PIANO TECHNICIANS
Journal
Official Publication of the Piano Technicians Guild

April 1999

Vol. 42 • #4


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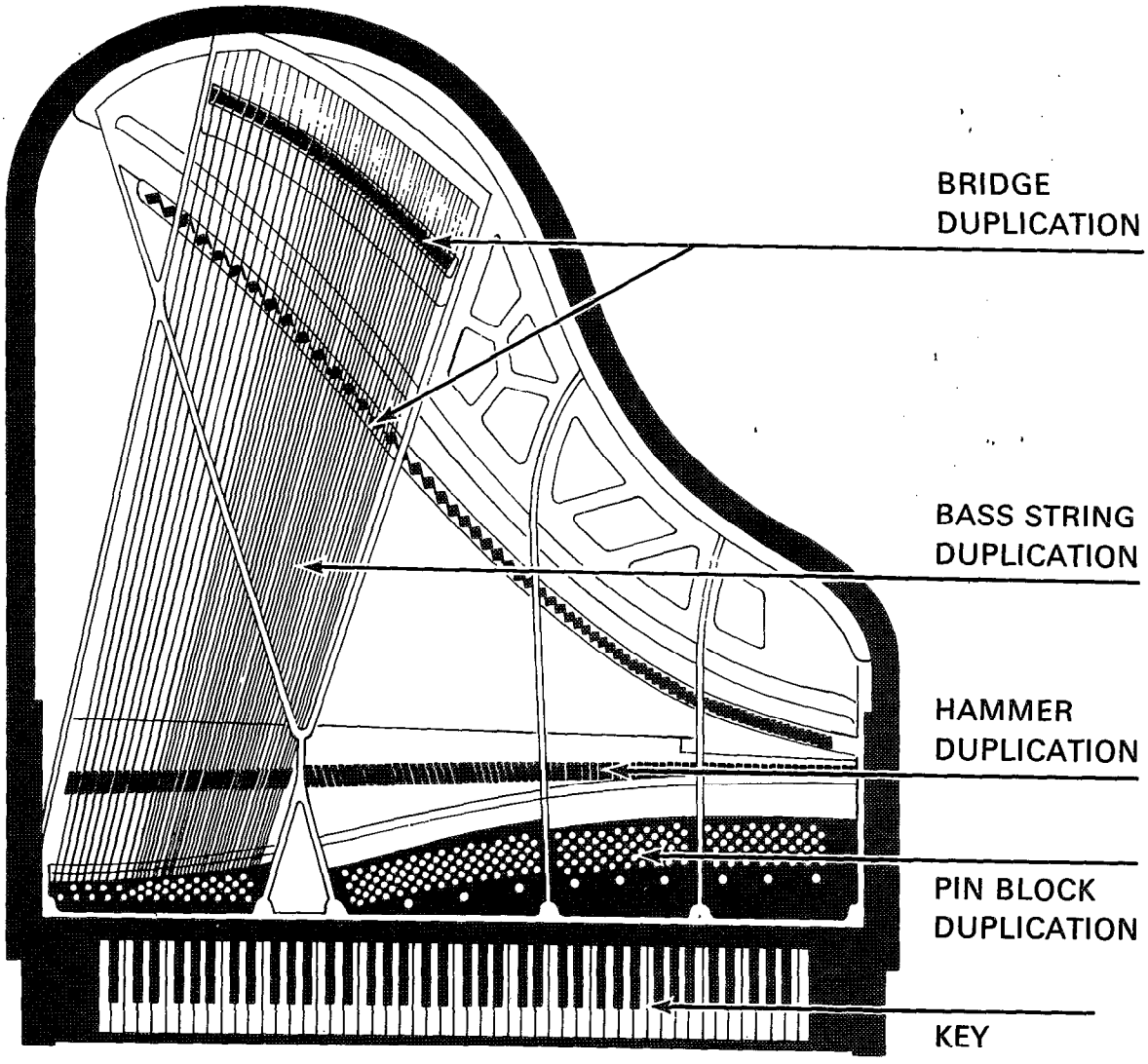

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Journal
Official Publication of Piano Technicians Guild

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DEADLINE: No less than 60 days before publication date (i.e., September 1 for November issue)
Send materials and letters to: Steve Brady, *Journal* Editor
205 McGraw Street • Seattle, WA 98109
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Subscriptions
Annual subscription rates: $55 (US) for Members; $95 for Non-Members (US)/1 year; $175 (US)/2 years;
Single copies: Current year/$10; 1 year/$5; back copies/$2 if available. Piano Technicians Guild members receive the *Journal* for $55 per year as part of their membership dues.

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The Piano Technicians Journal (ISSN 0031 9562) is the official publication of The Piano Technicians Guild, Inc., 3930 Washington, Kansas City, MO 64111-2963. The *Journal* is published monthly. Periodicals postage paid at Kansas City, MO and at additional mailing offices, US ISSN 0031 9562 foreign and domestic.
POSTMASTER: please send address changes to: *Piano Technicians Journal*, 3930 Washington, Kansas City, MO 64111-2963

GUEST EDITORIAL

Retronyms & the "Piano"

By Jim Bryant, RPT
Northeast Florida Chapter

What is a retronym? A retronym is a term, usually a noun, possibly a verb that renames an object ensconced in our conscious vocabulary as one specific thing. This renaming does not automatically recall the first name, but is always tied to it.

Examples of retronyms would be; wood baseball bat and car phone. Every person with a passing knowledge of baseball knows that a bat traditionally is made of wood, yet, today because of the advent of metal bats the retronym "wooden bat" is needed to clarify what you might be speaking of.

The same holds true with the telephone. In ancient days, when Packards and Bugattis roamed the world, the telephone meant one thing and one thing only: a device, usually black, that was connected to the rest of the world of telephones by a direct mechanical link called a wire. Now think of the retros of this simple word, phone. There are cellular, digital cellular, analog cellular, touch tone, dial pulse, radio, car, house, business and even satellite phones!

What does this have to do with pianos? Perhaps nothing and perhaps quite a bit. Let's explore the simple(?) subject of ribs. At one time ribs for a sounding board meant sticks of wood that were put on a sounding board to add strength and crown(?) to the board. In this period there were ribs, period.

Then came along the thought that should ribs be applied to the board at varying angles (a radial pattern for instance), enhancements could be made to the quality of sound. Then there is the rib that is flat and the rib that is crowned. So the root word would be "rib" (the nym as it were) and the "retros" would be; radial ribs, flat ribs, crowned ribs, etc.

To carry this concept further we need to explore undesirable "retronyms." One term that means a great deal to all of us is the term "tune." In the narrow context of our world as piano technicians this word means: "The state of being properly adjusted for pitch." (*American Heritage Dictionary*). Now this does not enter into the eternal struggle between "Historical" and Equal Temperament tuning because these are methods of tuning, each implying their own "properly adjusted for pitch" parameters. Where retros come into play is when we hear "they performed on 'well tuned' instruments." If the instruments were "tuned," does that imply that they were "well" tuned or not? "Well tuned," of course, is the "retro" here and "tuned" is the root or "nym."

Usually we accept "retros" without question and go on with our lives, but ... increasingly, there is a "retro" that we should all rise up against and that is the retro "acoustic piano."

"Acoustic piano" indeed! As if there could be any type of "piano" other than acoustic! Yes I ***know*** that there are electric pianos and electronic pianos and player pianos and reproducing pianos, and etc., etc., but there is only one "piano," and that is the one which dominates our lives and workdays.

As techs we should form a united front against the term "acoustic piano" and resist the use of this by our customers and the manufacturers. The "piano," that monster which perplexes us, annoys us, takes us to the depths of frustration and levitates us to the heights of euphoria, and along the way, fills our souls and our stomachs, deserves no less.

So I say, down with the "Retro," up with the "Nym!"

Please submit tuning and technical articles, queries, tips, etc., to me:
Steve Brady*, Journal *Editor
205 McGraw Street • Seattle, WA 98109
Fax: 1-206-285-7610
E-Mail: sbrady@u.washington.edu

FEATURES

COLUMNS & COMMENTS

DEPARTMENTS

IN ADDITION

COVER ART

The Seiler "Phantom Grand" is featured in an article on page 43 by Anne Fleming-Read, head instructor for the George Brown College piano technician program

PIANO TECHNICIANS **Journal**
Volume 42 • Number 4 • April 1999

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Meanwhile, her regard for you as a professional has grown. In her eyes, you have taken her average-sounding piano (or highly unstable piano) and converted it to an instrument of which she is proud, an instrument that is dependable and predictable.

More than ever, she trusts and respects your opinion. So, when you suggest ways you can make even more improvements through regulation and voicing, she is more receptive to your proposal. (A written proposal is more effective. For a proposal example, buy the PTG's *Business Resource Manual,* $20.)

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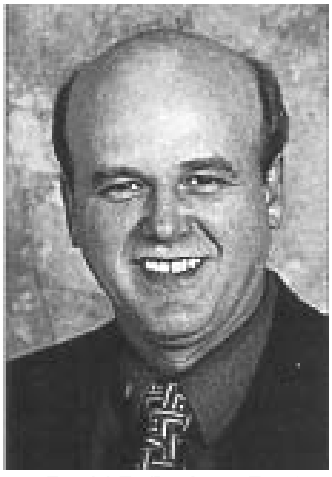
Focusing on the Future

Last month I mentioned a program called "MusicLink," an effort to bring private music lessons to underprivileged, talented children. This is one example of a way for us as piano technicians to work with other professionals in the music industry. Over the years there have been many opportunities to work with teachers, dealers and manufacturers, and there will likely be many more.



David P. Durben, RPT
PTG President

What this should bring to light for us, the questions we should ask as we consider a program such as MusicLink, is where in the industry in your local area do you fit? How do you fit within the fabric or machinery of your surroundings? How are you regarded by the local school, university or symphony? What is your relationship to your local piano dealer, to other technicians, either inside or outside of the Guild? What have you done to get where you are, and how can you impact your future course to where you want to be?

Answering these questions is an essential exercise in managing your business. As you go through your tax return you may want to look for clues to these answers; there are bound to be some in there. And further, think about the last time you went to a symphony concert, when did you last see the technician who lives on the other side of town, and when was the last time you stopped to chat with the local piano dealer.

Taking some time to evaluate your relationship to those around you can yield great dividends, both financially and personally. In today's society it is so easy to get into a rut, to lose the perspective that allows us the peace of mind to take a day off, to take a chance, to try something new. To be comfortable enough to live in peace in our working world requires a sense of knowing where we are, or at least knowing enough about where we are to not feel threatened.

I don't mean that we should seek a sense of nirvana that would open us up to the real threats of today's business world, but rather that by recognizing inequities in our present situation, we may find ways to better position ourselves for the future. In other words, if you feel a sense of discomfort from an unknown or vaguely known direction, I would urge you to take some time to investigate. Your fears may be unfounded, in which case all you've lost is the time it took to gain some peace of mind.

Or you may find something that needed to be done to re-establish credibility in some aspect of your business. The tax return I mentioned before can be used to show what percentage of your gross receipts is used for charity and professional development, and even the amount you spend on deductible meals and entertainment can tell a story. Compare the figures for this year to those from years past and you may sight some trends that need attention. Either way, you come away with a better understanding of the world around you, and hence you are better prepared to deal with whatever that world brings to you.

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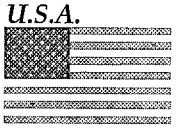

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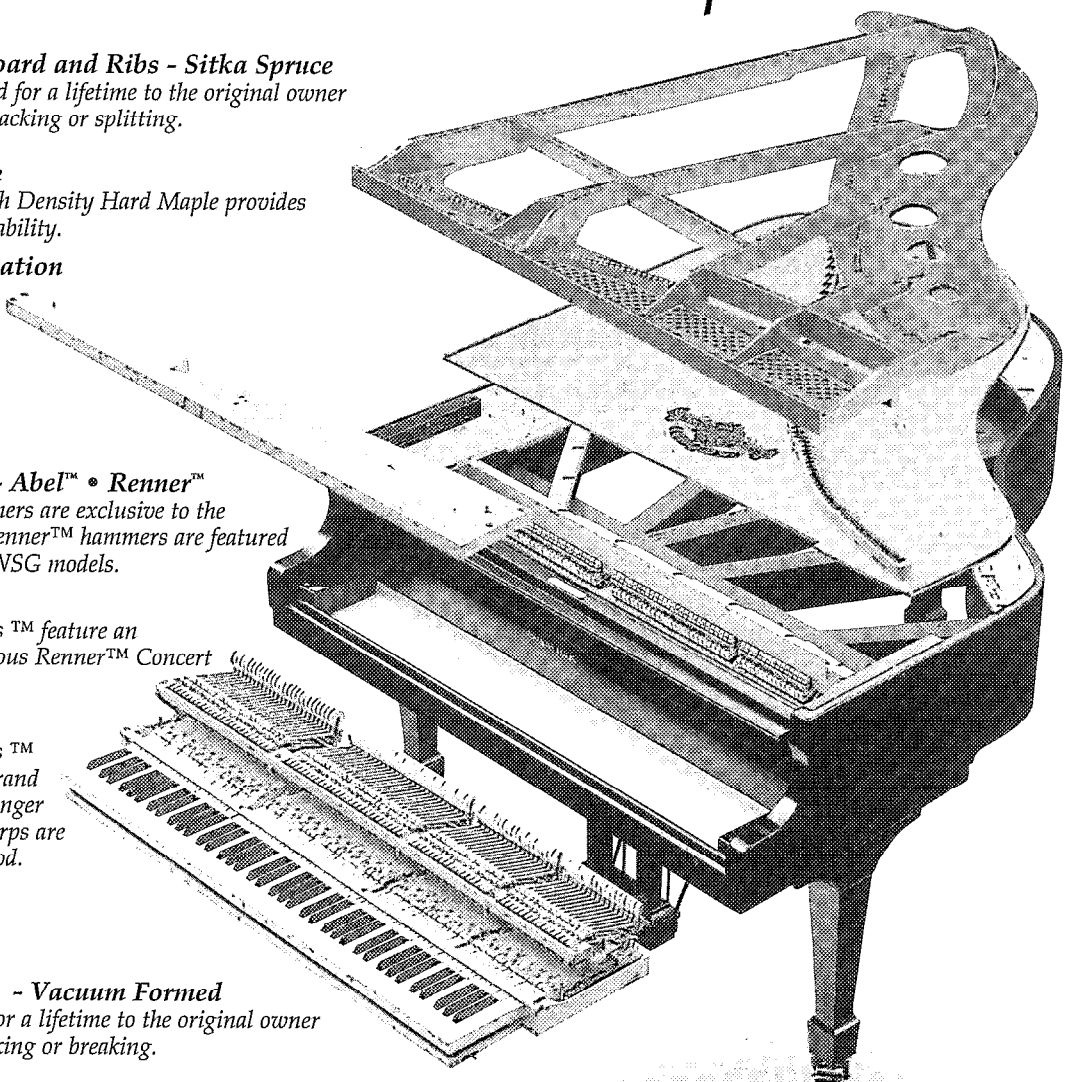

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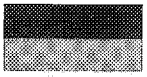

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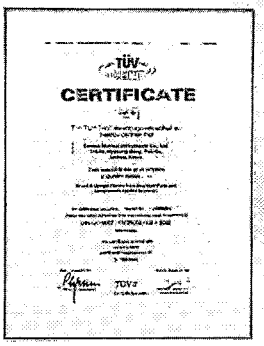

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Tips, Tools & Techniques

Disposable Glue Bottle

After you use up all the spice or herbs in one of those small jars, don't throw the "empty" away! When working with hot hide glue I like to use empty glass spice bottles – such as the "Spice Islands" brand shown here – in a glue pot. One of these bottles will easily hold enough glue for a hammer job or other typical shop job, and yet the quantity of glue actually mixed can be fairly small, because the bottle is very narrow. I typically fill the bottle about halfway.

Figure 1 — Spice bottle used as hot glue bottle.

I modify the metal cap by removing the cardboard seal, drilling a 1/4" to 3/8" hole through the cap for the brush, and leave the cap in place during use. I put the jar, with glue, into water in the glue pot, letting the glue pot's water level come up to the top of the glue in the jar. At the end of the job, I slip the cardboard seal back into the cap and replace it on the bottle.

If I need to reuse the glue within the next few days, it's still fresh enough. After a few weeks there's usually some mold growing on the glue, so I just throw the whole jar away. I always have a half-dozen or so of these jars sitting on a shelf in the shop, waiting to be used.

— Steve Brady, RPT
Journal *Editor*

Leftover Tuning Pins

After restringing a piano you usually have a few tuning pins left over. It is so easy to just toss them in the old box "for later," only to find them rusted when you next need one or two odd pins. Why not take a second and toss them, along with a label, into a zipper baggie (Boy, I love those zipper baggies!), and they'll remain moisture-resistant and ready for instant identification and utilization when needed! Remember to include size ***and*** length (and brand, if you use several suppliers), and you have an easy job and a neat way to store extras.

— Bob Bartnik
Reprinted from The Richmond Update, *newsletter of the Richmond, VA Chapter.*

Securing Fallboard While Working

Many fallboards on vertical pianos do not need to be removed, or held up by the top of your head to gain access to the keys for quick easing, capstan regulation and other minor adjustments. Simply flip the fallboard up and back and wedge a rubber tuning mute on either side between the fallboard and the side walls (cheeks). It may be necessary to remove the upper-front-panel rest blocks from the sides. This wedging technique will keep the fallboard securely in position, permitting you to work freely. This method applies to one-piece falls with long rod hinges, such as Hamiltons, Acrosonics and others.

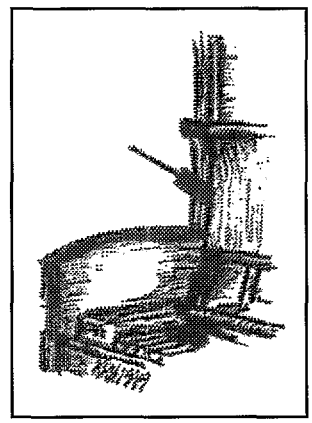
Figure 2 — Securing fallboard with rubber mute.

— Michael Slavin, RPT
Reprinted from NewsLINC, *newsletter of the Long Island-Nassau Chapter*

"Pro-Tip" Extension

New within the last year or so from Dryburgh Adhesives is the "Pro-Tip." This is a precision-control extension that fits on the end of the bottle tip. It allows you to quickly extend the water-thin applicator by about 1.5" – enough to reach the jack flanges of those dried-out upright actions. It is a throwaway item, so keep plenty on hand.

Taking the Pro-Tip one step further – when being frustrated by hypo-oilers that have tips that are too short, long, thick or flimsy – I have replaced my hypo-oiler top with the "Hot Stuff" cap and the "Pro-Tip" extension (a plastic gasket is needed for a tight fit of cap to bottle). I find that this setup allows a more precision control of Protek distribution to those hard-to-reach action centers.

The "Pro-Tip" can be ordered from Dryburgh at 1-800-GLUE-ALL.

— Alan Hallmark, RPT
Reprinted from The Richmond Update, *newsletter of the Richmond, VA Chapter*

Action Handling

I'm working on a grand action off campus where I don't have four-wheel carts. There is no way to get close to the stage without walking a long distance carrying the action of a nine-foot grand. Ouch, my aching back! Does anyone have any good tips on how to move this action without loading up an extra cart? I'm wondering about a two-wheel handcart, but that also takes up extra room I don't have in my car.

Suggestions are gratefully appreciated.

—Joel Jones, RPT
Madison, WI

Greg Newell: I found years ago that it is most comfortable to carry heavy items on your shoulders. Some will undoubtedly balk at the idea of hoisting that delicate machine up onto one's shoulder, but if you're going more than a couple of feet I'd rather have the help of a straight back and a more comfortable walking position. Naturally a cart of some sort would be infinitely better. Of course, I discovered all of this long after I already wiped out my back. Oh, well!

Avery Todd, RPT: I use one of the two-wheel tilter types. But since you don't have room for that, it seems as though I remember seeing one of those roll-around luggage carts they have now that is collapsible. I see students pulling them behind them frequently. I hope you know what I mean. Probably any large store like Wal-Mart, K-Mart, etc. would have them. Large office supply stores might also. I hope I'm not wrong, but at least it's an idea. I sure miss having a van now for that very reason.

Ed Tomlinson: Paul Jensen will sell you an action dolly that is wonderful. I own one. It collapses and saves the back a lot of wear. It is not cheap, at $300-plus, but worth every penny if you work on a lot of grands. I keep it in the car and it takes up little space. It takes about three to four minutes to set up.

The carts are available from Paul Jansen Piano Accessories, 1-800-BENCHES. They are not listed in the catalogue, but when you call, tell them you are a technician and they will know what action dolly you speak of. It measures about 30 inches long by 5" by 10." Just right for the back of the trunk or car. It has a handle, making it easy to carry. I think it impresses customers as well. It is a great workbench for reshaping hammers and some regulation work. I think more techs would own these if they advertised that they have them or showed them more at conventions. If you saw the design you could likely make this yourself. (My time and labor would make this an unreasonable task, but some may like the challenge.)

Jeannie Grassi, RPT: As Avery suggested, I have used those collapsible luggage carts on different occasions. The thing to keep in mind is that the action is probably not going to be balanced exactly the way that it seems logical to set it on the cart and the ends of the action might not be square to the bottom of the cart. Therefore, a little creativity is needed to come up with some sort of extension or modification to hold the action securely. Also, some of the handles need to be extended because the average action is taller (on its side) than most luggage arrangements. And strap it on! All it takes is a little bump and the action goes in its own direction. These are minor modifications, however, and have greatly helped me in similar situations as yours. I also experimented with just attaching a set of wheels onto the action, but actions come in all different shapes and I've never spent the time perfecting this idea to easily accommodate those differences. But I'll bet it wouldn't take much for someone to come up with something creative.

I also own and use one of the Jansen action dollies that Ed refers to. They are made by Paul Jansen & Son and were designed by Jim Ellis, RPT. It is extremely useful as an aid to remove the action from the piano and to do minor work, as mentioned, but it is not intended as a dolly for moving the action over a long distance. The casters that came with mine are not good for that, although they can be changed easily.

Newton Hunt, RPT: Stand the action up vertically and grab a lower crosspiece of the frame. One hand up and one hand down. You may wish to tie the hammers down. Another way is to reach across the action and grab the back rail and pull the action into your belly. Better on your back that way.

Dale Probst, RPT: Just to mention a new (to me at least) product. Norman Cantrell, RPT, Oklahoma Chapter, has a real nice grand action cart. We picked one up at the Texas State Association PTG meeting. Folded it is 20 x 24 x 3.5 inches and weighs about three pounds. It is adjustable in height, sits on nice locking casters, a good tool! Also, he has an optional folding top, which converts the cart to a nice table, but we have not seen that yet. I carry a folding luggage rack to transport actions between the truck and the piano. It works for me. I also have used the Yamaha action support, which is screwed into the bottom of the keybed, then later the Spurlock version when my boss took away the Yamaha.

Ed Foote: For several years I have been using a "Braucke" folding two-wheel cart. It carries all the grand actions easily, and when folded up, is only 20 inches across, 30 inches high, and (this is the important part!) is only 1 1/2 inches thick! I would not dream of carrying the actions I used to since I found this thing. Look around, they are carried by quite a few places. The handles fold down and the wheels fold in, it takes up virtually no room in the car. The cost is about $120, but is worth twice that. After several years, it shows no wear.

The action dolly that Ed and Jeannie use is probably a little more involved than the dolly I was describing. The fold-out dolly I use is for transport only. Its benefits are that it folds into something the size of a New York Times Sunday edition, and it only requires about eight to ten seconds to open up! Opening it up in front of the filleted, grand du jour is the closest thing to all those neat, fold-out helicopters and stuff in the James Bond movies that I have ever seen, and customers *never* fail to comment on it. As to where to get them, I see them for sale at a high-end camera store here in Nashville.

I usually work on grand actions at the shop, but when I must do something in the home or studio, I do it by placing a large drop cloth on the floor, under the front of the piano, and then turning the action around backwards in the action

Continued on Page 12

'It's a thrill to be an *All Steinway School* because I really feel that I'm working with the best.'

– Enrique Rosano
Chief piano technician
University of Arizona School of Music

When Enrique Rosano fell in love with the incomparable Steinway sound as a 7-year-old, he couldn't possibly imagine that 40 years later he would be an important part in the purchase of nearly 100 of these exquisite musical instruments.

But as chief piano technician at the University of Arizona School of Music at Tucson, Enrique, indeed, was a key factor in earning this university the highly valued *All Steinway School* designation.

"It's a thrill to be an All Steinway School because I really feel that I'm working with the best," says Enrique, who compares Steinway pianos to finely tuned racecars. "When I prepare a Steinway for a recital, I know its sound will remain fresh and strong from beginning to end. Its consistency and durability are simply beyond compare.

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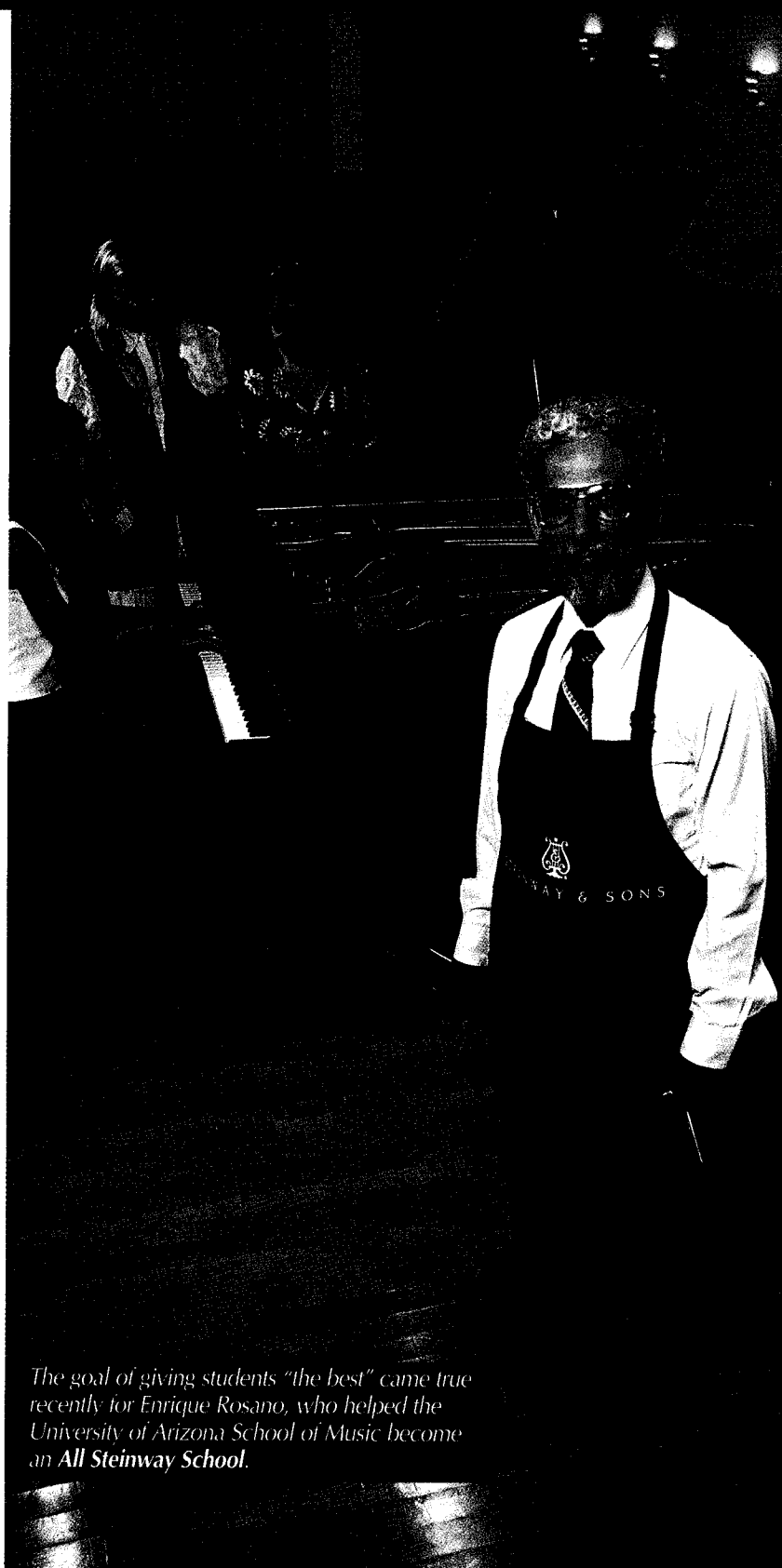
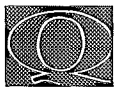


The goal of giving students "the best" came true recently for Enrique Rosano, who helped the University of Arizona School of Music become an ***All Steinway School****.*

Continued from Page 10

cavity. The front of the keyframe slides all the way back until it touches the una corda lever, leaving the hammers exposed for various tasks.

Broken Tuning Pin Removal



While I was tuning a spinet last week a tuning pin broke at the becket hole leaving most of the pin exposed. I thought it would be a simple task to turn the pin out of the hole and hammer in a new one, but such was not the case. The tuning pins on this piano are super tight and I couldn't budge the broken pin even with vise grips. So I sawed the becket hole deeper and tried a big screwdriver with no success. Can anyone suggest a tool or a method that will get this tuning pin out?

— Ted Simmons
Merritt Island, FL

Dale Fox, RPT: Pianotek sells a tool for removing broken tuning pins. Fit it into a reversible drill motor and it works like a charm.

Dick Beaton, RPT: What a lousy situation! Try heating the pin with a small torch. You will likely have to put in a shim or oversized pin ... good luck

Bill Simon: My approach to this problem would be to:

1. Try a normal tuning pin extractor. No go?, then,
2. Square the tip with a Dremel™-type grinder and back the pin out with a tuning hammer. If that doesn't work, then,
3. Drill a very small pilot hole, less than a 1/16", which makes it easy to stay in the dead center of the pin. Then progressively enlarge the hole with numbered drills until a normal automotive extractor or straight extractor reamer (not tapered) can be used to back the pin out.

Only if these methods don't work would I start to use heat.

Richard Snelson: I would try something else before heating the pin! Use cold, not heat! Heat expands metal and will make it tighter. Cold does just the opposite and may give you enough play to allow vise grips to turn the pin. How to get the cold? A small block of dry ice should do just fine. Protect your hands and hold it around the pin. At least it won't do any damage to anything around it or the wood. Good luck.

Ed Foote: Sometimes the backward threaded tuning pin remover will take them out. You have to use them first, not after the tops have been chewed up with vise grips. You may have to carefully drill a maximum-size hole for a big EZ-Out, and you may have to accept either reaming the damage away and going to a much bigger pin or plugging and redrilling the hole.

Elian Degen: I had a similar problem once, I remembered that pianos in dry season loosen up a little, so I took the action out, put in three 25W Dampp-Chaser tubes, closed the piano and waited three days. When I got back the pin was easy enough to get out. I removed the tubes and left it to get back to its ambient humidity. This is to be used in conjunction with any other extraction method, but I think it safer than using a torch – mine was a baby grand. For a spinet you might need some more heat. So maybe you can combine both, drying the wood and cooling the pin, as Richard suggested.

Ray Hopland, RPT: If the pin is far enough away from the plate, put an old worn out or #3 tuning pin tip on your tuning hammer and place it on top of the broken pin. Then give it a couple of good whacks with a hammer being careful not to drive the pin in any more. Then push down on the tuning pin tip with the heel of your hand and turn the pin out.

Newton Hunt, RPT: Do ***not*** try using an EZ-Out device. The broken tuning pin extractor is designed for this problem and EZ-Outs are not. Purchase a broken tuning pin extractor from any of the supply houses. It has reverse threads and when tight will turn the pin out when using your tuning hammer, although I recommend a T-handle.

Carl Root, RPT: Why do tuning pins break? In my experience there are two reasons and both are due to technician error. Although some new US pianos occasionally come through the factory with very tight pins, it's the pianos that come out of the shop that are often the culprits. In some cases it's the wrong size bit in a Delignit-type block or the use of oversize pins in an old but otherwise sound block. When the 'crack' and 'bang' of the pin breaking free is as loud as the test note, you've got a candidate for a broken pin.

Perhaps a more important cause is a poor tuning tip-to-pin fit. The best way to snap off the top of a tuning pin is to contact the pin at the top rather than uniformly along the side of the pin down to the becket. Make sure your tuning tip is firmly seated the full length of the top of the pin before applying torque.

I think it's fair to say that there is one right way to remove a broken pin and that any other removal method should not be considered until the 'right way' has been tried. The extractor tip, with reverse threads, used with a T-hammer as Newton suggests, is the correct way. Get out your torches and drill bits only when this method fails.

Ron Nossaman, RPT: Forgive me, Carl, but I have to ask, if you are talking about a break at the becket hole, how could the tip fit make any difference? Torque at the hole should be the same however the tip fits, and that's the only place I've ever seen a pin break. Just trying to maintain perspective.

Root: We agree that pins break at the becket hole. I have to ask, Ron, have you ever broken a pin? I really thought everyone had, but maybe I'm wrong. I broke one many years ago and my impression at the time was that I had been careless about seating the tip properly on the pin. If we're not dealing with a high torque situation, you'll probably get away with it. For several years, there were several local 'shops' spitting out repinned pianos with obscenely high torque, so stories of broken pins were not uncommon.

There is a tendency to bend the pin whenever we attempt to turn it in the block, no matter what tip or technique we use. If the tip contacts the pin only at the top on one side and

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the bottom of the other – which is what happens when the tip is not seated properly, then bending forces are exaggerated considerably. Pins are not wrenched off when they break, they are bent or snapped off. At least that's how it felt at the time.

Nossaman: I broke one about five years ago in a block I had drilled particularly tight because of where the piano was going (steam heat). The pin parts with a sort of tearing feeling because it's not hard enough steel to snap, but rather twists off like a wood screw, or grade one bolt that you overtorque. I'll bet everyone knows that feeling well.

I don't see how it is possible for the tip to not contact all four corners of the flats at once, unless either the tip, or the flats, aren't uniformly symmetrical. It seems to me that you would have to pull on the hammer in a direction significantly off the rotational plane to do what you are describing. The flats on the pin would tend to automatically square the tip up when torque is applied, and it would be pretty tough to counteract that tendency. Isn't that the reason they are made that way, to maximize the contact area between the pin and the tip and minimize the damage to the pin?

A tip that is the wrong size, poorly made or badly applied to the pin will chew up the corners of the flats pretty quickly, but it chews up all four sides, or corners, at once. In any case, a broken pin happens so seldom that I would think it would take a lot of lifetimes of empirical evidence in normal field work to make a compelling case for poorly seated tips breaking pins.

How about all those cheap and poorly made tuning hammers, with the even more cheaply and poorly made tips, in the hands of all the band teachers, newbie 'tooners,' preachers and random hobbyists skulking about under the lids of helpless pianos? From what I've seen of the low-end hardware out there, it doesn't seem to be possible to properly seat some of those tips on any known tuning pin under any conceivable set of circumstances. Shouldn't we see some second-hand tuning pin breaks from their tuning attempts under the circumstances? Realistically, I doubt that they replace all those broken pins, leaving no visible evidence that they had been there (except for the chewed up pin corners) between service by tuners who have never had a pin break.

There is one particular tuner that I follow occasionally. In every one of the pianos I find with his name inside there are a number of obviously bent tuning pins. I don't know if he ever breaks one, but he didn't break the bent ones. (Or they would have been replaced by straight ones.) If a sloppily seated tip is contributing to bending pins (the better to break them), then it ought to leave plenty of obvious evidence of impending doom before any breakage problems become evident.

Root: A pin is more likely to break when the tip sits too high on the pin and the fit is loose enough to allow contact at an angle. The amount of slop (lost motion?) in the tip-to-pin fit is important. Most of us use a #3 tip on a #2 pin in part to minimize the possibility of torquing the pin before the tip is properly seated, but that also allows for a loose fit. Think of telescoping tubing. In a tight fit, the scenario I'm describing would not be possible, but if there is a fair amount of play, you can easily contact the top of one side and the bottom of the other as one piece approaches the other.

There's another element that could enter into this – slippage. If your technique causes the tip to slip up off the pin as you apply torque, you would get the kind of bending force I've described.

I tuned a piano a year ago last summer with a long #2 tip. (I was hundreds of miles from my own tuning kit). The fit was not what I was accustomed to, but no pins were broken because I was careful to seat the tip as far down as possible, although many times the tip did not seem to bottom out. I was careful not to allow any slippage as described above, and the pins were not too tight. Let's not forget that the latter is still the most important factor. The vast majority of pianos out there do not have sufficiently high torque to allow for the possibility of broken pins no matter what fit and technique are applied, but not because of the pin tightness itself. It's because the tuner does not have to get to the point where a serious yank on the hammer would be sufficient to break rather than turn the pin.

This raises an interesting question. What kinds of torque, tip fit and technique are required to bend a pin, but still not break it? I wonder if there's a correlation between the force vector and the alignment of the becket hole.

Simon: In spite of the preference I have for slightly loose tip-to-pin fit, is that really a cause for breaking off the pin? Seems like I see a lot of pins rounded off to some degree by tips that were too large and I would think that would occur first.

I carry about 12 tips in my tuning case, mostly to find one that fits fairly well, or at least the way I want it to fit. Four are #3 tips, of which three are from the same company and they all fit differently. Perhaps they are actually size 3.0, 3.25, 3.6 and 3.8 tips. The lack of uniformity is amazing. On the other hand, why try to get the tips more standardized or made to closer tolerances when the pin tops are even less uniform from brand to brand, maker to maker, year to year? The tuning pins do seem to be getting better.

This bizarre tip practice, by the way, was an accidental discovery. I bought out a piano shop that had well over a hundred tuning tips. I went through them discovering different pin fits and thread fits. I saved a really nice assortment of tips for myself, and with valve grinding compound made the threads all fit my different hammer heads.

Incidentally, the best tip I ever heard about tips is to clean them occasionally. What with the dirt and varnish on many older pianos, the tips get a build-up of stuff inside that changes fit and affects how easy they slip on and off pins. The advice I heard was to boil them, which is nonsense, but I do now and then clean the tips out with a Q-Tip and acetone or lacquer thinner. ***Hey!*** I am sure some of you will try this cleaning thing and the improvement shows up immediately.

Hunt: Broken tuning pins are common in Russian-made pianos. In Havana there are many pianos with broken pins, but they don't have extractors there (none that work, anyway), so there they sit, pianos with too few pins.

I have had two twist off while I was tuning. It felt much like my tip was too loose to turn the pin. One was not in a tight block so I concluded there was a defect in the metal. My experience in Cuba would indicate flawed or inferior metal. I know someone who had a broken pin situation and drove

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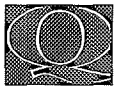
the remaining pin deeper into the block and into the soft blocking behind it – inserted a new pin and problem solved. I don't know that I would try that, but it worked for him.

Cutting Damper Felt



Does someone have a good method for cutting damper felt that yields clean, square corners, not only on the strips, but also on flat stock that comes in sheets from some suppliers?

— Paul Chick RPT
Plainview, MN

Rolland Miller, RPT: I suggest that you get Bill Spurlock's damper cutting jig. It has worked great for me. You can get his address & phone number out of the PTG Guide to Resources. I believe Pianotek also sells one of their own design.

Rob Goodale, RPT: I like the guillotine-type with the replaceable razor blade. Get the type with the guides on the side, which adjust for width, as well as the guide in front of the blade, which allows adjustment for the length of cut. They work great for flat as well as wedged felt. Bill Spurlock also sells a cutting board type where the felt lays in pre-shaped grooves for cutting. For sheet stock as well as general cutting of any sheet felt or long strips, you may want to consider a rotary cutter along with a good straight edge. These are available at any fabric store.

Christopher D. Purdy, RPT: For the strips I broke down and bought one of those guillotine affairs from the suppliers. It makes a real clean cut every time. A former teacher of mine used a regular felt knife. While positioning the knife on the felt, he would smack the top of the knife with a wood hammer. He got good results but it kind of gave me the willies.

As for felt sheets, I have tried a bazillion things and the only thing that works for me is using my 24-inch metal square as a straight edge, clamping it down or holding it real tight, and cut with a new razor blade. You have to hold down pretty tight though or the felt will try to bunch up. That's what works for me. I hope it helps.

Jim Bryant, RPT: I agree with Rob here, the rotary cutter is the best method I have ever found for getting good clean cuts on sheet stock, I wouldn't be without it. As for cutting dampers, I use a guillotine I made myself as I found the ones with the razor blades for cutting would tend to "smush" the felt. For a blade I use one of the large disposable blades from Stanley, designed to be used in their utility knives. Now if I could just figure how to use the rotary blade, spinning, in the guillotine to cut my dampers....

Chick: Jim, I have the guillotine-type felt cutter with the razor blade holder and I'm disappointed in the way the blade smashes the felt and distorts it first before the cut occurs. I thought the sharp edge of the razor would be sufficient to do the job. When I toured Kimball in the late 80s I saw them cutting damper felt from sheets with a machine that had a spinning blade much like the one you see in meat departments in the grocery store. The operator said you could tell the blade was getting dull when it pulled the felt before it cut. Now your notion of spinning the blade from your rotary cutter (which I have) to cut felt bears some thought. I have access to machine shops and very clever people that run them. I'm putting this problem to them and will report later. I have tried the rotary cutter and straight edge technique for sheet stock and have had good luck with the thin stock and marginal results with heavy stuff. Going back and forth in short bursts seems to keep the felt flat, but also can easily create double cuts or off-line cuts. I was hoping to hear of a machine that did the job.

David Ilvedson RPT: For cutting strips of damper felt, i.e., tri-chord, bi-chord, etc., Bill Spurlock's cutting block is the only way to go. I have the guillotine also, but I really get tired of slamming down on the blade. A razor blade and Bill's device is much easier. It allows you to cut every angle you could want. If you don't have Bill's catalog you can order it at: Spurlock Specialty Tools; 3574 Cantelow Road; Vacaville, CA 95688. 707-452-8564 (Phone/Fax)

Keith McGavern, RPT: Back when Ford Piano Supply was in business I bought their version of a felt/leather-cutting tool. It beats hands down the guillotine-type which I used prior. It has guides on both sides and a stop block. It has a lever that comes down from one side slicing the felt rather than pushing straight down on the felt. Can't imagine it being any nicer unless Spurlock's arrangement works as well or better.

Chick: I saw a cutter similar to the one you describe from Ford, in the German copy of the Renner tool catalog. If you have that catalog, take a look and let me know if it is like the Ford model. Does anyone own one of these German cutters? Does it do the job?

Tom Cole, RPT: To answer your question about how to cut felt sheet stock, I use a rotary cutter (available in sewing supply places as well as piano supply companies) and a straightedge. The problem with this method is that, even using a rotary cutter, the felt tends to squirm a little unless you can modify the straightedge by, for example, gluing sandpaper to the bottom surface. With thanks, once again, to Bill Spurlock.

Richard Moody: I use a scalpel. These are readily available from rural veterinary stores. They are cheap, too. Also stainless steel single edge razor blades. "Stainless Steel™" name brand, mind you. They are so sharp the felt doesn't have a chance to "squirm" as easily as it can with the scalpels.

Jim Harvey, RPT: I don't know why all the difficulty for just damper felt, unless you're going in the felt business. That said, I have used all the following methods for (various) felt work:

1. The original, cheap 'vanilla' felt knife, polished to mirror finish and sharpened to a razor edge, protected in a leather sheath, and touched up by stropping. Reserved exclusively for felt work;
2. Pruning shears (a.k.a. hammer shank cutters). Great for felt

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and leather and quite portable;

3. The guillotine and the Ford-style cutter. As Keith mentioned, the Ford style is superior. The two might compare to a table saw and a radial arm;
4. Olfa™ rotary cutters have their places. Be aware that these are available in different diameters and you may be using one of the smaller varieties. Also, the optional, large (desk blotter size) cutting mat makes things much easier;
5. Big sturdy knife, like butcher's cleaver, persuaded with a Harley tool on the spine. (Equivalent to large, poor man's guillotine.);
6. Electric carving knife (type with twin reciprocating blades). Be advised it's better to have your own and not borrow the one from the kitchen;
7. Sabre saw with a special knife blade instead of a saw blade. Saw can be mounted upside down in a portable router table if preferred;

All of these work with varying accuracy. It just depends on the job and how much bulk material needs to be reduced to working specs. The latter two items are great when working with foam, which is where I stole the ideas.

Ted Sambell, RPT: I believe that cutting treble damper felt is one job that is best done the traditional, albeit old fashioned way, rather than grasping for expensive high-tech solutions. This consists of a board 19 x 1 3/4 x 5/8 inches with a 3/8-inch deep channel tapering along the full length from 1 1/4 to 3/4 inches, with a fine saw cut every 1 cm crossing the channel to guide a knife. I believe such a tool is, or was, available from Pianotek, though I have never seen one at their convention exhibits. It is certainly available from Watanabe in Japan. I made my own before I was aware that one could be purchased. The saw cuts are very small as they were done with a hobby saw; a 3/4" break-off knife such as the Olfa™ is a tight fit. The problem with a guillotine is that the blade must slide, so there is some play which causes a little instability.

Making the tool I have described is rather tedious, but certainly possible. It does an excellent job – far superior to any ready-cut felt – but even so is not absolutely perfect. When one is gluing the pieces onto the damper heads they should go on in strict numerical order and be neither rotated around or turned over. The cuts will then match for a good appearance and easy string alignment. A side benefit of the cutting device is that the damper felts can stay in the channel and be picked out one at a time directly when it comes time to glue. If you decide to send to Watanabe for the tool, they have a knife that one should purchase as well, as the saw cuts may be a different thickness to the one that I made. Cutting the felt actually is faster than the guillotine anyway, because adjusting the felt to the stop and laying the pieces out on the bench is automatically eliminated.

Greg Newell: What about putting a blade on a Dremel™ unit and clamping the Dremel™ into some kind of simple carriage that slides back and forth. I'm thinking of something like crosscutting on a radial arm saw. Personally with that kind of blade I think it would be safer to slide the tool than some piece of felt into the tool. In any case it shouldn't be too difficult to make if you're handy that way.

Newton Hunt, RPT: The best damper cutting I have ever seen is watching a Yamaha factory worker gluing on dampers. He used a flat-backed knife, available from Pianotech, to cut the red underfelt and the white flat and trimming the sides. That knife was sharper than commercially available single-edged or box cutter utility blades. The sharpest knives are scalpels and they are available from surgical supply houses and come in a wide variety of shapes and sizes. I love them for bushing keys.

Bill Spurlock makes a holding tool for cutting damper felts, which is one of the best I have seen. I use a Ford's cutting tool – I have two guillotine cutters that I don't use. I don't worry about any cutter or the damage it does to felt because just before I install a damper I have a very fine scissors that I use to trim the edges off the felt and for cutting off the ends of trichords as needed. This is the Bösendorfer way I learned and it works great. I run a line on one edge of the strip of felt before cutting so I always know the orientation of the felt relative to the wire. This helps prevent seating problems later.

I also get and use Steinway cut damper felts because they are good quality and they work very well. And I use flats and strips from other sources, especially Yamaha. Their cut flat felts are great.

Cutting is *not* the problem, I could use any cutting tool. The problem stems from not trimming and properly seating the dampers. It is my practice to install one damper at a time, make it work as perfectly as I can before going on to the next one. When I am done, the job is done. Dampers are not hard, they are just tedious, but taking one at a time and making it work well the job goes quickly enough.

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A Guide to Recapping Bridges

Part 2: Preparing the capping material

By Robert Hohf, RPT
Contributing Editor

Recapping bridges is a big job, and, as in many aspects of piano work, the cost of the materials is small compared to the time and effort necessary to complete the job. For these reasons, skimping on the material used for recapping can be very counterproductive. Saving a few dollars using something other than the best possible material can prove very expensive later in terms of the potential failure of the new cap and the necessity of doing the work over.

About the Capping Wood

As most technicians are aware, the wood of choice for bridges is hard, or rock maple. The common name, hard maple, includes two species: black maple (*acer nigrum*) and sugar maple (*acer saccharum*). While sugar maple is the more common of the two species, in a lumberyard sugar and black maple may be mixed together. However, it is the hardness of the maple that is its most important attribute when it comes to recapping bridges, and there can be considerable variation in hardness within wood of the same species. Where the trees grow contributes to how hard the lumber is. Hard maple from southern states tends to have more widely-spaced annular rings and is softer than hard maple from trees that grew in wintry climates. A quick test of hardness is to try to make an impression in a sample of wood with a fingernail. If the wood can be dented with a fingernail, it is too soft for bridge work.

It is also common knowledge that bridge caps should be made from *quartersawn* lumber. This means that the orientation of the annular rings in capping material should be *perpendicular* to the face of the material. One reason for this is that wood expands and contracts varying amounts depending on the orientation of the annular rings. Figure 1 illustrates a square end view of a board with the annular rings perpendicular to two of the faces. The dashed lines indicate the limits of expansion and contraction of the square due to changes in wood moisture. The square will expand and contract *twice as much* in the tangential direction as in the radial direction. The radial direction refers to the center of the tree from which the lumber was cut, and the tangential direction describes a tangent to the circumference of the tree.

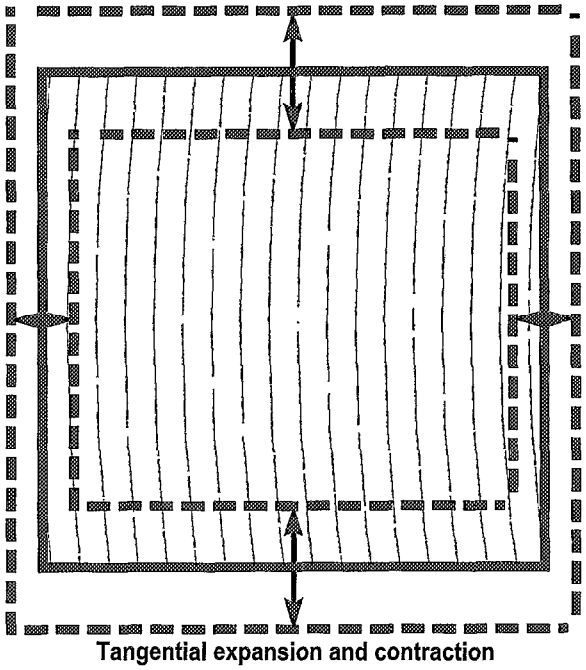

Figure 1

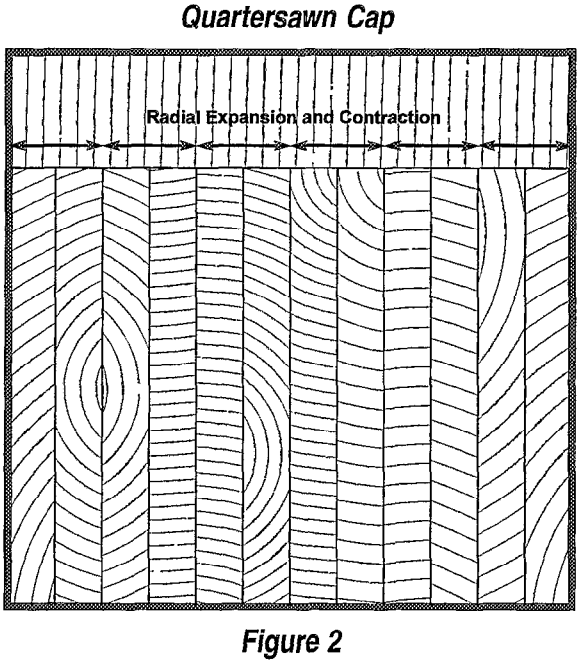

Figure 2

Figure 2 and Figure 3 illustrate the effect this differential expansion and contraction has on bridge construction. Figure 2 shows the cross-section of a laminated, bentwood bridge with a quartersawn cap glued on the top, and Figure 3 shows a similar bridge with a flat-sawn cap. The flat-sawn cap will expand and contract twice as much in width as the quartersawn cap. The effect is that the glue joint between the flatsawn cap and the bridge body will be subjected to twice as much shearing stress as the joint with the quartersawn cap. This shearing stress greatly increases the chances of glue joint failure. Of course, the bridge body is also expanding and contracting with humidity changes. However, the grain orientation of the individual laminations is random, so the actual dimensional change of the bridge body is hard to predict.

A second advantage of quartersawn caps is their resistance to splitting when bridge pins are driven through. Pins installed *along* the annular rings are less prone to crack

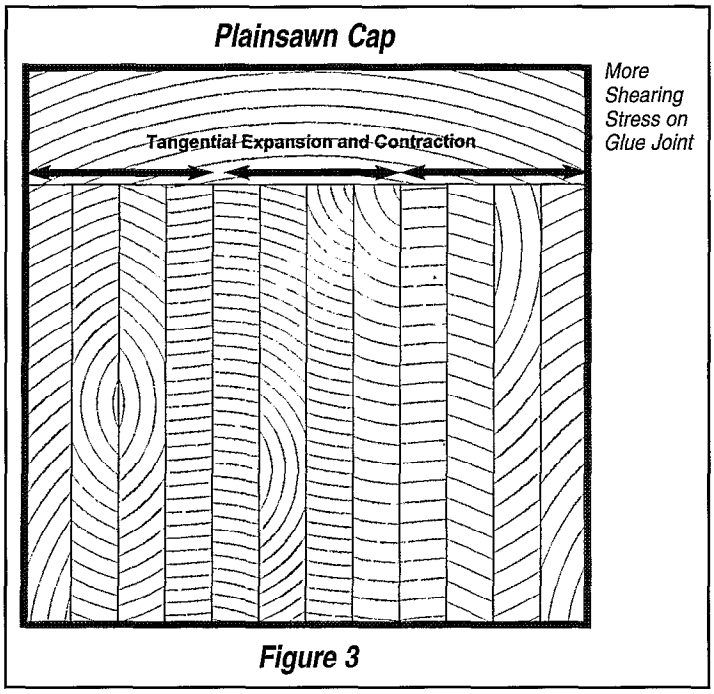

Figure 3

the cap than pins installed *through* the rings. This is because the darker rings, or latewood, tend to be denser, less elastic and more prone to cracking than the faster growing and lighter colored earlywood.

There are several sources of supply for quartersawn hard maple. Perhaps the easiest access is through the piano supply houses. Lumberyards that carry a large stock of hardwoods also may stock or be able to order quartersawn hard maple lumber. Be warned, however, that purchasing quartersawn lumber without being able to select appropriate boards can be risky and expensive. The lumber industry standard for quartersawn lumber is anything that has grain orientation between 45 degrees and 90 degrees to the face of the board. This means that most of the lumber that qualifies as quartersawn under the industry standard is inadequate for bridge capping. How vertical must the grain be in a bridge cap? The closer to vertical, the better, and the farther from vertical, the greater the chance for failure.

I find that the best way to assure bridge capping material with the optimum grain orientation is to purchase the lumber in thick flat sawn planks and resaw the planks to specification. This method requires access to a lumberyard with a stock of 12/4 (3" thick) hard maple and that will allow you to look through their stack and select the boards you want. It is best to take a sturdy friend along to the yard since the selection process can involve considerable unstacking and restacking of heavy lumber. Also, be advised to leave the stack in at least as neat condition as you found it, if you think you may want to come back to that yard again.

The equipment necessary for resawing 12/4 lumber are: a 16 inch or bigger jointer, a large bandsaw with at least 2 hp and a sharp 1-inch resaw blade and a thickness planer. Smaller machinery will limit the size of the boards you can select and may make the process slow and tedious. The thickness planer is not used until after the plank is sawn up so just about any size will do. Most piano shops may not have a jointer or bandsaw of this size, but many cabinetmakers will. A little time spent in the local cabinet shop discussing woodworking and pianos can be rewarded by access to the equipment necessary for resawing.

Selecting & Resawing 12/4 Maple

Once you have located the lumberyard, have the yard foreman show you and your assistant to the 12/4 stack of kiln-dried (KD) hard maple graded Select or Better. This lumber will probably be rough-cut, that is, unsurfaced on any side with the fuzzy texture left by the sawyer. The endgrain may be painted or otherwise discolored obscuring the pattern of the annular rings. "Reading" planks in this state takes practice, but it is practice gained rapidly; the lumber is expensive, and a mistake provides strong incentive to pay closer attention next time.

Look first for checking (cracks) on both the flat surfaces and the endgrain. Steer clear of boards with any surface checking or with endgrain checking that extends more than an inch or two into the length of the plank. Scan the faces carefully to get a sense of the straightness of the grain. Avoid planks with any evidence of "birdseyes" or any of the waviness in the grain that can be so desirable to other woodworkers. Grain irregularities can complicate bridge notching. Take along a small cabinet scraper and scrape enough of the plank ends to see the grain pattern. Look at both ends; the same pattern on both ends is a good sign that the grain is straight. Almost every plank, even graded Select or Better, will have some defects, such as knots, etc. These defects are not necessarily prohibitive as long as there is enough clear length between defects to yield usable material. Sight along the length of the plank to determine its overall shape. Nearly every plank will display some warp, twist, etc. The

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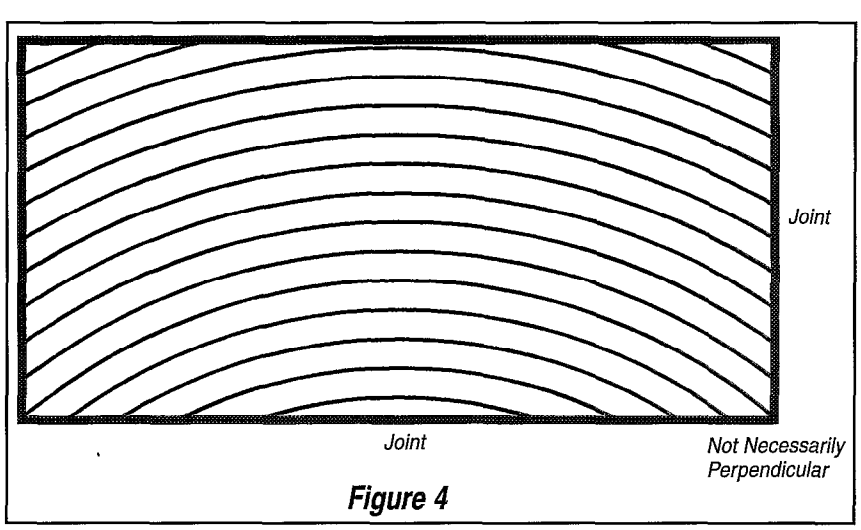

Figure 4

A Guide to Recapping Bridges

Continued From Previous Page

more the plank deviates from flat and straight, the more material will have to be removed to produce flat surfaces during resawing. Remember that the thickness of the plank becomes the width of the capping material, and the more of the plank thickness that is lost to the jointer in flattening, the narrower will be the resulting capping material. I find planks with a width in the range of 8" are ideal. Less than 6" width requires too much handling for too little yield. Planks wider than 12" get very heavy and hard to handle. The common lengths of planks in the lumberyard will vary from 12'-14'. Once you have selected your planks, based on the defects in particular planks, mark the best places to crosscut them into shorter lengths and have the yard foreman cut them for you. Handling and transporting the shorter planks is much easier and shorter planks mean less loss of thickness during jointing. Cut lengths in the range of 4 feet to 8 feet yield useful lengths of capping material.

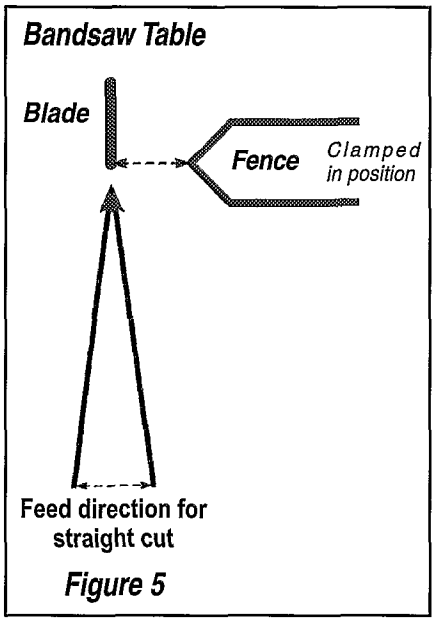

Figure 5

Figure 4 shows the end view of a plank with a grain pattern that is relatively simple to resaw into quartersawn capping material. The pattern is symmetrical and the annular rings are fairly close to parallel with the flat surfaces of the width of the plank. Planks with this pattern are ideal for early attempts at resawing. Once experience is gained, more complex and difficult patterns may be successfully sawn. Regardless of whether the planks are sold as KD, it is a good idea to do the resawing right away rather than let the planks dry further before resawing. Properly drying 12/4 lumber to a uniform moisture content through its full thickness is a difficult and time-consuming process. A KD plank may give an 8 percent reading on a moisture meter and be considerably wetter on its interior. Such a plank may form big, ugly splits along its length if allowed to sit in a heated shop unsawn as it continues to dry and relieve its internal stresses. This sort of splitting can greatly reduce the useful yield of a plank. Resawing the plank into smaller-dimensioned boards allows faster drying and minimizes the buildup of internal stresses.

Before feeding the 4-foot to 8-foot lengths through the saw, some flat surfaces must be created on the jointer so that the planks will follow a fence and not twist or bind on the saw blade as they are fed. First flatten the bottom surface as marked on Figure 4. It should become immediately apparent that jointing shorter lengths wastes far less material than jointing a long plank in one piece. This flattened face will ride on the bandsaw table. Next joint one of the edges to provide a flat surface to bear on the fence. The two jointed surfaces need to be flat, but not necessarily perpendicular to each other.

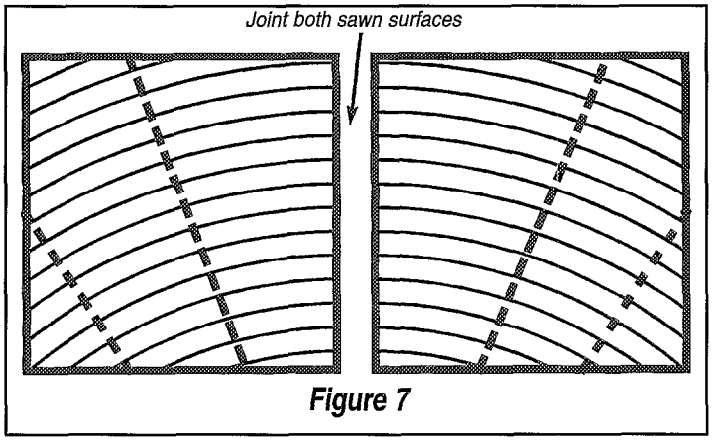

Figure 7

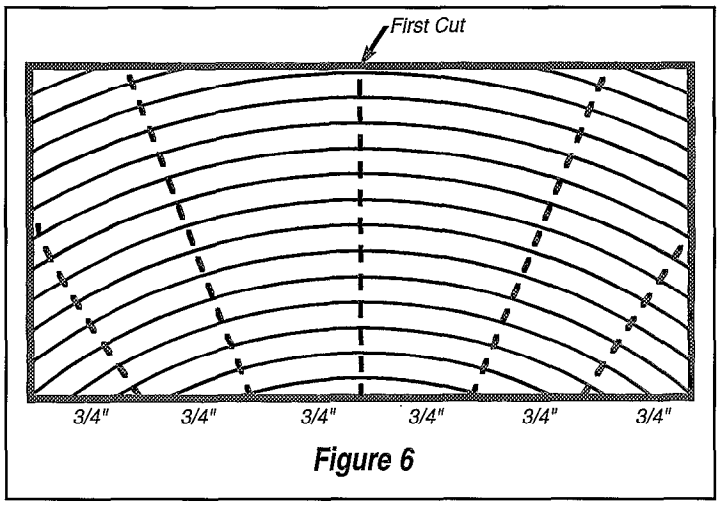

Figure 6

There are two reasons for resawing on a bandsaw rather than a tablesaw. First, the kerf, or the width of cut, of a bandsaw is much narrower than the tablesaw, resulting in much less material loss in sawing. Second, sawing all the way through a 12/4 plank requires a tablesaw with at least a 12" blade – not common equipment in most shops. Figure 5 illustrates the setup of the bandsaw table. Pay special attention to the "fence" which will guide the planks as they are fed through the blade and establish the 3/4" spacing of the cuts. This is not the same sort of straight fence used on a table saw that extends the length of the table. Straight fences usually do not work well on a band saw. The reason for this is that most bandsaw blades "pull" in one direction or the other. This means that the blade will tend to pull a board in one direction or the other when the board is fed straight into the blade. A flat fence with a blade that pulls will make a straight cut impossible and may bind and break the blade. A particular bandsaw blade will have a consistent "pull" throughout its life until it is either damaged or resharpened. So if the direction and the angle of a blade's pull are known, a flat fence can be set up on a line that is not parallel to the blade to accom-

modate the pull.

The fence in Figure 5 provides a point of reference rather than a line, as does the straight fence. The point allows the operator to find the direction of feed by eye and by feel. The arrows indicate possible directions of feed that will produce straight cuts with various bandsaw blades. I have tried both skewing a straight fence and the pointed (actually rounded) fence illustrated and have found the pointed fence provides much better control of the cut. Note that the point aligns with the front edge of the blade.

The sharpness, tooth configuration and blade width are all important for resawing. Blades less than 1" wide are so flexible they tend to drift when cutting thick, hard material. To find the optimum blade for your equipment, contact:

Suffolk Machinery Corp., 12 Waverly Ave., Patchogue, New York 11772-1902, 800-234-7297.

Figure 6 shows jointed plank with the proposed resaw cuts marked on its end. The cuts are oriented as close to radial as possible relative to the annular rings. That is, the lines marking the cuts should be perpendicular to the annular rings. A plank with this grain configuration allows the first cut to be made down the middle cutting it into two symmetrical pieces. Set the fence at half the plank width, start the saw and feed the plank carefully through. If cutting long, heavy planks on a small bandsaw table, it is always prudent to have a second person help with the handling and feeding. Figure 7 shows the two cut pieces of the original plank. Joint both newly-sawn surfaces flat since they will both ride on the fence on subsequent cuts. Flip one plank end-for-end as in Figure 8. Since the two halves come from a symmetrical plank, the halves are identical, and the setup time for the rest of the cutting is cut in half. This situation, of course, rarely happens in real life.

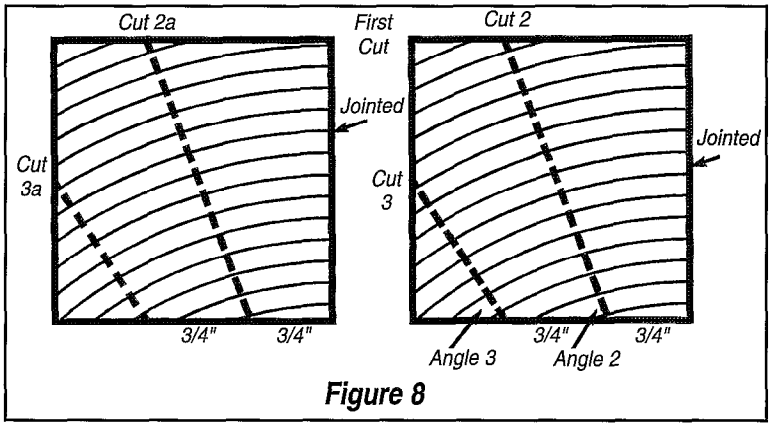

Figure 8

Once the first cut is made and the sawn surfaces jointed, the space between the fence and the bandsaw blade can be set to 3/4" (or whatever distance) and left there. I have found 3/4" to be a generally useful setting because, after all subsequent sawing, jointing and planing operations, each of which wastes material, a finished thickness of 5/8" is almost assured. While most capping situations can be accommodated with 5/8" capping material, this is not enough thickness for replacing the entire bridge body of cantilevered bass bridges (usually 1 to 1 1/4" thick). We will discuss getting thicker than 5/8" when we discuss thickness planing.

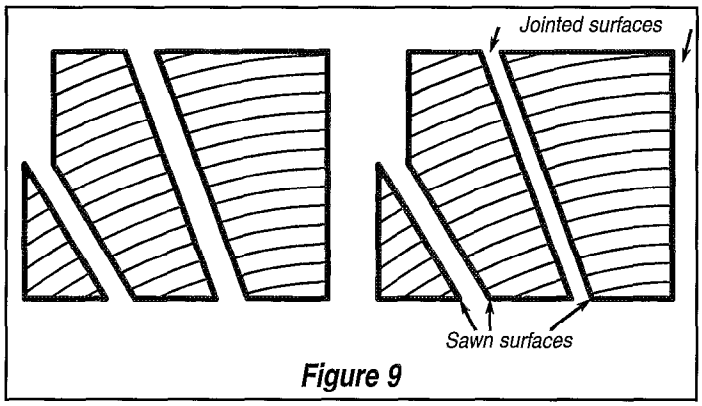

Figure 9

Using a bevel gauge, measure "angle 2" in Figure 8. Set the bandsaw table to blade angle to angle 2. Cuts 2 and 2a can be made using these settings. Put the cutoffs aside and joint the sawn surfaces on the remaining planks. Measure "angle 3" with the bevel gauge, set the table and make cuts 3 and 3a. The result will be six irregularly shaped boards as shown in Figure 9.

At this point it is a good idea to take a moisture measurement of what was the interior of the original plank. If the moisture is higher than 8 percent (this may vary somewhat in different climates), the wood will require more drying. An effective way of doing this is to place the boards back into the original order of the unsawn plank with small "stickers" between them to allow air circulation between the boards (Figure 10). The stickers should be in line with each other relative to the width of the original plank and lines of stickers should be spaced at about two-foot intervals along the length. Clamping the boards into this position will minimize any warping that may occur as inner stresses are

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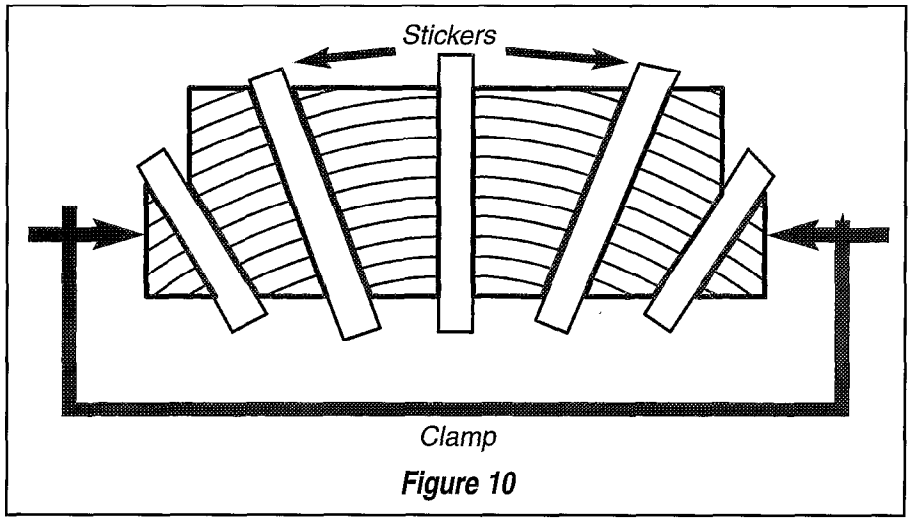

Figure 10

A Guide to Recapping Bridges

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relieved. The small dimensions of the resawn boards relative to the original plank will prevent checking during drying.

The boards should be dried to the level of cabinet-grade lumber. This moisture content is about 8 percent in the Midwest, but may vary somewhat depending upon the climate. The resawn boards will each have one planed surface but will have irregular thicknesses because the saw cuts were made radially rather than parallel to each other. Before planing the boards to uniform thickness, carefully inspect both faces of each board to determine which one presents the surface most nearly perpendicular to the annular rings. It is a beautiful curiosity of maple and some other woods that the closer a surface is perpendicular to the annular rings, the more spectacular the flecking pattern. Plainsawn boards show no flecking at all. In real-life boards, the degree of flecking can vary considerably from end to end and from side to side, so selecting the best side is often a judgment call. The selected side will be preserved and the opposite side planed parallel, so the angle of the annular rings relative to the selected side will determine how well quartersawn the board will be. On some of the resawn boards either of two wide faces may be selected, others with only one wide face offer no choice.

Once one face of each board is selected, joint the selected sides that have not been jointed already and prepare to run the boards through the thickness planer. The selected faces will be run on the rollers and the opposite, non-parallel, face will be removed by the cutters. Figure 11 shows two of the resawn boards as they may be fed through the thickness planer. Sometimes it can be difficult to determine which way to feed quartersawn boards through a planer: some boards will plane well in either direction, some in one direction only, some do not plane well in either direction and some will vary in different sections of the same board. When dealing with planing difficulties it is advisable to keep the basic principles in mind: sharper, faster moving blades and shallower depth of cut do less damage. With this in mind, I prefer to remove thickness from capping material in increments of 1/8" or less. Also be sure to check thickness in several places along the length of each board before feeding through the planer since the resawing process on rough lumber can produce boards of quite uneven thickness.

Board A in Figure 11 can be planed right down to the dotted line for maximum board width, yielding a board of approximately 5/8" x 3". Board B can be planed to "thickness 1" in order to yield material thick enough for a cantilevered bridge body. "Thickness 1", however, sacrifices the board width gained by planing to "thickness 2". In reality, resawing 12/4 planks produces a wide variety of irregular board shapes, many of which are not illustrated here. The ability to read each board and machine it for maximum useful yield can be very challenging and is gained only with practice.

Resawing 12/4 planks using the method outlined here will yield blank capping material about 5/8" x 3" with vertical grain. Depending upon the orientation of the annular rings in the rough plank, some of the resawn boards may be thicker and some may be a little wider than three inches. The three-inch width is generally useful for capping bridges section by section, but there are cases where there is too much bend in the tenor section of a bridge, or a hook at the low end of the tenor section. Also, there are bass bridges in larger pianos which can not be capped with one piece of 3" wide material. In these cases the sections can be capped with two pieces and a joint located where it will not interfere with bridge pins. Another possibility is to resaw a 16/4 plank into 4" wide capping material. I did this once and reserve my stock of 4" boards for special cases. However, 16/4 planks are not easy to find, they are expensive and are almost certainly not thoroughly dried. If you ever see fit to work with one of these behemoths, resaw it promptly or risk losing part of it to splitting.

If one compares the total amount of wood in a rough maple plank to what actually ends up on the piano bridge, the amount that goes to waste is staggering. I would estimate the waste at 90 percent or more. This may seem an extravagant use for a plank that may cost $100. However, a single 12/4 x 10" x 14' plank can provide enough capping material for 8 to 12 pianos, depending on the grain orientation of the plank, the number and location of the defects and the size of the pianos. From this perspective, and as is often the case with piano repairs, the cost of the materials is a very small part of the total repair.

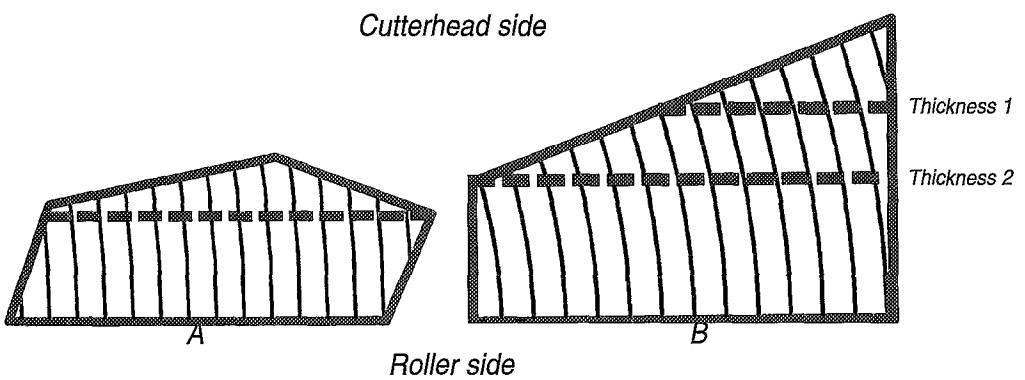

Figure 11

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The Effect of Temperature on Piano Pitch

By James L. Payne, RPT
Inland Northwest Chapter

In the course of tuning we run across circumstances where the temperature of the air around a piano will change, either after we tune it or even while we are tuning it. How should we proceed? Take the case where the piano is in a church room normally unheated except when the piano is used. If we have the option, should we have the room warmed up for several hours before we tune? Should we turn the heat on while we tune it so we can take off our gloves and galoshes? In order to answer such questions we need to know how temperature affects the pitch of a piano.

One difficulty in exploring this problem is that temperature changes are associated almost automatically with changes in humidity. If air is warmed, its relative humidity goes down, and it can hold more moisture at the higher temperature, and hence, it becomes relatively drier. Thus, an unheated garage in winter is cold and – in terms of relative humidity – damp. If a piano is moved from that environment into a heated house, it will be exposed both to an increase in temperature and to a decrease in relative humidity. When piano tuners are asked what will happen to that piano's pitch as a result of the change most will be thinking of the humidity change. We would predict that the piano will go flat because in the relatively drier air of the house, the soundboard will dry out and, as a result, it will push less firmly on the strings, thus lowering their tension.

But what is the effect of temperature alone? If relative humidity were held constant, or if the soundboard hasn't had time to respond to humidity changes, what happens to the pitch of a piano when it is warmed?

Let's construct a simple theory of this process. The first thing that happens when you place a piano in warmer air is that the strings warm up almost immediately (assuming that the warmer air can reach the strings – more on this below). This will cause them to expand. The coefficient of thermal expansion for most grades of iron and steel is quite small, around 6.7×10^{-6} per degree Fahrenheit. Thus, if a 20-inch piano wire is warmed 20 degrees, it will increase in length to 20.0268 inches. For most purposes such a tiny change can be ignored. However, a piano string is under a great deal of tension. Its length already is fixed by the bridges, so even a microscopic amount of thermal expansion will reduce its tension. This will lower its pitch. Therefore, we would expect that in the short run – a few minutes to several hours – a temperature increase will cause a piano to go flat.

The string is supported by the cast-iron plate. At first, the temperature change doesn't affect it because it is too massive. But eventually (again, depending on air circulation), it will warm up, too. Being made of cast iron, which has similar expansion properties as the strings, the plate may be expected to expand by pretty much the same amount as the strings. The result would be to return the string tension to more or less what it was before. Hence, we would expect that in the medium term – a day or so – when the entire piano, plate and all, has warmed up, the pitch of the piano is essentially unaffected by a change in temperature. Thereafter, in the following days and weeks, the warming will start to dry out the soundboard tending to make the piano go flat (though unevenly so).

This is a simple theory about what happens to the pitch of a warmed piano. A more comprehensive theory might have to include other factors. For example, the wood of the piano structure also probably plays some role supporting the plate, and therefore its thermal expansion (or lack thereof) would affect the equilibrium result. Also, the temperature may change the stiffness of the piano wire, which, in addition to tension, is a factor in determining its pitch.

It appears, however, these additional effects play a minor role. When a piano is subjected to temperature changes, the changes in pitch in the short and medium run correspond rather closely to the effects anticipated by our simple temperature theory.

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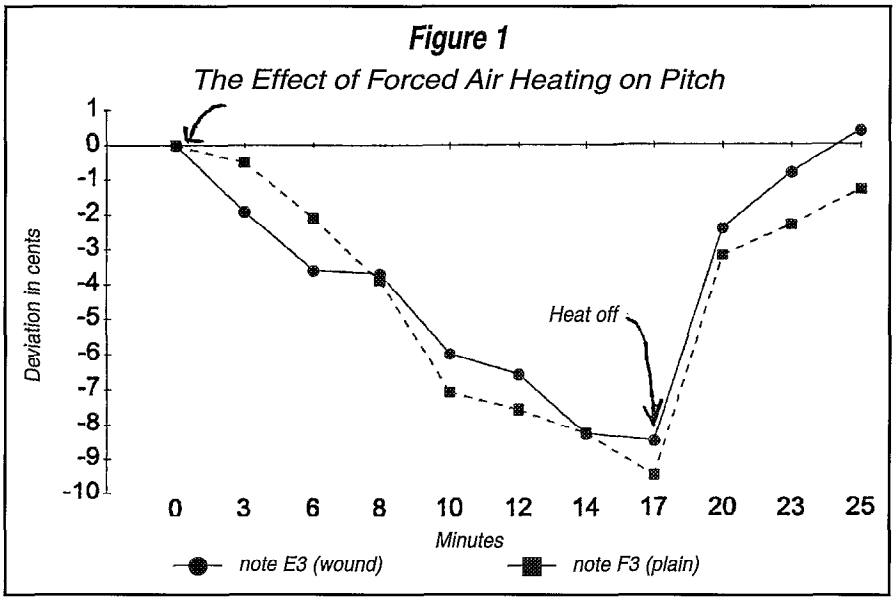
Figure 1

The Effect of Forced Air Heating on Pitch



The Effect of Temperature on Piano Pitch

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Short-term Effects

Demonstrating the short-run effect of a temperature change is quite easy, for we run across these changes all the time in our tuning. For example, one day I was tuning a console in a Sunday School classroom that was heated with a powerful forced-air system that operated on a very deep cycle. When the system came on, it would drive the temperature way up – probably over 80, I estimate – then it would kick off and the temperature would fall until the room got downright chilly before the hot air came on again. I noticed this rapidly changing air temperature was affecting my tuning. It should be noted that I had left the lower front panel off the piano after doing some trapwork adjustments, thus allowing for a fuller circulation of air around the strings.

To document the temperature effect, I selected two strings, a wound one at E3 and a plain one at F3, and measured their pitch with the Accu-Tuner™ after the blower had been off for a long time and was just about to restart. Figure 1 shows what happened to the pitch of the strings when the hot air came on again. Over the course of the next 17 minutes the strings went about nine cents flat as they were "relaxed" by the warm air blowing on them. When the hot air shut off and the strings cooled, they rapidly gained pitch, coming back to virtually their original pitch in about eight minutes.

In another situation (many years ago when I was tuning with a fork), I encountered a similar temperature effect, but in reverse. I was tuning an upright when I noticed that the mid-range octaves I had just set were noticeably quavering. Puzzled, I went back to my fork and tested C5, the reference note that I had set very carefully. To my horror, I discovered it had gone noticeably sharp – perhaps four to five cents. At first I wondered if something had gone wrong with the string support structure of the piano, although I couldn't imagine a structural failure that would cause a piano to go sharp. When I shared the problem with my customer she was calm, she told me not to worry and said that an imperfectly tuned piano was good enough for her (some customers are incredibly understanding!). She also commented, as she left me, that maybe the door I had opened had something to do with it.

Indeed it did! The basement room where I was tuning had a wood stove that was pouring out heat, and in defense I had opened the door to let the Montana spring air blow into the room. And I had left the bottom board off after doing some trapwork adjustment. The cool breeze had rushed along the strings, contracting them and sending them sharp, but in varying amounts depending on how much air reached each one. I closed the door and replaced the bottom board, and, as soon as I could check it, the C5 was dead on again and the octaves were clean. So a cool draft can be just as disruptive to a tuning as a warm one.

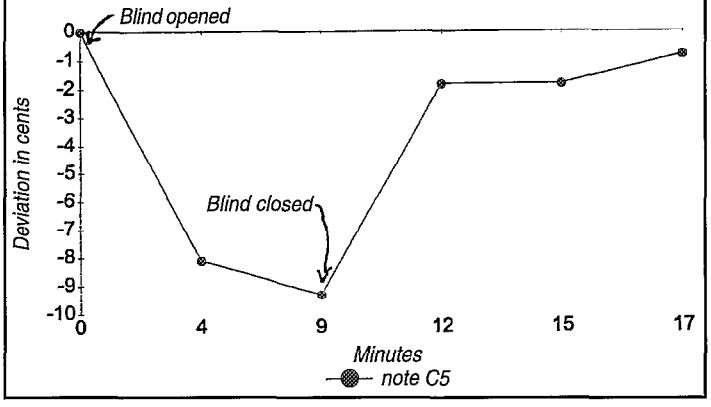
These cases illustrate the importance of controlling heat sources during a tuning. If heaters are jerking the room temperature around, they should be turned off during the tuning. One needs to be especially aware of blowers and fans as well as open doors and windows. A second point is that the lower front panel of an upright should be kept in place to limit air circulation. In the past I used to leave the lower front panel off after doing trapwork or inspecting bridges on the assumption that I might need to make more adjustments or retrieve a dropped mute later. Now I replace it during tuning.

Sunlight

Another temperature bugaboo is sunlight falling on the strings – a problem that especially affects grands. Sunlight on the strings will always drive a piano out of tune and for this reason a piano should never be tuned – or played – in this condition. One day I encountered a grand to be tuned standing in front of a picture window. The window had no shades or blinds, and I could see that the sun would soon swing around into position to shine on the strings. Fortunately, there was a double-bed box spring in the room, so I tipped it on end and wrestled it over in front of the window as a blind to block the sun.

Figure 2

The Effect of Sunshine on Pitch



After I was done tuning the piano, I did an experiment. I measured the pitch of one string of C5 with the Accu-Tuner™, and then drew the box spring aside. The strings on this older piano were rather tarnished and, therefore, good absorbers of heat. The sunlight fell on about four-fifths of the speaking length of the string. Figure 2 shows what happened.

The pitch of the string was falling so rapidly at first that it was not possible to establish the pitch until four minutes into the test, when the pitch had fallen 8.0 cents from its original value. Thereafter the pitch fell more slowly; after nine minutes the pitch was 9.2 cents below its original value and seemed to have bottomed out. Then I replaced the box spring, blocking the sunlight. The movement back toward the original pitch was quite rapid. In three minutes, the string was only 1.7 cents below its original value, and seven minutes after cutting off the sunlight, it was only 0.7 cents below its starting value.

Keep in mind that when the sun strikes the strings of a grand, it cannot strike them all evenly. The struts

and the lid will shade some strings, so some will heat and others won't, and the result will be some wild octaves in a piano that has just been perfectly tuned.

In general, grand pianos are more subject to all kinds of transitory temperature effects, not just sunlight, because their strings are less sheltered. Some concert hall settings can be a veritable madhouse of temperature effects, including stage doors left open admitting hot or cold drafts, forced-air heating and cooling systems and stage lights.

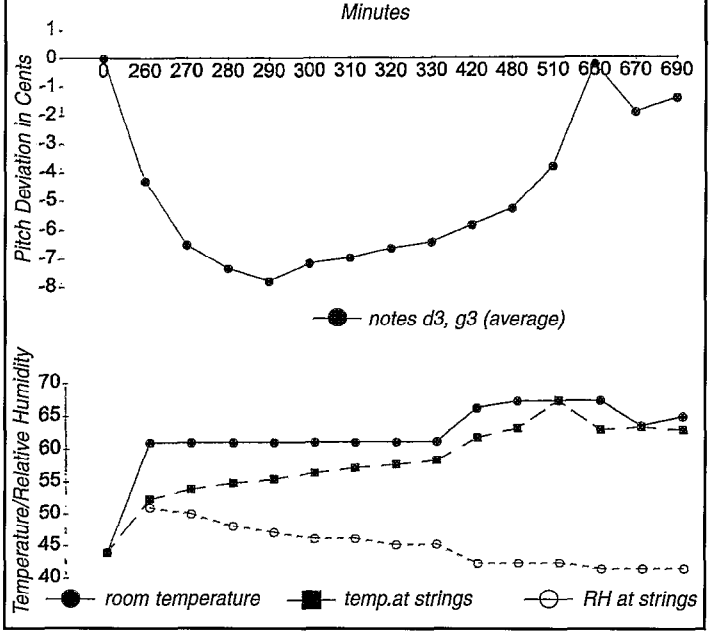
Medium-term Temperature Effects

While consistent with our simple theory of temperature effects, the cases cited thus far don't conclusively demonstrate it because they do not exclude a humidity effect. All of the results just described are also consistent with the idea that it was a change in relative humidity, acting very rapidly on the soundboard, which altered the pitch of the strings. Thus, when a heater blows warm air against the strings it is also drying out the soundboard. The fall in pitch could be the result of the drier soundboard relaxing its pressure on the strings. When the heater shuts off – this interpretation goes – the soundboard starts taking up more moisture again, pushes harder on the strings and they rise back up in pitch. The same argument would explain sunlight effects: the sun dries out the soundboard; when the sun is blocked the soundboard takes up moisture again. These interpretations assume, of course, that the soundboard takes up, and gives off, moisture in a matter of minutes. This possibility may seem implausible, but it is not inconceivable, so it needs to be laid to rest before we can confidently accept the temperature theory.

The way to demonstrate that short-term changes are due to temperature changes, and not humidity changes, is through an experiment that raises the temperature of a piano for a period of many hours. According to the temperature theory, the pitch should drop at first as the strings warm and the plate remains cool, but as the plate warms, the strings should start coming back to their original pitch. If the initial drop in pitch was the result of the humidity change, the pitch should stay down – or drop even further – as the warming continues.

Figure 3

The Effect of All-day Warming on Pitch



The piano used for the experiment was an older Hobart M. Cable upright in a chapel where the ambient temperature was kept in the mid-40s, except when the room was heated on Sundays. Before the experiment began the back of the piano was covered with plastic sheeting to help insulate the back of the soundboard from humidity changes. Two strings that gave especially stable pitch readings were selected – a D3 and a G3 – and their mates were muted off. The Sanderson Accu-Tuner™ was used to measure pitch. (What a boon to research in piano technology this instrument has been!) For all measurements, it was placed in exactly the same location and all the same case parts (top, music rack and bottom board) were off the piano. Each string was measured three times at each measurement interval; they behaved so similarly that both strings are averaged together. Thus, each pitch reading incorporates six measurements. All values are expressed as cents deviation from the pitch of the string in the initial measurement. To avoid possible experimenter bias using the Accu-Tuner™, the cents window was covered with a flap each time while the rotating lights were adjusted.

Early in the morning with the room and piano temperature at 44 degrees the initial pitch measurements were made. Then the piano was closed up and the electric baseboard heat turned on. After three hours and 20 minutes the room had warmed to 61 degrees. The case parts were taken off and the first measurement made as promptly as possible. Figure 3 shows what happened to the pitch of the strings in the course of the experiment as well as the corresponding values for the temperature of the room, temperature at the strings and relative humidity at the front of the soundboard. (Notice that the time intervals are not uniform in the figure.)

At the first measurement as soon as the piano was opened the strings were 4.3 cents flat from the initial reading. Another reading was made 10 minutes later: the pitch was 6.5 cents flat with respect to the original. The pitch continued to decline, reaching 7.8 cents flat 30 minutes after the piano had been opened up.

Thereafter, the pitch began to creep back sharper, but this was a surprisingly slow process. Even three hours after achieving the low of -7.8 cents the pitch had risen only 2.5 cents, to -5.3. A thermometer placed along the plate showed that the plate still lagged behind the room temperature. While the temperature of the room was 67 degrees, the temperature right next to the plate just below the keybed was 63 degrees, indicating the plate itself was cooler than this. To speed the warming process I directed a fan so that it blew against the plate and strings. A half-hour later,

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The Effect of Temperature on Piano Pitch

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the fan was stopped and another measurement showed that the pitch rise had accelerated; the strings were only 3.8 cents flat. The fan was then set to blow against the piano for another two hours, then shut off. Measurements showed the strings to be only 0.9 cents flat. Several subsequent measurements were made and they seemed to confirm that under these conditions the pitch would not rise any further.

Overall, the results clearly support the temperature theory of pitch change. The pitch went down at first when the strings were warmer than the plate; as the plate warmed up the pitch came back to nearly its original level. During this time, the relative humidity at the soundboard fell from 51 percent to 41 percent. Since the piano came back nearly to its original pitch, this humidity change cannot be the explanation for the initial drop in pitch.

The Importance of the Piano Case

One secondary finding of this experiment is that the piano plate is a potent heat sink. It took 11 hours to warm it up fully and that included two and a half-hours with a fan blowing directly on it. If the case of an upright piano is kept closed it would probably take many days for the plate to warm up. Air has a low density and can therefore carry very little heat to or from the plate. When warm air strikes a cool plate it quickly becomes cool air – and hardly affects the temperature of the plate at all. Only a large quantity of moving air can warm the plate – and a closed case prevents this.

The case, in other words, protects the upright piano against changes of temperature. The plate acts as a heat sink, regulating the temperature of the air around the strings and allowing the temperature to change only very gradually. Hence the strings and plate will always be at the same temperature. If a piano is subjected to temperature changes, it makes sense not to compromise the integrity of this temperature-control system by opening the piano. Grand pianos, as we noted, are not as well-designed to withstand temperature changes. Certainly, temperature control is an argument for leaving the lid down on a grand whenever possible. It is also an argument for designing a music desk which covers the strings as much as possible.

With the theory about temperature effects now established, we can return to the questions posed at the beginning. Should a cold piano be warmed for several hours before tuning? The answer is clearly no. Even after 12 hours in a heated room the plate in a closed-up piano will warm very little. Therefore, you will get a pitch drop as soon as you take off the front and the warm air hits the strings. And because of short-run temperature effects, it is inadvisable to turn on the heat in a cold room to make it more comfortable while you tune. In other words, the general rule is that the air temperature around a piano when you tune it should be the same as the long-standing preexisting temperature. So that means good galoshes are part of the tuner's equipment!

The Challenges of Modern Piano Tuning — Part IV:

Stability and Unisons

By Bruce Winn, RPT

This series of articles is designed to give serious Associate Members of PTG information and exercises they will need to tune at the RPT level. In previous articles we have covered tuning the temperament, midrange, treble and bass. Finding the proper pitch for each note on the piano is only part of the job; you also must tune each string correctly so that it stays in tune. You must face....

Challenge #5

To set the strings and tuning pins with solid stability so the tuning will hold up to the rigors of professional performance.

Solid tuning comes from a solid understanding of tuning pins and piano strings and how they behave under tension during the tuning process. The tuning pin must be set properly in the pinblock, the tensions in the speaking and non-speaking segments of the string must be properly balanced and the pitch must be exactly where you want it – all at the same time. You cannot see any of this and you can't hear very much of it, either. You must feel how the pins and strings move and rely on a well-trained sense of muscle memory.

In learning how to tune with solid stability there is no substitute for hands-on experience. This means tuning lots of pianos of varied ages, styles and conditions. Recognize each piano you are asked to tune as a learning opportunity for tuning stability. Most PTG tuning exams are given on new or nearly new grand pianos of very good quality, so each grand piano you tune is a grand opportunity.

Here are some common causes of stability problems along with some possible solutions:

Improper Tuning Hammer

How can you tune solidly if your tuning hammer is flexing all over the place? Use a professional-quality tuning hammer rigidly constructed with enough weight to do the job. Pick one with the right balance and comfort to suit your style of tuning.

Twisted Pins

Many beginners twist the top part of the tuning pin (the part sticking up above the plate), stopping when the string sounds right. If you then strike a few sharp blows on the key, the tuning pin untwists, causing the pitch to change.

Twisting the tuning pin is not enough. It must be moved all the way down at the bottom and then settled properly in the block. Often this means that the pitch goes temporarily above the target, a little 'tick' is heard or felt as the bottom of the pin (the part embedded in the pinblock) moves, and then the pin is settled to remove any twist – perhaps with the assistance of a sharp blow on the key.

Bent Pins

This destructive and ineffective process is all too common. Any rebuilder removing a set of tuning pins with a power drill will find a few bent pins on almost all pianos, and there are some pianos out there where almost all the tuning pins are bent!

Pin-bending is often the result of frustration. Unable to get a string in tune by normal means, an untrained "tooner" attempts to bend or permanently deform the tuning pin to get that string in tune. In most cases this is ineffective because the string and/or tuning pin will move again sooner or later changing the pitch. It is also destructive because that tuning pin will be permanently damaged – difficult or impossible for anyone to tune correctly. Avoid pin-bending. All motions of the tuning hammer should turn the pin around its axis – unless you are a very advanced tuner.

Flagpoling

Long, high tuning pins in a very tight pinblock sometimes whip and twist like a flagpole in a windstorm. Be sure that your tuning hammer is settled down on the tuning pin as far as possible. This will help you control the whole tuning pin all the way down to the bottom. The 12 o'clock position (handle straight up on a vertical, straight back on a grand) will minimize pitch-changing distortion, but try different tuning hammer locations to find the one that's right for you.

Unbalanced String Tensions

This is probably the most common cause of tuning instability among experienced tuners. All the segments of the string must be in proper balance. If they are not, string will creep across the bearing points and the pitch will change slightly.

- Be sure that the piano is at pitch. You can't raise pitch and fine-tune at the same time.

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The Challenges of Modern Piano Tuning

Continued from Previous Page

- Remember the lessons of Dan Bowman's "Marshmallow Zone" articles: Treat the string and tuning pin as one unit. Tune with both hands and use active blows on the key along with small motions of the tuning hammer to settle the string-pin unit to its final stable pitch.
- Don't fuss too much. Many small changes on one string can cause instability. In final nit-picking, use your brain and ear to determine the two or three notes in a whole section that really will improve things, then make those few changes and move on.

Testing for Stability

A good tuning machine, like the Sanderson Accu-Tuner™ or the Cyber-tuner™, really can open your eyes to stability problems. Stop lights, pound key, watch lights move, groan, repeat. A good ear test is to play the major 3rd above and below that includes the note you've tuned. A firm blow should show no change in the beat rates.

Challenge #6

To tune the unisons clean and true so each note sounds its best.

Well-tuned unisons with a clear pure sound are essential for professional tuning. Just a few poorly tuned unisons will stick out like a sore thumb and mar all the other good tuning work you have done.

In the sections on temperament tuning and expansion across the treble and bass I have talked about custom-tailored octaves and carefully negotiated compromises. Unisons are different. There is no room for compromise in unisons. Each string in the unison should be tuned to exactly the same pitch. When you are pulling in unisons you should strive for a pure, clear sound with no apparent beat rates. Whether you are listening to one, two or all three strings of a unison, the sound should be the same at least as far as pitch is concerned.

Good unison tuning at the performance level requires experience, concentration and a hammer technique that combines delicate control with thunderous stability. Mental attitude is at least as important as physical skill. To tune the unisons correctly you must listen very closely to each note. You almost certainly will pick up numerous small imperfections, such as voicing problems, false beats, unusual duplex or triplex sounds, acoustic problems in the hall and so forth. You probably will not be able to resolve all these problems, but you still must do your best. This leads us to....

Challenge #7

To do all this on less-than-perfect instruments under less-than-perfect conditions, always striving to do the best possible job under the circumstances.

There are no perfect pianos. (If you think you've found a perfect piano, just put it in a university music department and give it a few years). Top quality pianos often are held to extremely high levels of expectation and frequently economic reality forces many churches, schools and concert halls to accept less than the best available instruments.

Backstage is not usually a quiet place and large public rooms are often in nearly constant use. Time for tuning can be limited as well. Still we must do the best we can because when the audience comes in and the curtain goes up our tuning will be on display.

Here are some practical tips on tuning unisons on real pianos in the real world:

Tip #1

Read and practice the Exercise on Unison Tuning in Part I of this series and Part III, Exercise #2.

Tip #2

In his recent class on "Surviving the Tuning Exam," Mike Travis suggested a three-stage approach to tuning: a quick rough tuning or pitch adjustment, a careful fine tuning and a final check – sometimes called nit-picking. All three of these steps are needed for good unison tuning. The piano must be stabilized at the proper pitch, then fine-tuned. Each side string in the unison is then brought into fine tune, as clean and beatless as possible. In the final nit-picking stage, listen carefully to the open sound of all three strings in the unison at the same time. Playing through a section note by note will help you zero in on any unisons that need attention.

Tip #3

In some situations you must deal with false beats and minor string defects. Listen to the sound of the defective string by itself. Bring in one of the other strings trying to get the sound of both strings as quiet as you can. Finally, bring in the last string with all three strings open, trying to find the best sound for that unison.

Some of the standard repair procedures for false beats include dropping the tension on a string, removing it from the bridge pins, repairing loose bridge pins, renotching bridges, cleaning capo bars and installing new strings. These repairs are not practical on a day of the performance tuning. Do the best you can that day, then make arrangements for appropriate repairs at an appropriate time.

Conclusion

Many thanks for the support, encouragement and feedback that I've gotten while writing this series. I hope these articles will help many Associates to improve their tuning skills so they can become Registered Piano Technicians.

1999 Winter NAMM Show Review

By Steve Brady, RPT
Journal Editor

The winter NAMM show in Los Angeles in January confirmed trends in the piano industry which have been emerging for the past several years. This writer found that, generally speaking, most makes of pianos are improving in one way or another, at least in terms of how well the display instruments are prepared for the show. Manufacturers and dealers seemed upbeat about the industry and the trend toward hybridizing pianos with digital equipment continues to grow. Global cooperation, in the form of joint ventures, partnerships and consulting arrangements, continues to characterize the industry and drive further improvement in products, while in many cases keeping prices at reasonable levels.

Chinese Pianos Improve

At this point, nearly every major manufacturer or importer of pianos has some connection with China. Baldwin, Yamaha, Young Chang, Story & Clark and many others have certain designated models or lines made in China and Samick has a branch factory in Indonesia. The equipment from Kimball's discontinued piano manufacturing business has been sold to Artfield Piano Company in China, where it is producing pianos bearing names like Krakauer and Westbrook. Some Chinese pianos are built with Delignit pinblocks and Japanese or Korean hammers, further exemplifying the international nature of modern piano building. While the quality of many of the Chinese pianos seems to be better each year, they still qualify in North America primarily as "starter" pianos.

Young Chang Continues Redesign

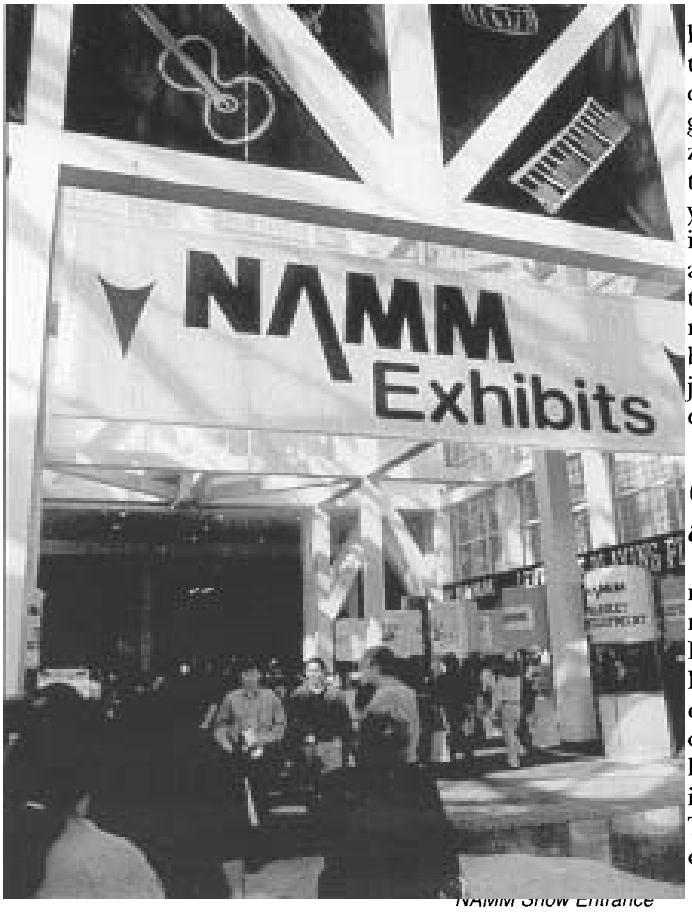
Young Chang's entire grand piano line is undergoing a gradual redesign process by Joseph Pramberger, formerly of Steinway & Sons. Pramberger told me that he began by evaluating and redesigning elements of what he calls the "foundation" of the instrument: the soundboard, the bridges, the back and the rim.

"I did this by changing the shape of the soundboard, the shape of the ribs, tapering the soundboard, all custom work for each individual model," said Pramberger. "This also had to do with bridge crown, glue surface of the bridge to the soundboard, working on the tonal transitions between bass and treble, getting rid of the 'hills and valleys' in the tone across the scale."

Following the redesign of these elements, Pramberger has begun redesigning the action geometry to provide better touch characteristics. "I mounted the action a little higher, changed my hammer boring to 90 degrees and have my blow distance equal to the hammer bore, so you won't overstrike. And then I changed the key geometry – put a proper relationship in the keys, changed the position of the wippen."

The structural redesign (begun two to three years ago) has been done throughout the grand piano line, but with the action work. "We started with the 185 (6'1"), and the 213 (7') to be presented at the NAMM show," said Pramberger. "We've had a good reaction to the changes, and once we gain this acceptance, we'll move these changes across all the lines, so they'll all play roughly the same."

Pramberger also said that he has worked on improving the tone quality through changes in the hammers, "to get away from those pings and zings and the brittle tone. I call them tension hammers, where you get tension on the felt itself. Hardness and resiliency are not the same thing. I want to make the hammers more resilient – not so hard – to get a bloom from the tone instead of just a bright sound with quick decay."



NAMM Show Entrance

Global Manufacturing at Yamaha

Yamaha is introducing a new case style, the GH1-FP, reported Yamaha's Bill Brandom, RPT. "The piano, a French Provincial style in cherry, comes from Japan as a complete unit, without legs, lyre or music desk, and unfinished, to Yamaha's plant in Thomaston, Georgia, where all of the finish work: attaching

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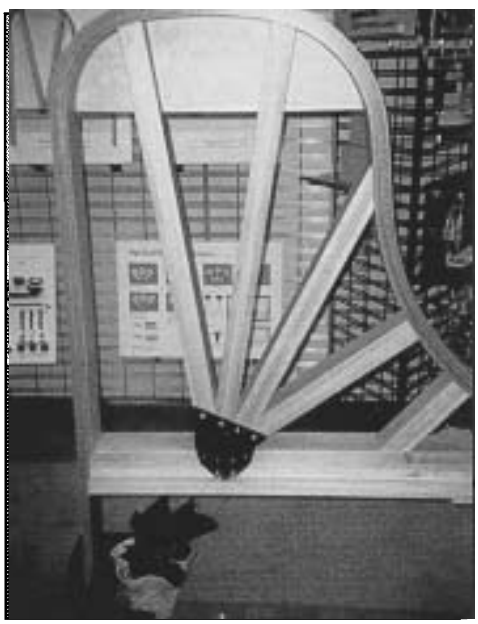
the legs, matching the colors, final regulation and voicing are done. It's the first time that we've had any product in the grand piano line assembled and finished here in the U.S.," Brandom said.

Yamaha NAMM Exhibit

In another move toward "global manufacturing," Yamaha is now offering a lower-priced version of the famous and popular U1. The T121 will have its case parts built in Taiwan, but will be assembled completely in Japan, and will be virtually identical to the U1 inside. The savings in case manufacturing will result in a retail price some $1,200 to $1,500 less than a regular U1, according to LaRoy Edwards, RPT, of Yamaha.

Samick Upgrades

Samick has upgraded the model 185 and 205 "World Grand" pianos by incorporating a "triangle shoe" or collector (shown here), which ties the beams into the belly rail, and by mortising and doweling the spruce beams into the rim, according to Samick's national service manager, Rich Austin. The rim itself is now laminated of alternating layers of maple and lauan, giving it greater strength and stability, and the keybed is now made of spruce, also to make it more stable, Austin said. Samick's model 131 upright has a new, full sostenuto system designed by Klaus Fenner.



Samick rim, showing "triangle shoe"

New Models at Kawai

Kawai introduced a new, high-end grand piano upgrade, the "Signature Series." The new models, the SX-2LE and the SX-5LE, are based on the existing RX-2 and RX-5. The upgrades include aged soundboard spruce with very fine grain, hand-wound bass strings and long-fiber concert grand hammer felt. On these pianos, action assembly, regulation and voicing are done by Kawai's concert department. The new models bear the insignia "S. Kawai" on the fallboard, to honor current global chairman Shigeru Kawai, son of founder Koichi Kawai.

In Kawai's vertical line, the 49" model NS-20 has been "transmogrified" (according to Don Mannino, RPT, Kawai's technical services manager) into a new model, the K-50. The new piano has the same scale as the NS-20, but has been beefed up structurally with the addition of an extra back post. Similarly, the 52" models, US-6X and US-8X, have been replaced by the new model K-60.

Schimmel Transparent Grand

Geneva International

Geneva International continues to expand its roster of imports, including the Petrof, Weinbach, Nordiska and Rösler lines. Geneva's entry-level line is the Nordiska (46" and 48" verticals and a 5'7" grand), originally from Sweden where pianos were made between 1960 and 1980. Dongbei Piano Company in China bought Nordiska's equipment, and the Nordiska name is now owned by Geneva International, according to Alan Vincent, RPT, Geneva's technical director. The Rösler line is the same internally as the Petrof, differing only in that the case is a less-expensive "printed" laminate finish.

All new Petrof grands now will incorporate Renner-made action parts hung on Petrof action frames (except the larger grands, which have full Renner actions). The 52" model 131 upright also boasts a full Renner action.

Baldwin

Baldwin's venerable Hamilton studio upright is now available in a limited series of very attractive furniture styles, and all of Baldwin's larger "Professional Series" verticals (the 45", 48" and 52" models) continue to use solid-core

lumber construction rather than MDF, according to Baldwin's manager of piano technical services, Kent Webb. The model 248A (48") upright is now produced with weighted keys for improved touch and now uses four-section bass dampers – similar to those in the model 6000 vertical – and trichord wedge dampers on the five lowest tenor notes, for improved damping, said Webb. Also new on the model 248A is an easier-to-remove front panel. (The original version required screws to be removed, but the new one does not.)

Nick Gravagne, RPT, prepares a piano for the NAMM Show

Since March of 1998, Webb said, Baldwin has been using Renner hammers on all the Artist Series grands and continues to use full Renner actions and dampers on the larger grands, models SF-10 and SD-10. The Artist Grand series now is available in polyester finish. The grand piano production recently has moved from Conway, Ark., to the company's Trumann, Ark., plant, but the polyester operation will remain at the Conway plant.

Baldwin's newly-improved ConcertMaster electronic player piano system (first introduced in 1997) is based on the QRS solenoid technology, but has a Baldwin-designed "front-end" which contains a control unit, a floppy disk drive, a hard drive and a CD player. The hard drive has a capacity of 10,000 songs in MIDI files, according to Steve Bryan, service systems manager for Baldwin. Bryan said "the floppy drive will play PianoDiscs, Yamaha discs and general MIDI files that you can download from the Internet, and the files can be copied from the floppy drive to the hard drive." According to Bryan the CD drive is a special unit for QRS-type CDs that contain audio on the left channel and the information that plays the piano on the right channel. ConcertMaster can effectively tie the piano into a home-entertainment system including both audio and video, so that you can watch a musical performance on your TV screen with hi-fidelity sound coming from your stereo's speakers, and the piano portion actually coming from your piano, all "conducted" by the consumer using a sophisticated remote control unit.

New Factory for Fazioli

Fazioli, the Italian maker of high-end grand pianos reported no big changes in their piano line, but had exciting news nonetheless. According to owner Paolo Fazioli, "Six models is enough! We've been concentrating on improvements in the quality of the pianos and now the problem is to increase the quantity." Fazioli's current annual output is about 60 to 70 pianos per year. Fazioli said he is planning a new factory which would allow increasing production, "but not too much, because we want to maintain the same characteristics in our product." He plans to increase capacity to about 100 to 130 pianos per year. "To do that," Fazioli said, "we need more space, and we need to organize the work in a more rational system."

Fazioli added that the new factory also will have "some things we don't have now, such as a small concert hall. This is very important, because in this case we can test the new instruments in a better and more professional situation." This space also will be used for recordings, concert series and perhaps master classes.

"It will require some time," Fazioli concluded, "but we are confident that by the end of the year 2000, we will be inside our new facility."

Miscellaneous Cool Piano Things

Paul Jansen and Sons exhibited their fine benches and other piano accessories, including a nifty pedal extension for people with shorter legs. Introduced last year, the "Piano Pedal Extender" is adjustable to eight different levels, and folds up completely when not in use. It retails for $95.

Jansen Piano Pedal Extender

RPT Charles Flaum of New York was at the NAMM show with his new business venture. "Perfectly Grand" is a mail-order business selling all kinds of piano accessories, from benches, lamps and music cabinets, to soundboard cleaners and piano polishes, to video tapes and software. Most of these products are familiar to us: Spurlock soundboard cleaners, Cory polishes and Jansen benches, to name just a few, but Flaum has gathered them all into one attractive catalog for mailing or showing to clients. Technicians receive the standard trade discount from listed prices, and an additional five percent discount is available to "Perfectly Grand" members who provide referrals.

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Piano Technicians & Hybrid Pianos

In past years, I've noted the increasing presence of what I call "hybrid," instruments, combining acoustic and electronic elements. These take two basic forms: digital "pianos" with real piano keyboards and actions for a more realistic feel; and real pianos containing electronic player mechanisms such as the Baldwin ConcertMaster, the Yamaha Disklavier or the PianoDisc system. I had a conversation with Baldwin's Kent Webb that left me strongly impressed with the importance of this latter technology to piano technicians.

PTG President David Durben (LEFT) in discussion with Bösendorfer's Roger Weisensteiner (CENTER) and South Central RVP Jack Wyatt.

"We're responding to customer demand in a product like this," Webb told me. "When I talk to piano technicians around the country, I'm concerned that they lack excitement about embracing this kind of advancement. There's not the kind of excitement in the technical community that there is with the customer.

"The technicians that learn how to service this technology are going to be very successful, because these hybrid instruments are more intensive in their service needs than just a regular piano. We need to realize that these pianos are going to create more service work for us, because the average piano with any player system is going to be played significantly more in the average home than a piano without it. The more a piano gets played, the more it gets serviced."

Webb also pointed out that there are a lot of pianos out there that are not kept at A=440, because there's really not a discipline that makes the customer keep the piano at 440. If they're playing with a format that's calibrated at A=440, and their piano's not at 440, it's not going to sound good. Player systems are going to require that pianos be kept at A=440, and that need is going to be more persistent than for pianos without this kind of player system.

"Piano technicians are going to have to embrace this technology," Webb continued, "get a grasp on it and realize that this is a service need they have to meet. Because if they're not going to meet it, there's a zillion organ technicians out there in a declining organ market. Are these organ technicians now going to move into this? I'm not saying it has to be a competitive thing, but the technicians that are successful in the long run are going to be those that can meet the needs of the customer, and this is a definite need for the customer."

Customers that buy these systems might spend $15,000 on the piano, but possibly another $10,000 on the player system. These often are savvy consumers with money, who will be incredibly proud of this unit and feature it in their homes, and they'll really want to protect and preserve their investment by having frequent service done, Webb concluded.

The view from here: Webb is right. If you want to be busier in your piano-service business, get more training, diversify your offerings. And these days, that very much includes getting training in the installation and service of electronic player systems.

Conclusion

It seems to me that many forces are combining to produce a *fin de siécle* resurgence in the piano's popularity. Sales are up and it's not just player pianos. I noticed at the NAMM show that some old piano names are being resurrected – Pleyel and Broadwood, for example – and I saw more evidence of "retro" styling such as Victorian legs and music desks offered as options by various makers. The piano is seen in today's society as a symbol of taste, culture and affluence. Some have speculated that the current upswing is driven by baby boomers turning back to the instrument they played as children and perhaps that's part of it. (Although most of my childhood friends played the accordion, and I'm not aware of a similar boom with that instrument!) Whatever the reasons, the piano industry seems to be healthy as we close in on the year 2000, and for that, I'm grateful.

Convention 99 Kansas City

Registration Fees

	Before 6/18	After 6/18
Member:	$215	$250
Non-Member:	$315	$350
Auxiliary Member:	$75	$95
Non-Auxiliary:	$95	$115
Banquet Ticket:	$35	$35
Auxiliary Tour:	$60	$75
Applied Skills:	$25	
Rebuilding Skills:	$25	
Grand Regulation:	$35	
Vertical Regulation:	$35	
Tuning Tutoring:	$65	

Watch the *Journal* for More Information on the 42nd Annual Piano Technicians Guild Convention & Technical Institute

Servicing Vertical Actions on Location

By Jack Cashion, RPT
Seattle, WA Chapter

I've often avoided doing certain service procedures on vertical actions simply because, in order to do the job, I would have needed to take the action into the shop and then return it later. Realizing I was turning away profit when I elected not to do the job, or sometimes losing money by actually hauling the action in and doing the job, I set about finding ways to do the jobs on site. This article describes some tools and methods I've developed and concentrates on access and setups of vertical actions on location, without the conveniences of shop, action cradle or workbench.

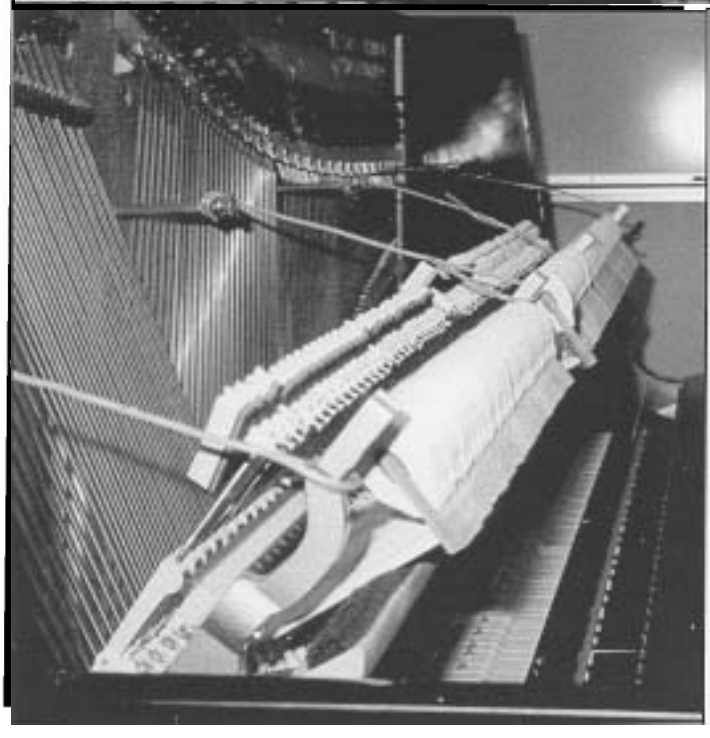

Photo 1 — (ABOVE) Action hanger wire shown securing action bracket to bolt. Photo 2 — (LEFT) End view of action tilted out for access, secured by four action hanger wires.

Action Access

Access to the string side of a vertical action can be accomplished by tilting the action to approximately a 45-degree angle. Now secure it with "hangers" from the action bolts to the action brackets. Four lengths of 12-gauge solid-core electrical wire will work as hangers and they fit in my tool case. (1/4" diameter ropes also will work as hangers.) Make a coil in one end of an 18" length of wire and place the loop over the action bolt, then replace the nut. Now bend the other end around the top of the corresponding bracket while holding the action at the desired angle. When troubleshooting, only one hanger is necessary, but when hammer work is required, secure all the available bolts and brackets with hangers. (See Photos 1 and 2)

This setup allows the use of both hands, and the tilt opens up the back action and strings for servicing, troubleshooting and even hammer work. From this position you can tighten wippen screws with a stubby screwdriver, seat treble strings on the bridge and work on individual hammers or dampers. (See Photo 3)

Caution: *Always check the capstan-to-sticker alignment, especially on older uprights. If a sticker comes off the capstan, it may bind and breakage is possible.*

Gang-Filing

Hammers need to be secure and level for gang-filing. Insert a 17" section of angle aluminum (fits in case) between the shanks and the rest rail (See Photo 4), and a 1" x 3/4" wood slat on top of the shanks near the hammers. This top slat is padded with a layer of muting felt to help grip the shanks. Now clamp them together with Velcro™ straps (See Photo 5). The Velcro™ (trade name: "Get a Grip") is cut to about 3/8" width to fit in small places (Photo 6). The hammers can be gang-filed a section at a time, or a four-foot-long version may be used to clamp all the hammers in place at once (See Photo 7).

A common problem with hammer filing on location is the dust and fluff. I recommend keeping the vacuum

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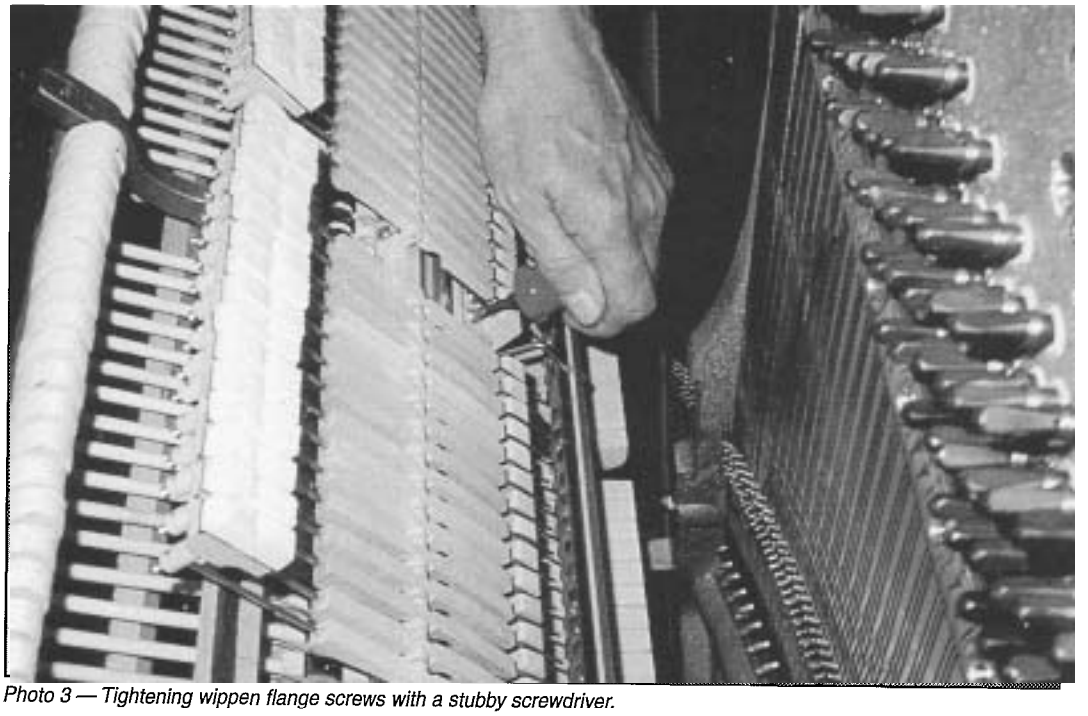


Photo 3 — Tightening wippen flange screws with a stubby screwdriver.

Photo 4 — Preparing to insert angle aluminum between shanks and rest rail.

Photo 5 — End view of action, showing padded slat and aluminum angle clamped in place with Velcro™ strip.

cleaner handy, using a drop cloth, and wearing a dust mask if needed (See Photo 8).

Deep Needling

If you intend to jab the hammers with needles to pre-voice, a voicing block is needed under the hammer tails. Replace the bottom support with a board approximately 38" x 4" x 15" under the tails and secure it with the Velcro strips around the rest rail and the ends of the top slat. This forms a "sandwich" clamp, firmly supporting the hammer tails for deep needling (See Photo 9).

These tools are all easily made by the technician, are easily carried in the tool kit or the trunk of the car, and they provide the ability to perform these important and profitable procedures on site – eliminating many costly round trips to the shop.

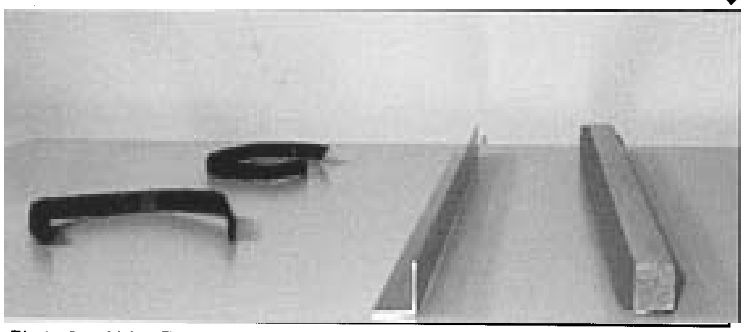


Photo 6 — Velcro™ strips, angle aluminum and padded wood slat.

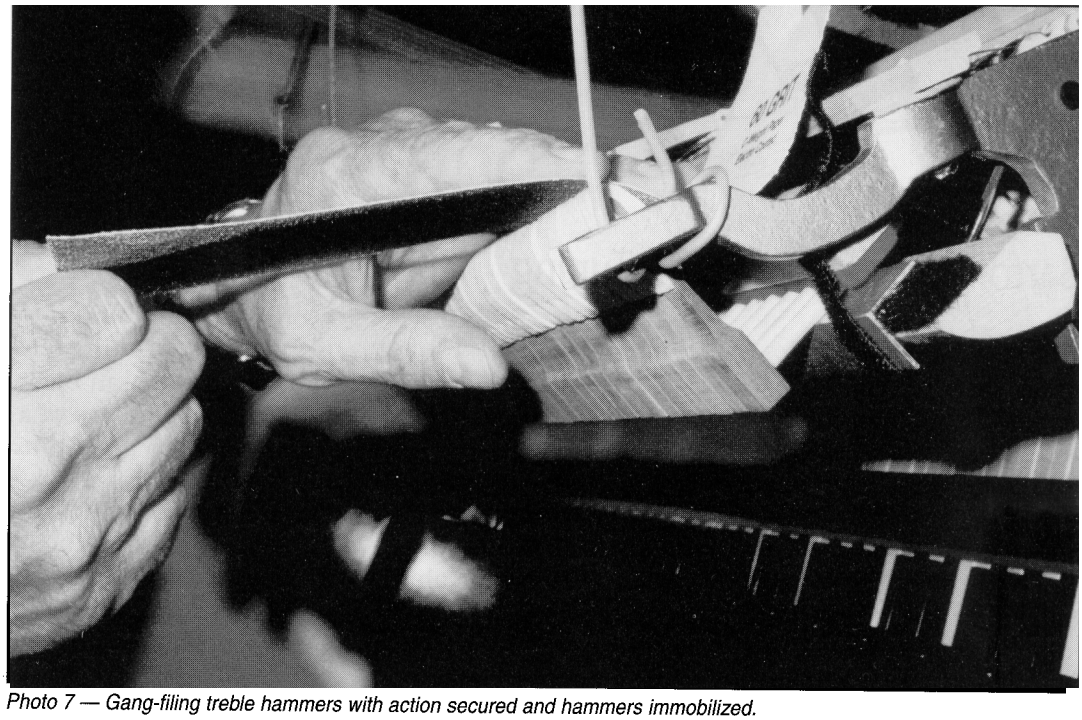
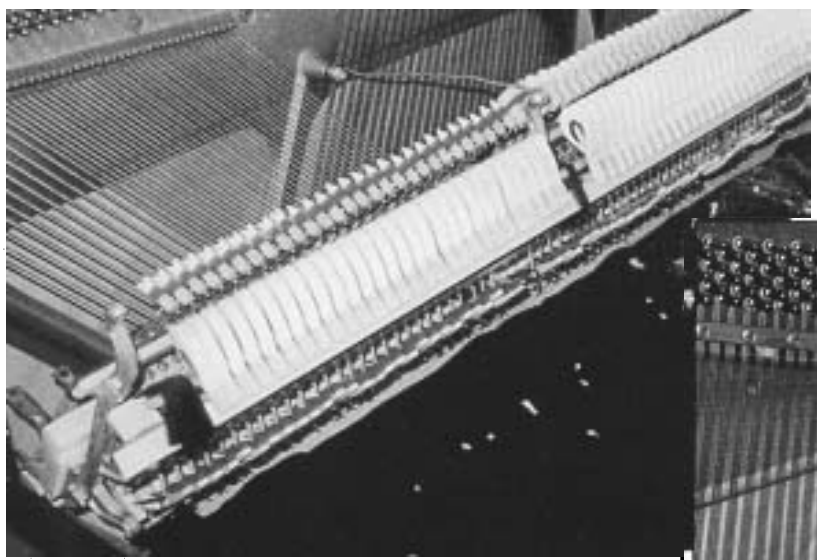


Photo 7 — Gang-filing treble hammers with action secured and hammers immobilized.



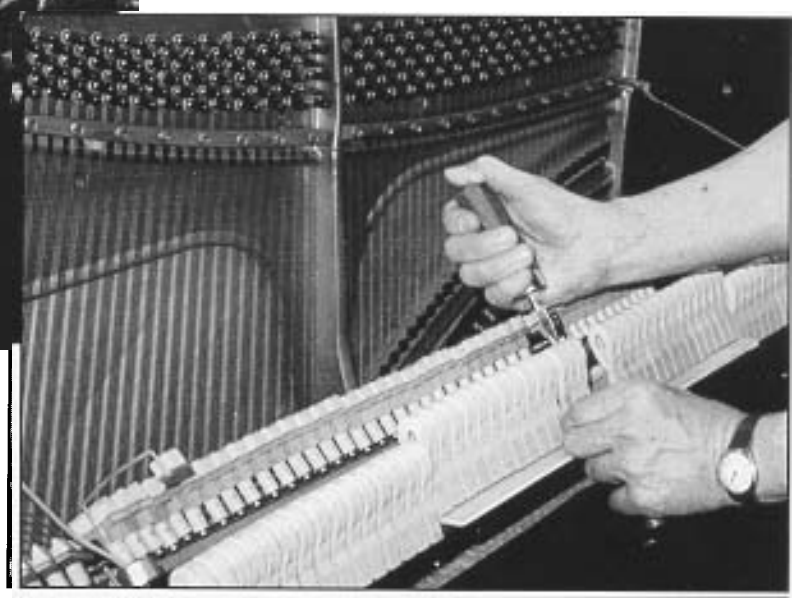


Photo 8 — (ABOVE) Secured action shown with drop cloth over keys to catch hammer filings. Photo 9 — (RIGHT) Deep-needling hammers in the piano with action secured and hammer tails clamped to board.

By David Patterson, RPT
Toronto, Ontario Chapter

The Bartolomeo Chronicles

Bartolomeo Does Some Tuning

One steadfast rule guides Bartolomeo during his tuning endeavors: he plans to leave every piano at A=440. On this matter he is quite unwavering, both in his work and with his clients. This habit necessitates some of the following skills: speed techniques for pitch-changing, preparedness in the explanations to piano owners, willingness to devote service-call time to the issue, the wherewithal to get permission to proceed and the ability to be paid in full for all additional efforts.

It seems as if outdated ideas on pitch-raising result in countless pianos being left up to a semitone low for decade after decade. Yet this type of improvement is one of the few that clients actually notice on a reliable basis. A low piano is a waste of resources that easily can be remedied. This type of work is the most skilled, the highest paid and probably the least enjoyable of the piano technician's varied talents.

On a 3/4-plate or 1800s piano Bartolomeo may test all of the A-s to see that the strings actually will stretch that far. String breakage, though, is actually quite uncommon and usually will occur at a high treble tuning pin where an existing-wire repair can be utilized. Tuning pin torque is the larger concern and shortcomings must be addressed along with the pitch issue before commencing.

Posture is a big concern of Bartolomeo's. He protects his body by keeping his back straight and smiling at himself when he once again finds that he's leaning into the piano bent at the waist. Periodic pauses for stretching or rest during the work assured the blood flow throughout his body – not to mention his brain. He knows the human body really wasn't designed for this peculiar task – rotating hundreds of these tight little pins per day. So he takes precautions with the arm and shoulder areas, even switching to his other hand on days when a slight twinge is felt. Tuning left-handed [other-handed] came as a career decision by Bartolomeo to shelter him and his family in the case of a broken arm or injury. He started off with a few pins per day and went from there.

His wire-stressing tool, the supply houses' false-beat eliminator, purifies the tone in the treble section by accentuating the bends in the wire. A modified drumstick also can serve the same purpose. Occasionally, he uses the three-notch string spacing end of his coil lifter to clean up the rattling tone of notes buzzing against the V-bar. In this case, the soft metal of the V-bar is surrounding the string and tiny burrs are causing the noises. 'Wiping' the V-bar clean with the strings is done by forcefully tapping the coil lifter back and forth, resulting in a resurfacing of sorts.

When a splice is necessary, he is able to perform it. This came about by carrying a small sample knot in his toolbox. At one point it was practice, drill and rehearse.

Bartolomeo is aware of the occasions when seating the strings can make a big difference. Knowing when it will help is more important than routinely tapping the strings onto the bridge. Sometimes a familiar piano will exhibit uncharacteristic difficulty in unison tuning. The strings seem to take forever to come into phase and become beatless. Possibly the soundboard has risen and then lowered, with the strings not following the board back down, but staying hung up on the bridge pins. The amount is generally not even enough to cause the 'pinging' sound during string seating, but it's enough to compromise a clean termination point. Using a flat piece of brass he taps lightly in front of the bridge pins as well as on top of the bridge.

Next month, Bartolomeo explores the tone.

Over the Mountain & Through the Snow

By Douglas Ray Neal, RPT
Daytona Beach, FL Chapter

The Tuner's Life

During the last week of January 1996 I worked an Oregon Community Concerts tour with world-renowned concert pianist, Misha Dichter. Before the Oregon tour I had worked three other Community Concerts tours with Misha, preparing his chosen Steinway for concerts and trucking it from one venue to another. During the first three tours there were no serious troubles. Maybe I was lucky. I don't know. I can tell you one thing I do know. Bad weather created troubles for the Oregon tour right from the start. Because of the bad weather I had trouble even getting to Oregon.

Denver should have been my final stop between Sioux City and Portland, but bad weather interfered. My shuttle flight from Sioux City arrived late, forcing me to rush from one end of the Denver Airport to the other in order to make my connecting flight to Portland. I arrived at the United Airlines gate only minutes before my flight's scheduled departure time. I hurried on board the 747, found my seat, then waited. Our departure time came and went, but the plane didn't move. We remained parked at the Denver terminal. As we waited in the parked aircraft, a rumor began to circulate about trouble at the Portland Airport. According to the rumor, a large airplane had skidded half-way off the Portland runway and closed the airport.

"Well, there I was in the dead of winter standing on the side of a mountain staring first at the snow-covered road, then at the truck's rear tires, then finally, at my heavy, lumpy, bag of chains."

After a long wait in our stuffy 747, the head flight attendant instructed all passengers to deplane and reschedule their flights. My tightly scheduled itinerary didn't allow time for delays, but what could I do? I lugged my overstuffed carry-on bags off the plane, called United and found a later flight to Portland via Salt Lake City. There was an additional delay in Salt Lake City due to bad weather, but we finally got back into the air and arrived in Portland around 10 that night. My plan was to go directly from the airport to Penske, rent a 14' truck and then go to Moe's Pianos for the Steinway Misha had chosen for the tour. I wanted to pick up the truck and the piano on the day of my arrival so I could spend the next day preparing for the tour. As it turned out I wasn't able to pick up the piano or the truck. By the time I reached Portland Penske and Moe's were closed. I was off to a bad start.

My personal situation did briefly improve. I spent a pleasant weekend at the River Place Hotel in Portland and the local piano movers offered to truck the Steinway to our first two concert locations. My troubles didn't start again until after I left Canby, Oregon for our third concert of the tour, scheduled in Redmond, Oregon. Redmond is on the eastern side of the Cascade Mountain Range from Canby.

On the morning of the Redmond concert, I ate a quick pre-dawn breakfast, bundled up, grabbed my suitcase and fought my way to the back of the Canby Inn's windy parking lot. Lightly falling, freezing rain peppered against my bare face as I pushed through the cold, wet wind in search of my Penske. I found the truck shrouded in a thin film of ice; so, I cranked up the engine, turned on the heater, cleaned the ice off the windshield, pointed the truck toward the Cascades and crept forward. The hour was early and under normal conditions I would have had half again as much time as I needed to

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Over the Mountain & Through the Snow

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drive from Canby to Redmond, but conditions were not normal. It was cold. It was windy. And there was the possibility of snow.

I reached the base of the Cascades a little after daylight and as I started to climb up into higher elevations I saw remnants of broken trees pushed to the sides of the road – and I began to wonder. What would I do if I found a giant, broken tree blocking the road ahead? The road didn't look wide enough to do a "K" turn with the truck. I didn't even have a cell-phone to call for help. What would I do? I guessed I would be stuck until someone came to move the truck. I guessed I might even miss the concert. No! I couldn't miss the concert. I had to be in Redmond that afternoon with Misha's Steinway. I couldn't disappoint Misha.

Resolved to make the trip a success, I continued my climb up the mountain and within minutes, saw a sign for Santiam Pass. If I had read my map correctly, I would head through the pass, reach a peak of around 8,000 feet; then, around Three-Fingered Jack, I would start down the other side of the mountain, take the left fork and drive straight to Redmond.

When I reached Santiam Pass it was not snowing, but the wind was troublesome. The wind was so strong I had to constantly fight the steering wheel in order to keep the truck stable. My concentration was intense. The effort was tiring.

The road widened at the pass and the grade grew steep. To the right of the road I saw a portable electronic sign prominently displaying its message, ***"No Vehicles Allowed Beyond This Point without Chains."*** What would I do? When I rented the Penske I was given a bag of chains, but no mention was made of how to install the chains if needed.

Well, there I was in the dead of winter standing on the side of a mountain staring first at the snow-covered road, then at the truck's rear tires, then finally at my heavy, lumpy, bag of chains. I was wearing a gray, London Fog trench-coat and the blue stocking cap I bought the day before at the Wal-Mart store. My hands were gloved in black leather – too thin for comfort. And, my feet were shod with Nikes that would have been nice for a walk through the park on a summer's day, but did not offer much protection against winter weather on top of a snow covered mountain. I was told not to dress too heavy. I was told Oregon was not nearly so cold as Iowa. At this particular moment I decided I was told wrong.

I just stood there for a while with the loose corners of my London Fog flapping against the wind, my stocking cap pulled low over my ears and my cold, gloved hands pushed deep into my pockets. I was trying to figure out how to get the chains on the truck's tires. While living in the state of Maine 20 years earlier I had put chains on my Volkswagen bug, but this was now and it was not a Volkswagen bug. This was a 14-foot Penske truck. After several minutes of thinking, trying to arrive at the best way to attack this problem, I finally decided to stop thinking about it and just do it. I took the chains out of their bag and started to wrap one of the set around the outside left rear wheel of the truck when I smelled the smell of woodsmoke and I heard a voice from out of the cold. The voice said, "Could you use a little help?"

I jerked my head in the direction of the voice and focused on a slightly built man, about five and a half feet tall. He had a bare, balding head and a bushy, gray-black beard. The woodsmoke, I guessed, came from his fireplace. My thinking was, woodsmoke was trapped in the wool fibers of his green-checked Mackinaw, and the man carried the warm, friendly smell of his fireplace wherever he went.

I pointed to the chains and said, "I'm trying to get these things on – the chains I mean – I'm trying to get them on the truck."

The man took a look at me in my London Fog and Wal-Mart cap, smiled, and said, "You're not from around here, are you?"

The man didn't wait for an answer. Instead, he grabbed the chains, stretched them out behind the outside wheels of the truck, and said, "These aren't all that hard to put on. Go get in the truck and back up slow until I say stop."

I did as the man said and when I got back outside, he was locking the last of the chains into place. "There now," the man said. "That wasn't all that hard a thing to do, was it?"

The relief I felt seeing this job done was exhilarating. As I wondered how I could repay this saint of a man, I pulled off my right glove, extended my hand, and said, "I can't tell you how grateful I am for your help. Is there anything I can do for you?"

The man took my offered hand, gently shook it and said, "You just did it."

"What did I do? I asked."

The man smiled. "You offered to help me. You see, that's why we were all put on this earth together – to help each other whenever and where ever there is a need."

The man let go of my hand and said, "Gotta go now." Then, he disappeared inside a battered, green Jeep and started climbing the mountain.

I stood on the side of the mountain and thought about the man; then, climbed inside the cab of my truck, out of the cold and thought about the man some more. For the first time that day I felt as if everything was going to work out after all.

I was about to start up the mountain when I noticed the portable sign was no longer flashing its message about the chains. In fact, two highway workers were pulling the sign away from the road. I rolled down the window and called over to the workers, "What's with the sign?"

A strongly built man called back to me, "The wind has died down. The chain order has been lifted."

"You mean I don't need chains anymore?"

"Well," the worker said, "You'll be able to make better time without them." He hesitated for a second, then added, "You might see some snow on the other side of the mountain, but the wind's not supposed to be all that bad. It was the high wind that caused all the troubles, blowing down trees and making snow drifts to block the

road. But, about those chains, you do what you want. I'd take them off if it were me. It's pretty slow going when you're wearing chains." I thanked the highway worker, then took his advice. Free of the chains, I started back up the mountain.

It wasn't until I was past Three-Fingered Jack and almost down to reasonably flat ground again that I ran into the snow. The snowfall was so heavy along this 10-mile stretch of road I could barely see 20 yards ahead of me. I deliberated the situation and decided there was plenty of traction to stay on the road at a slow speed, but visibility was a problem. I slowed the Penske down to a crawl and proceeded toward Redmond. According to my map, a fork in the road should be coming up soon. I couldn't miss the fork. On this narrowed road there was no way to turn the truck around.

Just as I was thinking that I couldn't miss the fork, I saw a tractor/trailer truck roar past me on a road angled to my left. I had missed the fork. That trucker was on his way to Redmond. I was on my way to God knows where. I switched on the truck's hazard lights, pulled as far to the right of the road as I dared and stopped the truck. What was I going to do? There was little traffic on the road. The truck on its way to Redmond was the first I had seen for over 15 minutes. I hadn't seen any cars since Three-Fingered Jack. As light as traffic was, I thought I would be able to back up to the fork without getting into trouble. Then, I wondered. What if I started backing up and another truck did come up behind me, taking the right fork. What then? How fast could anyone stop on a snow-covered road? What good would I be to Misha if the Penske, the Steinway and I lay in a broken heap after an 18-wheeler climbed up our backside?

I climbed out of the Penske and took a hard look at the truck's length, from bumper to bumper. Then I studied the narrowed width of the road with its high banks of snow on either side. It was clear that I could not turn the truck around on this road. I had no choice that I could see. I had to back up in order to reach the fork. I judged the distance back to the fork and decided it wouldn't take any longer than a couple of minutes to get the truck and its cargo out of harms way. I crawled back behind the steering wheel, said a short but meaningful prayer and waited. Within seconds, I first heard, then saw an 18-wheeler roar up behind me and veer off down the left fork, heading toward Redmond. Knowing how light traffic was, I was confident I could make it to the fork before anything else came down the road. I shifted the Penske into reverse and started backward. I reached the fork, shifted into low and started forward again, down the left fork, on my way to Redmond.

Later that afternoon, on stage at Redmond High School with the Steinway, I greeted Misha with a wave of the hand and a smile. In his unflappable manner, he said, "Sort of exciting coming over the mountain. Did you have any trouble?"

"No," was my answer. "No trouble at all."

Misha smiled, presumably at my good fortune, sat down at the piano and started practicing. I tried never to share any of my troubles with Misha. He had enough to think about preparing for his performance.

Later, sitting backstage, I wondered why I had agreed to work a tour through Oregon during the dead of winter. Was my reward worth all the troubles I had encountered on this tour? My answer to that question came later that night during the concert. I was backstage, sitting on an overstuffed sofa, listening to Misha play Beethoven's Opus 111 piano sonata. The sofa, a prop left from some theatrical production, was behind the backstage curtain, less than six feet away from Misha and the Steinway. I was so close I could actually feel the sound waves of the music dance against my body. At the conclusion of the Beethoven sonata, I was filled with a warm, thrilling glow of emotion. I had just experienced something special.

"The thrill I felt at the conclusion of the Beethoven sonata was one of being witness to the genius of Maestro Misha Dichter combining with the genius of Maestro Ludwig Van Beethoven in such a way as to produce a performance that was far greater than the sum of its parts."

At the end of the first half of the concert, Misha came to the stage-right wing where he found me waiting. He looked at me in a serious sort of way, and said, "Now that was how the One-Eleven is supposed to be played."

Misha's performances, as far as I was concerned, were always flawless, but this particular performance was special for me and Misha indicated that it was also special for him. The thrill I felt at the conclusion of the Beethoven sonata was one of being witness to the genius of Maestro Misha Dichter combining with the genius of Maestro Ludwig Van Beethoven in such a way as to produce a performance that was far greater than the sum of its parts. For me, this is the magic that music and its musicians create for those who make up their audiences.

The answer was clear. My reward was greater than the troubles encountered. All the troubles presented to me during the first few days of the Oregon tour were small indeed compared to the majesty of Misha Dichter's musical gift to me that night.

PTG Review

Dedicated To PTG News • Interests & Organizational Activities

Piano Technicians Guild

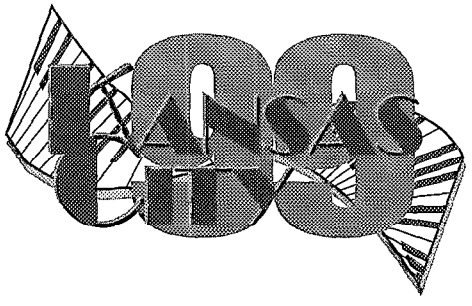
Just Do It! – Kansas City '99

No, this isn't an ad for some overexposed running shoe. But if you're underexposed to Seminars and Institutes, I suggest you run on over to Kansas City '99 and do something about it. Annual PTG Institutes are the most intensive piano technology venues in the world. There is so much to understand about the piano. The more you know, the better equipped you are to ***do it*** successfully. Success boils down to our individual abilities to assess and treat different situations for the piano as well as how to be organized and the rapport we use with our clients. The know-how for developing these talents will be presented in Kansas City.

Practical, hands-on instruction is proving to be a popular addition to the Institute. Our standard lecture-style classes help to focus. The hands-on help us to ***do it.*** Just look at the variety of hands-on learning:

- Applied Skills – Field Repairs
- Rebuilding Workshop
- Grand Regulation
- Vertical Regulation
- Tuning-Tutoring — One-on-One
- Business Round Tables
- CyberCafe

In addition, there are several classes that let you get in there and ***do it.***



Install a string on different sections of a grand or vertical piano. Get the feel of using an impact hammer. Hear the difference you can make voicing at a vertical piano. Diagnose real world grand-action problems.

One of the problems technicians often cite is the length of time it takes to build a successful career in piano technology. At Kansas City you'll get a good shot of adrenaline that will help motor you ahead of your uninvolved competition. You'll return home ready to start a new chapter in your chosen field. Running shoes, after all, eventually get dirty and smelly and you throw them away. Skills only get brighter and more useful and over time return dividends like blue-chip stocks. KC '99 only happens once. In '99. So make it happen. Just ***do it,*** and be the best.

John Ragusa, RPT
Institute Director, Kansas City '99

Rebuilding Your Way To The Future

According to PTG Technical Bulletin 6, "Rebuilding involves complete disassembly, inspection and repair as necessary, including replacement of all worn, damaged or deteriorated parts. The piano then is reassembled, tested and adjusted to the same or similar tolerances as new. Complete rebuilding includes the entire piano structure-including soundboard, bridges, pinblock and strings – as well as the action, keyboard and case refinishing."

In Kansas City the Rebuilding Technical Institute will cover many aspects of rebuilding, from basic procedures to advanced techniques. Whether you rebuild one piano or many, there will be classes you will find interesting.

Rebuilding Technical Classes will be scheduled throughout the Technical Institute. David Betts will present a class on the business of rebuilding – the dollars and cents of estimates, costs and contracts. Want to make your shop more efficient? Norman Cantrell has the answers. Master craftsman Shawn Hoar will present a variety of woodworking techniques for making cabinet, leg, lyre and trapwork repairs. What about the special tools and techniques for shop that John Dewey has developed? Or innovative methods of moving pianos to and from the shop with Lowell Wakker?

Quality vintage vertical pianos are being rebuilt in greater numbers today. André Bolduc has a new method of removing and replacing vertical pinblocks. To complete the job, Leon Speir will show you how to recondition or rebuild the vertical action.

Nick Gravagne will cover all aspects of downbearing – how to measure, adjust and set the plate. Any question you have about stringing – grands or verticals – will be answered in Paul Revenko-Jones' session. David Hughes will cover bridges from one to the other and then take on those pesky grand dampers in a fast-paced original class. Taking the mystery out of key replacement is Greg Hulme's mission. Alan Vincent and Richard Davenport will explore why grand pianos work and why they don't with a unique, full size grand piano rim assembly with movable components.

The final touch that makes or breaks many rebuilding jobs is regulating touch and tone. David Stanwood and Bob Marinelli will present a fascinating look at the New Touchweight Metrology. Their Touch Designer's tool kit will detail the new tools and jigs for customizing actions to customer specifications. Wally Brooks will present three sessions on working with hammers and building tone. A special new class by Roger Jolly will cover voicing hammers with steam and use a visual display so changes may be seen as

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A Piano Technician's Guide to Field Repairs

A Piano Technician's Guide to Field Repairs by Stephen Brady, RPT, will make its debut at the 1999 Annual Convention & Institute in Kansas City. It will be highlighted in the Applied Skills – Field Repair classes Sunday, July 25, from 8 a.m. to 12 p.m. Plan your stay in Kansas City from Wednesday through Sunday so you can take advantage of this and many other opportunities to sharpen your skills.

Applied skills classes are the answer to PTG members' requests for more "hands-on" learning opportunities. This year's Applied Skills – Field Repairs will give you a chance to try the repairs in *A Piano Technician's Guide to Field Repairs* under the watchful eye of author, Steve Brady, and some of PTG's best instructors.

Applied Skills classes are held in a large room with 12 to 15 "stations" manned by RPT instructors: Steve Brady, Ward Guthrie, Gary Neie, John Minor, Joel Jones, David Patterson, Audrey Karabinus, David Brown, Teri Meredyth, Debbie Cyr and others. You will have a chance to spend 15 to 20 minutes at each station learning how to do the repairs and try them, if you'd like. You'll learn how to safely tip a piano, service grand pedals, rebush damper guide rails, replace pins and springs, repair keys and tie knots. You'll learn several methods for bedding the keyframe, finding troublesome clicks, buzzes and knocks and solve grand and vertical action problems.

Applied Skills classes require an extra $25 registration and your place must be reserved in advance. If you've never experienced the "Applied Skills" environment, you are in for a special treat. This class is a paradigm of what makes PTG so valuable. Applied Skills is technicians teaching technicians in an atmosphere of sharing, respect and cooperation. Please plan to join us. ✍

Seiler Phantom Grand at NAMM

By Anne Fleming-Read
Head Instructor, Piano Technician Program
George Brown College

It is always a wonderful experience to visit NAMM. As a regular attendee I often wonder why there are not more technicians in attendance, learning first-hand what changes are occurring in the industry.

This year a couple of things really stood out to me at the show. The improvement in quality of the Chinese pianos, instruments we will all have to deal with eventually, and for the first time, the blatant peddling of containers of used Japanese pianos.

As an educator I was thrilled to see the new addition to the Seiler collection, The Phantom Grand. This is a truly unique instrument! The possibilities for its use as a learning tool are enormous. The instrument provides a full cross-section of the piano from the keyboard to the tail where the two sides of the instrument are hinged together. This is a truly "complete" full size model. All of the relationships between the structure, action and case of the piano are visible. Although the Phantom Grand was built to show the true quality of a Seiler piano, which it does impeccably, it also offers technicians of all skill levels something to learn and ponder!

Photo 1 — Anne Fleming-Read (left) speaking with Dampp-Chaser's Gail Mair and WRVP Jim Coleman, Jr., at the NAMM show.

A further

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Rebuilding Your Way To The Future

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well as heard.

The Rebuilding Skills Workshop on Thursday afternoon offers the opportunity to work side by side with some of the best technicians in the world: David Betts, André Bolduc, Richard Davenport, Nicholas Gravagne, Shawn Hoar, David and Judy Hughes, Greg Hulme, Roger Jolly, Paul Revenko-Jones, Robert Marinelli, Webb Phillips, Leon Speir, David Stanwood, Alan Vincent and more!

The Rebuilding Skills Class debuted at Providence and was one of the most popular attractions. If you have questions about bridge pattern making, drilling or notching, learn how to do it and then do it in this session. Learn how to remove pinblocks then fit a new block, install a plate, set bearing and restring. Need to repair a pinblock? Sign up now! Taper and tail, then hang grand action hammers, work with grand dampers, rebuild a vertical action, and let a master craftsman show you piano cabinet and trap work repairs. Work hands-on with the originator of the New Touchweight Metrology and his disciple, Bob. There is even more available, but if this hasn't gotten you excited, you need to check yourself for a pulse! Please pre-register now for the Rebuilding Skills Session – attendance is limited.

— Dale Probst, RPT
Assistant Institute Director,
Kansas City '99 ✍

www.ptg.org/1999/conv/

Last year, the Institute put itself on the world map by setting up a web page on the Information Super Highway (Internet). This new and useful tool has been crafted and managed by the brilliant team of Dean Reyburn and Mitch Kiel. If you are online, you have to check this out. This year, Dean and Mitch have created a "Bulletin Board" where you can post messages, ask questions or look for roommates in Kansas City. Check out exhibitor listings with loads of background information, instructor bios and KC hotel info. Give us your feedback. This page is available to anybody in the world with Internet access. Done with style and creativity. Thanks, Dean and Mitch!

'98 N.C. Regional Conference Draws Int'l Audience

Alan Hallmark, RPT
Richmond, VA Chapter

Once again the North Carolina Regional Conference transcended regional boundaries as it drew to its assembly more than 200 participants. Forty-eight PTG Chapters from 23 states as well as international members from Trinidad, West Indies and Japan were in Richmond, VA during a total of four and a half days of educational opportunities that ranged from PianoDisc service to refinishing, basic tuning and repairs and regulation (some featuring hands-on participation) to more advanced subjects of action diagnostics, comprehensive rebuilding, harpsichord maintenance and early fortepiano reproductions. The Richmond and Pamlico Chapters co-hosted the October '98 event which also attracted 25 non-members to realize the value of the PTG experience.

The Holiday Inn Select Koger Conference Center provided a very comfortable backdrop to the constant activities. Besides having more than 30 different technical classes featuring the finest instructors PTG has to offer, activities included an exhibit hall with 17 vendors, who displayed for sale the finest in pianos, tools, equipment and parts and supplies for the professional piano technician. Also included were a Riverboat luncheon and historic tour of Richmond for spouses; a Saturday evening banquet concert that featured concert pianist Judith Cohen playing on a 9'2" Fazioli grand; a $150 attendance award to the PTG Chapter with the most paid registrations – won by the Atlanta Chapter; a total of seven tuning exams and one technical test were given; and of course, the famed NCRC hospitality room.

The upcoming NCRC will be October 29-31, 1999, at the Radisson Hotel in High Point, NC. In the scheme of the piano's past, present and future, the North Carolina Regional Conference proves that "Education Enhances Excellence." ✍

Nashville Chapter Becomes Historically Correct

Herbert Dady, RPT, President, Nashville Chapter

Nashville, Tennessee always has had a reputation of being Music City with everyone being aware of the music around them. This soon took a new twist as the Nashville Chapter had the honor of listening to Edward Foote and Enid Katahn present a special program on Historical Temperaments and how these old temperament tunings are becoming the wave of the future as we enter into the new millennium. As many know, the way we tune was being developed just as the piano was being developed through the years. This is what the program was all about. Learning to set different temperaments and why we use them.

Enid Katahn is the artist-in-residence at the renowned Blair School of Music at Vanderbilt University in Nashville. As a Steinway Artist, Enid has performed in the United States and Europe. Enid played each style of temperament explaining how the temperaments restore certain musical values to the appropriate compositions. It was important as technicians to hear the differences.

Edward Foote is a prominent Nashville technician and rebuilder and is in charge of all piano care at the Blair School of Music. It is Edward who presented the overview of intonation's changes throughout our recent musical history and how they came into being. Enid and Edward also have produced a CD with some of the various composers and temperaments of their times.

This program will be presented at the National Convention in Kansas City by Edward and Enid. What does the future possibly hold for these temperaments? How can you as technicians benefit from them. Come to the program in Kansas City and learn! Don't miss it! ✍

Seiler Phantom Grand at NAMM

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note about Seiler. To mark the 150th anniversary of the company, Seiler is launching a new international piano competition to be held in Kitzingen every two years. The competition will be held in conjunction with master classes given by international pianists. Steffen Seiler was particularly fond of the works of Chopin, who died in 1849, the year the Seiler Company was founded. The best Chopin interpretation will therefore be honored with the Steffen Seiler Memorial Prize.

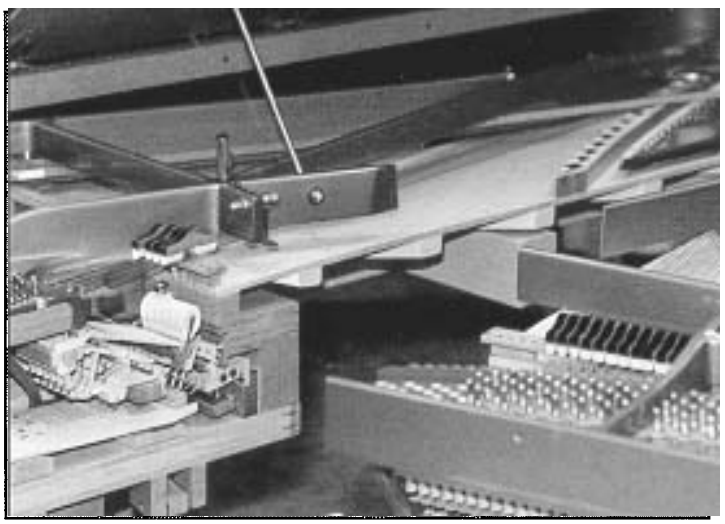

Photo 2 — Seiler 'Phantom Grand.'

The Phantom Grand also will be seen at the 1999 PTG Annual Convention in Kansas City. ✍

Industry News

Steinway Fourth Quarter Results

EPS $0.49 vs $0.43

Waltham, MA — Steinway Musical Instruments, Inc. announced results for the fourth quarter and the full fiscal year ending December 31, 1998.

Net income for the quarter increased 12% to $4.6 million or $0.49 per diluted share versus $4.1 million or $0.43 per share in the fourth quarter of 1997. Net sales for the quarter rose nearly 4% to $72.4 million and operating profit increased over 4% to $11.9 million.

Overall sales for 1998 totaled $293.3 million, a $15.4 million or 6% increase over 1997. Gross profit also increased 6% to $98.5 million on consistent gross margins. Operating margins increased to 14.7% from 14.0%. Net income rose 22% to $16.7 million or $1.75 per diluted share up from $1.45 in 1997.

Commenting on the results, Dana D. Messina, Chief Executive Officer stated, "We are pleased with our record breaking 1998 financial performance. We continue to lead the industry in delivering high quality products and service. Our commitment to quality in all aspects of our business provided the competitive edge needed in a more challenging business environment. The tremendous breadth of our product offerings also provided stability during this volatile period. For instance, an 11-percent increase in our piano sales helped offset the weaker performance of other musical instruments. Similarly, the exceptional improvement in our piano gross margin offset a gross profit decline related to the manufacturing difficulties associated with the introduction of our new student saxophone."

Expanding on the piano segment, Mr. Messina continued, "Domestically, our piano division achieved record results in 1998. Unit shipments increased 17 percent over last year, led by the Boston piano line which increased U.S. shipments by 28 percent. Domestic demand continues to outpace supply, with Steinway receiving orders for virtually all of its 1999 domestic piano production. In addition, our international operations have shown signs of improvement, with foreign shipments of Steinway pianos increasing 10 percent for the year."

Baldwin Reports Q4, Year-End '98 Results

Mason, OH — Baldwin Piano & Organ Company today announced results for the fourth quarter and year ended December 31, 1998.

Total fourth-quarter sales declined to $36.2 million, compared with $39.5 million for the same period a year ago. Net earnings for the quarter fell to $104,000, or 3 cents per diluted share, down from $1.5 million, or 42 cents per diluted share, last year. Fourth quarter 1997 results include adjustments related to Baldwin's phase-out of consignment sales, which reduced reported net earning for that period by approximately $200,000, or 6 cents per diluted share.

Net earnings for the full year were $737,000, or 21 cents per diluted share, on 1998 sales of $134.3 million. A year ago, the company reported net earnings of $4.4 million, or $1.28 per diluted share, on 1997 sales of $143.1 million. Results for 1997 include $14.6 million of sales related to the one-time phase-out of consignment. Before such one-time adjustments, 1997 earnings were $3.6 million, or $1.05 per diluted share, on sales of $128.5 million.

Commenting on the results, Karen L. Hendricks, president Chairman and Chief Executive Officer of Baldwin said, "The low end of the U.S. piano marketplace was extremely competitive throughout 1998, due in large part to fallout from the Asian financial crisis, which triggered a major surge in imports of vertical pianos. This put considerable downward pressure on retail prices and hurt profitability significantly in this high-volume segment of our business.

"To combat this competitive threat, Baldwin implemented an aggressive strategy to preserve market share. While vertical piano sales revenues and units sold fell four percent year-over-year, market share erosion would have been considerably higher had it not been for the defensive action we took. In 1999, we continue to foresee pressure on margins and sales from Asian imports.

"Sales of Baldwin's high-end grand pianos remained strong in 1998," Ms. Hendricks added, noting that grand piano sales revenues and units sold for 1998 were up 17 percent and 14 percent, respectively, versus a year ago. Likewise, 1998 sales of Baldwin's Concert Master electronic player system were up sharply over 1997, posting increases in sales dollars and units of 74 percent and 51 percent, respectively. ■

CALENDAR of EVENTS

April 8-10,1999
PACIFIC NW REGIONAL CONFERENCE
Provo Park Hotel
Contact: Vince Mrykalo (801) 378-3400
694 North 100 East, Provo, UT 84606

April 17,1999
GRAND PIANO PERFORMANCE
Piano Wholesale Dealership, Temple City, CA
Sponsored by the Los Angeles, CA Chapter
Contact: Jon Longworth (818) 982-2431

April 23-24, 1999
FLORIDA STATE SEMINAR
Ft. Lauderdale Marriott
Contact: Mark Shapiro (561) 451-2136
23360B S.W. 53 Ave., Boca Raton, FL 33433

April 30-May 2, 1999
NEECSO / New England Eastern Canada Seminar
Hotel Gouvernears, Quebec
Contact: Isabelle Gagnon (418) 822-3550
6769 Royale, L'Ange - Gardien, QC G0A 2K0

July 21-25, 1999
PTG ANNUAL CONVENTION & INSTITUTE
Hyatt Regency Hotel, Kansas City, MO 64111
Contact: The Home Office (816) 753-7747
3930 Washington, Kansas City, MO 64111

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

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

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

1998 Membership Category Survey of 721 Respondents

1. Your current membership status:
   RPT = 469, Associate = 240, Sustaining = 4, Honorary = 0
2. Your Region:
   NE = 164, SE = 102, SC = 55, CE = 120, CW = 89, W = 99, PNW = 79
3. How important is the question of membership categories to you?
   A. Very important 238
   B. Somewhat important 299
   C. Neither important nor unimportant 90
   D. Somewhat important 32
   E. Very unimportant 47
4. From the three statements below, please indicate the one choice that most closely reflects your view:
   A. One or more membership categories should be added to better reflect the make-up of the PTG = 267
   B. The current number of categories is adequate, but the name of the non-franchised category should be changed = 110
   C. No change is necessary in the current membership category structure = 293
5. Please rate the following membership category titles by marking the number that best corresponds to your assessment of these titles (1 = strongly favorable - 5 = strongly unfavorable)
   A. To describe a non-franchised member who is actively learning the trade (skill level would range from beginner to nearly RPT):

	1	2	3	4	5
1. Apprentice	236	55	39	18	43
2. Student	60	64	63	52	86
3. Associate	79	41	67	43	108
4. Other	34	8	10	5	34

   B. To describe a category for new members waiting to take the exams, especially those who are already established as technicians:

	1	2	3	4	5
1. Provisional	134	74	58	25	80
2. Other	82	19	11	2	19

   C. To describe a member who is primarily a rebuilder/non-tuning specialist rather than a tuner:

	1	2	3	4	5
1. Allied tradesman	100	52	69	39	43
2. Allied craftsman	184	64	39	11	59
3. Other	52	8	16	4	21

   D. To describe a non-technician member, such as a dealer or teacher:

	1	2	3	4	5
1. Affiliate	251	83	33	9	40
2. Other	56	9	8	1	18

   E. To describe a non-franchised member who is not planning to take the RPT exams:

	1	2	3	4	5
1. Associate	140	53	43	24	99
2. Other	115	14	6	1	16

6. Please rate how strongly you feel about each of the following statements: (1= strongly agree - 5= strongly disagree)
   A. A change in category structures or category names would most likely result in more Associates upgrading to RPT.
   1 2 3 4 5
   102 107 175 145 151
   B. The best way to help Associates to upgrade to RPT is to make sure there are opportunities for learning, to set a good example by continuing one's own education, and to make RPT status a desirable goal through consistent and effective promotion of the RPT standard.
   403 157 76 22 33
   C. The current categories should be changed or increased because they do not provide the public with an accurate picture of the range and diversity of skills in the organization, such as rebuilding, refinishing, etc.
   187 109 154 105 128
   D. The best way to provide the public with useful information about the guild and high standards of piano care is to have only two main categories, RPT and Associate, and not confuse the public by trying to present all the various differences among the members.
   188 105 90 112 192
7. Please rate how you would view each of the following changes by marking the number that best corresponds to your thoughts (1= strongly favorable - 5= strongly unfavorable)
   1 2 3 4 5
   A. Renaming the Associate category as the apprentice category
   180 104 84 74 250
   B. Requiring Associates to take examinations within a specified time, perhaps one to three years.
   165 112 116 101 199
   C. Establishing a higher dues level for Associates than for RPT members.
   56 87 100 391
8. Of the options in question #5, which one best describes you? (write in category title)
   A. Affiliate
   B. Apprentice
   C. Associate
   D. Provisional
   E. Student
9. What would assist you in upgrading to RPT? (Check as many selections as apply)
   A. Having PACE or other extra programs at the chapter level, even for an extra charge = 112
   B. Having an apprentice-type position with an experienced technician = 84
   C. Having more hands-on classes at regional and national convention = 78
   D. Having a mentor within your chapter = 113
   E. Having to pay more in dues than RPTs do = 11
   F. Being designated "apprentice" = 21
   G. Having a time period in which to complete the exams = 39
   H. Other = 64

Congratulations New RPTs

Region 1

190 Southeastern Pennsylvania
John J. Scogna
49 Lamberts Lane
Coatesville PA 19320

Region 4

493 Western Michigan
Tom G. Hochhalter
608 Beechwood
Holland, MI 49423

New Members— Join In February

Region 1

021 Boston, MA
Tony T. McKenna
061 Bright Road
Belmont, MA 02478

062 Toronto, ON
David W. McKee
183 South Street, Apt. A
Goderich, ON N7A 3M2 Canada

Dale B. Robertson
110 The Esplanade, #208
Toronto, ON M5E 1X9 Canada

064 Connecticut
Andrea G. Vang
40 Comstock Bridge Road
Colchester, CT 06415

101 New York City
Kim M. Papa
210 Peaceable Hill Road
Brewster, NY 10509

165 Erie, PA
Robert F. Fratus
120 Second Street
Pleasantville, PA 16341

Chase Steinbuhler
Rd. #5, Box 255A
Titusville, PA 16354

David Steinbuhler
11810 N. Perry Road
Titusville, PA 16354

Region 2

301 Atlanta, GA
Asito Peseyie
141 Harris Street
Toccoa, GA 30577

334 Palm Beach, FL
Daniel E. Cody
#64 Ferne Lane
Lake Worth, FL 33467

372 Nashville, TN
Edward V. Foote
1506 Cedar Lane
Nashville, TN 37212

Region 3

771 Houston, TX
Macie J. Borgiel
3401 Ocee, #404
Houston, TX 77063

871 New Mexico
Michael A. Kitt
3204 Sue Circle
Rio Rancho, NM 87124

Gayle Ross
2753 Glory Court, SW
Albuquerque, NM 87105

Region 5

532 Milwaukee, WI
William F. Pelrine Jr.
110 Columbia Avenue
Waukesha, WI 53186

551 Minnesota-North Iowa, MN
Karen G. Johnson
932 6th Avenue, SE
Rochester, MN 55904

Region 6

857 Tucson, AZ
Steven J. Fogleman
3771 W. Michigan State Drive
Douglas, AZ 85607

891 Las Vegas, NV
Paul B. Hamilton
505 N. Decatur, Apt. B
Las Vegas, NV 89107

926 Orange County, CA
Larry B. Trop
3100 Promenade
Costa Mesa, CA 92626

951 Santa Clara Valley, CA
Ernest R. Martinez
982 The Alameda
San Jose, CA 95126

953 Modesto, CA
Art E. Hernandez
1808 Hammertown Drive
Stockton, CA 95210

968 Hawaii
Russell Ishida
4212-3 Keanu Street
Honolulu, HI 96816

Region 7

01 Calgary, AB
Stacy N. Adams
Box 674
Elk Point, AB T0A 1A0 Canada

12 Vancouver Island, BC
James L. Lithgow
2872 Bruce Road
Blackcreek, BC V9J 1B7 Canada

972 Portland, OR
William D. Hayes
60245 Ochoco Circle
Bend, OR 97702

981 Seattle, WA
Ira T. Langlois
9399 Ridgetop Boulevard
Silverdale, WA 98383

985 Puget Sound, WA
Frank R. Acosta
4114 7th Street, SW, #A103
Puyallup, WA 98373

In Memory...

Alson Blaney, RPT
East Haven, CT

Ernest Brinkman
West Patterson, NJ

D. Elwyn Lamb, RPT
Simi Valley, CA

James Page
Madisonville, KY

AUXILIARY exchange

DEDICATED TO AUXILIARY NEWS AND INTERESTS

Travel the World in KC

As I write to you today in February, I have exhausted my supply of seed and bulb garden catalogs and also my huge pile of travel and cruise magazines. I have been to Greece, the Isle of Rhodes, sunny Italy and all over the Caribbean and I never left my armchair. I have seen the 2,400-year-old Parthenon atop the Acropolis in Athens. I have explored the historic town that is the gateway to the ancient city of Ephesus – home of the Library of Celsus, the most well-known symbol of Turkey's vast heritage.

Phyllis Tremper
PTGA President

In Rome, I stayed at the very best five-star CEGA Hotels, and enjoyed the best Italian cuisine. The "Eternal City" with its architectural masterpieces, great works of art and ancient wonders, triumphal arches, great public meeting places, churches and palaces all welcomed me. I have seen Michelangelo's Sistine Chapel, the Roman Forum, the Trevi Fountain and the Colosseum, to name a few of the world-renowned tourist attractions. Each of these sites more awesome than the last!

Now that I have whetted your appetite for travel, please consider the breathtaking view of Kansas City in July. You will tour the city with friends and dine with artisans. Travel to the museum of a famous president and solve a murder mystery while eating a gourmet lunch.

Shop at the famous Country Club Plaza and tour the city from the window of the Kansas City trolley car. Kansas City may not be Rome, but KC is where friends will be in July. Please don't miss it. Sign up early for the tour as there will be a price increase after the first of June.

— Phyllis K. Tremper
PTGA President ✓

PTGA Supports PTG

You have all seen the ads in the newspapers "biggest sale ever" or "once in a lifetime sale." Publisher's Clearing House sends a letter to you that says "If your name is drawn" (in small print), then in larger print, "You have won a million dollars." At first you think you may have won the million dollars.

Most of our PTGA members are very involved in the piano business. We may be the one that the customer speaks to first on the phone. We give the first impression. We give out information freely on the phone concerning pianos and their service. Many times we are asked to quote prices.

I have found the best way to be accurate is to be involved in PTG and PTGA. By attending the meetings, seminars and conventions, there is a wealth of information to be gained. This very special group of people is anxious to help you in your piano service business.

We would like to have you join us as we support the PTG. We develop friendship with others from around the world and support a scholarship fund. To be a member of the PTGA contact me at: 20 N. Laurel St., Millville, NJ 08332.

— Marilyn Raudenbush
PTGA Treasurer ✓

1998 NCRC Richmond Tour In Review

The spouse tour at the North Carolina Regional Conference in Richmond, VA got off to a bright and early start leaving the hotel at 8:30 a.m. on Friday, October 23, 1998.

We had a great tour guide who really knew her city. A very comfortable motor coach and a good driver made the drive around Richmond most enjoyable.

We made a stop at the Virginia Capitol for a tour conducted by a very knowledgeable capitol guide, who told us about the building and the people who had made history while passing through it. We saw the church of the Confederacy and Hollywood Cemetery. We saw the grave sites of three presidents: Monroe and Tyler of the United States and Jeff Davis of the Confederacy. Also buried there are JEB Stuart and many other Civil War generals.

We had a delightful lunch and cruise down the James River on board the Annabelle Lee. Along the banks we saw many water birds and turtles, also eagles soaring above. It was very interesting to see the home of Jimmy Dean, the sausage king. The river boat captain told us that Dean was not in residence because his boat, Big Bad John, was not in the slip. We also were entertained on board by an impersonator and we played several games of bingo.

After the cruise we did more sightseeing of Richmond on our way to Agecroft, a 15th century English manor house moved from England to Richmond in the 1920's. It has been featured by "America's Castles" on the Arts and Entertainment TV Channel. We drove through Shockoe Slip with the guide pointing out several very good places to eat.

It was a very enjoyable day. My thanks to Brenda Hallmark who made all the arrangements.

— Fran Goodwin
Western Carolinas Chapter ✓

Diane Y. Hennessy

Born: Dayton, Ohio – May 7, 1938 (Diane Rose Yingling)
Graduated: St. Joseph Commercial High School 1956
University of Dayton - B.S. in Music Education 1972
Married: Frank P. Hennessy – Dayton Ohio – August 2, 1958
Children: Patrick Francis Hennessy, October 17, 1959 (3 grandchildren)
Sean Michael Hennessy, November 11, 1961 (1 grandchild)
Kevin Raymond Hennessy, August 14, 1963

I have taught piano and organ lessons since 1956. I have played organ and piano in churches, mostly Roman Catholic, since the seventh grade. I have taught music in elementary and junior high school and substituted in these grades. Frank and I have owned and operated a retail, full-line music store in Columbia, MO since May of 1975. We have a complete piano rebuilding and refinishing shop employing six full-time people. Frank has been involved with PTG since 1960 and is serving as Ozark Chapter President.

Hobbies: Reading, playing piano and organ, singing tenor with the Heart of Missouri Sweet Adelines Chorus, grandchildren and cruising as often as we can go.

We bought a new home last year that has a swimming pool and I have used it for therapy for my *new* knee. We are using the lower level as controlled storage for pianos to be rebuilt and currently have 52 pianos there! (It helps to be just a little bit crazy!) ✓

CLASSIFIEDS

Classified Advertising rates are 40 cents per word with an $8.00 minimum. Full payment must accompany each insertion request.

Closing date for placing ads is six weeks prior to the month of publication.

Ads appearing in this publication are not necessarily an endorsement of the services or products listed.

Send check or money order (U.S. funds, please) made payable to Piano Technicians *Journal*, 3930 Washington, Kansas City, MO 64111-2963

FOR SALE

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REYBURN CYBERTUNER is a complete software package that transforms your Windows or Macintosh laptop computer into a professional stand-alone tuning device. Easy to use, micro-adjustable, pitch raise amazingly close with just one pass, self-corrects for scaling problems (spinets, short grands, etc), sell more voicing jobs with Pianalyzer's color display of any note's full tonal spectrum, PTG approved for scoring tuning exam. 30-day money back guarantee. $795. Mitch Kiel,1-888-I-LUV-RCT (1-888-458-8728) e-mail: mitch@reyburn.com or visit our web site at: www.reyburn.com

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SANDERSON ACCU-TUNERS, including the SAT III from Authorized distributor. Consignment sale of used Accu-Tuners and Sight-O-Tuners or new Accu-Tuner customers. Call for details. Rick Baldassin, 801-292-4441.

HAMMERS AND ACTION PARTS: Finest quality Encore (by Abel). Nu-Tone and Abel Light hammers. Tokiwa action parts. Try the new Encore[WB] dimensionally correct shanks and flanges with Encore hammers on your next rebuild. Hear and feel the difference. Brooks, Ltd. Steinway type whippens now available for that extra smooth feel. Encore hammers and shanks and flanges are made to the strict specifications of Wally Brooks by Helmut Abel, GMBH in Germany. Quality boring and shaping. We also specialize in pre-hanging grand hammers on new shanks. Write or call Brooks, Ltd., 376 Shore Road, Old Lyme, CT 06371. Phone 800-326-2440; FAX 860-434-8089.

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AFTER 42 YEARS Detrich is retiring retail store, rebuilding shop, building near Carnegie Hall in New York City. Together or separately for sale. Willing to teach rebuilding & finishing. 211 West 58 Street, New York, NY 10019. (212)245-1234.

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EDWARDS STRING COVERS is enlarging and now offers: 1. GRAND PIANO STRING COVERS (Beautifully custom made from 100% woven wool. Keeps clean and protects piano, improves tuning stability) 2. FOAM BAFFLES for underside of grands and back of verticals (Reduces volume around 1/3. Great for traditional pianos, retrofit player systems and Disklaviers) 3. ALL DAMPP CHASER PRODUCTS (New distributorship) Our promise is Quality and Fast, Knowledgeable Service. For full information and free sales kit contact EDWARDS STRING COVERS, attn: LaRoy or Judi Edwards, PO 646, Brookdale, CA 95007. Ph. 831-338-1828, FAX 831-338-4580.

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SOUNDBOARDS INSTALLED — Full and partial bellywork performed with sustain, clarity, and projection the objectives, as in the S&S B on exhibit in the GOR in Providence. Considerable backlog - contact soon for scheduling. Quality's the bottom line. David G. Hughes, RPT. Baltimore. 410-429-5060.

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VIDEOS

INSTRUCTIONAL VIDEO TAPES. Victor A. Benvenuto. Piano tuning, $50.00*; Grand Regulating, $50.00*; Grand Rebuilding, $100.00 (2)*; Key Making, $50.00*; Soundboard Replacement, $29.95*. (*Plus S/H). The Piano Shoppe, Inc., 6825 Germantown Avenue, Philadelphia, PA 19119-2113; Ph. 215-438-7038, Fax, 215-848-7426

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DISPLAY AD INDEX

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Registration Fees

	Before June 18	After June 18
Member:	$215	$250
Non-Member:	$315	$350
Auxiliary Member:	$75	$95
Non-Auxiliary:	$95	$115
Banquet Ticket:	$35	$35
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July 21-25, 1999

Watch the *Journal* for More Information on the 42nd Annual Piano Technicians Guild Convention & Technical Institute. On the World Wide Web, surf to www.ptg.org/1999/conv

PianoDiscussions

News From The World Of PianoDisc

MX stores hours of music using new flash technology

PianoDisc introduced the newest version of its PDS-128 Plus player piano system at Winter NAMM. The new system features **Music Expansion (MX).**

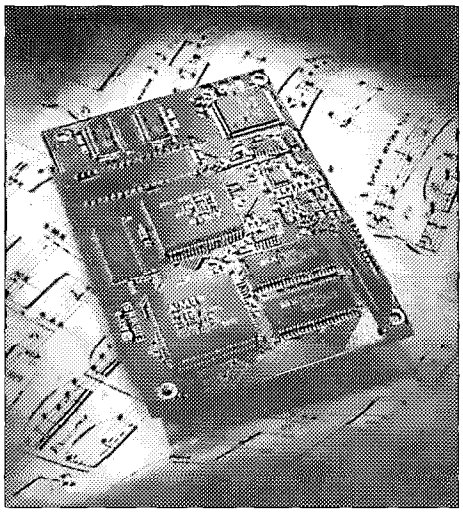
Using flash technology (a non-volatile type memory like a hard drive) MX allows the storage of hours of music—over a thousand different songs in fact—that can be customized into as many as 12 individual libraries.

In addition to storing songs (or entire disks) from the PianoDisc Music Library and other compatible brands of player piano software, MX also supports other formats, including MIDI (type O) files. MX also allows the user to record directly to one of its libraries via the TFT record option.

The new PDS-128 Plus With MX can play hours on end, without ever once repeating a song or requiring a change of disk.

MX supports all of the current PDS-128 Plus functions (where applicable) and is accessible from remote control or the front panel. It's also UL and FCC approved.

"MX offers flexibility and freedom. The fact that MX allows hours of play without changing disks will make it a very appealing feature to customers—for home or commercial use," commented PianoDisc's Executive Vice President Tom Lagomarsino.



Symphony Pro gives PianoDisc new voices

Symphony Pro is one of the latest enhancements to the PianoDisc system. It's a state-of-the-art, 64-voice multi-timbral synthesis engine which recreates the full, rich sounds of a symphony orchestra on an acoustic piano.

Symphony Pro was produced as a team effort between PianoDisc and Alesis Corporation. It provides musical accompaniment using studio quality sound samples. It has 16 megabytes of sound memory and 64-voice polyphony. Each of the General MIDI sounds are sampled at 44.1 kHz, the music industry standard for studio production. A generous 8 megabytes of sound memory are dedicated to the Stereo Grand Piano sample to provide a beautiful, expressive piano sound.

Symphony Pro is available on all new systems or can be added to existing PDS-128, PDS 128-Plus and PianoDigital (QuietTime) GT-360 and GT-90 units.

PianoCD is a new, versatile addition to PD's product lineup

PianoDisc's new **PianoCD** is a versatile new addition to its ever expanding product lineup. An integrated CD player, PianoCD was designed to link with the PDS-128 Plus player system. The sleek new unit makes the PDS-128 Plus system capable of playing either specially formatted PianoCDs or 3.5" floppy disks. By utilizing the Bypass feature, PianoCD can also function as a standard CD player.

Features of the PianoCD include: large dual-color, dual-digit LED display; IR (Infrared) remote control; headphone and microphone jacks; four status LEDs and a data indicator that provide constant feedback on device operation; stereo audio output jacks; Balance and Sync which allow fine tuning of the audio and piano parts, and many more. PianoCD has been UL and FCC approved.

PianoDisc®

1999 Tech Training Schedule

Installation Training
June 7 - 12 • August 9 - 14
September 20 - 25

Continuing Education Series
June 3 - 5 • August 5 - 7
September 16 - 18

Call 1-800-566-DISC (3472) or
(916) 567-9999 for more information.

PianoDisc reserves the right to change specifications and design without notice.

TECH GAZETTE
YAMAHA
April 1999

The importance of doing "full-service" work the Yamaha way.

Scenario; You have just finished "super" tuning your customer's piano. You hand your customer the bill, you get paid and off you go. Meanwhile, the piano that you have painstakingly "super" tuned is not completely serviced yet. It could be anything from an up-stop rail that is too high, to something as simple as loose action screws. As the piano becomes older, all of these minor service issues and others will accumulate. Your customer won't ever notice or appreciate the time and effort it took you to "super" tune their piano. And worse yet, your customer can potentially become dissatisfied with owning and playing the piano.

We have all been in this scenario at one time or another. I am not saying that tuning is not important. Of course it is! But so is addressing the other areas of the piano that, from time-to-time, require attention. Yamaha has always stressed the importance of using a "Full-Service" approach to piano work. The following is my procedure for "Full-Service" work.

Procedure On How To Do "Full-Service" Work.

For the sake of this article, I will discuss servicing grand pianos. The Yamaha "Full-Service" concept obviously carries over to vertical pianos.

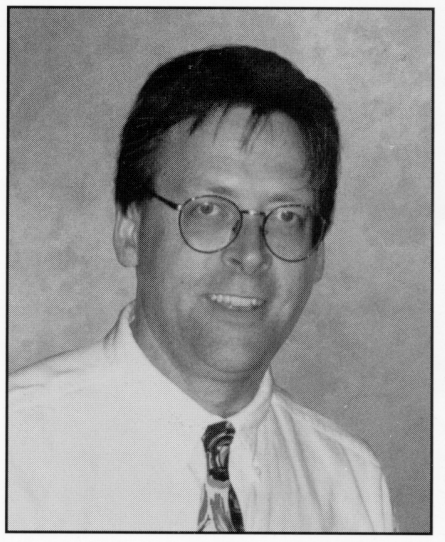
First, inspect the piano. You will be able to determine what the piano needs in about 3 to 5 minutes. If you find that the piano needs a complete regulation, or repair, you need to inform your customer. Be realistic, know your skill level. Practicing "Full-Service" work is a great way to refine your skills. Don't get in over your head, allow enough time to complete what you start.

Learn how to tell what the piano needs quickly by checking:

- Keyframe bedding
- Aftertouch
- Pedals
- Tuning/Tone
- On Disklavier pianos, performing the "Record and Playback" test

From the outline above, pick two or three areas that will improve the piano the most during that particular service call. Make sure that you finish one area of service before you move on to another area. Typical "Full-Service" appointments will run about 1.5 to 3 hours in length, depending on the customer's needs and/or expectations.

The most important thing to remember is the customer. Some customers will want you to tune the piano only. That is fine! Also, you will find that once you start implementing a "Full-Service" routine, you won't have to spend more than an additional hour each time you service that piano. You will be amazed how many of your customers will come to expect and trust that you are servicing their whole piano. After all, these are the customers we really appreciate working for!



— Tom Kaplan

Tom Kaplan enjoys taking a piano that a customer or artist hates and turning it into one that they love! His special skills in performance piano prep and Disklavier and hybrid piano service qualify him as a "Full-Service" technician. Originally from Milford, New Jersey, Tom has been a piano technician since 1978. He tuned his first Yamaha piano in 1983, and has been a Yamaha consultant since 1992.

Tom has played keyboards in rock bands of all sorts, and used to move pianos to support his rock band habit. His favorite expression: "Talk to the hand!"

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