

Schaff Piano Supply Company Presents:

# Polishing Capstans

## Basic Step-by-Step Procedures



Key Work

By Chuck Behm

## Polishing Capstans



### Rationale-

In the process of restoring a piano action, reducing unwanted friction between the various components of the action is an important goal. For an action to perform smoothly, there should not be any unnecessary drag between parts.

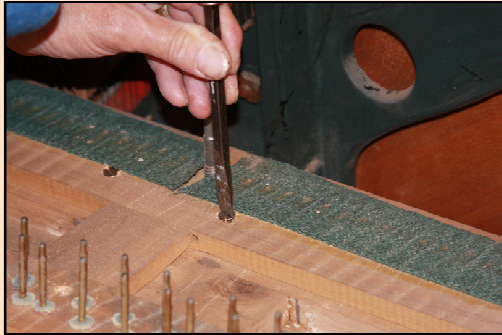
The upper surface of the capstan in an upright serves as the point of contact between the keystick and the action proper. The sticker of the upright action, cushioned by the sticker cloth at the low point of the action, rests on the top face of the capstan. When the key is pushed downward at the front by the finger of the pianist, the back of the key lifts upward, with the capstan traveling in a slight arc. Because of this arcing motion, the capstan not only pushes upward on the sticker cloth, but rubs on it in a slight back to front movement.

Corrosion and pitting of the upper surface of the capstan, as shown in the photo above, produces not only unwanted friction at this initial point of contact, but also results in excessive wear on the sticker cloth. Giving the head of each capstan a proper polishing, combined with the replacement of a worn set of sticker cloths, helps in producing a more silky smooth feel in the action.

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**Step 1:** Remove a key to examine the surface of the capstans to ascertain whether polishing or replacement is in order. If the surface of the capstan heads have not been extensively pitted by corrosion, a simple polishing will suffice. If capstan screws need to be replaced, the following types are available:

[Square Shoulder Capstan Screws](#)

[Moore Capstan Screws](#)

[Grand Capstan Screws](#)

(Cat. Nos. provided at end of article.)

**Step 2:** Capstans may be polished while still attached to the keysticks, or may be removed from the keysticks for a more intensive polishing. The capstans on the subject piano were an older style with wings (Moore Capstan Screws) that needed to be removed for a more complete polishing.

**Step 3:** If the choice is made to remove the capstans from the keysticks, it works best to remove them all at once, so that each step may be completed on each capstan before moving on. Various tools to remove the capstan screws include the [various capstan tools \(Cat. No. 83, 88, R-10 or RH10\)](#) for use on the type of capstan screws featured in this article, or the [square capstan screw wrench \(Cat. No. 84A or 84B\)](#), used on square shoulder capstan screws.





### A Recipe for Disaster!!

**I.** Although a common wire brush set up might work just fine for certain applications, polishing the heads of capstans shouldn't be one of them!



**II.** Why this doesn't work - thousands of stiff wire bristles are relentlessly pummeling the soft brass head of the capstan, chewing up its surface. (If your dentist suggested polishing your teeth using this procedure, you would surely be heading for the door!)



**III.** This is the result of wire brushing! Although the surface looks shinier, it is actually rougher in texture and liable to cause greater wear on the sticker cloth than what the original tarnished surface would have caused.



**Step 4:** Instead of a wire brush, a far better method is to use a [buffing wheel](#) (Cat. No. 452, 465 or 466) with a bar polish. Here the wheel is shown being loaded with [Tripoli bar polish](#) (Cat. No. 425), which works well on brass.



**Step 5:** If you have a variable speed grinder (preferred), turn the speed down to a low setting, and hold the head of the capstan against the wheel. Turn it as you polish so that every surface comes in contact with the buffing wheel.



**Step 6:** Examine the surface carefully to make sure that you've removed all the tarnish and corrosion from the surface.



**Step 7:** If you wish to polish the wings of an old style capstan, a superfine wire brush in a [Variable Speed Moto-Tool \(Cat. No. D-395\)](#) will do the job. To make the process simpler, mount the moto-tool in a vise equipped with leather or cork covered jaws. Turn the tool on and set the speed on a lower setting.

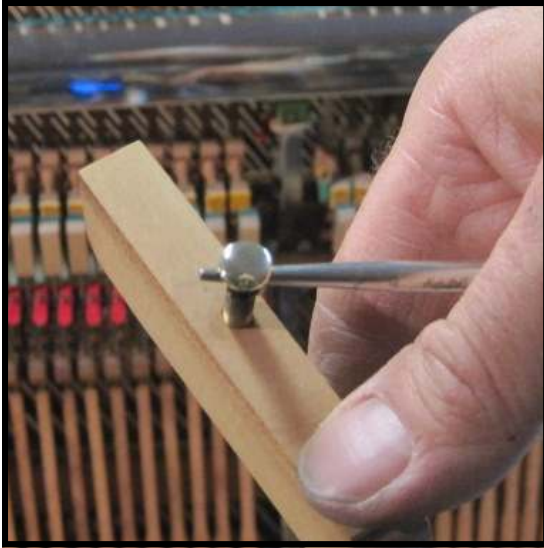


**Step 8:** Use the corner of the wheel to polish the inside corners of the wings.



**Step 9:** Turn the capstan 360 degrees to inspect each inside corner.

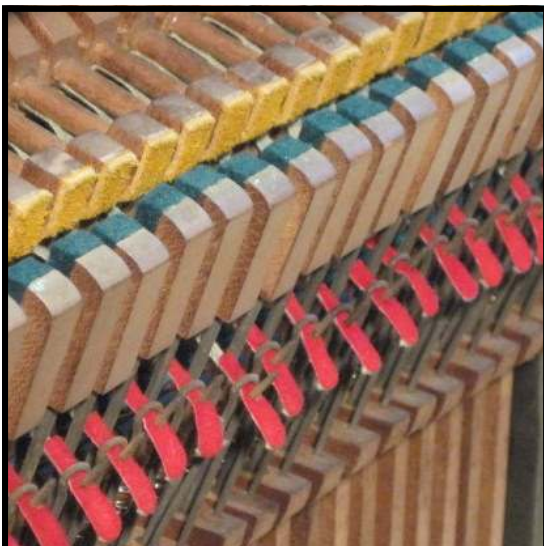




**Step 10:** If the capstans have been removed from the keysticks, return them now, using a capstan screwdriver or wrench to turn them down most of the way.



**Step 11:** Fine adjustments are made with the keystick in the piano. Turn the capstan up or down to produce the desired amount of lost motion.



**Step 12:** To complete the fine adjustment, keep your eye on the backcheck as the key is pushed down with a light touch. There should be just a faint amount of movement of the backcheck before the hammer butt is perceived to be in motion. This slight amount of lost motion allows the jack to slip back unimpeded under the hammer butt in preparation for the note to be played.





## An Eye to Detail

So much of the work that is done in restoring a vintage piano is invisible to the customer from a simple visual inspection. That doesn't mean it's not important. It's just that the only person likely to actually see the results of the efforts made is the technician himself.

All this attention to detail, however, does take on importance when it comes to the touch and the sound of the instrument. Decreasing friction between the components of the piano action has the direct benefit of increasing the level of performance of the instrument. When the action of a piano is working at its peak performance, the piano will be a joy to play. That joy reflected on the face of the owner as the instrument is tried out for the first time is visible for all to see.

The effort that goes into the details pays off in a wonderfully restored instrument and a satisfied customer. Plus, the knowledge that no detail was left undone is always a reward in itself. There is, after all, a satisfaction in a job well done.

## Tools and Supplies

For your convenience, all the tools and supplies necessary to complete this procedure are listed with corresponding catalog numbers.

### Tools:

Variable Speed Moto-Tool.....Cat. No. D-395  
Capstan wrenches.....(Cat. No. 83, 88, R10 or RH10)  
Square capstan screw wrenches .....Cat. No. 84A or 84B

### Supplies

Buffing wheel.....Cat. No. 452, 465 or 466  
Tripoli bar polish.....Cat. No. 425  
Grand Capstan Screws.....Cat. No. 558A, 558B or 559G  
Square Shoulder Capstan Screws.....Cat. No. 559B, C or D  
Moore Capstan Screws.....Cat. No. 559M

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Notes on Procedures