

Article

Hearing Aid Buffing

In the last two issues we have talked about how to safely open a hearing aid, and then how to close the hearing aid using UV adhesive. After closing, you will typically notice that the seam where the shell and faceplate meet is a little rough, especially if you needed to do some patching in the seam. This is excess adhesive and/or patch material that seeped out of the seam when the shell was squeezed together, and has now cured. The way to smooth out this material is a process called buffing.

And even though this is a beginner's guide to buffing, we have a nice time saving trick for even the most experience buffer at the end of this article.

Now, there are many reasons for buffing a hearing aid, but for this issue we are going to look at the buffing technique for smoothing out the seam after a hearing aid has been closed. We will discuss other techniques in future issues.

Equipment needed

You will need a lathe for the buffing process, such as the Redwing Model 26A. The 26A is a very durable two speed, two spindle lathe and is very popular in the hearing aid industry. You will also need buffing wheels commonly referred to as buffs, preferably 30 ply and 15 ply, and buffing compound. The ply for a buffing wheel refers to how many layers of cloth a buffing wheel has, so the more ply the thicker the wheel. Now for ease of use, the lathe should be equipped with at least one tapered spindle. A tapered spindle is a cone shaped attachment for the lathe that is threaded, and allows you to quickly and easily attach buffing wheels by screwing them onto the tip of the spindle. Because the spindles are treaded, they are made for either the left side, or right side of the lathe. You will know if you install one on the wrong side because the buffing wheel will come off the spindle when you try and use it.

Now we are ready to buff that seam.

This is actually a two step process – the first being the removal/smoothing of excess material, and second is polishing to give the hearing aid a nice shine. First, attach a 30-ply buff to the tapered spindle. Then, choose the slowest RPM setting on the lathe and turn the lathe ON. We are now going to dress the buffing wheel using the buffing compound. This is necessary because it is the compound that makes the buff slightly abrasive, and allows you to gently remove the excess material. Hold the compound firmly in your hands, and press an edge of it into the wheel. You want to make sure you get plenty of compound into the buff.

Protect the aid from damage

Now, this is important. You have probably noticed the buffing compound is a material that could easily migrate into delicate parts of the hearing aid, such as the microphone and receiver ports. To protect the hearing aid, insert a small piece of foam into the receiver and mic ports to prevent any material from getting inside these areas during the buffing process.

Also important – put a battery in the hearing aid and turn the hearing aid ON. This is a protective measure against static electricity, which is created during the buffing process that could potentially damage internal hearing aid components. The volume control does not need to be turned up, the circuit just needs to be energized.

Let the buffing begin

OK, so we have the lathe ON, the buff is dressed, and the hearing aid ports are protected – lets begin. Holding the hearing aid with two hands, gently press the seam of the hearing aid against the buffing wheel, working your way around the seam. It is helpful to rotate the hearing aid as you work your way around the seam. Keep in mind, the harder you press the hearing aid against the buff, the more material will be removed, so be careful not to over-buff as you don't want to distort the shape of the aid. Inspect your work often, remember you are trying to take off excess material, and smooth the finish at the same time. As you buff the hearing aid, the compound on the buff will get used up, so redress the buff occasionally. Keep in

mind, the more compound on the buff, the more abrasive it becomes. Also important is the speed of the lathe. The faster the speed the more aggressive the buff, so keep it on the slowest speed for now.

How come my aid looks dull?

Now that you have successfully buffed the hearing aid and smoothed out the seam you may have noticed the finish of the aid looks dull. This is from the compound and buffed debris that is now on the aid. It is time to polish the hearing aid and bring back that luster it had when it was new!

Turn the lathe off and remove the 30-ply buff from the tapered spindle. Install a clean 15-ply buff and turn the lathe ON. Do not use any buffing compound on this buff. Press the hearing aid against the clean buff, working around the seam as well as the whole hearing aid. This will remove the old buffing compound and debris. Buff until the hearing aid is nice and shiny. After you get some experience and are comfortable with this process, you can try polishing with the lathe on high speed for an even brighter shine.

Now, carefully remove the protective foam from the mic and receiver ports. The hearing aid is now ready to test.

What about buffing laser shells?

The new laser shells are made of nylon and are a littler trickier to buff. Nylon material can be removed much easier than acrylic, so when buffing just use a small amount of compound, keep the lathe speed low, and only exert a slight amount of pressure.

For the more advanced

OK, now for that advanced tip I was mentioning earlier. You want to save yourself some time when buffing? Take your 30 ply buff and drill out the center hole to ½” using a hand drill. Now you can insert this buff all the way onto tapered spindle, insert the 15 ply buff in the end of the spindle, and use them both simultaneously. Pretty slick.

The Model 26A is capable of many buffing, grinding and polishing procedures, and we will discuss some of these in our next issue.

About the Author

Chris Perkins is the owner of Lightning Enterprises, and facilitates the Lightning Enterprises newsletter. He has worked in the hearing aid industry since 1991 in hearing aid manufacturing and product development, as well as equipment and process consulting.