

Keyboards.

When restoring any organ, in my opinion, special attention should be put on the keyboards. As a matter of fact, keyboards are the interfaces between the core of the instrument and the player. It's that part that we are permanently touching with hands, that's why keyboards must be as perfect as possible.

I mean by that: pleasing and identical pressure on all keys, well damped, noise-free when releasing, perfect alignments, no lateral slack generating 'clicks' side noise on gliding, identical contacts activation and of course perfectly cleaned, free of scratches, 'super-polished up' keys. Keyboards must be attractive.

Everything to render the organist envious to touch keyboards sit down on the bench and start playing. Evidently, this elementary principle is not peculiar to X-66 consoles but applicable as well to most of keyboards instruments.

Dismounting keyboards.

Both manuals of X-66 console are quite accessible (refer to the Service Manual). Only one ¼ " tubular spanner is needed to unscrew all the keys. Assign a number to each removed key so to refit it later on in the same initial position. Put them in the sequential order in a carton with adequate foam protection material f.i. to avoid additional scratches (springs can easily damage them!).

When keys of both manuals are removed, clean the surfaces where all contacts are located (in addition to stain and dust, a lot of stuff there).

Presets mechanisms on left-hand side to be removed, properly cleaned and checked for correct functioning. Underneath the manuals, it is advisable to remove dust accumulated on contacts. In this case, air-pressure is more efficient than vacuum-cleaning.

Unfortunately, that's a shortcoming on X-66 keyboard design, it is almost impossible to remove the busbars of the lower keyboard without pulling it out from the console entailing so a huge dismounting process (cabling notably).

So, I decided not to do it and find another way. Based on B3's maintenance tips, bus anchor block located at both ends of the keyboard were unscrewed.

Then gently move back and forth those buss anchor block while depressing the keys at the same time, it is also possible to get 'some ways' of refinding good contacts.

Keys overhauling.

A total of 146 keys has to be carefully examined one by one. A lot of patience to be foreseen. Before dismounting the keys, from the outside, everything looks normal but after dismounting, a lot of surprises arose.

If you don't want to catch pimples on hands, first operation to start with is to clean (again) all visible parts of the key. Spray for cleaning glasses was used and provided a first rough new look to all keys. Afterwards, scratchy surfaces can be greatly improved with plastic cleaner sprays. The ones found in car-shops to renew plastic areas of dashboards. Surprising good results !

If not sufficient, auto-polish compounds can be used (make a trial beforehand). Later on, before re-installation in the console, polishing wax as used for wooden/plastic surfaces will provide a real 'ou-of-the-box' appearance of the keyboards. Indeed, it takes time but what a pleasure to notice the results.

Keys damages

During keys overhauling, serious damages were found on about twenty keys. Cracked, buckled, badly treated keys were replaced by new ones. No other choice so far. Most of other defective keys are exhibiting the same problem as described here after.

Each plastic key is fixed on the bracket by means of two screws fastening cylindrical female holders (part of the molded key). Generally, the front plastic holder is not damaged but the rear one is often found broken at the level where the thread of the screw comes to rest. Evidently, the easiest way to replace those keys by new ones if still available and having the same tint. Not that simple.

The other way is to "try" to fix and recuperate those broken keys. Dismount the key from the bracket and pick up the broken plastic holder. The fixation screws are equipped with a crimped lockwasher. First of all, remove this lockwasher from the screw. This operation looks easy at the first sight but it isn't without damaging threats. By removing this lockwasher, about 2 mm in length are so retrieved. Grease both screws with vaseline. Then, glue the broken plastic holder with cyanolit glue (instant glue) on its initial position. Press it firmly for a few seconds and reinstall the repaired key immediately on the metal bracket.

Gently screw on firstly the broken side with the screw without lockwasher ! By doing this way, the thread has gained about two more millimeters in the non-broken part of the holder which is sufficient to restore the mechanical fixation. Be soft in doing this operation. Block the screw with transparent glue (I used nail varnish for fast drying, funny but it works). Afterwards, for better reinforcing purpose, epoxy glue was applied on the rear side of the key where the broken holder has been repaired. After, 24-hours of hardening, the broken key was as robust as a non-broken one, if not better.

Re-mounting keyboards.

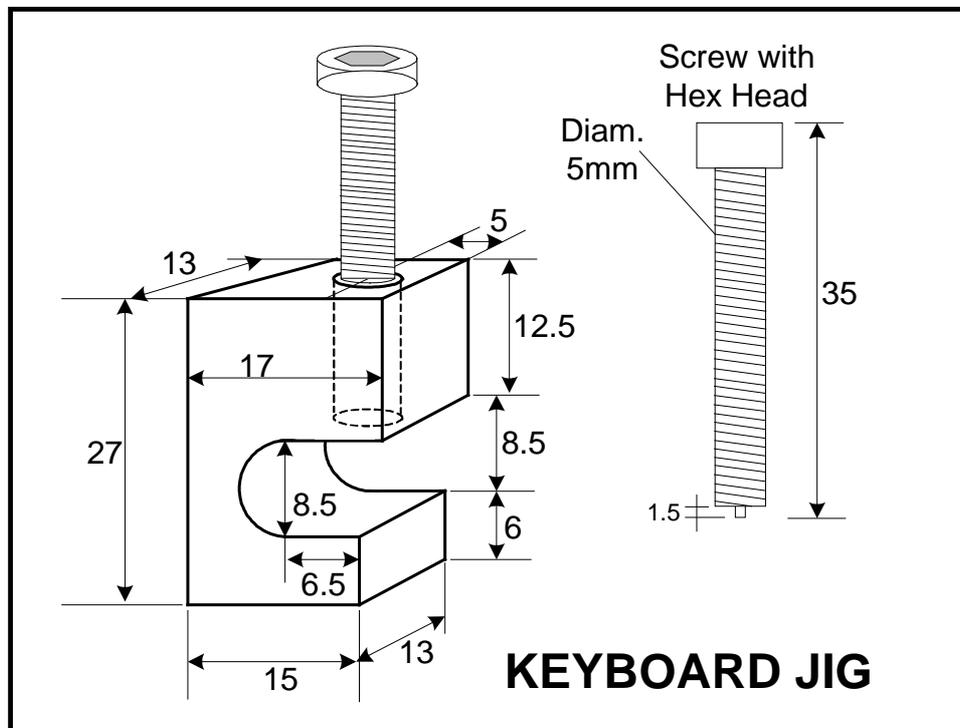
Before starting re-installation of the keys, there are still some additional actions and to be taken.

To improve the lateral slack of keys, here again, the easiest way is to replace all the old key-combs by new ones with brand new paddings (felts). Refer to "Hammond Inside" DVD, Alain Kahn has developed a specific chapter on keyboards.

After several decades of operation, paddings the maintaining the keys in correct position are somewhat worn out and keys become 'clanky'.

This situation can be improved by following the procedure here under.

First of all, a special small vice system has been handcrafted by one of my friends who is mechanical fitter.



The idea is to flatten out the rivet fixing the padding.

By doing so, the padding enlarges by about 0.5 mm on both sides eliminating so this unpleasant lateral slack.

If the adjacent rivets are also tightened, lateral slak on the entire keyboard is entirely disappeared. Again it takes time but the improvement involved is really noticeable.

If tightening of paddings is exagerated, it is easy to reduce the excess with a sandpaper lime. Again refer to "Hammond Inside" DVD.

If the downstop felt is damaged, hardened, excessively warped then it is also the right time to replace them.

Before re-positioning the keys, it is a good idea to check the angle of the small clamp activating the contact bracket on each key module. Normally, this clamp should have the same angle. Before re-installing white grease (as used in the cars) is put on this portion of the clamp pushing the contact bracket.



By the way, here again, this way of doing is not only specific to X-66 console but applicable on other Hammond organ's.

Then, everything is ready for re-installing each key at its initial position since they have been sequentially numbered on purpose. So, no surprise.
At the end, the improvement is amazing.