

The Great Ampico Myth

By Craig Brougher

What IS the “Great Ampico Myth,” you may be asking right now? Well, we’ll get to that and all of its ramifications, because it explains a lot as to why so many “restored” Ampicos don’t play up to their true potential. But there is absolutely nothing that I will say in this article which I won’t prove beyond a shadow of a doubt. I don’t enjoy reading slanted articles myself and I try not to slant anything to my own liking or belief that I do not have the full answer for. There are actually two well-exercised myths extant, and I will take them both on, here. You will see from both a practical point of view as well as from the designer’s own statements why these are merely myths without any substance to them, at all, but they are repeated over and over again like they were gospel. It’s time to get completely rid of them!

You hear all the time, when the Ampico is discussed, that the model A Ampico cannot play the Ampico B rolls well. First, let me explain a few things about that statement—the Ampico model A was a very different reproducing system mechanically and got its crescendo ramping from separate “crescendo bellows” controlled by the roll. The model B got its crescendo ramping directly from a single crescendo built into the pump and controlled by the roll.

Now some say two crescendos are better than one because with two crescendos, you can have bass and treble crescendos separated from each other, however in practice that is completely impossible. You see, the A Ampico crescendos control the pump through its “amplifier,” so as Charles Stoddard often admitted, *“They are Siamese twins joined at the hip.”* In other words, the only time a crescendo is really needed is when the pressure exceeds something like 18-20 inches of vacuum (determined by the setting of the initial spill pressure set into that pump in the first place). So while we can watch the crescendos fluctuating before a #6 intensity is called for, we observe that the amplifier on soft and normal passages doesn’t respond, proof that those fluctuations are expression-wise, immaterial, and Mr. Stoddard was right.

The bottom line of the discussion then is this—there is really only one crescendo in any Ampico, not two. Remember, Stoddard designed it. The crescendo merely budes the pump spill pressure and either one of those crescendos can do it. So when there’s only ONE (count ‘em—that’s ‘1’) amplifier raising the spill arm, only one spill and only one pump pressure sent to both halves of the stack to be the singular supply for everything, then how can connecting two crescendos to that amplifier make half of the pump’s pressure different from bass to treble? (*Well, when ya put it that way, Craig...*). But you’d be surprised the number of rebuilders

who have adopted this mindless nonsense over the years and have spoken out as the resident expert. So this is then one of the Ampico myths which are now busted. "The Ampico Reproducing Piano," Richard J. Howe, pp. 126, 127.

"But, Mr. Brougher, if that's so, then why do we find both bass and treble crescendo expression coding on ALL (not just some) Ampico rolls, HMMM? Gottcha there, right?"

Two reasons, Mr. Gottcha. First, the B system rolls needed compatibility with A's and that included "the look." That means, they had to "look like" they would do the trick, first and foremost. That "first impression" will always be the most important consideration when you're sticking something out there right in front of the public's nose, because if they see anything suspicious they'll find fault and not like it, even if there's absolutely no difference. Secondly, the factory had the option at first of putting the crescendo in the bass side if for some momentary quirk of coding it tended to make the treble paper too weak with the other stuff going on. It was an option. But if you will watch carefully the bass and treble crescendos, both slow and fast crescendo codes, you will see that they tend to exactly resemble each other. That doesn't mean the slow crescendo won't be different. That's what they most often did. The fast crescendos were always exactly the same, while the slow often varied. Why? It's for looks!

It takes about 9 seconds for a late model A piano to fully crescendo on slow. If the tempo is 90 (which it very often is), that means the roll moves 90 inches in a minute or 1.5 inches/second. It would therefore require a marginal slot in the paper 13.5 inches long to fully crescendo that piano. Ever seen one of those, yet? No? That's because the idea was seldom used. That's what the fast crescendo was for. The slow crescendo was used for "equalization." That means, tiny irregularities in vacuum due to other things going on that required vacuum. It was compensatory, but also it was in preparation for another thing about to happen, too.

So when you see a 2" long slow crescendo hole in that roll, you are looking at a preparatory nudge in crescendo which then would require only ½" second more in addition for a full fast crescendo, and yet that slow nudge with the slow crescendo isn't even noticeable in expression content before the ensuing musical "crash." Very clever, actually.

That's because a 2" slot in a roll for the slow crescendo amounts to only an extra inch or so vacuum, prior to the accent that was being anticipated. A 2" slot on average compares to about 15% increase in overall pressure. So if the pressure in the stack at the moment was 8", then the increase can only be a tiny bit over 1 inch. That's not even noticeable, and even then it's the coder's option to drop the intensity to even compensate for that. Also, it's the soft notes the roll coder pays the most attention to, not the loud ones. The slow crescendos were probably placed according to pump demand by rule of thumb initially, and then later in the coding sequence if they didn't affect the overall expression after the roll was checked, they could leave them

there. This may have been a generalized starting procedure which began the process of reproducing roll coding standardization. Delcamp was Ampico's editor-in-chief and a good musician in his own right. We still find remnants of coding holdovers on rolls, perhaps no longer even relevant to the song but still didn't change the music. That means you can tape them over and not notice a difference.

What's the Most Important Element of Piano Artistry?

Musically speaking, the two most important facets of musical interpretation have always been phrasing and pedaling. dynamic expression has always been subjective (*for the most part, we're talking about, but not 100%*). The exact dynamics, even for the most precise of musicians like Rachmaninoff will change from piano to piano, and from day to day, including the greatest of pianists depending on how he feels, the piano he's performing on, the hall, the audience, even what he had that morning on his Breakfast of Champions. His pedaling and phrasing will never change, and those are the two things which earmark the musician more than any other *single element* of artistry.

This is not to demean dynamics of course, but the dynamics follow while the phrasing and pedaling lead (*tempo and rubbato are a subset of phrasing, by the way*). This means then that the dynamics serve to interpret the phrasing, and never the other way around, but it takes all three to draw the picture, color it, and instill the image in the listener's mind (framing it).

If one just stops to consider an artist recreating a scene, then he can see the analogy in an instant. The melody is the "landscape" or overall projection of the picture. It's what the picture is all about. Next comes the individuals or subject placement within the overall picture, and third comes the coloration. If the subjects are drawn, posed, or spaced poorly then it doesn't matter how great your color sense is, does it? So what came first? The idea, the composition, or the colors? (*Modern "art" doesn't count.*)

The Ampico B Dilemma

Dr. Clarence Hickman (whom I knew and spoke to at length) wrote in his diary Nov, 1926, "I designed the editing scale for pump crescendo." That means, he was still in the process of the basic design for the Ampico roll coding scale for the Ampico B. It wasn't even close to finished, as yet.

"Started endurance test on striker pneumatic system." That means, the piano was in the very early stages of completion and testing, so what we read as far as 1926 is concerned is far too early to draw any conclusions from, OK? Hickman is just now beginning to test things. He hasn't even finished his roll coding technique for the B, MUCH LESS has he begun to

consolidate A and B coding to come up with an equitable plan to make the two piano designs equivalent and compatible.

“Had long talk with Delcamp about the player. Mr. Delcamp came up in his lab and listened to old rolls on new player. He was not at all pleased with performance. It looks like we have a big problem in making new piano rolls.” The Ampico Reproducing Piano,” pg. 287.

Remember now that Delcamp was their editor in chief and didn't like the way the model B played the OLD ROLLS! Hmm. That doesn't seem to be the modern rebuilder's complaint today, now does it? It's just the other way around, actually. They are saying their earlier model A doesn't play Hickman's B rolls well. Delcamp didn't say the model B doesn't play A rolls well. But now let's continue.

“Mr Stoddard proposed a new way of getting pedal compensation that appeals to me very much. It gives a perfect scale at all times. I think I can apply this without complicating the apparatus.”

Now what do you suppose that new method might be? Well, let me give you some hints— Clarence Hickman later won cartons of cigarettes in several bets that the musicians in the plant couldn't tell the difference. Again, all this comes from “The Ampico Reproducing Piano,” edited by Richard J. Howe. Remember, this was the beginning of the Ampico B. The ball bleed had just been redesigned again and was being experimented with when all this was discovered about the pedaling. And how did Stoddard fix the pedaling problem? He used note extensions again. But what he did eventually was then shorten the extensions on the melody notes and kept the extensions on the 3rds and 5ths going. That gives the impression that the entire chord is being held, as long as it isn't continued for long. Valerio mentions this in his interview. Frankly it's a trade-off to compensate for an overly slow model A pedal.

The *final design* expression curtains were not even invented until almost a year later. See pg. 303. September 1927, “Made tests on pump with “C” pouch valves. Results promising.” So in April 1927, the ball bleeds were still being improved and a new style crimp made in the top. Notice they were still working on these 2 years prior and are still having trouble with them.

February 1928, “Tested my new expression valves. Results very promising. Less noise, less space and less expensive. Also simple to understand. Pg. 308.” Notice that even though the Ampico B is playing well in factory prototype, it is not in production nor will it be until everybody is pleased. In other words, there was no such thing as, *“the Model A couldn't play the B rolls well, but you're supposed to accept that because that's the price of progress.”* You will never find that because it didn't exist until the middle 30's, but I will explain later.

We cannot be treated to the evolution of the model B and all its trials and tribulations, then arbitrarily take a sentence out of context from a diary chronicling day by day events during its development, quote that as the end of the matter and final result, and declare that from November 1926 onward, Hickman could never figure out why the model A could not play model B rolls well and vice versa. It's just not true but please don't take MY WORD for it. Read it for yourself:

Pg. 110, para 6,7: "Peter Brown said that you fought with Stoddard a little bit over having the "B" rolls work on the "A" piano and vice versa?"

"Yes, I didn't get anywhere with him. Well, he couldn't get into it because that was policy set up by the president and vice president. But it broke my heart to think that we had to actually make the quality on the new piano rolls less so that they would work on the old one. But we finally doped it out so that we didn't lose much."

And who was the final say as to whether or not the performance was completely acceptable in both pianos? None other than J. Milton Delcamp. Now if that isn't a good enough reference for some, then I'd have to suspect that their particular piano in question had a few extra problems not associated with "defective roll coding and built-in mechanical incompatibilities."

Later B Roll Incompatibility

Once the Ampico Corporation declared bankruptcy, the Aeolian Corporation took control in a sort of buy-out, merger arrangement but eventually took it all over, completely. As time went on, they arranged new music of the day and slowly evolved to the Ampico model B arrangements, still retaining most of the concessions decided on by Ampico for both pianos, but not all, notably the sustain pedal. In the middle 30's newly cut Ampico rolls, we find very quick pedaling which the model A cannot possibly duplicate realistically. This of course was the main problem with roll compatibility all along, and was alluded to on pg. 287 by Dr. Hickman, even though he wasn't specific as to why Delcamp definitely didn't like the music at first. That's primarily what it was because nothing else was even remotely attributable.

With all this said and proven, there's really a very simple way to modify the model A sustain pedal valve and actuator regulation to take care of practically all the differences, even today. Increase its bleed size roughly between #56 and #58 drill size, and double the travel of the valve. Next, regulate the damper lift in the grand. It must be very precision, and no damper lever can budge ahead of the next one. Then after regulating the manual sustain pedal for a responsive feel to a pianist, regulate the lost motion between the damper rail and the pedal actuator pneumatic so that it will drop the dampers faster. That means, you give it some lost motion. You don't fill up the space with felt or anything. The "speed" of a pedal on actuation

is 4 times faster than its speed of return, so you favor the return speed (*the drop out of the pedal*) over its actuation, and you'll have it. Very simple.

That said, do not expect good valve action with any block valve that you haven't replaced the pouch in. The old rubberized pouches are far too slow to remain in any Ampico. Unless these are totally gotten rid of, then you can knowledgeably say (and with all authority), "this Ampico doesn't play either A or B rolls very well." And...we'll all agree with you.