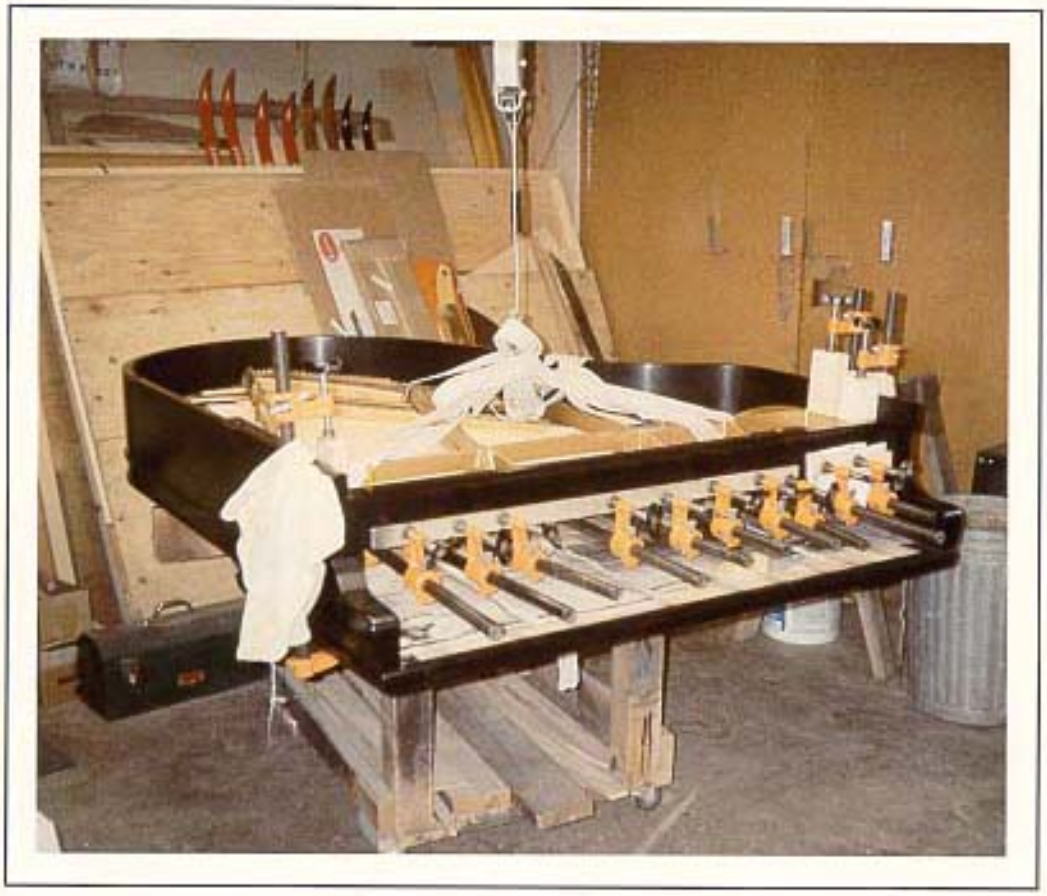
PIANO TECHNICIANS
Journal
September 1992



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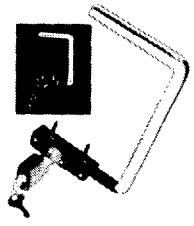

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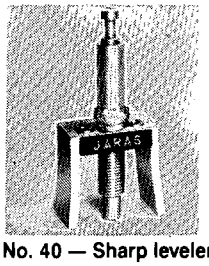

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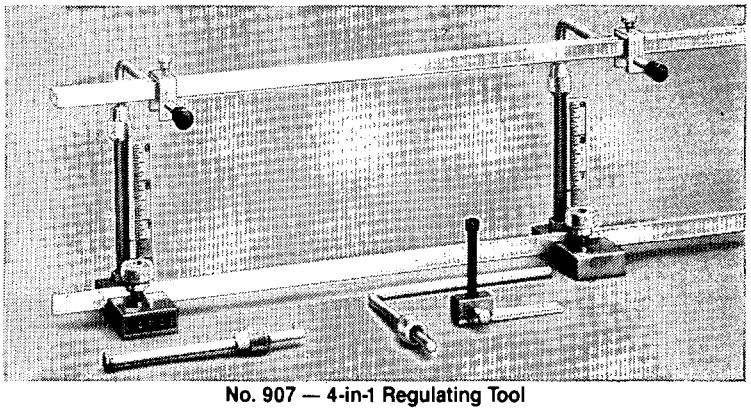

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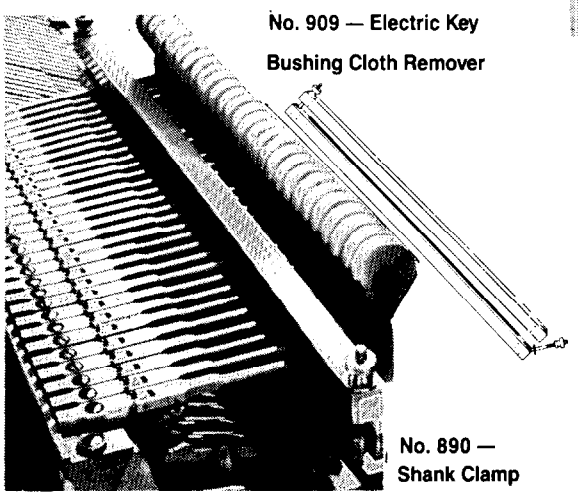

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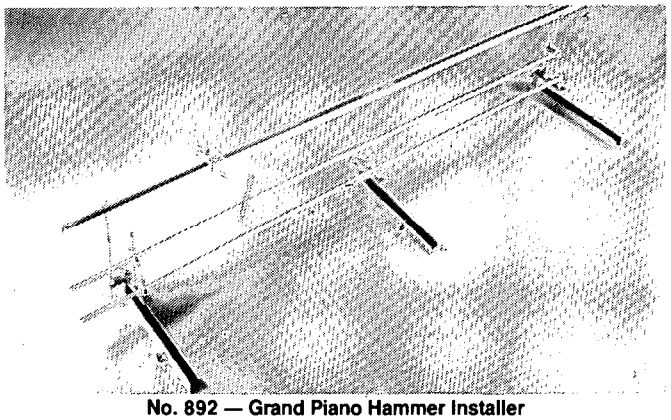

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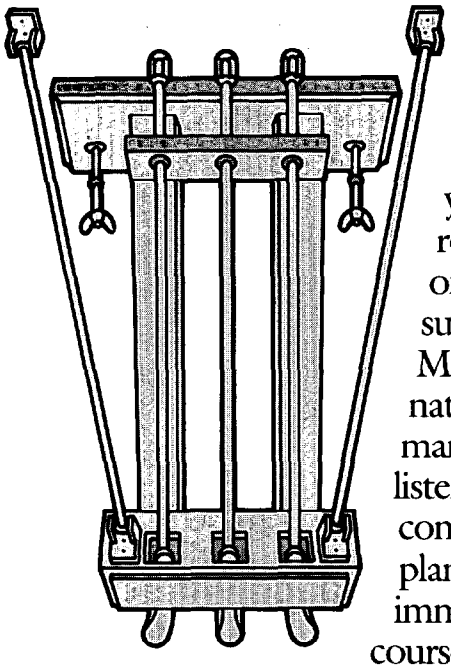
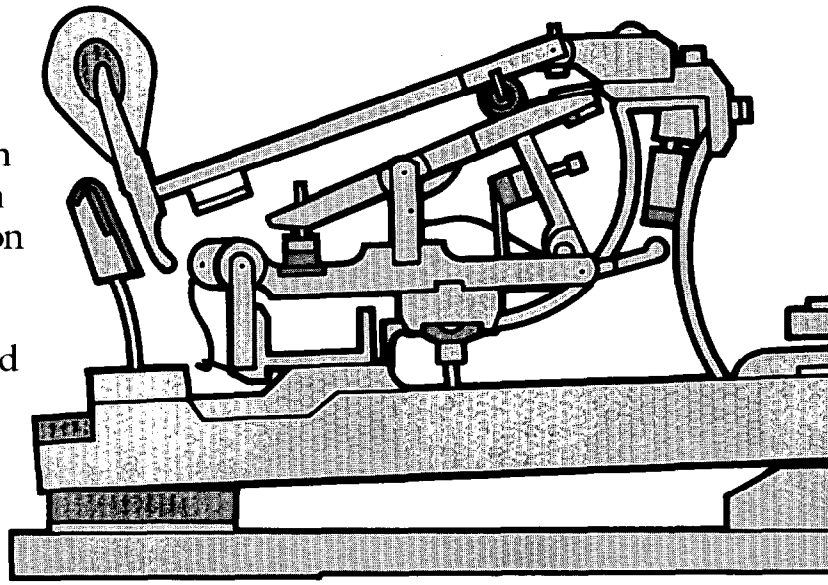
Don't Miss Complete Convention Coverage In Upcoming Issues of the *Journal*

PLUS

ABOUT THE COVER ***Determining optimum strike point? What is going on in this photo? The explanation will be found in this month's "Good Vibrations" article.***

How we to silence

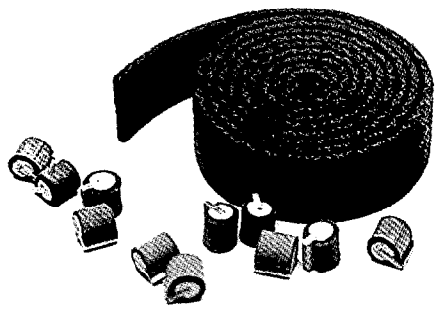




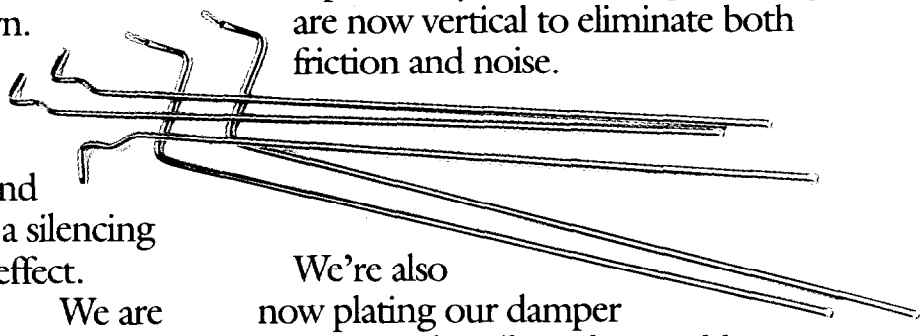
Several of you have recently written or phoned with suggestions. Don Mannino, our national service manager, read and listened to your comments and planned an immediate course of action.

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

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



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

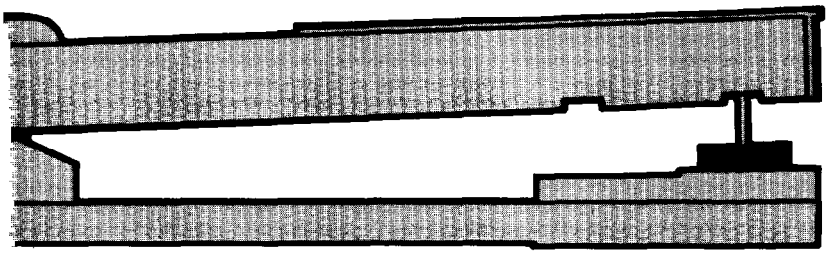


We're also now plating our damper wires more heavily and smoothly to decrease wear and corrosion as well as reduce noise where they pass through the guide rail.

In addition to diminishing noise, we've

are plotting our critics.

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



weigh off standard, as well.

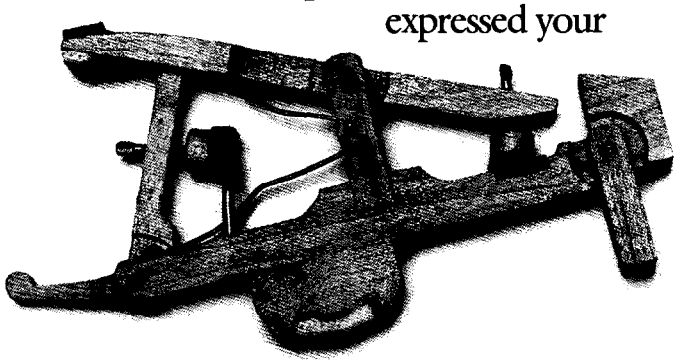
We're also excited to have discovered a truly remarkable grade of English bushing cloth for our action centers and keys. Its superior properties will dramatically increase action longevity as well as create a noticeably smoother touch.

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

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

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

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



YOUNG CHANG

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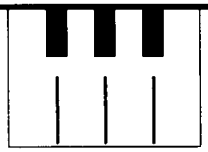

President's Message

COMMITTED TO THE TASK

One of the first jobs facing a new president of PTG is the appointment of committee personnel. This spring, the entire PTG Board joined together to examine our committee structure and to search in each region for talented and willing members to serve.

In the search process, we kept three goals in mind. First, the Board wanted to involve as many members as possible; therefore, putting one member on multiple committees was discouraged this year, unless there was a compelling reason. In this way, we tried to broaden participation in the work of PTG and thereby strengthen our organization. Next, by bringing new people onto committees, a new generation of leaders can emerge and be trained; on each committee we tried for a balance between mature experience and fresh perspective. And finally, we actively tried to find members who are both qualified for and dedicated to the particular committee task. Our membership is highly varied; our members' range of talents, backgrounds and interests is a rich resource. Finding these skilled members, matching them to the right job, getting them to say "yes"...this was an interesting and educational process.

I am grateful to all those who consented to serve this year on a Guild committee; we will all benefit from your work and anxiously await the results. Good advice from the Board, the retiring and continuing committee chairs, past Presidents, and individual members all contributed to the selection of this year's personnel and I thank each one who consulted.

The task now, for the rest of us, is to support and encourage the work these committees do. Further, we must use their output in the tasks that we each pursue in our businesses, our chapters, and our industry. These committees are charged to work and act on our behalf this year. They are committed to their tasks and each of us should realize our stake in their success. The threads that each of us weave can, when knitted together, form a rich fabric...more complex, more intriguing and more permanent than anything we could achieve alone. It will be interesting to see the patterns that emerge this year!

Technical Forum

Plate Fastener TIGHTNESS As Part Of Regular Service

Jim Harvey, RPT
Editor

Plate lags. Plate bolts. Plate perimeter screws. Regardless of what we're currently calling them, this is the topic for this month. If the nomenclature doesn't sound familiar, substitute the word "harp" for every occurrence of "plate", above. If it then sounds right, please drop the word harp from your piano technician's vocabulary. While it makes beautiful music, has pedals and strings, and is played while sitting down, a harp is another instrument. If no variation sounds familiar, this discussion should prove interesting reading. It is guaranteed to make you a better diagnostician (someone from out of town who charges lots of money), and a better tuner (who isn't and doesn't)! In this discussion, for clarity (and sanity), I'll use the word "fastener" where appropriate, instead of screw, bolt, or lag.

Depending on the class, I sometimes ask for a show of hands, for how many technicians tighten plate fasteners during an initial service call. Years ago, not many hands went up for "yes". I'm happy to report that in recent years, most technicians do check for this. My second question asks for an indication of those who routinely check plate fasteners for tightness. Not too many, it seems.

In more than one instance, these questions have caused a volley of additional discussion, sometimes to the point that the original class outline is changed. This leads me to believe that some of us perform certain processes without a reasonable understanding of why we do them.

One question often asked is, "What are the torque specifications for plate fasteners?" My response has been, "If recommended torque specification(s) did exist, would you buy a torque wrench, carry it, and use those references?" To my knowledge, no such torque specifications exist. Yet there are valid reasons, some direct, some more subtle, why checking for looseness should be a part of routine service.

If by some remote chance you have never done this, take a look underneath the plate of a typical grand piano, perhaps with a light and inspection mirror. Notice that for every plate fastener, there is also a bedding dowel on either side of it. These bedding dowels are typically not the same height, especially between groups of two. The function of the dowels is essentially that of leveling devices, to determine plate height in relation to bridge(s), the influences of string bearing and resulting soundboard loading, and of lesser importance, to compensate for slight inconsistencies in the plate casting. Information on plate positioning has been well documented by Nick Gravagne and others, and is beyond the scope of this discussion. Our responsibility is to see that the plate rests on these dowels. Figure 1, lifted from our "Piano Parts and Nomenclature" book, shows an x-ray view of a properly seated plate.
The primary reason for checking

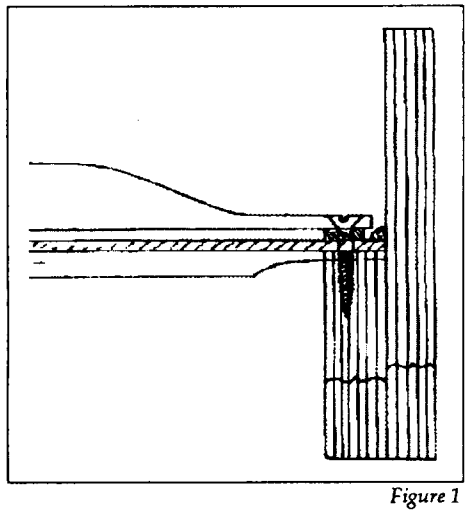

Figure 1

concerns the overall structural integrity of the instrument. Everything in this area (plate, bedding dowels, soundboard, bridges), is inter-related in a chain, and everything in this chain

must be attached in some fashion for the proper performance of the piano. For instance, we all know that soundboards are securely glued to the liner, or the edges of the back assembly. Suppose for a moment that glue was not the preferred method of attachment. What would happen if we simply screwed the soundboard onto the back assembly? I don't even want to think about it! Conversely, with available space-aged adhesives, why don't we just "glue" piano plates into position? I won't honor this hypothesis with an answer either. The facts are: (1) that plates are secured to the case by strictly mechanical means; using either bolts or screws; and (2) that a myriad of stress potentials are involved in any discussion of plates. Just about now, I'm tempted to use the words "bedding the plate", but feel that this expression should be reserved for that particular step in the rebuilding process. Perhaps "plate seating" would work, since I usually do this before, but along with, string seating. So how do fastener tightness and plate seating affect us? Two references come to mind; and each relates to tuning stability.

We have all heard, or used, one or more of the following statements: "the piano is hard to tune"; "the piano can not be tuned"; "the piano will not stay in tune"; or one of my favorites, "regardless of the number of tunings, the pitch continues to drop." In response to the last statement, I usually (and facetiously) suggest that the tuner measure the piano periodically, because at this rate, at some point the back of the piano is going to be a lot closer to the front—likely just before the piano folds itself in half!

In trying to help fellow technicians diagnose a tuning stability problem, I cannot recall the number of times I have asked "did you tighten the plate bolts?" (This is one of those times where "fastener"sounds bad.) The response was invariably "yes!" In several instances, when the problem persisted, I made a service call to check the piano, and—sure enough, the plate fasteners were loose. In one case, they were so loose they could be initially tightened by hand! What about the technician's credibility? At first, it was in question, but I later discovered that the technician had tightened the fasteners—once upon a time.

Incidentally, this is not to imply that plate seating is a cure-all, or that it is the only cause of tuning instability. It is meant to imply that until the condition is resolved, no meaningful discussion of instability problems can occur.

In this "localized" area, as in other areas of the piano, we are dealing with dissimilar materials—wood, steel, and cast iron. These materials react independently to changing temperature and humidity conditions. It is quite possible to

securely tighten plate fasteners during one service call, and, depending on climatic conditions, find that they need attention again within a relatively short time. You might think of this as you would flange screws in an action, but with a twist. During dry periods, it is easy to find loose flange screws. Likewise with plate fasteners. However, during wet periods, a wooden flange will swell, to the point that the head of the flange screw will mash_ uh, press into the wood of the flange. This is why we sometimes see the heads of flange screws buried deeply in their respective flanges. (It seems paradoxical, but you will likely notice this condition, not on neglected pianos; rather on those that for at least a portion of their service lives, received regular maintenance.) Of course, no such phenomenon can be expected between the plate and plate fasteners.

How Tight Is Enough?

By now, it should be apparent that we want the plate to touch (rest on), the bedding dowels, as in figure 1. Any less than this, and the system does not work as an integral unit. Any more, and we risk the possibility of (1) causing the bedding dowels to "mushroom" (yes, this can happen, even with end-grain hardwood); (2) stripping the thread pattern out of the wood in the rim, (3) torquing the head off the fastener, or (4) setting up a stress potential in the plate in the area of the plate fastener, although I believe the odds are against this possibility, due to the proximity of the fasteners to the bedding dowels. Either way, some discretion must be observed. Some of us labor under the assumption that a fastener is not tight unless no one else can loosen the joint! This is not the criterion here. If a descriptive word is needed, see if "snug" works for you.

The Tools

Manufacturers use different plate fasteners. There are sometimes different fasteners between models from the same manufacturer. (This is one reason to support using the term "lag" or "fastener" instead of "bolt" or "screw" in our vocabulary.) In others, especially among vintage instruments, we will likely find fastener size discrepancies on the same piano. (This supports the idea of keeping all bolts and screws in order.) I have, over time, tried various tools, attachments, and modifications to existing tools. I won't mention all the "out-takes". To do so would imply that I should be living in a rubber room! However, to prevent you from making the same mistakes, I'll mention some that did and did not work.

Did not work for fasteners with hexagonal heads:

"Universal" socket. This relatively expensive tool initially appeared to have potential. Since it

was continuously adjustable, had it worked, there would only be a need to carry one socket. Unfortunately, the very mechanism that permitted it to be adjustable also caused it to be too large to fit on pianos with plate fasteners that were in a tight, recessed area of the plate, or those whose fasteners were very close to the outer rim—there just wasn't enough clearance;

A set of sockets called "MetrInch", or something like that. I don't recall exactly, since I threw them away after successfully rounding the heads on a few bolts! The premise was that, for a given socket size, a metric or "domestic" bolt could be accommodated. WRONG!

Did not work for straight-slot fasteners:

Since I use the extension part of my tuning lever for weight (mass) only, I thought I might grind the tip of the extension to the shape of a screwdriver blade, then create some "flats" further up the shaft to accept an adjustable wrench. The idea was solid; the quality of steel in the extension was not—in use the tip just twisted. Case-hardening the extension may have worked, but I never tried it. Besides, the new shape makes the extension a nifty light-to-medium duty pry-bar.

Did work for fasteners with hexagonal heads:

A Sears Craftsman 90-degree ratchet extension. This is nothing more than a piece of steel, approximately 8 inches long, that is bent to 90 degrees at one end, that will accept a 3/8" socket on either the straight portion, or the 90-degree side. It does not have a ratchet action, but for our purposes, it doesn't need to. The merits are lighter weight and more compact storage than a ratchet wrench;

A cheap, imported "stubby" 3/8" ratchet with a pivoting head. The internal mechanism would likely fail with "serious" use. It has worked out nicely for purposes described here, however. This is what I currently use. By the way, I now carry an assortment of fractional and metric sockets.

Did work for fasteners with non-hexagonal heads:

For traditional straight-slot fasteners I use a heavy-duty straight screwdriver bit, one that was originally intended for use with a hand brace. The bit is made by Stanley. The shoulders that would normally be used to insert into the chuck have been ground down to fit a tuning lever tip. Mine was made the hard way. I would suggest you buy one ready-to-use from a supply house. I know that Pacific Piano Supply [Mehaffey] offers these, as well as APSCO. Sorry if I left anyone out.

For Phillips-type fasteners, see preceding paragraph. Yes, they are available for Phillips slots.

THE PROCESS

Refer to the magnified view in figure 2 (pg. 11), for the gap we're trying to eliminate. Just as everyone has preferred methods of chipping, tuning, voicing, or other repeatable tasks, I have a favorite method for tightening plate fasteners. The method is a variation of otherwise proper automotive procedures, specifically, tightening engine heads, wheels, or anything that has more than a couple of fasteners securing it. The idea is to "ease" the plate down onto the bedding dowels, without creating undue stresses at any one point. For the same reason, I never tighten any fastener more than, say, 1/8 turn at a time, even if it will ultimately be tightened much more. I prefer to start tightening at the treble end of the piano. Let's call this number 1. I then continue to fastener number 3, number 5, and so on. The process is repeated with numbers 2, 4, 6, etc. Again, even if the fasteners are very loose, do not tighten them all the way. Repeat this process as many times as required, using the 1, 3, 5 then 2, 4, 6 method until all the fasteners are snug. Finally, do a straight-line tightening method (1, 2, 3, 4, 5, et al), to assure that no fastener has been overlooked. If at any time, you find yourself holding the head of the fastener in your hand, while the threaded portion remains in the piano, it is a clear indication that something has gone wrong. Go back and read the "How tight is enough" paragraph. One other thought. While it rarely happens, sometimes plates on neglected pianos will make "groaning" noises during this operation. If this should happen, take two steps away from the piano, followed by two deep breaths, and continue.

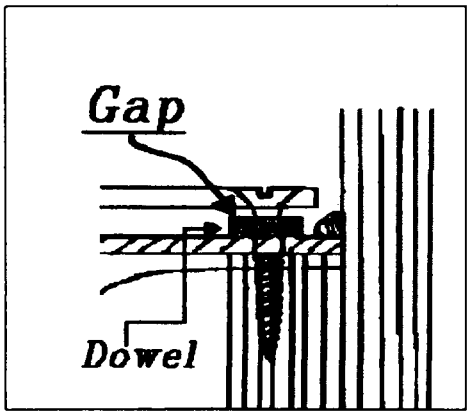

Figure 2

LOOSE ENDS

I have likely left out something in the foregoing discussion. While I hope nothing significant was omitted, a few things come to mind:

This procedure does not apply to any Baldwin piano that utilizes their machine-screw method of plate suspension.

The procedure, at least in theory, does apply to vertical pianos, although the process is more difficult, and the results usually less dramatic.

Fasteners in the plate webbing area should also be checked at the same time. Some of my respected colleagues go the extra mile on grand pianos, e.g., removing the action, jacking up the pinblock (from the keybed), and then tightening all accessible fasteners in the plate webbing area. I have never gone to this extreme, and therefore cannot attest to the effectiveness of the method.

I ask you to try seating the plate, not only during initial service calls, but during subsequent calls as well, especially during drier times of the year. Depending on your part of the country, you may be as surprised as I to discover how much improvement it can make. Your tuning stability will improve. If you can't tune, I promise a 200% improvement anyway. Let's see—200% of nothing-Oh I almost forgot! But see that you don't forget—to do any tightening before tuning, unless you have a penchant for re-tuning the piano only because of your forgetfulness.

Good Vibrations

Gluing in the Pinblock

By
Nick Gravagne, RPT
New Mexico Chapter

We left off last time having fitted the new pinblock to the flange without the use of epoxies. The web screws were all fitted and installed, and the tuning pin holes were spotted and circled for drilling. Lastly—and very important when using the pattern-method for locating the pinblock in the case (see May '92 Journal this series) —the three or four 1/8 inch registration holes were drilled through the new block. If you recall, these holes were first drilled through both the plate and the old block before the piano was torn down. Finally, the new block was removed from the plate for pattern location and cutting.

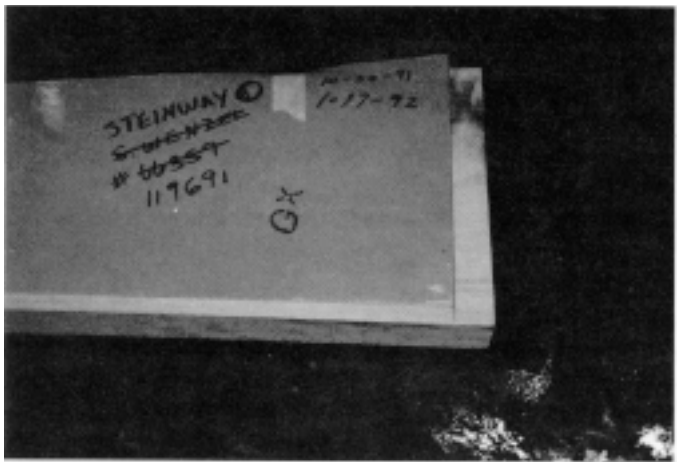

Photo 1

PIN ON THE PATTERN

Place the block on a bench or sawhorses and pin the pattern in place with 1/8 inch dowels (photo 1). Notice some things about the photo. First, the pattern has been recycled; it was first made for a Steinway "A", then with a few modifications was used for an "O." The pattern has been pinned in place with dowels; if you look closely you can see one of these dowels standing in a marked circle (below the X mark). Since the block is larger than the pattern, the waste material of the new block must be cut off in order for the block to fit inside the case. Hold the pattern down on the block, and using an awl, scribe the two end lines and the stretcher line. Next, run a very sharp pencil in the scribe line so as to make the line more evident. If the pencil line ends up wider than the scribe line, simply erase the pencil line. The scribe line may still appear dark enough to see as a result of erasing and rubbing over it. When carefully cut and trimmed to the scribe line, the new block will fit tightly into the case, both end-to-end and to the stretcher. Some ideas on cutting and fitting the block to the case have already been covered in the May '92 Journal, pages 26 and 27. Refer to it at this point if you need to.

Photos 2, 3, 4 and 5 show the new block, with and without pattern clamped in place within the case. Photo 6 shows the pinblock rearward of its final location against the stretcher. The photo is included here to remind us that the new block, although tightly fit end-to-end, shouldn't be jammed so tightly that it can't be wedged rearward with the aid of a large screwdriver or, better yet, a flat steel pry bar. When the block is in this rearward location it is easier to remove by swinging up the treble end. Installation is the reverse: Swing the treble end down; then tap the block into the stretcher. As you tap, the ends will become quite snug. This technique works due to the larger than 90

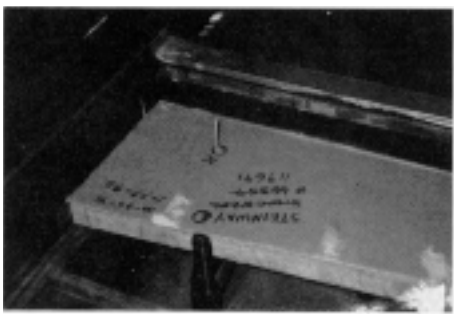

Photo 2

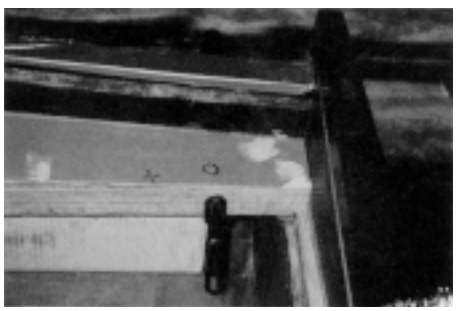

Photo 3

degree angle at the case/stretcher in some pianos such as Steinway. Take advantage of this inherent condition when you can.

DON'T FORGET PINBLOCK HEIGHT

Remember that before the old block was removed from the case, a simple wooden gauge was used to record the height of the block relative to the top of the case. Be aware that sometimes the front-to-back condition of the block is inclined a bit; there is a slope. So, in any discussion of pinblock height, it must be understood that any sloping conditions must be included. Thus before the new block can be glued to the rim and stretcher, its height and slope relative to the top of the case must be compared to the original. Depending on conditions then, the new block may need hardwood spacer shims either of uniform thickness, or of a sloping thickness, in order to duplicate its height and slope. These shims are sometimes a bit tricky to make. Let's say a sloping shim is required which is 1/8 inch deep at the treble stretcher corner, and 1/16 inch deep at the other end. Of course, the shim will be as wide as the shelf. Start with hardwood stock such as waste pinblock material. When band-sawing shims from pinblock material, orient the laminations parallel to the blade. Carefully make the cut according to the required dimensions, but a bit too thick. Next, the band saw blade marks need to be sanded and smoothed out. It is impractical to plane down a thin shim either by hand or with a machine. I use a stationary disk sander and belt sander, along with some final hand work to accomplish the job. As the shim is being taken down and smoothed to final specs, it is tried under the pinblock from time to time to see if the combination of pinblock and shim will conform to the line drawn on the wooden gauge used to mark the original condition.

It is also possible that either by chance or necessity the new block

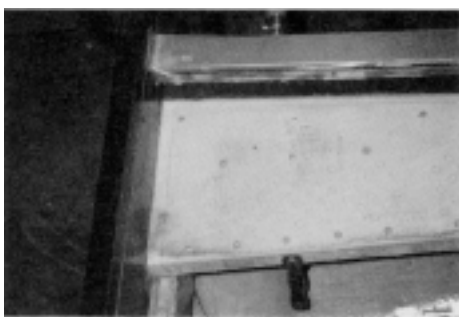

Photo 4

Photo 5

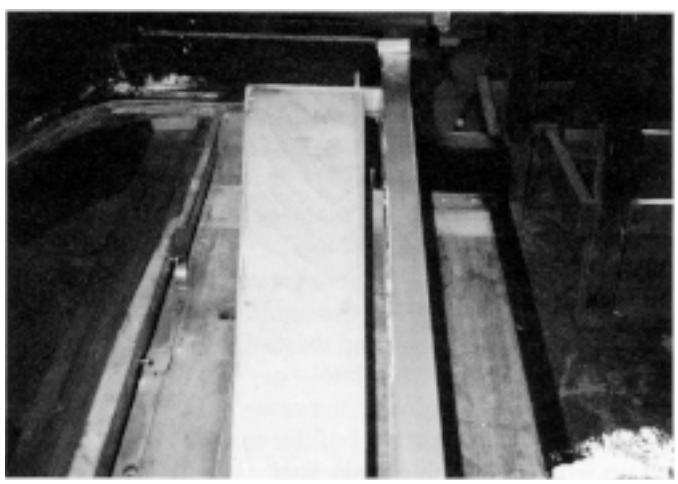

Photo 6

will be too thick and require planing down. An electric hand planer is the answer here. If the new block is grossly too thick, say 1/8 inch needs to be taken off the entire underside, set a circular saw to make a 1/8 inch cut, and cut in a web of kerf marks. Plane down with the electric planer to final dimension and machine sand.

I usually choose a new block that is very close to, or less than, the original block thickness. It is common to find original Steinway blocks that are thicker in the treble (1.5 inches) than in the bass (1.375 inches). In this event, I choose a new block based on the thinner dimension knowing that the treble end will require a shim to bring it up to the correct height. I prefer this over having to plane a block down to the correct thickness. This is a matter of choice. It is not required that the underside of the new, installed block be flush with the underside of the stretcher. Still, use the thickest block that will work. The tuning pin holes would normally be drilled at the drill press now. Those who drill tuning pin holes after the block has been installed would proceed directly from this point in the discussion. Tuning pin hole drilling will be briefly discussed in a future article.

GLUING THE BLOCK TO THE CASE

When the pinblock fits the case properly—end-to-end, stretcher, and correct height and slope—it is time to glue it in place. Due to the differing conditions of the plate web for various models of piano, the block must be screwed to the plate before it is glued to the case. In most Steinways, for example, the plate web bows upward. A variation of this condition might be where there exists an obvious upward bow in the agraffe area, while very little bowing exists at the front-most part of the plate— or maybe the reverse might be the case. So, in order for the piano rebuilder to end up with an installed block that mates tightly both with the underside of the web and with the stretcher, the block must be glued in while it is attached to the plate.

The procedure is simple to comprehend and relatively simple, if not a bit awkward, to carry out. First, a word about glues. Since pinblock installation is cumbersome and requires unhurried time, consider using a slow setting glue. Fast setters such as Titebond and most yellow shop glues will likely skin over or begin to set before all of the components are in place for clamping. Still, having said that, my own practice is to use two glues—a fast setter and extremely strong glue at the rim joints, and a slow setter at the stretcher. Both glues are excellent gap fillers. the names and manufacturers of these glues are: 202 GF by Garrett Wade (1-800-221-2942 to order woodworking catalog); and Weldwood's water-activated plastic resin glue (available at most hardware stores). I use the 202 GF at the rim joints, and the Weldwood stuff at the stretcher. The 202 GF has a brief "open time" of 10 to 15 minutes as compared to the Weldwood glue that requires hours to harden. Liquid hide glue used all around is also a fine choice of glue for pinblock work. Whatever glue(s) are used, remember to allow enough time for an unhurried installation.

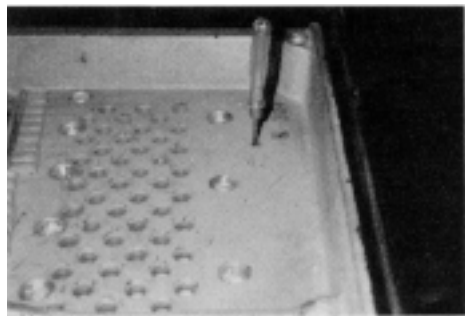

Photo 7

Having selected the glue, the next obvious step is to apply it. I start with the pinblock clamped in a Workmate such that the stretcher edge is facing up. A thick application of the slow drying plastic resin glue is spread on the edge with a putty knife. The rim joints at the case, including the insides of the outer rim, are then liberally buttered up, along with any spacer shims. The pinblock is then removed from the Workmate, placed in the case, and tapped forward, snugly into place against the stretcher. Next the plate, which should be ready at the hoist, is lowered onto the pinblock and nose bolts. (If the soundboard is new, the plate support dowels do not have to be in place for this operation.) Incidentally, the 1/8 inch plate-to-block registration holes are very handy for guiding and settling the plate into exact position on the block. Photos 7 and 8 show 1/8 inch diameter "skewers" in place as they help guide the plate into place. That is, when the lowered plate was only an inch or so above the block, the skewers were inserted as the final plate lowering was completed. Selected web screws are then installed in order to pull the block up to the plate bottom.

Finally, the block is clamped to the rim and stretcher per this month's cover photo. Note in the photo that, in order for the pipe clamps to press the pinblock down firmly onto the rim, they must push on the plate through 2 x 4 blocks. These blocks can be seen standing on the plate bars. When the ends are clamped down, an additional battery of clamps is positioned horizontally, in order to pull the block and stretcher into tight contact. Lengths of wood strips, covered with cloth or

Photo 8

Photo 9

cardboard, are used to protect the outside of the stretcher from clamp marring. Glue squeeze is then cleaned up with a wet rag.

If you've never done this before, you might want to try a dry fit first. But in my own experience, if the block has been properly fitted, dry fits are unnecessary.

It would be nice, if, after the glue dried, the plate could just be left in place, but it can't. It must be pulled out so that screws or dowels (I prefer dowels) can be installed in order to solidify and reinforce the pinblock-to-shelf joint. You will notice in Photo 9 that the plate hoisting set up, although relaxed, was left in place for the gluing operation.

Next month we'll discuss doweling the block to both the rim and the stretcher.

PTG

Tuning Corner

Daniel L. Bowman, RPT
Richmond Chapter

STABLE

Tuning Technique

Part 2

Setting A Stable String

Coping with the marshmallow effect (continued)

Last month we discussed setting a stable pin. This month it's setting a stable string. See the beginning of last month's article for an outline of this series of articles.

2. Coping with Bearing-point Friction and String Elasticity

First, some general thoughts: "Key pounding", coordinated with tuning hammer movements, is the secret to string settling. The word "coordinated" is probably the more important idea, but for now we will deal with key pounding. The coordination idea will be covered under Article 3.

The shock from the heavy hammer blow to the string, followed by the strong vibrations of the loudly sounding string, is what momentarily reduces the bearing point friction so that the string can jump, creep, or, as we usually say it, "render" across the bearing points. It gives the string a chance to settle where it wants to settle—but can't by itself—because of bearing friction. Key pounding makes these string movements, and secondarily, pitch changes, follow tuning hammer movements more accurately. Said still another way, key pounding coordinated with tuning hammer movements gives far more control over string movements than is possible by merely yanking the string by brute force across the bearing points with the tuning hammer alone. Thus, you can get both: a more accurate pitch setting now, and more stability against heavy playing later. So goes the more or less standard arguments for key pounding during tuning as I have gleaned them from my little corner in the tuning community. Now let's push into a more detailed analysis.

As discussed in Article 1, vivid mental imagery of what is going on in the pin and string is a most effective coping device. Let's visualize what's going on as the string is pulled, during tuning, back and forth across the bearings—capo, agraffe, v-bar, etc. In the interest of reducing wordiness, most of the time through the remainder of this series, I will use the letters "TPS" to refer to tuning pin segment.

The famous rubber band demonstration, where a rubber band is dragged lengthwise across the edge of a table, shows vividly how unequal tensions are set up in the string's different segments. But, we need to know more. Suppose that the desired pitch calls for a tension in the speaking length segment of 167 pounds, and that the tension in the tuning pin segment (TPS) is also presently at 167 pounds. Now suppose that it takes 10 pounds of pull to overcome the bearing friction and drag the stiff wire at that tension across the bearings, either up-pitch or down-pitch. (That 10 pound figure is purely hypothetical. I could be persuaded that for some pianos, it could even be higher.) It should be clear that the pitch will not change when the tuning pin is moved, until the TPS tension goes below 157 or above 177 pounds. Thus, the TPS tension can vary as much as 20 pounds without changing the tension (and therefore pitch) of the speaking length. This means that the tuning pin can be set in a range of places and still end up with the pitch where we want it. (Notice, if the pin can be set in a range of places, then there is at least some leeway for pin twist and flagpoling.) Obviously, if the tension in the tuning pin segment is near the upper or lower end of that 20 pound range, the tension in the speaking length segment will be less stable against later playing. I agree with those who advocate tuning techniques that (hopefully) leave the tension of the tuning pin segment a bit higher than that in the speaking length; but am convinced that a stable setting is often achieved even when the TPS tension is lower than the theoretical ideal. It is important to realize that the bearing point friction, and the hugging effect of the bends in the stiff wire, contribute significantly to holding the speaking length at the desired tension. In other words, the tuning pin does not hold the string all by itself; bearing point friction helps significantly. Regardless of theory, there no doubt is some range of tensions inside that larger 20 pound spread, within which the TPS tension must fall if the pitch is to be stable against heavy playing. Let's just call this the "safe range." The question now is: how does the tuner know anything about the tension in the tuning pin segment, and more importantly, whether it is in the safe range, and what are the techniques for getting it there? So, more about feedback, then technique.

As noted in Article 1, "Setting a Stable Pin," the feedback for setting a stable pin is direct perception (the

PIANO TECHNICIANS Journal UPDATE
FOR MEMBERS OF THE PIANO TECHNICIANS GUILD, INC.

Sacramento Convention offers registrants time tested tradition as well as a program of progress

A total of 884 registrants helped PTG celebrate its 35th birthday July 22-26 in Sacramento, CA. Convention highlights included:

- The Opening Assembly, in which Don Morton and Willis Snyder were inducted into the PTG Hall of Fame. Member of Note awards went to David Snyder, Michael Travis, Charles Erbsmehl and Michael Kimbell. Jack Stebbins was recognized as "Examiner of the Year," and Mark Stivers accepted PTG's first Chapter Newsletter Award on behalf of the Sacramento Valley Chapter. Webb Phillips received a Presidential Citation from Nolan Zeringue for his work with the Chapter Management and Achievement Committee.
- The 1992 Council of chapter delegates. Delegates voted to approve the title "Registered Piano Technician" as the only official title to be used by franchised members of PTG. The new title, abbreviated "RPT," will replace the previous "Craftsman," "Registered Tuner-Technician" and "Registered Technician" designations. Although the action became official at the close of the convention, current printed materials can be used through July 1993.

Delegates approved a new organizational logo designed by The Phelps Group. The Marketing Committee was charged with developing guidelines for use of the new logo by members. Meanwhile, Council recommended that individual members not use the logo until the close of Council in 1993. The Home Office may use the logo in the meantime.

Council also voted to retain the member death benefit, and to extend the $12-per-member special assessment to fund marketing activities for another year. Information on marketing activities completed to date was distributed to Council delegates.

- More than 250 hours of classroom instruction in seven categories — Tuning, Voicing & Concert Preparation, Regulation, Repair, Shops & Equipment, Products & Systems, and Allied Arts.
- An exhibit hall featuring displays of products and services by 48 companies.
- The annual convention awards banquet, which culminated in the presentation of PTG's highest individual award, the Golden Hammer, to Fred and Mimi Drasche.
- Evening receptions hosted by the Randy Potter School of Piano Technology, Baldwin Piano & Organ Co., Yamaha and Steinway & Sons.

For more information about convention activities, especially actions taken by the 1992 Council, watch for articles in the October *Journal*. U

Delegates Cast the Deciding Votes

The newly elected 1992-93 Board of Directors will be: Fern Henry, RPT, Vacaville, CA, President; Leon Speir, RPT, Dallas, TX, Vice President; Sharla Kistler, RPT, Allentown, PA, Secretary-Treasurer; Nolan P. Zeringue, RPT, Thibodaux, LA Immediate Past President; James Birch, RPT, Bethel, CT, Northeast Regional Vice President; Eugenia Carter, RPT, Charlotte, NC, Southeast RVP; Bob Johnson, RPT, Lubbock, TX, South Central RVP; Richard Bittner, RPT, Royal Oak, MI, Central East RVP; Michael Drost, RPT, River Falls, WI, Central West RVP; Jim Coleman Jr., RPT, Tempe, AZ, Western RVP; and Taylor Mackinnon, RPT, Hillsboro, OR, Pacific Northwest RVP., RPT, Bozeman, MT.

Delegates also elected Gracie Wagoner, RPT, Sioux City, IA, to chair the Members' Rights Committee, with committee members Bruce Dornfeld, RPT, Northbrook, IL, and Mary Smith, RPT, Austin, TX, and alternates Jim Ellis, RPT, Oak Ridge, TN; Paul Rice, RPT, Bath, ME; Joe Garrett, RPT, Gales Creek, OR; and Pat Poulson, RPT, Grass Valley, CA.

story continues page 3

At YOUR SERVICE

Colette Collier, RPT
Chapter Services Committee Chair

The 1992 Council has approved the creation of a new PTG standing committee: the Chapter Services Committee. The duties of three previous committees have been consolidated under what is hoped will be a more effective and streamlined management concept. I begin my year as chair of this committee acknowledging the previous chairs' efforts and endeavors: Webb Phillips of Chapter Management & Achievement, Wim Blees of Chapter Newsletter, and Randy Potter of Chapter Program Development. All have been very helpful and supportive during the transition.

The new committee will consist of a chairman and ten regional directors. The regional directors are: Bill Ballard and Chuck Erbsmehl, Northeast; Allan Hallmark and Bob Carr, Southeast; Bob Russell and Bob Bussell, Central East; David Durben, Central West; John Gould, South Central; Bob Anderson, West; and Jeannie Grassi, Pacific Northwest.

Our primary goal will be to strengthen and assist chapters. During the next few months we shall be reviewing all existing programs, reporting forms, and methods of reporting as well as awards. You will be hearing more in the LeaderLetter and from your regional directors about where to send your reports. If you have any ideas that you would like to see PTG explore, or any problems we might help solve, contact your regional director. We have several new & exciting projects just starting to take shape. If you have an interest in assisting this committee in the performance of its duties, contact your regional director. It's going to be a great year!

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PTG Foundation Scholarship Given To Feroza LaBonne

Feroza LaBonne, Schenectady, NY, a Nationally Certified member of Music Teachers National Association, is the recipient of the Piano Technicians Guild Foundation's 1992 continuing education scholarship. The $750 scholarship was presented by Foundation President Bruce Dornfeld, RPT, during MTNA's annual convention in Milwaukee, WI.

Feroza D. LaBonne

Thank You Once, and Thank You Twice

TO: The Piano Technicians Guild

May I take this opportunity to express my appreciation for the high honor bestowed upon Mimi and me by presenting the Golden Hammer Award to both of us.

This award will always have a special place both in our hearts and in our home.

This is one award I never thought I would receive so you must know how much this really means to us.

Thank you one and all.

Fred Drasche — Mimi Drasche

Fred Drasche — Mimi Drasche

DATES & DEADLINES

October 2-4, 1992
Texas State Association 1992 Seminar. Sheraton Mockingbird West-Dallas, TX. Contact: Jack Wyatt at (214) 278-9312.

October 3, 1992
San Diego All day Seminar. Piano Exchange, I-5 at Rosecrans. Guest Speaker, Bill Spurlock. Contact: Earl Kallberg at (619) 483-9468.

October 8-11, 1992
Ohio State Seminar. Cincinnati. Contact: Ellen Sewell at (513) 272-0693.

October 17, 1992
1992 New York State Conference. A one day seminar hosted by the Long island/ nassau Chapter at the Holiday Inn-Westbury, NY.
Contact: Norman Heischober at (516) 665-7373 or Dr. Marvin Witte at (516) 935-0556.

October 24, 1992
LVPTG One Day Seminar. Holiday Inn East-Bethlehem, PA. Contact: John Zeiner, Sr. at (215) 437-1887.

In Memory...

Roger Lowell McRoberts
November 5, 1914
June 8, 1992

Mac's passing has taken a fine, faithful, dedicated member from the Houston Chapter of PTG. Music has always been important to Mac. He was a finalist in the Chicago Musicland Festival in 1937. He was an active choir member and soloist in the Methodist churches where he served. It is sad to learn only at his death that he had such a marvelous solo voice.

Like many of his generation, Mac saw military service during WWII. Later he was a newspaper reporter. Still later he was a greeting card salesman. He worked more than twenty years for a stationery supplier as salesman, manager and purchasing director.

Retirement in 1970 gave Mac new opportunities. He served as Municipal Judge for Stagecoach, Texas. He became a Piano Technician and an active Guild member, serving this chapter very well.

A family member wrote a short verse of Mac's passing that concludes thus—"But memories remain; Memories sustain!" Yes, Mac is gone—memories do remain.

James H. Shadd
November 21, 1915
June 19, 1992

The Washington Chapter lost one of our charter members on Friday, June 19, 1992.

Jimmy was not only a charter member in Washington, D.C. but was a former member of one of the parent organizations.

Jimmy, as he was affectionately called, was a great musician and best of all a great jazz pianist. He is survived by his wife Evelyn (Blair), daughter Angela and son Warren, Sr., and eight grandchildren. We will miss you Jimmy.

Directory Correction
Dan Amihud
Correct Phone Number
(805) 373-5154

Membership Status

Northeast Region	855
Northeast RTT's	526
Southeast Region	637
Southeast RTT's	384
South Central Region	319
South Central RTT's	204
Central East Region	632
Central East RTT's	391
Central West Region	389
Central West RTT's	245
Western Region	625
Western RTT's	380
Pacific NW Region	388
Pacific NW RTT's	233
Total Membership	3,845
Total RTT's	2,363

Members of the Philadelphia Chapter PTG toured the Steinway factory on June 12, 1992.

(L-R) Eric Koper, Judy Kazanjian, George Husted, Steve Winder, Steve Prentice, Sol Kohen, Mary Zoshak, Robert Callaghan, Pat Sierota, Richard Rious, and Larry Fornaci, President.

Elections...*continued from page 1*

Ronald Berry, RPT, Indianapolis, IN, will chair the Nominating Committee, with committee members Colette Collier, RPT, Silver Spring, MD; Ruth Brown, RPT, Hatboro, PA; Bob Russell, RPT, Cleveland, OH; and Steve Brady, RPT, Seattle, WA. Alternates will be Larry Crabb, RPT, Tucker, GA and Ward Guthrie, RPT, Bozeman, MT.

U

We're Home!

PTG's new Home Office was dedicated May 9. Owning our own building has been a dream shared by many PTG members over the years. The purchase of our own headquarters structure will ensure that PTG remains strong and healthy, and it should provide long-term cost savings for the organization and its members. But the Home Office is more than a building. It should be a facility that provides a focus for the organization, a center around which important new programs and services can be offered. Among the ideas under consideration is a museum/archive facility to preserve the history of PTG and our profession. We can also take advantage of new technology to provide new and better information services to our members and the music industry.

Bringing these ideas to life will require new equipment, facilities and furnishings, so we're soliciting contributions from individuals and PTG chapters. With each contribution of $100 or more, we'll send you a very special gift.

To celebrate this important day in PTG's history, we've created a limited-edition commemorative medallion. Only 250 of these 3- by 1/4-inch bronze medals designed by PTG staff member Jami Henry were cast in bronze with a rich rubbed finish. The Home Office building is shown in relief, along with the date on which President Nolan Zeringue officially dedicated the new facility. For each contribution of $100 or more, you'll receive a medallion. And, we'll engrave your name — or the name of anyone you designate— on a plaque to be proudly displayed in the new Home Office. Please complete and return the form below so we can continue this important task.

I'm proud of our new Home Office!

I want to help make it even better. Here's my contribution of $100 or more to be used for equipment, facilities and furnishings. Please rush my commemorative medallion and add my name to the list of contributors to be displayed in the Home Office.

Here's the name as it should appear on the plaque: _____

Name: _____

Address: _____

City, State, Zip: _____

Enclosed is my contribution of: $ _____

Please charge my ☐ Visa ☐ Mastercard. Card # _____ Expiration Date: _____

Return To: Piano Technicians Guild, 3930 Washington, Kansas City, MO 64111-2963

feel) of certain behavior as the pin moves, and, a more complex form of feedback, memory of distance and timing between certain events as the pin moves. Now, as we come to knowing and controlling the TPS tension, the feedback is still more complex. There is only some direct perception; it is mostly memory and, a new idea, logical deduction, from your understanding of the pin/string system. What in the world does that mean? Come on, keep reading.

I am aware that my term "memory/remembering" as a type of feedback may be confusing. Feedback, properly speaking, refers to sensory data that is generated when you do something. What you "directly feel" when you move the tuning pin is that. Memory is not that, true enough. I have been using the term memory to refer to certain sensory observations of events that span an interval of time and which are utilized later than the sensory event itself. I'm saying that memory of this event, which, transpired over time, becomes a piece of the data used as feedback by the tuner. Since I can't think of a better term, and since the earlier parts of this article have already been printed, I'm stuck with the term. There is a similar problem with the term "logical deduction,". But, let's get back to understanding the feedback for knowing the tension in the tuning pin segment.

Your basic understanding or working knowledge of the pin/string system should be this assumption: any time you move the tuning pin, whether rotational or flag-poling, and that move is not accompanied by immediate and proportional pitch change, you have caused the tension of the tuning pin segment to diverge from that of the speaking length. This divergence must be attended to for setting a stable string. If you aren't really aware of this diverging TPS tension, try this the next time you tune one of those grands with no understring felt between the counterbearing bar and the tuning pins. Pluck the tuning pin segment as you manipulate, rotate or flex the tuning pin. One time when I tried this, it was easy to get the pitch of the TPS to drop 70 cents before the pitch of the speaking length changed even a little. And this piano was only moderately high in bearing friction. The higher the bearing point friction and/or string elasticity, the more the tension of the tuning pin segment will diverge, when the pin is moved, from that of the speaking length before pitch change. Furthermore, this tension imbalance does not automatically correct itself. Bearing friction is real and often grudging; therefore, you, not the string's tendency to equalize tension across bearing points, must address this divergence in order to achieve a stable set of the string. Setting a stable string probably has more to do with tuning stability than setting a stable

pin, at least in pianos with heavier bearing friction. Your knowledge of all this then serves as a kind of base assumption from which you can "know", by logical deduction, what is going on in the tuning pin segment. Memory of how far the pin moves before pitch change is also involved. And direct perception (aural) of the way the pitch behaved during the tuning sequence is also involved.

An example will show how all this works, and also that there is a problem. Key pounding will not be included in this example. Let's say you move a pin up-pitch, going for a 5-cent pitch change. First, you notice there is pin movement without pitch change; then the pitch rises sluggishly. You now know, or should know, by logical deduction from your knowledge of the pin/string system and of what you just did, that the tension of the TPS is now above the safe range—it has to be, or the pitch would not be rising. You also now know that the bearing friction/string elasticity is high. You go on above pitch to give room to settle the pin (that is, get the tail of the pin in the right place). Now, as you settle the pin down-pitch, moving the string toward the desired pitch, you notice that the pitch change is still hesitating and lagging behind pin movement, once again confirming high bearing friction. You also know, through logical deduction, that the tension of the TPS is now below the safe range—it has to be, or the pitch would not be falling. After getting the pitch where you want it, you reverse the pin to get the TPS tension back up into the safe range, hopefully without disturbing the pitch. Your memory of how far the pin moved before pitch change and of how the pitch behaved when you started settling the pin back, gives you a good idea how far to reverse the pin. Once again, this feedback works best when you are working quickly and smoothly. Of course, lots of practice and experience helps, and the test blow is indispensable.

This is all very neat, but only up to a point. You can "know" a lot of what is going on in the tuning pin segment during this tuning sequence, but there is still too much guessing at the very end, where you do that little reversal of the pin. You cannot really know for certain whether the tension is in the upper or lower end of the safe range; it might even be above or below the safe range, leaving you to wonder later, "Why is the pitch drifting on this string?" Experience does help enormously here. Even with experience and the test blow, this feedback, from memory and logical deduction, is still far from foolproof. And as the bearing friction goes up, the problem gets worse, I would say, geometrically. Something more is needed.

The trick is to find some technique by which you control, or "manage" the TPS tension at all times as you move through the tuning sequence; that is, keep it within some kind of limits so that you can know exactly, or at least more accurately, where it is at the end of the sequence. This technique is the heart of stable tuning. It's key pounding. But the real question is not how hard to pound, but when in the tuning sequence to pound. The word "when" points out that the problem is coordination of tuning hammer movements and key pounding.

What is the coordination technique for "managing" the tension of the tuning pin segment and settling the string? Go back to the sample tuning sequence above. Pick up at the point where we have the tail of the pin where we want it, and are now settling the pin back into its new resting place and the string to pitch. Notice, if we ease the pin down-pitch and the pitch does not drop immediately, we introduce more and more slack into the TPS until the pitch does finally drop. When the pitch does drop, the TPS tension is already somewhere below the safe range. But where? We've lost contact and are out of control, just as surely as the fisherman loses contact with and control of his fish if he allows slack in his line. On the other hand, if we ease the pin

down-pitch just enough to reduce the TPS tension, but not enough to cause pitch drop; that is, reduce the TPS tension just to the lower end of the safe range, and then introduce key pounding to actually induce the string to creep across the bearings while continuing to play out more string from the pin, we avoid introducing that unwanted slack into the TPS, and so remain in control. With this maneuver we can know (through logical deduction), that the TPS tension is hovering around the lower end of the safe range, and that any up-pitch springing or reverse rotation of the pin at the very end of the sequence will take the TPS tension well up into the safe range. Presto, the string is now settled and stable! In other words, key pounding should be the last iota of influence inducing the string to move as the tuning hammer/pin releases enough tension in the TPS to allow it to move.

And this is applicable to up-pitch maneuvers as well; that is, up-pitch maneuvers in the settle back stage. Key pounding should be the last influence in causing the string to move as the tuning hammer/pin increases the tension of the TPS enough to make the string at the bearings want to move. This keeps the tension of the TPS hovering at the upper end of the safe range, rather than causing it to skyrocket to who knows where. The pitch then creeps upward in a more controlled manner, more closely associated with tuning hammer movements. Then, when the pin is allowed or helped to settle back to its resting place, the TPS tension falls back into the safe range, and again, the string is stable.

I'm not claiming that the addition of key pounding as described above is foolproof for setting a stable string; it certainly does improve control.

To sum up the feedback elements of this article, notice that the feedback specifically for knowing the tension of the tuning pin segment includes all three forms: direct perception (aural) of pitch behavior during the tuning sequence, memory of how far the pin moves before pitch change, and logical deduction from your understanding of the pin/string system and the way your various moves affect that system. Your technique for controlling the tension of the tuning pin segment is, in itself, a kind of feedback for "knowing" what is going on there—when you control it, you know it, or something like that.

We have now approached into the subject for the next article, which deals with setting a stable pin and string; that is, coordination of tuning hammer movements and key pounding.

PTG Journal

Tech Check

Adapting Microsoft Works ® for DOS to a Piano Technician's Business Needs

Larry Gardner, RPT — Fresno Chapter

The purpose of this article is to let other technicians know how an easy, flexible, and inexpensive computer program like Microsoft Works (for the IBM PC) can be used to enhance a piano service business. I would also like to begin a dialogue in order to find out how other people have set up their software in order that we all might benefit.

When I purchased my first computer system this past year, I was fortunate enough to read a review of a program called Microsoft Works for DOS Systems. The review explained that MS Works is an integrated program that includes a word processor, database, spreadsheet and communications programs all in one. One of the big advantages of a program like MS Works is that all of the various program modules use similar commands, making it unnecessary to learn more than one program. My program is Version 2.0, and it is my understanding that the next upgrade of MS Works includes a graphics program. Another nice aspect of this program is that it costs under a hundred dollars (check with your local discount software stores, or with mail order companies). Expect to pay a little more for Works for Windows®, version 2.0. The price of "Works" is considerably less than some of the custom software written specifically for piano service businesses. Another advantage is that it already includes a word processor program, which would cost another $250-400 if purchased separately. I feel I saved about four to five hundred dollars by adapting Works to my own piano service business. After having paid a considerable amount of money for my computer, I didn't know how soon I might afford one of the piano service software packages that are available. Consequently, I was glad to include this in the purchase price of my system.

Following are the "fields" I use to keep track of my customers. Specific formulas, where they occur in my database, are in boldface.

Title:
First Name:
Last Name:
Address:
City State:
Zip code:
Referred by:
(This way I can remember who we know in common)

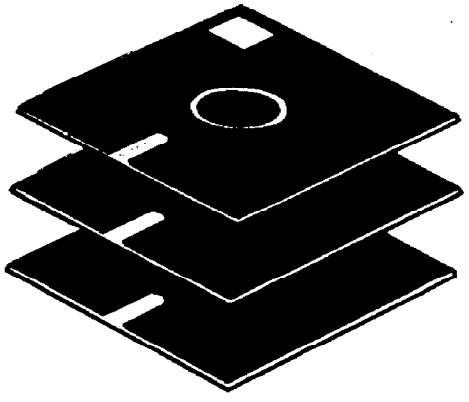
Teacher: (True or False)
This tells me if the customer is a piano teacher. and is used for reports, which I'll explain later

Active:
(This field should be true or false, but I started out typing in active and inactive, so that's the way it stands now).

Spouse:
This field is included in order to track down the customer if he or she moves. Also, it helps me remember his or her name should I happen to talk to the spouse.

Piano Make:
Model:
Man Model #:
Serial #:
Year:
(year of manufacture)

Last tuned:
Next tuning:
Month:=MONTH(Next tuning).



The computer "reads" the Next tuning field, and extracts the month, so no manual entry is required in this field.
NT

Year: = YEAR(Next tuning).

You guessed it, another formula to prevent manual entry. This formula reads the year from the Next tuning field.

Phone call:
This field is for the date of the last time I "made myself available" to this customer with a phone call.

Reminder notice:
This field is for recording the last time this customer was sent a reminder card.

CTR:
for Call To Remind. Six or 12 months are typical values for this field.

Time Elapsed:=(NOW()-Last tuned)/365
This is a formula that shows how long it has been since this piano was last tuned, expressed in years. It can be quite depressing, but a quick way to

tell if it's a serious customer or not.

Today: =NOW()+1

This formula directs the computer to insert tomorrow's date, and assumes that I am organized enough to be printing out invoices the day before the tuning is scheduled. This is not always an accurate assumption.

Directions:

This keeps me from feeling stupid, by asking for directions to the customer's home after the first service call. It also saves time by not having to write down directions more than once. The directions are printed on my copy of the invoice, so I don't have to attempt to read my horrible writing while I'm driving.

Comments:

This area is for adding prior tuning dates, estimate information, and responses to phone calls made to particular customers.

SN F:

For storing Sanderson Accu-Tuner stretch numbers.

SN A:

SN C:

Page:

This is for the SAT page number, if a piano is important enough to keep in the SAT's memory. By including this as a field, reports of FAC tunings may be printed out by page number.

Actualday:=NOW()

As mentioned above, it is an incorrect assumption that my invoices are always done the night before. This area is for invoices done after midnight, but before the tuning. A separate invoice file reads this date, so manual entry is not required.

Whew, that's it! On the screen it looks something like Example 1. (All examples are on page 22).

To print an invoice, I simply open my customer database file and my invoice file. I "hide" the records of the customer(s) whose piano(s) I will be tuning tomorrow. I then switch to these hidden records, so now there are only the records showing for the piano(s) I will be tuning. I go to my invoice file (a word processor file) and click on the Print Form Letters option. After responding to a few prompts, (and remembering to turn on the printer), I'm in business with a two-page invoice, as in Example 2.

The chevrons turned sideways in the examples indicate the fields that the computer reads from the database. This works out nicely, because I don't have to re-enter all that information. Oh, I usually keep my tuning price in there, but left it out for the purpose of this article. Also, the directions are printed in bold, so they're easier to read while driving.

On the first of every month I send out reminder cards. This is where the Month and NT Year fields are used. I click on View, Query. I then choose to fill in the active field (active), the Month field (8 for the eighth month) and the NT Year field (<=92), meaning less than or equal to 92, or 1992). I then click on View, Form, and the computer lists the records due in the month of August, 1992 (or 1991, 1990, etc.). At this point the other records are hidden. I then load my printer with form fed 3.5" x 6" cards. I open the reminder file with my words of wisdom, and the address file that contains the front side of the postcard. The front and back of the cards are shown in Examples 3 and 4, respectively.

Maybe someone else has something better to say, but this is what I've been printing on my reminder cards. I thought I would want to use labels, however, it seems to work well to just line up the cards on the printer, run them through one way, then turn them around and run them through again on the opposite side. This way, the printer prints not only the address, but my return address, and "Address Forwarding and Correction Requested," something no respectable junk mail would ever be without!

One of the nice things about this system is that customers may be notified at the same time every year, since I want to tune their piano during similar climatic conditions. Also, I won't be sending them cards every month, since their name only comes up one time a year (unless they ask for a tuning sooner). If someone says they're not ready, but want the piano tuned in a couple of months, I just change the Next Tuning field to a couple of months later. At the appropriate time, their name will appear again for another reminder card and phone call.

Another nice use the program is to make reports of all my teachers. Remember the "Teacher" field mentioned earlier? That is used to eliminate all the customers who are not piano teachers. A report is then created to add to my handouts. Before, when a customer asked, "Who's a good piano teacher for my daughter or son?," I would hesitate while trying to think of someone in their area. Now, I just present them with a list of the teachers I tune for. When I create the report I sort it, in order, by zip code, so the customer can easily find those teacher(s) close-by. The teachers seem to really appreciate it.

You may ask, what about my institution with 674 pianos? How are these tracked without going crazy? Without going into great detail, it can be done. The main thing to remember is that an invoice with a bunch of pianos is really called a "report." One simply defines the report, selects the records that have been updated, and then copies the report to a word processor file. In Works, one actually selects the report definition to copy to the word processor file. I have it worked out so the report even does all the math, including figuring the state sales tax.

I must confess that so far I don't use the spreadsheet module of Works. Instead I use Quicken®, but that's another article (which I probably won't write)!

I have yet to mention macros. A macro is a group of commands that one creates to perform routine tasks. Works has the ability to record and playback these macros. For example,

after entering the program, with only one keystroke I can: (1) open the File menu, (2) select the Open Existing File command, (3) change to my customer directory, (4) open my customer database, and (5) open my invoice file. Imagine, all of that with one keystroke!

I don't think enough can be said about backing up the information stored in computers. I suggest that you back up everything in your hard drive—if not daily, at least very often. Even more important: back up customer files on paper! Computers break down (not that it has ever happened to me). I like to have a "hard copy" (print-out) of at least minimal customer information, in the event that I look in my appointment book and find only a name and illegible directions. At least once, if I had a printout of names, addresses and phone numbers on paper, I would have experienced a lot less grief trying to find information on a customer.

In case you can't tell, I like this computer program. I like being able to adapt it to my situation, and add fields that contain meaningful information to my business. The way I have it set up, I can search and sort the database for cities, zip codes, dates, piano models, streets, teachers, SAT page numbers, and so on. Other ideas could include using the software to create an appraisal document, or perhaps a rebuilding estimate and agreement. I'm sure there are many more possibilities for this, and other similar programs.

Here are some recent sources and prices for Microsoft Works:

Insight Computers, 1912 W Fourth, Tempe AZ, 85281,
Tel. 1-800-776-7600; 602-350-1176
(MS Works...$89)

Ralin Wholesalers, Inc., PO BOX 450, Orchard Park NY, 14127
Tel. 1-800-752-9512; 716-674-6267
(MS Works...$92)

Loma Computer Products, 946 Loma DR., Hermosa Beach CA, 90254
Tel. 1-800-369-2846; 310-798-2835
(MS Works/Windows $128)

EXAMPLE 1-Database File, Form View

Title: Ms.
First Name: Gertrude Last Name: Farcus
Street: 99999 E Elm City: Fresno CA
Zip code: Status: active
Home phone: Work phone: 275-0000
referred by: Jane Smith Teacher: f
Contact: Spouse: William H.

Piano Make: Yamaha Model: grand Man Model #: C5
Serial #: 1111111 Year: 1990 Month:
Last tuned: Jan 1, 1991 Next tuning: 1/1/92 NT Year: 92
Phone call: 1/14/92 Reminder notice: 1/1/92
ctr: 12 mos Time Elapsed: 1.49 Today: June 30,1992
Directions: N-Blackstone, W-Bullard, N-Elm;

Comments: A=440 form -30c.
SN F: 8.1
SN A: 7.1
SN C: 6.1
Page: 32 Actualday: 6/29/92

EXAMPLE 2-Invoice File

GARDNER PIANO SERVICE
3617 E. PICO
FRESNO CA 93726
209/435-3237

Name: «ref Title» «ref First Name» «ref Last Name»

Address: «ref Street»

City: «ref City» «ref Zip Code»

Phone: «ref Home phone» «ref Work phone»
Date: «ref Today»

«ref Piano make»	«ref Model»	«ref Serial #»	«ref Year»
Piano make	Style	Number	Year

Parts:
Labor:
Tuning: $xxx.00
Tax:
Total:

Explanation of Repairs:

Recommendations:

Call to Remind in ____ 6 months _____ one year

Referred by:«ref Referred by»
«ref Directions»
«ref SN F», «ref SN A», «ref SN C»; Page «ref Page»
Last Tuned: «ref Last tuned»

Larry Gardner
Registered Member
Piano Technicians Guild

EXAMPLE 3-Address File

Gardner Piano Service
3617 E Pico
Fresno CA 93726-1626

Forwarding and Address Correction Requested

«ref Title» «ref First Name» «ref Last Name»
«ref Street»
«ref City» «ref Zip Code»

EXAMPLE 4-Reminder File

«ref Today»
Dear «ref Title» «ref Last Name»:

GOOD NEWS! PIANOS DON'T NEED TUNING! And houses don't need cleaning, cars don't need washing, or lawns mowing. Unfortunately the bad news is that people want their houses, cars, and lawns to look in a particular state of orderliness. Perhaps you might want to put some order into your "piano life" by having it tuned. According to my records your «ref Piano make» piano was last tuned on «ref Last tuned».

If you would like to have your piano tuned, I would appreciate a call so we can set up a mutually convenient appointment.

THANK YOU!
LARRY GARDNER
Registered Member,
Piano Technician's Guild
Phone: 209-435-3237

Editor's Notes:
The merits of this program are as Larry describes. MS Works represents an excellent dollar value in computer programs, including other powerful and useful features that Larry does not discuss. However, be aware that no integrated software module, whether database, word processor, spreadsheet, or other, is ever as powerful as its full-blown counterpart. They cannot be expected to be as full-featured for the prices mentioned here. Works, for example, permits creating a word processor file as large as disk space permits; conversely, the database functions are memory-dependent. As a result, depending on the amount of data you wish to store, you could ultimately outgrow the program's capacity, especially if you have a large clientele base. In addition, Works uses a "flat-faced" data file schema.. This means that, unlike "relational" databases, you cannot directly look up information in one database for use in another, such as entering a zip code and having the program automatically generate the city and state for that zip code.
While you may only perform operations on one file at a time, Works permits opening several files concurrently, and the ability to toggle quickly between them.
At first glance, this price seems out of line with the other prices; but note that this is for the Microsoft Windows version of the program. I have also seen Works available at Wal-Mart stores at competitive prices.

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Silver Spring, MD 20902 (301) 649-7330

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4201 Pottsville Pike, Reading, PA
Contact: Mike Carraher
717-367-8256

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Sheraton Mockingbird West-Dallas Texas
Contact: Jack Wyatt, 1801 Stratford
Garland, TX 75041 (214) 278-9312

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Contact: Earl Kallberg
Shore Drive 32
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San Diego, CA 92109 619-483-9468

October 8-11, 1992 — **Ohio State Seminar**
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Contact: Ellen C. Sewell, 6985 Wooster Pike,
Cincinnati, Ohio 45227 (513) 272-0693

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Contact: Marvin Witte, 26 Hollywood Dr.
Plainview, NY 11803 (516) 935-0556

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Contact: John Zeiner, Sr., 830 Hanover Avenue,
Allentown, PA 18103 (215) 437-1887

November 12-15, 1992 — **North Carolina State Conference**
Charleston, SC
Contact: Jim Harvey, 205 Parker Ave.,
Greenwood, SC 29649 803-223-2889

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Phoenix, AZ
Contact: Gary Mile, 3722 W. Port Royale Lane
Phoenix, AZ 85023 602-942-2588

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Hello again from the President's corner.

Do you remember when, during Council meeting in Sacramento, I asked you to write down the purpose of PTGA? Well, I had a chance to read your replies on the airplane coming home, and as they had common threads running through them I thought it would be a good idea if I shared them with you.

- We should be strong supporters of PTG
- To promote piano music in all areas of the country
- To support the scholarship fund and any other project of the PTGA
- Many of you told of the excitement of going to our conventions with your tuner spouse and to see and travel to new places.
- To support, assist and promote understanding of what piano technology means to the average person
- Many of you expressed these thoughts in different ways, but all of you said that an important purpose of this group is to provide friendship and fellowship among its members

So if you are reading these pages for the first time and are a spouse of a piano technician, please come and join us, for we have the same goals and purposes. Together we can promote our projects more effectively than we can along. There is strength in numbers.

In closing, let me quote the note written by Barbara Boone, who seems to have summed it all up in beautiful prose:

The purpose of PTGA should be to foster fellowship among its members, to share ideas, to help others as they work with their piano technician spouses, to promote projects that make possible our scholarship and other worthy endeavors, and to promote music, pianos, and piano technology throughout our communities, the nation and the world.

I'm glad we all agree. Now let's go out there and find two hundred more who agree with us and encourage them to join the Piano Technicians Guild Auxiliary.

Phyllis Krahmer Tremper
President

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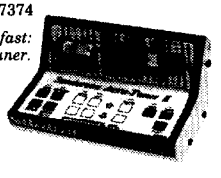

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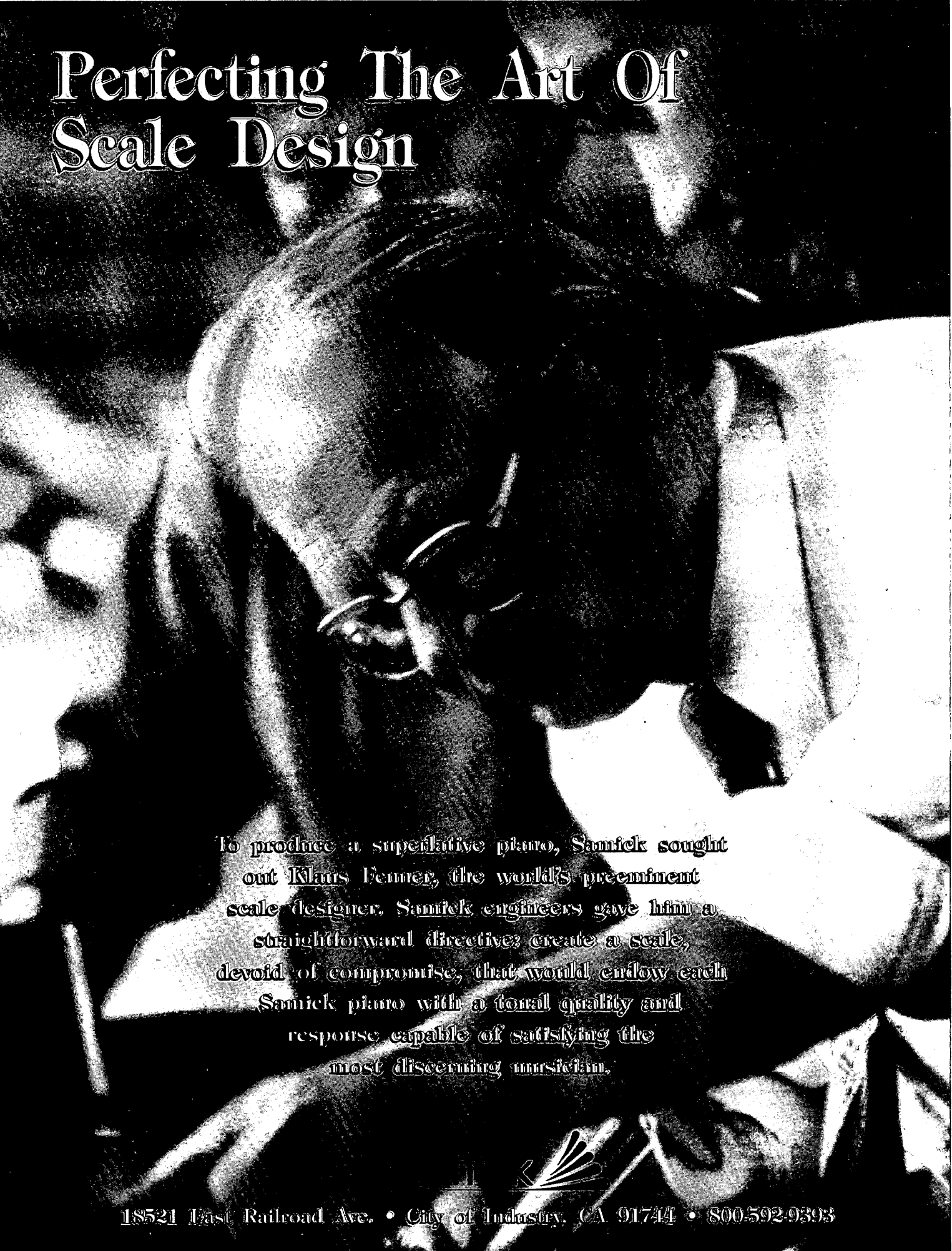

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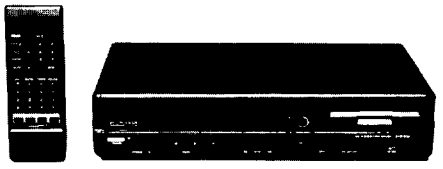

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Tech Gazette

Yamaha Piano Service September, 1992

MIDI-The Basics

MIDI capability is one of the most exciting and powerful aspects of Disklavier Pianos. This capability is why it is possible to connect a Disklavier to tone modules, synthesizers, sequencers, and computers.

The majority of piano technicians have at least heard of the term "MIDI". Most of us, however, find this whole subject intimidating and quite confusing. As with anything we are unfamiliar with, we will even avoid the subject, whenever possible. *(In fact, as piano technicians we don't even have a need to know anything about MIDI, right?)* This probably was true several years ago, at least until we began servicing pianos such as the Yamaha Disklavier, which are MIDI capable. We each enjoy the fact that our customers perceive us as "piano experts" because they believe we know everything there is about pianos. Quite frankly, we enjoy this perception and probably do whatever we can to help reinforce their belief.

As a result, any knowledge we can acquire about MIDI will prove beneficial today and even more beneficial in the future.

(If only MIDI was more simple to understand and use.)

Good News! Learning the basics of MIDI is much easier than one would think. In fact, we here at Yamaha believe that it takes less time and effort to learn the basics of MIDI than it does to learn how to install bridle straps.

We will begin addressing the MIDI basics in this month's Tech Gazette and will continue the subject in future issues of Tech Gazette.

Enough said. Lets get started.

WHAT IS MIDI?

MIDI stands for "Musical Instrument Digital Interface". MIDI was first announced at the 1982 Western NAMM Show and is still considered a relatively new development. MIDI is a worldwide standard agreed upon by most musical instrument manufacturers.

The first important point is that MIDI allows equipment made by different manufacturers to be connected and work together in creating, storing, or altering music data.

The second point is that MIDI devices exchange *digital* data. It goes without saying that MIDI instruments have a built-in computer inside them to take care of this. All-digital music instruments, such as synthesizers and electronic keyboards, have a computer inside them. Computers can also be incorporated into traditional acoustic instruments such as the piano. The Yamaha Disklavier Piano with its full range of MIDI capabilities is an excellent example of the results of doing so.

WHAT CAN MIDI DO?

The main uses for MIDI today can be placed in the following three groups:

Remote Control

MIDI can be used to play other synthesizer keyboards or tone generators from one keyboard. Each keyboard or tone generator can be playing a different sound at a different pitch or volume, and be controlled in many ways from a central location.

Automatic Playing

MIDI musical data can be stored in a computer or sequencer, and transmitted to one or more connected synthesizers, tone generators, and even the Disklavier Piano, in order to play multi-part musical compositions.

Synchronization

Two or more MIDI devices can be made to play back together in perfect timing. For example, while a sequencer sends MIDI musical data to tone generators, a rhythm machine can play a drum part in perfect synchronization.

Looking forward...

MIDI is still in its early growth. Every day new applications are being discovered and put to use. For example, stage lighting effects can be controlled by MIDI in synchronization with the music. Another example is to synchronize music to video. Just as new uses continue to be found for computers, it is certain that MIDI will continue expanding into new areas of music.

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