Improving the Ampico Model B Tracking System

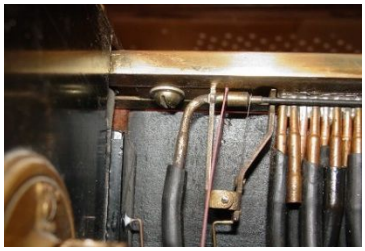
by Craig Brougher

While the Model B Ampico has the superior tracking design of all the reproducers and will track rolls almost perfectly regardless their variations in width, it still has one drawback. Its finger springs are flat spring steel and still too strong to work well on the old crispy paper rolls, some of which may be 100 years old. The Model B has expression holes within 1/8"of the edge.

In 1930, this system was also a big advancement in roll sensing and centering because it used a principle which we might call "tethering." The fingers were separated at a fixed distance, more or less, by a wire having a small brass poppet on each end of it. These were then suspended by flat springs attached to the fingers on which were hinged to vertical supports, and in line with the nipple holes they were to close off as they got closer. The nipple was a leak to air for each side of a differential dual-sided tracking pneumatic having its own bled vacuum supply. So whichever poppet was closest to its sealing nipple provided that side of the pair with the most force and the roll chuck adjusted proportionally. If you have a manual, see pg. 56.

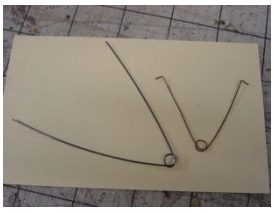
The fingers normally rest against the inboard side of their trackerbar finger holes, and there is an ideal "gap" or 'play' between nipple holes, ideally. That being between .015" and .020." If you have a blade thickness gauge or just a strip of heavy card stock measuring about .015, that's all you need to set this crucial measurement.

Loosen both tracker ear mounting screws to 'snug,' just so you can adjust them but not so they are floppy. If they're stuck, you'll have to remove them first, clean, and replace so they can be slid back and forth and hold their setting. They are mounted in a precision slot so that you no longer need to align them laterally as well, just to prevent their edges dragging in their holes. The purpose of this first adjustment is to get the fingers centered evenly as well as spaced so that you have an overall gap or play between either side between the nipple hole and wire poppet of .015 – .020." Now this is only half as much as the manual calls for, which was 1/32." That is far too much, as it tensions the flat springs to be even stiffer and harder to move. DO NOT SET THEM ACCORDING TO THE MANUAL. It is wrong.

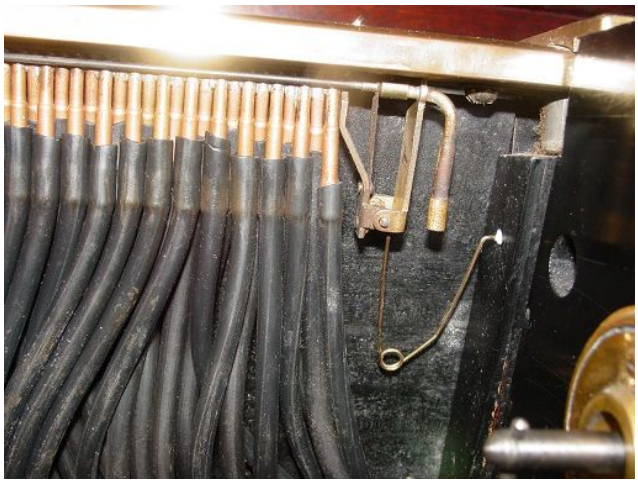


Notice cardboard gap checker

Once the tracker ear poppet gap overall is set correctly on one end or the other, you have the correct distance between their frames, but only if they are not also centered as well, will you have to move them. When they are perfectly centered, supposedly you should have exactly half of the correct gap at each poppet end. Ha. That doesn't happen very often. Getting them as close as possible to center should be good enough, but testing with fresh paper in a newer recut first is always a good idea. Tighten your mounting screws now and take your time. Once you are satisfied with the new rolls then, here's how you fix it to play the old, feathered ones.



You can use brass spring wire of roughly .030 dia. Or fine music wire about #6 gauge, which is about .013 and form two compass springs, only longer than you're going to use—as shown in the small picture. Make them overall about 1-1/2 to 1-3/4" long with small outward-pointing feet on their ends. Directly in-line with the bottoms of each swiveled finger, stab a small awl into the side of the spoolbox for one of the two feet on each spring, and stand the other opposing foot onto the bottom of the finger whose flat-spring tension you are opposing, below its hinge. Now these springs will never start out being the right tension. What you want is for each tracking finger to lay very lightly against the inside edge of its tracking hole in the trackerbar, realizing that the flat springs aren't equal, as well.



One way to tell this is to move each tracking ear outboard while watching the other one. If the other finger moves too, it is either too weak or the one you're moving is too strong. And if the fingers are still too tight against their inboard edges, the compass springs aren't quite strong enough, yet. So these tensions have to be adjusted, either by removal and springing out or in, or by a bending pliers. I've done it both ways. If a finger tends to favor the center of its hole or is not positive to return to the inboard edge of the tracker ear hole equally each time, then its compass spring is too strong. Weaken it. And if it's obviously tighter than the opposite finger, strengthen its compass spring by springing it out a little.

When you are satisfied that the pair is as equal as you can make them and their inboard tensions are trustworthy and equal but very light, then use some PVC-e glue (plastic glue) and put a little dot of it right on both ends at the tip of their feet and they will stay that way forever. Test now—first with a new roll, and then with a series of old ones. You should be delighted with the vast improvement you've just made. But if not, keep adjusting and testing to get it even better, ***because this method works every time***, and will turn your tracking system into a perfect, finely adjusted and gentle tracking system that will even track previously feathered rolls well, that you were once afraid to play lest you tear them up.

It is quite often the feathered or weak-edged rolls in old paper that cause the Model B to fail to play old paper well. Blaming the 'B' for an expression flaw is entirely wrong because that was never an issue with the "new Ampico." Holding the crescendo in its "first amplifier position" to play an 'A' roll "*more realistically*" on a 'B' is just a compromise and doesn't really address the real rebuilding problem. See also my articles, "***Why Ampico 'A' Rolls May Not Play Well on the Model B Ampico***," and also "***Ampico Model B Expressions—a New Concept in 1929***."