

## About the PACE Program

*PACE (Professionals Advance through Continuing Education)* is the acronym used to identify elements of a special PTG educational program. This program outlines a recommended curriculum and defines a path for those members working toward RPT status. This checklist is an important part of the *PACE* program. Other components are:

- *PACE Lesson Plans* - published initially in the *Piano Technicians Journal* and subsequently compiled in booklets and on CD. These lesson plans provide specific instructions for hands-on learning sessions covering technical and tuning topics.
- Seminar and Institute classes especially recommended for aspiring RPTs.
- The active encouragement of mentors within chapters.
- Special informational mailings directed to aspiring RPTs.

*Note: It must be emphasized that the Piano Technicians Guild does not offer complete schooling in the field of piano technology. Those entering the trade should find a good tutor, attend a residence school program or enroll in a comprehensive correspondence course in piano technology to gain basic training. The PACE Program is designed to supplement other schooling.*

## Why should I become an RPT?

Many Associate members ask themselves this question. After all, the RPT exams cost money, and taking exams are not usually a favorite activity for most people! Some are confident of their skills, and see no need to have them ratified by PTG. Further, many Associate members have successful, growing businesses and see no economic benefit in becoming an RPT. However, there are some solid reasons to pursue RPT status. Many people feel more confident working with someone who is certified or accredited in their profession. There is a growing trend to require RPT status as a qualification for employment or contract services. Some PTG member benefits are available only to RPTs. The exams provide a valuable opportunity for self-evaluation and the personal satisfaction of reaching a professional goal.

## Why do we have exams?

PTG has, from its very beginning, worked to establish standards for piano technicians. We do this through the RPT examinations. We are the only organization in North America, and the largest in the world, to provide qualifying examinations for piano technicians. This standard is our contribution to the piano service profession, to the piano industry, and to the public's enjoyment of the piano.

## How to use the PACE Checklist

**Associate members:** This guide will assist you in obtaining the essential tools, reference materials, and skills necessary to become a Registered Piano Technician. While not a mandatory requirement, all aspiring RPTs are strongly encouraged to use this valuable tool as they work towards the goal of becoming a qualified professional. There are two parts to this checklist:

- **The Reference Checklist** details minimum suggested reading materials, tools and supplies, activities, and experience. You should check off each item as completed. This will help define a path of study and also help your mentors provide help where it is most needed.
- **The Exam Readiness Checklist** contains a sampling of skills needed to pass the RPT tuning and technical exams. Your mentor (or any experienced colleague) can check you off on these skills. When all items are checked off, you can feel confident that you are ready to challenge the RPT exams.

**Mentors/chapter officers:** It is recommended that you meet with all Associate members periodically to review their checklists. This will give you the opportunity to identify the Associates' specific needs and match them with resources within the chapter. For example, if an Associate's checklist indicates need for more experience with grand regulation, someone in the chapter may volunteer to allow the Associate to regulate a grand in their shop (or school, church, or store) for practice and critique.

The *PACE Lesson Plans* offer an excellent opportunity for Associate members to identify the skills and knowledge needed to prepare for the RPT exams, and to track their progress on the Exam Readiness Checklist.

## PACE Reference Checklist

Name \_\_\_\_\_

### Essential Reference Materials

- I have obtained and familiarized myself with the catalogs from at least four piano supply houses. (See PTG's Guide to Resources in Piano Technology.)
- I have obtained and studied piano service manuals for grand and upright pianos from at least four piano manufacturers.
- I read the *Piano Technicians Journal* (purchase the *Journal* CDs or borrow back issues from your chapter library or other PTG member.)
- I have obtained and studied the PTG *Technical Exam Sourcebook*.
- I have obtained and studied the PTG *Tuning Exam Sourcebook*.
- I have obtained and read the PTG *PACE Lesson Plans* booklets.

### Tools & Materials

I have obtained the following tools:

#### String Repairs

- Coil lifter/string spacer
- Duckbill or needle-nose pliers
- Round-nose pliers
- Piano wire cutters
- 5WR Vice-Grip pliers
- Tuning pin crank
- Micrometer
- Tuning pin punch
- Hammer, T-pin driving
- Hammer, small tapping
- String hook
- Soft metal rod

#### Centerpin Tools

- Centerpin remover/installer
- Pin vise w/#37 drill
- Smooth tapered burnisher
- Centerpin assortment
- Flush-cutting pliers
- Medium flat mill file

#### General Action Repair

- Hammershank extractor & shank clamp
- 7/32" drill
- Shank cutters
- Heat gun or equivalent

- Sandpaper strips or paddles
- Flange screwdriver
- Screw starter/holder
- Screwdrivers: small, medium & large, both phillips and slotted
- Adjustable wrench
- Socket set
- Key easing pliers
- Key bushing cauls, .146"
- Key balance hole easing tool

### Regulation Tools

- Key spacing tool
- Key level stick
- Punching lifter
- Key dip block
- Ruler
- Capstan tools, for both holed and square type
- Wire-bending pliers
- Wire-bending tool
- Let-off regulating tool
- Damper wire bending tools
- Damper spoon bender
- Spinet drop-wire nut adjuster
- Parallel-jaw pliers
- Drop screw adjuster
- Repetition spring adjuster

### Tuning

- Tuning hammer w/various tips
- Muting strips
- Rubber mutes
- Tuning fork (calibrated) or electronic pitch reference

### Supplies

- Flange bushing cloth
- Misc. felt & leather
- Key bushing cloth, various thicknesses
- Piano wire assortment
- Spare upright hammer shanks
- Flange traveling paper
- Paper punchings, balance & front rail
- Felt key punchings, balance & front rail
- Yellow wood glue
- Dry powder lubricant
- VJ lube or equivalent

*Note: The tools and supplies listed here only bare minimum recommendations. Many additional items will be needed to perform service work efficiently on a variety of pianos.*

## Activities

- I have completed or am taking a course in piano technology.
- I regularly attend my local PTG chapter meetings.
- I actively contribute to the vitality of my chapter by volunteering to help with chapter projects, meeting set-up, etc. or by serving as a chapter officer.
- I attend special events such as a special chapter seminar, regional seminar, or PTG annual convention at least once per year.
- I have purchased or borrowed grand and upright action models, or have ready access to a grand and upright piano to practice regulation skills.
- I seek the advice of experienced technicians regularly, and submit work for their critique.

## Experience

- I have performed at least 100 tunings.
- I have regulated at least four vertical pianos.
- I have regulated at least four grand pianos.
- I have done a careful aural tuning on a quality grand piano, and have had the work evaluated by someone familiar with the PTG tuning exam.
- I have regulated a grand action or action model, and have had the work evaluated by someone familiar with the PTG technical exam.
- I have regulated a vertical action or action model, and have had the work evaluated by someone familiar with the PTG technical exam.

## Suggested further reference materials

*Piano Tuning, Repairs and Rebuilding* –by Arthur Reblitz, Vestal Press, available from any major bookseller  
*Regulating Grand Piano Touch and Tone*, by Danny L. Boone, Piano Technology Resources, (254) 420-3196  
*The Piano Book*, by Larry Fine, Brookside Press, (800) 545-2022, [www.pianobook.com](http://www.pianobook.com)  
*Pierce Piano Atlas*, (505) 296-5499, [www.piercepianoatlas.com](http://www.piercepianoatlas.com)  
*Piano Parts and Their Functions*, by Merle H. Mason, PTG Store, (913) 432-9975, [www.ptg.org](http://www.ptg.org)  
Videos: *37 Steps of Grand Regulation* and *Aftertouch*, Yamaha Corp. (800) 854-1569  
Videos, various topics, Superior Instruction Tapes, (480) 966-9159, [www.pianotapes.com](http://www.pianotapes.com)

## Exam Readiness Check List

### *Tuning Skills*

- Hammer technique (able to make small movements, set string quickly)
- Knowledge of common intervals and their coincident partials
- Tuning fork test (setting A440)
- Fourths (M3-M6 test)
- Fifths (M6-M10 test)
- Awareness of contiguous 3rds, 4ths & 5ths
- Temperament debugging (correct a note)
- Perception of progressing 3rds, 6ths, 10ths & 17ths
- Treble 4-2 octaves (M3-M10 test)
- Treble 4-1 double octaves (M3-M17 test)
- High treble octaves (approaching 2-1 octaves for exam)
- Bass 6-3 octaves (m3-M6 test)
- Low bass 8-4 octaves (m6-M3 test)
- Stability
- Unisons

### *Repair Skills*

#### **Knowledge of tools, materials and techniques to accomplish the following tasks:**

- Flange rebushing
- Flange repinning
- Key rebushing
- String replacement
- Single hitch pin loop
- String splicing
- Vertical hammershank replacement
- Hammer filing by hand

### *Grand Regulation*

- Familiarity with action parts and their proper functions
- Ability to select the proper tools for each regulation function
- Ability to assemble action
- Ability to correctly align action parts
- Ability to determine correct regulation specifications based on proper aftertouch
- Ability to diagnose and correct regulation problems

- Understanding of the relationship between various regulation functions
- Ability to predict how changes in each regulation specification affect all other regulation specifications
- Efficient ordering of regulation steps as required by the specific situation at hand
- Ability to set priorities in arriving at an acceptable regulation within a limited time frame.

### *Vertical Regulation*

- Familiarity with action parts and their proper functions
- Ability to select the proper tools for each regulation function
- Ability to install top action
- Ability to assemble trapwork
- Correct aligning of keyboard to case parts
- Correct key leveling
- Understanding of correct relationship between sharp and natural keys
- Ability to correctly align action parts
- Ability to determine correct regulation specifications based on proper aftertouch
- Ability to diagnose and correct regulation problems
- Ability to regulate all functions evenly across several keys
- Understanding of the relationship between various regulation functions
- Ability to predict how changes in each regulation specification affect all other regulation specifications
- Efficient ordering of regulation steps as required by the specific situation at hand
- Ability to set priorities in arriving at an acceptable regulation within a limited time frame.

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