

Straubinger Overhaul

Very good results are achieved with pads built of natural materials. This is in part due to the texture of felt and the rapid recovery rate associated with the gold beaters skin which covers pads. However the difficulty with pads made of felt and gold beaters skin is that these pads shrink over a period of time. The atmosphere in which a flute is played involves the creation of vapour which evaporates. As pads are made of wool they slowly shrink in this atmosphere. Over a long period of time pads lose their shape, contract and obviously lose adjustment and start leaking.

A Straubinger pad is a synthesis of traditional material combined with modern technology. The technological part of the Straubinger pad is the fact that it is built around a delrin (nylon) cup which is machined on a CNC work centre to give precisely duplicated pads. This cup then contains a ring of ultra-suede which is a more resilient material than felt. The whole pad is then covered with traditional skin. In effect the pad is given a skeleton which ensures that it cannot shrink due to the fact that the cup has an edge and the outer edge of the pad is stable and cannot contract and move away.

The Straubinger pad offers improvements in dynamic range, clarity, variation of tone colour, preciseness of attack and articulation and a period of durability which is very much higher than standard flute pads, I estimate five to ten years.

Straubinger pads however should only be fitted by very experienced technicians, preferably those who have attended the Straubinger licensing course. The reason for this, and the expense associated with Straubinger pads is due to the fact that they are very, very precise to fit. Also the flute requires considerable mechanical work to bring it up to the level of precisions where Straubinger pads will give their best.

In summary the requirements and system are as follows:

1. The mechanism has to be precise and tight due to the very small tolerances to which Straubinger pads are fitted. This means that considerable swaging and taking the wear out of mechanisms is usually necessary, before padding can take place.
2. Cups have to be very precisely aligned to the tube and in this regard key re-alignment is often necessary.
3. Due to the fact that many flutes including the most expensive handmade flutes have tone holes which are not properly leveled, inevitably this has to be corrected. Also, on drawn hole flutes, occasionally the tube is pushed in. Where tone holes are made with the drawing process, in this case a special mandrel is used to remove the compression in the tube. This helps level the tone holes. After all of these processes the tone holes are leveled to create optimum seats for pads.
4. Due to the fact that the Straubinger pads have a hard shell the retaining of the closed hole pads by screw washers is critical. If screws are run up hard against the pad shell it is possible that the soft soldered joint between spud (screw retainers) and cup may break and the pad may fall out, so it is often necessary to replace the screw retainers with longer retainers which are then cut to the correct height. Alternatively where screws

are long enough special spacing washers can be made in brass or silver to obtain the correct depth for closed hole pads.

5. Regarding the open hole cups, standard friction washers (grommets) often do not have enough length to retain these pads appropriately and in each case the friction washers rings are replaced by delrin grommets which have to be specially machined to size for each make of flute. These rings also have a wider angled shoulder which optimizes retention.
6. Seating. To ensure proper seating of the pads in the cups, which of course have been aligned, delrin nylon shims or stabilizers are glued into the cup with epoxy. This creates a stable foundation onto which the Mylar shims are glued.
7. Shims. In the normal course of events flutes are padded with cardboard and paper shims. It is common practice in high quality padding to glue these shims, but like wool, paper can also shrink in an atmosphere with water vapour. The Straubinger system solves this problem by the simple expedient of making all shims out of Mylar which is a plastic material. The shimming is also very precise given the precise nature of the pads and the thinnest shim is one half of a thousandth of an inch, and this is a frequently used shim to get the pads just right. Because there is no give in the pads many, many hours are spent shimming a flute.
8. Adjustments. While it is possible to adjust a flute with screws, the area of the head of the tip of a screw is often insufficient to create a stable adjustment and when playing, the torque effect on the head always causes screws to back off. While one may get away with this for a while on a flute with standard pads which are spongy and have give, this does not happen with the Straubinger system, therefore as a set practice I shim each flute with paper, Mylar and super-glue in the manner of the older handmade flutes. This guarantees that a flute will retain its adjustments.
9. Disadvantages. Well it is expensive initially but this is more than offset by the longevity of the pads. However, due to the thin skins being drawn over the sharp edge of the pad shell, they can be ruptured if the pad edges are bumped or if your case is a poor fit for the flute. David has dealt with this by providing a pad reskinning kit so the pad can be removed and the skin replaced, whereafter the pad is refitted, so, no disadvantages.

Due to all the additional work and the very precise nature of the work the Straubinger overhaul is more expensive.

Rate: ZAR4,000.00 to R5,000.00

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