

Theme 1: The basics of grand piano action design

Program: Discover the main aspects of a grand piano action. Take dimensions on an existing action and design it together and optimize it (one to one and a half day)

A. Presentation

B. Parts geometry

1. Hammer: bored length, angles, length, tail.
2. Workshop: virtual gluing of hammers – traveling hammers on the computer.
3. Whippen: Positioning. Geometric characteristics and their impact.
4. Keys: geometry, criteria, operation, and how to reduce wear.

C. Essential notions

1. Strike distance
2. The measurements to design an action
3. Action efficiency
4. Magic lines
5. Design impacts on touchweight

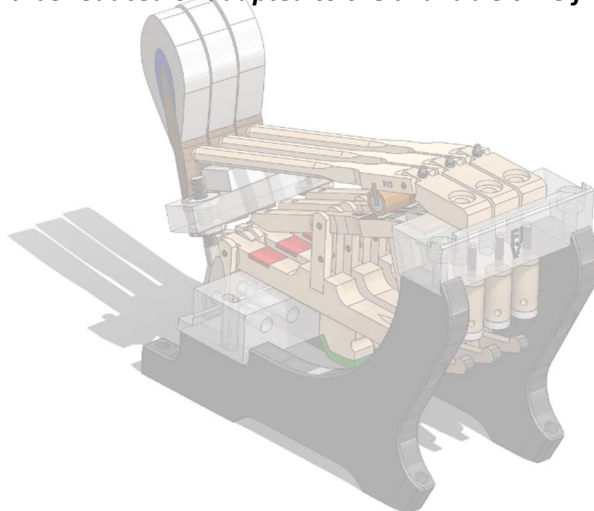
D. Measurements

1. Measurements on one or more grand pianos and action provided
2. Action analysis using CAD software

One or more pianos, equipment and drawings will be given to trainees.

Documents on USB sticks or downloadable PDFs with QR codes will be handed out at the end of the presentation.

Course and program could be reduced or adapted to the available time frame.



Theme 2: Back action design - Dampers

Program: Find out how an effective damper system is designed (one day)

A. Main notions

1. How a damper works in detail
2. Typical problems on existing mechanical systems (Steinway, etc.)
3. Comparison of different systems and designs
4. Spoons or not: how to choose and why?

B. Installing a better system in an existing piano

1. Our goal
2. Precautions to be followed
3. Calculate a damper lever spacing, with or without spoons
4. Pin height, magic lines – Design on the computer

C. Installation of the system in the piano

1. Correct installation and adjustment of damper levers
2. Sostenuto: how to set it before installing the dampers
3. Installation inside the piano
4. Basic notion of damper setting

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