

## Repair terms glossary

When your instrument is repaired you are issued with a receipt with a brief description of the work done. I will explain the more pertinent parts of the work done when you collect the instrument but this glossary will help you decipher the details on the receipt.

**Th, R(1), T(1), F(1a), Artic point, LH, RH, Tp Jnt, Bt Jnt, HJ, FJ:** These are abbreviations for parts of various instruments, in order they refer to: Thumb; Ring key (1<sup>st</sup> from top); Trill key (1<sup>st</sup> from top); First key cup of two or more operated by first finger on plateaux or large clarinets; Articulation point where two or more keys come in contact to operate together; Left hand; Right hand; Top joint; Bottom joint; Head-joint; Foot-joint.

**Strip down instrument and clean pads, tone-holes, mechanism, tenons and sockets:** Penetrating oil is put on all parts of the mechanism to free the screws and rods before dis-assembly, this is because moisture often attacks the mechanism so that keys jam; metal tenons and sockets are cleaned with wadding to remove tarnish prior to testing the seal at the joints, corked tenons are wiped clean to assess the seal at the joints; all the keys are then removed from the instrument so that the rods, key barrels, screw ends, and flat springs can be cleaned with Methylated spirits; the pillar eyes, spring runs, and tone-hole rims and chimneys, are cleaned; finally the pads, corks and felts on the keys are cleaned. It is during this process that loose and damaged pads and corks are found and removed and any other problems come to light.

**Strip down instrument and clean pads ... and head-joint:** For flutes, in addition to the above, the head-joint bore and embouchure hole is cleaned, if the head-cork needs replacing it is removed which allows for more thorough cleaning of the head-joint bore.

**Strip down instrument and clean throughout:** Some levels of work require the instrument to be cleaned throughout so in addition to what has already been described above, all metal work is cleaned and polished, and the body of the instrument is strap cleaned, if the instrument is made of wood then the exterior wood and the tone-hole chimneys are oiled.

**Free seized rod/screw:** On instruments that are not regularly serviced a commonly occurring problem is where a key actually operates on the instrument but cannot be removed because the steel rod or screw holding the key in place has been attacked by moisture and has expanded.

**Reshape and tighten tenons:** On instruments with slide metal tenons such as flutes and saxophones I assess the seal, invariably both the tenon and socket are distorted and need reshaping to re-instate an air-tight seal; on instruments with corked tenons sometimes the cork needs replacing and sometimes the socket need grinding back to true if it has worn.

**Remove denting:** Unless the customer has specifically requested dents to be removed they are generally left alone if they are not interfering with the functioning of the instrument; however on flutes it is common to remove denting from the head-joint, body or foot-joint if it is easily accessible once all the keys are removed.

**Top tone-holes:** This is a method used to check (metal) tone-holes are level, if a particular tone-hole is not level this will have to be dealt with at some stage during the repair.

**Level tone-holes:** This is when tone-hole is ground down slightly to make level it level or to remove a "nick" in the tone-hole rim,

**Super glue tone-holes:** On plastic or wooden tone-holes the tone-hole is built up with super glue prior to grinding down so the height of the tone hole remains the same. This is particularly common on Wood instruments where the grain can "open out" as it runs into a tone-hole.

**Remove play on (named) keys:** This is when a key is wobbly – there can be many causes for this, screws or rods may have worn, the key barrel may have worn, the pillars may be out of alignment, whatever the cause the play must be reduced to the point where it does not interfere with the efficient operation of the mechanism.

**Remove binding on (named) keys:** This is when a key is sluggish – there can be many causes for this, the rods or key barrels may be bent, the pillars or pillar eyes may be out of alignment, whatever the cause the binding must be removed to the point where it does not interfere with the efficient operation of the mechanism.

**De-burr key barrels:** Often the ends of key barrels burr, and in the worst cases tiny shards of metal “fray off” and can get caught in the mechanism, I file these burrs off to prevent this.

**Strip down clutch mechanism:** On some instruments (e.g. Flutes, Oboes, and large Clarinets) some keys are grouped together on one rod and pinned to the rod so that they sometimes operate independently and sometimes operate together; these groups are referred to as “key assemblies” or “clutch mechanisms”. These key assemblies are removed from the instrument but not usually taken apart during a repair unless there is a problem within the assembly.

**Balance keys:** This is when keys get distorted out of the horizontal plane and is a common problem on flutes and saxophones – the keys have to be bent back into the correct alignment.

**Re-align keys:** This is when keys have been bent out of their correct alignment (usually during assembly) and the key cup holding the pad is not covering the tone-hole correctly- the keys need to be re-aligned and often the pads will have to be replaced.

**Re-align rings:** On clarinet the ring keys tend to get bent down by use (or they were never set correctly in the first place) the rings are reset to be in the same plane as the finger bush but slightly higher for the fingers and almost level for the thumb.

**Re-align touch-pieces:** This is when the touch-pieces of the keys have been bent out of their correct alignment (usually during assembly) but the key cup holding the pad is in the correct alignment so the pad does not need to be replaced.

**Re-seat pad:** Generally if a pad is in good condition, but not seating, it is re-seated rather than replaced; on flutes in particular the pads are re-seated rather than replaced.

**Balance springs:** This is when the springs are re-tensioned (some lower and some higher) so that the finger pressure required to operate the keys feels reasonably even, sometimes a particularly weak spring needs to be replaced.

**Regulation:** Some keys operate in conjunction with other keys – regulating the mechanism means adjusting it so that keys that should close together do close together, this can only be done reliably if the individual keys in the mechanism are closing so that their pads seal properly.

**Re-corking, re-felting, re-leathering etc:** Different parts of the mechanism require different materials to be glued onto the surfaces for different reasons. Student instruments use cork on the heels of keys to set the “vent height” of the key; better quality instruments use cork in some places, while felt is used in other places to quieten the mechanism. Leather, Teflon, or adhesive paper is used at certain regulation points. Plastic sleeving might be used where parts slide past each other. All these materials perish and need replacing occasionally.

**Oil and grease:** The mechanism needs to be kept oiled to operate smoothly and quietly, I use different grades of oil to match the intricacy of the mechanism. Certain parts of the mechanism (such as flat spring runs) need greasing.

**Lock screws:** The screws and rods on a musical instrument are prone to vibrating loose; I administer two different grades of locking compound to prevent this.