometimes the only) choice. If the voicer fully understands what they will and will not do, and has described completely the tonal deficiency at hand, s/he will find that juice is sometimes the best "solution" to the problem, and need not fear its use.

At the risk of repeating ourselves, there is no manufacturing process which will produce a perfect set of hammers, although there are many hammers which are very, very good. Enough resilience in the middle sometimes makes for shoulders which are too weak to develop brilliance, at least in some parts of the scale; a firmer outside often comes with a constricted core. Some piano manufacturers and rebuilders start with a firmer hammer and do quite a bit of needle work, and others have decided that a softer hammer reinforced with lacquer works better for their concept of tone. Each has merits, and each can work very well.

Another reason there can be no perfect hammer is that voicing is dependent upon the acoustics of the room. A piano voiced exactly to its owner's taste, or purchased because it had a particular tone quality in the showroom, can sound either too bright or too dark when moved to another location, so we need control in both directions.

In The Good Ol Days...

Hardeners have a long history. Scott Jones of Steinway tells a story about Fred Drasche, who started at the Steinway factory in 1922 (Fred says that in those days new assistants would be sent downstairs for "a bucket of steam"), and worked his way up to be voicer of the concert grands. Anyway, when Scott asked, "Fred, when did Steinway start using lacquer in their hammers?" Fred replied, "The day we ran outta shellac." The use of liquids on hammers goes back well before that. Steinway originally used solutions to stabilize the voicing. Felt can change its consistency, and therefore tone, with changes in humidity, so in the early days thin solutions of hide glue were used to help block absorption of atmospheric moisture. This was replaced later by thin shellac, which was found incidentally to have a benefit in tonal control, and finally lacquer.

Materials

While shellac is no longer in use, there are several other materials commonly used for voicing in different situations. The most common is a solution of water-white (clear) nitrocellulose lacquer in lacquer thinner. The proportion varies from about four parts thinner to one part lacquer, to about ten-to-one, depending upon the use, and the solids content of the lacquer. Some voicers prefer sanding sealer, in the same proportions. Although sealer is sometimes a little yellower than water-white lacquer, and can therefore stain the felt, some feel that it is more brittle and easier to break up when desired. Cheap lacquer is as good as or better than the more expensive variety. Good furniture-grade lacquers contain plasticizers so they can stretch as the wood expands; they also contain alkyd resin, the main component of one type of varnish, whose molecules chemically cross-link for toughness. We can tell you from experience, however, that all these will work and are worth trying for yourself.

In other countries, collodion is used. This is a variant of nitrocellulose, related to lacquer, and dissolved in ether and alcohol, which is very quick to dry. It is also very hazardous, as well as explosive. In his voicing class, Horace Greeley reminds us that ether is also used in the manufacture of certain illegal drugs, so if you have suspicious neighbors, unless you really have a need to see your front door broken down on an episode of

"cops", you don't have to use this stuff. Another solution is a plastic keytop dissolved in eight ounces of acetone, and thinned for the situation. This, like the others, has advantages and disadvantages. It is quick to dry, so while it does continue to harden up a little over time, we can hear ninety percent of the results within fifteen to thirty minutes. This is especially handy in concert work, or in a home situation where a small change is desired and a return trip is not economical.

While these solutions (with the exception of collodion) can be used with reasonable confidence in their safety, give them the respect they deserve. Although acetone and the main ingredients in lacquer thinner are said to be lower than many other chemicals on the Nastiness Index, adequate ventilation is still a must; work outside when possible. When working in close quarters you might also consider a professional vapor mask with a fresh activated charcoal filter for organic vapors. Keep a fire extinguisher handy.

Although each application of lacquer tends to form a barrier which blocks deep penetration of future applications to some degree, the keytop solution does seem to provide a tougher barrier sooner, especially if it is not thinned. There is some (only some) reversibility. Just as these materials were soluble the first time, they can be re-dissolved to a degree with straight acetone and "rinsed" farther down the hammer. There is also to some ears a difference in the tone between the keytop solution and lacquer. Both are valuable, so you can try them out for yourself.

And ventilate, ventilate, ventilate.

Application

Use of hardening solutions starts like other voicing techniques, with identification of the problem. While the hammers will respond to needles even after a relatively heavy application of juice, it is better to use as little as necessary to do the job, in

order to retain as much as possible of the characteristic springy quality of felt. First we need to find out if there is any unwanted tightness in the core which can be released to help support areas that sound too soft as well as maximize the sustain. Lacquer might no longer be needed now, but if it is, once we hear which parts of the hammer are still too weak by listening to the tone color change, and we are sure that nothing else will do the trick, we will know where the lacquer wants to go. Stay tuned for examples.

Hose 'em Down

Juicing may be a little harder to learn than needling, because needling can be done one stroke at a time. It is reasonable to be conservative with lacquer while gaining experience, but there is an advantage in not relying on too many applications. In cases where the sound calls for considerable support deep in the hammer, this means getting the dose pretty accurate early on, because of the blocking effect of the earlier coats on the later. Also, getting most of the hammer wet once is better than getting a small part of it wet three times. Lacquer doesn't fill up all the empty places between the fibers in the hammer unless it's really thick; it coats and stiffens them. It's a little scary, though, if you've been using three drops of thin solution from an eyedropper, to go to the squirt method.

As with earlier experiments, there are things we can suggest to help get control of the process a step at a time, and just to steel your nerves, we can tell you about a demonstration we did for a class. We mixed a jar of 2:1 lacquer (thicker than we ever use), took an excellent make of hammer which was quite soft, and simply tossed it into the jar. After a minute or two, we took it out and let it dry in the sun for a few days. Then we filed it lightly to cut the crust, hung it, and needled it to a less-than-ideal but surprisingly respectable sound. In fairness, it's not likely that this would be our first choice for either tone or stability, but perhaps it gets the point across that a single application can be liberal without totally ruining the hammer.

The first step is just to get the feel of putting lacquer on. Find several spare tenor or low treble hammers, both new and old, including some which are fairly soft. If you are having trouble finding soft ones, you can produce them by mercilessly deep needling a few with multiple needles, but a hammer which is manufactured soft is better. File them lightly and juice them one at a time with a 4:1 mix.

Our favorite applicator is called a Hypo-Oiler (with the needle nose) and is available from the supply houses. Aim it at about the three o'clock position on the circumference of the hammer, either touching or barely off the surface. Squirt slowly and watch the juice go in. If you have access to some powdered aniline dye, or any other lacquer-soluble stain, you can watch the flow even better, and the hammers will then make very tasteful desk or Christmas ornaments. If you don't have access to these dyes, it's time you got to know a refinisher anyway. Keep the lacquer flowing until it is about two-thirds of the way to the tip of the molding. Each hammer will react a little differently. In some, the juice will flow straight in to the core. In others, it will stop at denser felt or previous lacquer and head upward. Watch where it creeps during the next thirty seconds or minute. In some hammers it will wick across over the core and meet in the middle under the top of the hammer.

You can control the movement to some extent by the flow speed and by the entry point on the circumference. Now do the other side. In one way, this difference in the way the lacquer flows is to our advantage—it flows more easily in the felt which is least dense.

This exercise is worth doing even if you just juice these samples and throw them away without listen-

ing to them, just to limber up, but you will benefit even more from hanging them and listening over a week or so. Heavy applications will take a while to dry (don't play them wet). You will hear a significant difference in a few hours, a big difference overnight, and additional change in a few days, depending on how much you put on.

It actually takes longer than that to cure fully, but the steepest part of the curve is over a day or several. After a week you can analyze the sound and refine it with needles.

Trade-Offs

It probably would be hard to find a device with a more complex set of compromises than a piano. Hammer mass is traded against inertia, soundboard amplification is traded for duration of sound, an increase in inharmonicity is tolerated as string mass is substituted for length, and so forth. The use of stiffening solutions also involves tradeoffs. One of the marvelous attributes of felt is not only its springiness, but its adjustability. As we mentioned, needling is still effective after lacquer has been applied, and filing is actually easier. Eventually, though, lacquer can glue the fibers together to the point that the felt is behaving like a mass, with a uniformly unpleasant sound, rather than like a variable-rate spring. Even worse, the felt, which up to a certain point is still able to decompress itself when encouraged with needles, eventually cannot be caused to expand, and becomes a shrill non-adjustable lump with holes in it.

So we have a dilemma. On the one hand, we want to get as much as necessary on in not too many coats. On the other hand, we want to think not only of the present, and not ruining a fairly decent set of hammers, but also of the future, when the hammer brightens up with use and filing. There simply is no substitute for substantial amounts of experience, but it is possible (no, essential) to practice on spares, and to be very conservative until our level of confidence rises. It is better to learn on one's own piano or ones that are about due a set of hammers anyway. It is obviously better to underdo than overdo; it is better to overdo on the low shoulders than at the tip and core. It is better to be too cautious at first and make a customer somewhat happier rather than go for broke and have the client completely outraged.

Specifics

Now let's return to a couple of specific cases where chemical stiffeners might be appropriate. Just as with needling, we are trying to adjust the compressibility of various parts of the hammer, while retaining elasticity, in order to control the contact time with the string, and therefore the way brightness changes with increasing force. First let's take a new hammer that is quite soft, which was called Case #2 in last month's article. This could be any make of hammer, and we should be able to recognize it by a puffy tone at piano, a lack of power and tonal development at forte, and probably poor sustain, more obvious if it is in the low treble rather than the tenor. This is a sort of universal example, since it is weak in all areas, and you can use it in stages to practice control over several things.

If the sustain is not good, but the tone is very dark, remember that the top of the hammer is compressing too easily, which causes it to stay on the string too long, and we will not want to weaken the outer tension layer any further. Support the hammer carefully and take a couple of needle strokes via the cut side through the core as described in previous articles (we have purposely avoided defining the core with an illustration - you will be able to feel its density with your needle). The tone may brighten up slightly or significantly as the inner compression releases to support the outer layer, and the sustain should improve as the hammer becomes more springy. Once needle strokes make no improvement in the sustain, if the hammer is as small as you think appropriate (for the purposes of this experiment just assume it is), there is no alternative but to stiffen the felt chemically. In the real world, playing the hammer in will brighten up the attack, as will ironing the surface. What this does, however, is add high partials to all levels (because it treats the surface), while leaving a lack of

power at the forte levels which will never get better. It doesn't matter how stiff a spring is on top if the rest of it is weak—the effect when the whole spring is in use will be more like a weak spring than a strong one.

This is the situation in which a heavy application, as described above, would be appropriate. The mix can vary in strength depending on the amount of effect required. It is better to use a weaker solution than to be timid about getting it far enough in, but for a base coat in a weak hammer, 4:1 is usually safe. We are trying to strengthen the shoulders, while leaving the core compressible, so that the shoulders support the return of the core to its original shape. If the tone is flabby all over, we will want to allow the lacquer to flow higher than if it just doesn't develop enough at the louder levels. For a conservative approach, we can avoid a wedge which includes the striking point and core, by keeping the application point low enough, but the low and middle shoulders need to get quite wet with this dose. The low application point leaves unadulterated felt in the most crucial part of the hammer (if there is such a thing), and might be sufficient. If it is not, a second application, perhaps of a weaker solution (say 6:1) but maybe not (listen) can be made higher up on the shoulders and be allowed to wick a little closer to the area under the strike point. This depends upon the color curve, but again, avoid the strike point. If a brighter overall tone is desired, a third application can be made which includes the strike point. The proportions of this solution are something to experiment with, but one or two thin applications will probably do the job. If the application includes the strike point, a light dressing with a strip of 220 paper will be required after it dries.

If you have a several of these soft hammers, it will be instructive to wet just the top of one, to hear the difference. It should act more like Case #4 in the previous article, with a bright attack but poor color development. Get another almost completely wet. Eventually, experience will lead to being able to analyze the hammer well enough to get very close in one shot.

The Repair Shop

Another common use of lacquer is where a hammer has been overjuiced and its shoulders overneedled, as in Case #3 last month. It's probably best to needle the core first to increase the sustain, then juice, but try the reverse too. The lacquer will have to be applied carefully, as it usually will not go in very far, and will have a tendency to travel vertically up toward the strike point. In this case, it is again the color development that tells us how far up to let it travel. If the tone brightens up easily with dynamic increase, just not enough, we will want to keep the juice low. If it brightens up late as well as not enough, we can let the lacquer ride up a little higher.

High Treble

Up to now we haven't mentioned the high treble. A lot of stiffness is appropriate here, and if the hammer is weak, it is safe to let the base coat creep higher and higher as we go up the top section, getting the whole hammer wet in the top octave or octave and a half. On a harder-pressed set, there is often much to be gained from needling through the cut side, so be absolutely sure you have done all you can before considering hardeners.

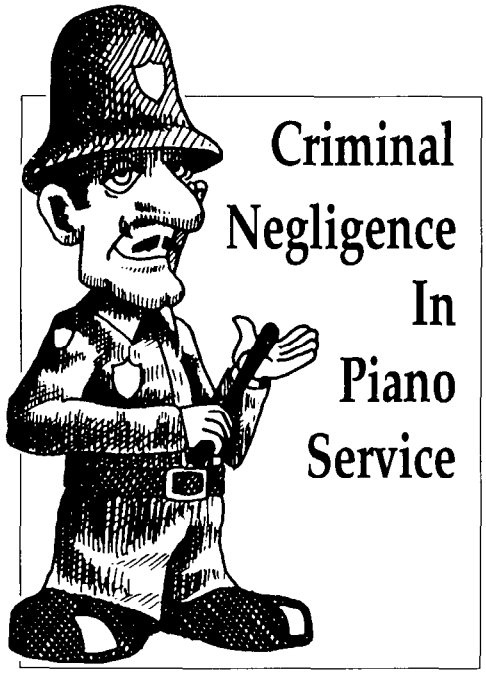
Summing Up

We have tried to alleviate fear of the use of stiffening solutions. Although their effects are somewhat reversible, they are still a semi-permanent and powerful treatment, and, even more than needling, should be approached with much practice on less-critical instruments. Lacquer's best use is in beefing up the shoulders, while retaining as much of the natural resilience of the wool as possible under the strike point, but it is also useful in fine-adjusting the components of the overall spectrum, and of the color change profile.

In our juicing exploration, we use the same method that is used for all other voicing decisions:

1) Describe the tone at all dynamic levels.
2) Deduce from the description where the hammer must be too stiff or not stiff enough.
3) Choose the method which will be least destructive and most stable.
4) Predict in your head what the result should sound like.
5) Apply the method.
6) Compare the results with what you imagined they would be.
7) Be of good cheer, and keep trying.

Viewpoint



Criminal Negligence In Piano Service

Virgil E. Smith RPT & M. Mus
Chicago Chapter

Can a piano technician be guilty of criminal negligence? If a doctor only prescribes aspirin for the headache of a patient with appendicitis he can be sued for malpractice. If a car is brought in for service with serious mechanical problems, but the mechanic only changes the oil, does this not involve negligent service? Is it not a similar situation when one tunes a piano and ignores serious action and voicing problems? The piano may sound better after tuning just like the patient with appendicitis may feel slightly better after taking aspirin, but in neither case is the real problem solved. The tuner will probably not be sued for malpractice like the doctor, but he still could be just as guilty of criminal negligence.

For years LaRoy Edwards and others have been advocating and explaining the merits of complete piano service, with only limited success. It seems that most tuners still prefer to tune their four or more pianos a day, even though at least half of them will still sound and play poorly. A piano can be in perfect tune and still sound terrible and have an impossible touch. The result — a less than happy customer and a negative reputation for the tuner.

Many piano owners do not realize that tuning is only one part of piano service. They often feel that tuning should take care of all the problems, and if it doesn't the tuner is incompetent. When I first started tuning in the Chicago area, my name was passed around in top musical circles as an excellent tuner. As a result I began to get calls from top musicians in the area, and though I did an acceptable tuning, I would not get called back for another tuning. I know now that the reason was that I did not solve, or even mention the other problems with their instrument. My reputation plummeted in a hurry, leaving a mark that can never be erased — even though I have changed my whole approach to piano service. How can we keep our younger tuners from making this same mistake, hurting their reputation as well as the Guild's?

My feeling now is that the piano is not properly serviced unless it sounds and plays as good or better than when it was new, and is kept functioning at that level until it needs to be rebuilt. If the piano has not been properly serviced in the past it may take two whole days or more to bring it to that level, but once it is there, the additional time necessary during subsequent service calls to keep it at that level should be minimal.

Many piano owners and those responsible for piano service (such as those at performance halls) seem to have the idea that there are just two kinds of piano service: tuning and rebuilding. If a piano is impossible to play or sounds terrible after tuning, it must need rebuilding at a cost of several thousand dollars. How unfortunate that they do not realize that for a few hundred dollars it could be put in top condition.

One of the common reactions I get from technicians is that they have difficulty selling other service in addition to the tuning. This may be true in some cases, but usually not true when dealing with musicians with fine instruments. One of the questions I ask when talking to piano teacher groups is, "How many would be willing to spend a few hundred dollars (much less than a thousand) for a piano the same make and model as you now have — sounding and playing as good or better than when it was new?" Invariably most every hand is raised. They will spend the money for this kind of results on their piano. Not only is this type of service possible, it is an absolute necessity when dealing with the music community. Once a musician's piano has been transformed in this manner, he or she will be so excited that the message will travel through the music community like wildfire. The technician's phone will not stop ringing, and he will have more business than he can possibly handle. In my opinion the Guild will never attain its desired status in the music community until a majority of its members offer this kind of service.

Occasionally I am contacted by musicians in other parts of the country who are willing to pay my fee plus all expenses to travel to their area to thoroughly service their piano. I am amazed at the number of cities of over 100,00 people where no tuner is doing more than tuning and basic repairs. Many musicians are desperately looking for someone capable and willing to thoroughly service their piano.

Providing complete piano service is not without its problems for the technician. Establishing and maintaining a schedule is much more difficult as it is not as easy to estimate how long each service call will take as when one is tuning only. Also one must learn to work at the piano instead of the shop. A customer may be persuaded to give up an action for several days for a major overhaul, but not every time after that when work needs to be done to the action or hammers. Actually every operation, though not as convenient, including major hammer filing and key leveling can be done at the piano. I do all my work at the piano, and there are advantages. The customer is less likely to question the charge when he or she sees the time and energy involved.

Collecting the fee for the extra work necessary to keep the piano functioning in its top condition is seldom a problem. It may be difficult for the customer to distinguish between a mediocre and a fine tuning, but there will be no difficulty in recognizing and appreciating the vast differences that result from the other work. They will be completely thrilled if the piano does sound and play better than when it was new. Such remarks as, "This is not the same piano", "the piano never sounded like this when it was new", "this is the happiest check I have ever written", and "are you sure this is enough?" are common. There may even be a spontaneous hug.

Just what besides tuning is involved in complete piano service? Actually anything in repairs, adjustments, regulating and voicing necessary to keep the piano functioning at its best. Once the piano is thoroughly regulated it should not require much attention to keep it that way. The object is to correct minor changes before they become major changes that affect other aspects of the regulation. Key dip, capstan height and back-checking will require the most frequent attention.

Caring for the hammers is one of the most important factors in keeping the piano sounding at its best. Correct shape and the condition of the hammer surface are essential to good tone. Frequent filings are best for tone and long life of the hammers. In fact if the hammers are cared for correctly there never needs to be a major reshaping. Correct hammer filing, which I classify as one of the most difficult techniques in piano technology to master, involves removing all of the broken layers of felt, but not breaking a single continuous layer of felt. Eliminating loose felt and ridges which can kill tone can contribute to longer hammer life, but poor filing which severs existing layers can shorten hammer life. When filed frequently, before the ridges become deep and the hammer loses its shape, the hammers, even the angled ones, can be gang-filed with large pieces of sandpaper in just a few minutes. Gang-filing leaves the hammers straight across the top so that they strike the three strings at once if the strings are level. I use a paddle and work with individual hammers only when reshaping is necessary. The spacing and string level should be checked after each filing.

Voicing should not be attempted until the piano is properly regulated, fine tuned, hammers correctly shaped and spaced, and the strings leveled. These operations often solve many of the voicing problems. There is a wide range of acceptability between mellow and bright, so it is important to understand the preference of the customer before voicing. Over-voicing or not voicing enough are common problems of less experienced voicers. A piano is still too brilliant when it is difficult or impossible to produce a mellow sound, and it is too mellow when it is difficult or impossible to produce a brilliant sound. The important factor in voicing is to achieve even quality and volume from note to note. Years ago very little voicing was necessary outside the concert hall, but the advent of the brilliant piano has changed all that. Hard hammers get harder with playing and become objectionably brilliant, and need frequent needling to keep them sounding acceptable.

Replacing hammers, often with inferior ones, when the original with proper care could sound great for many more years, is as criminal as unnecessary surgery. Recently, I saw a seven year old concert grand with a third set of hammers, and when the piano still didn't sound right, the owner decided a new technician was needed, not another set of hammers. This usually occurs when the technician lacks the skill to properly service the original hammers.

What if a technician has not yet perfected his skills to the level that he can service a fine grand until it sounds and plays as good or better than when it was new? Although our upgraded and standardized tests have led to a great improvement in the knowledge and ability of those who pass the exams, not everyone who passes the exams is ready to service a piano at this level. It may take years of experience before one is qualified to satisfactorily voice a Steinway concert grand. Acquiring such knowledge and experience may be most difficult in some areas of the country. One technician in such a situation solved his problem by paying the air fare and expenses of another technician for a whole week to work with him on pianos that needed such thorough servicing. Whatever it takes to acquire these skills is well worth the cost.

What does one do when confronted with a situation for which he or she is not yet qualified? Does he do the best he can even though the reputation for doing a poor job usually travels much faster than for doing a good job; does he ignore the work completely, or recommend someone who is qualified — if such an indi-

vidual is available? These are difficult questions that many of us seldom consider when confronted with such a challenge. It never occurred to me to consider if I was qualified to do Orchestra Hall when it was offered to me, nor to consider the consequences if I couldn't handle the job. In my mind, Orchestra Hall and the many artists were fortunate to have the services of a great tuner. I soon discovered that being able to tune, regulate, and voice an occasional hard hammer did not qualify me to service pianos at the level required by top performing artists.

The field of piano technology is so broad and complex that it was virtually impossible for one technician to be expert in all areas. Yet the need is so great in the music world for thorough piano service that goes far beyond just tuning that the Guild cannot be satisfied until a majority of its members satisfy this need on a regular basis. This sort of service is essential for the Guild to establish a proper image in the music world — and if we are going to avoid being guilty of criminal negligence in the service we offer. J

Industry News

HENDERSONVILLE, N.C.— Several piano technicians were recognized for outstanding performance at the fifth Annual Field Expert Recognition Breakfast, hosted by Dampp-Chaser Electronics Corporation, at the recent Piano Technicians Guild National Convention held at the Hyatt Regency in Milwaukee, Wisconsin, July 17, 1993 reports Dampp-Chaser's president Stephen R. Smith.

The breakfast was attended by more than 115 piano technicians and their spouses, Smith said. All of the technicians were Field Experts in humidity control for pianos, having installed at least 25 Dampp-Chaser Piano Life Saver Systems which consist of a dehumidifier, a humidifier and a control, called a humidistat.

Bruce R. Genck, of Anoka, Minnesota, was recognized for the second straight year, as the individual who installed the most Dampp-Chaser Piano Life Saver Systems.

Colette Collier, Silver Springs Maryland, who recently has been elected Secretary-Treasurer of the Piano Technicians Guild, was awarded a Certificate-Of-Merit for the second time for recommending product and merchandising improvements in Dampp-Chaser Piano Life Saver Systems.

David Patterson, Ontario, was awarded his second Certificate-Of-Merit for creating a system of changing relative pitch stability of those pianos with Dampp-Chaser Piano Life Saver Systems and proposing an improvement in packaging.

John J. Zeiner, Jr., Allentown, Pennsylvania, was awarded a Certificate-Of-Merit for conducting and reporting the test dramatically demonstrating the effectiveness of humidity stabilization equipment in maintaining pitch stability of two identical pianos and making suggestions for product improvement.

Daniel L. Bowman, Harrisonburg, Virginia, received a Certificate-Of-Merit based on his research and publication of an article in the Piano Technicians Journal entitled "Heating and Cooling As Told By The Piano".

Smith reported that the field experts at the breakfast received enthusiastically details of the new system for humidity stabilization for upright Yamaha Disklavier pianos recently introduced by Dampp-Chaser.

Guest Feature

Residual Distortion & Tuning Stability

Danny L. Boone, RPT
Heart of Texas Chapter

My cousin Doris had surgery in Japan while her husband was stationed there in the military. When the doctor sewed her up, he inadvertently left a sponge inside. For some time she had a great deal of pain and knew something was wrong. Finally, the doctor performed another surgery, discovered and removed the sponge, and Doris made a remarkable recovery.

Many times when I walk away from a piano I have just serviced, I remember Doris' experience, and I go back and look in the piano to be sure that I have not left something there which does not belong. More than once I have discovered a mute or even my tuning fork hidden away in a corner.

Piano tuners may inadvertently leave something in a piano that is far worse than a mute or a tuning fork, and that is *distortion*. The piano owner may never realize that a mute or tuning fork is inside the piano, but residual distortion will make its presence known in a very obvious way—the piano will go out of tune prematurely.

Residual distortion is the major cause of tuning instability. Please bear in mind that this discussion is not about loose tuning pins, cracked bridges, humidity, or other reasons for a piano going out of tune. This article is about *tuner-caused* instability—what the tuner does during the tuning process that will cause a tuning to be unstable.

Whenever any tuner puts a tuning hammer on a tuning pin and changes the pitch of a string, distortion is introduced into the *tuning pin* and the *string*. This is inevitable; it happens *every* time for *every* tuner. A problem arises only when this distortion is allowed to remain.

A tuning pin may be distorted in two ways. It may be twisted, or it may be sprung. A skilled tuner will eliminate or, at least, minimize any distortion which is introduced into the tuning process.

Twisting the tuning pin may be inevitable, but leaving a twist in the pin is incompetence. Although the tuning pin is made of high quality steel and seems to be inflexible, the bottom end of the pin does not turn the same amount as the top end. The amount of twist a pin will receive is based on the tightness of the pin block, and the amount the pin is turned. In new pianos where pin torque may be as high as 120 inch pounds, there is a large amount of twisting. On the other hand, when the pin torque is low, 40 inch pounds, for example, the pin will twist little, if any.

One of the best ways to minimize this twisting effect on the tuning pin is to turn it as little as possible. All tuners must develop the skill of determining just how far to turn the pin beyond the desired pitch (above or below) in order to reverse direction, remove any twist in the pin, and end up with the string at the correct pitch. This is a skill which requires continued and persistent practice.

Twisting is not the only distortion introduced into the tuning pin by the tuner. A pin can also be sprung in one direction or another. This is sometimes referred to as the "flagpole effect." It does not mean that the pin is permanently bent; it means instead that the pin is temporarily sprung, and will eventually return to its original configuration. We must always remember that the string is constantly pulling on the pin with a great force, and we must learn how to cooperate with that force if we are to achieve tuning stability.

One remedy for this problem is to use the shortest tuning hammer tip possible. Suppose, for example, that a tuner used a tip that was one foot long. It is not difficult to imagine what the result of turning the tuning hammer would be. The flagpole effect on that pin would be enormous. It stands to reason, therefore, that the closer the shaft of the hammer is to the pin block, the less the pin will be sprung.

Another antidote for springing tuning pins is found in the direction in which the handle of the hammer is placed during tuning. If the handle happens to be parallel to the string, any springing of the pin will be in a direction at right angles to the string and the result will be little, if any, pitch change. If, however, the handle is at a right angle to the string when the pin is turned, the direction of the springing of the pin will have a much greater effect on the pitch, and any spring left in the pin will surely manifest itself later.

Because of the plate, the case, and the limited position of the tuner, it may not always be possible or practical to manipulate the tuning hammer parallel to the string, but the closer one can come to this ideal, the less effect this distortion of the pin will have on tuning stability.

The greatest amount of pin springing is probably caused by moving the tuning lever in the wrong plane. I cringe whenever I see someone tuning a vertical piano, pulling the tuning hammer away from the piano instead of rotating it left and right. This technique, sometimes called "tweaking" the pin, is nothing more than springing the pin, and if a pin has been "tweaked," sooner or

later it will become un-tweaked." Good tuning hammer technique requires that the hammer be rotated in the same plane as the pin block — not pulled away from the pin block or pushed toward it.

What about distortion introduced into the string? Any time the pitch is changed, even slightly, the string is being distorted. Along the length of each string there are several points where contact is made with some part of the piano—the V-bar, pressure bar, agraffes, capo bar, plate felt, bridge pins, and finally string rests on the plate. As the pitch is changed, the friction at these contact points causes the various segments of the string to change tension unevenly. The greatest difference in tension occurs on either side of the capo bar (or agraffes, or V-bar).

For example, friction at the agraffe may cause the tension of the string segment between the tuning pin and the agraffe to change greatly before the string finally slips through the agraffe and the tension of the speaking length of the string is affected. If this unequal tension is allowed to remain in the string segments after the tuning is done, it will inevitably become equalized and will cause the string to go out of tune. This equalization may take hours or it may take days, but it *will* happen.

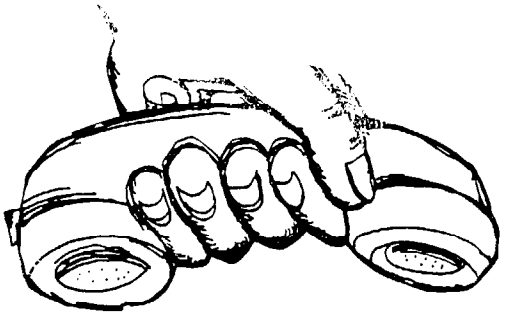
To eliminate this distortion of the string the skillful tuner will use what may be called a "test blow." Firmly playing the note will usually equalize the tension between the several string segments. Some say that it is the impact of the hammer against the string that does the job; others say it is the vibrations of the string after it is struck. In order to be absolutely sure of string tension equalization, I usually do two or three hard blows allowing each one to sound for one or two seconds. How hard is a hard blow? If you want to produce a "bomb-proof" tuning, the test blows should be just short of breaking hammer shanks.

Remember, the test blow is used to set the *string*, not the pin. Pounding the daylights out of a string will have no effect on a twisted tuning pin. Setting the pin is done by skilled manipulation of the tuning hammer. However, minimizing the movements of the tuning hammer will not only minimize pin twisting, but will also help to minimize string distortion.

The combination of these skills of setting the pin and setting the string, along with trained and focused hearing, and a lot of patience, persistence, and practice, is what makes a piano tuner a professional.

The next time you walk away from a piano you have just tuned, remember Doris and the officious sponge. Don't leave anything in the piano that doesn't belong there, especially distortion of the tuning pins and strings. If you do, you might be considered guilty of tuning malpractice.

Tech Check



TELEPHONE TECHNIQUES

Willem Blees, RPT
St. Louis Chapter

The telephone is our most important business tool. Without it, we would have a difficult time running our business. The way you use the phone can make a big difference in how successful your business will be. This article will talk about telephone courtesy, customer awareness, vocabulary, taking charge of calls, dealing with angry callers, and handling difficult calls.

Telephone Courtesy

"You never get a second chance to make a first impression." That is true when you enter a room, or when you answer the phone. What customers remember most is how they are treated when they call you, either to set up an appointment, or just to ask a question. You never know if the person on the other end is "just shopping around," or if he/she is looking for a piano tuner for his/her school district with 100 pianos, willing to pay full price. Treat each call as the most important one of the day.

You know how to answer the phone, but what to say, when to say it, and what not to say are very important. A big rule of thumb when talking to a customer is to know what it feels like to be on the other end. In other words, don't forget the golden rule: "Do unto others, as you would have them do unto you." Treat your callers like you want to be treated.

We live in a service oriented society. People skills are as important, and sometimes more important, than technical skills. The customer is a person who buys your service. You should always keep in mind, no matter how aggravating answering the phone might seem, that *the customer is not an interruption to your work, the customer is your work.*

When customers call a place of business, they are looking to make a long-lasting relationship with that business. So it is up to you to keep that customer. But there are lots of reasons why customers go somewhere else: 1% of the time they die; 3% of the time they will move away; 5% of the time they will form other loyalties, like a neighbor, a friend a relative, etc.; 9% of the time, they will leave for competitive reasons, like a coupon, or an ad in the paper, or a recommendation from a friend; 14% of the time they will leave because of service dissatisfaction.

But the most overwhelming reason customers leave, 68% of the time, is because of indifferent attitudes or rudeness on the part of a representative of the company. The phone wasn't answered right away, or not at all; the person answering was rude, or didn't know the answers, or showed indifference to the caller. Or the service representative of that company was rude on the job, didn't know his/her work, or showed indifference to the customer or the product that was serviced.

Therefore, always treat the customer with respect and courtesy, by following the Seven C's of customer service.

1. **Customer** comes first. This is an effective means to take care of the customer. Let the customer know he is important to you.
2. **Craftsmanship**. Know the technical aspects of your job.
3. **Courtesy.** Treat others as you would like to be treated.
4. **Confidence**. Show that you know what you are doing.
5. **Creativeness**. Find new ways to solve recurring problems.
6. **Calmness**. If a customer gets mad at you, take it professionally, not personally.
7. **Caring**. What goes around, comes around.

Equipment

The equipment you use is very important. Make sure it works right. Periodically, clean the mouth piece. Dirt and moisture will cause the amplifier to become corroded, which will cause cracking and spitting sounds to come through to the listener. If you don't know how to clean it yourself, take the phone to a phone repair shop.

Location of your phone is also important. Your telephone should be in a place where you can easily get to it quickly from any point in your shop, without having to climb over pianos, plates, or actions. In your office, to avoid the cord stretching across you when you write, the phone should be on the opposite side of your desk that you write with. If you are right handed, the phone should be on the left side of your desk. Answer the phone with your non writing hand.

Have pens and papers handy all the time. Attach a chain to a pen if

you have to. Always keep a message pad, or appointment tickets in the same place, so you know where to find them. Any hesitation on your part will look and sound unprofessional to the caller. Be sure to tell other people in your house, office or shop, how and where you want messages to be taken, and to leave the pen at the phone. (Teaching children from an early age to answer the telephone correctly will help when they become teenagers).

Answering The Phone

Answering the phone should be like entering a customer's home. Try to gain rapport with the customer, and try to gain a harmonious or sympathetic relationship. There are several ways to develop this.

Body posture. You don't have to come to attention, but at least pay attention to the customer. Even though the customer can't see you, your posture is reflected in your voice. If you are sitting in an easy chair, your voice will emulate that posture. If you are working on a project, the inflections in your voice will reflect that.

Voice tone. The way your voice sounds is important to the customer. If you are angry at someone, don't let that anger be heard on the phone. If you show disgust, even if is not meant for the person on the other end of the phone, the client will sense that.

Energy level. It is hard to be "up" all the time, but you are on the phone for only a few minutes at a time. "Pump yourself up" every time the phone rings. It will make a difference in your attitude. **Smile**. You can hear a smile a mile away.

Speaking rate, enunciation, and **diction**. All three of these are related. Speak clearly, slowly, and with good diction. What you say is only as good as how it is heard by your customer. If Mrs. Jones has to ask you twice how much you charge, or when you will be there, she might call you back to cancel the appointment, because she doesn't want to be embarrassed to say she could not hear or understand you.

Volume. Don't speak softly, but don't pretend the customer is deaf either.

Listening ability. Be sure you understand what the customer wants.

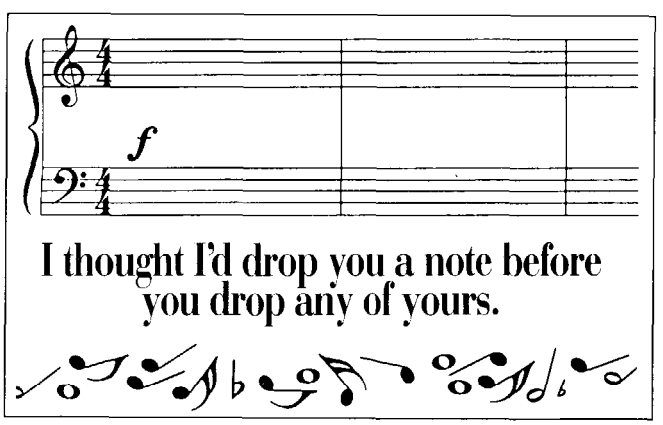
Watch your language. Emotional trigger words and expressions can annoy your caller and can create an adversary rather that an ally. To save time and increase cooperation with your customers, use positive wording, or at least neutral language. Instead of saying "you have to", or "you must," or "you should," try saying things like, "I would like to recommend" or "you could" or "it would be better if you tried." Take an attitude of helping the customer, and give positive responses. "What do you want me to do about your problem?" comes off better if you said "How can I help solve the problem?". "That's impossible" and "I don't know" are better answered with "I don't think that can work," and "I'll try to find an answer."

PTG Reminder Cards

Order Card D (green & black)

These cards are available from PTG Home Office.

Order Card E (red & black)



Order Card F (red & black)

Keeping Control Of The Conversation

One way we can be better on the phone is if we can take control of the phone call when it comes in. The first thing is to try to answer the phone within three rings. There is a psychological advantage to this. The customer is ready to make an appointment, and is in a positive attitude when calling. If the phone rings more than three times, the customer is already starting to think of other things that have to be done or other phone calls that have to be made.

If you must place a customer on hold, don't apologize for it, but also don't take it for granted that the customer is going to hold. Ask if the person wants to be put on hold, or if calling back is better. If you know it will be a few minutes, give the customer the opportunity to call back, or be called back. A minute on hold feels like an hour. And when you get the customer back, again, don't apologize, rather thank the customer for waiting.

When you answer the telephone, be assertive and firm, but friendly. The first things said are most important. It sets the tone for the rest of the conversation. "Hello," is not a good start. Neither is "who is this?" The least you should say is the name of your company or service. There are three additional items that will help the customer: a greeting, the person with whom the customer is talking, and a question. "Good morning, Blees Piano Service, this is Mr. Blees. How may I help you?" All of these items will identify with whom the customer is talking, and let him know you are there to help, which is why he is calling in the first place.

People want to hear their own name. It make them feel important. When you have answered the phone, and the customer gives his/her name, write it down. Then use it at least three times during the conversation. At the very beginning. "Yes, Mrs. Jones, what can I do for you today?" During the conversation. And at the end, "thank you for calling, Mrs. Jones."

Staying in control of the phone call is important, because you want to control how long you want to stay on it. Usually you are working on something else, and want to get back to it. When a customer starts with a long dissertation about all the problems she has had with her back, and how her daughter has moved out of the house, be assertive, but friendly, and interrupt. "Excuse me, Mrs. Smith, but how may I help you today." If she continues with how her mother died five years ago, again, firmly but friendly say, "Excuse me, Mrs. Smith, but I can best help you if I see the piano."

Try to keep the conversation with the customer to the point, by getting back to the point as often as is necessary. Help the customer by asking questions that are directly related to the problem. Questions that seem elementary to you are important to the customer. But since there are no dumb questions, only dumb answers, do not "talk down" to a customer.

Setting Appointments

Just as you want to keep control of the conversation, you also want to keep control of your time, not just when working at home, but also when you are on the road. When a customer calls to schedule an appointment, give a choice of two different times. Look in your appointment book, and see what other appointments you have in that neighborhood. If you do have another appointment in that same zip code, ask the customer if you can come before or after that appointment. If you have two or three available slots in that neighborhood, ask the customer if either one of those times are good. If none of those times are good, then ask the customer to suggest a good time. Even if you don't have any appointments schedule, start off by giving the customer a choice of two possible time and dates. If neither one works, try two more. Then finally let the customer choose a time and date.

At the end, make sure the customer understands what you have arranged. Do this by talking in the past tense and with definite times. "We have set up the appointment for 3 o'clock next Tuesday." "I will call you tomorrow evening at 7." And always close the conversation with "thank you", using the customer's name.

Most of your incoming calls will be to schedule an appointment for a service call. One of the first questions asked is "how much do you charge?" Some of those customers are price shoppers. They are looking for the least expensive tuner. That is fine. There is nothing wrong with that. You might as well be ready for them. So the quicker you give the answer, the quicker you can get on with your other work. Most customers, however, want to know your fee so they can see if they have enough money to pay you before scheduling the appointment.

Dealing With Angry Customers

Dealing with angry callers or unsatisfied customers is probably one the most unenjoyable aspects of our business. But it is also one of the most important aspects of it. According to a survey conducted by the Research institute of America, 96% of unhappy customers never complain about rude or discourteous treatment. *But*, 90% or more who are dissatisfied with the service will not come back or call again. What is even more disconcerting is that those unhappy customers will tell his or her story to at least *nine* other people, and 13% of those unhappy former customers will tell their stories to more than twenty people. So you can see how one unhappy customer can be more disruptive to your business than a negative campaining ad.

There are five major reasons why people complain:

1. The customer didn't get what was promised;
2. an employee was rude to the customer;
3. The customer felt indifference from the company;
4. The customer felt no one listened;
5. An employee projected a "can't do" attitude.

Although we tend to ignore and treat with disdain the complaining customer, it would be to our advantage if you thought of *the complaining customer as your best friend in the business.* Only your best friend would tell you that you have bad breath. If customers didn't complain, you wouldn't know you had a problem. They point out areas that need improvement. They give you a second chance to provide service and satisfaction. And they provide you with a good opportunity to strengthen customer loyalty.

When an angry customer calls you, she has a script ready. And that script has been rehearsed. She is ready to let you have it, right between the eyes. The best thing you can do, is let her talk out the script. The more you try to interrupt, the more angry she will get, and the more determined she will be to be dissatisfied with you. Therefore, to avoid losing the customer, follow these six steps on how to handle the angry customer.

1. Don't buy into it. Take the call as a professional. Unless you said something derogatory, the customer is not yelling at you personally, but is complaining about the work you did. So take the complaints as a professional piano tuner. Avoid the dangers of name calling, denying your mistakes, or placing the blame on the piano.
2. Listen to understand. Try to understand what the complaint is about. Hear the customer out, don't interrupt. Remember that script. Let it be told. This doesn't mean you have to agree with what is being said, but until you hear the whole story, you will not know the complaint.
3. Show empathy. Reflect the feelings of the customer. Let her know you understand that she is upset. "I can understand your feelings. I am sorry I didn't provide the service you expected."
4. Identify the problem. This is extremely important. Repeat the problem you just heard. If you don't repeat back what you think you heard, there will be a lack of communication. Make sure the customer understands what you just said. Often, after you have repeated the problem back, the customer will realize the problem is not as bad as it was. It will assure that you do understand.
5. Find a positive solution. Ask how you can help come up with a solution to the problem. If you ask the customer to come up with a solution, and work to solve the problem, you will find that she is much more willing to have you come back and fix it than demand a refund.
6. Thank the customer for calling. As was mentioned before, the complaining customer is your best friend.

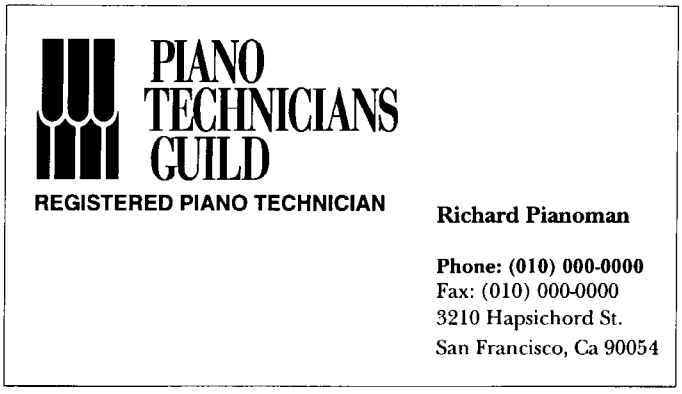
The Answering Machine And Car Phone

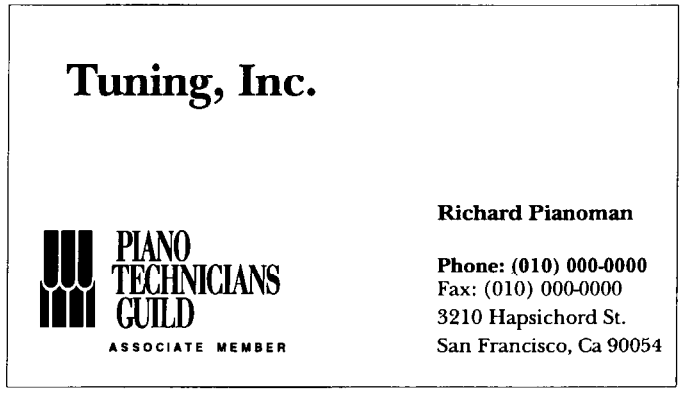
The use of the answering machine is taking the place of the receptionist. When someone leaves a message, they expect a return call as soon as possible, especially if your message says you will get back to them as soon as possible. One of our chapter members says on his tape that he returns phone calls and is in his office from 7-8 each morning. This lets the caller know ahead of time when to expect a return call, or when to get hold of him. People who work in offices will set aside an hour towards the end of the day just to return calls. Whether it is at 7 o'clock in the morning, or 7 o'clock at night, schedule a time each day to return your calls. Make notes on your messages how many times, and at what times you have tried to return a call. This will help you when an angry customer finally gets you back.

One way I have eliminated the need to return messages in the evening is by having a car phone. I have my business phone transferred to my car phone, which has a voice mail box. After each appointment, I retrieve my messages and return the calls right away. It saves me a lot of time in the evening, and often I have been able to fill out a day with last minute appointments.

The phone is your friend, and most important business tool. Treat it with respect, and use it to make money. J

New Business Cards, On Sale At Home Office, Reflect Logo Change





These cards are now available!

The new Guild business cards convey a clear, professional message. Printed on a 10 pt. cast coated, flecked stock, they incorporate the Guild's commitment to recycling as well. The stock that was chosen for the new business cards comes from the James River *Retreevecoat* Recycled Collection. Text on the card is a raised letter printed in PMS ink color 432, a charcoal gray.

Please allow 2-3 weeks delivery after order is received by Home Office

Registered Piano Technicians and Associates alike may order these cards in quantities of 500/$45.00 or 1,000/$70.00.
A price break is offered only for orders of 1,000.

TO ORDER YOUR NEW BUSINESS CARDS:

Call:

PTG Home Office 816-753-7747
Monday-Friday 8 a.m. - 5 p.m.

FAX:

Your order along with your Visa or MasterCard Account # to
816-531-0070
24 Hours/7 Days

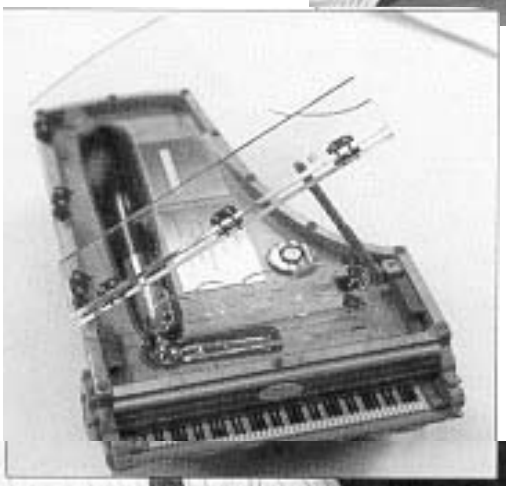
Be sure to include your credit card expiration date

Knowledge On Tap

In Milwaukee

The 36th Annual Piano Technicians Guild Convention and Technical Institute is now a part of history.

Over 800 members of PTG converged on convention headquarters, *The Hyatt Regency Milwaukee*, to discuss, decide, declare, dedicate, deduce, defend, defuse, delegate, deliberate, describe, design, and debate the issues, opportunities, and challenges which lay before the body of professionals known as *"piano technicians."* In between Council sessions, Board meetings and Institute classes, the PTG honored some of its finest and conventioners had occasion to enjoy a relaxing evening with old friends, as well as come to know some new ones.



The exchange of ideas and knowledge about piano technology and the piano service industry was wide spread. Technicians can always *depend* on the "free trade agreement"; that unwritten rule which allows for the free communcations of all the "tricks of the trade."

Council was *devoted* to creating opportunities for Associates to feel more a part of the Guild, to furthering their education and to encouraging them to upgrade to Registered Piano Technician. The Institute Committee offered an array of challenging classes and mini-technicals, the exhibit hall was filled to the brim with piano manufacturers and suppliers with all the latest and and greatest "cool tools and other stuff" to buy and in keeping with tradition, there were many, many surprises in store for all who came to see what was brewing in Milwaukee.....

1993 Convention Coverage

Council Delegates, along with the Board of Directors, began their two days of considerations on Tuesday, July 13. Some of the many topics discussed during those deliberative days included: the acceptance of the new PTG logo and the adoption of the Graphic Standards Manual, as presented by Glenn Sheike from Phelps Group; the continuance of the $12 assessment for the marketing program; and the decision to allow both RPTs and Associates alike to purchase many of the marketing tools and business aids that have been generated through the marketing plan.

On Wednesday, July 14, Council had the opportunity to hear from President Fern Henry, as she addressed the future of PTG, the scope of her goals in the coming year and her desire for PTG to make positive strides by working together as a cohesive and supportive group.

During her presentation, President Henry also introduced the *PACE* Program, an educational ladder for Associates who desire a step-by-step, targeted avenue toward upgrading to Registered Piano Technician.

Wednesday evening was highlighted as technicians from 45 states, six Canadian Provinces and 9 other countries gathered for the 36th Annual Convention Opening Assembly.

Secretary-Treasurer Sharla Kistler called the roll to officially kick-off the fun. The internationally diverse group welcomed one another and offered congratulations throughout the evening to those who were recognized for outstanding service to the Guild. Honors included Chapter Services Committee awards for Outstanding Newsletter and one outstanding chapter in each of the three categories; Examiner of the Year Award; two Presidential Citations as well as Member of Note Awards and recognition for the 1993 PTG Hall of Fame inductees.

A Special Thank You To Outgoing Board

PTG President, Fern Henry, stands with outgoing Board members as they receive a rousing show of appreciation from all those attending the Saturday evening banquet. Honored for their years of service to the Guild are Secretary-Treasurer Sharla Kistler, Immediate Past President Nolan Zeringue and Central East Regional Vice President Richard Bittner.

1993-94 Board of Directors

Serving on the 1993-1994 Board of Directors will be: (Seated) Fern Henry, RPT, President; Leon Speir, RPT, Vice President; Colette Collier, RPT, Secretary-Treasurer; (From Left) Robert J. Russell, RPT, Central East RVP; Jim W. Coleman, Jr., RPT, Western RVP; Robert L. Johnson, RPT, South Central RVP; James Birch, RPT, Northeast RVP; Eugenia Carter, RPT, Southeast RVP; Michael A. Drost, RPT, Central West RVP; and Taylor Mackinnon, RPT, Pacific Northwest RVP.

1993 Institute Committee

The 1993 Institute Committee was recognized for their contributions to the success of the Milwaukee Convention. (Pictured below) Gary Neie, RPT, Institute Director; Ray Chandler, RPT, Assistant Director; Fred Fornwalt, RPT, Assistant Director; and Steve Brady, RPT, Assistant Director. (Pictured above) John Lillico and Institute Director Gary Neie, catch a quiet moment in between the storms of the hectic activities of convention.

Opening Assembly—Awards and Honors

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(10-12) Past Presidents and "Hall of Famers," Don Morton and Ernest Preuitt, introduced the 1993 Hall of Fame Inductees. Recognized for their years of dedication, support and contributions to the Guild were Past Guild President Charles P. Huether and the "Father of the Accu-Tuner," Dr. Albert "Al" Sanderson. (13) Jack Stebbins, ETSC Chair, congratulates the 1993 Examiner of the Year, Charles Erbsheml. (14) Member of Note Awards were given to Janet Leary and Richard Quint. Bruce Dornfeld was asked to accept the award on behalf of Quint.

(Below) Immediate Past President Nolan P. Zeringue, is congratulated by President Fern Henry for his years of dedication to the Guild and is presented the Past President's Medallion, in recognition for outstanding service.

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(Below: 16-19) 1993 Chapter Services Committee Chair, Colette Collier, delivers the awards for Outstanding Newsletter and Outstanding Chapters.

This year's recognized newsletter award went to the Indy-440 and was accepted by Bob Bussell on behalf of Indy-440 Editor Jon Light. Chapters receiving special recognition were the Blue Grass Chapter, Category I (5-15 members), accepted by Fred Tremper; the Richmond Chapter, Category II (16-34), accepted by Alan Hallmark ; and the Washington, D.C. Chapter, Category III (35-plus), accepted by James Briley.

(Left) Jack Sprinkle and President Fern Henry offer a Presidential Citation to LaRoy Edwards for his years of service and work with "Journal on Tape," a service for the visually impaired .

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Manufacturers and Suppliers

To cap off the Wednesday evening assembly, conventioners were invited to a sneak preview of the many exciting products and services that were displayed this year in the exhibit hall. The accordian-accompanied cluster made their way from the Hyatt to the MECCA Convention Center to participate in the ribbon cutting ceremony which officially opened the hall. Over 60 piano industry manufacturers and suppliers were on hand and ready to deliver the latest technology, tools and business aids available and exhibitors this year hosted many eager shoppers, anxious to update their tool cases and more. Exhibitors for the 36th annual convention included: Accu-Tech Tool Cases, American Piano Supply, Baldwin Piano & Organ, Boston Piano Co., Brooks, Ltd., Brookside Press, Coleman & Sons, Cory Keyboard Products, Dampp-Chaser Electronics Corp., Dryburgh Adhesive Products, Inc., Easy Voice, Inc., Fandrich Piano Co., Ford Piano Supply, Gemini Touch Control, George Brown College Center for Piano Technology, GRK Manufacturing, Hart's Piano Shop, Hastings Piano, Inventronics, Inc., John Travis Books and Keyboard Novelties, Jordan's Organizers, Kawai America, Kimball Piano, Kluge Keyboard, Mason & Hamlin, McCall Enterprises, North Bennet Street School, Nowogroski Insurance Associates, Pacific Piano Supply, Paul L. Jansen & Son, Piano & Keyboard Magazine, Piano Technicians Guild, PianoDisc, Pianotek Supply, Poeschl Manufacturing, Randy Potter School, Renner USA, Reyburn Piano Service, Samick Music, Schaff Piano Supply, Schimmel Piano, Seiler Pianofortefabrik, Spurlock Specialty Tools, Steinway & Sons, Wurlitzer, Walter Piano, Webb Phillips & Associates, Weber Piano, Well-Tempered Tutor, Wonder Wand, Yamaha Corp. of America, and Young Chang America. Thank you to all our exhibitors!

Randy Potter serenades conventioners as they walk from the Hyatt Regency Hotel across the skywalk into the exhibit hall area called MECCA.

(Below) President Fern Henry cuts the ribbon and officially opens the convention exhibit hall.

Paul L. Jansen & Son-"Eager to assist!"

Cory Keyboard Products

Webb Phillips & Associates—Take a look...take a look.

Gemini Touch Control—Fine Tuning

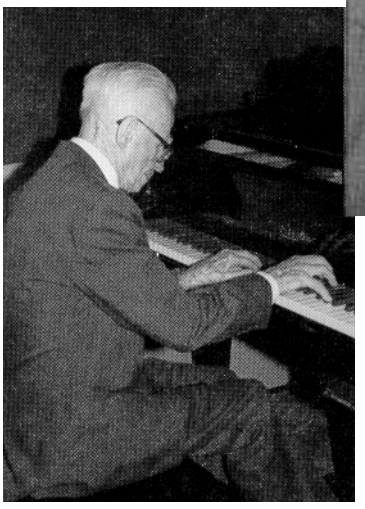
Renner USA—Action!

American Piano Supply—Making a case for the sale

1993 Exhibit Hall Extravaganza

Fanarich Piano Company—Just right!

Schaff Piano Supply—Tools & more!



PianoDisc—Play it again Paul!

Step Right Up... For The Show That Never Ends!

McCall Enterprises—Just call McCall

Pacific Piano Supply—Serious matters

Jim Coleman & Sons—Please see the PC

GRK Manufacturing

QRS Music Rolls—Funny matters

Yamaha Corp. of America—In preparation

Exhibits Galore..!

Dampp-Chaser

Reyburn Piano Service—Totally automated

Easy Voice

Spurlock Specialty Tools

Kluge Keyboard

Dryburgh Adhesives—Sticky business

Steinway & Sons

Pianotek

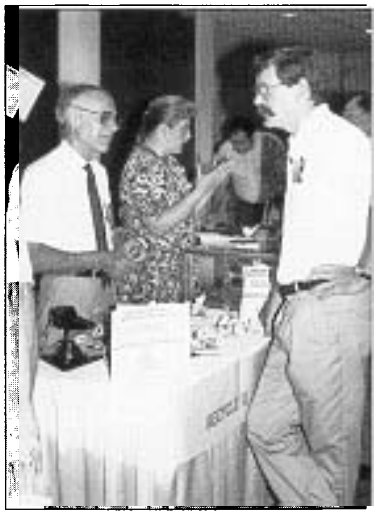
Young Chang

Jordan's Organizers

Ford Piano Supply

All This... &

Foundation President, Bruce Dornfeld, & Vice President Nolan Zerigue were presented with the PTG Articles of Merger, which are signed by John Travis and Erroll P. Crowl, and were taken from the John Travis files. The articles were donated by the Washington, D.C. chapter and bound in a presentation book for archival safekeeping. Also pictured are D.C. Chapter President James Briley and Colette Collier.



Craftsman Bill Smith pushes recycling at the PTG Foundation Booth by creating hand crafted items from old piano parts. Bill's creations were placed in silent auction for donations toward the completion of the Piano Technicians Guild Museum, to be housed in the Kansas City Home Office.

(Above) Barbershop Quarteters croon a tune by the light of the —Hyatt Regency?—as the crowd gathers to hear the melodious harmony. (Left) Quartet Director Larry Crabb keeps 'em on key.

(Right) Leslie Cook, 1993 Auxiliary Scholarship Award winner accepts accolades from an admiring audience after her recital, sponsored by Baldwin Piano and Organ.

(Left) President Henry congratulates Gary Neie for his outstanding contributions and dedication as the 1993 Institute Director.

(Right) A Saturday evening concert, Roger Williams style, was sponsored by Steinway & Sons, and capped off the Golden Hammer Banquet.

A Whole Lot More!

In addition to the outstanding show going on in the exhibit hall, participants in this year's convention were entertained with numerous musical and social activities. Thursday evening boasted a recital which featured this year's Auxiliary Scholarship winner, Leslie Cook, and was sponsored by Baldwin Piano & Organ Company. Friday night played host to the traditional Yamaha Party, complete with live music and plenty of sport from those attending...(this event alone may be worth the registration!) The ever popular barbershop quartet was once again on hand to croon a tune from many a moon—ago and *"the crowd joined in"!*

Saturday brought the answer to the ever secretive question, *"who is this year's Golden Hammer winner?"* as the 36th Annual Golden Hammer Banquet revealed that and much more. In addition, two awards were given by Don Valley, Chairman of the Continuing Education Committee. 1994 Institute Director Steve Brady addressed the crowd, highlighting some of the many new and exciting opportunities which he and the Institute Committee have in store for the Kansas City convention, including special programs and hands-on classes for Associates, and 1994 host chapter representative Lucy Urlacher, gave a run down on the many sites and sounds to expect during the Kansas City stay.

The evening was completed with a Steinway-sponsored concert by pianist Roger Williams.

1994 Technical Institute Director, Steve Brady, addresses the banquet crowd to discuss some of the many ideas planned for the Kansas City Convention, while (below left) host chapter representative Lucy Urlacher, gives everyone the scoop on things to see and do while in Kansas City. (Below) In a quiet moment of the Golden Hammer Banquet, Don Morton and Bill Smith announce the recipient of the 1993 Golden Hammer Award, Past Guild President, John W. Travis, and present the award to his son, Michael Travis. During an eloquent acceptance speech on behalf of his father, Travis assured the crowd that while his father was unable to attend this year's convention, he would be extremely grateful for this special recognition and for all the friendships and love he has gained through his years in the Guild. Michael Travis also promised that he would make a special presentation of the award to his father.

(Above right) John W. Travis holds the hand carved artistry in his home in Maryland.

Special Note: To insure that Mr. Travis received the full appreciation of those attending the banquet, a video tape was made of the Golden Hammer presentation and sent to him along with the award.

(Above Left) Kim and Paul Niehaus orchestrate and carry out the tedious, often perpetual task of moving pianos during the week-long activities of convention, while Institute Director Gary Neie looks on. (Below Left) President Fern Henry presents a Presidential Citation to Home Office Staffers, Larry Goldsmith, Executive Director; Jami Henry, Director of Communications; Mary Kinman, Director of Member Services; Catherine Wilane, Director of Finance and, not pictured Sandy Essary, Convention Coordinator and Teresa Viens, Administrative Assistant. (Above center) Institute Director Gary Neie acknowledges Convention Coordinator Sandy Essary, for her contributions to the success of the convention. (Above right) Home Office Administrative Assistant Teresa Viens answers a question for Auxiliary Vice President Paul Cook, while PTG Secretary-Treasurer Sharla Kistler lends a helping hand.

1993 EVENTS CALENDAR

SEPT-OCT	30-3	**Ohio State Conference** Holiday Inn-Dayton Mall Contact: Kathy Shaw,1066 W. Sparrow Road, Springfield, OH 45502, 513-323-2555
OCT	15-17	**Texas State Seminar** Ramada Kings Inn—NASA Road One Contact: Ray Whitmire, 7126 Sonnet Glen, Houston, TX 77095, 713-859-7535
OCT	29-30	**Historical Temperament As An Art Based on the Aesthetics of Music** Twin Cities Chapter—St. Olaf College Contact: Dennis Johnson, Music Department, St. Olaf College, Northfield, MN 55057, 507-646-3587
NOV	4-7	**New York State Convention** Westchester Marriott Contact: Michael meade, 27 Perch Drive, Mahopac, NY 10541, 914-528-3365
NOV	6	**Orange County Chapter Seminar** 1st Presbyterian Church Contact: Peg Browne, 11511 Wasco Road, Garden Grove, CA 92641, 714-530-4768
NOV	11-14	**North Carolina State Conference** Omni Hotel—Richmond, VA Contact: Lewis Spivey, 15 Rachel Drive, Nashville, NC 27856, 919-937-4777
JAN-'94	7-8	**Arizona State PTG Seminar** Tucson Chapter—Aztec Inn Contact: Bob Anderson, 5027 E. Timrod Street, Tucson, AZ 85711, 602-326-4048
FEB-'94	11-13	**California State Convention** Cathedral Hill Hotel—San Francisco, CA Contact: John Schaecher, 2015 Divisadero Street, San Francisco, CA 94115, 415-567-1800

AUXILIARY EXCHANGE

Dedicated To Piano Technicians Guild Auxiliary News and Interests

I certainly hope and trust that all of you arrived home safely from Milwaukee and have told and retold all the exciting events that took place at the 36th Annual Convention of the Piano Technicians Guild. Did we have a good time or what?

Thank you Donna Moberg for the Welcome Walking Tour of the city around the hotel. I was in meetings all day but heard that it was a great success and wish I could have been with you.

Thank you Charlie Huether for the very informative and educational talk of the Guild and its history, past, present and future.

Thank you Marilyn Raudenbush for the exciting presentation of sign language. I was really interested in it and hope that others were to, enough to pursue an adult learning course in their home towns.

Thank you each and everyone for staying for the meeting of the Council. And thank you for your support. The letters and cards that I have received since I have returned home imply to me that you really care. Ideas are coming thick and fast. I like that. From all those ideas we will build a program for next year the likes of which you have never seen. I am going to move the program schedule all around next year so that you will have more time to caucus with your friends from each region and decide how you want to vote. I will try not to have a big Auxiliary luncheon on the same day as the Awards banquet. I have already started planning events for next year so now is the time to express your thoughts and ideas to me. We are hoping that we may be able to attend some PTG classes that would pertain to the non-tuner spouse, such as running the office, business relations and dealing with customers, and also spouses and families working together in a family business.

1993 Auxiliary Scholarship Winner, Leslie Cook

I would hope that each and every one of you could attend your local area seminar and talk up the attendance at our 37th convention in Kansas City next year. It starts in the grass roots and that is YOU.

Please forgive me if I have missed anyone who added so much to the wonderful week we had together in July. Last, but not least, I wish to thank my Executive Board for their continued help and support.

You were all so receptive in greeting our high school scholarship winner, Leslie Cook, and I hope that we can stay in touch with her and her career. After the Auxiliary luncheon, we were able to collect another fifty dollars which I have since sent to her. Thank you all for purchasing those cook books and greeting cards. We will have more grand piano greeting cards next year for those of you who were not able to buy them. After the second printing is done I will have them here at my home so watch these pages for details.

Again, thank you all for coming to Milwaukee and start your sugar bowl for Kansas City. You won't be sorry.

Most Sincerely,
Phyllis K. Tremper
PTGA President

Thanks to all of you have sent me articles and information for upcoming issues of the PTGA Exchange. It really makes my job easier and I know it is more interesting for our readership. Keep those cards and letters coming in!—JR

Check Out Those New Officers

Over the next few months we will have brief "bio's" of our officers to help us get better acquainted. This month we'll find out a little more about Judy Rose White.

WHAT'S MY LINE?

I am Judy Rose White. My friends call me Judy Rose, although I am conditioned to answer to the name of Judy. I spend the months of August through May teaching grade three in a rural school comprised of a consolidation of three small towns by the names of Alma Center, Humbird and Merrillan. I live in Eau Claire, Wisconsin and therefore commute eighty miles to and from work daily.

As a certified primary teacher I have requested various grade levels over the years and have spent time in all but grade one. As a professional, I feel that these grade changes have enhanced my ability as a teacher rather than hindered it. By experiencing a variety of grades, I have increased my awareness of educating the total child rather than teaching a subject or a grade.

This past summer I felt I joined the ranks of "bag lady." Prior to packing my bag for the Milwaukee convention, I spent five weeks teaching and researching education in Inverness, Scotland. This was followed by a week of sightseeing in and around London, England. After returning to Eau Claire from Milwaukee, I regrouped and prepared to dash off to North Dakota (the home of my son and daughter-in-law) at the birth of my first grandchild who is already lovingly nicknamed "Bumper." This will not end my "baggin-it" as I will also travel to visit my daughter and son-in-law in Cordova, Tennessee before August 22.

Somewhere in between all this I have also taken graduate work at UW-River Falls and responded to the routine domestic duties of laundry, mowing, laundry, redecorating, laundry, home maintenance, laundry, etc!!! It is not to worry though, I have also "taken time to smell the roses!" Hopefully as corresponding Secretary, I shall also reach some of you and help you to do the same. **A**

1993 Milwaukee Convention—Working Together Toward Success

The newly elected Piano Technicians Guild Auxiliary Board of Directors: (L-R) Phyllis Tremper, President; Pearl Kreitz, Recording Secretary; Paul Cook, Vice President; Sue Speir, Treasurer; Arlene Paetow, Immediate Past President; Judy Rose White, Corresponding Secretary.

(Below) The Auxiliary Board tries to match up puzzle pieces given to them during the Installation Luncheon—a symbolic gesture to show support for one another and a willingness to work together toward the common goals of the group.

The auxiliary at work, work, work!

Piano Technicians Guild President Fern Henry addresses the PTG Auxiliary during their annual Installation Luncheon at the PTG Convention. Henry stated her goals to open the lines of communication with the group and work together.

Ginny Russell, Pearl Kreitz and Phyllis Tremper enjoy a moment to just "hang-out" upon their return to the Hyatt following the PTGA Tour of Milwaukee.

August • August • August • August • August • August

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August • August • August • August

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Piano Discussions™

October 1993

News From The World Of PianoDisc

New Factory Opens

New Facility Will Offer Better Service and Increased Volume

As of August 1 we have moved our factory and administrative facilities to our new building at 4111 North Freeway Boulevard in Sacramento, California. Among other things, this means that we have a new address and telephone number (see below).

As many of you technicians out there know from visiting our old facilities, the move was long overdue. Space was so cramped at the old building that we were conducting portions of the training seminar in an open area near the reception desk.

Well, all that has changed. Our new tech support division has a spacious training facility, and we have a full line up of classes coming up soon. So, if you've been waiting for the right time to learn to install the PianoDisc system, this could be it! But sign up early - the classes are almost always full!

PianoDisc Installation Training

1993	1994
• October 13-16	• January 26-29
• November 17-20	• February 16-19
• December 1-4	• March 16-19
	• April 12-15

*Training is **free**, but a $50.00 refundable deposit is required for confirmation. For information about attending a PianoDisc Installation Training seminar, call PianoDisc at (916) 567-9999.*

Our New Address

PianoDisc
4111 North Freeway Blvd.
Sacramento, CA 95834

Telephone Numbers

Phone: (916) 567-9999
Fax: (916) 567-1941

Tech Support: (619) 258-1460

Our telephone lines are open daily (except weekends and holidays) from 8-12 AM and 1-5 PM Pacific Time.

Tech Spotlight

We have many, many wonderful technicians out there, and we are grateful to every one of you for your dedication to craftsmanship and your diligence. Because of this, from time to time we will be turning the PianoDisc spotlight on one of **you**. So get used to the glare, folks.

This month our spotlight sweeps down to Tampa, Florida, where PianoDisc technician **Mike Carey** of **American Home Entertainment** has been doing about a hundred installations a year. Mike sometimes does six or seven installations simultaneously, but that hasn't compromised the quality of his work. In fact, we've gotten many complements on his work from dealers, and our tech support staff all agree that Mike knows his stuff! So, congratulations, Mike - we'll be sending you some cool PianoDisc stuff as a sort of "attaboy" prize. And keep up the good work!

Top Ten Reasons To Attend A PianoDisc Installation Seminar

(Note: The following list, in honor (?) of David Letterman, first appeared on the inside back cover of the PTG Convention Program in July. It is reprinted here by popular demand.)

10.
Because medical school is no longer an option.

9.
With thousands of PianoDisc systems out there, chances are you'll be running into one soon.

8.
Free PianoDisc shirts given at each seminar are as likely to increase in value as Elvis plates.

7.
Knowledge and skills obtained are probably more likely to increase your income than distributing Amway, playing the lottery or using Ronco Spray Hair.

6.
Pianos with PianoDisc need tuning more often since they're played more. Talk about job security.

5.
A chance to visit historic Sacramento - birthplace of Shakey's, the Pony Express and the Rush Limbaugh show.

4.
If you're from Wichita, Branson, Pensacola or Syracuse, you'd likely be the first technician in your town to do anything new since the invention of the electronic tuner.

3.
Certificate may be good as second ID in some states.

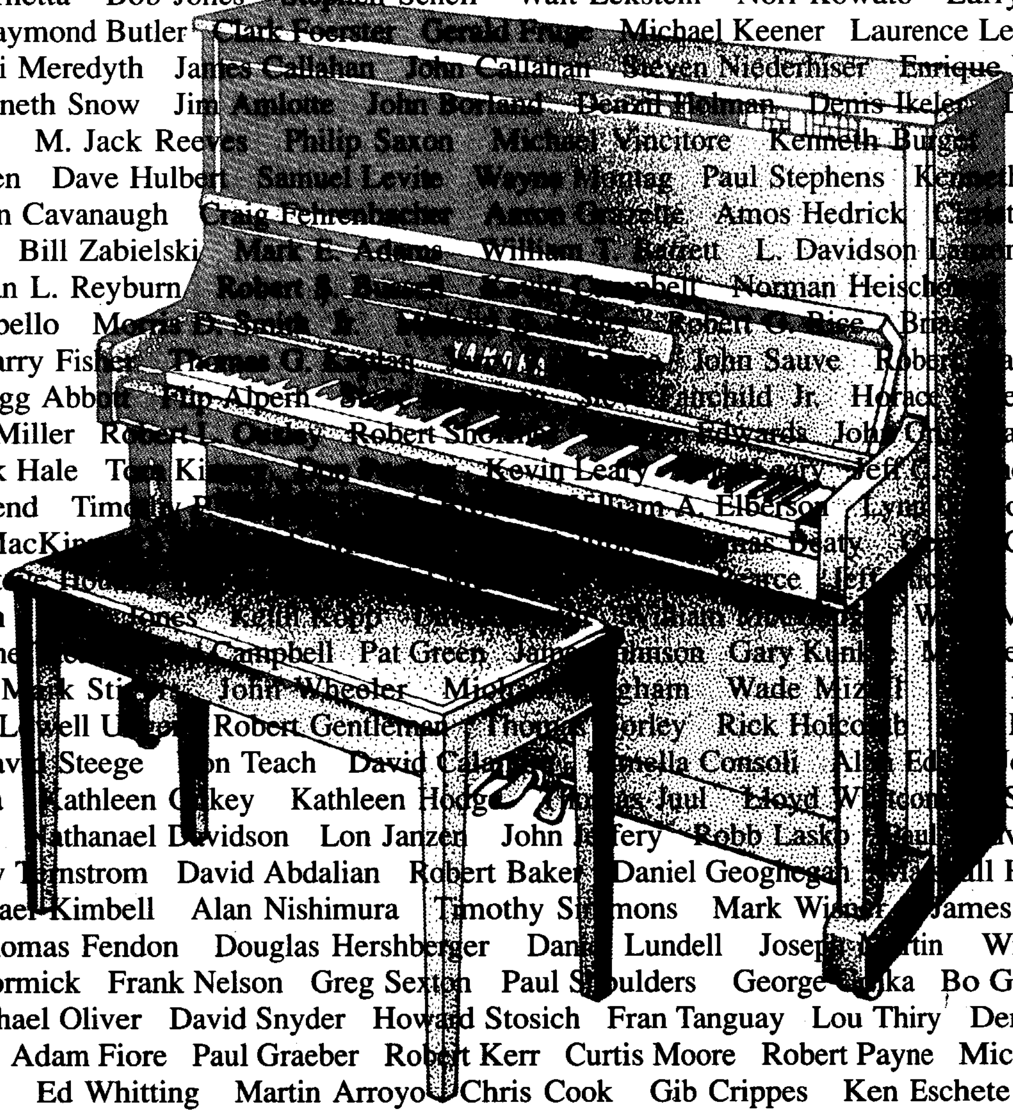
2.
Everyone's doing it.. Webb Phillips, Roger Weisensteiner, Ed Dryburgh and scores of other fine PTG technicians have made the trek to PianoDisc World Headquarters.

1.
All the above, plus four great lunches and invaluable information and training costs...nothing. It's absolutely *free!*

(see column 1 for upcoming seminar dates)

Disklavier™ Piano Service Seminars

Yamaha Piano Service October, 1993



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