

Stuck Swabs in Bassoon Wing Joints

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A swab stuck in a bassoon wing joint is one of the worst problems that can occur to a bassoon player. Commonly used procedures to remove the swab can cause damage to the bore of the instrument. With care and patience most stuck swabs can be removed with little or no damage.

Panic attack

The realization that a swab is stuck is inevitably followed by actions that make the condition worse. It seems obvious to the victim that more effort is required to pull the swab from the joint. Unfortunately, this only wedges the swab more tightly into the tapering bore. **Every effort made to force the swab through makes the problem worse!**

It takes monumental self control to resist the urge to pull harder on a stuck swab. Even master repair technicians with many decades of experience are not immune from this urge. I recall one repair technician of international reputation describe stepping on the string of the swab so that he could pull harder on the joint. It is hard to resist the idea that just a little more effort will relieve the problem.

Another factor that often exists is the proximity of an important performance. Somehow, swabs have a highly developed sense of occasion and get stuck just before a concert, recital or audition. This only makes it more urgent that greater efforts be made which only result in making matters worse.

The difficulty

The problem that causes both the stuck swab and the later difficulties with removing it is the conical bore of the bassoon. The bore of a bassoon wing joint reduces from 16mm at its large end to 9mm at its small end.

A swab introduced into the large end will be moving into continually smaller confines. If the wrong swab is used, such as a larger swab for the boot joint, it may not be able to come out the small end of the wing joint. If a knot should somehow get into the fabric of the swab it may be too large to come out. These are the two biggest causes of stuck swabs.

Anything introduced into the wing joint in an attempt to remove the swab must respect the dimensions of the bore. Any object that does not easily pass through the small end of the bore should not be stuck into the big end.

The condition of the bore is also very important to consider. Scratches on the surface of the bore do

make a difference in the performance of the instrument. Just how much difference depends largely on the sensitivity of the player. Any effort involved in removing a stuck swab should be calculated to avoid scratches, gouges or worse being inflicted upon the bore.

Disasters

There are methods of stuck swab extraction in use that can create worse problems than they cure. The worst disasters I have seen have all been created the same way.

One of the most common tools used for extracting a stuck swab is made by soldering a wood screw to the end of a metal shaft. The idea is that the tool can be screwed into the impacted cloth mass of the swab from the large end of the bore and the mass then pulled out. This probably works more often than not. The problem is that when it doesn't work it sets the stage for a disaster.

The worst disasters occur when the wood screw becomes firmly embedded in the swab and then breaks away from shaft. The screw has created a wedging effect which can make it more difficult to remove from the large end and the presence of the screw makes it impossible to attempt anything else from the large end. A couple examples of such disasters are worth recounting.

Example 1: A young lady had just taken delivery of a new Renard bassoon. With only a couple hours of playing time on the instrument she got a swab stuck in the wing joint. She took the instrument to a repair shop where an attempt was made to remove the swab using a screw on a shaft. After working on the problem for some time the screw broke off the shaft leaving the screw lodged tightly in the swab. In an increasing panic the young lady took her bassoon away from this repair technician and rushed to another. The second technician, upon realizing that there was no longer any access to the bottom end of the swab attempted to drill it out from the top. A small diameter drill was inserted into the top of the wing bore and penetrated the swab. Upon hitting the wood screw the drill was diverted from its path and went into the side of the bore emerging shortly thereafter outside of the wing in a place where no hole has ever been intended. This wing joint had to be completely replaced.

Example 2: A repair technician called in hopes that I had a way to remove a stuck swab from a plas-

tic Selmer bassoon. Several attempts had been made without success. In this example two screws had broken off in the swab. The second screw had the effect of forcing the head of the first screw as well as its own head into the sides of the bore. The heads managed to dig in to an extent that removal was impossible short of actually cutting the joint into pieces.

Example 3: This third example illustrates how there is always a creative way to make matters worse. A bassoon was brought into a music store with a stuck swab. This store apparently did not have a repair shop but the counter clerk was willing to attempt a rescue. Realizing that the cloth was likely to burn more quickly than the body the clerk burned the swab out of the wing joint. Unfortunately, the clerk did not consider the effects of the heat on the hard rubber bore liner. The view down the bore was one of absolute destruction! (I'll bet the smell and smoke of burning rubber in the store really finished the day for that clerk.)

A method for swab removal

The first concept to keep in mind when removing a swab is that the swab is going to be replaced. Do not waste time concerning yourself with salvaging the swab!

The second concept is that any movement toward the small end will make things tighter. Liberation will come from moving toward the greater freedom of the large end.

The third concept is to avoid using any metal tools inside the bore. Metal shafts pushed into the bore are likely to cause scratches or other damage. It may become necessary to use metal tools later but avoid it as long as possible.

Another point to remember is that many bassoons have finger hole liners protruding into the bore where they may be conflicting with your attempts to remove the swab.

Before actually doing anything find out where the swab is. A piece of the 5/16" dowel you will need later can be inserted into the bore from each end to find the limits of the swab. Mark them on a piece of masking tape on the outside of the joint so that you can better visualize the problem.

Step 1: Get the swab out of the bocal socket. Cut away any portion of the swab, including the string, that is in the bocal socket. All of the remaining swab at the top end of the wing should be inside the bore itself and not in the socket. This can be done with a pair of small embroidery scissors or with curved tip manicure scissors. Any swab left in the bocal socket can interfere with the removal. Scratches to the bocal socket are not significant but be careful to not damage the end of the bore.

Step 2: With a piece of 5/16" wooden dowel rod, attempt to drive the swab toward the big end of the wing. You may need to hammer on the outside end of the dowel a bit. It is very likely that you will succeed at this step. If it feels as though the swab is not going to come out with this method then give up on it sooner rather than after more damage can be caused.

A 5/16" dowel is about the largest size that is practical to use; 3/8" is larger than the opening of the bore. The end of the rod should be square with just the edges of the end relieved a bit. You want to push the whole mass at once. A pointed end on the rod would enter the mass with a wedging action that would make the swab more difficult to remove.

Radical procedure

There's always a swab that refuses to come out with reasonable force.

Swabs seem to get stuck most often in the area just above where the first finger hole enters the bore. It is possible that a tone hole liner in the finger hole is preventing the swab from coming out. If this is the case it may be necessary to remove this liner.

Removing tone hole liners is not a procedure to be taken lightly. If this is not a procedure that you are knowledgeable about send the instrument to someone who is.

The most severe conditions may require that the swab be drilled out. This is a procedure to avoid until there is no alternative. It is all but certain that some damage, hopefully minor, will occur to the bore surfaces.

The object is to enclose the drill in a non-turning tube or sleeve. The sleeve should be as large as possible within the diameter of the bore. A 3/8" OD tube can go as far as about 2" away from the small end of the bore and should be sufficient for the purpose. It will need to be about 20" long so that it extends from the swab to well past the end of the wing tenon. Be sure to polish the end of the sleeve so that the possibility of it scratching the bore is minimized.

Use the largest drill that can pass through the sleeve. This will probably be 1/4" to 5/16" depending on the wall thickness of the tube, but in any event not greater than 5/16". The drill should be a spur point wood drill with the longest available shaft. A conventional point drill will have a greater tendency to wedge itself into the swab and less tendency to engage the swab successfully. The drill will have to be securely fixed to the end of a longer shaft so that the total length is about 24", making it a few inches longer than the sleeve.

Alter the end of the drill so that the outer edges of the drill tip cannot touch the bore wall. Grinding off

the flutes on a taper a bit greater than the bore taper will accomplish this.

Mark the shaft of the drill so that you can gage the amount of exposure the drill has past the end of the sleeve. 1/4" to 1/2" is more than enough; the less the better. Attaching a stop of some kind to the drill shaft that limits the drill's entry into the sleeve would be good.

This assembly is then inserted into the big end of the wing so that the sleeve butts up to the swab. The drill can be turned by hand or slowly by machine so that it chews out the cloth. The sleeve should be held to prevent it from turning and scaring the bore surface. Using this procedure to nibble away at the cloth alternating with the previous method should remove the stuck swab sooner or later.

Tips

If possible, delay taking any action. Dry cloth comes out easier than wet cloth. In the first disaster example described above, I was able to easily remove the swab with a dowel from the top after the instrument spent a few days in transit to me.

Don't try moving the swab by sticking tools in through tone holes. You are very likely to cause unnecessary damage to the tone hole.

After removing the swab you might be tempted to polish the bore liner. Be conservative about doing this. You might be better off leaving a few minor scratches. Fixing more significant damage, such as gouges and holes, is a more difficult topic and beyond the intent of this article.

Anticipate that removing a stuck swab will leave a bit of lint around. Be sure to clean under all of the pads and make sure there is no lint in the vents or tone holes.

Stuck swabs in boot joints.

Frankly, this is almost a non-existent problem. The shorter bore length and the larger diameter make swabs stuck in boot joints almost unheard of.

If someone does succeed in accomplishing this feat, be sure to remove the u-tube to improve access. It should be easy to push out a stuck swab from a boot bore.

Avoiding the problem

Stuck swabs are almost always the result of some careless action while the player is swabbing out the instrument. There are a few things that can be done to avoid the problem.

Use the correct swab. Bassoons often need two separate swabs to suit the needs of both boot joints and wing joints. One of the guaranteed methods of getting a stuck swab is to use the larger boot swab in the wing joint.

Watch for knots. It is easy to swab out a bassoon without paying too much attention to what you are doing. If a swab gets a knot in the fabric the knot may be too big to pass through the wing joint. Many stuck swabs are the result of knots.

Go the other way. Although it is far more common to swab from the big end toward the small end, the reverse direction would be safer. By starting from the bocal socket you know that anything that goes in will be able to exit from the big end.

Silk swabs go through smaller holes. Because of this silk swabs are safer to use. Silk swabs can be cut fuller enabling a single swab to be used in both boot and wing joints. Other than that, cotton swabs are more effective in achieving the objective of removing moisture from the bore.

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