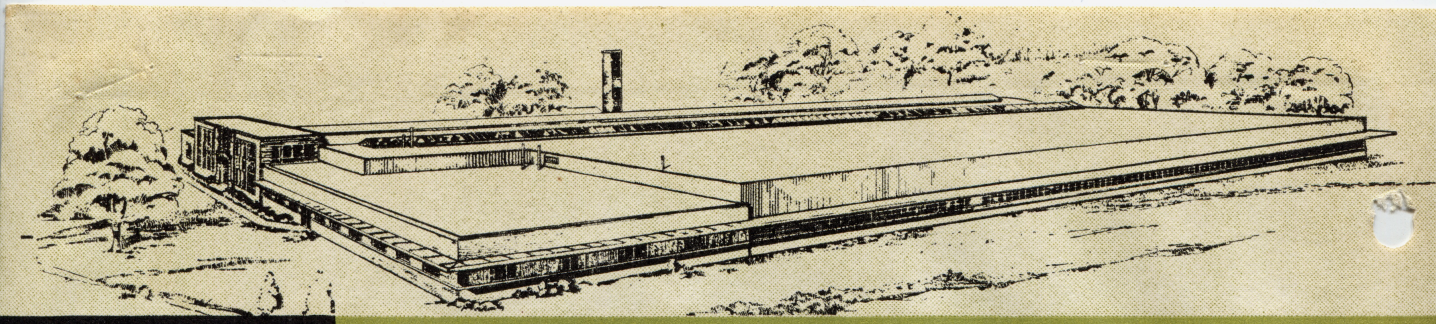

BULLETIN Hammond Machinery Builders INC. KALAMAZOO, MICHIGAN, U.S.A.

HOT METAL PASTE-UP SYSTEM of DISPLAY AD MAKEUP

INTRODUCTION

Hot metal paste-up is so relatively new that the few newspapers now using the system vary widely in methods and equipment. Originating newspapers had to adapt existing equipment, build their own equipment and had to find and experiment with many new supply materials. As more newspapers start using this hot metal paste-up it is felt that new work methods, equipment and supply items will be developed to further increase the efficiency of the system. The system which we describe is a composite of methods used by originating newspapers, such as -- Newsday, Garden City, L.I., N.Y.; Observer and News, Charlotte, N.C.; News-Observer and Times, Raleigh, N.C.; Tuscaloosa News, Tuscaloosa, Ala.; Herald-News, Joliet, Ill.; and others.

The hot metal paste-up system of local display ad makeup offers many of the benefits of photocomposition to small and medium size newspapers without a large capital investment. With the exception of a few pieces of specialized equipment, most newspapers are fully equipped for this system.

Hot metal paste-up consists of stripping the faces from type slugs which have been previously collated and spaced out according to the ad layout. Type and cuts are then pasted onto an adhesive coated mounting or base material according to the ad layout.

The majority of newspapers now on hot metal paste-up are stripping all display type and shaving all stereo flat casts to zinc thickness (.065"). Reasons for the zinc thickness are -- all parts of an ad are the same thickness - only one standard thickness base material required - stripped type, borders, price boxes, rules, etc. do not have the tendency to tip or roll over when mat molding, as is the case with shell-high (.152") material. In conjunction with the overall use of the .065" thickness, a few newspapers have converted their Ludlow machines and have had their Ludlow mats machined to cast the .065" thick slug face.

Hot metal paste-up should not be construed as a cure-all for all display ads. The hot metal paste-up system is best suited for complicated ads having a number of price boxes, angles, copy blocks, cuts, etc. Drug, grocery, bargain center and discount store ads are typical examples of these type ads.

The percentage of display ads which are economically adaptable to the hot metal paste-up

system varies from day to day, but in general they will average out to about 30%. Newspapers who are using the paste-up system have experienced time savings from 30% to 50% on the complicated type ads. Newspapers using the system report they are obtaining between 60 to 80 inches per hour per man.

METHODS OF HOT METAL PASTE-UP

In general, ads are handled in the usual manner with the exception that some designated person or persons have to make the decision as to whether the ad is to be made up conventionally or by hot metal paste-up. The person designated varies with the newspaper, however, it is usually the mark-up man, ad alley leadman or the composing room foreman.

Ads are marked up in the usual manner and the mats are sent to the stereo department for casting and shaving to zinc thickness (.065").

Some newspapers have a sub-assembly man who assembles display and Ludlow slugs into the various ad segments or copy blocks, adds the necessary line spacing and places the copy blocks in order on a galley. When ad copy is complete, a strip of transparent or translucent tape (Scotch #Y-9110 or #681) is placed on the type face. Tape is rubbed onto the face of the type to obtain maximum adhesion. The tape on the type face is cut with a razor blade into the various copy blocks. Maximum length of the copy block is 2" (about 12 picas) which is the clamp capacity of the ThinType Glider. The copy blocks are then stripped in the ThinType Glider and are ready for the makeup man.

Newspapers who do not use the sub-assembly method have the makeup man do the assembly, spacing, taping and stripping.

The makeup man picks up type, flat casts, zincs and the other materials necessary for assembling the ad. The term "other materials" is used because there are three systems of hot metal makeup being used at the present time.

Systems Nos. 1 and 2 are primarily used when an accurate and exact ad layout is furnished. The ad layout should be on translucent paper and a light table is required. System No.3 is used when rough ad layouts are furnished. The three systems are as follows --

System No.1 -- The translucent ad layout is placed face down on the light table and a cut-to-ad-size piece of .087" thick plexiglas is placed over the layout. Face of the plexiglas is covered with a double coated tape (Scotch #Y-9113 or #465). Type and cuts are placed onto the adhesive surface per the viewed ad layout.

An alternate method which is now being used by a few newspapers is to coat the surface of the .087" thick plexiglas with an adhesive wax. Wax is applied to the plexiglas with a Wax Coater Machine. Type and cuts are placed onto the adhesive per the viewed ad layout. To obtain maximum adhesion when wax mounting, a clean hand brayer should be rolled over the completed ad.

The overall thickness of an ad makeup in this system is .152"-.153". Regular low base (.765") can be used for proofing and in the page lockup.

System No. 2 -- The translucent ad layout is placed face down on the light table and a cut-to-ad-size piece of single sided translucent or transparent tape (Scotch #343 or MacTac #MP-300) is placed over the layout. Type and cuts are placed onto the adhesive surface per the viewed ad layout.

The overall thickness of an ad makeup in this system is approximately .067". Regular high base (.853") can be used for proofing and in the page lockup. In this system a few small pieces of double coated tape (Scotch #465) or aerosol spray adhesive (Anchor Chemical "Anchor-It"), is placed on non-printing areas to hold the ad assembly to the base.

System No. 3 -- A light table is not required for this system, however, a paste-up table equipped with either a T-square and triangles or a drafting machine is recommended. A cut-to-ad-size piece of high (.853") plexiglas, Rezlon plastic or metal base with a double coated tape (Scotch #Y-9113 or #465) applied to the face is used for the makeup. Type and cuts are positioned onto the base and adhesive as indicated by the ad layout. T-square and triangles are used for positioning and squaring the type copy blocks and cuts.

An alternate method which has been tried by one newspaper is to apply adhesive wax to the face surface of the base. In this instance the wax is sprayed onto the face surface. At present it is doubtful if a Wax Coater Machine could be used without some modification by the manufacturer.

The overall thickness of an ad makeup in this system is .919-920" so that no additional base is required for proofing and page lockup.

In all systems where tape is used for mounting the type and cuts it is suggested that the entire ad be dusted with powder or talc and the excess powder blown off before molding. The powder will prevent the mat from sticking to the tape after the molding operation.

After the ad is dead, the tape, type and cuts can be removed from the base with a putty or ink knife. The application of heat with a heat or infra-red lamp to the face of the ad will greatly ease removal. A number of solvents can be used for removing the adhesive from the base and it is suggested that you contact both the adhesive and base manufacturers for their recommendations.

HOT METAL PAST-UP EQUIPMENT and SUPPLIES

The only piece of equipment we recommend for the hot metal paste-up system is our Hammond Model TG-36 ThinType Glider. The other equipment and supply items which we have listed are for your reference only. There are undoubtedly a number of other sources of these items, but we have the listed items which we are familiar with and have seen in use. We suggest that you contact your local printing equipment and supply dealer for complete information, price and availability on the other items necessary for your hot metal paste-up system.

STRIPPING SAW -- The key to the hot metal paste-up system is an accurate saw which is fast operating and will hold the close tolerances required. The Hammond ThinType Glider is the only saw specifically designed from the floor up for automatic stripping of one or a quantity of slugs for the hot metal paste-up system of display ad makeup.

Model - Hammond Model TG-36 ThinType Glider.
Price - $1835.00 f.o.b. Kalamazoo, Michigan. Price includes the Combination Batter Shim for stripping both .065" and .152" thick type.
Manufactured By - Hammond Machinery Builders, Inc.
1600 Douglas Avenue
Kalamazoo, Michigan

LIGHT and PASTE-UP TABLES -- In many cases a light table is not required when initially going into the hot metal paste-up system. However, it is felt that as a newspaper gets further into the system, that a definite time saving advantage can be gained with the use of a light table. It is recommended that some type of paste-up table be used and that the table be equipped either with a T-square and triangles, or a drafting machine so that the various copy blocks, cuts, price boxes, rules, etc. be properly aligned in the makeup.

Models Available -	Hamilton No. 53C41, 53C43, etc.	Foster No. 101, 28, etc.
Prices -	$159.00 and up, depending on size and accessory equipment furnished.	$109.00 and up, depending on whether bench or floor model, size and accessory equipment furnished.
Manufactured By -	Hamilton Manufacturing Co. 13-16 Eighteenth St. Two Rivers, Wisconsin	Foster Manufacturing Co. 140 N. 13th St. Philadelphia, Pa.

BORDER and RULES -- Border and rule can be stripped on the ThinType Glider the same as type slugs. Tape should be applied to the border or rule face the same as when stripping slugs so the proper stripped thickness is obtained. When the .065" stripped thickness is used, it is suggested that rule body be at least 6 points. A narrower body will have a tendency to tip or roll over when mat molding. If the shell-high (.152") stripped thickness is used, it is suggested that the rule body be at least 12 points.

Ludlow Typograph Co. has special Elrod molds which cast .065" or .152" rule for the hot metal paste-up system. The molds cast a continuous piece of rule, however the .065" or .152" thick rule and body can be snapped off from the base. The snap off rule can be sawn and mitered as required.
Manufactured By - Ludlow Typograph Co.
2032 No. Clybourn Ave.
Chicago 14, Illinois

PRICE BOXES and MITERING -- Ludlow Typograph Co. has special Ludlow mats for casting a variety of sizes of price boxes. By stripping the Ludlow slug in the ThinType Glider a .065" thick rule box is obtained.

Special size rule or border boxes have to be made up as required. The corners of special size boxes are welded making the assembled box one complete unit. Method for assembling special size boxes is as follows --

Strip border or rule in ThinType Glider as previously described.

Miter material in normal manner. Note: The H.B. Rouse & Co., 2214 No. Wayne Ave., Chicago 14, Illinois has a special clamp jaw for mitering .065" or .152" stripped rule on a Rouse Vertical Miterer. Price of the special clamp jaw is about $35.00.

A simple welding fixture is used by a number of newspapers for holding the border or rule sides at right angles when welding the corners together. The fixture is easily made by mounting two line gauges at 90° right angle on a wooden base and installing the ground connection for the welder in the base.

The welding tip of an induction welding device is merely rubbed over the corner joint to weld the sides together. No solder or flux is required.

Induction Welder - Part Description	Catalog No.	Price
Ideal 500 Watt Power Unit	12-163	$45.60
Ideal Pencil Grip Handle	12-169	11.00
Ideal Replacement Electrodes	L-5421	.55/pkg.
Ideal Foot Switch	12-146	7.15
Manufactured By -	Ideal Industries, Inc. 1006 Park Ave. Sycamore, Illinois	

MOUNTING ADHESIVES -- Listed are the adhesives as mentioned in the Method Section. Prices are not included as they vary depending on roll length, tape width and quantity purchased.

Scotch No. Y-9110 - A single sided Paklon translucent tape, .003" thick, used for taping the slugs together prior to stripping in the ThinType Glider. The Y-9110 tape has a high-tack for holding the slugs in their proper relationship during the stripping and paste-up operations. This is a new tape now being developed for the hot metal paste-up system and is not at present commercially available.

Manufactured By - Minnesota Mining & Manufacturing Co.
900 Bush Avenue
St. Paul 6, Minnesota

Scotch No. 681 - A single sided Paklon transparent tape, .003" thick, used for taping the slugs together prior to stripping in the ThinType Glider.

Manufactured By - Minnesota Mining & Manufacturing Co.

Scotch No. Y-9113 - A double sided Paklon transparent tape, .0035" thick, used for mounting type and cuts to the mounting sheet or base. This is a new tape just being introduced for the hot metal paste-up system by Minnesota Mining & Manufacturing Co. This tape has a high-tack on one side for holding the type and cuts; the low-tack on the back side greatly eases the removal of the ad from the base when the ad is killed.

Manufactured By - Minnesota Mining & Manufacturing Co.

Scotch No. 465 - A double sided transfer tape, .0015" thick, used for mounting the type and cuts to the mounting sheet or base. Also used for mounting the ad assembly to the base in System No.2.
Manufactured By - Minnesota Mining & Manufacturing Co.

Scotch No.343 - A single sided translucent tape, .003" thick, used in System No.2.
Manufactured By - Minnesota Mining & Manufacturing Co.

MacTac No. MP-300 - A single sided transparent Vinyl tape, .004" thick, used in System No.2.
Manufactured By - Morgan Adhesives Company
4560 Darrow Road
Stowe, Ohio

Anchor-It - An aerosol spray adhesive used for mounting the ad assembly to the base in Systen No.2.
Manufactured By - Anchor Chemical Co. Inc.,
837 Bergen St.
Brooklyn 38, New York

MOUNTING SHEET, .087" PLEXIGLAS --An extruded plexiglas sheet, .086"-.087" thick, used for making up ads as mentioned in System No.1. Price varies with quantity purchased.
Manufactured By - Amplex Manufacturing Co.
2329 Fairmount Ave.
Philadelphia, Pa.

WAX COATING MACHINE - This machine applies a coating of pressure sensitive adhesive wax to the face of the mounting sheet or base material. The machine manufacturer should be advised the thickness of the material and the material being coated as the machine may have to be modified.

Models Available -	Potdevin Type 2R18, for material up to 17-1/2" wide	Schaefer 12" Wax Coater
Prices -	$670.00	$465.00
Manufactured By -	Potdevin Machine Co. 297 North St. Teterboro, New Jersey	The Schaefer Machine Co. 145 Front St. Bridgeport, Conn.

MOUNTING BASE - Regular height zinc (.853") or shell (.765") base is used for mounting hot metal paste-up ads. Cast and shaved stereo base or regular strip material base can be used. A number of newspapers are using a cut-to-size light weight base material for mounting their hot metal paste-up ads. Use of light weight base material will substantially reduce the time required to cast base, as well as reducing remelt and repigging time.

Prices of the following base materials are not included as they vary according to type of material, size, thickness and whether the material is finished to size and thickness.

Type of Base -	Rezlon Plastic Base	Magnesium Base
Manufactured By-	Midwest Publishers Supply Co. 4500 W. Cermak Road Chicago 23, Illinois	The Monomelt Co., Inc. 1611 Polk St. N.E. Minneapolis, Minnesota
Type of Base -	Plexiglas Base	Plexiglas Base
Manufactured By-	Amplex Manufacturing Co. 2329 Fairmount Ave. Philadelphia, Pa.	Rohm & Haas Co. 712 Locust St. Philadelphia 5, Pa.

JOB STEREO DEPARTMENT -- As mentioned previously, the majority of newspapers now doing hot metal paste-up are shaving all stereo flat casts .065" thick. A set of .110" thick casting bars are recommended for producing thinner cast which require less shaving. Casting bars thinner than .110" are not recommended as the percentage of failures increases greatly below this thickness. A set of .110" thick casting bars for the Hammond EasyKaster 8 are priced at $100.00.

All flat casts must be shaved to the .065" zinc thickness. A heavy duty rotary flat shaver usually only requires two shaves to obtain the .065" thickness. The Hammond PlateShaver can be used for shaving to the .065" thickness, however, it requires about five shaves to obtain the final thickness.

The .065" shaved casts are quite flimsy and extremely difficult to route. The easiest way to finish the thin cast is by mortising. Mortising can be done quickly as the non-printing or open areas in the thin cast are only .030-.040" thick. The Hammond Router-Planer-Mortiser, Carlson Shell Plate Finisher and other similiar machines are ideally suited for mortising the thin casts.

Hammond Machinery Builders will gladly furnish any further information you may require on the hot metal paste-up system and the ThinType Glider.

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