How to change leather pads on a baroque oboe flat key

Having hard times getting the low C on your baroque obole? Have you checked the seal of the leather pads? It might be time to change them!
Leather that is peeling, hardened or impregnated with oil no longer seals properly and must be changed. This is a very simple operation to be carried out on the flat keys of a baroque or classic oboe.

You will need the following materials:
-a small piece of soft leather (lamb or goat), with a thickness of between 0.8 and 1.2 mm, ideally of a thickness identical to that of the original leather.
-small, sharp sewing scissors
-a tube of liquid neoprene contact glue
-alcohol or acetone to clean glue residue
-a pointy bit to remove the key axis.
-flat pliers

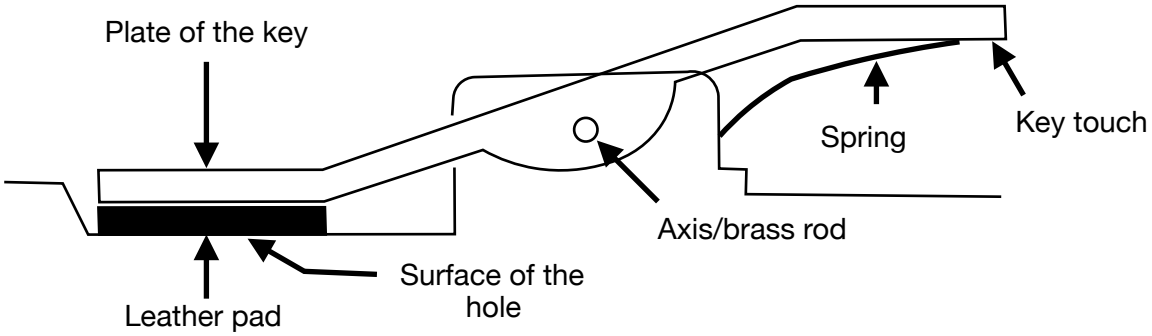


Figure a.
Profile view. Normal positioning of the key on the oboe when closed.

Start by removing the key by taking out the brass rod which serves as an axis and which holds it in place.
To do this, you can, for example, use an unfolded paper clip to push on the axis. If the latter resists, you can use the sturdier tip of a compass, or any object thin and strong enough to push it out the first few millimeters. Then use the flat pliers to remove it completely.
Peel off the old leather to be changed and clean the glue residue with alcohol or acetone to obtain a clean surface.
Glue the smooth side of the leather and the metal separately and let dry for 10 minutes in the open air. The “hairy” part of the leather must face outwards and will therefore face the hole to be plugged. Then assemble the two glued parts by pressing them firmly against each other, then cut off the excess leather with the small scissors following the outline of the key. Make sure the new leather will not interfere with the movement of the key or its closure once you put it back in place. Figure b. illustrates the example of a leather which protrudes too much from the key and prevents it from closing.

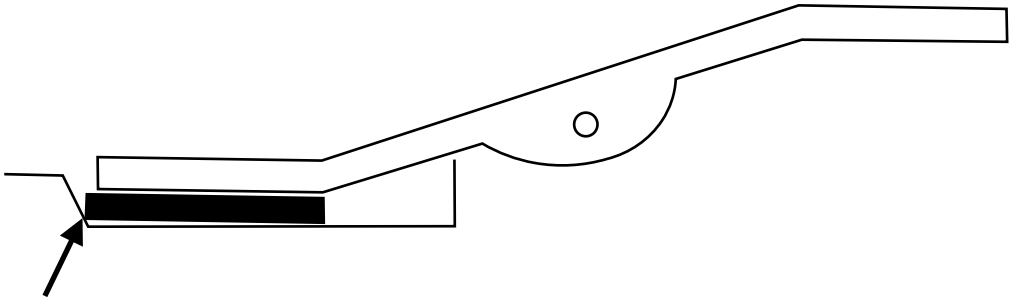


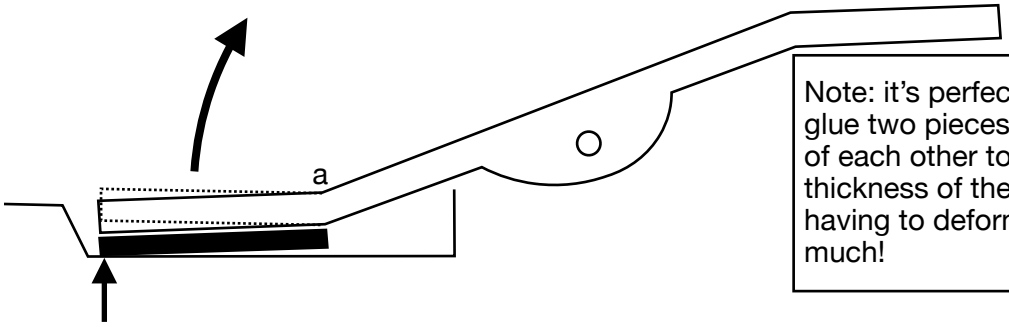
Figure b.
The pad is too long and prevents the key from closing.

You must now ensure that the new pad seals correctly. First check visually, then carry out a leak test.

Visual control:

Operate the key and observe in profile how it sits on the surface of the hole.
If the thickness of the leather is the same as that of the original leather, the key will lie flat on the hole: the closure will probably be leakproof.
If the leather used to make the new pad is not quite the same thickness as the old one, you will have to readjust the angle of the plate that carries the pad.
There are two possibilities:

1-the new leather is a little thinner than the old one, the end of the plate will touch the wood first (figure c.). It will therefore be necessary to raise the plate very slightly by twisting it upwards. This can be done by hand with the key removed, as shown in photo 1, or with flat pliers provided you protect the leather from direct contact with them. You may have to try it several times to get the right angle, visually checking that the leather comes into contact over its entire surface with the wood at the same time.



Note: it’s perfectly possible to glue two pieces of leather on top of each other to increase the thickness of the pad and avoid having to deform the keys too much!

Figure c.
The new pad is thinner than the old one: the tip touches the wood first. Twist the plate slightly upwards at point “a”.
(see also photo 1)

2-the new leather is thicker than the old one, the heel of the plate will touch the wood first. (figure d.) It will therefore be necessary to lower the plate very slightly by twisting it downwards. (photo 2)

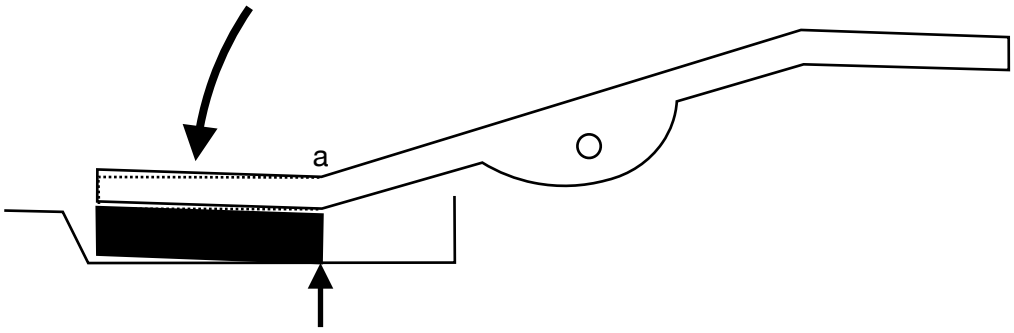
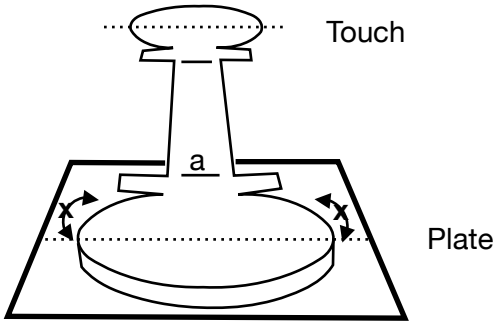


Figure d.
The new pad is thicker than the previous one: the heel touches the wood first.
Twist the plate slightly downwards at point “a”.
(see also photo 2)

Be careful during this operation to only deform the key on the vertical plane and not to change the inclination of the plate on the horizontal plane (dotted lines) as illustrated below:



If the plate is no longer aligned on this horizontal plane with the surface of the hole, the pad will not sit properly on the wood either. To check alignment, close the key then lightly press on one side then the other of the plate. If you notice that a gap closes or opens when you press, the plane of the key is distorted. Gently twist the plate in the opposite direction using the flat pliers, then check the horizontality again. Be careful not to use fine pliers, which could deform the plate locally and compromise the adjustments.

Leakproof test:

When the contact of the pad on the surface of the hole seems correct visually, check the leak proofing of the entire oboe joint by possibly asking someone to help you plug all the holes and press directly on all the padded plates except on the one whose leather you have just changed. Suck through the bore to create a vacuum, and observe how quickly the air enters the instrument. If you only feel a slight resistance to suction, the seal is not good.
Other possible causes for poor sealing are:
-leather cut too small or poorly positioned, and which does not sufficiently cover the edges of the hole.
-leather cut too large and which interferes with closing the key (figure b.)
-damaged leather
-a spring that is too weak, damaged or poorly adjusted and which does not close the key with enough force
-the surface of the hole which presents defects and which reduces the quality of contact between the leather and the wood.

Photo 1.
Press downwards with the right thumb, the plate which carries the pad is pressed flat on the edge of the table.

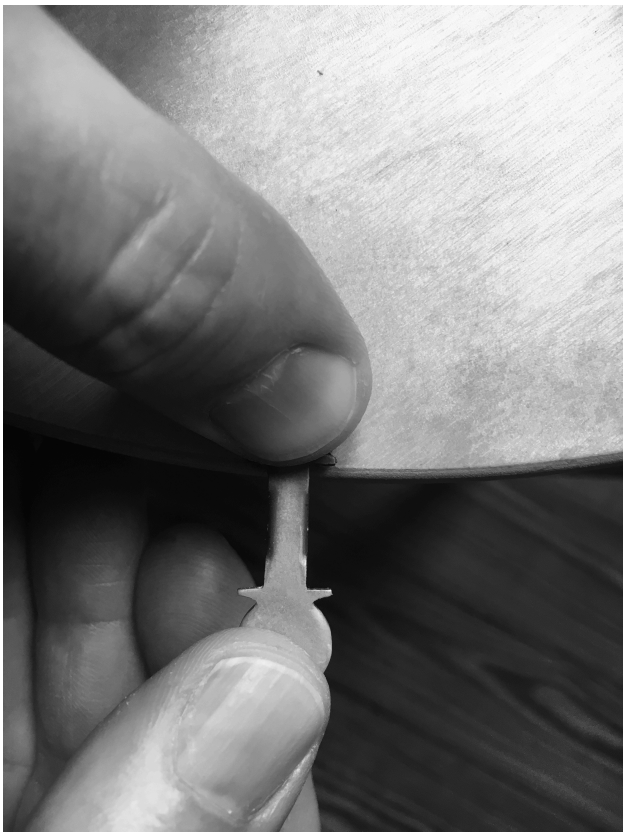


Photo 2.
Same procedure, but the key is turned the other way.