

THE KEYBOARD

You will need all of the pieces of wood that comprise the key frame, the keys, the accidentals, the cloths and hardware, some glue and C-clamps.

General principles

The keyboard deserves its own section in the manual, because the work on it can be undertaken at any time. If you are precluded from humidity-sensitive soundboard work by the weather, or you are between coats with your oiled finish on the case, you can confidently work on the keyboard instead. The keyboard is a machine, completely independent of the case, and must be made to work perfectly before it is put into the instrument. It is one of the most challenging parts of the construction process, and one by which players will judge your handiwork: A professionally finished keyboard is a joy indeed, and we will provide the guidance you need to accomplish this.

The keys rest on a rectangular key frame made from four pieces. There are two pieces on the right and left, and two lateral rails, the balance rail (which has holes for each key drilled in the arrangement of the keyboard), and the back rail. Pins in the backrail guide the rear of the keys. The keyboard also includes the natural and

accidental key levers, the key end blocks, some hardware and felt. We will commence with some work on the keys themselves, and then we will put the frame together.

Preliminary work on the keys

If your keys falls onto the floor in a jumbled mess, you can always re-assemble them in order by means of the diagonal line we have drawn across it. They are not interchangeable. You will find it useful, though, to number them, 1 to 56, beginning with the lowest note. Write the numbers neatly in pencil just below the hole for the balance pins.

File or sand the sides of the keys—keeping away from the covers—to remove any roughness left from the saw, and to soften the sharp angles along the edges.

Assembling the key frame

Perform a dry assembly of the key frame. Be careful—the balance rail only goes in one way, with the holes for the natural keys towards the front. It is possible to install it backwards by mistake, so be warned. The accidental keys come in groups of twos and threes up the keyboard, so it is that partial row of holes that should be the furthest from you when you are

fitting these pieces together.

It's also possible to install the backrail backwards, but you don't want to do that.

Mark the assembly with a pencil. Separate the parts, apply glue and clamp them back together. It is important that the key frame be absolutely flat, and that the right-angle corners are true, so check everything carefully before and after gluing, and put it aside gently to dry.

The balance pins & guide pins

The keys will be held in place in their middle by the balance pins and at their back by the guide pins. The rails were drilled through the keys before the keys were sawn apart. The pins are soft steel under their chromed exterior—this allows them to be twisted easily for the regulation of the keyboard. Be careful not to bend or buckle them needlessly while putting them in.

Make two small blocks of wood with a hole in their centre to keep the pins exactly vertical and to serve as a depth gauge, stopping you from hammering them in too far. The block for the balance pins should be 19mm ($\frac{3}{4}$ ") thick, and that for the guide pins 32mm ($1\frac{1}{4}$ "). Drop your