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**Journal**  
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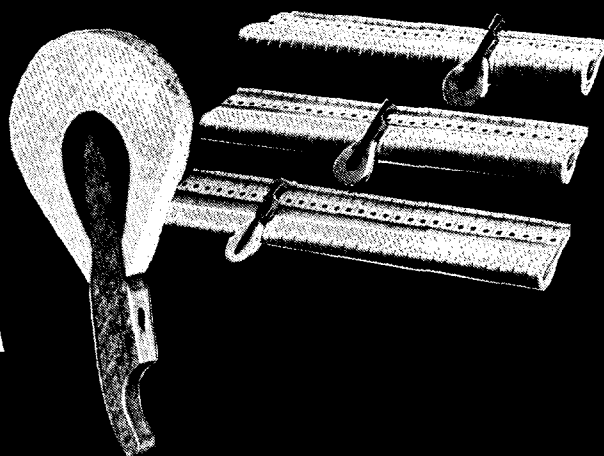
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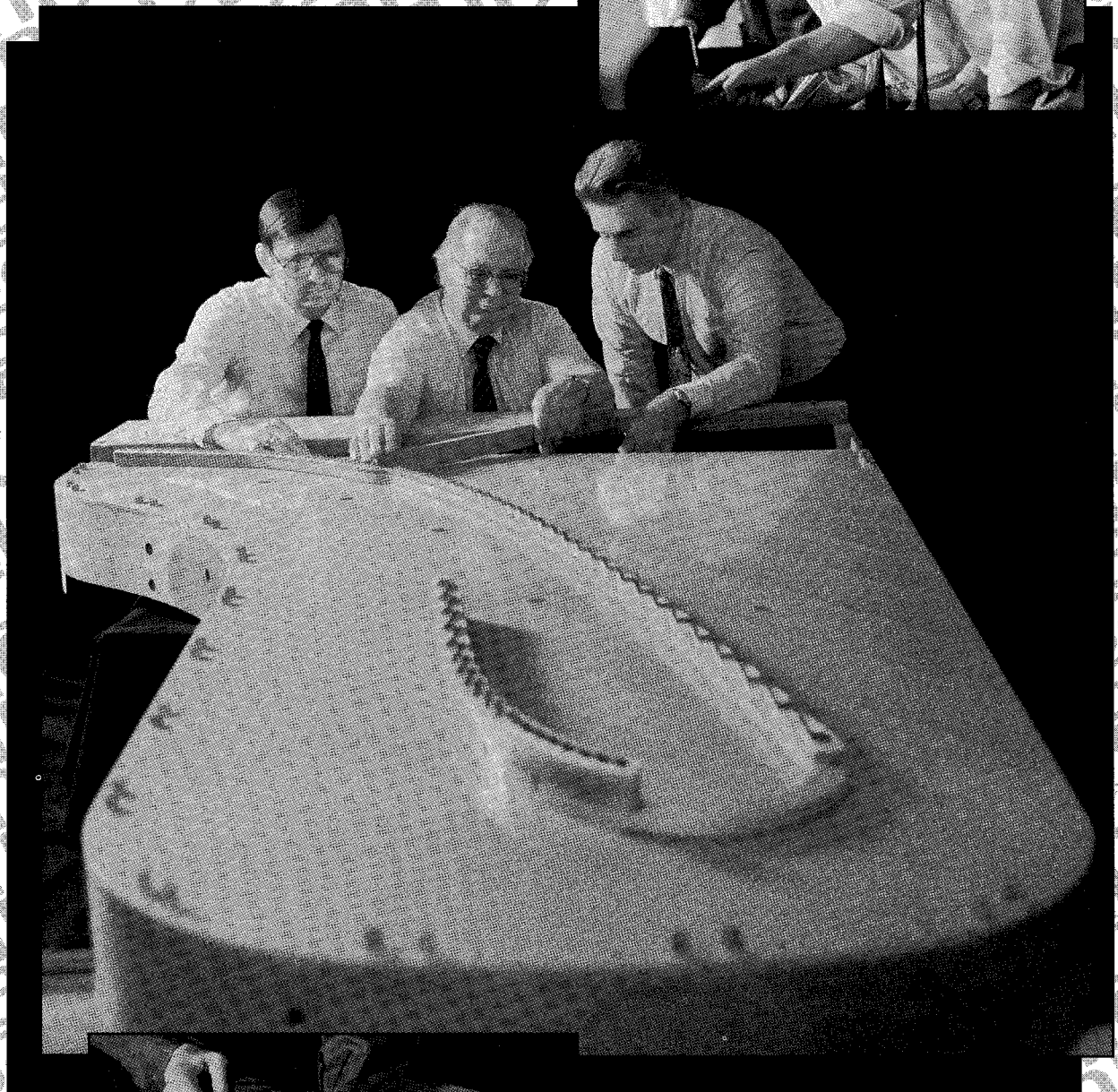
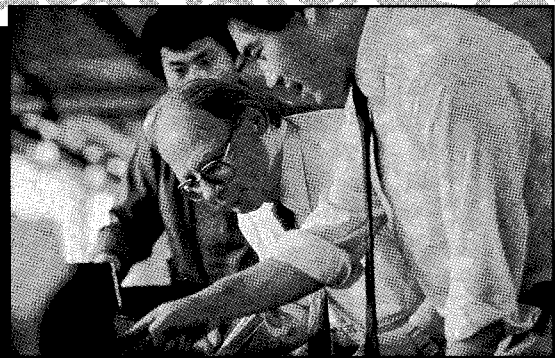
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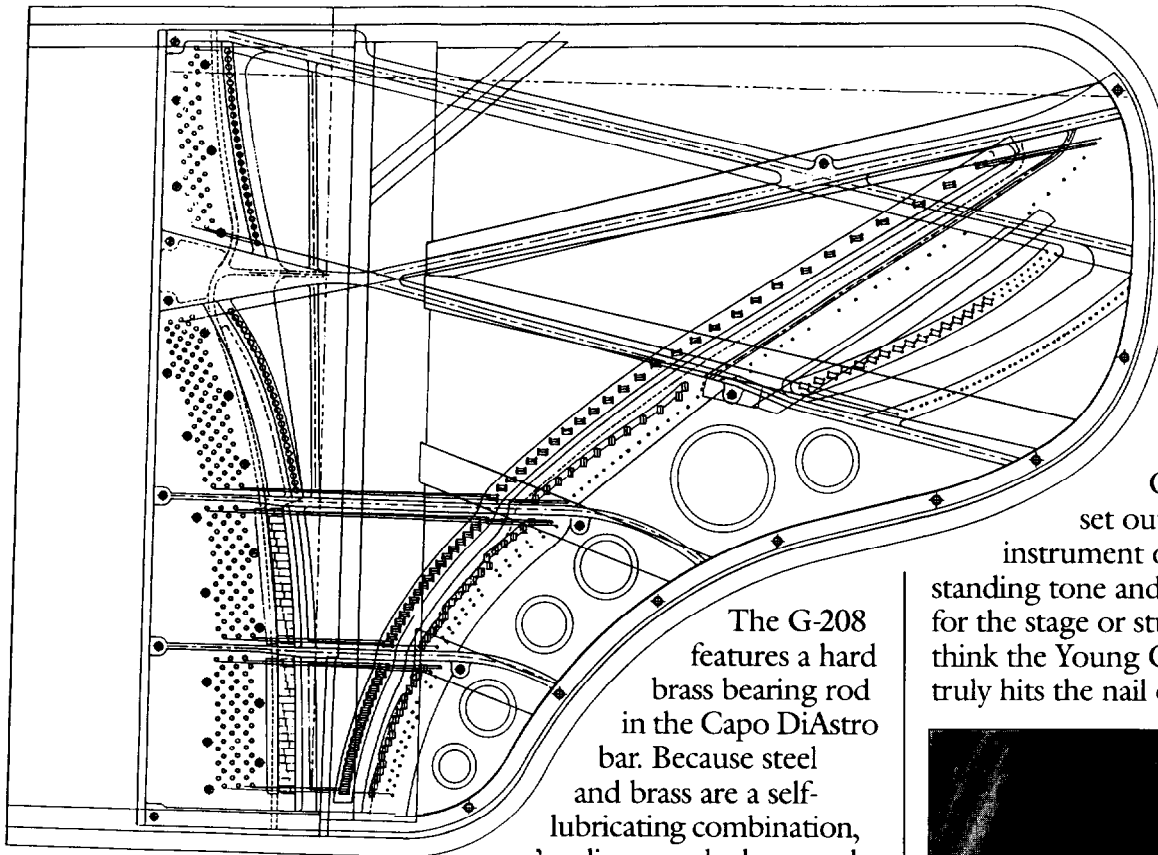
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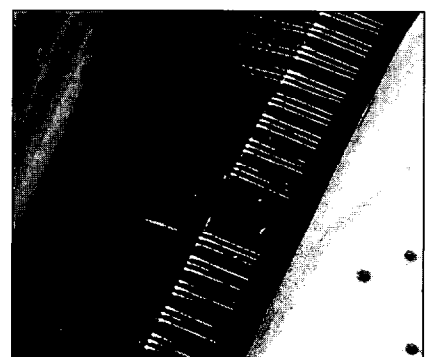
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## President's Message

**A**s your elected leadership, the Board has diligently listened to the members this year to set a course for the future of PTG. We have heard one message repeatedly: members want to see more RPTs in our organization. In our Pre-Council Board meeting, we will focus on strategies for achieving this goal. PTG has always promoted standards in our profession; members are saying that, to maintain this position, it is vital that a larger majority ratify the standards we have established. We invested heavily in our RPT exam and now need to promote its worth to our own membership; if being an RPT is not valuable to us, how can it be valuable to our clients and our industry?

First, to retain all current RPTs and attract more to the ranks, PTG must make sure that the programs and benefits we offer are relevant and valuable. We know that our educational programs are the key; RPTs look to the Guild for technical information to further hone their skills. Accordingly, more *Journal* articles on in-home repairs, more new convention classes, and new publications on voicing were requested in our recent survey. RPTs

also want more business development information and show strong

approval of our new client brochures and bulletins. Clearly RPTs expect PTG to continue to offer stimulating and innovative educational and informational programs; we got the message!

Secondly, to create new RPTs from the ranks of our Associate members, you have told us that education is again the key. Associates responding to the survey said the main reason

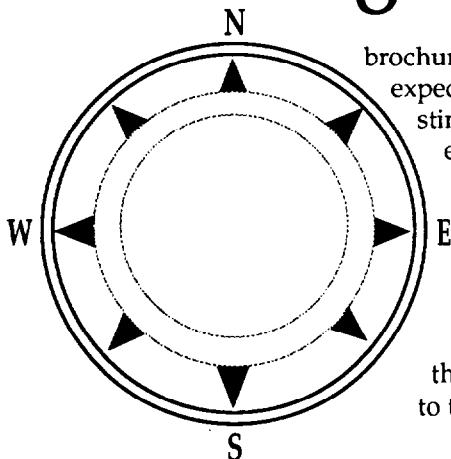
they aren't upgrading now is that they do not feel ready. The good news is that they also showed a strong desire to learn and grow professionally. Associates have specifically requested a more organized curriculum of study toward RPT status—more books, videos, hands-on classes, and tutoring. They are currently buying the newly published exam resource books in substantial numbers.

The core challenge here is to make *knowledge* available to those preparing for the RPT exam, and to provide means to help them translate their knowledge into *skills*. It is important for us to realize, though, that *all* members need to constantly advance their skills, and that focusing on the Associate upgrade issue will advance the state of our art to the benefit of us all.

We will embrace these tasks because PTG has an unshakable commitment to learning. Many creative ideas have been offered by members this spring as we have discussed the survey results. The Board will be presenting concrete proposals for Council action, including many suggested by members. If we take education as our long-range priority and increasing the number of RPTs as our short-term goal, we can focus our efforts more clearly.

The one constant in our fast-paced society is change. To keep up, we must adapt. It is clear that PTG is in the information business and that, increasingly, we must integrate advanced computer and communication technology into our organization. Two modest steps in this direction are now under way. Last year, at the request of the Central Florida Chapter, Council instructed the Board to investigate an 800 number for both member use and public information access. Your VP Leon Speir and PNWRVP Taylor Mackinnon have assembled options for the Board to review, and Council will hear their report in Milwaukee. The survey shows that members favor the idea but do not want a dues increase to support it. Thus, Leon and Taylor

# Seeking Directions Setting Goals





have recommended the most economical options of an 800 number connected to either an answering machine or a voice mail system. An 800 number will make it easier for people to reach us, enhancing PTG's position as a source of technical and educational information.

Another forward-looking idea we are studying is a computer bulletin board and establishment of a data base of piano technology information. This could contain *Journal* articles, industry news, and product support information. Our survey indicates that 56% of our members own or have access to a computer; of this group, 72% use IBM or compatible systems. Further, 41% of computer owners have modems. The rapid growth of the personal computer in our society over the last decade is a trend we cannot ignore; we will increasingly find electronic information exchange to be the norm. Our members are quite computer-literate and clearly ready to equip themselves and their businesses for faster access to data.

It is exciting to imagine the future of PTG and the contribution we can make to our profession, our businesses, and our industry. There is every reason to be optimistic: just look at how much we have accomplished in thirty-five years! Ernie Preuitt recently spoke of the need to use our "institutional memory" in the planning process; he is absolutely right. In this critical time we need to look back at our history to fully understand the foundations upon which we will build our future. We in PTG are fortunate to have so many experienced mentors who have brought us stability and strength, and so many enthusiastic volunteers ready to carry us forward.

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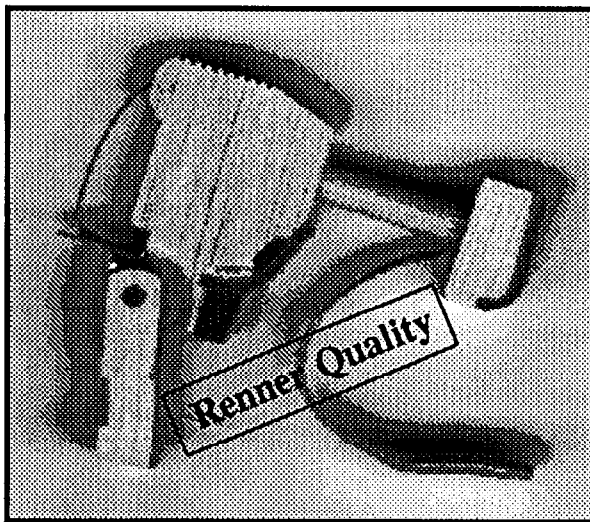
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*From The  
Home Office*

**A**ll too often, I think we try to fix problems with the tools we have in hand, rather than making the effort to find new tools that work better. It's like using the wrong screwdriver rather than taking the time to go back to the toolbox for the right one. Or — even better — using a manual screwdriver when a minimal investment in a power driver would make the job go much faster. The boundaries of our thoughts are limited by the range of our experiences. If you weren't aware that power screwdrivers existed — or could not imagine one — you would keep turning screws by hand, complaining all the while.

PTG has a rich history of inventors and tinkerers, people who are able to step outside the traditional ways of dealing with a problem and asking "What if...?" Many, if not most, of the advertisements in this issue of the Journal are from people who developed solutions to problems and then shared them with their peers.

And yet, PTG sometimes seems unable to find solutions to its own problems. If you look back through decades of Council agendas, you'll see the same topics surface again and again: membership categories, marketing, logos, ethics, etc. I recently ran across a proposal to combine several membership categories into two: Craftsmen and Associates. Sixteen years later, it was passed. Now, seven years later, we're wondering if it was a good idea.

Before you fire off what Jim Harvey calls a "nasty-gram" asking what I think I'm doing getting involved in Council matters, let me make it clear that I'm not. I don't have

# Take A Break...

## Go Visioning

an opinion on the issues, at least not one I'm willing to talk about. However, in the course of the nine Council meetings I've attended, I've seen a lot of confusion and frustration on both sides of the aisle.

I suggest that every now and then, we should take a break from the nuts-and-bolts work of wording, proposing and passing motions, and spend some time daydreaming about what PTG could be. Not how we get there, just where we want to go. In the association field, the trendy term is "visioning" — developing a vision for the organization.

Several times, I've met young technicians who were, shall we say, casual about their businesses. They were obviously quite bright, very much in love with piano technology and completely intent on being "successful" — whatever that was. They eagerly sought technical knowledge. Yet they were casual about their image, their business practices, organization, and, above all, their "people skills." Even though their technical knowledge might have allowed them to attain RPT status, "success" seemed to have eluded them.

Meeting them again later, I've been surprised at how much can change in a relatively short time. They were new people — organized,

efficient, pleasant, and completely professional in appearance and manner. And successful, both in the sense of making a good living and in being fulfilled by the work they were doing.

What made such a dramatic change possible? In many ways, I think it happened much by accident. In the course of pursuing technical knowledge, they were exposed to successful technicians who possessed both technical and business skills. Some of both rubbed off. They were, in a sense, able to develop a vision of success for themselves and pursue it.

What constitutes success for PTG? What makes you feel good about being a member? Or, for that matter, what's missing in your career? Does anything in that relate to PTG's goals? Its resources?

So think of the possibilities. Brainstorm a little. Visualize a strong, effective PTG. What would it do? How would it help you? Spend some time talking about it with others. And when you've developed a vision, we can figure out how to get there from here, one step at a time.

See you in Milwaukee.

**Larry Goldsmith**  
*Executive Director*



## Technical Forum

That is a redundant question, at least as far as this year's national convention is concerned.

The promotions, whether in the *Journal* or mailings, should have subsided by the time you read this. You will have already made your decision as to whether to join us in Milwaukee this month.

I hope your decision *is* to make the trip. However, if statistics and history are good indicators, there will be a percentage of our membership who, for one reason or another, will not be there. For this reason, and because it is summer when our normal activities are slower, I've tried to cram a number of different articles into this month's issue. Just remember, though, that no amount of words on paper is quite the same as getting first-hand, late-breaking, profitable information from some of the most distinguished instructors in the world! And certainly even the best of class reviews (which we will publish) cannot substitute for sitting in a class and experiencing what a reviewer is experiencing.

Years ago, following a national convention, I happened to tell Lew Herwig of a situation that was perplexing to me. If I attended two different classes on the same subject, I invariably heard two seemingly valid, but conflicting discussions and supporting theories about that subject. Each of the instructors was suppos-

edly an authority on that particular subject. My quandary was: *whom should I believe?* Lew, in his inimitable style while pondering a question, looked down, paused, then looked up, paused, and with emphasis on each short word said, "You have arrived." Did this mean that he was recognizing me as a technician who was ready; one who finally knew it all? Yes, if only in my dreams. In extended conversation, I determined that the encrypted statement meant that I was now ready

to *really* start learning.

While studying any new subject (or acquiring new skills), we tend to latch onto any and all information and believe it as gospel. This is especially true if that information comes from an acknowledged expert in a given area. In my case, I was starting to accrue *actual* experience in many areas of

piano technology. Lew's words simply meant that I had arrived at the point where I could (and should) allow my real-time experiences to influence the things I hear. To get me around the dilemma, Lew added that I should continue to garner educational information from reliable sources or authorities, but then assess the information from the standpoint of what "seemed right to me," based on the combination of instruction received, relative experience, and just plain common sense. I would then be in a better position to challenge (at least intellectually) certain theories I had previously believed were cast in cement.

I left that conversation, and convention, as a happy camper. I might point out that my conversation is typical of the type of sharing that occurs *outside* the classroom when affiliated with *The Piano Technicians*

*Guild*. To not coat-tail friends and fellow members is to not properly take full advantage of a convention.

You will see a lot of words in this month's articles that are either regulation or voicing specific, or peripherally involve one of these subjects. This is by design, since both subjects are always popular at conventions, and are areas where many technicians can use all the knowledge they can get. I don't think you'll find conflicting information between articles to put you in the situation described above, but the articles certainly set the stage for this possibility. Just be open-minded, read carefully, and you'll find something that seems right for *you*.

While this is not a "theme" issue about either regulation or voicing, per se, I'll add a few items from contributors that seem appropriate to the other articles. The first is from "Mr. Bill" (Spurlock).

### Flameless Heat Tool

Dear Jim,

Here is a new tool that I thought might be of interest to the readers: the flameless heat tool. It is a compact, self-igniting "torch" powered by ordinary butane lighter fuel. This tool is much better than ordinary lighters or torches because it does not produce any flame or smoke—instead, the combustion occurs in a tiny catalytic chamber and only hot air emerges from the tip. Thus it is easier to direct the heat to a small area, and no soot is left on the part as often happens when using a flame for jobs such as "burning in" hammer shanks. The temperature is adjustable between approximately 600°F to 1200°F, and warm-up time is only a few seconds. It will run approximately 3 hours at the medium setting before needing refueling. Length is about 10", so it fits in the average tool case.

Wally Brooks first told me about these. Later, when Kathy Smith (Los Angeles Chapter) showed me one, I knew I had to have my own. There are a couple of brands and several styles on the market, available from Jensen Tools, catalog #10B400 (800-426-1194), electrician's supply houses, and other sources. Mine is

Jim Harvey, RPT  
Editor

Milwaukee

TO GO

OR  
NOT TO GO

the Master Ultra-Torch UT100-SI, pictured in figure 1. This model is self-igniting (by pressing a button), and sells for \$75.00, including the hot air tip and a soldering tip. Another common brand is the Portasol, at around \$55.00.

Although less expensive and readily available at Radio Shack, the Portasol lacks the self-igniting feature. Instead, you light it using a spark wheel built into the cap; this requires two hands and so is not as convenient.

Although this is an expensive tool, I've found it very useful and after using my Ultra Torch for a few weeks I wish I had bought it years ago. Having an instant source of clean heat in the tuning kit saves a lot of time compared to an electric heat gun with its electric cord, slower warm-up and trip to the car. Here are a few of the jobs for which I have used this tool so far:

- **"Burning-in" hammer shanks:** To correct hammer spacing on uprights or hammer alignment on grands, use the torch to heat the shank while gently holding the hammer in the position you want it to move. Eight or ten seconds

of heating is usually enough. Then, while still holding the hammer, lick the finger tips of your other hand and run them up

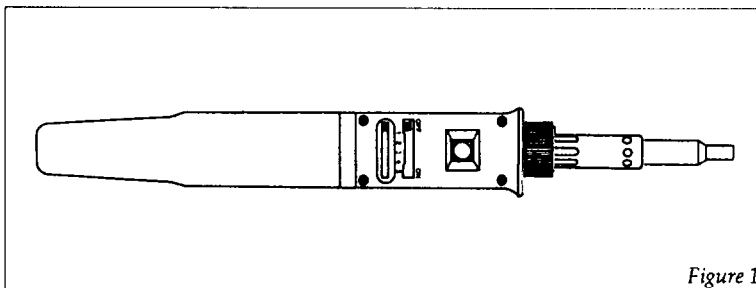


Figure 1

and down the shank a couple of times. This "freezes" the shank into its new position very quickly (another tip from Wally Brooks).

- **Easing grand damper guide rail bushings:** This can be done without removing the dampers. Just locate the problem damper, remove the action (and confirm that the problem is indeed the guide rail bushing), then use the torch to heat the damper wire just below the guide rail. Then raise the damper by lifting the lever with one hand to bring the heated section of wire into the bushing. Use the other hand to oscillate the damper head in a circular motion so the bushing is ironed by the hot wire. Be moderate with the heat to avoid scorching the bushing.

- **Freeing seized regulating screws:** When you come across a let-off screw that is rusted and seems in danger

of breaking off, use the torch to heat the screw head. As the heat travels down the screw it will relax the wood's grip on the screw threads.

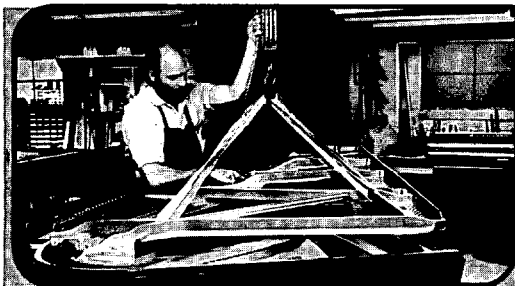
- **Making fine adjustments to grand damper lift:** When adjusting grand damper lift, first make sure that all underlevers are as level as possible. Then make final fine adjustments by inserting small paper shims under the felt of the damper tray to correct late-lifting dampers. Early lifting dampers can be corrected by ironing the tray felt with a knife heated by the torch.

- **Mate trichord damper felt to the strings:** Sometimes trichord damper felt will not damp all unison strings if string spacing is uneven or if one side of the damper felt is thicker than the other. To correct this, heat can be used to singe the thicker side of the trichord felt, narrowing it to match the thin side. This job is simple with the flameless heat tool—just aim it directly at the felt until it is lightly singed, then brush off the brown toasted surface with a soft tooth brush. Repeat as needed until the damper fits the strings.

- **Correct rubbing hammers, knuckles, key-end felts, etc.:** The torch will quickly singe off the fuzz along the edges of hammers and other closely spaced parts where rubbing is a problem.

- **Speed curing of epoxy and polyester resins.** Being too impatient to wait for improvements that may

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arrive in excess of ten years after initial development, I bought one of the early, "other" torches that Bill describes—the Dave Crockett style that requires starting with a flint, but fortunately does use butane instead of black powder. For those like me who have similar units (mine was made in Ireland, was purchased from an electronics store, and came equipped with only a soldering tip), be aware that there are accessory tips available to convert them to flameless heat throwers. However, weigh the cost of the extra tips against starting over with the improved tool that includes the tips and the other neat features, like a longer run time between fillings and a "visualized fueling window". While you're at it, don't deposit your existing torch in the landfill—its smaller dimensions make it ideal for soldering jobs in tight spots, such as under hoods and dashboards, or in organs or other electronic devices.

## Torch Cautions

Next, a letter fragment from member Gerald Foye.

*Some of us use flamethrowers for heating (burning) hammershanks (i.e., gas operated lighters). Just a word of caution: avoid annealing neighboring hammer return springs with the flame.*

Also, paraphrasing my notes from a class by member Baxter Edmisten: regardless of the type of heating medium used, and regardless of the reason for heating parts of an action, be aware of the order of events. Under no conditions should you, for example, use a volatile agent (such as a cleaner or naphtha-based flange lube), immediately followed by the use of heat or flame. The results can be—predictable! I assume this to be one of those lessons that is first learned the hard way.

## The Voicing Rail

Now, a tip from "The Bridge", the newsletter of the Inland Northwest Chapter in Spokane, WA, and member David Severance.

*This tool [figures 2 and 3] is especially useful to those of you who spend lots of time voicing Steinway pianos, but the idea could probably be adapted for use with other makes. The voicing rail is essentially a long piece of wood that is used to support the hammers when you're filing, needling, and juicing. It fits between the backchecks and the hammershank cushions when the stack is on the keyframe, and is as long as the stack. (There is a good illustration of one in use on page 59 of the new Steinway Technical Manual. The manual, and for that matter, the voicing rail can be ordered from Steinway.)*

## Needle Container

Finally, a tip from the Seattle Newsletter and member Randy Rush.

*One of my favorite new toys is the Nock mechanical pencil, available at office supply stores for about a dollar. The replacement leads for these pencils ("Pentel polymer super") come in a small plastic sleeve that, when empty, is ideal for storing voicing needles in the tool box. They are just the right length, and compact. I carry three, each individually labeled for #4, #5, and #6 needles.*

He's right about the containers. Even my local supplier, K-Mart, had them. Unfortunately, I found the

leads not only broke quite easily while in use, but they also left ugly marks all over the hammers. Relax. This was just a test to see if you are still open-

### FRONT VIEW

Middle slots are approximately 5/8" wide.

End slots are approximately 1 1/8" wide.

The slot measurements are to the center of the slot, are approximate, and are cut to fit over the action brackets.

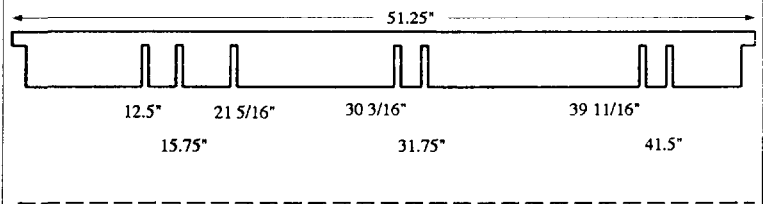


Figure 2

### END VIEW

Hammer tails fit into the rabbet such that the tails are supporting the weight of the hammer, not the shanks

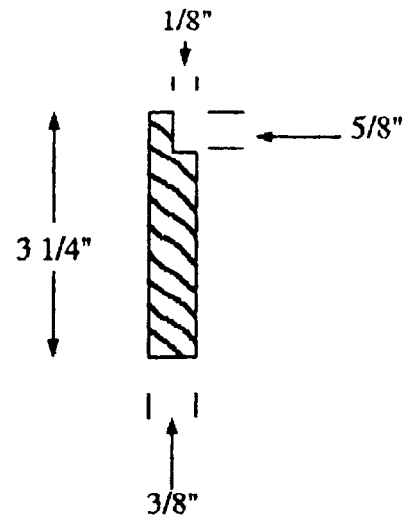


Figure 3

minded and are reading carefully. Seriously, I do wish that voicing needles were as readily available as the containers, especially when you're out in the Hinterlands, and out of needles.

I hope you enjoy this issue, and your summer!





## Good Vibrations

# The "I Hate My Piano" Series

### Part 2

By Nick Gravagne, RPT  
Contributing Editor  
New Mexico Chapter

With A Little Help From  
Richard Davenport



**W**e ended last time having found Emma Schwartz's grand piano with the following ills: Tone: Bright attack, short decay. This

is to be expected since the piano is badly out of tune, and the hammers, apart from being too hard or having packed in too hard, are suffering from noticeable string cuts. In addition, the string spacing is bad in sections, the strings are not seated or level, and the action and plate screws are loose.

Regulation: No (or very little) after-touch, especially in the center of the keyboard.

The regulation isn't horrible, but it is uneven; the dip is too shallow and half the repetition springs are too weak. The damper levers are knocking against the stop rail, the knuckles are squeaky, the keyframe knocks, there is lost motion and squeaks in the soft and sustain pedals, sostenuto is not 100%, the sustain pedal lifts the dampers too high, and damper lift is uneven.

This piano was once the apple of Emma's eye. She loved it. Now she hates it.

The above piano ills are typical, and can, with proper forethought and planning, be cured in the home, or through some combination of home and shop planning. As to time required to perform all these tasks, Richard Davenport writes:

*Time Evaluation: 4 hours for tone regulation without shaping hammers; add 1.5 hours for shaping; 10 hours for action, pedals and trapwork, cleaning, etc. Allow 2 hours for incidental problems and evaluation time. Total = 17.5 to 18 hours.*

*Final evaluation: Although the job could be performed entirely in the customer's home, spending a day at the shop (traveling and aligning hammers and setting let-off) would allow me to spend only one full day at the customer's. Before removing the action, I would also tighten the plate, seat and level the strings and raise pitch to 440. With the action in the shop, parts are aligned and tightened, hammers shaped more efficiently, and cleaning more easily accomplished. The action is returned in a semi-regulated condition. Everything is lined up, ready for final regulation. My time in the home is spent making the necessary damper, pedal and trapwork adjustments, sanding the keybed and cleaning the instrument. Final regulation, tuning and voicing would complete the day.*

As to Richard's 18 hours of estimated time to complete all in-shop and in-home work, there are doubtless some technicians who will say that they can perform the work much faster, while others will insist that a full three days at least is required. Those of us who have seen Richard work would be hard-pressed to imagine completing the work more thoroughly or more efficiently and in less time.

Now as a reminder, it was stated last month that we are dealing here with an idealized situation. Money is not an issue. Emma wants the job done right. That is, she wants her piano brought back up to performance standards. Also remember that the instrument's original (or existing) parts and equipment are serviceable and do not require replacement. In some real-life situations the customer usually has a specific complaint, something about the piano that particularly bothers them. The tone is too thin, or the action is too heavy. In such cases it behooves the technician to focus more effort on these complaints than to take a *Carte Blanche* approach to the work. An otherwise beautiful and thorough job can be ruined in the customer's eye by a squeaky key or noisy sustain pedal,

especially when the latter complaints were the reason you were called in the first place. Back to Emma's piano.

Of all the problems it may have, the tonal problem is the trickiest and most delicate to deal with for two reasons. First, tone is a subjective issue; a clear communication with the customer is essential regarding how the instrument *sounds right now*, compared to what it *will* sound like after the job is done. Second, certain voicing techniques are irreversible; a capstan screw, however, can always be readjusted. This being the case, these articles will place more emphasis on tone than on touch, although the latter will receive a fair hearing.

Last month Emma's piano was evaluated for tone and touch. In this early stage of testing, customer input is essential, not only for communication's sake, but for you the technician in working out an overall job strategy. The following questions should be asked and answered by *you*.

1. What will make the biggest tonal improvement?
2. What will make the biggest improvement in touch?
3. What will take the most time to correct?
4. What will make the customer happy?
5. What should be done in the shop versus in the home?

If possible, regulate and voice samples until the customer approves. Obviously, this can't be done unless a go-ahead on all work has been given, or else those samples will stand out tonally like sore thumbs. One trick in pointing out the anticipated improvement in tone is to shift the hammers to the right, but not all the way, and then play the hammers "out of the grooves." The less harsh tone coming from the piano is often enough to convince the customer of the kind of improvement to expect. Still, as far as these articles are concerned, any

serious talk of tone and tone regulating will appear in future articles.

Once the scope of the work has been discussed with the customer, and the green light given, where then does the job begin? If possible, begin the job directly after evaluating the piano and talking things out. If this is not possible, make plans to return and do as Richard suggested above. Those suggestions are elaborated upon here.

1. Before removing the action to your shop, tighten plate lags or screws. You will need to have in your kit various sockets (for the pianos you most typically work on) along with the appropriate wrench and extensions. A large screwdriver, the kind with a square shank to which an end wrench can be secured for more torque, is also required. Regardless, whether the plate screws are lags (Steinway) or slotted screws (Mason and Hamlin), you need short extension bits to work around the tail of the

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Anne Todd

piano and under the lid. For slotted screws you need a short but wide screwdriver bit that can be driven off your tuning hammer. Still better is a screwdriver bit that fits your 3/8 inch socket wrench. (If anyone knows where to find such a bit please let us know. In fact, Richard has one! Where did he get it?)

It may not seem obvious, but a secure plate implies better tone. Energy delivered to the strings must transfer into the soundboard. A "loose" plate, like a loose action screw, is a thief. It robs bits of energy by shaking and moving in the presence of vigorously vibrating strings. A snug plate is in the best position to positively transfer string energy into the soundboard.

2. Seat, level, and space strings. Grand piano strings have a tendency to ride up on the bridge pins, especially in the higher treble sections. False beats and fuzzy tones

are the result. Drive the strings down on the bridge with a brass or hardwood punch and a small hammer. Place the punch just on the speaking length of the string to prevent damaging the bridges, and go easy but firmly. Brass punches are available from supply houses, or can easily be made from ordinary brass stock found in hardware or hobby stores. A slim punch made from 1/8 inch diameter brass is useful for driving strings in the tenor that are under the bass strings. File a little groove in one end of it for mating with the string.

Other places that strings need to be driven down exist at the rear and front duplex. As a general rule, where a string must bend in order to go under or over some plate component, the "rounding" that occurs should be "flattened" out.

Leveling strings means adjusting the two or three strings to the same horizontal plane. Accomplishing this encourages three things:

(1) a hammer that strikes the unison strings squarely; (2) defined termination points at agraffes and capo bars; and (3) better and more easily regulated damping. The technique of leveling usually involves pulling the strings *up* at the agraffes and capo bars. A stringing hook is usually used.

It is sometimes possible to lower a string by pushing it down while "riding" it toward the bridge. That is, using a hardwood stick or smooth brass "stick", push the string down near the agraffe and slide the stick rearward. This technique will introduce a slight, rounded bend in the string. This trick, which will not hurt the string or affect the tone, is best done in the agraffe areas where the strike point is not close. In any case, this technique is not always effective. Indeed, I should point out that the entire question of whether strings should be yanked up at the agraffes (or anywhere else), is not agreed upon by all technicians. Still,

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most believe that "leveling" strings is conducive to good tone and overall performance.

Wholesale string spacing shouldn't be necessary. However, watch for those several capo bar notes that might have either bad unison spacing (three strings) or bad note-to-note spacing. Remember that moving an entire unison may mean that the corresponding hammer needs shifting. Correct. Also check for spacing in the front duplex area. Don't go crazy here. Just try to make things look more or less uniform.

3. Tune to A-440. Raise pitch if necessary. The piano will be tuned again so this doesn't have to be your best tuning. Focus more on tight unisons. But don't miss a *big* opportunity here. *Listen to the tone* as you tune. Before your tuning is finished, you should have a good idea of the sort of tone regulating job you're in for. In addition, make notes of those tones that seem to have mechanical trouble; e.g., buzzing at the capo bar, loose bass windings, or wild strings that can be traced to loose bridge pins or perhaps simply a bad string. These problems should be spotty, not be wholesale throughout the piano. The evaluation steps (last month) should have uncovered any significant

problems that would have placed the job outside the realm of "bringing a piano back" without major shop work.

If possible, take care of any string problems before you leave with the action. Twist the noisy bass string. Strings buzzing at the capo bar can sometimes be corrected by shifting the unison a bit to the right or left. Loosen the strings first or you will "roll" them over the capo instead of sliding them. You may need to "shoeshine" sand the capo in the offending area with medium and finer grits of emery cloth strips, or even sandpaper. The occasional wild string is almost certainly a loose bridge pin. Test by pushing on the pin with your brass rod while playing the note. If you suspect a loose pin, let the tension down and drive the pin deeper into the bridge. Re-tension, seat, and tune. Sometimes wild strings are simply bad strings. Replace now. A trick (albeit a desperate one) which sometimes works is to let down tension on the two pins relative to a single hitch pin. Re-tension by pulling four coils on one pin and leaving two on the other pin. Seat, level and tune. Where a bend in the wire has pulled into the speaking length from the bridge, straighten it out with pliers. As crazy as these techniques seem, they actually do work at times. Also try loosening the coils, pulling them up

tight and retuning.

If sample voicing tones were not worked out with the customer, set them now for yourself so there won't be any surprises when you bring the action back. These sample notes should be regulated, particularly hammer blow, let-off and drop. As mentioned earlier, tone regulation will be covered in future articles.

At this point, the plate has been tightened, strings seated on bridges and duplex bars, strings leveled (and some spaced if necessary), any mechanical string problems addressed, and tone-voicing samples set. The next item of attention is the action.

4. In order for the action to be rough regulated at the shop, certain measurements need to be taken and certain relationships need to be understood. The most obvious measurements required are the keybed-to-string height at the strike point in each section. An ideal tool for this is a tape measure, the kind that has a small window in its side from which direct measurement (in both English and Metric units) can be read. Take notes, or write the numbers on the appropriate hammer flanges.

5. Hammer and shank align-

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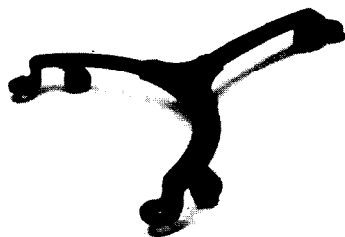


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ment at the shop. How is this possible without having access to the piano's strings? It's easy really, but requires a simple shop jig. First of all, *do not bother spacing hammers at the customer's home*. In the shop you have all the information you need regarding the actual spacing of the strings. This information exists in the form of the grooves in the hammers. Refer to **photo 1 (and cover)**. The wooden

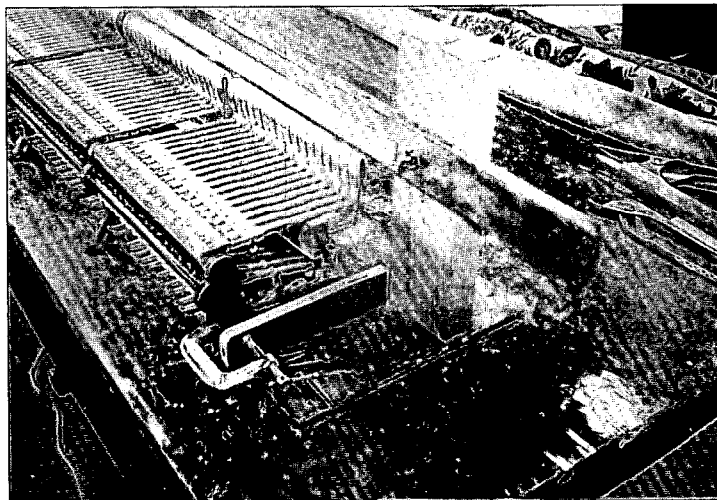


Photo 1

jig is clamped to the action bracket and marked in such a way that it can be removed and replaced in the same location. The cross piece, which sits above the hammers and has a strip of masking tape attached to it, is used to register the *middle* string of three string unisons, both strings of two string unisons, and the individual bass strings. Pay no attention to the spacing on the hammer itself; that is, whether the hammer is too far right or left. Just pick up the string spacing according to the grooves. Notice that the hammers are propped up on a piece of wood. **Photo 2** shows how pencil marks are made on the tape with the aid of a small square. Such a jig must be made so that the cross piece, once secured

by the screw and wing nut (as in my jig), cannot be jarred side to side, out of place. You must be able to remove the jig, store it, work on the action, replace the jig and use it to align hammers. This jig is especially useful when replacing hammers in the shop for a piano that sits in the customer's home.

6. A less obvious, or sometimes ignored, regulation item — especially when the job starts in the customer's home, goes to the shop, and back to the home — is glide bolt setting. In order to get a workable setting, the stack and keys *do not* have to be removed. A suggestion from Norman Neblett is as follows. While the stack and



Photo 2

keys are in place, prop the front rail off the keyed a small amount.

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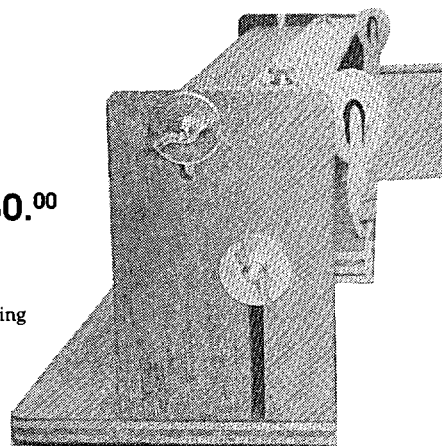
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Davenport uses a small jeweler's screwdriver blade as a prop. Whatever you use, the small gap should allow you to insert long strips of newspaper under each glide bolt. Where the paper won't go under a bolt, raise the bolt until it will. Do this at each glide. Remove the prop holding up the keyframe. Now, beginning with the center bolts and working outward, turn each bolt down and pull the paper out. The paper should drag but

not tear as it is pulled out. To determine whether the paper is dragging on the front rail rather than the glide, lift the front rail slightly with your thumb as the paper is pulled out. You may have to repeat this process since each glide has an effect on all other glides. When the paper is dragging evenly at all glides, install the end blocks. Now with your hand, or fist, or a screwdriver blade positioned at the base of the glide stud where it meets the center rail, tap the balance rail down to the keybed. You should hear knocking. If not, turn the glide up a tad until you do. When slight knocking is heard at all glides, turn the glides down a tad until knocking is gone. The balance rail is now bedded.

A common occurrence, when working with the action on the workbench rather than in the keybed, is reduced key dip. Richard suggests setting key dip at the piano on, say, all the 'A' notes. If at the workbench the dip on these notes is reduced, lower the glides enough to regulate. The lowered glides will raise the center rail, thereby increasing dip. The trick is knowing how to return the glides to their original position. File tiny marks in the top of the glide bolts before you disturb them. If all marks are oriented the same way, say directly to the back of the keyframe, you will have no trouble returning the glides to their original settings after the action is bench regulated and returned to the piano.

Finally, and before you leave the customer's home, check the pedals. Gross problems, such as wobbly Steinway pedals which need rebushing, should also be dealt with at the shop. The idea is to carry out all shop-type work at the shop, and to do only the work that *must* be done at the piano when the action (and maybe pedals) are returned for the final day of tuning, regulation, and voicing.

*Continued next month.*

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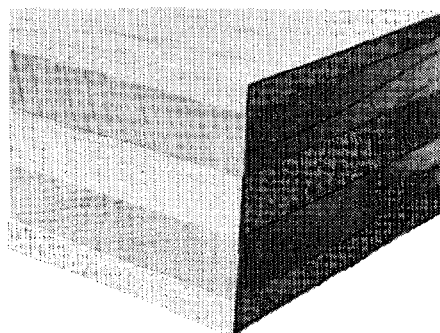
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## Everyday Voicing

# The Hammer Meets The String

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

**I**n the previous article, we talked about some of the preliminary decisions that had to be made before actual voicing could begin, particularly the “pluck” test to determine something about the tonal capabilities of the piano in question. This month we will discuss the actual struck sounds in considerably more detail, and give some more experiments we can perform to heighten our awareness of tone. Most of the central concepts of the series are here, and you probably will want to plan on more than one reading. The article is an expression of our joint explorations, understanding, and approach at this time, but Bob did the actual writing this month, so you can blame him for any errors. You will also notice that we are heavily indebted to the research and experience of others.

Speaking of experiments, this month’s will be non-destructive, as were the ones in the previous article. However, now’s the time to start locating a guinea pig for future exploration. The ideal candidate is a decent grand to which you have regular access — your own is best because you can leave it mid-experiment, but one at a dealer, or a church or school you visit regularly, could be pressed into service instead. Before you panic, this is not to suggest that you “learn through trashing” on such a piano, but that you locate a set of hammers, preferably on shanks, that you or one of your rebuilder friends have removed from another piano of that make. Or, you can use a piano that is in for repairs at your shop or the shop of a friend, and diddle with the old hammers before they are

replaced. The advantage here is that you don’t have to be so careful about restoring the original hammer spacing, traveling, and regulation as you must on any other piano (lest you quickly wear out your welcome at your favorite dealership). This month, however, any good piano will do.

There are several reasons for using as good a piano as you can, and a grand if possible: while the same voicing techniques work on all pianos, their effects are more obvious on better instruments. It’s like learning tuning — we should all start out on concert grands, which are easy to hear and require few compromises, and work our way up to the much more difficult spinets! Other reasons for using a grand are that it is easier to swap parts off and on, and quicker to pull the action out while experimenting.

## Spectrum

Most of us are familiar with a number of terms used to describe tone: bright, mellow, tinny, dull, metallic, wooden, and harsh are just a few; you can certainly name many more. Your clients might even be referring to tone color rather than pitch when they use the word “sharp”. Generally, though, the word “bright” and its analogues refer to a tone that is richer in higher partials than words like “mellow”.

Tone color is controlled by the number and proportion of partials present in a vibrating string. A bass note is very rich in partials, with the first forty or fifty commonly present. At the top of the piano, more like the first four are active. The scale, or choice of wire diameter and length, has an effect on the propensity of the

string to produce a certain spectrum; the soundboard and structure of the piano reinforce certain colors; but fortunately for us, a very great change in the tone color can be made not only by the design but also by the subsequent treatment of the hammer. While it’s useful and fun to see the changes in the harmonic spectrum on special equipment, it’s not necessary for the everyday voicer. For our purposes, we can divide the spectrum into, say, three bands, and easily learn to isolate the characteristics of each band.

## Ping, Clang, Bong

We might call the high partial group “ping”, for instance, the middle partials “clang”, and the fundamental “bong”. Or, in a bass note, we might refer to “sizzle, clang, and boom.” Be creative. Make up your own descriptive terms. Although each individual partial is important to the tone color, this approximation is an efficient and practical way to go about describing characteristics of tone.

There is a given amount of energy transmitted to the string by the hammer. The more of this energy that goes into one band of partials, the less goes into the others. The fundamental gives us the sense of pitch, of course, as well as fullness, depth, and solidity. Too much energy in the low partials and the tone sounds muddy and unfocused; too little and the sound is thin. There is another interesting effect here. The higher the partial, the more rapid its decay; therefore, a tone lacking in lower partials will decay more rapidly. The middle partials lend clarity and power to the sound. The upper partials give definition and a more interesting color.

## To The Laboratory

For our first demonstration this month, we'll see if we can start isolating these areas. Pluck near the center of a fairly low bass string with the fleshy part of your finger. Although you are hearing more than the fundamental, the tone should be relatively dark and "boomy", indicating a predominance of low partials. (You might be able to hear other pitch components if you listen carefully; briefly play the note an octave and a fifth up, to put it in your memory, then see if you can hear this third-partial component of the original note as you pluck it.) Now with your fingernail, pluck again on the wound part near where the winding starts. The difference is more "clang", a semi-metallic sound containing more middle partials. Now pluck it again right next to the agraffe. Hear the "sizzle"? There's probably also less

"boom". We gained some highs, and lost some lows.

The next experiment can be done in your head. Play middle C. Now, imagine sticking a thumbtack in the top of the hammer head. Can you hear the difference? In addition to sounding metallic, it also sounds thin, meaning a shift of energy from low and middle partials to high. Now remove the thumbtack and mentally lay a piece of bushing cloth over the hammer. We've modified the spectrum by adding and removing high frequencies, haven't we?

Remove the hammer and shank from C2, C4, and C7, or any other similar white notes that are convenient. Put the C7 hammer in the bass, C4 in the treble, and C2 where C4 was. You might have to remove some adjacent hammers to get clearance for the angled ones, and you'll have to do a little regulating. Rough is good enough; make sure the hammer

is not blocking on the string or hanging up in the backcheck on a grand, or hitting a damper in a vertical. The low note probably sounds not only bright, but thin. There are two reasons for this, which we will get to later, but for now, just make note of the sound, and describe to yourself the proportions of the three bands of its spectrum, compared to the spectrum of its immediate neighbor. Now do the same with the other two hammers you changed.

We'll do some more of this description when we get to needling and hardening, and talk more about how the tone changes over time as it decays. In the mean time, analyze a note or two a day on whatever you're tuning.

## How The String Figures In

You may have seen diagrams in which the fundamental is represented by the string vibrating along its whole length, up and down. For the second partial, one half of the string is shown as going up while the other half is going down, in a shape something like a sine wave. The third partial is caused by the string subdividing into 3 segments, and so on. Each of these is called a *standing wave*, as the segments appear to remain in the same place and vibrate up and down.

In real life, the segments are not exactly acting individually; all these "preferred modes of vibration" add up in various amounts to create one complex waveform that actually appears to be traveling back and forth along the string, as the various harmonic motions reinforce and counteract each other. It changes form somewhat as the tone decays, but looks more or less the same on each trip. If we could somehow change the shape of this traveling wave, the tone color would also change. If we then could "disassemble" the complex wave into a series of simple harmonic standing waves, like we started out with, we would find that the same ones would be present, but some would be smaller in amplitude than before while some would be larger.

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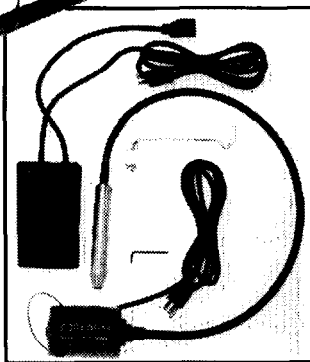
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## How The Hammer Does It

Enter the hammer. The hammer actually induces the desired shape in the string by whacking a little lump into it, then getting out of the way. By changing the characteristics of the hammer, we change the shape of the induced wave, and thereby the tone. Isn't it wonderful?

Let's go into a little more detail.

## Kinetic And Potential Energy

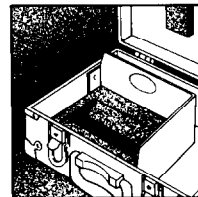
Uh-oh — Science! Don't worry, we can understand the principles of hammer/string physics without getting too bogged down in the math. Why go into it at all? Because the clearer our understanding of the way the hammer and string interact, the more quickly we can learn to perceive, isolate, and form a mental image of individual qualities of sound, and the more subtle can be our control over them in different makes of pianos and hammers. The intent of this article is to abstract the concepts that are immediately useful to us. If you find the subject as fascinating as we do, or simply want more detail, an indispensable source is *Five Lectures on the Acoustics of the Piano*, available from the Steinway parts department.

*Kinetic energy* is the energy stored in a moving object by virtue of the fact that it is in motion. Think of the difference between a brick sitting on a glass coffee table and the same brick dropped on the coffee table — the brick has the same mass as before, but you couldn't convince the coffee table of that. When the brick is in motion, its kinetic energy is determined by two things: its mass and its velocity. The velocity in this case is provided by the pull of gravity. If we were to throw the brick at the table, its mass would still stay the same, but its kinetic energy would be increased even more by the added velocity. A pencil dropped or even thrown would not have the kinetic energy required to break the glass, because of its much lower mass.



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*Potential energy* is that which is caused by relative position or by arrangement of particles. Think of a hammer spring when the hammer is in check. As long as the hammer is restrained by the backcheck, the spring stores energy in internal stresses. When the key is released, the potential energy stored in the spring is released into the shank/hammer assembly, putting it into motion. The string also acts as a spring; it contains potential energy when it is stretched from its rest position by the hammer blow.

At the moment of impact between the hammer and the string, the hammer's kinetic energy is a function of both its mass and its velocity [for the sake of completeness, one-half the mass times the square of the velocity; but again, the numbers don't matter to us, just the principle]. Take a minute to think about what will happen to that energy; it is about to be converted to other forms. As the hammer contacts the string, one thing that happens is the change of some of that kinetic energy in the hammer, to potential energy in the string (a spring) as it is distorted from the shape it wants to be (straight) to a straight wire with an upward bump in it. As the hammer transfers more of its energy, the bump gets taller, and the bump's sides start to race away toward both the agraffe or capo, and the bridge. When one side of the bump reaches the agraffe, it both reverses its direction of motion along the string and inverts, reflecting from the agraffe as a short downward bump at the end of a longer upward wave, then continues on its merry way toward the bridge, chasing the upward bump. We now have our traveling wave racing toward the bridge, where it reverses direction, turns upside down, and runs back and forth along the string. A small part of the energy is lost in heating up the string because of its internal friction and stiffness, but the majority of it is now bled off by being transferred to the bridge, which moves the soundboard, which moves the air, which moves



your eardrum, which tickles your fancy!

However, let's return to the hammer, where further miracles are taking place. In the above admittedly-oversimplified-but-hopefully-useful description, gravity is too slow to get the now-inert hammer out of the way, so if the hammer were not elastic, the downward bump would waste energy pushing it away. While the string is distorting, though, the hammer is as well. It is compressing between the tip and the molding, and distending outward at the shoulders. This also converts kinetic energy to potential energy, as the hammer wants to return to its original shape. Rather than being an inert mass that must be pushed away by the string, the hammer should already be moving downward at the time it runs out of energy and stops acting on the string. Less energy must be robbed from the string to get the hammer out of the way.

[HINT: The following is one of the two most important concepts in this article, perhaps in the series.] The important part of the change from kinetic to potential energy within the hammer is the ability it gives us to control the time over which energy is released to the string, by controlling the resilience of the hammer. The hammer actually acts as an energy storage device. This is vital because it changes the waveform in a beneficial way. Sacramento RPT Peter Clark expresses this timed release of energy as the hammer pushing on, rather than striking, the string. Notice we are not talking about hammers in terms of "hard" and "soft", but in terms of varying elasticity. Incidentally, a sharp-eyed proofreader (Dale's wife Trix) pointed out that since the hammer is a spring, there is a component of potential energy in it at rest. Since it goes from an equilibrium state to compression and back to equilibrium, we will ignore that for now, although this pre-loaded state will "spring" up again in a future article.

Earlier we were talking about how the waveform determines the harmonic content. Generally speaking, and without stopping for mathemati-

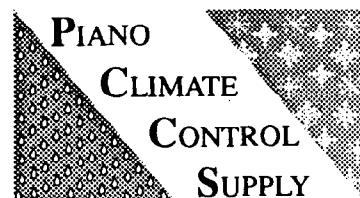
cal proof, a stiffer hammer delivers its energy to the string over a shorter period of time, creating a taller, narrower wave with steeper sides and consequently a tone containing more high harmonics. The same energy delivered over a longer time results in a wider wave in which more fundamental is present (remember that the fundamental is represented as the string vibrating over its whole length.)

### A Variable Rate Spring

Now comes the *really* great part. [HINT: Here's the other Big Concept]. The hammer is not just a spring; it is a *variable-rate* spring. The more it is compressed, the more it resists compression. Do you see where this is leading? It means that on a harder blow, the hammer acts as a stiffer spring, its contact time is reduced, and the spectrum becomes wider. In a properly voiced hammer, a forte tone is not just a louder version of a pianissimo tone — it is a brighter

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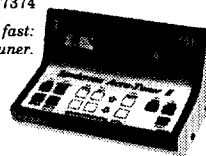
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## Mass

The other major variable besides the elasticity is the hammer mass. Once you have put a treble hammer into the bass, the difference mass makes becomes apparent. Since the treble hammer is also harder, let's isolate the effect of mass even further. Find two adjacent treble hammers, somewhere around C6, that sound alike to you in tone quality. Now wrap six or eight turns of fine solder tightly

around one shank next to the hammer, and play the notes again. Try this again in the low tenor or high bass. How did the spectrum of the wrapped notes change? What do you suppose happened?

That's right, the heavier hammers stayed on the string longer. The longer contact time changed the spectrum. You can see why mass is one of the things to pay attention to when choosing replacement hammers.

## What Else Happened

It's also likely that the volume and carrying power dropped in the treble example, and rose in the bass. Up to now we've talked about increasing contact time to improve the fundamental. However, there is one other important factor at work.

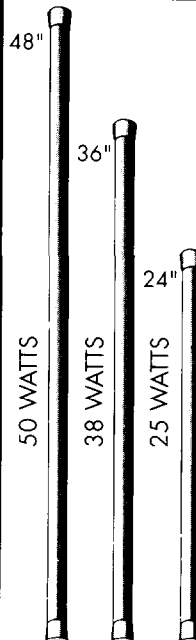
During the time the hammer is in contact with the string, a little secondary traveling wave is set up between the hammer tip and the

agraffe. This wave makes several quick round trips and finally the hammer and the string push away from each other. In the bass, meanwhile, the main wave has not yet returned from the bridge. In the shorter treble strings, however, the main wave is able to get back before the hammer leaves the string. In this case, a slow rebound exacts a heavy penalty in energy resorption from the string, as well as distorting the shape of the main wave and therefore the tone color, whether the slow rebound is because the hammer is not stiff enough or because it is too heavy.

Won't these guys ever just tell us where to stick the needles? I'm afraid you'll have to put the voicing tool back down and return next month. We'll be talking soon about what to do with this information; that is, how to strike a balance between mass, resilience, and inertia to make the most efficient use of the pianist's energy. Meanwhile, maybe the above experiments will keep you busy. We think they are well worth the time.

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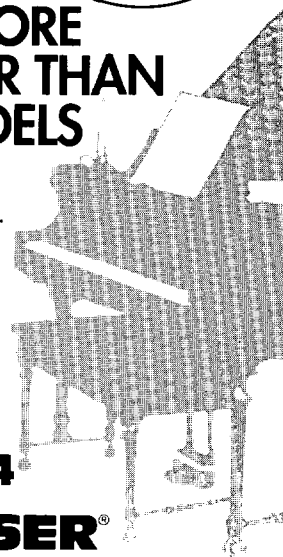

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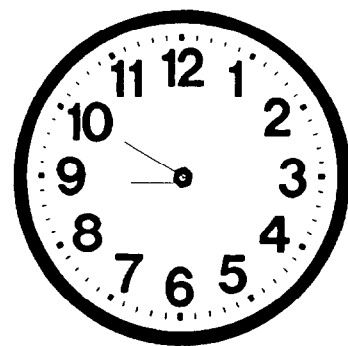
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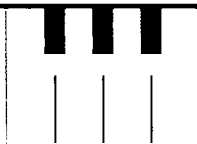
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### Wear, Friction and Geometry

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**T**his month we need to consider the condition of the action prior to regulating. However, instead of giving a series of action reconditioning instructions, I would like to examine the various friction and action geometry changes that take place with worn parts, and discuss the affect these changes will have on the performance of the piano. The influence of worn parts on action performance can be boiled down to two basic effects: the action geometry will be thrown off, and the friction will be changed.

Piano actions need a fair amount of friction to keep them playing well. Too little friction gives an uncontrolled, fly-away feel to the action, and makes proper regulating almost impossible. Friction in the action centers performs a dual function by contributing to the total friction in the action, and also by insuring that the parts are firmly anchored at their pivots. For instance, if the friction in the hammer centers is too low, the bushings generally will not be solid enough to keep the hammers under control, and you get poor tone from the "fish-tailing" or wobbling hammer. The friction in the hammer center is not a problem, though, as this allows you to regulate the repetition spring stiffer and set the letoff and drop close to the string, all to the benefit of repetition in the action.

The uniformity of friction from note to note is more critical than establishing an absolutely correct level of friction in any one note. This

evenness of friction in the parts is more critical the farther the part is from the key, because the affect of the friction is made greater by the leverages in the action. Since the knuckles and hammer centers are far out in the lever system, improper friction at these points will have the greatest affect on the touch. Thus it is especially important that we be aware of the uniformity of friction in the hammer centers, as even minor unevenness here will translate into very noticeable unevenness to the pianist.

Knuckle friction is an unavoidable enemy. A complete absence of friction is not only unachievable, it would result in cheating jacks or at the least a loss of power. The question is how much friction do we want here? In general, grand actions with good quality skin on the knuckles will always have plenty of friction to allow proper performance. In other words, it is safe to take measures to lower the friction at this point, as a certain amount of friction is unavoidable at this point in the action.

In order to have the lowest friction, a grand action should be designed so that the jack pulls out from under the knuckle while the contact point between them is on the action spread line (the line that passes through both the hammer and wippen centers). In spite of this, all newer grand actions I have checked have letoff lower than this (1 to 2 millimeters), raising the level of friction at letoff considerably higher than the minimum it could be. The apparent

reason for this is that the action designers want to ensure very effective power transfer.

If you are working on an action that has small knuckles, and the letoff point is close to the spread line, be careful not to go to extremes when lubricating the parts, or you may decrease the power of the action. Although this can be regained by regulating the jack farther under the knuckle, such a compensating adjustment puts resistance back into the letoff (eliminating the gains of the lubrication), and also creates problems when you regulate the drop screws.

All of this discussion about knuckles is meant to drive home an important point: The shape of the knuckle is critical to proper action performance, and must be restored before the action can be well regulated.

Wippen cushion friction is also greatly affected by the action geometry and wear. Any depression of the wippen cushion should be repaired before a good action regulation is done. The wippen cushion on most pianos is built up underneath with a second layer of cloth under the thick wippen cloth. This second layer performs two functions. First, it keeps the glue from soaking into the wippen cushion at the point of contact with the capstan (for low noise). Second, it shapes the cushion into a slight curve. When this curve meets the curved top of the capstan, the friction in this area is greatly reduced.

For minimum friction, the capstan/wippen contact point should

be on a line drawn from the wippen center to a point midway between the two balance rail pins when the key is half depressed. Although this relationship is fairly well set by the action designer, it can be thrown off by worn wippen cushions, worn knuckles, heavily filed hammers, and excessively shimmed key balance points.

Although it may not seem true at first glance, worn key bushings increases friction in the keys. This is made worse if someone has turned the pins to eliminate side play, of course, but even properly aligned pins will have more surface contact with the felt when the felt becomes worn. Re-bushing the keys or otherwise reconditioning them for a correct fit will do wonders for proper friction levels in the action. In addition, this keeps the capstans aligned properly with the wippen heels, and also keeps the backchecks in line with the hammer tails.

Correctly fit action centers are *critical* to good action performance. In general, action center fit must be even, solid, and relatively low in friction. To measure action center friction, use a spring-type gram gauge, hold the part sideways, and apply the tip of the gauge near the screw hole in the flange to read the level of friction.

Because of their location far out on the lever system, the hammer centers are the most critical centers in the action. They must be firm and solid, yet relatively free moving, and very consistent from note to note. Measured with a spring gauge at the screw hole on the flange, the friction should be between 4 grams and 6 grams when the relative humidity is in the average range (30% - 60%), and there should be a tolerance of only about 1 gram (+/- .5 gram) from note to note. The hammers must be under solid control when the key is played strongly — do not lower the friction in the hammer centers at the expense of solidity in the centers. If the hammer centers are not solid, the tone of the piano will suffer, and the action centers will wear out prematurely from the uncontrolled hammer fishtailing and wobbling.

Wippen centers should also be firm, and the same 4 to 6 gram range is acceptable for these parts. The repetition lever should be relatively tight, measuring about 4 grams at the drop cushion (I say this is tight because the drop cushion is much farther from the center than the screw hole is on a flange — 4 grams measured at the drop cushion relates to about 8 grams in a hammer center). If the repetition lever center is too loose, there will be a tendency for the hammer to bobble during soft play. A higher level of friction in this center will help keep the hammers under control and also give better repetition. Jack centers should be very free, but never loose. These centers can be measured at the letoff tender, and should be around 2 grams, as long as this results in a solid enough center. After assembly, the jack top should not be able to be moved easily side to side in the repetition lever window.

Damper centers must be relatively firm to maintain control of the damper and act as a shock absorber in the damper system. The old story that damper centers should be as free as possible is not correct — overly free centers will contribute to bouncing dampers, and these will not dampen the string motions well. The damper lever flanges should have about 4 to 6 grams of friction, and the top flange should be pinned so that it falls smoothly under its own weight when the lever is held out to test it.

Damper lift friction can be excessive if the key end felts are worn and cupped. This friction is too often ignored by rebuilders, and can create subtle problems if it is too great. The use of dry film lubricants on the undersides of the damper levers, along with lift felts in good condition, will contribute to the smoothness and uniformity of the final product. This is another area where modern action designers don't usually have the geometry correct. For lowest friction, the contact point between the key end felt and the damper lever should pass through a line drawn from the key balance point and the damper flange center. In most actions the contact

point is well below this line, and worn key end felts can make this even worse.

You can usually get away with lower friction levels in a low mass action than in a high mass action. If the hammers are heavy, there will be more tendency for them to bobble or bounce on the repetition levers during soft playing. In such an action the repetition springs will have been strengthened to lift the more massive hammers, so the spring tension and hammer mass work together to overcome the dampening affect of the friction in the action. Hammer and key bounce are increased by high mass in the action, so slightly higher friction levels, especially in the action centers, will help keep things under control. You must be careful, though, as these higher friction levels will decrease the action's tolerance for high humidity. As the action friction increases with humidity, the maximum workable friction in the action will be reached sooner than in an action with low friction levels. The best solution to this dilemma is to lower the mass in the action, but that is a topic better suited for another series of articles.

Many good action rebuilders will start a rebuilding or regulating job by measuring the down and up weights on every key and writing them down to help identify friction problems. To measure the total friction in the action, use gram weights at the key to measure the downweight and upweight. With the dampers raised to keep them from affecting the measurement, place the down weight on the key at the front,<sup>1</sup> and lightly tap the keyframe or the workbench to get the key moving. Change the gram weights until tapping the keyframe causes the key to move slowly down from rest to where the jack meets the letoff button. This is the downweight, often called the touch weight. Now select smaller weights, place them at the front of the key, depress the key until the jack is touching the letoff button, and let go of the key. Select the heaviest weight that still allows the key to return fully to rest. This is the upweight.







## Review

Stephen Brady, RPT  
Seattle Chapter

### "The Piano Man"

By  
Noreen Gilpatrick

St. Martin's Press  
New York, 1991

Hardcover, 424 pages  
\$23.95

**Y**ears ago, I had a tuning client who was a fairly well-known mystery writer, and who was usually working at home when I would go to tune the piano. Once I asked him when he was going to feature a piano tuner in one of his mysteries. With a gleam in his eye he responded, "Ah, yes! The piano tuner did it!" As far as I know, he never actually wrote a piano tuner mystery, but in *The Piano Man*, by Noreen Gilpatrick, we finally have a mystery novel with a piano tuner in the central role.

Gilpatrick's book appeared in 1991 as winner of the "Best First Traditional Mystery" award in the "First Annual St. Martin's Press Malice Domestic Contest." As such, I picked up this book with high expectations. A quick reading of the back cover, however, led me to suspect that the author had overstepped her understanding of pianos. The excerpt printed on the back of the dust jacket reads:

*Jacket swung over his shoulder, he opened the door, already reaching for a coat hanger. His hand froze halfway there and he stared. A length of piano string hung from the clothes rod, gleaming in the reflected light from the bare bulb over the sink. One end*

*had been wound around the clothes pole. The other was twisted into a hangman's noose.*

*Well, welcome to the island, he thought. He broke his freeze and hung the jacket up, then unwound the noose from the rod. A double-ought G string. Strong enough to hang a man if the notion struck.*

Now, I will be the first to acknowledge that assimilating the jargon and lore of a profession different than your own must be a difficult task, but I sincerely hope that the effort demonstrated by Ms. Gilpatrick in this book is worse than the norm. I would hate to think that my knowledge of medicine, gleaned largely from television shows like "St. Elsewhere" and books like Robin Cook's medical thrillers, and my legal expertise, courtesy of "Perry Mason" and "L.A. Law," are fraught with as many errors and misapprehensions as those which fill *The Piano Man*. For instance: what, exactly, is a "double-ought G-string?" And, assuming there were such a thing, how would our hero have been able to identify it as such simply by unwinding it from the rod? As we shall see, Ms. Gilpatrick's grasp of piano anatomy — and music in general — seems to be rather tenuous at best.

The story's protagonist, one Paul Whitman, arrives on a small island in the Puget Sound, having been hired to rebuild three old pianos which have been damaged in various ways: an old Knabe upright, a ten-foot(!) Chickering concert grand, and a generic "baby grand." All three of the pianos are missing their strings. Whitman has been invited to the island because the previous "piano men" who lived there have mysteriously disappeared. Naturally, he is curious about what happened to them. As it turns out, a rash of murders has been taking place on the island. Paul, incidentally, has recently been divorced, and is a failed concert pianist who has been denied tenure at a university, and thinks that this island interlude might be just the thing to help him sort out his life.

During his stay on the island, Whitman meets people like Old Jeb (who drives a pickup truck), a man named Bobbin, and a girl called Jenny. There is talk of a boy named Jason and a rich developer, Ben Murdock. One by one, the islanders become victims of the mysterious killer.

Paul discovers that the "baby grand" has a cracked "frame box" (I take that to mean keyframe or keybed, but I'm not sure). Says Gilpatrick: "... a new one would have to be rebuilt." One evening, our hero "put on a Schubert concerto and settled into his chair. It was going to be a long night." Well, it was a long night perhaps, but a short concerto for sure, since Schubert never published a concerto for any instrument!

Later in the book we find the piano man squatting over the Knabe upright, which has been laid back on the floor, restringing the instrument:

*The stringing went slowly. It was tedious, backbreaking work. Each key had one string and two pins(?). The wire was wound around the first pin two and a half times, then the pin was pounded into its pin-hole on the bottom board(?)... Once seated, the wire was run up to the top of the opening(?), around the hitch pin and back to the bottom board(?)... He gave each pin equal turns until he could hear the wire pop into the groove(?) on the hitch pin at the top(?). As he ran wire up and down, he wove braid over and under alternate strands, creating a horizontal band of gold shimmering across the brass(?).*

Although it appears from the above description that the piano is double-strung, at another point in the story Whitman "...did some mental arithmetic. Three strings per note, times eight-eight notes(?), times three pianos..." Well, I guess he forgot about the single and double-strung notes in the bass. In light of his trouble with that problem, I worry about letting him re-scale the pianos: "Then he had to figure out the weights(?) and lengths of piano strings he wanted to install..." clearly, this is one mystery in

which the author doesn't have a clue!

But perhaps I protest too much. Notwithstanding Gilpatrick's poor knowledge of her subject, the story is mildly compelling. I'm sure that my own interest in the book stemmed from the fact that I am a piano technician, but I did read it fairly rapidly because I did want to find out "whodunit."

One could find fault with Gilpatrick's playing on old and pejorative stereotypes, i.e., the failed concert pianist who falls back on something "easier": that is, the piano tuning and rebuilding which he picked up from his dad and by which he put himself "through the conservatory." In this particular story, however, I think the author is trying to show that being a "piano man" is actually a pretty great thing to do, if it's what you really love and you're

really good at it. She took the idea of the Whitman character from a real tuner (a non-P.T.G. technician who apparently supplied the technical insights — such as they are — for the book, and who shall, therefore, remain nameless here), and even went so far as to dedicate the book to him. She snipes at the dark underbelly of university life by having Whitman say: "I absolutely refused to play politics, refused to take part in the petty feuds that went on..." From my own perspective of nearly fifteen years working in academia, I would have to agree with her appraisal.

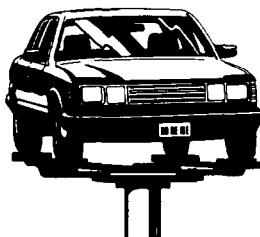
To summarize, *The Piano Man* is a fairly readable, engaging book that should prove interesting and quite (unintentionally) amusing to piano technicians. After reading my copy, I was glad I had not spent my own money on it (it was a gift from a

client), but if the book ever makes it to paperback, it should be worth your \$4.95

Oh yes, if my old mystery-writer client should by some twist of fate be reading this review, I really don't mean to discourage anyone from writing a story that features a piano technician; in fact, I hope you will. But if you do, please contact a reliable source for your technical advice. I recommend a Registered member of the Piano Technicians Guild.

## PTG Reminder Cards Are Here!

Your car may be running fine,  
but it's still time for a tune-up.



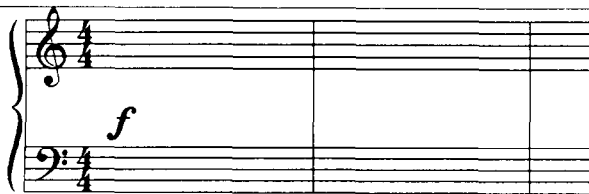
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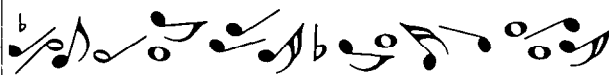


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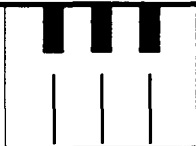


I thought I'd drop you a note before  
you drop any of yours.



Order Card F-Version 1 or 2 (Red & Black)

**To place your reminder card order—see order form on page 36 of this issue!**



## Lessons Learned

# Voicing & Egg On My Face

John Dragone, RPT  
Western Michigan Chapter

*[Note: In a separate note, John indicated that we might find the accompanying (true) story amusing. Amusing perhaps, but containing a valuable lesson — the circumstances could apply to anyone who's not thinking ahead of the work being done. -jh-]*

Other than tuning and repairs, one of the things you want to know how to do (if you intend to rebuild or service pianos), is voicing. Goodness knows that, through our Guild and our members, we have been given enough opportunities to learn how to make a piano sound beautiful. To that end I have done this, as much as possible, using all the knowledge I have acquired.

Not having a small enough enclosed area in my shop to simulate a home music room, I have waited to do anything but very basic voicing of a rebuilt grand piano until it has been at the client's home a while. This permits the client to decide how they would like the sound adjusted. Surprisingly enough, a tone that I felt could be improved at my shop proved satisfactory to the client, once the piano was in the home.

I have also voiced all types of uprights, especially my used ones, but have found that after I have properly shaped hammers and regulated a given piano, most all of them are satisfactory. Most purchasers, especially first-time buyers, are more interested in the cosmetics first, followed by an acceptable sound and feel. So I spend the most time on my pianos on these items since: (1) a good-looking piano commands a better price; and (2) it has a tone with no surprises. I guarantee the sound system of all my pianos, regardless of their cost, to be my responsibility, except for tuning, as long as they own it. Major voicing is a minor item.

Yes, there are fine uprights out there. I also have them available, and have tuned my share of them. So when I was called to tune and check a quality upright out in the boondocks for a piano teacher, I suggested that the tone and touch be worked on. Through hard and constant usage the depth and action had to be regulated to restore it to the original specifications. She was receptive to my suggestion of performing the work required, and that I also voice the piano, as it had a very hard, percussive tone. I scheduled a day to do this work.

This is where I got a lesson I haven't forgotten and got "egg on my face." The first mistake I made was forgetting that a grand and an upright are two different animals.

### Lesson Number One:

**A grand is open. An upright is a closed box.**

The second mistake I made was to do the work when the client had to leave, even though she indi-

cated that she trusted my ability.

### Lesson Number Two:

**Never, never dare voice a piano when the client is not there.**

The third mistake I made was to voice the piano when it was still taken apart, after I had done all the necessary regulating work.

### Lesson Number Three:

**Before doing any voicing, restore the piano to its original state.**

Check the tone *then*. The piano, as I said, was a fine one and the casework was a very solid piece of equipment. The tone, when it was closed, was far different from when it was open — a point I neglected to check carefully. If you have tuned a piano in a big band room and then done a similar one in a small concrete practice room, you'll know there is a tremendous difference in sound.

I left thinking I had done a fine job. I later received a call from a very unhappy teacher. Unfortunately, she had every right to be unhappy, and I returned to correct the error at a considerable loss in time, expense, and face (remember the client lived in the boondocks). Again she wasn't there, but I could hear the now weak sound. I hardened the hammers, almost back to their sound before I touched them, and lowered my bill. This was over a month ago, and I haven't heard from her. She is now either pleased (hopefully), or disgusted with me. I worked hard to correct my mistake, but I don't think she'll call me again. If she *does* call again, I'll go back — with egg on my face.

I had a similar situation with another console after this incident, but this time I didn't voice what would be called a "hard, percussive sound." After I put it together, it was just fine. I reduced my estimate, but left happy.

### Lesson Number Four:

**Voicing can be hell sometimes.**

# 1993 EVENTS CALENDAR

**JULY**

14-18

**PTG 36TH Annual Convention & Technical Institute**  
Milwaukee Hyatt Regency, Milwaukee, Wisconsin  
Contact: PTG Home Office, 3930 Washington,  
Kansas City, MO, 64111-2963  
816-753-7747

**SEPT**

25

**Pomona Valley Chapter Annual Seminar**  
Contact: John Voss, 2616 Mill Creek Road, Mentone, CA  
92359

**SEPT-OCT**

30-3

**Ohio State Conference**  
Holiday Inn-Dayton Mall  
Contact: Kathy Shaw  
325 W. Center College Street, #129  
Yellow Springs, OH 45387  
513-767-2555

**OCT**

15-17

**Texas State Seminar**  
Marriott Hotel-Houston  
Contact: Ray Whitmore, 7126 Sonnet Glen, Houston, TX  
77095, 713-859-7535

**NOV**

4-7

**New York State Convention**  
Westchester Marriott  
Contact: Michael Meade, 27 Perch Drive, Mahopac, NY  
10541, 914-528-3365

**NOV**

6

**Orange County Chapter Seminar**  
1st Presbyterian Church  
Contact: Peg Browne, 11511 Wasco Road, Garden Grove,  
CA 92641, 714-530-4768

**NOV**

11-14

**North Carolina State Conference**  
Omni Hotel-Richmond, VA  
Contact: Lewis Spivey, 15 Rachel Drive, Nashville, NC  
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# AUXILIARY

## E X C H A N G E

### Dedicated To Auxiliary News and Interests

Hoping that you will receive this *JOURNAL* before you arrive at convention, I want to tell you a few things that will be happening so you can plan your visit to Milwaukee and not repeat the things that we are doing on the tour. We will be visiting the Domes for about an hour. There are three of them and there is never enough time but you can always go back on your own to view them with the whole family. When living in the Chicagoland area, we took the boys and went up to visit them many times, every time they changed the flowers for a new show.

We will not have time to enter the Milwaukee Zoo, so please try to take that in on your own. It is rated one of the best in the country. Don't miss it. We are going to visit the Miller and the Pabst Mansions. I believe that our tour director has one half of us going to one mansion and the other half to the other mansion since we are such a large group.

There are many excellent restaurants in and around our hotel that you can walk to so I thought it would be better if we had lunch some distance from the hotel where you would not get to on your own. And can you believe our tour director arranged lunch at John Ernst, rated four-star now for several years. It is a very expensive restaurant, however, he gave us a very good price. We were not going to be able to afford their delicious Black Forest Cake but when I mentioned cutting the pieces in half and just giving us a taste, he said he could do that. Now a taste of that rich dessert is all you want anyway, right? That meal should be worth the price of the tour alone.

We will be touring some of the interesting points of Milwaukee from the bus and, of course, shopping in the new renovated stores in the center of town. The shopping mall is close enough to the hotel that if you

wanted to walk back to the hotel early, one could do that, but please tell us so we know where you are.

We tried to get the most for the money without raising the price of the tour as I know all of you are on a piano tuners budget. There is so much more to do in Milwaukee if you want to do it on your own after or before convention. As of this writing, I still have not received my visitors packet from the Milwaukee Visitor Bureau so I don't know if the Brewers are in town or not. But I'm sure on Thursday or Friday you could get tickets to the park very easily.

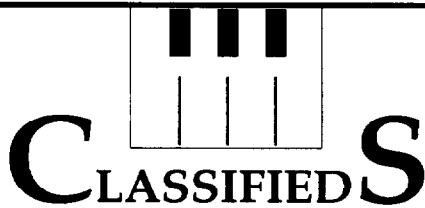
As you know, Milwaukee is a Catholic town and there are some very beautiful churches to view or even attend on Sunday. As I remember there is also a very striking Temple architecture there but I would have to find it from a native. Also Marquette University is right there close to the downtown area.

Remember to save all of your calories for about one week in advance of Milwaukee because they have the best Polish and German food you have ever eaten and you don't want to count calories in that town. Please read your tuner spouse's May 1993 issue of the *Journal* for the article on Fine Dining in Milwaukee on page nine. As always read the whole *Journal*, not just our pages.

The count down has begun now and I hope to see all of you in Milwaukee. Come see what's brewing in Milwaukee. Lots of knowledge on tap.

*Phyllis K. Tremper  
President, PTGA*





# CLASSIFIEDS

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B				
C				
D				
E				
F				
A-F			\$10/PACK	

Please complete info in boxes at right

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TOTAL AMOUNT DUE

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# Tech Gazette

Yamaha Piano Service

July, 1993

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**“KNOWLEDGE ON TAP” WITH YAMAHA****Wednesday, July 14**

Exhibit Hall ..... 8:30PM - 10:00PM

**Thursday, July 15**

Damper Class ..... 8:00AM - 12:00PM East Octagon 3

Exhibit Hall ..... 9:00AM - 1:30PM

Disklavier Master Class ..... 1:30PM - 5:30PM East Octagon 3

Exhibit Hall ..... 2:45PM - 6:00PM

**Friday, July 16**

Exhibit Hall ..... 9:00AM - 1:30PM

Introduction to Disklavier Class ..... 10:30AM - 12:00PM East Octagon 3

Exhibit Hall ..... 2:45PM - 6:00PM

YAMAHA Reception ..... 9:00PM - 11:30PM Regency B &amp; C

**Saturday, July 17**

Exhibit Hall ..... 9:00AM - 1:30PM

Damper Class ..... 1:30PM - 5:30PM East Octagon 3

Exhibit Hall ..... 2:45PM - 6:00PM

**Sunday, July 18**

Introduction to Disklavier Class ..... 8:00AM - 9:30AM East Octagon 3

**SEE YOU IN MILWAUKEE!**



# PIANO TECHNICIANS Journal UPDATE

FOR MEMBERS OF THE PIANO TECHNICIANS GUILD, INC.

## At Your SERVICE

*Colette Collier, RPT  
Chapter Services Committee Chair*

This year, as the Chapter Services Committee began its work on designing a new chapter awards system, we came upon some surprising statistics. There are over 160 chapters in PTG, and in setting up categories for awards we tried to put together size categories that were somewhat evenly distributed, with chapters grouped together whose size was compatible. We ended up with three categories: cleverly named I, II, and III. Category I is those chapters with 5-15 members, Category II is 16-34 members, and Category III is 35+ members. The surprise is the number of chapters that fall into each category: Category I: 73, Category II: 56, and Category III: 30. In other words, although we often hear chapters bemoaning the fact that they don't have the resources of some of the larger chapters and therefore "can't do as much," the overwhelming majority of chapters in PTG have less than 35 members, and nearly half have less than 15! You don't need to "be like another chapter" to be successful; the trick is to tailor the projects you choose to the strengths and characteristics of your chapter. There is more than one way to skin a cat—or lead a horse to water. (You get the idea. . .)

Following is an article by Wim Blees, RPT, from the St. Louis

Chapter, making some good points about one-day seminars:

**One-Day Seminars:  
An Inexpensive Way To Get Quality**  
by Wim Blees, RPT  
St. Louis Chapter

One-day seminars have been done by many chapters for many years. If your chapter has considered it, but was reluctant to try one, perhaps a few words about the one-day seminar might spark your chapter to action.

More and more chapters are hosting one-day seminars, because they have found that for very little effort, and little financial risk (relative to full weekend seminars), quality instruction that is found at a weekend seminar or the PTG Convention can be brought to the members of the chapter. In other words, the seminar can come to them.

There are several advantages for a chapter to have a one-day seminar. The most obvious is that instead of only an hour or so of instruction at a chapter meeting, a chapter can get a whole day of instruction. And in that way, either a variety of subjects can be covered, or an instructor can be asked to spend a whole day on one topic. The St. Louis Chapter, for example, has hosted 4 one-day seminars over the last 2 years. The first one featured two of our "advanced" technicians, the other for the "beginners." This gave the chapter the "bug" to do one on a regular basis. Since then all of the experiences have been exceptional. Members enjoy the format because there is much more time for questions, discussion, and

## Associates Day In Dallas, Texas



Associates Day in the Dallas Chapter was held on May 16, hosted by Jack Wyatt in the Garland Piano Co. workshop and showroom. Participants had the opportunity to be coached in separate sections on the PTG technical and tuning exams by RPTs Leon Speir, Peter Collora and Walt Connell. Associates from the Dallas and Ft. Worth Chapters felt that the afternoon was well spent and appreciates the pre-test instruction on regulation, stringing and tuning techniques.

## Well Wishes From Chicago PTG

In order of occurrence, two of our finest chapter members, Virgil Smith and Bill Holyoke, are both doing well after undergoing quadruple bypass surgery at St. Francis and Evanston Hospitals, Evanston, Illinois.

An unwanted coincidence for either, but one where we sincerely wish both of their recoveries the very, very best.

Chicago Chapter

general "brain-picking" conversation. Instructors like the freedom from time restrictions, and the relatively relaxed atmosphere when they have the whole day to teach.

The cost of a one-day seminar is very little, and will usually pay for itself. If your chapter does not have money to spare for instructor's travel and fees, you can feature one of your own chapter members. Perhaps there is one person in your chapter who would like to take more than one hour to talk about a certain procedure. Or several members could team up to cover one topic in-depth. To keep costs down, everyone can bring a bag lunch, and the few dollars it will take for additional refreshments, printing, mailing costs, and so forth, can be paid for by charging a nominal registration fee.

If your chapter has a little money in the treasury, inviting an "outside" instructor can be very educational. The cost of travel, lodging, and publicity can be paid for by charging a little more for registration. [ED: It's a good idea to total your fixed costs to find your break even point, then match that with your expected minimum attendance to put you in the ballpark on your registration fee.] If your chapter wants to take a chance on having the seminar cost a little more, a lunch can be included in the seminar. The St. Louis Chapter holds their one-day seminars at a motel with a banquet center. The registration fee includes a buffet-style lunch.

There are several other advantages for hosting a one-day seminar. It gives chapter members who do not come to meetings because of schedule conflicts a chance to come to a technical presentation, and a chance to socialize. Often this provides a great opportunity for your chapter members to meet their RVP, since most try to attend all seminars in their regions. We have also recruited 5 new members from their attendance at St.

Louis Chapter seminars.

If attendance is down at your meetings, and the same people seem to be teaching the same thing, perhaps a one-day seminar will liven things up a little. Invite an instructor from a neighboring chapter or from another area of the country. Most "nationally renowned" instructors, and even some not-so-well known are willing to teach at one-day seminars. It's certainly worth investigating.

Another new twist on instruction comes from *The Wippenpost*, Chicago Chapter newsletter, Paul Gunty, editor:

***Master Classes: Tone Regulating with Virgil Smith***

Virgil's class will encompass a wide range of skills needed to bring any instrument up to its potential. These skills include aligning parts, leveling strings, hammer filing, regulating, fine tuning, and voicing. Classes will begin Sat., Feb.13,1993, and will run for 3 to 4 consecutive Saturdays at American Music World, who will provide a used grand piano for every student."

There were two other chapter members who offered master classes: Jim Houston held three sessions last fall on Steinway action assembly and regulation, and Richard Anderson did a rebuilding master class over four sessions. This concept can be great for the experienced technicians who want to intensify and improve their skills. Since many technical presentations are geared toward the middle of the ability spectrum, Master Classes can be used to meet the needs of the established technicians in a chapter.

And an observation courtesy of *The Tuner's Beat*, newsletter of the Seattle Chapter, Jeannie Grassi, editor:

"I remember several years back, attending Regional Conferences and thinking that someday I would eventually "know all of

this." Now I attend repeats of some of those classes and I hope that I am at a high enough skill level to begin to understand most of the information being offered!!!

There's another reason for sitting in all those classes even when we may not understand everything we hear. A suggestion came from Ward Guthrie, this year's recipient of the Jim Burton Award, [Seattle Chapter Award] for his outstanding contribution to PTG. I attended his excellent class on Estimates & Appraisals at the Seaside Conference. He encouraged all of us to take as many classes as possible, even in areas we are unlikely to explore in our own businesses. We owe it to our customers to know as much as we can about those things, even if they are outside of our realm of interest."

U

## Membership Status

Northeast Region	832
Northeast RPT's	518
Southeast Region	618
Southeast RPT's	381
South Central Region	303
South Central RPT's	197
Central East Region	606
Central East RPT's	384
Central West Region	376
Central West RPT's	246
Western Region	619
Western RPT's	376
Pacific NW Region	385
Pacific NW RPT's	232
Total Membership	3,739
Total RPT's	2,334

**Minutes Of The Executive Board Meeting  
Of The Piano Technicians Guild  
Conference Call  
MAY 7, 1993**

CALL TO ORDER - A special Conference-Call meeting of the Executive Board of the Piano Technicians Guild was called to order by President Fern Henry at 11:00 p.m. EDT on Friday, May 7, 1993.

QUORUM - A quorum was established with the following Board members on line:

President - Fern Henry, RPT  
Vice President - Leon Speir, RPT  
Secretary-Treasurer - Sharla Kistler, RPT  
Immediate Past President - Nolan P. Zeringue, RPT  
SERVP - Eugenia Carter, RPT  
SCRVP - Robert Johnson, RPT  
CERVP - Richard Bittner, RPT  
CWRVP - Michael Drost, RPT  
WRVP - Jim Coleman Jr., RPT  
PNWRVP - Taylor Mackinnon, RPT

PTG Executive Director, Larry Goldsmith, was also on the line.

MEETING CALL - President Henry called the meeting at the request of Board members Michael Drost, Eugenia Carter, Taylor Mackinnon, and Leon Speir.

TIME WAIVER - Board members on record as having approved the call of a Board meeting with less than the three days notice required by Board policy are Leon Speir, Nolan Zeringue, Eugenia Carter, Robert Johnson, Richard Bittner, Michael Drost, Jim Coleman Jr., and Taylor Mackinnon. This represents a majority vote which satisfies the Board policy requirement.

President Henry noted that Executive Director Goldsmith was on the line, and asked the Board's permission for him to stay on the line. There were no objections.

PRIOR NOTIFICATION OF MEETING AND INTENT - President Fern Henry announced that she had previously notified Institute Committee member Ernest Juhn of the meeting and its agenda.

ADDITION OF BOARD MEMBER - NERVVP James Birch, RPT, joined the conference call at this point.

AGENDA - At the request of Robert Johnson, President Henry read the meeting agenda:

1. Removal of Ernest Juhn, RPT, from the Institute Committee and as Institute Director for the 1994 Kansas City Convention.

2. Nomination of Stephen Brady, RPT, to the Institute Committee and as Institute Director for the 1994 Kansas City Convention.

3. Discussion of the return of Institute Committee member Ray Chandler, RPT, to employment at Kawai and its consequences for his service on the Institute Committee.

93-093 There being no additions, the agenda was accepted by general consensus as read.

93-094 REMOVAL OF ERNEST JUHN - Robert Johnson moved and Jim Coleman Jr. seconded a motion to remove Ernest Juhn from the Institute Committee and as Institute Director for the 1994 Kansas City Convention. Motion carried. (7/3)

(SEE BELOW) - Voting in the affirmative: Eugenia Carter, Robert Johnson, Richard Bittner, Michael Drost, Jim Coleman Jr., Taylor Mackinnon, Leon Speir. Voting in the negative: James Birch, Sharla Kistler, Nolan Zeringue.

93-095 IDENTIFICATION OF VOTE - Sharla Kistler moved and James Birch seconded a motion to record the names of those Board members voting for and against the removal of Ernest Juhn as above. Motion carried. (9/1)

93-096 APPOINTMENT OF STEVE BRADY - Taylor Mackinnon moved and Leon Speir seconded a motion to appoint Steve Brady to the Institute Committee and designate him as Institute Director for the 1994 Kansas City Convention. Motion carried. (8/1 with 1 abstention)

93-097 RESIGNATION OF RAY CHANDLER - Michael Drost moved and Sharla Kistler seconded a motion to accept Ray Chandler's resignation from the Institute Committee with the effective date to be determined by the Executive Committee. Motion carried. (10/0)

ADJOURNMENT - The conference-call meeting was adjourned at 12:26 a.m. EDT on Saturday, May 8, 1993.

Respectfully Submitted,  
Sharla Kistler, RPT  
Secretary-Treasurer  
Piano Technicians Guild

# COMMITTEE BULLETIN BOARD

## ....Trade Relations

By Jack Wyatt, RPT

There has never been more cooperation between technicians and retail piano dealers. I believe there are two basic reasons. First, the downturn in piano sales has boosted the need for these two groups to work together. Secondly, PTG has become a strong organization that supports the industry as a whole. This encouragement and our efforts to promote piano sales and the use of pianos have impressed dealers and others associated with the music industry.

Bill Everitt of the Brook Mays Company noted that cooperative effort, in a general meeting at the January NAMM show, as did PTG President Fern Henry in her April Journal message.

It is important for us to remember that most dealers are not technicians and must rely on others for evaluations of musical instruments. The retail dealer must live in the real world. Like all of us, the dealer faces the reality of bills, salaries, merchandise expense, taxes, insurance, building maintenance, utilities, advertising and many other costs which must be paid. Clearly, I think it is important for technicians to recognize and appreciate the dealer's position and responsibility.

Our successes to date are only the beginning. We must continue a strong and aggressive effort to promote music in general, and more specifically, the use of the piano. Technicians must become more professional if we

are to be regarded as such by others in our industry. Many technicians are already working to improve our relationship with dealers. I have received numerous calls concerning the proper approach to handling specific problems involving dealer-technician relations.

The following is one such example:

*A technician recently asked me for advice on how to manage the following situation. A dealer called the RPT, asking him to service a grand piano that had been sold and delivered in the city where he lives. The technician agreed. However, during his inspection of the piano, he discovered the tuning pins were not tight. He doubted that the piano would hold tune.*

The dilemma. Since his agreement with the dealer was to service the piano, he was now acting as the dealer's agent. As an agent, he owed loyalty to the dealer. However, not telling the customer of the condition of the piano was contrary to his business practices. What to do?

After some thought, I suggested the following procedure:

- 1) Tune the piano, achieving the best condition possible.
- 2) Inform the customer that you are making notes for your files about the condition of the piano as a matter of record for future use, should they call for service.
- 3) Immediately inform the dealer in writing of the condition of the piano. Keep a copy of this report in your files. Make sure it is dated.
- 4) Make sure the dealer knows you will be willing to furnish any further information he/she may require.

Keep in mind, the piano may have been sold in "as is condition." If it carried a guarantee, the dealer may very well take care of it. If he does not, then you have protected yourself.

Procedures number 1 and 3 have fulfilled the agreement with the dealer.

Procedure number 4 has gone a step further. You have not told the dealer what you would recommend, since he/she may or may not want to know, but you have made it clear that additional information or recommendations are available.

Procedure number 2 protects your reputation and ethical standards as well as can be expected in the given situation. If questioned by the customer later about the condition of the piano, you will be able to furnish the report made to the dealer which will verify your good intent and ethical conduct. By informing the customer of your records, you have also increased your chances of receiving a call for service at a later time.

If the technician followed this procedure, it would be difficult for the dealer or the customer to have any justifiable hard feelings toward him. Through the years, I have learned that few things are defined in strictly black and white. True and honest people will give a different account of the same situation. We must never rush to a conclusion on the word of one party and if we are thrust into a position to make a judgment regarding the condition of a piano, then let's make it as fair as possible. If this duty does not lie with the technician, then with whom does it lie?

## "The First Fifty Years"

By James Coleman, Sr., RPT

The marriage of James Coleman and Myrtle Cox started out all wrong in 1943. A young boy still in high school gets emotional about going off to war and convinces a young lady that they should get married first because he may not come back. Well, he did come back and all they say about teenage marriages just didn't happen. Now fifty years later, they have nine children, eighteen grandchildren and five or six great grandchildren. And the best thing is that they seem to get along better now than ever before. This is not necessarily a plug for early marriage, but it does show the importance of strong commitment.

They both grew up in a small mining town. There were several young girls, mostly blondes, who attracted young James's attention during school years. He says "I never met a blonde I didn't love, but I was always too bashful to let any of them know, that is, until I met Myrtle, who was as bashful as I." They were married during their senior year of high school. After graduation they moved to Flagstaff for two months at which time James enlisted in the Army Air Corp. Jimmy, their first son, was born before James reported for duty in April, 1944.

Shortly after returning from assignment in India, Jim, as he became known in the service, enrolled in college at Tempe. During this time, Myrtle provided him with two more children, Arnold and Barbara. Along with her being an excellent homemaker, she found time to type his

term papers and help him in his studies. She was always a great stabilizing force in the family. Jim took a job teaching music at Gilbert High School. It was during this time that Pete was born. He



Myrtle Cox Coleman & James Coleman, Sr.

was named after Peter Donald, the great story teller of radio fame. Jim wanted something that was more personally rewarding than teaching in a school system. He even turned down a job as band director at the college in Flagstaff. He felt he should make his mark in the piano field. At the time his father said: "I wish I had never taught that durned boy how to tune pianos." Next, John was born in Tempe. They were looking for a sister for Barbara, but they are quite pleased with the way things turned out. Mark was born in Phoenix, Tim was born in Tucson and Philip and Lew were born in Phoenix.

The piano business has been rewarding. It provided opportunities to be in some of the finest homes in the area. It has permitted recognition for Jim all across the country. Trips to Germany, Canada, and Mexico have brought

personal satisfaction, but none of this could have happened without a faithful wife who was always there to listen, help and encourage.

Myrtle managed the household of nine children with the general philosophy that goes like this: "If you don't keep them busy doing good profitable things, they will keep you busy trying to keep them out of trouble." The shorter version is: "Keep 'em busy or they'll keep you busy." During the summer when the kids were out of school, each one had to learn his Bible verses before he could go out and play. Also, every morning there was a time of Bible reading before breakfast. The kids remember "no Bible, no breakfast." Breakfast was always the same: hot oatmeal. The younger children could all read before they went to school, because they would follow along during the morning Bible reading. Their reading ability greatly accelerated their school work.

Myrtle was a great singer, even in early childhood. She was a leading soprano in high school acappella choir and in her church choir. Jim's mother, who was the choir director, teamed her up with Jim and his sister, Ruth, for special vocal trios. Myrtle still sings in her church choir.

After fifteen years at ASU as the piano technician, Jim is now semi-retired, but is so busy that he says he may have to take a regular job so he can have Saturdays off. Jim Coleman Sr. reflects about Myrtle:

"I first remember Myrtle Cox when I was 5 years old. I was on loan to the Stripling family during the Great Depression (my family could not afford to feed and clothe us). Striplings lived south of Globe out in Ice House Canyon just past the Wells Dairy. On the first day of school I carried onto

the school bus a lunch composed of a bunch of grapes and a peanut butter sandwich wrapped in wax paper (no baggies in those days). During the bus ride, my grapes got squashed and the bottom of the sack had torn apart. I was embarrassed and crying as I remained in my seat. This kind 4th grade girl came up to me and said "let me help you sonny, boy." Myrtle saved the good grapes and sandwich and wrapped the dry part of the paper sack around them and helped me off of the bus and found my classroom for me. Well, that's Myrtle, always helping somebody.

I next remember her when her father, Lon Cox, would bring in the rich Wells twins for piano lessons on Saturday afternoons. The Wells family paid for the lessons with free milk delivery and my mother gave free lessons to the Cox girls because Mr. Cox took his time to bring in all the girls. They took turns taking their lessons, so I always had at least 3 non-family playmates on Saturday afternoons. One day we were playing "keep away" with a bean bag downstairs in the room which later became my father's bedroom. The girls were all bigger and more athletic than I, but I was a feisty little brat. I had the bean bag and was trying to throw it to someone else, but Myrtle had me cornered. I drew back and let her have it right in the eye. I knew I was in trouble. Somehow I avoided punishment, but the girls never came back for lessons after that. I always felt that I was to blame for that. Years later I learned that the Cox family had moved away for awhile and transportation was not available for the Wells twins.

In High School I remember noticing Myrtle, but since she was older than I, she usually ran around with older kids. Not to worry tho', for I later began to run around with older guys. When Cecil Whitaker went away to the University, he asked James to look out for Myrtle and keep the wolves away. James dutifully walked her

home each Sunday night after church. After several weeks of this, one night he said to her: "Guess what?" She said: "What?" He said: "I love you." She said: "Oh, you silly boy."

James and Myrtle will be honored at a 50th Anniversary reception on June 12, 1993, at the First Baptist Church in Tempe, Arizona. The celebration is being hosted by their nine children's families.

# THE SOUND BOARD

## The Good Ol' Days

*Ward Guthrie, RPT  
ETSC Tuning Exam  
Subcommittee Chair*

By now, qualifying exams for RPT are pretty well established. Most of us are pleased to have something more objective than the previous testing procedure. At best, many of those exams were inconsistent. Others were far from what could even be called an exam. Those were not "The Good Ol' Days" as far as PTG testing was concerned.

I have chuckled many times about those prior conditions. When I took my exam for RTT, I didn't know the testing routines, but still realized many of the rules were being totally ignored, or at least not administered in an orthodox manner.

The exam was generally taken in one day. Three RTT's were to be present. This was one rule of which I was aware. I had just one RTT attending. When I questioned the examiner, he said he had a previous agreement with two other RTT's in the state who would sign approval to whatever

forms were necessary. Those other two had no idea what my capabilities were.

The exam consisted of four parts (for me at least): a written test, a bench test, an oral exam, and the tuning exam.

My written test was the standard test in effect at that time. However, in my case, if my examiner didn't agree with the answer given in the answer key, he threw out that question and didn't count it against me. I seem to recall a couple of questions being ignored. He felt some had multiple answers. On those, if I marked any of the "correct" answers, I received full credit. The answer key really didn't seem to matter much to him.

The "bench test" was not really a bench test at all. It was all verbal. I did not need to demonstrate any repairs. I specifically remember talking my way through tying a knot in a string. Can you imagine how vague *and* inaccurate a verbal description of tying a string would be? Why didn't he have me actually tie a string or do some of the other repairs? I don't know. Perhaps he wasn't prepared with props. Likely though, he just didn't want to take the time. As you will see from the piano he had in mind for my tuning exam, there were many opportunities for me to demonstrate my skills. But none were necessary.

At that time, there was also an oral section as part of the exam. I'm not sure if it was a required part of the exam or just something he made up. He had nothing written down, but just asked me questions "off the top of his head." One question I remember was, "Why does the bass on a piano always go sharp and the treble always go flat?" I wasn't sure it "always" happened that way, but didn't want to disagree with him. So I bluffed my way through an answer. Part of my answer had something to do with

*Continued on U8*

This latest addition to the Technical Bulletin series explains how and why pianos deteriorate, and describes major repair options for improving the performance of worn instruments. It is not intended to take the place of a specific repair proposal for a client's piano, but rather to provide general background information on the possibilities and practicality of rebuilding or reconditioning older instruments. By so doing, it will be useful to non-rebuilders and rebuilders alike.

The average technician doing only tuning and home service can offer this bulletin to clients needing more major work, along with referrals for qualified rebuilders in the area. This will help the client be a more informed (and therefore more successful) consumer of piano rebuilding and reconditioning services. The bulletin's professional appearance and useful information will project credibility and quality onto both PTG and the original technician.

Piano rebuilders can include this bulletin with their own repair proposals. The bulletin will supplement the rebuilders' explanations, and enhance their credibility by acting as third-party confirmation of a subject that may be unfamiliar to the customer. This can be especially helpful when the client is a church, school or theater, where decisions on major repairs must be made by a group.

This bulletin begins by pointing out that pianos are subject to deterioration with time and use, and that eventually performance declines despite regular maintenance. In order to promote some uniformity in the terms we use to describe major piano repairs, the bulletin defines two terms: "reconditioning" and "rebuilding." The definitions parallel those already used in Technical Bulletin #2 (Regulation).

Under the heading, "What happens to a piano as it ages?" TB#6 describes short-term wear

and its effect on touch and tone. It is explained that routine maintenance such as hammer filing, regulation, voicing and tuning will correct these problems and maintain the piano in near-new condition, but that extended or very heavy use and climate change eventually cause more severe deterioration.

The section, "When does a piano need Reconditioning or Rebuilding?" makes the point that eventually, routine service can no longer provide satisfactory performance and that reconditioning or rebuilding may then be required. The reader is encouraged to consult with his or her RPT for advice or referral to a qualified rebuilder.

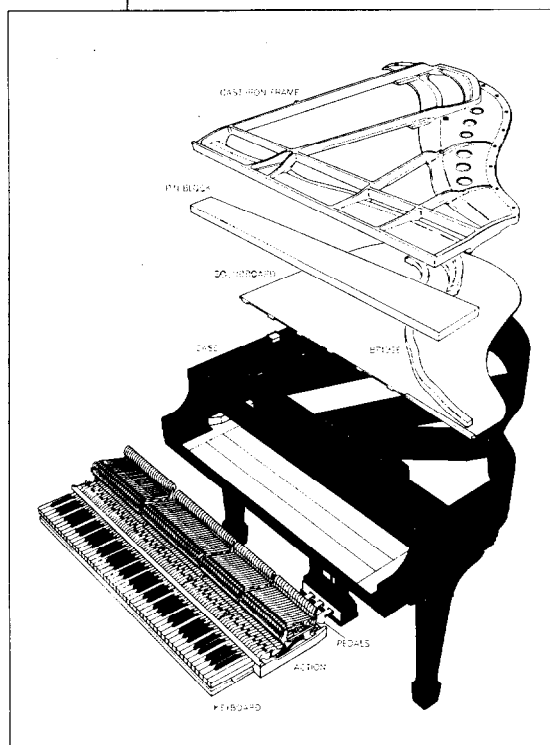
Of course, the piano owner must weigh several factors before deciding whether to invest in major repairs. Under the heading, "How do I know if major repairs are appropriate?", the bulletin discusses the degree of damage present, the quality, size, and type of piano, cost of repairs versus replacement, and sentimental or historical value.

The concepts of reconditioning and rebuilding are then further clarified by listing the work typically included in each option. To summarize: Reconditioning includes parts repair or replacement only as necessary to achieve satisfactory performance, keeping both costs and benefits in mind. Examples would be hammer filing rather than replacement, replacement of tubby bass strings rather than complete restringing, action cleaning and regulation rather than action parts replacement, etc. Rebuilding includes thorough repair or parts replacement to correct all deterioration,

leaving the piano in as close to new condition as possible. This would typically include repair or replacement of major components such as the soundboard, pinblock, and action parts, as well as case refinishing.

The bulletin concludes with advice for the piano owner on obtaining estimates, evaluating a rebuilder's work, and contract procedures. The illustration shown here appears on the back of the bulletin, and should help piano owners understand that the piano is really an assembly of mechanical parts and not just a mysterious black box.

Use of this bulletin should prove useful to all technicians by saving time when explaining the need for repairs, enhancing your credibility and positioning you as a provider of professional information. Special thanks are due Steinway & Sons for use of their grand piano illustration.



## Introducing: Tech Bulletin #6



## **Good Ol Days from U6 —**

heat being dissipated through friction. Anyway, he liked it and gave me full credit.

He had a Steinway grand in his living room. To demonstrate my skill with action regulation, I was to check it over, but just tell him what I was looking for and what the specification should be. There was one adjustment I felt was incorrect and pointed it out to him. His response was that it was all in pretty good regulation. We hardly even discussed the discrepancy, let alone corrected it. For upright regulation, I only listed the steps I would follow. We had no action or piano — no demonstration.

The tuning exam was the real winner. I was looking forward to tuning the Steinway, but instead we went outside to his unheated shop. I remember it was somewhat chilly. In the shop was a nice grand he was working on. Perhaps this would be the one. No — we turned to an old beat-up upright over in the corner.

I opened the fallboard. There were numerous missing ivories and one missing sharp. I asked if I should repair a few ivories and the missing sharp as part of the bench test. His answer was not to bother. So already I had one note I would not be able to tune.

Upon opening the front, I was aware of some action problems. But most noticeable were the two broken hammers — one in the temperament! Should I repair those broken shanks? Again, "Don't bother." Now I had three notes I couldn't tune, one in the temperament. How good are you at setting a temperament if one note is not available?

Then I looked at the strings. They were rusty. Two were broken, one in the octave just above the temperament. Should I repair those? You guessed it. Of course not.

So I pulled out my fork to

begin tuning. I found the piano to be about 50 cents flat in the middle with the treble becoming progressively flatter. Should I do a pitch raise first? "Don't take the time — tune it where it lies."

I started tuning. Soon I discovered a broken key. By this time I knew what his answer would be. Now I had four notes I couldn't tune. Two more strings broke while tuning, for a total of four broken strings. One more hammer broke also. That made five notes to skip over.

There was no time limit to complete the tuning. After a while he apparently became impatient waiting for me to finish, so came to check on my progress. I had finished the treble, and was just getting started on the bass. He entered and said, "You've worked at it long enough. Let me see how you're doing." (But I hadn't yet tuned the bass.)

He began to check my tuning. First he checked the temperament. That was it. He just checked the temperament! He did not play even one note outside of the temperament! And with that broken hammer... However, I did learn a new check from watching him — the outside sixth, inside third check.

How could he pass a tuning for RTT under these circumstances? His answer was that he had followed my work in the field and had decided I would pass even before the test began! So of course I received high scores on all sections, but it was all just a sham.

This fellow died a few years ago, so I know I won't hurt his feelings or reputation now. He was a wonderful person who encouraged and helped me along when I was getting started. But follow the exam "rules" — no way!

The exams we now have are a world better. Many feel they can be improved. Perhaps. Let's keep looking for those improvements. But certainly, let's not return to "The Good Ol' Days."

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