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Mechanical Addressing Methods

Addressing machines are a very specialized method of printing. Whereas most other printing methods are intended for long runs of one item, the purpose of the addressing apparatus is to make just one copy of several different items. Addressing machines were designed for addressing envelopes, but their uses have since been extended to many other areas of business, especially with payrolls, billing, and other office functions.

The addressing machine was developed to speed up the process of addressing envelopes. Addressing by hand or individual typing consumed much time but added the personal touch to the mail. While trying to speed the addressing process there was also an effort to keep this personal touch, so efforts were made to approach a typewritten quality. From this came the applications of hectographic and stencil masters to addressing and the development of an addresser using metal plates.

While computers are now used in addressing and many computer-printed labels are being affixed to envelopes, there is still a great use of metal plates, stencils, and hectographic masters. It is these latter methods that will concern this paper.

Hectographic Masters

Hectographic masters (Fig. 1) used in addressing are an application of the common rotary machine, which uses a glazed sheet of paper and a sheet of hectographic carbon paper. The master is prepared by typing or writing on the glazed sheet and picking up the carbon on the reverse side. In addressing this sheet is then placed in a frame and fed into the printing area. The paper to be printed is dampened with a solvent as it is fed into the machine, dissolving some of the hectographic carbon and transferring the copy to the sheet. Because some carbon is removed with each sheet printed, the hectographic master has a relatively short life span and is normally not used when printing more than 200 copies.

As in its other applications the hectographic masters used in addressing are intended for work involving a very limited number of mailings and when frequent changes are likely. Usually the primary concern when using this method is not for quality but for minimizing cost. The hectographic master can be prepared on an ordinary typewriter, and thus any typewriter style of type may be found when this process has been used.

The print from a hectographic master is usually purple but can be in many colors, as all that is necessary is to use a different-colored hectographic carbon paper when preparing the master. Possibly a hectographic copy with many different colors from only one printing could be found. For addressing, the purple carbon is more durable and longer lasting, but forms can be found for addressing with black carbon. With this process

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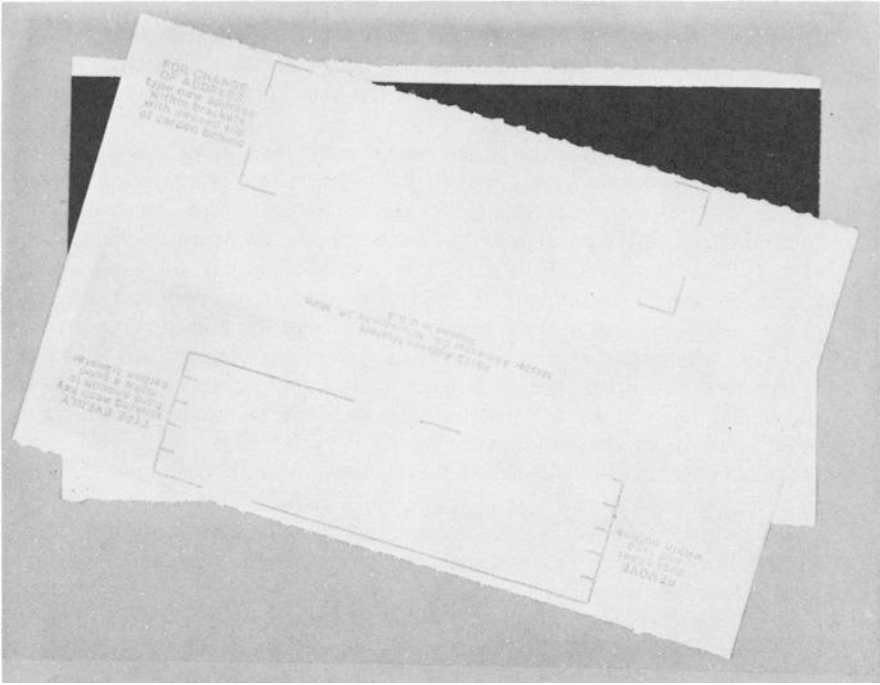


FIG. 1—A *hectographic master and carbon sheet.*

there will be no indentations left in the paper. The master may have a tendency to smudge, blurring letters and making extraneous marks which will be transferred to the envelope in the addressing process.

Stencil Masters

The use of stencil duplicating in the addressing process is, like the hectographic master, an application of a process developed mainly for other uses. The stencil master (Fig. 2)

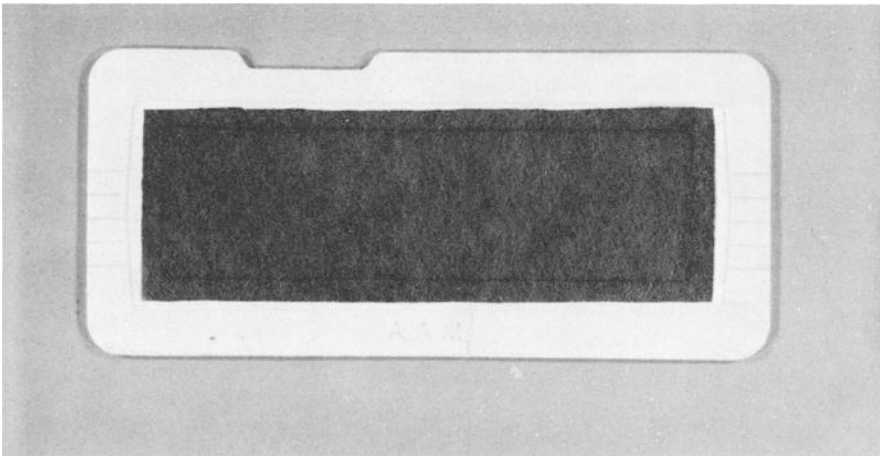


FIG. 2—An *uncut stencil master.*

consists of a strong, fibrous, coated tissue which will not allow ink to pass through it. The stencil master is prepared by cutting in the areas to be printed. This can be accomplished by using a stylus and writing on the stencil surface or, as is more usually the case, by a typewriter. In the areas where the stencil has been cut the ink will penetrate, producing the copy.

In its application in addressing the stencil master is available in a small frame around the fibrous tissue. The entire unit is placed in a typewriter for preparation and the stencil is cut. Any typewriter can be used to cut the stencil master; thus, as with the hectographic masters, any typewriter style of type can be found when this method is used. Before cutting the stencil, if the tissue is moistened slightly it will produce a better impression on the stencil master and on the end product. Once prepared, the framed stencil masters can be stacked in the addresser and fed into the printing area along with the envelope or whatever else is to be printed from these stencils. An inked metal plate will then force contact between the stencil master and the envelope from the back side of the stencil, and the ink will penetrate the stencil in the areas where it has been cut, transferring to the envelope and producing the end product.

There are advantages in using this stencil master instead of the hectographic master. The stencil master, while costing more, produces a better quality copy. Smudged letters are avoided because there is no carbon to smear when handling the stencil. Extraneous marks are less likely to occur on a stencil, and when these marks are found or corrections are necessary a special correcting fluid need only be brushed over the mistake and the stencil can then be recut. In this manner stencil masters can be reused by merely correcting or covering the old material. Stencils have a much longer life than hectographic masters, but recutting the stencil shortens this time considerably.

Like the hectographic master, the stencil master leaves no imprint in the envelope. The stencil can be printed in only one color at a time using whatever color of ink is desired, usually black ink because the user is attempting to produce a typewritten effect.

Metal Plates

Addressing from metal plates (Fig. 3) can be prepared in a Graphotype® machine, which consists of a punch and die for each character. When a character is selected, the

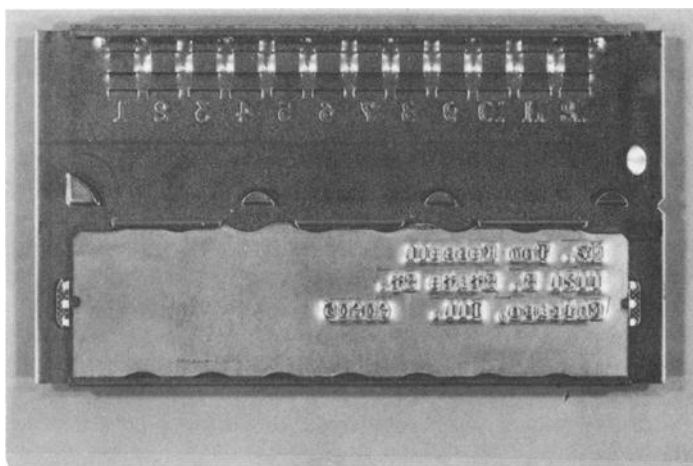


FIG. 3—An Addressograph plate readied for addressing.

machine is activated and the punch is pushed against the metal plate which in turn is forced into the die, forming the desired character. The machine is also equipped with a blank which will flatten the metal when an incorrect character has been punched. There are various models of the Graphotype® available; however, all of them work on the same principle. Other embossing machines used to prepare the metal plates also use the punch and die procedure.

The metal plate can be an alloy or zinc plate. Both of these can be reused by blanking out the old information and typing in the new information; however, the zinc plate will last almost indefinitely. Depending on the manufacturer of the equipment the metal plate can be a small plate holding a maximum of five lines of type or a larger plate holding up to ten lines. The more sophisticated plates consist of a large metal holder into which a smaller plate with the information punched on it can be inserted along with a sample printout of the information on the plate. The machines used to imprint the address on an envelope cover a wide range from a small hand-fed, hand-operated machine to one which can be programmed to print from a large stack of plates only those in a selected group.

The metal plate addressing machine operates by inserting a plate behind a ribbon, placing an envelope in front of the plate so that the ribbon is between the two and then having a rubber platen come in contact with the back of the plate, pressing the plate, through the ribbon, against the envelope. Thus, depending on the size of the platen it is possible that only selected areas of the metal plate will be printed. A plate can be prepared containing information which may concern a customer's account in addition to his address, but all of this information may not be wanted on an envelope. By cutting the platen to the size and area desired for each different purpose a single plate can be prepared and the correct platen selected for whatever part of the information is needed. Only the part of the plate with which the platen comes into direct contact will be printed. Since the metal plate is actually pressed into the envelope there will be an indentation left in the envelope. Depending on the pressure setting of the machine this indentation can be very faint or very heavy, even leaving indentations on the back of the envelope.

Color can also be varied in this method by selecting an appropriately colored ribbon. Usually a solid black ribbon is used; however, there are ribbons made with half red and half black.

The style of type depends on the embosser used. The Graphotype® is available with a pica or an elite style. The Speedamat® (Fig. 4), which uses the small plates to a maximum of five lines, uses a gothic style of type.

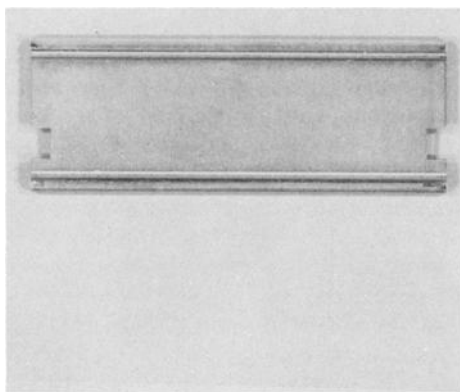


FIG. 4—A Speedamat® plate.

A new development by Addressograph Co. is a plastic plate rather than a metal one. Up to eight lines of information are embossed in the light-weight plastic which, like the metal plates, can be re-embossed. The printed impression is comparable to that from the metal plate.

Summary

Addressing machines involve a specialized form of printing. The attempt to speed up the addressing process while maintaining a semblance of personal contact has led to the development of methods approaching the typewritten style. These different methods vary greatly in quality in direct relation to the cost and can be distinguished fairly easily.

In identifying the specific metal plate [1] or typewriter used to prepare the hectographic or stencil master different problems are encountered, and this identification would be directly influenced by the care taken in preparing the address form and printing on the envelopes.

Reference

[1] Black, D. A., "Identifying Addressograph Imprints," report presented at the Conference of the American Society of Questioned Document Examiners, Seattle, Wash., 1971.

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