

Deep Cleaning a Drum Carder

by Deb Gerish

My Kitten drum carder has been through a lot since it joined my household in 2011. Over the years, many scoured fleeces passed through Kitten's teeth, along with batts that blended colors and mixed different fibers. Before I installed my new Fancy Kitten motor, it seemed like a good idea to really clean Kitten as thoroughly as I could—not just the carding cloth, but the axles, where fiber had wound around and needed to be removed. Ron Anderson, founder of Fancy Kitten, said somewhere (maybe a Ravelry forum) that fiber gunk could actually corrode an axle. I did not want Kitten to suffer this fate, but I'd been hesitant to disassemble the carder. Yet I'd have to do this anyway to install the motor kit, so I took the plunge, got out my tools, and grabbed my iPhone to take pictures. My deep clean took about 2 hours, and it was totally worth it.

Tools

Adjustable wrench (crescent wrench) or $\frac{3}{4}$ " wrench

#2 Phillips screwdriver—use a plain old manual version, not a power or ratcheting screwdriver

Dental pick or similar tool for fluffing fiber

Cuticle scissors or similar tool for cutting fiber

Locking forceps/hemostat or similar tool for picking out fiber

Cleaning brushes/tools for carding cloth

Vacuum cleaner with brush attachment

Step 1: Document & disassemble

Before I did anything else, I photographed the carder from each side. Now I could reconstruct it without relying on my (failing) memory.



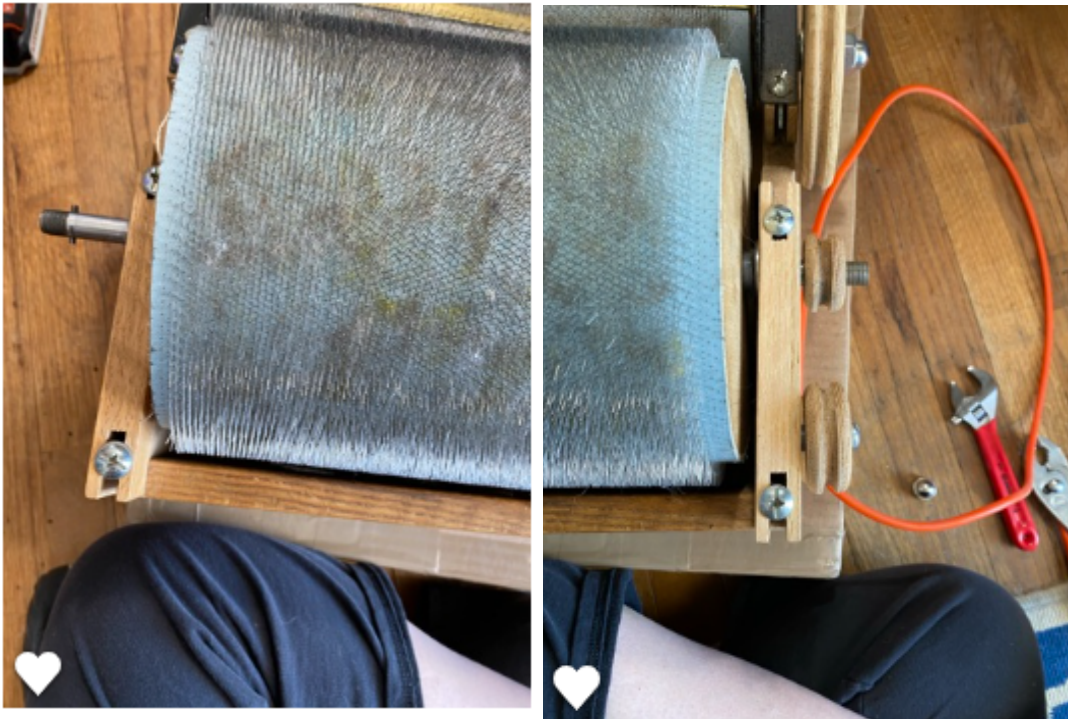
Reference photos

Then I took a deep breath and removed the orange drive band. I removed the clamp's screw and set it aside with the clamp, so it would be out of the way. Finally, I unscrewed the acorn nut on the handle and removed it.

Step 2: Clean the swift axle

Now I could take off the swift (the big drum). This step required unscrewing the four Phillips head machine screws that attach the swift to the carder's base. Once you remove these screws and their washers, the whole assembly—swift, axle, and grooved braces—can be lifted out of the carder. The two grooved braces can also swing around on the axle. Take a good look at them: the tops will have

indentations from the washers, which will help you reposition the swift correctly when it's time to reassemble.



Grooved braces, machine screws, and washers hold the swift assembly on the base.

It's easy to clean the handle side of the swift: slide the grooved brace away from the swift, remove any axle fuzz*, and polish the axle with a rag.



On the handle side, you can slide the grooved brace away from the swift and clean off the axle. (Note: I will never set the swift in this position on the base again—it's potentially risky for the carding cloth teeth.)

However, the other side isn't as easy, because you can't slide away the grooved brace. This is where narrow tools with long handles will save the day.



On the drive band side, the grooved brace won't slide. Get out your tiniest cleaning tools! At right, all the fiber that came off the swift axle.

***Removing axle fuzz:**

Fibers get wound **very tightly** around the axle. Fluff them up, cut them, and then pick them out—they'll come away in clumps. To fluff, I used a dental pick with metal tips (the plastic version isn't up to this task). To cut, old cuticle scissors did the trick; an X-acto knife would work too. To pick, use forceps, hemostat, long tweezers, or tiny needle nose pliers. Look for household items that can fit in this narrow space: if you own a tiny tool set for electronics, sewing tools, art supplies, kitchen gadgets, or first aid equipment, you've probably got something suitable.

Now that I could actually see the axle and its washers, I reinstalled the swift assembly. I made sure it was properly oriented (handle side on the left and drive band side on the right, as seen from above) and that the tops of the grooved braces were visible. Then I set it in place on the base.

Repositioning the assembly requires fiddling but it's not difficult. The washer indentations on the tops of the grooved braces really help! The screws attach to nuts inside the base—once you've got the screw aligned, everything just fits into the place. It's best to put the washer on the screw shaft, line up the screw and the nut, and attach the screw just enough to hold it in place. Do this for all four screws and washers. Slide the grooved braces until the washers fit back in their old indentations (unless you want to move the swift assembly closer to or further away from the lick-in). Here you may need to micro-adjust the grooved braces to keep the screws aligned in their nuts. Now tighten all four screws. Your swift is back in business, with a bright, shiny axle!

Step 3: Clean the lick-in axle

The lick-in assembly attaches to the carder base just like the swift assembly, unless your carder has a brush attachment. If it does, remove the knobs and washers holding the brush attachment over the swift.



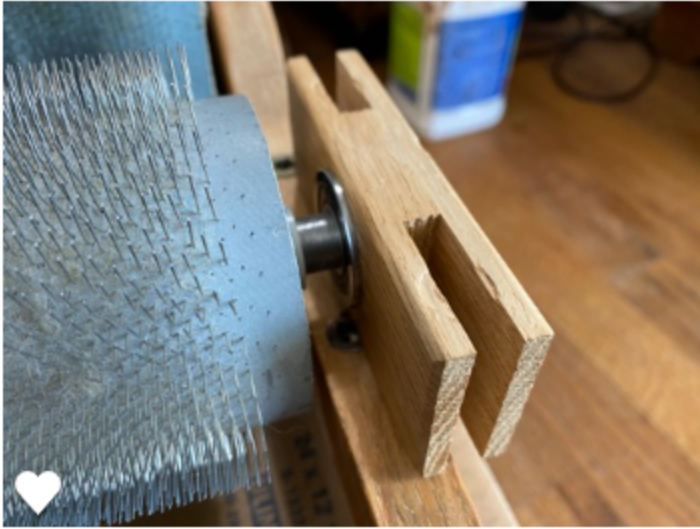
Brush attachment out of the way. Note the arrangement of washers on the knob shaft: washer, brush upright, then another washer.

Remove the four screws and washers from the grooved braces, then lift out the lick-in assembly.

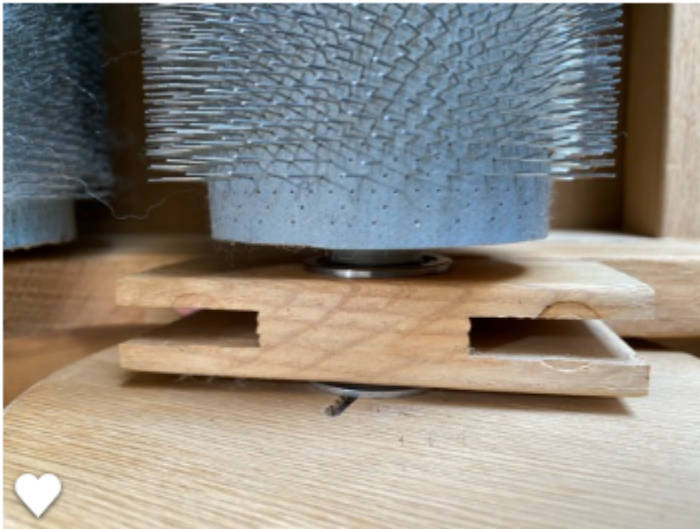


Licker-in assembly removed. This is a great time to clean dust and debris off the carder's sides, with the brush attachment out of the way.

Again, it's easy to clean the handle side (slide out the grooved brace) and tougher to clean the drive band side. In fact, it's even more difficult to clean the drive band side because the drive wheel sits so close to the lick-in drum!



Cleaning the axle on the handle side—easy peasy.



On the other side, it's more challenging to clean the narrow space between the drum, the grooved brace, and the drive wheel.

To my great surprise, this axle had far more gunk. I was horrified that I'd been so lax in cleaning it. Clearly Kitten would be much happier without all this fiber wound the working parts!



Fiber on the lick-in axle.

Reinstalling the lick-in assembly works just like reassembling the swift assembly, **unless** your carder has a brush attachment. If you don't have the brush attachment, repeat the steps above for installing the swift assembly.

If you do have a brush attachment, its uprights cover up the washer indentations in the grooved braces.



Washer indentations on the groove braces get covered up by the brush attachment. Notice the upright's position: tall part inside, base of the L outside the carder.

If you want to reinstall the lick-in in its previous place, matching the washer indentations, there's a slight trick involved. First, position the grooved brace on the handle side and use the screws and washers to hold it in place **without the brush attachment upright**. This is a temporary installation; install the screws just tightly enough to hold everything in position.

Attach the grooved brace on the drive band side **with the brush attachment upright**. Place the grooved brace on the base and eyeball it to align the washer indentations with the nuts. Set the upright in place, and make sure it's set up correctly, because you don't want to redo this step. The upright has an L shape: the tall part sits inside the carder and the L's base, which connects to the grooved brace with screws, is on the outside of the carder. Attach the screws and washers just tightly enough to hold everything in position.

Go back to the handle side. Remove the screws and washers. Position the grooved base so that the washer indentations line up with the nuts; again, you have to eyeball this part. Set the brush attachment upright in place (check it twice) and attach with screws and washers. As before, micro-adjust the grooved braces if necessary and fully attach the screws in their nuts.

Reinstall the brush between the uprights. Insert the shaft of one knob through a washer, then through the hole in the upright, then through another washer, then into the brush (which should sit over the

swift). Tighten the knob just enough to hold everything in place. Install the second knob in the same way—it can be tricky to line up the washer between the upright and the brush. Now tighten the knobs as much as you want. When I clean the carding cloth, the brush attachment "locks" the lick-in and swift drums in place; I set the brush in the brass strip of the swift and tighten the knobs as far as they'll go.



The brush attachment and drive band reinstalled.

Step 4: Reassemble the carder and clean the drums

Now everything on the carder can go back together. Reattach the handle with the acorn nut. Reattach the clamp. Reinstall the drive band: slip it around the drive wheel, then the top pulley, middle pulley, and bottom pulley. (Since I'm adding a motor, I didn't reinstall the clamp or the handle.) Check your reference photos to make sure everything is positioned correctly.

Clean the carding cloth on the drums. As you can see in the photo above, my swift drum was filthy! I cleaned out fiber with my favorite tool from The Woolery (<https://woolery.com/rosies-carder-cleaning-brush.html>), working slowly and thoroughly. Then I put the brush attachment on my vacuum cleaner hose, brushing in the same direction as the teeth point, to suck up dust and VM. I cleaned the swift and the lick-in like this. While Kitten will never resume her new-carder cleanliness, she looks a lot better!

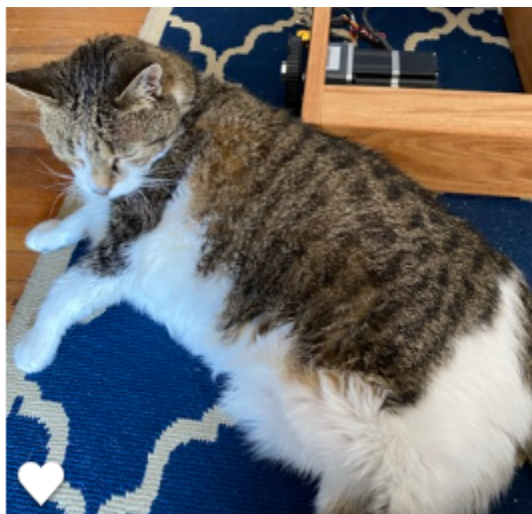


A clean Kitten is a happy Kitten.

It's also time to consider a dedicated set of drums for color-blending and fiber-blending, given my fiber habit. Now that I know how to remove and install the swift and lick-in assemblies, I can use the old

set for the first passes on raw fleece. Once the VM and dust are gone, I can finish processing the fleece, or blend colors and fibers, on the new drums.

Most importantly, I've learned that I have to clean the axles, not just the carding cloth, after every big carding session. I can do mini-cleans using my handy dandy fluff-cut-pick tools, without fully disassembling the carder. Then an annual or semi-annual deep clean will keep my Kitten purring just like she should!



Special thanks to my supervisor Josephine, who approved of deep cleaning Kitten.