

The LUDLOW Quarterly

A Newsletter For Ludlow Typograph Operators And Enthusiasts

Metal Management

Strong response to our last issue's article on typemetal analysis prompts this short exploration of the subject.

The Ludlow machine was designed to work with a narrowly defined alloy of lead, antimony and tin. The idea is to optimize the melting point, fluidity, cooling characteristics, hardness, etc. An ideal mix is very close to 4.5% tin, 11.5% antimony and 84% lead. The lead provides cheap bulk, the antimony and tin work in combination to provide fluidity, hardness, and control shrinkage. It is interesting to note that antimony in its pure state actually expands as it cools and solidifies, like water becoming ice.

These three metals work in combination, and characteristics such as fluidity, perfect mold filling, and hardness change if their balance is upset. Ludlow machines can work well with from 4% to 6% tin content, but above 6% casting problems generally occur. Controlling tin is most important because the dross that is skimmed from the pot contains more tin than it should. Eventually, the tin content declines.

A really good practice is to use your metal in as large a batch as possible. This tends to dilute out the effect of any small lot's contamination. Don't continually remelt the last job back into the crucible. Save slugs until you get a full furnace full, ideally several hundred pounds, and then properly remelt.

If you don't have a remelt furnace get one, borrow one, or make one. Fancy isn't necessary. The cheapest I have seen was the bottom third of a metal drum, set on bricks, heated with the burner from a gas barbecue. Discarded kitchen pots were used to pour metal into ingot molds.

Know the weight of the slugs and melt everything to 650°F for 30 minutes, adding fluxes, stirring frequently, and skimming off and weighing the dross. Ideally you could stop at this point, pour a sample, get it analyzed, and compute how much toner metal is needed. United American Metals of Chicago, (312)-733-6700, may help you with this computation and sell you the proper quantity of toner metal.

If you don't stop for an analysis - weigh the dross skimmed off the remelt furnace and the dross

m skimmed off the pot since the last remelt, and add to the batch that weight of toner metal. Six percent tin content toner metal is formulated to replace, ounce for ounce, the discarded dross and restore your metal to optimum. Therefore, you need to know the weight of the dross to be discarded.

With the metal at 650°F, add the right amount of toner metal and stir continuously for 10 minutes, then cool to 525°-550°F and pour ingots. Use a thermometer.

With good typemetal getting scarce, it makes sense to protect what you have.

Harmful Impurities

Zinc and/or **aluminum**, in very tiny amounts, increase surface tension and the metal doesn't flow well into mats, leaving voids. Contamination generally stems from the cutting of zinc engravings on the lead saw and remelting the waste. Aluminum sometimes finds its way in via hot stamping foils that contaminate slugs which are then remelted. (A tactic in some strikes was to drop foil gum wrappers into the lino pots - squirts everywhere and the metal was ruined.) Most metallic inks contain large amounts of aluminum, copper, or zinc. If you use such inks, clean the slugs off very well or let them dry and use the supersurfacers to cut the printing face off - then throw those shavings away.

Copper forms needle sharp crystals with tin and antimony. The suspended crystals don't melt at low Ludlow crucible temperatures but are carried with the typemetal and build up to clog the mouthpiece. This buildup is very difficult to remove and causes poor faces and hollow slugs. Copper content of .01% will work, but .03% is essentially fatal to typemetal. This level is easily achieved by accidentally melting a few pieces of old handset type (1%-5% Cu) into the remelt furnace. Copper also comes from the brass mats wearing down with use, especially corroded mats. Brass is actually a copper/zinc/tin alloy. **Nickel**, from plated engravings, acts similarly.

Important Tips

NEVER melt handset type into the typemetal.

NEVER remelt saw and supersurfacers cuttings, throw them away.

DO NOT use flux in the Ludlow machine's crucible - the temperature is too low. The organic stearate and waxes that bind the chemicals leave a carbon buildup in the throat and mouthpiece.

USE a thermometer. It really is necessary, especially to keep from overheating the metal to the point where hazardous lead oxides are formed.

Stinking Typemetal!

♦♦♦♦

A subscriber called to say that he bought a number of real clean looking typemetal ingots from a shop going out of business. When they started to use one in the Ludlow it emitted a strong acrid odor, like sulfuric acid, which drove everyone from the shop. They even called the fire department's toxic spill materials unit!

I had never heard of this, no one I checked with had either, so I called Bill Mattes of United American Metals of Chicago. Mr. Mattes has alloyed thousands of tons of typemetal over 25 years and it was new to him! He did say that they use chemicals, including sulphur, in cleaning secondary metals but that eight hours of injecting water/steam into the 16,000 lb batches of alloying metal washes everything out.

So - was a contaminant added in the last melt? Was there an unseen contaminant coating the outside of the ingot? If anyone out there has a clue, or has ever had this problem, please let me know. I am trying to get a sample for analysis, and will let our readers know if something turns up.

This points out the need to closely follow the fluxing regimen described in this issue's main article!

WATERMELONS

*Green Buddhas
On the fruit stand
We eat the smile
and spit out the teeth*
C. Simic

What's New!

The toll free 800 number of the defunct Ludlow Typograph Co. of Chicago is working again! It is answered, however, by Dave Seat Hot Metal Services which picked up the number after a long period of inactivity. Dave's inventory of parts and supplies is more extensive now than that of the Chicago Company in its last years. The revived number is 1-800-621-6024.

Operating Tip

Self centering sticks are so nice that some operators use them for all their typesetting needs. Do not use one for multiple castings with the machine set to automatically repeat. The mats get much hotter than normal, expand more than normal, and the expansion force all bears on one or two teeth of the tiny pinion gear. When the tooth breaks the stick is broken, and a new gear is \$40.00. If multiple centered lines are necessary, you might reduce the risk of gear breakage by relieving and reapplying the thumbscrew pressure after each of the first four or five casts.

Business Profile

For this issue the Business Profile is history! Hugh Woodruff, a semi-retired letterpress printer in Phoenix, who worked four years for the AVERY LABEL company, wrote that two Ludlow machines were important pillars of the company in its early years.

Stan Avery started with a patent on laminating stock and a handful of employees in Pasadena, California. Hugh worked for them in the early 60's when they had 10 presses, 12 men, and two Ludlows in the back of the shop. They had no Linotypes.

A few labels were printed with zinc cuts, but most used lines of type from the Ludlows. Avery's compositors took full advantage of the Ludlow's ability to cast many copies of each line. Dropping clear acetate prints of multiple image dies over the forms, they were able to space the type lines exactly to the dies before going to press. Many jobs were price labels requiring frequent form changes which were easily done with the Ludlow slugs.

Labels were printed and kiss diecut 3-on to 10-on across a web of laminated label stock on presses that used intermittent paper travel. This was before laminated sheet fed stock was invented, and two webs of paper were glued just before the press with the die cutting process actually mashing the label onto the backing paper.

Certainly the Avery Label company, now grown into the giant Avery-Dennison company, owes much of its early success to the dependability of their Ludlow machines.

Mat Identification - Free!

No Ludlow mat gauge? Just send 1 mat of each font you want identified to the LUDLOW QUARTERLY address, with sufficient postage for return. Make sure the samples you pick exactly match the lines on the back of the mats in the font. The sample mats can be any letter, even a period. Think thin and light, perhaps a period or comma, and you might even be able to tape them onto a letter!

Calendar

Oct. 5 - Nov. 30.

Member's Exhibition - "Hand Bookbinders of California". San Francisco Public Library, Civic Center. Call Andrea Grimes, special collections, at (415) 557-4560.

Nov. 18 & 19

Pyramid Atlantic Washington Art Book Fair. Corcoran Gallery of Art, Washington DC., (301) 459-7154.

P-I-P-E Donations

Many thanks to these contributors to the Postage-Ink-Paper-Equipment fund:

Clyde Barbee, Merle Langley, Ray Ballash, Marlan Bielke, Mike Phillips

"Never eat more than you can lift."
Miss Piggy

Classified Ads

Ad cost is only 15 cents per word!
You must be a subscriber to
advertise.

FREE

To help preserve Ludlow and letterpress equipment, ads offering free items will be run without charge.

WANTED

Wanted: Parts for 10"x15" C&P old style press. The ink disk and support bracket, ratchet lever assembly parts, drive gear, and base and fork of feed table. - (970) 247-1713. Don Walker, 4979 CR 250, Durango, CO. 81301.

Wanted: Ludlow mats. Smaller sizes, ornaments, and script faces. Can trade or buy. Seeking a Ludlow "Shell-High Slug Shear" slug stripper. Would like to know of any molds that produce slugs of odd widths or lengths. B. Simon, 3115 W. Carvedale Dr., Phx., AZ 85027, (602) 581-1748.

FOR SALE

For Sale: Ludlow and 400 fonts, Hillendale Press, 312 Centre Ave., Towson, MD. 21286

For Sale: Electric Ludlow. Also; two cabinets, thirty fonts, self-centering and other sticks, 6 and 12 point molds, cleaning kit, and Misc. Ocala, Florida, 813-920-5668.

Attention:

Ludlow experience for sale. Last of a dying breed. 40 years of job shop experience. Looking for a shop to display my talents. Write: Ted Zabski, 810 West Army trail Rd. - Suite 163, Carol Stream, IL 60188

For Sale: More than 7,000 Ludlow fonts, in 188 different styles with 1,411 different fonts. List, proofs and prices on request. Thousands of Linotype fonts. Parts and accessories for both machines. Don Black, 120 Midwest Road - Unit 5, Scarborough, Ontario M1P 3B2, Canada. Our number is (416)751-5944, or Fax (416) 751-5413.

For sale: New! "Ludlow Field Service Notes" and Ludlow mat gauges with reference charts are now available from the author of "The Ludlow Trouble-Shooting Guide". Jim Parrish, P.O. Box 1108, Maracopa, AZ 85239, (520)568-3367.

For Sale: Ludlow Mats, 3 Cabinets, and Ludlow supersurfacers. Retired typographer offering last chance closeout of 71 fonts of beautiful Ludlow mats. 70 Linotype fonts, some new, all excellent. Everything with money back guarantee. Publishers typographic, 4812 Andrews, Amarillo, TX 79106, (806) 353-1370.

NA Graphics is exclusively a letterpress supply house stocking everything a letterpress shop needs. We manufacture Morgan Expansion Trucks, are the sole source of parts and supplies for Vandercook Presses and Cowan Pressroom Products, and have over 15,000 packages of new ATF and Stempel foundry type. We stock soft PVC/Nitrile letterpress rollers. Call, write, or FAX for our 12 page price list and type inventory. NA Graphics, P.O. Box 43038, Cincinnati, OH, 45243-0038. Phone 513-561-5503. Our FAX number is 513-561-5536.

For Sale: Ludlow Mats! So far in our Ludlow Mat Sell-Out, we have sold 400 fonts. We are sorry to upset the price structure others get for their fonts, but I'd rather have your money than this beautiful collection of brass. The price still holds at \$35.00 per font, plus handling. We still have hundreds of fine fonts available. This is an opportunity to fill in missing faces and to buy fonts you couldn't afford before. Send for list. I doubt if prices will ever get this low again. Michael Carbone, Inc., Federal Street, Camden, NJ 08105. (609) 946-4112 or Fax (609) 963-8860.

TRADE SERVICES

Expert Ludlow Repairs and Rebuilding

Self-centering stick repairs also. Service tours nationwide. Jim Parrish, P.O. Box 1108, Maracopa, AZ 85239, or call (520) 568-3367.

MARLBORO MATS INC.

Serving hot metal typesetters with mats, supplies, and parts for 65 years! 13,000 fonts of Ludlow, Linotype, and Intertype mats in stock. Free lists. Phone (208) 443-2715, Fax (208) 443-3060, or write to; P.O. Box 188, Coolin, ID 83821.

EXPERT LUDLOW REPAIRS

Books, sticks, parts, etc. Machinery appraisals and equipment moving. Complete machine package deals available. P.J.BURNS, Mercersburg, PA, telephone (717) 328-3092.

DAVE SEAT'S

HOT METAL SERVICES

The USA's most complete source for Ludlow, Linotype, and Intertype parts and supplies. Most orders shipped same day. In plant machine service and maintenance in 50 states and Canada. Rebuilt Ludlow machines. Large selection of new and used mats. 206 Whitnel Drive, P.O. Box 1160, Mt. Juliet, TN 37122. Phone (800) 542-2508, or 24 hour FAX is (800) 468-6382.

THE LUDLOW QUARTERLY

Bill Simon, Editor/Publisher at 3115 W. Cavedale Dr., Phoenix, Arizona 85027-7637. Phone (602) 581-1748. \$ 6.00 per 4 issues US, \$8.00 Canada, \$12.00 other countries. Back issues of the Ludlow Quarterly are available at \$2.50 each. 15 cents per word for classified ads. Copy deadline for issue #4 is December 15th, provided that space is still available. Only subscribers may advertise. We welcome letters to the editor, questions, tips suggestions, experiences, and articles.

Copyright © 1995

by William Simon, all rights reserved.