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JIM HARVEY, RTT

Editor

205 Parker Avenue

Greenwood, SC 29649-2629

(803) 223-2889

RICK BALDASSIN, RTT Tuning Editor 2684 W. 220 North Provo, UT 84601 (801) 374-2887

LAROY EDWARDS, RTT Journal On Tape Reader

HOME OFFICE

4510 Belleview, Suite 100 Kansas City, MO 64111 (816) 753-7747

LARRY GOLDSMITH
Publisher/Executive Director

JAMI HENRY
Director of Communications

SANDY ESSARY Subscriptions

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Director of Membership

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The Piano Technicians Journal (ISSN 0031 9562) is the official publication of The Piano Technicians Guild, Inc., 4510 Belleview, Suite 100, Kansas City, MO 64111. The Journal is published monthly. Second class postage paid at Kansas City, MO, US ISSN 0031 9562 foreign and domestic. POSTMASTER: please send address changes to: Piano Technicians Journal, 4510 Belleview, Suite 100, Kansas City, MO 64111.

Annual subscription price: \$85 (US) for one year; \$155 (US) for two years; \$7.50 (US) per single copy. Piano Technicians Guild members receive the *Piano Technicians Journal* for \$45 per year as part of their membership dues.

PIANO TECHNICIANS JOURNAL

Official Publication of the Piano Technicians Guild, Inc.

MARCH 1992 • VOLUME 35 • NUMBER 3

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ALSO INCLUDED A special feature on the Sacramento Gold Rush Page 8 By Carolynn Fowler & Dwyer Fox

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ABOUT Bill Spurlock explores a bridge reconditioning procedure that is both relatively easy to perform and worthwhile. See this month's "Practically Speaking" column for details of the process.

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The PTG Council is YOUR Forum for Success

uring the past couple of months I have received a few comments (really less than half a dozen) questioning the \$24 dues increase this year. I hope that your delegate reported to you that we DID NOT have a \$24 dues increase, but it was a \$12 dues increase and an assessment of \$12 levied by Council for on year. This coming July, the Council will renew the \$12 assessment if it sees fit to do so. Perhaps the amounts should have been different to call a contrast to one from the other.

We had not had a dues increase in 10 years and this \$12 was needed to keep up with the increasing cost of running the affairs of PTG. After 10 years of status quo, a \$12 increase which is \$1 per month per member seems to me and the Board to be quite fair. It testifies to the frugal operation of PRG affairs by Home Office and the PTG Board.

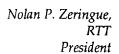
The question was also posed, why wasn't an exemption allowed for senior members and those older members on Social Security who are unable to work full time? Good question. It wasn't a consideration brought up on the Council floor. If it had been brought up there is a very good chance Council would have seen fit to do just that.

The misunderstandings and the opinions and wishes of some members could be cleared up and heard by

those voting in Council only if every member is represented in Council by a delegate. We never have 100% of membership represented, so consequently there are some members who are not heard on the Council floor. Are you one who is not represented? Is your chapter never sending a delegate? Is your chapter one who has not had its membership views voiced on the Council floor? Why don't YOU come to Sacramento and represent your chapter and tell us how your chapter members feel about subjects up for discussion?

The PTG Council is the governing body of this organization making the rules, Bylaws, and regulations. NOT the PTG Board or the PTG Home Office. So YOU are a part of the making of the laws for PTG if you or a member of your chapter will simply come and be a delegate to the Council. With representation, good and correct information is what gets back to the chapter membership.

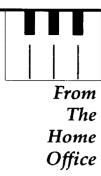
It's time to make plans now. At your March or April Chapter meeting, vote for a delegate to represent you and make sure you are represented this year. Send in your delegates name to the Home Office and we will see you in Sacramento this July.





Perfecting The Art Of Scale Design

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Your Own Good Name

ay you live in interesting times.
That ancient Chinese curse leads many of us to respond, "I'll take boring, thank you. Give me stability, a steady income, security. Don't lay another failed S&L, trade imbalance, healthcare crisis or, heaven forfend, another war on me. Don't let tragedy touch me or my family. I've already had enough excitement to last two lifetimes. Go away."

Dream on.

I'm not saying that things are going to get worse before they get better, at least not for our society as a whole. It may well be that we've hit bottom and we're starting back up. But I'm willing to bet that some segments of our society still have some nasty surprises ahead and that the rest of us are in for some very interesting times, to say the least.

The problem — and pardon me while I continue to grind on this axe for a minute — is that our economy is contracting at a time when so many of us have bet on its continued expansion. We seem to have lost track of some basic principles in favor of our own version of "voodoo economics" (now there's a blast from the past). We've borrowed and leveraged and hedged and promised so much that we've lost track of the things that have real value.

Like our good names.

It used to be that a person's word was his or her bond. A handshake was better than a contract because you figured that if someone wanted a contract, they were going to cheat you in the fine print. If you both intended to uphold your respective ends of the bargain — the spirit as well as the specifics — your word was good enough. Now that times are tougher, there are a lot of people out there who have lost those daily conscience battles in the effort to keep their heads above water. It's easier to have principles when you can afford them.

Before you get the idea that I'm some crusty old cuss preaching from his rocking chair about the good old days, let me assure you that I'm not that old (at least that's what I tell my mirror in the morning). But I do remember simpler times.

There is a point to all this, and it's an important one. If you're a Guild member you've heard the word "marketing" a lot lately. You're going to hear it a lot more, especially if you read this month's "Update" section. Depending on your background and the number of unsolicited phone calls you've received lately, it may be a bad word to you. It shouldn't be.

It's no crime to beat your own drum, as long as you're telling the truth. The Guild, having been around for some 35 years, has a good name, and we're trying to tell people about it. But the reason it has a good name — and the reason that good name will continue — is because of you.

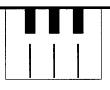
I hear members say they never advertise their membership in the Guild because none of their customers ever heard of it. Am I the only one who sees anything wrong with this picture? Sure, we could spend jillions of dollars running full-page ads in every magazine under the sun, but if we see these people on a regular basis, why not just take a minute to tell them about us? It's cheaper, and if your own good name is behind it, it's a lot more effective.

So why have a marketing budget at all? Simply, to help tell the story. To provide support for you so that when you deal with a customer, you have credibility as a professional. To help customers find you in the same way they find any professional service. To help them understand what you do, and why you do it.

Look at it this way. When you joined the Guild, you made a commitment to professionalism. You aligned yourself with men and women whose ability and integrity you admired, and you agreed to be governed by standards you yourself play a role in establishing. Just as other members are judged by the way you conduct yourself, you deserve the support of a credible organization.

It's your own good name.

Larry Goldsmith Executive Director



Institute Update

Ben McKlveen 1992 Institute Director

or the past few months this column has been presenting information about the Annual Convention and its Institute. This will take place in Sacramento, California, at the Hyatt Hotel. Classes will be held in the hotel and the convention center next door. The dates are July 23-26, 1992.

Last month I talked about some of the exciting new products that will be introduced, listed the tuning classes and instructors and the special classes on concert preparation. Concert preparation very often involves the art of voicing. This year we will have a spectrum of classes for you. Leading off will be a new instructor to the national institutes. His name is Horace Greeley. (I'm not making this up!) This class represents the most complete discussion of the art of

voicing Steinway hammers, past and present, that I have ever seen. He deals with shaping, hardening and needling in great detail, using slides, prepared hammer examples and practical demonstration. The discussion of microphone techniques for recording piano sound and how this affects piano tone was a fascinating portion of the class and not to be missed.

Ari Isaac, of Isaac Hammers has prepared a class with some surprising results, using his own brand of hammer. Ari uses some controversial techniques with voicing but gets excellent results with them. He also has a good feel for explaining the technical concepts of tone.

Rick Baldassin will do a voicing class using Renner hammers. These products have had an international reputation for many years.

Renner supplies hammers for many of the European manufacturers so it would pay you dividends to know how to handle the voicing of these hammers, whether you install them as replacement or work with them as original equipment on the piano.

Wally Brooks will do his class on tone building and, in addition to demonstrating his brand of hammers, he will share with you a lot of wisdom about hammer work and voicing which he has developed over many years as a successful rebuilder.

Newcomers to the voicing scene are two gentlemen from California named Bob Davis and Dale Erwin. They will represent a class on how to get the best tone out of the average, everyday pianos that we all have to work on. For those of you who do not work regularly or extensively on high quality grand pianos, this class will be

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a revelation. Ordinary pianos do not need to sound like shattering glass or the other extreme, like under-compacted Q-Tips. All pianos can sound better than they do and this class will teach you how to achieve good results and enhance your reputation in the process.

Products and systems classes are always an interesting and useful part of Institute instruction. This year is no exception. Finishing expert Webb Phillips will teach his class on refinishing and will discuss and demonstrate water-based lacquer finishes. Dwight Pile will repeat his popular class on polyester finish repair. This class is hand-on and each session has limited attendance. These finishes are very popular, especially with foreign manufacturers, so skills at repairing them can be useful and profitable.

Another product that has caused quite a stir in the past couple of years is the cyanoacrylate adhesives, better known perhaps as instant glues. These products are truly miraculous in what can be accomplished with them. However, you need to work with them efficiently and economically and, I might add, imaginatively. Ed Dryburgh is the distributor for Satellite City "Hot Stuff" adhesives. He will be on hand to show you an incredible number of uses for this fine product.

I don't remember the first year that founder Allen Foote first introduce his Dampp-Chasers, but it had to be back in the 1950s or earlier. There were two models—a 25 watt for uprights and a 15 watt for grands. That was it, no frills, and they were dehumidifiers. Through the years, Dampp-Chaser made improvements which

included humidification, monitoring of the air with a humidistat, low water lights and conducting constant research in the field with technicians and in the factory with their own technicians. Today the Dampp-Chaser unit is quite a sophisticated system with many options for installation in various sizes of pianos. Steve Smith and Bob Mair will be on hand to show you the ropes and talk about their latest improvements.

Last month I mentioned the introduction of a retro-fit player action to be sponsored by Gulbransen. There are several more of these systems that have been developed recently and they will be exhibited at this year's convention. Gulbransen will host a class about the installation of their unit

The granddaddy of modern player units is Yamaha's Disklavier. Bill Brandom will be on hand to teach you how this unit function and how to service it. Yamaha also offers a service school at different times of the year. If you have a desire to work on these player pianos, you might want to discuss this with Bill while in Sacramento.

This month we have covered the classes on voicing products and systems. Next month I will discuss a formidable array of regulation and repairing classes. And there is still more! We have a few surprises for you. There is a great deal of material to be presented for your education and advancement next summer, so make your plans. The time will be here soon.



The Gold Rush

Carolynn Fowler & Dwyer Fox

he discovery of gold in the Sierra Foothills brought tens of thousands of men to California in the summer of 1849. Earlier in the year, Sutter's New Helvetia "Little Switzerland" had been subdivided to make a new town, Sacramento. (New Helvetia was a portion of Sutter's Spanish land grant comprising approximately 50,000 acres). Because of its river location, Sacramento became the center of trade and commerce for the region. There were rumors and brief mentions of gold in San Francisco newspapers, but oddly enough these rumors created very little interest.

In May, 1848, San Francisco newspaper editor Edward Kemble and a small group of skeptical men took a boat up the Sacramento River. Mr. Kemble wrote of this first glimpse of Sacramento:

"A forest of noble sycamores, dense and deep, guarding a mighty solitude like a vast army of giants in array, their bright green banners mirrored in the clear stream. Not a human habitation in sight save the Indian ferryman's hut, about the foot of J Street, and an

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Indian sweathouse a hundred yards, perhaps, distant above. Moored to the bank was an Indian canoe. A broad, well-beaten road, laid by the wheels of the "adobe cart," led back from the river's bank, the only clearing visible in all thiswaste and solitary place.."

After arriving at the Fort, they trekked northeast, 45 miles to Coloma, (the site where all the excitement later began). After finding no gold, Kemble and his group, being inexperienced at gold panning, returned to San Francisco and wrote that the rumors of gold were groundless.

Three months before the gold discovery, in anticipation of a large group of settlers immigrating to California, Sutter had laid out a community three miles south of the fort named, (what else?) Sutterville. And because Sutter needed lumber for this new community, he sent James Marshall to build a sawmill at Coloma. Millwright James Marshall, first caught glimpse of this glittering metal.

It was store owner Sam Brannan, who sparked the gold rush. A teamster from Coloma tried to purchase a bottle of brandy at Brannan's store in Sutter's Fort with a nugget of gold. After ascertaining its authenticity, Brannan secretly devised a plan to increase his business. Wouldn't you?

On May 12, 1848, Sam
Brannan ran up and down the streets
of the sleepy little sea port town of San
Francisco waving his black hat in one
hand and a bottle of gold dust in the
other. "GOLD!" he shouted. "GOLD!
Gold in the American River!" And
Sam Brannan proceeded to arouse the
800 or so residents of this sleepy town
into a state of delirium. He did this, of
course, after he had carefully stocked
his store with everything a man might
need for a few weeks in the mountains!

People came out of their shops, houses and tents. Skeptics turned into believers. A few men put down their tools and dashed for the boats in the harbor. More followed and this "Gold Fever" (being very contagious) soon became a mad scramble for the gold fields. Within a few weeks, Sutter's embarcadero was jammed with schooners, sloops, dinghies, rowboats and anything else with oars or sails and Brannan's store did a booming business! In the summer and fall of 1848, about 6,000 gold seekers headed for the hills, most stopping in Sacramento on the way.

Fortunately for Sutter, his eldest son, John Augustis Sutter, Jr., also arrived in the fall of 1848. John Sutter, Jr., the acclaimed founder of Sacramento, was a bookkeeper. And with all this activity on the banks of the Sacramento River, Sutter's many creditors assumed that he had gold or goods to pay his debts.

After spending several days looking over the Fort's disarrayed business records, one thing was clear, Sutter owed money to almost everyone in the valley. His largest outstanding debt being money owed to the Russians for the purchase of Fort Ross in 1841. Sutter owned much property but needed cash. To buy time with his creditors, he granted his son power of attorney and turned all his property to him. He then proceeded to Coloma to prospect for gold himself!

This left Sutter, Jr., Sam
Brannan and attorney Peter Burnett to
devise a strategy to raise money. (In
1850, this same Peter Burnett became
California's first state governor). The
three of them took four square miles
of the Captain's New Helvetia land
grant, to make a town directly west of
the fort, fronting the embarcadero on
the Sacramento River. In December,
1848, the new city was surveyed,
planned and subdivided into lots. It
was named after the river that gave it
life.

The sale of lots began in January, 1849, and by February Sam Brannan was putting up his general store on the corner of Front and J Streets. Many of the early buildings were canvas or canvas and frame structures. By April 1, 1849, there were twelve "buildings" and a combined population with Sutter Fort of 150 people.

Until this time, Easterners had paid little attention to accounts of gold in California until President Polk, in his annual message to congress on December 5th, asserted there was enough gold in California to pay the cost of the Mexican War "a hundred times over." Easterners started planning and packing to the tune of "Oh Susanna!" The impulses that moved people to pull up all stakes and "Go West" were as diverse as the people themselves. Susanna Moodie wrote, "by what stern necessity were we driven forth to seek a new home amid the western wilds? We were not compelled to emigrate. Bound to England by a thousand holy and endearing ties, surrounded by a circle of chosen friends, and happy in each other's love, we possessed all that the world can bestow of goods—but wealth."

The very poor, however, seldom were found in the westward moving caravans. A certain amount of wealth was required to outfit a wagon with supplies that must last the average five months required for a westward crossing. The fact that so many people kept diaries of their journey indicates their awareness of being involved in events bigger than themselves. In simple words they would make the first of their daily entires:

"Early in the morning of May 15, 1855, we began yoking the oxen. There were twenty head and two cows and only one pair had ever been yoked before. It was a great undertaking and it was four o'clock in the afternoon before it was done."

Another entry stated:

"We started for California on the 14th day of April, with five yoke of cattle, one pony and sidesaddle."

Speaking of sidesaddles, rigid customs and nineteenth-century modesty in dress made overland travel difficult for women. Recognizing this, one who had made the journey advised:

story continues—page 21



Technical Forum

A MATTER OF **Acoustics**

Jim Harvey, RTT Editor

tory 1: According to an article I read recently, musical training for children as young as age three could well prepare them for higher mental abilities. This is the belief of researchers at the University of Southern California at Irvine. Tests are planned to study preschool music students, and to track the results over time. Their research is based on the fact that infants recognize and respond to music, coupled with the belief that humans are born with certain brain cells which work in

patterns. These brain cell neurons can be expanded as a sort of "pre-language" that can perform increasingly complex interactions, *before* the brain has developed verbal skills. The article indicated that this ability may foster higher-level thinking skills.

Story 2, from the Charlotte, NC, chapter newsletter, and their president, Bill Clayton:

From time to time I'm sure each of us has begun a project with conviction and determination only to face some temporary setback at the outset. Well, this

is where I am right now. Let me explain how I got to this point.

In the November 1991 issue of the Piano Technicians Journal, on page 8, is the article "No Strings Attached," by Larry Goldsmith. This article describes a public access piano in a public library. While reading this article, I kept thinking what a good idea that is, and that we had to do something like that here in Charlotte.

At our January meeting, I got permission from you to explore this idea further. This is where the difficulty is arising. I can't reach some of the people I need to talk with. I leave word on their

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P.O. Box 700 Elizabethton, Tennessee 37644 Office (615) 543-3195 Wire Mill (615) 543-3196 Fax (615) 543-7738 answering machines or with their secretaries to little or no avail. But, I did get good response from our home office by receiving verbal permission to reproduce Larry's article to help sell the idea. Also, I have found out that the Charlotte library system does not have a piano, and there are about a dozen branches. I was hoping to have a better report at this time and will try to have more information at our February meeting.

Meanwhile, I plan to offer the following plan. The Charlotte NC Chapter will provide the following:

- 1-A usable piano
- 2- All repairs
- 3- Four tunings per year
- 4- Anything else necessary to implement the program.

The library will provide control. Suggestions for control:

- 1-Piano to be kept in a locked location.
- 2-Key checked out at desk for 30 minute intervals
- 3-Sign-up sheet for available times.
- 4-Limit 30 minutes per day per person

unless there is no demand for time.

- 5-Limit one person with piano at a time, unless parent or teacher is giving a lesson.
- 6-Piano teachers using piano to give lessons may not directly or indirectly charge for such lessons or services.

The idea is for all usage of this piano to be free to the public and all costs of this project to be our responsibility.

Where will we get the piano(s)?

Beg?

It is also my hope that this project will succeed, not just once, but in every branch of the Charlotte library system and on out into the surrounding communities. It would really be nice if each of us had two such public access pianos to take care of all the time. Sometimes we dream too much, but all too often we dream too little.

What do these two stories have in common? Information for you,

yes. But more importantly, involvement. For the past several months, I've been prefacing this column with selfstyled tap-dancing (aka "editorials") which attempted to inform you that times are changing. Recession notwithstanding, I have mentioned things like increased demands from our clients, the need for our continued education, and various other hints. Even the most successful of us has experienced *some* form of customer attrition during their self-induced austerity campaigns. Our strength, if not our future well-being in this profession, lies in banding together, but not just among those in our organization. We must involve ourselves with the industry: technicians, dealers, manufacturers, teachers, and any other people associated with pianos, or in general, music as an art form. Part of this strength through involvement is very easy to accomplish; that of becoming more aware of what's going on outside our immediate

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ACOUSTICS & RECORDING STUDIO PIANOS

In the past, I have been accused of the old axiom, "Jack of all trades, and master of none". While not exactly a complimentary sentiment, rarely does any education or information become a waste of time. As a consequence, I zealously cling to being master of nothing. In some matters, I have just enough knowledge to be dangerous. But I feel fortunate to have had experiences in many different areas, and (I hope) the ability to tie relevant issues of particular areas together. One such "connector" was that of parlaying my musical abilities, electronics background, and recording artist experiences into brief employment as a recording engineer. So, armed with my "Audio Cyclopedia", I would like to momentarily look into the world of acoustics, recording studios, and how we can benefit from this in our piano service work.

This subject is being presented as a result of an apparent interest from some of my seminar classes, (and a few actual requests), Since the subject takes a considerable amount of class time to cover, I've agreed to present what I trust will be a *compleat*, if not complete coverage, one that will permit using future class time for less intensive topics.

THE STUDIO

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Renner USA P.O. Box 1223 Weston, CT 06883 Phone: 203/221-7500 Fax: 203/454-7866 Baldassin Pianoworks 70 S. Orchard Drive North Salt Lake, UT 84054 Phone: 801/292-4441 responsibility of the studio, but ancillary to the primary objective. Untold amounts of time, research, and money have been spent on making studios as acoustically "invisible" (or not) as possible. For example, some studios have large, movable panels, which can simulate practically any desired location or environment on demand; those simulations representing anything from a broom closet to a concert hall, to outside on the street. And I once heard that Capitol Records' Studio 1 is floating on oil, to act as an acoustic shock absorber to outside influences. These examples are meant to simply indicate the importance of acoustics, and the ability to exercise some element of control over them.

Those of you who have worked around recording studios must have noticed how much energy goes into creating exactly the right environment for recording drums. There is usually a special booth or room to house both the drums and the drummer. (Come to think of it, this is not a bad idea. The drummers I've known - a lot of them friends of mine, and some also members of the PTG - deserve to be in a room of their own; usually a rubber one!)

Back on subject. This drum booth is then, for all intent and purpose, hermetically sealed (along with the drummer), using heavy sound-absorbing acoustic materials. These rooms are so "tight" that a visit to one sometimes reveals a special climate-controlled environment, basically to enable the drummer to breathe. Entering one of these booths can be rather disconcerting; many are so acoustically inert that you can "hear" (feel) your heart beat, and I've heard reports that if drummers were not wearing monitoring headphones, they would be unable to hear the drums, even while sitting right over them! Needless to say, these drum booths become a point of pride for either the studio, and/or the engineer. Days, sometimes weeks of experimentation goes into finding just the right setup; the right choice and quantity of microphones, the placement of the

microphones (over/under/inside, or combinations of these). Then each of these microphones is assigned their own input channel on the mixing console, in order to establish a proper "balance" for the various drums and cymbals. Indeed, I've seen drum inputs spread across eight, ten, or twelve input channels, and/or tracks on the audio tape, depending on the criterion.

The reason for all this attention is to prevent "leakage", i.e., efforts are made to provide isolation between the drum and cymbal sounds, and those coming from other instruments. It would not be desirable, for instance, to have a crash cymbal "bleeding" into the sounds generated by a vocalist, violin, flute, or any other instrument. It would be impossible to maintain any element of control in the finished product.

Compare these elaborate efforts to those of the typical piano in the same studio. It is generally accepted that the piano is the most

difficult instrument in existence to accurately record, and paradoxical that the least effort often goes into capturing that sound. Sometimes modest efforts are made. You may see the piano housed in a box, with only the keyboard exposed. More often, however, the piano needs to be mobile, in order to permit visual contact between the pianist and other musicians, and/or to accommodate other setup demands of a particular recording session. As a result, we usually find two microphones, held by boom stands, reaching inside the piano; one in the treble, one in the bass, and both very close to the strings. How many of you have had the experience of trouble-shooting a mysterious click or knock in a studio's piano, only to find that the dampers were actually hitting the microphone when the piano was played? Or what about complaints of damper "whoosh"? Engineers like to "tightmike" the piano for two reasons: one is to get the most isolation for the



piano sound (lacking a booth); the other is that they like the ambient effects (what I call "top sound") of the hammer hitting the strings. This in itself becomes a contradiction of purpose: maufacturers (and technicians) try to minimize action noise, only to have a recording engineer potentially magnify those inevitable mechanical and impact sounds by the use of close miking techniques.

I'm about to present a variation that permits them to "have their cake and eat it too". But first, we must review some old theory, and perhaps concurrently explode a few myths.

OFF THE WALL

Audiophiles are aware that, with a speaker enclosure of known quality, the sound emanating from that enclosure can be varied significantly by proper (or different) placement. To enhance the bass characteristics, place the enclosure on the floor and/or in a corner. If there is a chronic "booming" bass to the degree that it hides the midrange and treble frequencies in spite of adjustments to the tone controls, then as a minimum get the enclosure off the floor and out of the corner. To insure the absolute "flattest" sound, some hi-fi/stereo

buffs will place their enclosures on cinder blocks, to minimize sound transfer across (or through) the floor. Others, (like many studios - and me), will actually suspend enclosures from the ceiling, using air as the isolating medium, and steel chains from the ceiling to the enclosure as the connecting medium. The point is to permit only the speakers to speak, and minimize any influences from the enclosure or the room. Is any of this ringing a bell? What about our use of a cast-iron plate for its inherent ability to remain acoustically inert, thus permitting the soundboard to do the "talking". Much could be said about the merits of using particle-board construction for speaker enclosures, but I won't. For the same reason, we could explore parallel piano phenomenon, such as "rim talk", but we'll also avoid that for this discussion.

We all know that for optimum performance, a vertical piano should be placed with the soundboard facing a wall, but that the piano should be positioned slightly away from the wall. Why? Have you ever noticed how weak a vertical piano sounds in open air, or conversely, how much more powerful and full-bodied the same piano sounds when placed next to a wall? The soundboard in our examples (and in reality) is a transducer,

just like a speaker. But since soundboards do not come equipped with a volume control, we must make do with a particular board's intrinsic ability to move air. By placing the piano next to the wall, we "borrow" and utilize a much larger area, one that further amplifies and reflects the existing output. Note however, that the same wall can also "muddy" or distort the sound... no, I'm trying to stay on topic.

On grand pianos, this of course means that the power is primarily directed to the floor. Incidentally, this tidbit of knowledge can be helpful in other, equally hostile environments. In an acoustically "live" room, instead of loving the hammers to death with voicing needles, you may wish to try alternatives like drapes, wall tapestries, overstuffed furniture, and/or simply placing a thick, acoustically absorbant carpet underneath the piano. I've also had the opposite problem: a situation involving a "dead" room, where playing with your elbows would yield no apparent additional power, and where hammer hardening efforts would have made an otherwise beautiful-sounding piano become no more than a "toy" or a "wire box" (both favorite expressions of mine). The remedy was to create a special

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piano island in what was otherwise a sea of hi-pile carpeting. The most recent (and successful) implementation of this procedure was to use oak parquet tiles over plywood to create a reflective surface on the floor. The piano was then placed on the fake floor, and the entire assembly pressed into the carpet creating a custom, built-in look.

OF SOUND

We used to believe that sound travelled in the direction of resin grain of the soundboard. We now know that sound also travels transversely on the board. Again, any supporting theory is beyond the scope (or intent) of this discussion. But this information will become useful when we begin miking our recording studio piano. Simply said, just because we place a microphone under the bass area of the soundboard doesn't mean that this will necessarily be the optimal location for best tone or output power. It may come as a surprise to find that the best bass sound comes from unexpected places, such as in the treble section, next to the curve in the rim!

PUTTING IT ALL TOGETHER

Along about now, you might expect to be presented with a picture or drawing, or perhaps a graph or page of numbers. No such icon will be forthcoming, because it would be useless on anything other than the piano/soundboard from which is was generated. Instead, the practical approach will be described. Other than the piano, three people and a minimum of three microphones will be needed.

The first person is preferably the studio's engineer, or someone who can both set up the mixing console for input from the three microphones, then read and interpret the results of the VU meters (or "idiot lights", depending on the type of console).

The second person is needed to play the piano. No particular musical skills are required of this person; just that they be able to play one note with a consistent blow.

The third and last person is the "gofer". It is this person's responsibility to remain under the piano for a while (sometimes quite a while).

After the three microphone inputs are active, #1 should set the volume of microphone #1 (which we'll call "Bass") to sufficient volume to get a half-scale deflection on the meter, while person #3 is under the piano holding the mike, and #2 plays a note somewhere "south" of the bass/tenor break (say somewhere in the second octave). Once these things occur:

#1 should not make any additional adjustments to the gain control;

#2 should play the same note with as consistent a touch as possible.

#3 must remember that once the process starts, the microphone must remain the same distance from the soundboard at all times.

While #2 continues to play the note, #3 may then slowly move the microphone to different areas under the soundboard, following movement instructions provided by #1, who is watching the meter. #1 should also provide verbal clues to #3 through the studio's talk-back system; clues like "move", "back", "warmer", "colder", or any verbal signals that have been agreed upon and understood by #3. All of a sudden, when the microphone is located at the "sweet" spot for that point in the scale, the meter will deflect upwards like it's getting paid for it! #1 says "Stop", and #3 marks that spot by making a circle on the underside of the soundboard with a piece of chalk. Inside the circle, he writes "B" for bass. Optionally, a small 'X' of masking tape with the "B" written on it may be used; at least until the adhesive dries out and starts a paper-generated buzz: trust me and stick with the chalk!

The process in then repeated for the treble section, choosing a note

in the next-to-the-last octave for the test note. Once the hot spot is found, #3 marks a "T" inside the circle on the soundboard. These circles are not permanent, but may be used for either quickly locating the spots for the microphones for a temporary setup, or perhaps permanently mounting the microphones under the piano at these locations. This may be done by using conventional microphone mounts (possibly with flexible gooseneck extensions) attached to the beams of the piano, or, by using the engineer's universal mounting medium, gaffer's (duct) tape. Arrgh!

The remaining microphone is suspended under the topboard of the piano, approximately in the center of the board (and scale), and high enough above the strings to clear everything.

In actual use, the "B" and "T" microphones can be mixed for correct meter deflection for recording purposes, with the knowledge that they have been placed for maximum power output from the piano. The middle of the scale will covered auto"magically". Finally, the suspended "phantom" suspended mike should be "feathered" with the gain control to achieve the desired degree of "top sound" mentioned earlier.

MICROPHONES

What about choice of microphones? First, many substitutions have been tried: pickups (like those on electric guitars), substituting the real bridge for a pickup (like on certain electric pianos), PZM (zone) mikes, and finally, substituting the piano itself with a synthesizer. To date, none have offered the same type of sound as that sought after by those who use a miked acoustic instrument. But alas, when it comes to microphones, there have been significant technological advancements in this area, advancements which I have not closely followed. So any former personal preferences would be passé at this point. I will mention that microphones (certainly those from another era) have unique "personalities", just like speakers and pianos. Engineers are as guilty as we for incorrectly using visual terms to describe aural phenomena: "warm", "dark", "bright", and so on. But the tendency to use "leftovers" (whatever mikes remain after using the good ones for drums, vocals, strings, etc.) can make an otherwise beautifully prepared seven or nine-foot grand sound like a rinkytink saloon piano. This is no place to skimp on quality!

How much and when will the foregoing information be of value to you? Perhaps none, perhaps never. However, I have had to call upon this knowledge at least a half-dozen times since becoming a piano technician. And based upon experiences in seminar classes, it would seem that other technicians would have benefitted at least once in their career, had they been armed with the information. One additional tip: this is the kind of information that you get for being a member of the Guild. For others, it's usually the line called "consulting" on your bill.

In closing this month, I encourage each of you to read Nick Gravagne's column. I think you will find the subject matter discussed therein both informational and past due!

Addendum to bead blaster

Dear Jim, As a follow-up to my previous two articles on glass bead blasting, I would like to pass along some additional information which I have recently come across: a 28-page booklet containing complete plans for building a blasting cabinet is available for \$5.00 from TiP Blasting Equipment, P.O. Box 649, Canfield, OH 44406, phone (800)321-9260. Anyone who is planning to build a blasting cabinet would do well to order these instructions. They will enlarge upon the plans that I presented, and give alternative construction methods which might suit individual preferences and abilities. In addition, TiP has a catalog available containing all of the necessary components for such cabinets, including blasting guns, glass beads, cabinet hardware, etc. -

Bill Spurlock, RTT

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Practically Speaking

Bridge Repairs for Better Tone

Bill Spurlock, RTT Sacramento Valley Chapter

he bridge is an important tonal element in the piano. It serves to connect the strings to the soundboard, and provides a termination for one end of the speaking length of the strings. The condition of the bridges is all-important to obtaining best tone, minimal false beating, and best tuning stability. In this article I will suggest methods of bridge restoration aimed at ensuring accurate and stable string terminations that don't degrade over time.

First let's look at what makes a good bridge. Taking good quality wood, proper location on the soundboard, and correct height for granted, the features that really make a bridge do its job best are accurate notching and pinning and pins that are tight in the bridge body. These features provide a solid, precise termination of the string's speaking length for maximum power and the cleanest sound. On the other hand, sloppy bridge notching or out-of-line pins that allow the strings to contact the flat of the bridge top before they contact the pin can cause weak and short-sustained tone, buzzing, and false beats. Bridge pins that are loose in the bridge can also cause false beats and weak tone, especially in the treble.

Now let's look at what happens to a bridge as it ages. Being made of wood, it swells and shrinks with the seasonal humidity changes. The bridge pins, being rigid, resist the squeezing of the wood and the pin holes gradually enlarge from repeated pressure against the pins. Our once-tight pins inevitably become loose. How fast this occurs depends upon the quality and condition of the wood during manufacture and the

degree of humidity variation that the piano is exposed to. However, it is an absolute certainty that this loosening will occur, and it begins the day the pins are driven into the bridge. (In fact, even some new pianos on the show room floor will be found to have very loose bridge pins).

Other deterioration occurs as well. The strings may be driven down into the bridge top by someone's over-enthusiastic attempts to "seat the strings"; this causes the string-to-wood termination point to move forward, out of line with the bridge pins, and the tone quality decreases. In the long run, most bridges will develop numerous cracks on their top surface, further loosening the pins. If this cracking gets bad enough the pins can shift, decreasing the side-bearing of the strings and causing buzzing and tuning instability.

Given the importance of the bridge to good tone, and the certainty of its deterioration over time, I view the standard bridge as a rather crude device. Its wood and metal construction guarantees that loose pins and poor tone will occur sooner or later. Although it works adequately for a reasonable length of time in most cases, it can be made to perform better and longer by making it less subject to damage from humidity changes. This can be done through the use of epoxy to bond the bridge pins to the surrounding wood and seal the top surface of the bridge. The result is a bridge with a *composite* structure of metal pins, epoxy, and wood, rather than a piece of wood with pins just sitting in holes. Now, for those who might be groaning and picturing a bridge that looks like it had been vandalized by someone with a big

bottle of Log Cabin syrup, please take a look at this month's cover photo. That bridge, from a 55 year old grand, was refurbished using the procedures presented below. The results are not only structurally sound but cosmetically pleasing as well. Let me make it clear that I am not recommending that we entomb a disintegrating bridge in epoxy as an alternative to replacement or recapping (although there may be situations where that repair would be appropriate). Rather, I am advocating enhancing the integrity of a bridge that is in usable original condition or is newly recapped, for best tone and longest life.

This treatment will certainly not cure all tonal problems or correct all tuning instability. However, it will give the piano every chance of sounding its best right after restringing and on into the future. I have adopted the bridge treatment described here as standard procedure on all restringing jobs, no matter how new the piano. The benefits of this work have been born out in clean, clear tone with each restringing. In fact, occasionally I have skipped this work on a particularly well-preserved piano, only to find a disappointing number of false beats and variations in tone from string to string. Removing a few strings and spot repairing has significantly improved the situation, leading me to adopt the procedures presented here as standard practice whether repairing an old bridge or building a new one.

OVERVIEW

I prefer to remove the old pins, rather than to try to soak epoxy down the holes with the pins in place, for several reasons. First, I want to replace the old corroded pins with new ones for a better looking job. Second, the string terminations can almost always be improved by re-notching and this is much easier with the pins out of the way. Third, with the pins out I can scrape or chisel the entire notch area to renew its appearance. Finally, I want to sand the bridge tops for appearance and to remove the old graphite which would otherwise cause staining during the epoxy work.

The process goes as follows: The old pins are removed and discarded, the bridge tops are sanded clean (but the old finish is left on the bridge sides for now), the notches are re-cut using a chisel and scraper, and all dust is blown from the holes. Next, I put a small amount of epoxy into each hole, dip the tip of each pin in epoxy, and drive it into place. The resulting glue collar around each pin is brushed out into the notch to serve as a finish for the notch wood. A brush dipped in lacquer thinner is used to go over the flat, top area of the bridge and around the pins. This washes the pins and bridge top (not the notches) free of visible epoxy. After at least 24 hours' curing time, the tops of the pins are filed, the bridge top is blackened with Dag, and the sides of the bridge are scraped, sanded, and finished. As a final step, the bridge top is sprayed with a clear teflon coating to dull the gloss of the epoxy in the notches, and to rustproof the bridge pins.

REMOVING THE OLD BRIDGE PINS

Prior to removing the old pins, pull and measure a few and record the sizes. There are several different lengths and diameters, so the first step is to determine what sizes you will need. Sometimes the old pins will be .001"-.002" larger than the closest available new pins. If so, it is best to drill out the holes slightly and go up to the next largest pin size. The only time this will not work is when the pin spacing is so close that larger

pins would leave insufficient room between them for the strings to pass. In such a case you might have to re-use the original pins, at least in one section of the piano.

Most often the old pins can be easily pulled out by grabbing with vise-grip pliers. If they are stuck, a slight twist prior to pulling will usually free them. Be careful to pull straight out, especially where there are small cracks around the pins, so you do not chip off any wood.

SANDING THE BRIDGE TOPS

Sand the bridge tops with 120 grit paper, followed with 220 grit. Use a flat, un-padded block to avoid rounding off the bridge top. The object of the sanding is to remove all of the old graphite (to prevent staining during later steps) and to leave a smooth surface. Sand just until the old string dents are barely visible. Vacuum off the dust.

RENOTCHING

Look closely at the string termination points; usually you will see that the strings have been contact-

ing the wood of the bridge at a point forward of the bridge pins. For the best-defined termination (and cleanest tone) the string should leave the pin and the wood at the same spot. However, we also can expect the contact point to creep forward slighty over time if the string settles further into the bridge top. Therefore many believe that it is better to cut the notch slightly behind the center of the bridge pin holes. Some manufacturers feel that it is really the pin, and not the wood, that defines the termination of the string, and that a better result is achieved if the notch is cut well behind the center of the pin to prevent any possibility of the vibrating

string touching wood before it touches the pin. So, to some extent this is one of those "pick your own theory and go with it" situations. It is safe to say that the wood should never extend forward (to the speaking length side) of the center of the bridge pins. My personal preference is to notch the wood so that the center of the pin is just slightly forward of the notch, as shown in figure 1.

The initial cut across the line of pin holes should be made with a very sharp chisel, angled steeply so that if the strings do settle further into the bridge top the termination point will not move forward too much. (Some pianos actually use a short vertical cut; this makes a sharp termination point but may leave the very corner unsupported and prone to damage from string seating). Depending upon the grain direction and "agreeable-ness" of the wood, you may be able to continue your chisel stroke through the entire notch with a light skimming cut with good results. However, often the grain will not cooperate and you will get a washboard surface which will then require a lot of fiddling to smooth out. When re-notching an existing bridge I find it best to use a chisel for the initial cut through the center of the pin holes and

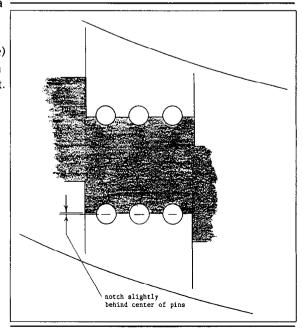


Figure 1

out about 1/8" to 1/4" into the notch. I then use a sharp scraper to clean the remainder of the notch, including the side cut. Experiment to find which scraping direction (toward or away from the pin holes) gives the smoothest result for different parts of the bridge.

A word about scrapers: they need to be sharpened before, and frequently during, use. Of the brands I have tried I have found only the Red Devil brand to work well. I'm sure there are other good ones, but I haven't found them. For bridges, I like the 1" scraper. To prepare it for use, clamp it in a vise and file the edge (matching the factory angle) until it feels very sharp. Remove the burr from the back side of the blade, then use a stone or diamond paddle to put the final edge on it. Sharpened this way, it should act like a very sharp plane, scraping off the old varnish and a thin layer of wood and leaving a smooth surface.

REAMING THE PIN HOLES

As mentioned earlier, if the original bridge pins in any sections of the piano were slightly *larger* than standard replacements, it would be better to either re-use them or replace with the next larger available size. If the available pins are more than about .005" larger than the originals, it might be wise to ream the holes to prevent splitting of the bridge. However, if the new pins are the same size or slightly larger than the originals, there is no need to ream.

When reaming, you must be careful to follow the angle of the original hole and to stop at the correct depth. A light-weight drill is best, held loosely in the hand to allow the bit to align with the old hole as it enters. For a depth stop I drill through a dowel, bevel it on the end, and place a thick leather washer over it to prevent denting the bridge. Use a drill about .003" smaller than the new bridge pin. Clean all dust from the bridge using compressed air or a vacuum.

EPOXY

I prefer epoxy for this bridge work, rather than other adhesives, because its working properties suit my methods. First, I can control the epoxy's working time by choice of product and hardener. This allows adequate time for installing the pins and cleaning up before curing begins. Second, I can easily clean up excess uncured epoxy from the bridge top with lacquer thinner and a small brush; this instantly thins the epoxy to the point where it soaks into the bridge top and the thinner evaporates, leaving a neat surface free of any visible residue. Epoxy is also one of the few, if not the only, materials that provides a total barrier to moisture. Thus the bridge notches will be sealed from moisture, and the wood immediately surrounding the bridge pins will be stabilized from swelling and shrinking.

In order to make the bridge cap as hard as possible and to mount the pins as rigidly as possible, our epoxy should be of a type that cures to a hard, brittle state rather than one that remains flexible. To test an epoxy, mix some up in a shallow plastic lid and let it cure (Full curing may take several days). Then pry the epoxy disc out of the lid and try to bend it; if it is a hard-setting type it should shatter like brittle plastic, rather than bending.

There are a number of fine epoxies on the market suitable for many jobs in piano repair. I will just recommend one here since it is what I am most familiar with: WEST System (stands for Wood Epoxy Saturation Technique), manufactured by the Gougeon Brothers, Inc., 706 Martin St., Bay City, MI 48706. I use their #105 epoxy resin with the #206 slow hardener (they also have a #205 fast hardener for use with the same resin). This epoxy can usually be found at marine supply stores or can be purchased from the manufacturer. It was developed specifically for use with wood, and has a good viscosity for bridge work. Two other features make

this an excellent all-around shop epoxy: good shelf life and mini-pumps (like mustard pumps at a deli) available for the cans which meter out the correct proportions of hardener and resin automatically.

Since epoxy can cause skin sensitivity, you should avoid contact by wearing gloves or using a protective shielding hand cream that you can wash off afterwards. Such creams are available where plastics and epoxies are sold. For more information on epoxy, order "The WEST Manual" from Gougeon Brothers, Inc. Also see Del Fandrich's excellent article, "All about Adhesives" in the 10-'85 Journal.

INSTALLING THE BRIDGE PINS

Assemble the necessary tools and parts: a small dowel handle with a 1" long piece of large piano wire, a shallow bowl to hold bridge pins, a shallow container to hold epoxy, a small hammer, and a punch or drift to seat the bridge pins. Placing wedges between the beams and soundboard will reduce noise and bouncing of tools as the pins are driven in. For bass bridges mounted on an apron, place wedges between the apron and the board for support.

Mix your epoxy in small amounts so that you have time to install pins and clean up each section of the bridge before curing starts. Pot life can also be extended by mixing and holding the epoxy in a larger, shallow container rather than a small, deep one.

That way, the heat generated by the curing process does not build up and cure the epoxy prematurely. If you are using WEST SYSTEM resin with the slow hardener you can use one-half squirt each of resin and hardener per batch. This will be enough epoxy to do two to three octaves. Accurate proportions and thorough mixing are very important to the proper curing and final strength of epoxies. To be safe, always stir longer than you think necessary.

To begin, dip the tip (about 3/ 8") of your piano wire tool into the epoxy and swab each bridge pin hole. You are not trying to fill each hole with epoxy; just place one or two drops in each. After about an octave, go back and place a bridge pin partially into each hole, dipping its tip in epoxy first. Then drive the octave of pins down to full depth; this can usually be done with the hammer alone, driving three pins at a time. If the pins are very tight it may be easier to drive them individually using a piece of 1/4" rod with a dimple drilled into one end.

Proceed in this way until your small batch of epoxy is used up. Or, if it begins to get stiff and hard to work with, discard the remainder of that batch. Between batches, go back and clean up the areas already pinned.

CLEANING UP

Every two octaves or so, stop and clean up the excess epoxy around the bridge pins. Most of it will be sagging down into the notches; use a small, slightly stiff paint brush (a disposable acid brush is ideal) to brush it out into the notch area, just as though you were painting on a finish. If there is excess, wipe the brush with a rag.

Next clean the flat top area of the bridge by dipping the same brush in lacquer thinner (wipe the brush on the side of the can to release the excess), and brushing around the bridge pins and across the top of the bridge. Brush with thinner only on the top of the bridge, not in the notches. The brush should be wet with thinner, but not dripping. Every two unisons or so, squeeze the brush in a clean rag to remove excess epoxy, wet it with more thinner, and proceed. You will find that the thinner evaporates immediately, leaving the bridge top perfectly clean. A little thinner will run down into the notches, but it will evaporate before interfering with the epoxy coating there.

This method of cleaning up the epoxy is the secret to making this job practical. In my first attempts at epoxy bridge repair, I used strips of cloth to "floss" between pins to clean up the excess. Besides being very time consuming, this method was messy. Some epoxy, and a lot of lint, would always be left on the pins and bridge top.

When all the pins are installed and the bridges cleaned, look back over them for any small cracks in the wood. These can be filled flush at this time by applying small drops of epoxy with a piece of fine wire. Allow the epoxy to cure for at least 24 hours

before filing the tops of the bridge pins flat.

FILING THE BRIDGE PINS

For appearance, the tops of the bridge pins should be filed or ground flat with a belt sander, at least on grand pianos. This can be done either with a large, fine mill file or with a belt sander. Be aware that either method generates heat; to avoid loosening your nice tight bridge pins be careful to keep moving, working gradually over the entire bridge rather than working only in one spot. I prefer to use a file because it leaves the pins with a very smooth, milled appearance. After filing, brush the pins vigorously with a stiff nylon brush to remove any burrs.

BLACKENING THE BRIDGE TOPS

Next, blacken the bridge top with your choice of product. I prefer to use the graphite and alcohol solution, Dag, thinned about 50% with denatured alcohol. Use a fine, natural bristle flat brush about 1/4" wide. By keeping the bristles flat against the bridge top and pushing them in



around the base of the pins, you will be able to coat the top of the bridge with only an occasional drip over into the notches (since the notches are sealed with epoxy, any excess Dag can be easily scraped off with a knife blade.

THE FINAL TOUCH

As a final touch I like to spray the bridge top with a teflon-based coating such as Permalon, available from the supply houses. This will add further lubrication to the bridge top; however my primary reason for using it is for looks. This spray will serve as a clear coating which will prevent the filed bridge pin tops from ever rusting, and will keep their new copper color from tarnishing. This material also dries to a flat (not glossy) finish which helps to disguise any roughness, dust particles in the epoxy, etc.

REFINISHING THE SIDES OF THE BRIDGE

With the work on the bridge top completed you can now scrape, sand and refinish the sides. Usually this would be done in conjunction with soundboard repair/refinishing. The finished bridge top can be masked off with tape to allow for spraying the board.

Next month I'll take a look at some methods for repairing loose ribs and soundboard cracks.

...Gold Rush continued from page 9...

"Sidesaddles should be discarded—women should wear hunting frocks, loose pantaloons, men's hats and shoes and ride the same as men."

Many were too impatient to wait for the snow to melt to go by wagon train. They flocked to the docks to board sailing ships. The trip around

Cape Horn at the tip of the South American continent (18,00 nautical miles) took 5 to 8 months. The alternative was to take a ship to the Isthmus of Panama, cross the Isthmus by mule, and take another ship up the coast to San Francisco. A trip of 3 to 5 months. Lucky passengers boarded the first ocean-going steam ships introduced in 1849, which curtailed travel time by several weeks (not to mention the mule ride!)

And then of course, there were those who left for the California gold fields literally by impulse. As in the case of my own great, great, grandfather, Emerson Ashbel Fowler of Westfield, Massachusetts, born on my birthday, March 22, in the year 1835. "Em" at age 18 years, had been raised in strict New England fashion. And on this Christmas season night, had been forbidden to hitch up his father's prize horse to the family sleigh. Now being the season of "sharing" and wanting to impress his date, Em did anyway. (Sound familiar?) All went well until the return trip home. When Em accidently ran his father's horse into a snow covered, barbed-wire fence. He spent the remainder of that night nursing the hurt animal by lantern light, and then off to the Boston wharf before morning's dawn (and his father woke up!) California harbored many such runaways during its gold period. And as in Emerson Ashbel Fowler's case. they never returned.

There was a big difference between the gold seekers who arrived in 1848 and those who came in 1849. The 48'ers were primarily frontiersman. Panning for gold offered them a welcome change from their usual pursuits of trapping, sailing or ranching. They were accustomed to wilderness living, stayed healthy and enjoyed relative freedom from crime. Now most of the 49'ers came from the cities, towns and farms of Eastern states. Many going quite unprepared for survival in primitive conditions, or the hardships of months at sea or on the wagon trail. Thus, may became ill and/or died. Other individuals were lured by the temptations of "instant

wealth", resulting in a high crime rate.
Observer Bayard Taylor, a
reporter for the New York Tribune,
wrote:

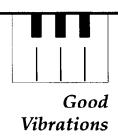
"Three fourths of the people who settle in Sacramento City are visited by agues, diarrheas and other reducing complaints."

It wasn't until late summer and the fall of 1849, when the first wagon trains and overland travelers began arriving into Sacramento. Mr. Taylor was struck by this scene and reports:

"The road to Sutter's Fort, the main streets and the levee fronting on the embarcadero were constantly thronged with the teams of emigrants, coming in from the mountains. Such worn, weatherbeaten individuals I had never before imagined. Their tents were pitched by hundreds in the thickets around town, where they rested a few days before starting to winter in the mines and elsewhere. At times the levee was filled throughout its whole length by their teams, three or four yoke of oxen to every wagon. The beasts had an expression of patient experience which plainly showed that no roads yet to be traveled would astonish them in the least. After tugging the wagons for six months over the salt deserts of the Great Basin, climbing passes and canyons of terrible asperity in the Sierra Nevada, and learning to digest oak bark on the arid plains around the sink of Humboldt's River, it seemed as if no extremity could henceforth intimidate them. The women who had come by the overland route appeared to have stood the hardships of the journey remarkably well and were not half so loud as the men in their complaints." (Need I say more?)

So we leave this gold rush "saga" with the knowledge that although many left the gold hills and river beds disillusioned, many struck it rich. In fact in 1849 alone, 10 million (1850 era) dollars were retrieved by these pick and shovel miners. (By 1852, that figure rose to 81 million!)

story continues—page 26



The Pinblock

he past several articles in this column have dealt with issues of economics, both broad and pianofocused, and with the subject matters of art and philosophy as they relate to many piano technicians. For the time being we will leave those areas of interest and enter into a series on the piano pinblock. As has been the pattern in this column, the subject will be treated both theoretically and practically.

PINBLOCK STABILITY

One recurring theme regarding tuning and structural stability relative to the pinblock has to do with the question of whether a solid pinblock-to-flange fit is required under all circumstances. The question begs whether we are considering either a new or rebuilt piano, and the one component which seems to be at the heart of the matter is the little tuning pin bushing. The extreme arguments are:

1) the presence of bushings (such as in Yamaha) obviates the need for tight flange fitting since the forces acting on the pinblock are quite different than those acting on a non-bushed (Steinway) design;

2) close flange fitting is required under all conditions of piano building or rebuilding. The one factor which all agree on is that the block and its mating to the plate must be somehow secure and in equilibrium under stress, since tuning and structural stability cannot otherwise follow.

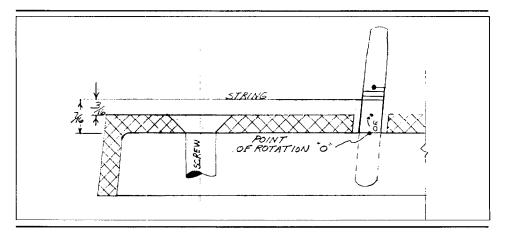
THE CRITICAL PLATE

Aggregate tension due to string pull is the obvious first consideration. In the averagesized piano this pull amounts to 36,000 pounds, or 18 tons. The cast iron plate, which is being acted upon in varying degrees by the three primary forces of tension, compression, and shear, can easily stand up to the stresses and strains due to its inherent strength. But the pinblock exists as an intermediate component which, upon receiving the tensional load of string pull through the tuning pins, is supposed to transmit directly to the plate any forces delivered to it. Thus in all piano design the 18 tons of tension and its consequence on the tuning pins, pinblock, and plate is meant not to be borne solely by wooden components of any kind, but by the plate either acting alone, as in the hitch pin areas, or acting in tandem with other parts such as the pinblock in the tuning pin areas.

FORCE DIRECTIONS

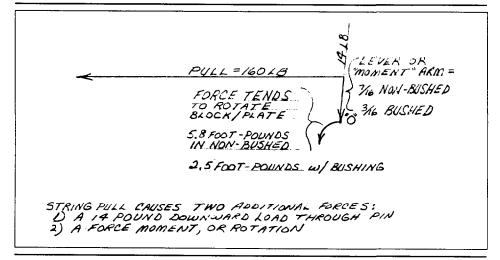
To understand how the tensional pull of the strings is delivered to the block, refer to Drawing 1 for a familiar detail of the parts and their relationships in the bushed and non-bushed design. The drawing does not show the bushing in place. Drawing 2 is an abstraction of the forces at work. For purposes of clarity the details are isolated to the pinblock area; that is, plate bars and counterbearings at agraffes and capo bars are ignored. Notice in the drawings that three forces are acting on the intimately arranged system of tuning pin, pinblock, and plate, and that these forces are all consequences of the primary acting force of string pull.

Let's consider the forces acting on the pinblock/plate system. Referring to the drawings it is clear that: 1) a rotational force (called moment) acts to rotate the pinblock and anything attached to it; 2) a horizontal force acts parallel to the string pull, and is equal



Forces & Reactions

Nick Gravagne New Mexico Chapter



Drawing 2

to the string tension; and 3) a downward force acts on the pinblock system due to the five degree counter lean of the tuning pin. Were the pin perpendicular to the block there would not exist a downward component of force.

First let's isolate only the tuning pin which is firmly anchored at one end of its length. The string pull placed upon it causes a tendency for it to tip or bend in the direction of the pull. If we consider this bending only, the tuning pin is essentially no different than a fishing pole, or diving board. It is a cantilever, and as such the maximum build up of forces which want to snap the pin exist at the very base of the pin where it enters the pinblock, or the plate bushing if present. Since the strength of the steel pin is sufficient to resist fracture, the pin becomes a lever arm which introduces a turning motion to the pinblock, and the center or axis of this motion exists at the plane where

the tuning pin enters the block directly, or the bushing. If the block were not attached to the plate along its length and breadth with 30 or so screws the bending force introduced into the tuning pins would cause the block to rotate (downward at the flange and upward at the stretcher).

Still considering the tuning pin with the string pull acting upon it, there exists an additional force which is transmitted perpendicular (85 degrees actually) to the face of the pinblock/plate. Since the pin leans away from the string pull there must exist, as a result of the 160 pound pull, a force component which acts inline with the axial center of the tuning pin. In structural designs of all kinds it is common to lean a standing member (such as a telephone pole) away from a pulling force or into a pushing force. Such a design introduces into the member the in-line force mentioned above. In effect, this force acts to stabilize the member by "anchoring" to some degree its unfixed end. It is not too far from the truth to say that the unstrung and unstressed tuning pin becomes "energized" against bending when the pull of the string acts on it.

Lastly, the most obvious force acting on the pinblock/plate is the 18 tons of string tension. This load acts horizontally to pull the block mightily towards the tail of the piano.

FORCE MAGNITUDES

For computations of force magnitudes refer to the computations box following the main text. A list, however, of the magnitudes of the forces in question are listed here.

- 1) In the non-bushed design an aggregate force (all tuning pins) of 1,340 lbs. is acting to rotate the pinblock/plate. In the bushed design, due to its shorter lever arm, 575 pounds are acting to rotate the block.
- 2) In both bushed and non-bushed designs the average aggregate force acting nearly perpendicular to the face of the block/plate amounts to about 3,200 pounds.
- 3) In both bushed and non-bushed designs the 18 tons of aggregate string tension is acting horizontally on the block/plate.

Considering these force directions and magnitudes it comes as no surprise that many older designs which incorporated three-quarter plates suffered from pinblock pullout, rotation, or both. Many old open-block Bechsteins reveal cracked

plate struts right where they meet the pinblock.

Note that in virtually all grand plates the plate bars extend through the tuning pin areas and join with the head bar. In addition, many grand plates are designed with a downward projecting horn at the bass break, the purpose of which is to mechanically butt to the belly bar. Thus all the forces brought about by string pull, which are more serious in the hightensioned bass area, are in part supported by the horn-to-belly rail connection; and in Steinways and other makes this connection is further extended from the belly rail to the piano case via the large wooden beams under the soundboard.

FORCE REACTIONS

In order for equilibrium to exist, that is, for no movement to occur, all acting forces must be

countered, or reacted against. Thus, although the magnitudes of the forces may be quite high, a static condition of all components involved is required. This being so, the reactions against the above three acting forces are, in general, for all grand pianos as follows. The rotational force introduced at the pinblock/plate is essentially reacted against by the inherent strength of the iron plate, as well as by the pinblock being firmly attached at its ends. Pinblocks found in Steinways and Yamahas (and others) which are also firmly attached along the stretcher edge offer even more reaction against rotation. In addition, the wood screws which secure the pinblock to the plate are in tension along their lengths due to the combined effects of rotational tendency as well the downward thrust of the pin (more on this below).

The most talked about and considered force reaction understood by piano rebuilders is the horizontal force required to counter the pull of the strings. It is well known that the 18 tons of pull must somehow be neutralized; it is also well known that, especially in the grand piano, the function of neutralization is carried out by the plate flange to which is butted the leading edge of the pinblock. Thus, the force of string pull transmitted to the pinblock will in turn be transmitted to the immovable plate flange. Once again a static condition results due to the inherent strength of hard wood and iron rather than an actively opposing counter force.

As noted earlier, the fivedegree lean of the tuning pins introduces an aggregate 3,200-pound force component into the face of the pinblock. This force acts to drive the block/plate down towards the keybed. Reactions against this movement are carried out by the plate, also by the plate screws which are in tension along their lengths, and by the

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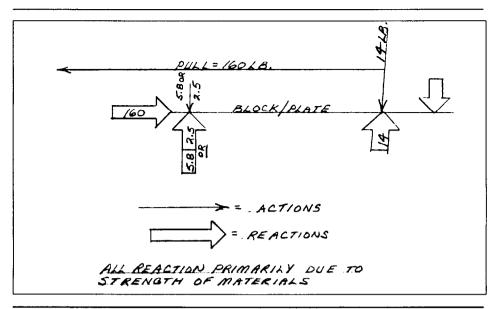
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pinblock supports at the ends and, in some pianos, along the stretcher as well. Note that a plate which, either by design or by happy accident, is arched upward from bass to treble will resist this load better than one which is not.

Drawing 3 represents in abstract the three acting forces of string pull, vertical force on the pinblock/plate, and the turning moment or rotational force. The reactions against these forces are depicted by large arrows.

TUNING PIN SHEAR AND TORQUE

Two other forces acting on the pin are not germane to this discussion but will briefly be mentioned since they are of general interest. One is the shear force which tends to slice the pin asunder as if it were cut with shears, and the second is the twisting force, or torque, associated with the string being wound on the pin. The shear force is counteracted by the strength of the steel pin. And the twisting force is counteracted by both the steel strength inthe un-embedded length of pin, and by friction in the embedded part. It is interesting that the string force acting to turn a 0.281" diameter tuning pin amounts to about 22.6 inch-pounds (or two-foot-pounds) in the tenor/treble scale, and about 35 inch-pounds (or two and one-half to three-footpounds) in the higher-tensioned bass. Thus when a torque wrench indicates that 120 inch-pounds (or ten footpounds) are required to turn the pin there exists considerable friction between the tuning pin and pinblock. Also indicated is the required pull of ten pounds by the piano tuner at the end of a one-foot-long tuning hammer. Tuning pins are considered tunable with inch-pound readings as low as 50 or as high as 200, but a midway reading of 100 inch-pounds in a seasoned piano is considered ideal by many tuners.



Drawing 3

BUSHED VS. NON-BUSHED DESIGNS

Does string pull act differently when tuning pin bushings are present? And is the large 18-ton reaction against string pull handled differently by the plate/block system? All of this will be easier to understand if it can be imagined that a cast iron "pinblock" is made integral to the plate; that is, the pinblock is cast in. The tuning pin holes and tuning pins would be designed to have a friction fit of some prescribed torque. Now imagine two variations of this iron pinblock, one where the tuning pins directly enter the face of the block, and another where the tuning pins enter the block through oversize countersunk holes. Imagine the countersunk holes to be seven-sixteenth in diameter by one-quarter inch deep. In all essentials these conditions are not different from the typical bushed or non-bushed wooden pinblock/plate arrangements. This is so since the addition of the maple tuning pin bushing effectively serves to either extend the hardwood pinblock up tightly into the plate holes, or to fill the plate holes with cast iron, except for what hole is required for the tuning pin to tightly pass through.

Now, as to the forces delivered and neutralized, there would be no difference. The magnitudes and directions as shown above would still be in effect.

REAL WORLD FLANGE FIT

What we can say regarding the non-bushed, Steinway-type arrangement is that the pinblock must fit the flange closely. If it does not the 18 tons of tension will certainly seek to close any long gaps. Moreover, the downward and rotational forces will, in the absence of a tight flange fit, have the space required for actual movement. This movement won't necessarily take place, but there is room for it to. What's more, in the absence of plate bushings, a gap at the flange will cause the pinblock to want to slide forward placing the pinblock screws in shear force. This is to say that the only factors resisting the 18 tons of tension are the pinblock screws and the friction which exists between the top surface of the block and the lower surface of the plate web.

By contrast, things are a bit different in the bushed, Yamaha-type arrangement regarding flange fit.

Since the rearmost surface of the tuning pin is bearing heavily on the plate bushings, which in turn are transmitting this force directly to the plate, a very close fit at the flange would theoretically not be required. Assuming a gap at the flange, the 18 tons of tension would be borne by the plate (via the bushings), also by the pinblock screws which would be placed in slight shear, and by friction at the contacting surfaces of the block and plate. Still, if the string tonnage could be borne by both the bushings and the plate flange a safety factor in favor of equilibrium will have been built in. With bushings alone bearing most of the tonnage, a problem could arise. Sometimes the bushings do not wear well, and oval-out through time. This is an indication that the block has not only moved toward the flange but has possibly begun to rotate as well. In many old pianos it is not uncommon to find the tuning pins, which originally were set at a five degree counter lean, standing straight up or even tipping towards the tail of the piano. From a piano rebuilding standpoint a reasonably good fit to the flange should be accomplished, if not quite as good a fit as required in the non-bushed piano. In fact, for practice's sake if nothing else, the pinblock installer might consider fitting all pinblocks equally well.

But whether bushed or not, and considering the three forces and reactions explained above, the most significant force of concern is the 18 tons of tension which must be countered by the plate. Drawing 4 shows the magnitude and direction of this force. Notice that for one tuning pin the force, indicated by the broken arrow, amounts to 164 pounds and is inclined downward at five degrees.

MORE ON THE FRICTION FACTOR

I have it on good authority that at least one Oriental grand goes to some trouble in mating the top surface of the pinblock to the underside of the plate. Assuming an absolutely perfect fit here, and factoring in the plate screws, the tuning pin bushings, and a solid pinblock-to-stretcher joint, a gap at the flange would be of little or no consequence to tuning or structural stability. A perfectly mated (or even very closely mated) block surface-toplate would introduce a significant amount of friction force which would do well in reacting against string pull. Piano rebuilders would not be able to achieve so tight a fit of block surface-to-plate, and so should not rely upon any serious reacting friction force.

Many thanks to my brother Anthony Gravagne, a civil and structural engineer of many years in the Tucson area, for his helpful consultation in preparing this and other articles.

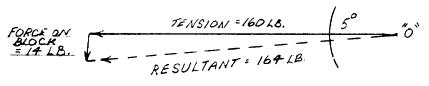
Upcoming

Following articles will deal with practical applications of pinblock work such as pinblock removal locating the new block in the case, flange fitting, and more.

...Gold Rush continued from page 21

Likewise we of the Sacramento chapter hope that when you visit us in July, you, too, will "Strike It Rich". Convention rich in the wealth of information and classes offered and in the opportunity to renew old acquaintances and make new ones. Be assured that today's air travel is much easier, not to mention quicker, than yester-years overland or sea passage to our present day embarcadero. And that the fevers, agues and reducing complaints of that time, most likely will not affect you!

Next month, we will venture a bit into the very early days and challenges of this unique city, and give information on how to navigate to Sutter's Fort and a few other select sites. And last but not least, we will briefly visit another fascinating relative of mine, one who had the misfortune of being on the train that plunged into the San Francisco Bay. A leading pioneer of this new city and one of Ireland's own sons, Captain Thomas Dwyer.



RESULTANT FORCE ON BLOCK PLATE IS 164 LB. AND INCLINED 5° DOWN WARD.

Drawing 4

COMPUTATIONS

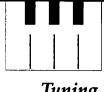
Movement=force acting at right angles through a distance.

Without bushings, $160 \times 7/16 = 70$ inch-pounds = 5.8 foot-pounds. At 230 tuning pins the total moment = 1,334 foot-pounds.

With bushings, $160 \times 3/16 = 30$ inchpounds = 2.5 foot-pounds. At 230 tuning pins the total moment = 575 foot-pounds. Torque on tuning pin = string pull times one-half pin diameter. For size 2.0 pin, $160 \times 0.141 = 22.56$ inch-pounds = 1.88 foot-pounds.

Downward force into pinblock through axial center of tuning pins = force of pull times sine of pin angle lean.

160 sine $5=160 \times 0.08716 = 13.95$ pounds @ 230 tuning pins the aggregate force = 3,209 lbs.



Tuning Corner Ben McKlveen Contributing Editor Cincinnati Chapter

ast fall. I was invited to teach a tuning class at the Ohio State Seminar in Columbus. I chose as a title for my class, "Nostrums For Tuning Excellence". There was more than a little tongue-in-cheek intent in the title and I was astonished at the number of people who came to the class to find out what "nostrums" were. From Webster's Dictionary. nostrums comes from the Latin, noster, meaning "our" or "ours". Its meanings are 1. A medicine of secret composition, recommended by its preparer, but usually without scientific proof of its effectiveness; and 2. (pejorative) a questionable remedy or scheme. The term was popular during the first half of this century and I heard my mother use the word frequently. Its application to my fall class and, incidentally, to this column is that the material that I will be presenting will not be scientifically demonstrable but rather a discussion of ideas that are mine or have been made my own through outright theft or by borrowing from other technicians. Whether this material fits the first meaning or the second is a decision that I leave up to you.

I would like to write about some basic skills this month. One of the things that I did not mention in my column last month is that, in addition to being an aural tuner, I am also a left-handed tuner. I have been asked if I was taught to tune left-handed. The answer is that I was taught to tune left-handed by a right-handed teacher. I can hear the questions:

"Are you left-handed?" "Yes, I am."

"And this right-handed teacher taught you to tune with your left hand?"

"Right! He taught everyone to tune left-handed."

"Incredible! But, why did he do this?"

"I thought you would never ask."

Most mechanical things in this world are held together with devices called screws (or bolts and even tuning pins) that utilize the righthanded thread. They turn clock-wise when we tighten them and counterclock-wise when we loosen them. The bulk of what we do as tuners involves turning tuning pins in a clockwise direction. To sit or stand at a piano and perform this task with the left hand places the operator in a comfortable non-stressed position. The left hand can operate the tuning lever with thrusting assistance from the big muscles of the arm and shoulder in a direct force line. Good posture, with its resulting comfort factor, is a prime consideration. A case can be made for a certain equality between left-handed and right-handed tuning of grand pianos. Where lefties have a tendency to push the tuning lever, right-handed tuners can just as comfortably pull the piano into tune. But, at a vertical piano, the advantage lies clearly with the use of the left hand, in my opinion.

My point in writing about this subject is not to try to convert all right-handed tuners to be left-handed tuners. Rather, I raise the issue to call attention to two ideas that I think would be helpful to everyone. First, no matter what hand is used to tune the piano, one of the most important basics is to find a position at the piano that is comfortable. This means exploring the height of chairs and benches that you use. Try to adjust to a level that is comfortable and allows you to do the turning of tuning pins

with the least amount of bodily contortion. Tuning is a very physical activity. If it is practiced with poor posture or body position the results can be quite stressful.

The first Alexander Technique class that I observed was at the convention in Washington, D.C. in 1982. The teacher was a rather small young woman lecturing to a class of about 90 students who were technicians of all ages with physical problems brought on by tuning pianos, such as sore shoulders, bad backs, elbow problems, etc. It was amazing to see her place people at the piano in the classroom and rearrange their work posture to be more comfortable and therefore less harmful.

It is difficult to write about these physical activities and expect to make any really effective changes other than to alert readers about these problems. In the long run, each technician must work out his or her own salvation, either by experimentation on one's own, or with a physical therapist or consultant.

My second reason for writing about the right-hand left-hand topic is to suggest to you the possibility of developing some ambidexterity. All of us need to tune with both hands, at least to some degree. There are times when physical circumstances force one to have to contort the body to tune some area of the piano when it would be very easy with the other hand. For example, I find myself tuning in the bass of some pianos where a wall will not allow me to move into a position where I can use my left hand to manipulate the tuning lever. I have had to develop right-handed skills to cover these situations. Conversely, right-handed tuners can get into trouble with pianos situated so that

accessibility to the treble is thwarted by a wall or other obstruction and some left-handed tuning skill would be useful. And, of course there is always the specter of physical injury which could curtail or eliminate the use of one's favorite hand to practice this craft. The time to develop a skill is when you don't need it, certainly before disaster strikes and one must learn as one continues to work.

The best protection against disability or infirmity is a good physical conditioning program, above and beyond the energy expended. The second best way to keep yourself out of physical troubles is to develop alternative (and ambidextrous) skills.

Good tuning involves turning the tuning pin in order to re-tension the string and do the least amount of mischief to the piano. If the instrument is not in bad tune and the pitch is close to the desired frequency then good tuning is best accomplished by a series of very small movements of the tuning pins. If the pitch has to be changed, it is best to do a quick tuning to establish the new pitch level and then go back and do the fine tuning. (Remember the Defebaugh "dictum") A change of more than two beats a second is pitch raising!) If pitch has to be lowered, drop it a little more than you need and then bring it back up. Most of us are not as skilled at lowering pitch. Good tuning comes from knowing what you can do well and what you don't do well and then working around the shortcomings.

How do we make those very small movements of the pin? I think thoughtful practice is the answer. Some years ago, I borrowed an idea demonstrated to me by an older west coast tuner named Harvey Smith. He used to practice small moves on a stringless tuning pin in a piano at his home, and record the number of small moves to get around a 360 degree circle. My variation on this exercise is to drop the last string in the tenortreble and tune it exactly one-half tone low by tuning it to the next lower string. The exercise is to try to raise that string to match its unison by making as many small moves as possible. Some numbers might interest you. For example, a novice tuner will bring the string back up to pitch in eight to a dozen moves. A tuner with average skill can get as many as fifteen to twenty-five small moves before the unison is achieved. A real pro can coax from thirty to forty very small moves of the pin before the unison sounds "dead on".

Of course, I am familiar with all the variations that happen in pianos to change these numbers. Differences in pin tension, pin block construction, jumping pins, poor string rendering, corrosion and the like can affect how the numbers will work out for a given piano, but in general, these numbers are in the ball park for the skills that I have described. My own performance has varied in demonstrations, from time to time. On a couple of occasions I have

been embarrassed to slide back in tune with less than twenty moves of the pin, either because I wasn't concentrating or the piano posed problems that I couldn't overcome quickly. No matter how the numbers come out, the exercise is good practice and it teaches you a lot about how well you can handle a tuning lever.

A few suggestions that you might like to try: Use every variation that you can imagine to move a tuning-pin a small amount; try springing them; (You won't hurt the pin or the block, in spite of what you may have heard); try different hammer positions; try cross-springing; try backing off the slack in the tuning lever and then bumping or tapping at the pin to get it to turn. Anything goes in these practice sessions. They are for learning. The ultimate joy is to feel the pin move a distance that is so small that it does not change the pitch of the string in this area of the piano. If you can accomplish this, then the skill can be used for fine tuning in the high treble where such small moves will make a pitch change but only a small one. This ability can help you tune accurately and with stability in the treble and, indeed, anywhere else in the scale of the piano.

One more technique that I must mention is a "spring check" that I use to determine whether or not the string is where I want it. (I hesitate to use the phrase, "setting the pin.") It works as follows: After the tuning pin has been moved, I check to see where the pitch is by gently springing the pin to make the string go sharp and then, using the same amount of pressure, I spring the pin to make the string go flat. If the pressure, up and down, is the same and if the pitch change is the same, then the string and pin are set and I can move on. If, on the other hand, it takes more effort to move the pitch away from the unison (or any other interval that is being tuned) in one direction than it does in the other by using this springing process, then I must continue to work with this string and pin until the balance is achieved. This technique requires that one be very sensitive to tuning lever pres-



sures. This can be achieved with practice. The springing is very slight, and makes only the most subtle change in pitch in either direction. However, if this technique is practiced with skill and accuracy, it is reliable, and the tuning will be stable.

Do I strike a test blow? Almost never; nor do I "pound the piano into tune". To me this is pianistic pugilism, with all of the destructive tendencies that this term implies, including long term hearing loss, pitch distortion, and physical damage to tuner and piano. I am not fighting the piano; I am tuning it. ("Well, you have to hit it as hard as the artist is going to hit it!", I hear someone say.) No, you don't; there are better ways to tune pianos than by battering them into acoustical submission. If a tuner pounds a key to see if there is any change in pitch, it suggests to me that the tuner has only a vague idea of where that string is and this suggests insensitive hammer technique.

Now, having said this, I must make a small disclaimer. I said that I almost never pound. There are times when indeed, I don't know for sure where the string is or what it is going to do after I have moved it because of various problems in the string mechanism, such as excessively tight pins, corrosion, poor rendering - any of a number of variables. In these situations, I have been known to give some pianos some pretty stern swats. I don't like to do it, but frustration makes monsters of us all, on occasion. As professional piano technicians, we are obligated to do the best job possible on the instruments entrusted to our care. Some of these pianos will not give us the results that we seek, for reasons beyond our control. In spite of everything, we must continue to try to do our best, and we keep looking for ways to get better results.

Another disclaimer: The remarks I have made in this article are some of my "nostrums" for tuning

techniques. They are offered with the hope that they might be useful to some of our readers. If this is true, then I will be pleased. If you find that these remarks are better served by the pejorative definition of "nostrums" (a questionable remedy or scheme) I won't be offended. Please try these pages next month. I plan to write about an aural tuner's concept of accuracy and I will have something to say about Q & D.

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Jack Wyatt, RTT Economic Affairs Committee Chair

he relationship between dealer and tuner has been, to say the least, something less than perfect. This is unfortunate for many reasons; the most important being that it is very bad for the piano industry as a whole. The piano industry is in a state of depression and this should be a time for everyone to work together and cooperate in every way possible. You should not violate your own ethical standards, but at this time it is imperative that everyone work for the good of the industry. We do not stand alone. We each have our place in this industry - dealers, tuners, teachers and music publishing firms. United and with increased cooperation we can find ways to improve the piano industry. We should not wait for someone else to take the initial step; we should combine our efforts for a more satisfactory outcome.

Responding to this need, I requested letters from dealers in my area. The letters were to be candid, open and frank suggestions as to how piano tuners could improve their relationship with dealers. Their replies were to be anonymous - no company letterheads or signatures. The response and the letters were a pleasant surprise.

I was asked by my chapter to chair a round-table discussion of the letters. Thirty-five members were asked to comment and discuss each letter. The letters themselves were helpful and offered some valuable suggestions. The ensuing discussions were very positive as the letters allowed the members the opportunity to look at the situation from the viewpoint of the dealers. While they did not agree with everything the dealers had written, they were very

fair in considering the opinions and in their responses.

In this and the following series of articles I will print some of the letters, or excerpts, and our group response to them.

Letter 1

- 1. Dress neat.
- 2. Be on time or call customer never leave customer hanging.
- 3. Park on street not in driveway.
- 4. If piano requires pitch raise, inform customer of extra cost before starting.
- 5. Do not take on repairs or rebuilding if you are not capable of doing a good job. Rather, refer to qualified technician or dealer.
- 6. If piano is worthless, tell customer, and do nothing. Refer customer to reputable dealer, unless you can sell them on rebuild (if you are qualified).
- 7. Do not steal customer that has been referred by dealer. It's a two-way street.
- 8. Working with a dealer, instead of against, can sometimes be profitable.
- 9. Remember, the customer is STUPID but they're always right.

Response to Letter 1

- 1. No disagreement.
- 2. No disagreement.
- 3. No disagreement.
- 4. This is a very good point. An estimate of cost should always be given, and I believe that most technicians do so today.

- 5. I heartily agree with this statement. Most of us have seen a situation where it was obvious that someone, with good intentions, had messed up a piano. It is very important to call in a qualified technician if you, yourself, are not fully qualified.
- 6. It is bad business for you, the customer and the industry for you to attempt to repair a piano that is worthless or at least worth what you will charge to repair.
- 7. This has been a problem for as long as I can remember and has caused both misunderstanding and failed expectations between dealers and tuners. A dealer refers the customer for a tuning, but wishes to keep that customer for sales and trade-up potential. Since this is usually the case it should be clarified, perhaps in writing, that the customer was referred for tuning purposes only. This should alleviate any questions that might arise in the future.
- 8. Mutual respect and cooperation between dealer and tuner is always the best method of doing business.
- 9. I cannot agree that all customers are "stupid", and I find this dealer's thought alarming and shortsighted. I hope that the point he was trying to emphasize was that the customer is always right.

Letter 2

Thanks for a new idea in bettering cooperation between dealers, tuners and teachers. This should help stimulate sales of pianos which would help us all. Most of the work that tuners do is good, the following are some areas that need improvement in my opinion:

1. If a tuner is making an appraisal, make sure he knows the current prices for the

instrument in this area. I fear many do not. Also, do not compare the instrument to the very best ever seen nor to the best bargain. Compare to the average.

- 2. Do not overlook profit. It is the only thing that keeps us in business. Also, the tuner needs to have an understanding of the cost of doing business.
- 3. When a tuner enters a retail store and begins "checking out" the piano without an invitation, it is not appreciated.

Response to Letter 2

- 1. The problem with appraising a piano on a dealer's floor are many. Of all the possibilities that exist, only one is welcome to all who are involved - a piano is sold to the customer. Any other outcome and one or all who are concerned - is unhappy. The tuner may have created an enemy with a long memory. Perhaps "ego stroking and elitism" is the driving force for those piano tuners who go to a dealer's store to appraise a piano. If a tuner is associated with a store in any manner or sells pianos themselves, to make an appraisal at another place of business is highly unethical. The tuners I asked about this situation agree as I think most all competent and ethical tuners would also.
- 2. Most would agree with this statement.
- 3. I find this not only unprofessional, but also just plain rude.

From Steinway & Sons...

February 19, 1992

Dear PTG Member:

You may have heard over the last year that the Federal Trade Commission was conducting an investigation into the warranty policies and practices of Steinway & Sons. This investigation was initiated as a result of allegations made by a former Steinway dealer and eventually included a survey of the entire industry. As the inquiry was private, Steinway & Sons did not make any public comment. Likewise, the FTC has not and will not make any public comment.

I am writing you now about this matter because on January 6, 1992 Steinway & Sons received a letter from the FTC notifying us that the investigation has been closed. After over a year's investigation the FTC took action and determined no further investigation was warranted. They made no requirement or suggestion that Steinway & Sons change any aspect of the way we do business. Closing of the investigation provides a firm rebuttal of the inflammatory charges which started the inquiry.

I hesitated in writing this letter because experience shows it will lead to another deluge of misinformation from the former dealer who has been the source of many false stories being spread about Steinway. However, this is another example of these allegations being proven false. I am sure you will remember this and consider the credibility and motivation of the source before giving any weight to future allegations.

If you have any questions on this matter, please feel free to write to me.

Yours truly, Bruce A. Stevens President, Steinway & Sons

American Piano Supply Acquires Assets of Tuners Supply Co.

American Piano Supply Co. has announced that it has acquired the principal assests of the Tuners Supply Co of Somerville, MA. Tuners Supply Co. will no longer operate as a separate entity, the inventory and machinery having been moved to Clifton, NJ, home of American.

Tuners Supply Co., founded in 1884 by Henry Hale in Allston, MA, was controlled by the Hale family until 1963. During that time the company was well

known for their fine quality tools and supplies. Since 1963, the company has been controlled by a succession of owners. many of the products with the Hale name will be continued, and important segments of their manufacturing capability will be preserved.

Former customers of Tuners Supply Co. are urged to call 1-800-457-4266 to place orders or to seek additional information.



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International Relations

Ron Berry, RTT Chairman International Relations Committee

This month we have a letter from Bo Jung Lee of Korea who was elected as President of IAPBT in Seoul. I want to say again that the royal treatment that was given by the Korean Association was incredible. Also this month is the last of the speeches given in Seoul. This one was presented by Suck Won Han of the Korean Association of Piano Technicians detailing the situation in Korea. I will begin reprinting similar speeches that were given in Kyoto, Japan in 1989, in future issues. Europiano has confirmed the dates of May 16-21, 1993 for their conference in three cities in France. The Pianoforte Tuners Association in England is working out plans to dovetail with the conference in France. We can now begin developing a European tour to take in these conferences. You will hear more about this as plans develop.

TO: Piano Technicians Guild Members

FROM: Bo Jung Lee - President, IAPBT

Thanks to those of you who came to the meeting in Seoul. I appreciate the various matters that we discussed Although I am inadequate for the position of Presi-

during the meeting.

dent, I appreciate the opportunity to serve. I am committed to advancing the technical knowledge of the members involved and hope that more members

I look forward to piano technicians from all over the will participate in the future.

world sharing their knowledge and developing friendships among each other.

Bo Jung Lee

President IAPBT

Present & Future of Pianos & Technicians in Korea

By Suck Won Han

would like to take this opportunity to express my sincere appreciation to members from abroad and home for being here today. And it is my distinct pleasure to meet again in Seoul those members who attended the Kyoto General Assembly two years ago.

I am particularly pleased to note that current issues facing piano technicians are discussed at this symposium. And I sincerely hope that the symposium will serve as a momentum for further improving the social status of piano technicians of the world.

Before discussing today's issue. I should like to review historical perspectives of theKorean piano industry.

HISTORY OF KOREAN PIANO INDUSTRY

Compared to the United States of America, Japan and Europe, our piano industry has very short history. The Korean piano industry was started from debris of Korean War in the mid 1950s and the capability was limited to assembling imported component parts from Japan

and Germany. In those days we had only a few small-scale factories capable of assembling about 10 pianos per month.

In the early 1960s domestic demand for pianos increased along with gradual economic growth and some large scale factories were built. In 1964, we started producing action components. Of course its performance was not quite as good. However, with hard working nature of Koreans and with good human resources, we have been able to develop our skills. Beginning in the 1970s, with rapid economic growth and booming market, piano factories have been expanded.

By mid 1970s, piano sales reached unprecedented highs. Following the tax reform, commodity prices were lowered significantly and have stimulated purchasing resulted in a sudden increase in demand. In addition, due to the rush of orders from foreign buyers, all factories had to operate around the clock to satisfy the demand.

Such prosperous business lasted for two or three years, during which period delivery of domestic orders had to be delayed anywhere from 6 months to a year.

In 1980s, supply and demand became balanced and the makers had to stress exporting pianos. And by late 1980s, Korea became a major piano exporter.

Currently we are building about 11,500 pianos per month, of which 30-40 percent is for export and in addition overseas plants have been constructed for manufacturing component parts in China and other third world countries.

CURRENT SITUATION OF TECHNICIANS

The number of piano technicians increased as the piano industry as a whole made remarkable development. We have over 1,500 technicians throughout Korea. However we are short of skilled technicians and piano

dealers continue to scout for experienced technicians.

ELECTRONIC KEYBOARD SUPPLY AND ITS PROSPECT

The first electronic organ is believed to have been introduced into Korea in the mid-1960s. Much attention has been drawn because of its multiple tones but its use is limited to restaurants and entertainment facilities rather than at home.

Recently, portable electric organs became popular among young students for enjoyment, but it is not considered threatening to piano technicians for the time being. By our national trait and Confucian influence, electronic organ is considered frivolous or bizarre, and not well accepted to be played at home.

In the last five to six years, digital piano became unbelievably popular, and many teachers prefer to use them because of their reasonable price and compact size, allowing several students to be taught simultaneously in a relatively small room.

Digital pianos are thus rapidly sold and also attract many relatively low-income families. SAMICK, YOUNG CHANG AND DAEWOO have already introduced their products and will soon be followed by GOLDSTAR, HYUNDAI and other big piano producers causing severe competitions as well as threatening to us in the future.

In this regard, domestic piano manufacturers and piano importers will be launching stronger promotional activities and the share of digital piano is expected to increase significantly. In short, with decreased sales of acoustic pianos, technicians may face adverse situations.

However, if one further considers other aspects, a different observation may be made. Digital pianos may attract low-income families, and when their living standard is improved, they will purchase

acoustic pianos. Mid-income families continue to prefer acoustic pianos. And musicians are deeply inspired by acoustic pianos. When considering all these elements plus the fact that an acoustic piano is more dignified and prestigious, a digital piano, which gives the impression of frivolousness, may enjoy only a momentary boom.

And I am convinced that the acoustic piano is known as the "King of Musical Instruments" because of its long-lasting history and deep roots in musical work, will nevertheless maintain its position as usual.

FUTURE SALES OF PIANOS AND THE FUTURE OF TECHNICIANS

Piano sales may be decreased as I have stated above; however, I firmly believe that the sales will increase in a few years. Such optimistic predictions are supported by many reasons as mentioned earlier, but the strongest justification for such expectation is that Koreans are more than eager for education.

When their children reach the age for kindergarten, parents are thinking of sending them to some kind of art school for culture of aesthetic sentiments. For instance, most mothers want to send their children to piano institute or for private lessons.

Particularly for girls, piano lessons are a must even for a short duration. Mothers expect their children to be able to play Bayer as soon as possible followed by Czerny, Bach, Beethoven and Chopin. They do not, however, expect to make their children performers or professional players, but one thing is sure—that is not to play pop songs, because the mothers feel that pop songs would not do any good for culture of aesthetic sentiments.

story continues—page 40

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Auxiliary Exchange Editor

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PT SEXCHANGE

Last March we were all concerned with the Persian Gulf War, which was in its final throes and I was apologizing for voicing concerns and petty annoyances in the life of a tuner and his chauffeur when the world was in such a sorry state. That is all, more or less behind us now. Most of our service personnel have returned from operation Desert Storm and we are now faced with national and local budgetary problems, unemployment and being assaulted with nothing more threatening than political rhetoric!

There hasn't been enough ice and snow to keep us off the highway and byways for long. We are still busy with the Christmas rush overflow (it's now January at the time of this writing) and haven't noticed the effects of a slowing economy as of yet. We know the specter of a slow-down is out there. Our schools are cutting back and music and the arts are among the first areas to feel the pinch. One of the districts we serve, it is rumored, will be eliminating a position on the elementary level which will put a halt on string instruction for the primer and intermediate grades. Language will be taught in another school system from the eighth grade up. Middle school language programs were done away with years ago; now 7th grade language has been axed. These programs are never reinstated. My grown children were of ir. high age and younger when string instruction was tossed because of budgetary concerns in our local school district, never to return.

I would like to call upon all the little Leprechauns to see us through these times of disappearing funding, perhaps to share their pots of gold with all the aspiring music students who require music instruction at this phase of their education at an early age when it really matters. If there is a practical way to stand behind our youngsters with budding talent, I don't know what it might be. We can still back up our Guild Scholarship Fund with contributions and give a boost to those who have already attained a measure of skill and brilliance. This will probably be appreciated and needed more than ever.

Surely many of you creative auxiliary members can present some practical thoughts and ideas for bolstering the position of music education in our public school systems when we convene at our annual convention in July in Sacramento, CA. This area of education affects all of us in the PTG and PTGA family. We must be prepared to defend the arts and their place in the education of our young people at whatever level or wherever it become possible. Bring your thinking machines with you to Sacramento. I'm counting on all of us!

Arlene M. Paetow, President

FROM YOUR AUXILIARY EDITOR

We haven't had a flake of snow here at our house (the kids are a little miffed!) and the daffodils are bursting out of the ground. As I sit and assemble this it's still January but the Spring fever seems to be hitting here already. Buds are starting to swell, our horses are shedding their winter coats and there were a couple of bees flying around here today!

Once March is here that means it's only four more months until the Sacramento festivities. Now is a good time to make plans and reservations in order to capitalize on some of the best travel fares. Our family, with its certifiable train nuts, will no doubt be consulting with Amtrak.

The mailbag has been quite empty lately as far as contributions to the Auxiliary Exchange go. If you have some interesting convention remembrances or travel tips perhaps this would be a good time to send those along so that they can be shared with some of our other members.

I have done a little research into the history of the Sacramento area and came up with some interesting information about the Gold Rush and the 49'ers. I also stumbled upon some facts about St. Patrick's Day and its Patron Saint that are very timely! If there are other topics YOU would like to have the Exchange address PLEASE let me know and it'll be looked in to. As I have said all along, these pages are a sounding board for you, the reader!

THE WEARIN' O' THE GREEN

Since 1737, March 17th has been observed as St. Patrick's Day with many Irish and many not-so-Irish, donning their green and perhaps downing a mug of green beer.

Patrick was actually born in Scotland and dates for both his birth and death are about as numerous as

the legends told about him. No one seems to know if the date of March 17th was his birth or his death date; it may be neither.

At the age of sixteen, Patrick was captured by Gaels, taken to Ireland, sold as a slave and his six years of captivity were spent tending flocks. During this time he experienced a spiritual awakening and eventually entered the priesthood and became a bishop living out his life in Ireland.

Of all the stories told about St. Patrick perhaps one of the most famous is his expulsion of the snakes from Ireland. Accompanied by the pounding of a big drum, St. Patrick arrived at the hill from which he was going to banish the reptiles. The people who had gathered to watch the spectacle cried out when the drum broke because they believed St. Patrick's magic power was dependent on it. A huge black snake slithered down the hill laughing to see the saint suddenly powerless. Just then an angel appeared and mended the drum. The drum was sounded and St. Patrick preached a sermon which drove the snakes and vermin out of Ireland.

Irish observances on St. Patrick's Day are not as exuberant as they are here in the U.S., and mark the start of a three day period of devotion. Shamrocks are worn everywhere, however, in honor of their patron saint.

PLANNING AHEAD

My mother was born and raised in northwestern Minnesota which has cold crisp winters with plenty of snow and cold temperatures but there are definite seasons. After moving to the Pacific Northwest she seemed to really miss those seasons. Around here its usually quite mild but can and usually is very WET. After all, that's what makes Washington so green.

After the Christmas holiday hustle and bustle Mom would start planning our summer vacation. I think I must have picked up a little of her "planning bug" for it seems as if I'm one of those people who has almost as much fun doing the planning as actually doing whatever the activity may be.

We're having a week-long string of warm and very rainy days with no end in sight. It's fun to do some research about Sacramento and our upcoming Institute in a warm, sunny and very interesting area of the country. If you are having a long, drawn out winter or if the Spring fever bug has bitten, perhaps this would be a good time for you to start planning ahead for July and Sacramento too! The technicians in the family never come away from an Institute without a number of new ideas to make the business run smoother, save a little time on repairs or gain insight into the tuning process.

As "significant others" of those technicians, we stand to gain a lot from encouraging their attendance at the PTG Convention. In many ways it is hard to get there—many piano technicians are self employed, and that can mean that a trip to the convention means that no one gets the work done. Factor in the knowledge that's gained, however, and that just might offset the initial expenses.

Mailings and registration information about classes and activities will be coming to you soon if you have not yet received them. Look them over, check your budget and try to find a way to get the Technician out to California (and bear in mind that it really isn't that much more expensive for two to travel)! After all, it would be nice to share the driving or have someone to talk to on the plane, right!

Any technician and spouse within oneand-a-half hours of Lexington, Kentucky should not miss the Bluegrass Chapter's tuning seminar on March 14 at Transylvania University. A spouse prepared lunch complete with Fred's home made lentil soup is planned. (He claims the recipe was given to his great grandfather by an old Gypsy woman on her death bed! We are not an official PTGA chapter yet, but we're working on it. Come along for the day and let's talk!

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March 14, 1992 Bluegrass Tuning Seminar
Transylvania University, Lexington, KY
Contact: Fred Tremper, 413 Skaggs Road,
Morehead, KY 40351 (606) 783-1717

March 27-29, 1992 Central West Regional Seminar
University of Minnesota, Minneapolis, MN
Contact: Paul Olsen, 3501 Adair Avenue North,
Crystal, MN 55422 (612) 533-5253

April 2-4, 1992 Pacific Northwest Regional Conference Inns of Banff Park, Alberta Canada Contact: Otto Keyes, Box 2415, Canmore, AB TOL OMO (403) 678-4169

April 3-5, 1992 Pennsylvania State Convention Ramada Inn, West Middlesex, PA Contact: Gary Nelms, RD7, Box 7281, Mercer, PA 16137 (412) 346-4876

April 11, 1992 Los Angeles Chapter Annual Seminar
La Canada Pres. Church, La Canada, CA
Contact: Jon Longworth, 6926 Billingham Avenue,
N. Hollywood, CA 91605 (818) 982-2431

April 13, 1992 Golden Gate Chapter Annual Seminar
First Presbyterian Church, Castro Vally, CA
Contact: Ralph Nelson; 16846 Meekland Avenue,
San Lorenzo, CA 94580 (510) 278-4661

April 24-26, 1992 New England Eastern Canada Regional Seminar Crowne Plaza, Natick, MA Contact: Christine Lovgren, 39 N. Bennet Street, Boston, MA 02113 (617) 227-0155

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North Miami Beach, FL 33162 (305) 947-9030

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----...International Relations continued from page 33

In this context, I feel that when they can not afford to buy a piano due to tight financial situation, then digital pianos are purchased as a substitute until they will be able to pay for an acoustic piano.

With due consideration of these reasons and economic realities of Korea, sales of pianos in Korea will maintain present levels if not increased for next 20 years and I can assure you that the work load of piano technicians are guaranteed on a continued basis.

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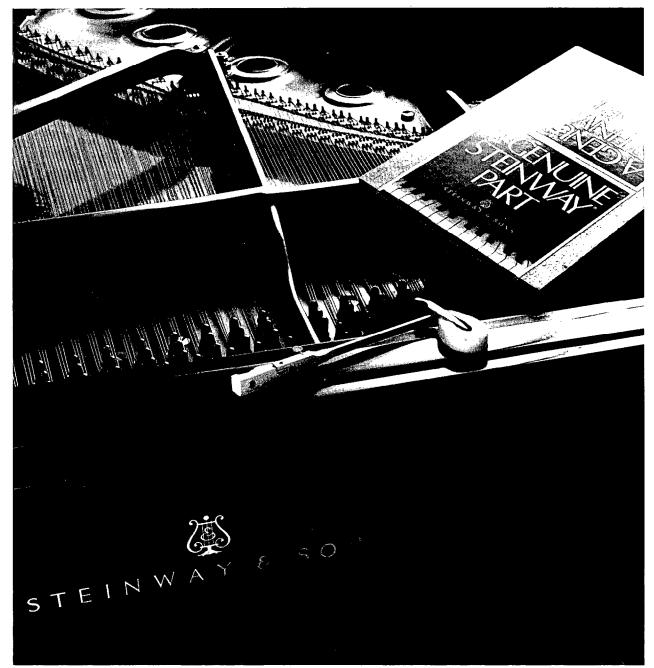


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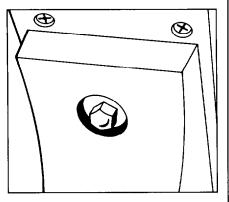
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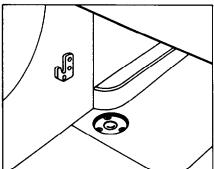
Tech Gazette

Yamaha Piano Service March, 1992

Engineered with the technician in mind

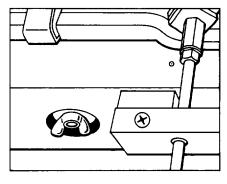
Last month we talked about design features that make it easier for you to do your job as a piano technician. In the next two months, we would like to point out some construction features of the Yamaha Piano.

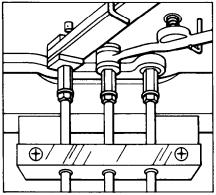




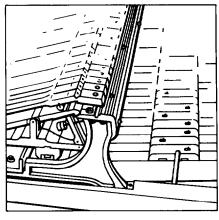
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Sharla Kistler Secretary-Treasurer

Now it can be told. As a child, Sharla Kistler, PTG Secretary-Treasurer, did not practice her piano lessons.

"I played piano as a child, but I really didn't start getting into it until I quit taking lessons. I played other instruments, including clarinet, which I started at the age of 10 and play to this day," Sharla said.

She stayed with clarinet through college, obtaining a degree in music education from West Chester State University in West Chester, PA. After college, she taught vocal music at the junior high and elementary level for three years.

Today, she plays in community chamber music ensembles, and has sung with the Masterworks Chorale of a local college for the past three years. "That's my attempt to return to the musician's world," she said. "When I joined, I had not sat down with that many people who could read music since college." Her involvement with community musical groups has also been helpful in developing new business, she said.

When her two daughters were old enough to be on their own, Sharla began looking for a new career. "I had no desire to teach, and yet I wanted to use the ear that God had given me. Since my grandfather had been a tuner — although I never knew him — I thought I would try it. I've been

Continued on page eleven

Special Marketing Committee Report

Committee Busy On Marketing Projects

Keith Bowman Marketing Committee Chair

This month, the Marketing Committee and Home Office present a series of articles that explore various aspects of marketing. Contributing to this series are Judy Lynes and Glenn Schieke from our marketing firm, The Phelps Group. Public relations, logo, member needs assessment, franchised titles and other industry marketing activities will be addressed in this special marketing report.

The results of the PTG Phelps meeting January 17 were very positive. We discussed long-range planning for PTG, initiating a public relations program and logo finalization. We also discussed work-in-progress, and asked Phelps to design and format a new newsletter for members, which will target various segments of their clientele. Finally, we asked The Phelps Group to prepare a presentation for our Council in Sacramento this summer.

Current Projects

The first brochure, "Why Should I Be A Member Of The Piano Technicians Guild?" was

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printed in time for the NAMM Show January 17-19, and it received a good response. Since Council action could change some of the information, a smaller quantity was printed, so that revisions can be introduced as early as next year. This brochure was sent out in the *LeaderLetter* and is available from the Home Office for those who have not seen it.

The first draft of the General Maintenance Brochure has been reviewed by the committee and approved. This brochure is targeted at general consumers, students and teachers, and will be in print in late March, in time for the Music Teachers National Association Conference the first week of April. Content copy on "How Often Should My Piano Be Tuned?" is being submitted to Phelps. This brochure will follow a format similar to the original, with a general opening statement and updated individual quotes from manufacturers. With the exception of the new membership solicitation brochure, each in the series will be formatted for a business imprint for member use.

Technical Bulletins

The purpose of this series is to provide support and credibility for specific client recommendations. The bulletins are 8 1/2 by 11 inches, and formatted for business imprint. Number one, "Pitch Raising" is being completed. It describes what pitch raising is, and why and when it is a necessary

Continued on next page

Marketing Committee...

service, and will be available by the end of the month. The content is being finalized for the second in the series, "Regulation." The committee is still evaluating other likely topics — climate control, voicing, action reconditioning/rebuilding, remanufacturing.

There can be as many technical bulletins as we need. What would you like to see?

In addition to the client newsletter mentioned above, reminder cards and other new business aids that can be done inhouse, are being developed. We expect projects to come out on a regular basis now, and the Marketing Committee and PTG staff will try to include a copy of each completed project in upcoming LeaderLetters and by other means. Things are moving quickly, and there will be more progress to report in the May Journal issue.

Status	
Northeast Region	864
Northeast RTT's	527
Southeast Region	642
Southeast RTT's	389
South Central Region	329
South Central RTT's	208
Central East Region	650
Central East RTT's	399
Central West Region	396
Central West RTT's	249
Western Region	622
Western RTT's	391
Pacific NW Region	386
Pacific NW RTT's	232
Total Membership	3,889
Total RTT's	2,395



Meeting at the recent NAMM show to discuss future marketing strategies were, from left, Leon Speir, South Central RVP; Larry Goldsmith, Executive Director; Fern Henry, Vice President; Steve Schell, Marketing Committee member; M.B. Hawkins, Trade Relations Committee Chair; Jim Coleman Jr., Western RVP; Keith Bowman, Marketing Committee Chair; and from The Phelps Group, Judy Lynes, Vice President of Public Relations; and Glenn Schieke, Vice President of Advertising.

What Do You Want From PTG?

Fern Henry, RTT Vice President

PTG will soon be asking you, the members, to define what you need and want from your association. In order to make informed decisions together about member benefits and services, PTG, through the Marketing Committee, is planning to gather information regularly from the membership to be sure our organization's goals and priorities re truly meaningful to the majority. In an organization of our size and geographic spread, the usual tool for this type research is a member needs assessment survey. This survey, to be conducted in fall, 1992, will lay the foundation for future planning and action and will be vital in assuring that the programs PTG undertakes are in line with the members' wishes.

Let's look at one example of how research can help us work on our problems. Frequently, we hear complaints from RTTs that PTG is not doing enough for them: the Associates enjoy most of the

same benefits as RTTs, there is little incentive for them to upgrade and the percentage of RTTs is shrinking, thus diluting our professional standing. PTG spent considerable time and energy developing an examination to set a standard for the industry and some are now frustrated, seeing that too few are upgrading. Consider this as a business problem: looking at the figures, we can see that many Associates are joining. Thus, we know that we are providing sufficient incentive to attract potential RTTs. However, we are not making RTT status attractive enough to overcome their resistance to being examined. Research can tell us what benefits and programs we can develop to keep RTTs happy and (at the same time) add value to RTT status, thus providing Associates with incentive to upgrade. If we commit to making RTT status more profitable and more prestigious by specific planned actions, we attack the root of the problem. Later research can

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Introducing...An Important Communicator For PTG

Glenn Schieke The Phelps Group

In the world of marketing, one of the most controversial subjects is that of corporate or association logo design. But, the fact that it is usually controversial is a testament to its power. Logos are simply graphic devices which are carefully designed to communicate a consistent message to a target audience. A logo can be the most powerful tool an association possesses because of its value in immediate recognition and communication. Consider the importance that global companies such as Coke, IBM & AT&T place on consistently presenting their logo throughout the world. Although the logo itself is generally simple for quick recognition and lasting familiarity, a good one should be able to communicate many different messages in a single glance. In fact, a logo can communicate attributes such as strength, stability, excellence, integrity, experience and credibility. A logo can also communicate carelessness. confusion or weakness.

Although individual RTTs, by a council decision in the late 80s, may use the familiar circle logo on their business cards and in advertising, The Piano Technicians Guild, Inc., as an association, does not have a logo or corporate identification program in place.

As marketing experts, one of our recommendations to The Piano Technicians Guild, Inc., is to develop a corporate logo to be

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consistently used in all future PTG publications, brochures and materials—especially consumer materials. Because we have limited resources, the importance of presenting a *consistent* logo becomes paramount. Over time, the logo will become immediately recognizable to PTG members, our defined target audiences and even consumers. Properly used, the equity in a corporate or association logo continues to appreciate for years and years.

• It is extremely important that the logo typeface communicate the proper tone and positioning of the organization. We are recommending a specially-customized Bodoni typeface because it is a very classic face which reflects sophistication and traditional values. Its elegant simplicity and uncluttered lines also communicate strength, meticulousness and attention to detail—attributes that we definitely wish to associate with PTG members.



Working closely over the past several months with the Marketing Committee, we have explored dozens of possible logo treatments. After discussing our new logo recommendations with PTG committee members, we are pleased to present our recommendation at this time, a culmination of many hours of creative exploration and executions.

I would like to point out a few things about this logo:

• Note the graphic element which has been designed specifically to catch your eye immediately. Through the use of combining different design elements, this visual communicates both tuning forks and a keyboard. Different people see both elements at various times. This dual visual has a distinct advantage in that either of the two elements communicate a visual message that is appropriate for The Piano Technicians Guild. Inc.

- Note how the graphic visual element ties the three words together so that the logo works as a unit. Companies and associations with more that one word in their title sometimes face a readability problem because of so many words. This design effectively ties our three words together with the graphic for instant recognition.
- One measure sometimes considered regarding a logo's effectiveness is its universal applications. The logo should be readable yet retain its strength at any size. A good logo should maintain its strength regardless of whether it covers an entire building wall or appears in a tiny yellow page ad.
- Please note that for the purposes of this logo, we have eliminated the words *The* and *Inc*. Both of these words distract from the

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What's In A Name?

Colette Collier Washington, D.C. Chapter

Just over eight years ago, when I got married, I made the decision to keep my given name for use in my piano service business. It's not that I was trying to make a statement; I was making a business decision. There was no compelling reason to change the name of the business I had struggled so hard to build. I had moved a couple of times and changed phone numbers — keeping my name would help to maintain some continuity.

I soon discovered that it wasn't quite that simple. It started as early as my wedding day, when I went in to pick up the cake and was told that there was no cake for "Collier." What a relief when I was told, "But we have one for Trohan." Where children and family are concerned, life is less complicated if all use the same surname. Dealing with my stepdaughters' school was much easier when I said, "This is Mrs. Trohan." There have been a few more crises with names, but as long as I remember what role I am fulfilling, I usually remember what name I

Why tell this story? And how does this over-organized person get herself into this mess? It could be worse. I have only two names to keep track of; the PTG franchised category of membership has four official names and three abbreviations! In my case, it's fairly simple: my business answers to Collier, and the private life answers to Trohan. For the most part, the two lives carry on without interfering with each other. What's PTG's excuse?

A bit of history might help here. When PTG was formed, the original bylaws refer to our franchised category as "Craftsman." In 1979 — 22 years later the PTG Council passed a motion proposing the current language: "Craftsman and/or Registered Craftsman," "Registered Tuner-Technician," abbreviated RTT, "Registered Technician," abbreviated RT or Reg. Tech. These are just the titles that are authorized by the PTG Bylaws. Others seen on advertising throughout the country include: Registered Member, Registered Piano Technician, Piano Tuner-Technician, Registered Member — PTG, Guild Member, Certified Registered Tuner Technician, Registered Mastercraftsman. But that's not all, folks. My membership plaque calls me a "Qualified Registered Technician Member." In the original trademark registration for our logo, there are no words above the tuning hammer and tuning fork. Yet on the cover of the original PTG Constitution and Bylaws, the logo contains the words, "Registered Technician." This has been going on for our entire history!

It seems that we have been searching all this time for something strangely elusive. There was a perceived need to further clarify the word "Craftsman" by the addition of three more options. Looking at the 1979 amendments, it appears to me that while there was a reverence for the old term, "Craftsman," there was also a sense that it didn't convey a professional enough image.

"Craftsman" has a blue-collar connotation, and "Registered" might have seemed more white-collar. The addition of the words "Tuner" and "Technician" appear to be an attempt to describe more clearly our role as we saw it.

PTG is coming of age. It is a natural process, and has been going on for some time. We can look back at our old *Journals* and see the progress we have made toward a more professional image in just the past 10 years. We can take pride in the international standards we have set through the

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refinement of our exam process. Our annual convention and Institute provide the best opportunities for professional interaction in the U.S. — if not in the world. We are more enlightened, competent, and sophisticated than we have ever been. And every indication is that we will continue to thrive.

So why should we worry about a title? Because the time has come. The title we choose is less important than the compelling need to choose one. Personal preferences should not be allowed to dilute our image or our message of technical competence. We have no reason, no need to use more than one title. We have no specific situations in which one is more appropriate than another. We don't even have a clear idea how or why we got into this mess! And it is a mess. In researching this article, I looked back on many years of work done by the Restructure Committee, the Logo Investigation Committee and, more recently, the Membership Category Study Committee and the Marketing Committee, as well as articles that have appeared in the "Soundboard" section of the Journal. Through it all, we seem to have been searching for the right words to describe, to ourselves and others, our special place in the music world, and the unique kinship we have as enfranchised members of PTG.

In 1977, PTG provided a

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NPF Test Market Plan Successful

Larry Goldsmith Executive Director Marketing works.

That was the message when results of a market development program funded by the National Piano Foundation and the National Association of Music Merchants were unveiled at the recent NAMM show in Anaheim, CA.

The program, which involved cooperative advertising, public relations and grassroots networking activities in three test markets, resulted in a significant change in consumer attitudes as well as a sizeable increase in piano sales at a time when national sales trends are down. Retailers in the three test markets, Salt Lake City, UT, Des Moines, IA, and Green Bay, WI, reported that not only had sales increased, but other benefits, such as increases in school music program enrollments, were realized.

The effort began two years ago when a Salt Lake City television station began working with piano manufacturers and local retailers to promote awareness of the benefits of piano study. In 1991, two other test markets, Des Moines and Green Bay, were added, and national funding support was added to the efforts of local networks in all three markets.

NPF President Lloyd Robbins cited the lack of emphasis placed on music education in the United States as the reason for declining

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sales, noting that in South Korea, 185,000 new pianos were sold last year to a population of 45 million. In Japan during the same period, 140,000 new pianos were sold.

"Compare those figures to the United States, a country with 250 million people and less than 120,000 new piano sales last year," Robbins said. "According to some studies, over 20 percent of the acoustic piano sales in America are to Korean-Americans. It's also no secret why. Their cultures have made a strong commitment to music an educational necessity."

Those statistics were echoed by Brenda Dillon, NPF's executive director. "If your community is typical, only about two out of every 10 residents actively participate in music," she told the audience, which was composed mostly of NAMM member retailers. "That figure includes children and adults who play piano or other instruments; members of the school bands, choirs and orchestras; church choir members; community performing groups; garage rock bands; and even professional musicians who live where you do. Other industry experts disagree, saying it's probably closer to one in 10 or maybe less."

She cited results of a recent NPF Gallup Poll of 1,000 adults which indicated that 46 percent of the respondents would choose to play the piano if given a choice of instruments. Guitar, chosen by 23 percent, was second. However, only 20 percent of the adults surveyed actually owned a piano. Although 62 percent said that someone in their household had formerly played piano, only 27 percent currently played.

Dillon said that NPF had chosen to attack the problem in the test markets through a cooperative, grassroots networking approach, because in many communities the components of the network are already in place. However, there are still problems to be overcome.

"Retailers are adversarial.

Teachers are less competitive with each other, but they aren't always very cooperative with the retailers. And certainly technicians can get lost in the shuffle, because when there's a united endeavor, they sometimes are completely left out of it."

The test market program targeted women between the ages of 25 and 54 with children. Sixteen public service announcements and a 30-second television spot were produced. Local retailers devoted portions of their advertising budget to music education, and the networks sponsored concerts, exhibits and other local activities. The program resulted in 3,700,000 individual impressions — 133 PSAs were aired on network affiliates. The heightened public awareness of the program also resulted in increased editorial coverage - Dillon was interviewed on 10 radio stations, and several newspaper articles and local television features focused on the benefits of music education.

Opinion surveys before and after the test-market activities showed a definite positive attitudinal shift. Respondents who felt that music was important to a child's development increased 11 percent, and those who felt that piano playing helped a child's concentration and self-confidence increased as well. There was a 60 percent increase in attitudes regarding purchasing a piano if the parent believes that it will help the child become a better student.

Retailers from the three test markets testified to the program's success. From Des Moines, Dave Brown said that although used and

What's In A Name...

monumental service when it produced a book called "Piano Parts and Their Functions," in which an attempt was made to standardize the nomenclature of our profession. On the inside cover of that book, Don Galt states: "How would you set about describing a pair of scissors, or wood screw, or a door key over the telephone? Aren't you glad you don't have go into a wordy description whenever you want to mention one of these commonplace things "It saves so much time and confusion just to use the name that people have agreed upon for the article."

We can resolve this enigma. It's a simple matter of setting priorities. We need to decide together what the message is we are trying to send: to our own members, the piano industry, and the piano-playing public. We need to commit ourselves to setting on which family name we are going to use. We need to discuss the options available to us (more on that in the next article) and communicate these ideas to our Council delegates and Regional Vice Presidents so that the Council actions this July will represent a true majority opinion — the goal in any democracy.

If we want people to look for someone with our certification, then we have to show them what to look for. If we want piano technicians to join PTG, we have to show them what to strive for. If we want schools, dealers and manufacturers to turn to technicians who have passed the PTG exams to fulfill their service needs, we have to show them what to look for. If we want people to perceive PTG as a professional organization that is the source for information and service, it would sure help if we all used the same name. A rose by any other name would smell as sweet, but if we don't use the same word to describe the rose, how can we share the experience?

What Do You Want from PTG...

help us gauge the effectiveness of our plan and enable us to adjust it.

All throughout this spring, the committees and the Board will be asked to give the Marketing Committee input on what it is that the members need and how PTG might address those needs. This summer, Council will be consulted on the upcoming survey and will give advice. And you, the members, are invited to write or call now to let the Marketing Committee or you RVP know what you would like to see PTG do. Design-

Test Market...

digital pianos were down, his new vertical business was up 14 percent, grands were up 39 percent, and used grand business was up 21 percent. Overall, pianos were up 26 percent and total business was up 11 percent.

Henri Zackert of Green Bay said his operation showed a 20.6 percent increase in units for the year, and in Salt Lake City, David Dickey said his business was up 15 percent in the acoustic and 26 percent in the digital markets.

The retailers' testimony was backed up by statistics from manufacturers. Although final figures are not complete, one manufacturer showed a 77 percent increase in shipments of grand pianos and a 20 percent increase in verticals. Another recorded a 58 percent increase in grands and a 51 percent increase in verticals. Overall figures showed a 40 percent increase in grand business and an 11 percent increase in the vetical market, this at a time when national industry figures show a seven percent decline.

The Salt Lake City program was more successful in its second year, in part because of the Phelps

ing this survey together will focus our thoughts on where we want to be in two years, five years, fifteen years as an organization. Once we come to consensus on the goals and the vision, it will be much easier to organize our resources and efforts, working within the structure of our *Mission* Statement, Bylaws and budget.

The actual questions will be written by the professionals at the Phelps Group. Their expertise in such research will ensure that the questions are properly phrased and the data obtained scientifically. You can help now by thinking specifically about what you need from PTG. Is it more/better business support? Insurance options? Improved information access via computers? More print publications? Cheaper conventions? Enhanced public image? More industry contacts?

Discuss this with your chapter and colleagues and be a part of setting the priorities for the future of PTG!

Group, which negotiated the spots, Dickey said. "We got a lot more spots for our dollars, and it was far more effective." In addition to its work with PTG, Phelps provides marketing support for NPF and a number of companies in the music industry.

Although funding and marketing assistance was provided through NPF, the test programs were designed to be on-going and to be self-supporting once the basic structure and network was in place.

"Networking on the grass roots level is critical to the success of this program. The dealer alliance must actively involve area music educators, piano teachers, piano technicians and influential community leaders," Robbins said. "Once everyone becomes actively involved in supporting and encouraging people to participate in music, the chain reaction begins."

What Is Public Relations?

Judy Lynes

Public Relations Director

The Phelps Group

Public relations is the art of publicizing a product or service to a target audience by stimulating interest in the media. It results in getting piano service featured in the editorial pages of newspapers and magazines, and spoken about on television and radio shows. It is the most cost-efficient way to get the Piano Technicians Guild's message out to the people you are trying to reach.

Public Relations professionals are always asked, "What is the difference between PR and advertising?" With advertising, all of the variables are controlled by the advertiser. The advertiser purchases a page in a magazine or a minute on television, and composes a precise message which is published or aired at a predetermined time. However, since buying media space and time is extremely expensive, budgets limit advertisers in both the length or their message and in the amount of people they can afford to reach.

With public relations, these two obstacles are not a factor. If we interest an editor from The New York Times in the importance of having a piano tuned on an annual basis, the editor may choose to devote a half page to this subject. To purchase a half page of ad space in The New York Times costs almost \$25,000 and the ad pages don't carry the "third party endorsement" value that the editorial pages do. Anyone can buy an ad in The New York Times as long as they can afford to buy the space, whereas The New York Times chooses which subjects to write about in its editorial pages.

It must be remembered, though, that once a publicist "hooks" an editor into your story, it is the editor's decision to determine what gets published. This is why effective media relations is the key to accomplishing successful public relations.

Media relations is achieved in many ways. It can be as simple as calling a local newspaper editor and TV news station and telling them that you see a psychedelic UFO circling in the sky above your office window. If this is truly the case, you'll probably have your story in all the morning papers, as well as on every local news broadcast, within a matter of minutes.

However, the Piano Technicians Guild story does not offer the same urgent news value as the UFO—few things do for that matter! Therefore, media relations often entails more that just a phone call. It involves being very well prepared to substantiate your story to the media before contact is made.

Well-written materials including news releases, feature stories, organization backgrounders and photos are a critical first step. Having knowledgeable sources of information on hand from the Guild, willing to be interviewed, also make the media's job easier.

But providing the media with proper written materials and sources of information at the right time is only part of the battle. The publicist also must be very skilled at interesting them in your story. The publicist must have good story angles prepared before even contacting the media.

With the Piano Technicians Guild, the angles we plan to pursue include profiles of interesting, out-of-the-ordinary piano technicians and why they chose to pursue this unusual profession. We also plan to publicize the upcoming piano maintenance brochure written for consumers. Newspapers and magazines love to alert readers to free, useful brochures. It adds value to the publication in the readers' minds since they are receiving a valuable tip. The fact that many piano tuners are visually impaired is another newsworthy story angle. All of our written material will educate consumers about the need to keep their piano maintained and how to find a qualified tunertechnician.

If one of the above stories is shot down at first, we will quickly come back with another. The media are as needy of news stories as we are of telling them. A good publicist never lets an opportunity for coverage slip by and is very adept at making information newsworthy to the media. These skills, combined with our professional written materials, will result in maximal media coverage for the Piano Technicians Guild.

PTG

THESE EIGHT KIDS COULD HELP YOU STRIKE GOLD IN CALIFORNIA!

















Who are they? You tell us!

All we can say is that all eight grew up (?) to become prominently involved in Piano Technicians Guild activities — in one way or another.

So go for the gold! Take a guess! You're eligible to win a special prize — gold coins valued at more than \$300! The earliest postmarked entry wins. The winner will be announced during PTG's 35th annual Convention and Technical Institute July 22, 1992, in the Hyatt Regency Sacramento.

Watch for more clues in the months to come!



Send your contest entries to:

Gold Contest Piano Technicians Guild 4510 Belleview, St. 100 Kansas City, MO 64111

Contest Rules

The contest is open to all PTG members and non-member registrants at PTG's 35th Annual Convention and Technical Institute July 22-26, 1992 in Sacramento, CA. PTG Board members, staff, and Convention Planning Committee members are not eligible to win.

The prize will be awarded to the correct entry with the earliest postmark or, if no winning entry has been received prior to the convention, to the first correct entry received at the convention membership booth.

ivame.	
Address:	
City, State, Zip:	
My Eight Lucky Kids Are:	
1	_ 5
2	6
	7
4	8

Foundation To Offer Convention Scholarship

The Piano Technicians Guild Foundation will again offer a scholarship for one Associate member of the Guild to attend PTG's 35th Annual Convention and Technical Institute in Sacramento, CA, July 22-26.

The scholarship, with a total value of \$200, will cover the winner's convention registration and the fee for taking either the technical or the tuning examination. The scholarship is designed

to assist an Associate member who is in the process of becoming a Registered Tuner-Technician and to encourage Associates to upgrade their status to RTT. The winner will be required to take either the tuning or the technical examination at the convention.

Scholarship application forms and supplementary information can be obtained only from chapter presidents, who received them in this month's *LeaderLetter*.

Presidents must also verify that the applicant is a member in good standing, an active chapter member, and has completed the Guild written examination with a goal of becoming an RTT. Winners will be selected by a panel of Foundation Directors Emeritus.

All application forms must be received in the PTG Home Office by May 1.

HINTHINTHINT

With all this talk about what is in a name, we thought it would be a good time to give you a long awaited clue to the golden mystery surrounding the contest.

So, we've given you the answers below. Well, there are a few extra names listed along with those that match the pictures on page 8, but we didn't want to remove all the challenge.

Remember you can enter as many times as you want...so go ahead and give it a try!

YVONNE ASHMORE **JOHN BAIRD BOB BECK** VIC BENVENUTO **ROLAND BESSETTE DICK BITTINGER** RICHARD BITTNER WIM BLEES IIM BIRCH ANDRE BOLDUC **KEITH BOWMAN** BILL BRANDOM VIVIAN BROOKS WALLY BROOKS **RUTH BROWN JAMES BRYANT GINGER BRYANT** JACK CASKEY RALPH CASKEY RAY CHANDLER JIM COLEMAN, SR.

JIM COLEMAN JR. COLETTE COLLIER PETER COLLARA LARRY CRABB GEORGE DEFEBAUGH **ED DRYBURGH** WENDELL EATON LA ROY EDWARDS **IAMES ELLIS** RICHARD ELROD SANDY ESSARY **JOHN FORD JOE GARRETT** TONY GEERS **IAMES GEIGER** LARRY GOLDSMITH SUSAN GRAHAM NICK GRAVAGNE JACK GREENFIELD MARSHALL HAWKINS **FERN HENRY**

CHARLIE HUETHER AGNES HUETHER ERNIE JUHN OTTO KEYES MARY KINMAN SHARLA KISTLER JANET LEARY JON LIGHT DON MORTON ARLENE PAETOW WEBB PHILLIPS BOB RUSSELL SR. GINNY RUSSELL **AL SANDERSON** WILLIARD SIMS **BOB SMIT** LEON SPEIR **JOHN TRAVIS** PHYLLIS TREMPER LLOYD WHITCOMB **NOLAN ZERINGUE**

DATES & DEADLINES

March 2, 1992

Members delinquent in 1992 dues to be dropped.

March 27 & 28, 1992

RTT Tuning and Technical Exams Seattle Chapter-University of Washington. Tuning Contact: Jim Farris, (206) 367-6335. Technical Contact: Randy Rush, (206) 525-7601.

April 13, 1992

RTT Tuning and Technical Exams Northern California, San Bruno Skyline College. Application Dealine: March 13, 1992. Contact: Neal Panton, (415) 854-8038.

April 17, 1992 Good Friday. Home Office closed.

May 25, 1992 Memorial Day. Home Office closed.

June 13, 1992

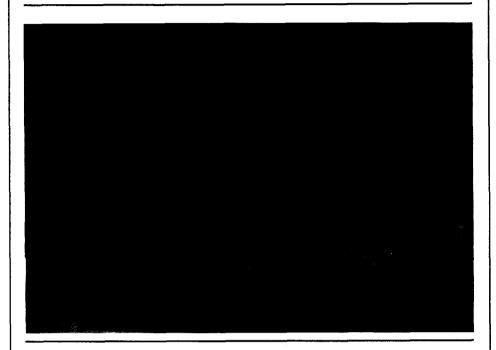
RTT Tuning and Technical Exams
Puget Sound Chapter Test Center,
Tocoma, WA. Application with
test mus be received by June 6,
1992. Contact: Jim Snyder, 6809
Locust Dr., Bonney Lake, WA
98390, (206) 863-0068.

June 24, 1992 Convention early registration deadline.

July 8, 1992 Sacramento Convention Exam application deadline

July 22-26, 1992 35th Annual Convention and Institute, Sacramento, CA.

Dallas PTG Representatives Meet With Area Dealers



On February 12, 1992, a joint meeting was held between Dallas piano retailers and representatives from the Dallas Chapter of PTG. The two objectives of the meeting were: A) To establish better lines of communications between dealers and technicians. B) To explore ways that dealers and technicians could work together to promote piano usage and sales.

The two hour meeting proved very productive. Participants agreed to work together in the promotion of the piano and the education of the consumer regarding piano service. Dealers were told that they were always welcome at PTG meetings and functions and the dealers indicated that technical literature generated by the PTG could be very useful in providing service information to salespeople as well as customers. The piano dealers took the opportunity to form an organization of their own, it's purpose being the promotion of piano use and sales. It was decided that initial efforts would center around generating closer ties between piano retailers, teachers and technicians.

The Dallas PTG chapter agreed to send a liaison to the dealer meetings to provide input from the technician's point of view. Those who participated hope that this meeting was the first step towards a new era of cooperation between the Dallas area piano technicians and dealers.

The participants of this meeting, pictured above, include from left, Walter Connell, RTT; Walt Burchfield; Jack Armstrong; J.A. Munselle; William Everett; Jack McDermott; Chris Climer; Don Glasgow; Dick Bubel; Leon Speir, RTT; Brooklyn Wadley; Roberta Manesa and Jack Wyatt, RTT.

Kistler...

doing this since 1978, and I came into the Guild right away, through Al Zentner."

She began an apprenticeship with Zentner, who was a member of the Guild's Lehigh Valley Chapter, and started going to classes taught by Merrill Jackson of the Philadelphia Chapter.

"I found an old upright which I put in my sewing room. I took it apart and worked on pianos in my church until I felt I could do someone else's piano without making it worse than it already was," she said.

If Sharla has benefitted from her association with the Guild, she has given a great deal back to the organization. In addition to serving as PTG's secretary-treasurer and previously as Bylaws Committee chairman, she has been very active in the Pennsylvania State Conference, serving as chairman and vice chairman, as well as an eight-year stint as its treasurer.

"I believe thoroughly in the concept of state conferences and seminars. There are those who believe that there should only be one annual conference in each region, plus the PTG annual convention. I feel that there are many who will never get to an

annual convention. They need these state programs. And I don't feel that several within each region hurt each other financially if they're well done," she said.

She also strongly supports PTG's international efforts and its membership in the International Association of Piano Builders and Technicians. "It would be to our advantage to develop closer relationships with the countries that make up IAPBT, as well as others. After all, we work on their pianos."

Sharla also has definite opinions about the Guild's domestic role. "PTG can help us all by making the organization more visible and more recognizable to the public. It can help us by promoting our expertise and professionalism. Whatever PTG can do to convince us of our worth will help us go out and face the public with a more progressive attitude. We have to believe we're good, provide quality service, and then charge the appropriate fees for our services. If we don't show that image to the public, why should they believe in us?

"We have to focus. I saw a class in which the question was asked, 'How much do you want to be earning in five years?' From that number, you work backwards — how many pianos do I have to

tune? For PTG, the theory is the same. We have to decide where we want to be in five years and then figure out what we have to do to get there. We have our marketing program. We are looking to improve our financial position through investments. Although we need to attract new members, we can't do as much about membership growth, because good, qualified members don't grow on trees. What we have to do is help our members thoroughly believe in PTG and be enthusiastic about it."

An Important PTG Communicator...

instant readability of the organization's name. Also, the word Inc. could be wrongly interpreted as contradictory to the organization's defined non-profit status. Because of the new direction the Guild will be taking with its new marketing programs, it is even more critical that the non-profit status be maintained for consumer acceptance.

Lastly, it should be noted that it's common for most companies to not include their full, formal name in their logo, i.e. American Honda Company, Inc. uses only the word *Honda* in their logo.

We are extremely excited about the progress we are making on behalf of PTG and look forward to these next several months as we continue to work with the Marketing Committee in accomplishing our goals.



Post-Convention Hawaii Tour Planned

If you crave still more excitement after PTG's 35th annual convention in Sacramento next July, plan to take advantage of a post-convention tour — and technical classes — in Hawaii.

Arrangements are now being finalized for the three-island tour, which will be July 26-August 2. Participants will leave from San Francisco after the convention and fly to Honolulu for a three-night stay. Also included in the tour will be two nights on the island of

Maui and two nights in Kona, on the island of Hawaii.

The tour, which is estimated to cost \$993 per person, based on double occupancy, will include flights from San Francisco to Honolulu and from Kona to San Francisco, as well as inter-island flights, lodging, taxes, porterage and round-trip transfers on each island.

Watch for details of the tour and the technical classes in future mailings.

1992 Sacramento PTG Convention Exam Application

Deadline: July 8, 1992
Mail to: Michael Travis, PO Box 576, Greenbelt, MD 20768-0576
— PTG Members Only —

Name:		
Member Number: Phone:		
Address:		
City, State, Zip:		
Application for:		Amount
Written Exam only (If you check here, you may not apply for other exams at this time) — No Fee	\$_	
Complete Tuning Exam — \$60	\$_	
Complete Technical Exam — \$60	\$_	
Partial Exam(s) — Partial exams available only if repeating a section for the first time within one year of previous attempt:		
Part 2 Tuning Exam — \$30	\$_	
Number of Technical Exam sections @ \$20 each	\$	
Total Fee Enclosed (Note: no fee required for tuning exam for RTTs enclosing a Consent-To-Serve form.)	\$ _	
I Have passed Written Exam dated 7/88 or later (Required for Tuning and Technical Exams)I Will bring Reclassification Form (Required for Tuning and		
Technical Exams)		
Signature: Date:		

Apply Now To Take RTT Exams At Convention

Michael Travis, RTT Chairman, Examinations And Test Standards Committee

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Applications are now being accepted for RTT examinations at the 1992 Convention in Sacramento, CA.

Applicants for exams must be PTG members, and must enclose appropriate examination fees for each exam to be taken, as shown in the application form above. Space is limited, so apply early. Make a check payable to "Piano Technicians Guild" and send it with the application to Michael Travis, PO Box 576, Greenbelt, MD, 20768-0576. The deadline is July 8. Fees are non-refundable after July 8 for cancellations or no-shows. Receipt of your application will be verified by phone. Report to the Convention Examination Office to confirm schedule on arrival. Bring your

reclassification form and membership card.

Those applying for "written exam only" may not apply in advance for tuning or technical exams; such exams will be scheduled, if space is available, only after you pass the written exam. If you want to be sure to take a tuning or technical exam at the convention, contact your chapter exam chairman and take the written exam as soon as possible; upon passing, you may then fill out this application and send it in by the deadline.

For further information on the Technical Exam, contact Mike Carraher at (717) 367-8256. For the Tuning Exam and all scheduling information, contact Kent Swafford at (913) 631-8227. Chief Examiner Michael Travis can be reached at (301) 441-3555.

'92 Members To Receive Gift

As a way of saying thanks for their continued membership in PTG, members who have paid their 1992 dues will soon be receiving a free gift. The gift, a PTG publication called "Guide to Resources in Piano Technology," is being mailed to all members whose dues are currently paid in full, and those who renewed their memberships after the first mailing but prior to the March 2 final deadline will receive a copy along with their membership cards. Additional copies are available from the Home Office for \$20.

The 48-page publication includes listings for approximately 120 companies who provide products or services to piano technicians. It includes a quick-reference telephone directory, company listings divided into 32 categories, and detailed descriptions of each company's products or services.

Information was compiled from mailings to each company, and only those who returned their data sheets are listed. The publication replaces the "Industry Contacts" section of the annual membership directory, which is scheduled to be the April issue of the Journal. The publication was designed to be an additional service to members of the Guild, and is expected to be an annual publication. Therefore, if you use vendors who are not listed in this year's edition, please forward their names so that we can contact them regarding a listing in next year's publication.

Membership dues were due January first, and those whose dues were unpaid or who had not made prior arrangements were scheduled to be dropped from the membership roster March 2.