



AMICA
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Compiled by Mel Luchetti

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INTRODUCTION

Technicalities Vol. IV is divided into four sections: 1. Ampico, 2. Duo-Art, 3. The Players and 4. Miscellany. An attempt has been made to keep related subjects together so various ideas can be compared.

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Mel Luchetti



REBUILDING MODEL B AMPICO VALVES BY BILL KOENIGSBERG

Recently I finished rebuilding my 1930 Marshall & Wendell upright Ampico A/B reproducing piano. The A/B notation indicates that the piano contains conventional Ampico A components and some model B features usually associated with the grand style of post-1928 vintage. In this instance the Ampico employed B valves in the stack, (replacing the primary and secondary pairs), loud pedal compensators, and all controls in the spoolbox. Expression cut-out capability was absent but all the other features were essentially the same as other late model (1925-1928) Ampico uprights and grands. Prior to starting the restoration, I was surprised to find little or no information regarding the rebuilding of the Model B valves. Now that the task is finished, I feel obligated to relay what I've learned so that others will have somewhat more to start with. In hindsight, re-doing the B valves was easy but several subtle problems did emerge.

Let me start by noting that the actual construction of a B valve is not exactly as shown in Figure 17, page 34 of the *Ampico Service Manual*. In order to enhance the following discussion, that figure is reproduced here.

Referring to the figure, be aware that the fixed #70 bleed is not positioned vertically but rather is horizontal and faces the vacuum in the windchest directly. Also, the sketch of the ball bleed is slightly misleading in that the "throw" of the ball is actually about 1/32" not 3/16". Finally, though it may be obvious from the technical material presented in the 1929 *Ampico Service Manual*, the ball never seals the upper opening of the brass channel in which it rides, only the lower one.

To avoid being repetitive, I do not describe the operation of the B valve here since the 1929 manual does an excellent job of that. Rather, I'll try to relate my experiences in rebuilding one set of 83 valves. Basically, reconditioning of the valves is a straightforward but tedious process. Removal of the valves from the stack, scraping off the cork gasket and chipping away the orange shellac to pull the upper valve seat is uneventful. (See Alan Pier's article for more details on pulling

out the metal upper seats, *Amica Bulletin*, November 1976, page 218). Cleaning the inside and outside of the upper seats is facilitated by putting them in a large pan of denatured alcohol for 24 hours to loosen and dissolve the shellac (I kept track of which seat went to which valve as well as all other parts). Instead of going through a step-by-step procedure from here, let me cite the problems I had. They are listed below with a brief explanation provided subsequently.

1. Decayed upper valve facings.
2. Porus lower valve facings.
3. Cracked block housing on pouch line.
4. Cracked block housing on upper interface.
5. Bakelite lower valve seat loose and/or leaking.
6. Wrong fixed bleed size.
7. Horizontal channel from ball bleed to pouch in wrong place.
8. Stuck ball bleed.
9. Ball leaks when seated at bottom of channel.

Before discussing the above problems a comment concerning the pouches is in order. Testing the pouches for excessive porosity, or direct failure, without splitting the valve blocks may be achieved by sealing the fixed bleed channel and the passage from the bottom of the ball bleed to the pouch and drawing on the valve elbow or nipple by mouth. After you recognize the "slight" leak associated with a good pouch, a little additional practice and experience will help identify the faulty pouches. Note that blowing into the pouch does not constitute a valid test because the ball bleed will vent and offer a #60 size leak. In any case, not one of the 83 pouches was leaky enough to warrant replacement.

Because almost all of the upper valve facings for this set of B valves were flaky and rotten, all were replaced. Scraping off the old leather and light sanding of the wood (on a lapping plate) was all that was necessary before gluing on the new facings (1/16") with PVC-E #320 plastic glue.

Visually, most of the lower valve facings were in excellent condition and a simple brushing with a toothbrush cleaned