



## The Piano, A Brief History

The piano that we know today is vastly different than the earliest prototypes that came out of Italy in the 1700's. Founded on earlier developments, Bartolomeo Cristofori of Padua Italy is credited with the first "gravicembalo col piano e forte" around 1709. The distinguishing feature of the new piano as compared to earlier keyboard instruments such as the hammer dulcimer, clavichord & popular harpsichord was the ability of the piano key to deliver a covered hammer to the strings and release without blocking just prior to contact thus allowing new dynamic range. While earlier instruments either plucked strings with quills or panged them with metal tangents, the newer hammer mechanism-with a provision for escapement opened the door for the piano to become a prominent and compelling instrument.

The piano developed steadily and quickly ascended into prominence during the Romantic Era. Musical greats Frederick Chopin and Franz Liszt and many others helped to popularize the piano in a new public forum known as the "recital" which was actually a Liszt invention.

Pianos quickly grew in size, scope and stature throughout the 19th century. An girth of manufacturers produced pianos throughout Europe and especially later in the United States then coinciding with the Industrial Revolution. The great Steinway brand was founded in 1853 by Henry E. Steinway (born Heinrich Engelhard Steinweg). Steinway and other notable piano manufacturers compiled countless innovations and patented improvements in the piano

throughout the 19th and 20th centuries. Pride of craftsmanship and exquisite materials made pianos of prized caliber that are still serviceable today.

At one time there were hundreds of piano manufacturers in the United States alone. Edison's radio had a major negative impact upon new piano sales and it was not until the introduction of the pneumatic player piano systems that the piano found renewed interest among a curious public.

Although appreciation for the piano has never quelled altogether, pressures from our highly technical world in the era of computers, changes in the family unit, and new economic challenges have caused a

slowing of interest in purchases of new fine pianos and has had some impact even upon music education.

A vast majority of pianos are now being produced in large factories in Asia where manufacturing and labor costs are desirable to manufacturers.

Some of the worlds greatest pianos are now treasured possessions—vintage and heirloom pianos from what might be referred to as the "golden era" of piano manufacturing.

Steinway and select other fine manufacturers still produce pianos by hand however further innovation and high quality standards are no longer universal to all makers of pianos.

## Insurance Loss Restoration

### Pianos & Fire Loss: What To Do & When Can Pianos Be Saved?

Fire losses are devastating. These traumatic events ravage homes and businesses without regard for whom they affect. In the aftermath decisions must be made regarding salvage of property and belongings.

Piano are often cherished family heirlooms or prized possessions. At the very least they are expensive belongings and at the most irreplaceable musical instruments. Understanding the personal and monetary value of pianos is important in the process of loss restoration versus replacement scenario. Experts at Piano Renaissance are experienced in the evaluation and appraisal of vintage, heirloom and traditional pianos.

When can a piano be saved? Surprisingly most pianos can be restored following a casualty loss. Factors include smoke, soot, water, moisture, heat and total damages in determining the practicality of a piano restoration following a fire.

After the determination is made whether the cost of restoration is less than the cost of replacement, owners, insurance professionals and Piano Renaissance

Restoration Artistry & Craftsmanship for the Piano

# "Review" Piano Renaissance, LLC



#### Inside this issue:

The Piano, A Brief History	1
Piano & Fire Loss. When Can Pianos Be Saved?	1,2
Understand Regulation & Voicing	2
The Piano Tuner, Modern Methods and Traditional Skills	2,3
Piano Restoration: Briefly	2,3
Ask if Your Piano Technician is an RPT	3
Address & Contact Information	4



# Fire Loss Restoration for Pianos...continued from page 1

...technicians determine a course of action including removal of the piano from the site and transport to the Piano Renaissance facilities.

The process of restoration begins with dismantling of the piano. All cabinet parts are removed and set aside ready for the cleaning process to follow. Piano keys are removed along with the piano action. Pedals or pedal lyre removed, brass hardware removed and in the case of full restoration strings are removed as well.

A distinction is made whether the piano can or should be cleaned, tuned and stored until a time when the piano can be returned to the owner or whether a more involved restoration must take place.

Smoke penetrates into wood pores. Pianos are designed not to have more than a thin layer of finish at the soundboard, underside, beams rim. Smoke easily penetrates into places which are difficult to find and remediate. Smoke and soot also are easily absorbed into felt components including keybed felts, action



Smoke soot and rust damages following devastating home fire. This piano was restored !

cloths, piano hammers and dampers. These parts can be cleaned however replacement is often a better solution.

Cleaning involves an effort to remove as soot particles effectively and without driving them further into wood pores. Very careful high volume vacuuming is the first step in extracting soot. Pianos and there components are taken to our spray booths where they undergo a

series of high pressure air cleanings. Smoke and soot are captured in large filter banks. When as much particulate as possible has been extracted we gently wipe the surfaces and brush with soft bristled brushes to help remove more debris.

Cleaning is the best way to begin the process. Many pianos will require stripping of the lacquer finish, sanding of surface veneers and complete refinishing. The initial smoke removal steps are still necessary in preparation for refinishing as it is important not to seal in any trapped smoke particulate.

O zone treatments are fine for changing the negative charge of particulate but extraction and compressed air and thorough cleaning must follow. Some pianos will be fine with a thorough cleaning of all cabinet parts, keys and keyframe, strings and soundboard and cabinet polishing. In more severe cases complete restoration and rebuilding may follow the initial cleaning and prep stages.

## Piano Restoration: The Process

Piano restoration begins with a series of detailed notes, recorded from the piano being restored while still in original condition. Records will help us to know the previous condition. Measurements regarding plate position, down-bearing of the strings to the bridges of the piano, key height and soundboard crown are used for later reference and determinations regarding future improvements.

Gutting is the term we use for dismantling the entire instrument. Everything is taken apart and carefully organized for future reference. Cabinet parts are

stamped with the appropriate serial number and taken to the stripping (finish removal) area of the shop. Our finishing specialists remove the original finish by hand with non-flammable wax free stripper. Following finish removal careful hand sanding and any necessary repairs to the cabinet woods are taken care of.

Strings, dampers, tuning pins, the plate or "harp" and the original pin block are removed. The keyboard and action taken for work at the



workbench including replacing virtually all action parts including the wippens, hammers, shanks, flanges, dampers, action cloths and more. The piano action includes thousands of parts. Once the original action is removed, samples are preserved for future reference with new replacement parts. In a series of processes, the action is prepared for new parts. At the same time the keyframe pins are polished and re-felted. New action parts which are generally custom

## The Piano Tuner: Modern Methods and Traditional Skills

Piano tuning is the way in which intonation of the piano is adjusted. Traditional tuning involves establishing a "temperament" or middle segment of the keyboard that determines how wide or narrow certain intervals will sound to the ear. There are essentially two methods for tuning a piano. Aural and electronic.

Aural tuners carry a tuning fork which serves as a starting pitch source. Usually A440. The pitch source establishes the pitch level that the entire piano will be tuned at. Sometimes pianos are low in pitch and sometimes high. Weather and time are factors which contribute to

pitch levels at the piano and to tuning instability as well.

We practice aural tuning at Piano Renaissance. As members of the Piano Technicians Guild : [www.ptg.org](http://www.ptg.org) we strive for perfection in our work. Expertise in tuning takes many years to be accomplished at.

Pianos generally require tuning about twice yearly, depending on use and where and how the piano is situated. Changes in humidity and other climactic conditions are strong influences on the intonation of the piano. Our pianos are tuned to A440.



# Understanding Regulation & Voicing

Tuners and technicians talk about regulation and voicing. Understanding these ambiguous terms is essential if we are to make good and informed decisions regarding our pianos.

Regulation is a way of keeping the piano mechanism in a most efficient working order. It is the process of optimizing touch and tone. The intention of regulation is to allow the piano to be as powerful, efficient and responsive as possible.

Regulation begins with bedding of the keyframe to the keybed. A good way of envisioning the piano is in workable systems. For simplicity we can quickly view three such systems. They would be:

1. The Keyframe, keyboard and keybed
2. The Action: (piano mechanism)
3. The Belly: (piano soundboard, dampers, tuning pins, pinblock and strings)

In order to regulate a piano successfully we address



each of the three systems separately and then in an interactive fashion tying all regulation together in a series of parts alignment and synchronizations.

Piano keys act as lever arms and the link to the action parts that deliver the hammer to the strings. Keys pivot on two rows of keypins and have cloth bushings to guide them during travel. Regulation begins with bedding of the keyframe to the keybed, a process that mates the two wood surfaces. Any needed repairs, reduction of unnecessary friction and a series of syn-

chronized adjustments follow. These adjustments include:

- Squaring, spacing and leveling of keys
- Repetition lever height, jack position, repetition spring tension adjustment
- Hammer to string and shaping regulations
- Critical alignments
- Let-off, drop and back-check adjustments
- Damper system integration and regulations
- Hammer voicing

These are some of the regulations which allow a piano to respond efficiently and with a wide dynamic range.

Regulation is intended to optimize piano touch, response and tone.

## Ask if Your Technician is an “RPT: (Registered Piano Technician )

The field of piano technology is an unregulated trade. Therefore the Piano Technicians Guild has set its own standards of quality for piano technicians. The Registered Piano Technician is a member of the Piano Technicians Guild who has successfully passed a series of rigorous examinations. Included in the process of achieving RPT status is a preliminary 150 question written examination covering a wide spectrum of general knowledge regarding the piano, piano regulation, tuning and repair. Hands on vertical and grand regulation, a series of timed repairs performed on site and judged by a “Certified Technical Examiner” and assisted by an RPT, and an exhaustive tuning exam adjudicated by a CTE or Certified Tuning Examiner and other members on a selected committee complete the process.



For more information regarding the RPT, or the Piano Technicians Guild please visit: [www.ptg.org](http://www.ptg.org).

Jeffrey Cappelli, owner of Piano Renaissance, LLC is a Registered Piano Technician (RPT).

## Piano Restoration: The Process...continued from p. 2

ordered from either the Steinway Company, Abel or Renner of Germany, Tokiwa of Japan or Ronson are assembled as the action.

In a long process of “regulation” the parts are aligned and synchronized for efficiency and power. Together with the keyboard, the entire mechanism of moving parts is known as the action.

Finishers continue the process of staining and application of lacquer sealer and dress coats. A multi coat finish takes approximately two weeks to apply with

Adequate dry times. A final sanding which begins with 400 grit and is completed nearly 24 hours later with 2,000 grit sandpapers makes the final finish extremely smooth and ready for the final finishing step. Hand rubbing with steel wool, pumice and rottenstone powders, oil and rags brings the finely sanded surfaces to a final soft luster of incredible beauty.

Soundboard repairs or replacement, finishing of the gold cast iron plate and installation of a new hard rock maple pinblock stringing and damper installation complete the belly area.

The action having been fully regulated is re-installed to the

...keybed. Assembly of all cabinet parts, a series of painstaking regulations and tuning complete the process of rebuilding a piano.

A full restoration usually takes 4-6 months.





PIANO RENAISSANCE  
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*Restoration Artistry &  
Craftsmanship for the Piano*

7540 Roosevelt Rd.

Forest Park, IL. 60130

Nationwide Calls: 1-877-7PIANOS

Tel: 708-771-5397

Fax: 708-771-1735

E mail: [restore@pianoren.com](mailto:restore@pianoren.com)

[www.pianoren.com](http://www.pianoren.com)

At Piano Renaissance we believe in a union of time honored methods and techniques combined with modern materials and technology.

Craftsmen at Piano Renaissance use modern methods to restore the piano structure and refinish the cabinet, replace strings pin block and action parts. Keys, felts, major and minor components are replaced or restored. Regulation, tuning and voicing complete our process of successfully returning quality pianos to their original grandeur.



Work at Piano Renaissance...

