

*Graphotype*<sup>®</sup>

CLASS 6400

REFERENCE BOOK

Second Edition

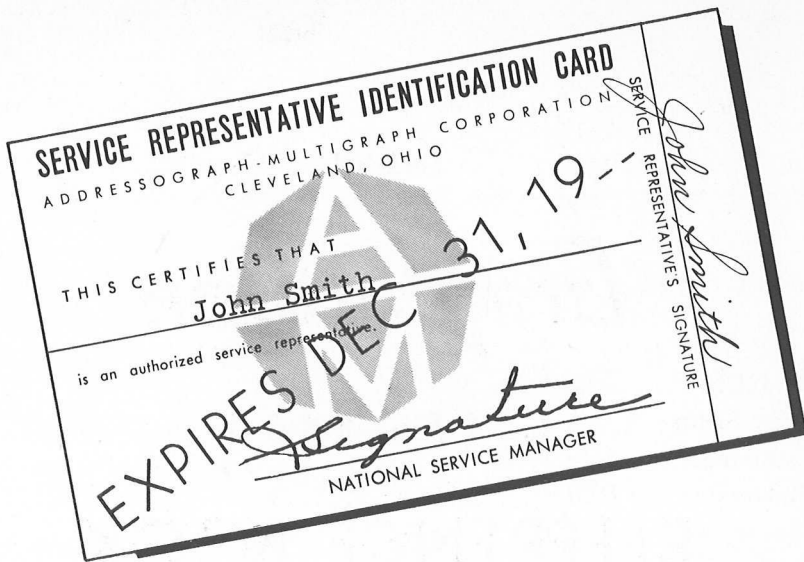
*This Book is Very Important  
Read and Keep It*

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**ADDRESSOGRAPH DIVISION**

**ADDRESSOGRAPH-MULTIGRAPH CORPORATION**

**1200 BABBITT ROAD, CLEVELAND 17, OHIO**



## A-M CERTIFIED MAINTENANCE SERVICE

Addressograph-Multigraph Sales Offices, located in principal cities of the world, are recognized service centers prepared to provide the mechanical and technical service, certified supplies, and counsel which assure the profitable use of all Addressograph-Multigraph products.

A-M Certified Maintenance Service by factory-trained Service Representatives is available through every Addressograph-Multigraph Sales and Service Office. Service Representatives are given intensive training at the Factory under constant supervision of the Mechanical Service Department. In closely supervised courses, and actual practice, the Service Representative learns the operation, factory adjustment standards and proper, efficient product maintenance of Addressograph-Multigraph equipment.

A-M Service Representatives are kept informed of new developments and practices through bulletins issued by the Mechanical Service Department. Additional instruction is given by Service Supervisors visiting sales and service offices.

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- (1) THE PREVENTIVE MAINTENANCE PLAN—A service plan designed to meet your complete maintenance requirements at a fixed annual cost. The plan provides:
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  - (b) Emergency calls, if necessary, between regular inspection calls.
  - (c) All standard replacement parts as required.
- (2) EMERGENCY SERVICE—at an hourly rate.

For details concerning A-M Certified Maintenance Service, consult your Addressograph-Multigraph Sales and Service Office.

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## INTRODUCTION

This book is presented to you to use as a guide when setting up and operating your Model 6400 Graphotype machine. In it are detailed instructions, coupled with photographs, to enable you to understand clearly the procedure required to operate this machine most efficiently.

As you will note when reading these instructions, various machine parts are pointed out in the photographs by using letters of the alphabet (called "key letters"); also, each photograph is designated with a Figure number. Throughout the book, reference is made to these Figure numbers and key letters to enable the reader to locate the part being defined in the text. For example, under the heading "OPERATION", reference is made to a "housing 1A", "copy holder 1B" and "line indicator 1C". By noting the key letters A, B or C in Figure 1, the parts described can be identified readily.

Knowing this method of distinguishing the components of the machine, you can now proceed to read the text with a clear understanding of the manner in which it is written.

The Class 6440 Graphotype machines will emboss upper case (capital) letters only. The Class 6480 Graphotype machines will emboss both upper case (capital) letters and lower case (small) letters. However, due to the similarity of these two machines, the instructions given in this book apply to both. In instances where the instructions concern Graphotype machines in one series and not the other, such paragraphs will be clearly indicated.

### SETTING UP

When removing your Graphotype machine from the shipping crate, do not dismantle any parts or disturb any adjustments. Never grasp the flywheel to move the machine. To do so may result in distortion of the flywheel.

After unpacking the machine, remove the rust-preventive oil that was applied to some parts of the machine. Use a soft, non-lint cloth moistened with a non-inflammable solvent cleaner.

**IMPORTANT:** Before starting to operate the Graphotype machine, be sure it is properly lubricated. Refer to instructions in this book under the heading "LUBRICATION". Make sure that the electric current and voltage correspond to specifications on the name plate of the motor. Then connect the service cord to a suitable socket.

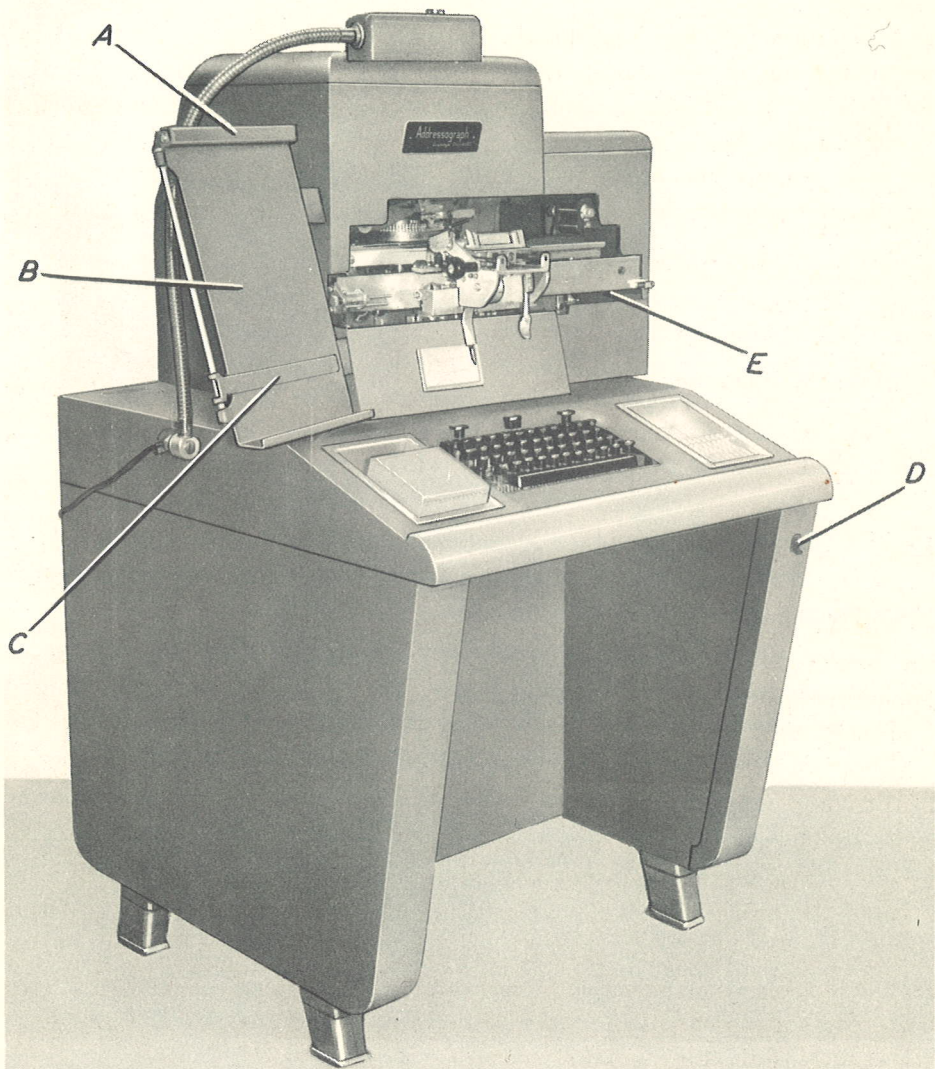


Figure 1

## OPERATION

Insert the copy from which the plates are to be embossed into the roller housing 1A and under the retaining rollers at the top of the copy holder 1B. The paper should be inserted into the bottom of the retaining rollers in the housing and removed from the top. The line indicator 1C is adjustable and may be moved up or down to designate each line of information that is being embossed onto the Addressograph plate.

### INSERTING PLATE INTO JAWS

The carriage 2B should be in the extreme left position (neutral position) before inserting a plate into the jaw. NOTE: If the carriage will not move from plate roller position (extreme right) it will be necessary to turn on the motor switch 1D so that the plate roller will release the carriage. If the carriage should fail to move from plate roller position while the motor is operating, press the release lever 1E to the right.

With the left hand, grasp the operating handle 2C. Pull forward (toward the operator) until the jaw assembly 2A is against its stop. While holding the operating handle in this position, raise it until the jaw comes to rest in the load position. A slight rearward pressure on the operating handle will now open the jaw so that the plate can be inserted. With the right hand, insert a plate into the plate jaws; then, release the operating handle.

**IMPORTANT:** Be sure the plate is inserted between the jaws as far as it will go and that the plate is moved as far to the left as possible so that it rests snugly against the plate stop 2D.

If serpentine plates are being embossed, insert the plate into the plate jaws with the trademark "Addressograph" facing the operator and toward the left, as shown in Figure 3. Locating the plate in this manner will facilitate the insertion of the embossed plate into the plate frame.

With the plate inserted in the jaw, move the operating handle to its downward position. This will advance the plate to its first line, first character position.

### EMBOSSING THE PLATE

Insert a format, or sample copy, from which a plate is to be embossed into the holder 4B. The carriage should now be brought to the position at which the character indicator 4C will point to the first character of the copy. The carriage is then in position to emboss the first character on the plate.

The character indicator 4C spaces horizontally with the carriage. It also spaces vertically as the line space lever 4A is moved to the left for embossing each succeeding line. Alignment of the indicator pointer with each character on the format assures correct location of the embossed characters on the plate.

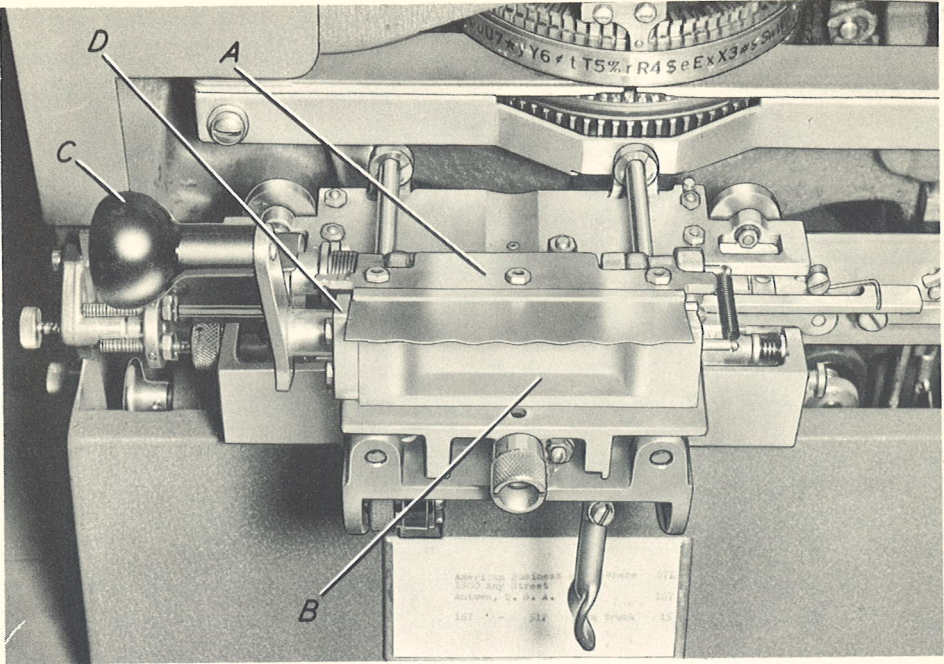


Figure 2

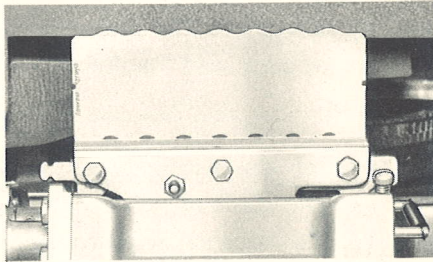


Figure 3

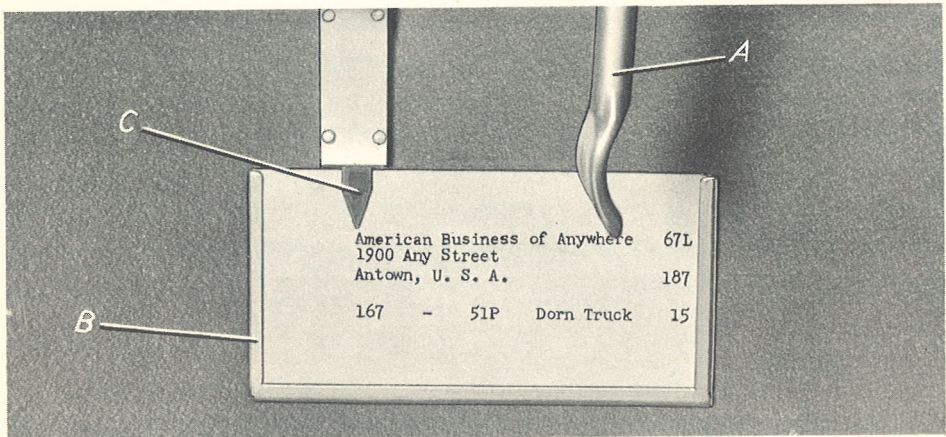


Figure 4

**TO EMBOSS (Class 6440 Series Only).** Only upper case (capital letters) can be embossed on a Graphotype Class 6440, as models in this series are not equipped with "shift" keys. Embossing is accomplished by merely depressing the keys for the desired characters.

**TO EMBOSS (Class 6480 Series Only).** To emboss an upper case (capital letter), depress and hold down either of the two "shift" keys 5B or 5D while embossing the desired character. To emboss all upper case (capital letters) on Class 6480 series Graphotype machines, depress the key marked "Shift Lock" 5B and tilt the top of the key to the rear -- away from the operator -- thus locking it in the "down" position. Slight pressure on the forward end of the shift lock key will release the shift lock and return the shift mechanism to lower case position.

The arrangement of character keys and space bar on the keyboard for Class 6480 and Class 6440 series Graphotype machines is similar to that of a standard typewriter (See Figure 5). As each key is depressed, the character is embossed and the carriage moves one space to the right for correct spacing between the characters. Should a character fail to emboss and a key remain in down position, it can be restored to neutral (upper) position by pulling forward on the restoring lever 5E. The carriage will not space when this occurs and backspacing is not necessary in order to continue embossing.

When depressing the keys of the Graphotype machine, the finger must follow the key downward to the limit of its stroke; otherwise, the machine will not function properly. To become accustomed to the correct method of manipulating the keys, the operator should practice by depressing the keys slowly; then, gradually increasing the speed.

## **SPACING**

To space between characters, depress the space bar 5C. The carriage will then move one space to the right each time the space bar is depressed. To space between the lines of type, place the index finger of the right hand on the right side of the line space and carriage return lever 4A and press the lever to the left.

## **BACKSPACER**

To move the carriage one space opposite normal travel, depress the backspacing key 5A.



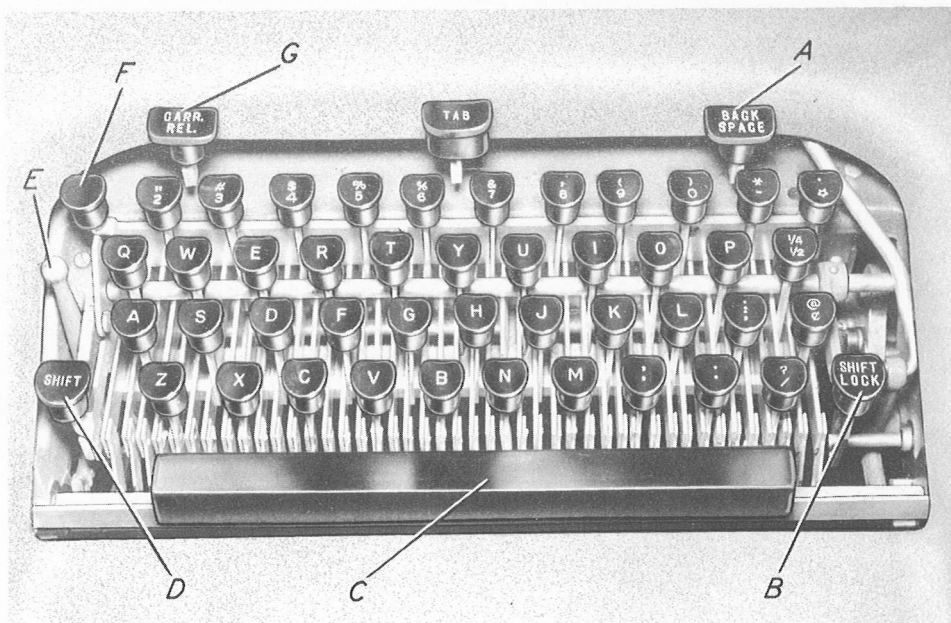


Figure 5

## BLANKER KEY

Typing errors and corrections can be made to Addressograph plates by embossing the desired character over the erroneous character. In making corrections, it may be necessary to provide spaces between embossed words or characters; or, a corrected line of type may become shorter than the line previously embossed. The blanker key can then be used to "blank down" any embossed characters that are not required. When the blanker key is used to blank down a character, the adjoining character will become slightly distorted and should be re-embossed. On Class 6480 series Graphotype machines, the blanker key 5F can only be depressed when either shift key 5B or 5D is held down. On Class 6440 series Graphotype machines, the blanker key is located two rows below the position 5F. NOTE: The blanker key is not intended for blanking down entire plates for re-embossing.

## TO REMOVE THE EMBOSSED PLATE

Depress the carriage release key 5G. This will allow the carriage to move to the right end of the carriage rail. If your machine is equipped with a plate roller, all of the characters will automatically be rolled to the correct height at this position. After the plate roller has completed its rolling cycle, grasp the operating handle 6E with the left hand and move the carriage manually to the extreme left (neutral) position. With the carriage in extreme left (neutral position) and with the left hand on the operating handle, pull forward and up. A slight rearward pressure against the operating handle will now open the jaw and permit the removal of the embossed plate.

**IMPORTANT:** Do not operate the Graphotype machine without an Addressograph plate in embossing position. To do so would result in damage and possible breakage of dies and punches. Without an Addressograph plate between the die and punch when embossing, the punch is permitted to enter too deeply into the face of the die, causing the die to spread and the character on the punch to be malformed.

**CAUTION:** Your Graphotype machine has been designed and adjusted for the embossing of certified Addressograph plates. To emboss other plates may necessitate compensating adjustments of the machine. Paper or other kinds of material should never be embossed on a Graphotype machine. To do so may result in breakage of dies and punches or cause the faces of the dies to become filled. When again embossing "Addressograph" plates, the characters will be poorly formed.

## OPTIONAL ATTACHMENTS AND FEATURES

### QUICK-CHANGE CHARACTER SPACING

If your machine is equipped with more than one character spacing arrangement, the changeover from one to the other can be easily made by the operator. With the carriage in the extreme right position, pull the locking knob 6H to the left and rotate it to select the desired character spacing. Each character spacing is identified by its respective letter 6C.

### QUICK-CHANGE MARGINAL STOP

Correct marginal stops may be selected by pressing the knob 6G to the right and turning the stop assembly. Each position has an identifying letter 6F for a predetermined marginal stop.

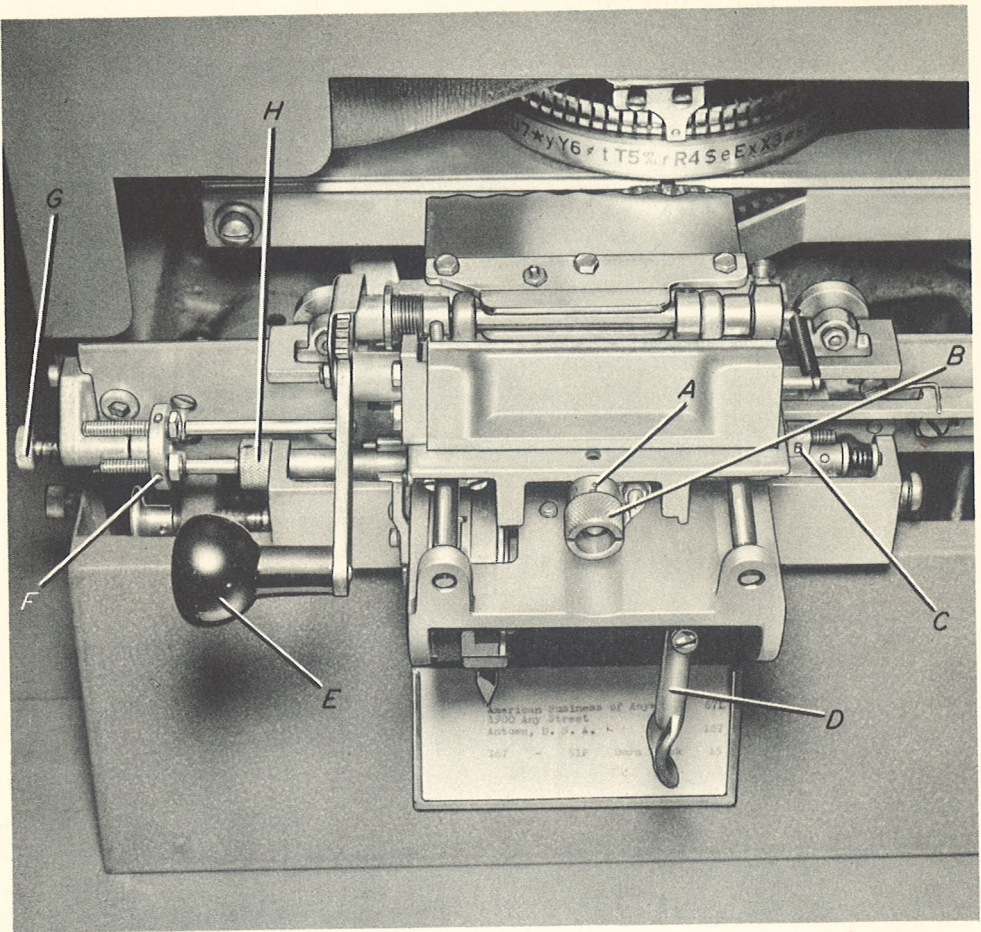


Figure 6

### QUICK-CHANGE LINE SPACE

If your Graphotype machine is arranged for certain styles of plates requiring two or three different spacings between lines of type, the spacing may be changed by pulling the knurled knob 6B forward (toward the operator) and turning the knob to the correct number 6A, corresponding to the line space desired.

NOTE: Each identifying letter or number on the quick-change character spacing, marginal stop and line space features designates a specific character spacing arrangement or marginal stop. These should be identified by your local Addressograph representative at the time of installation and recorded in the Note Section of this book.

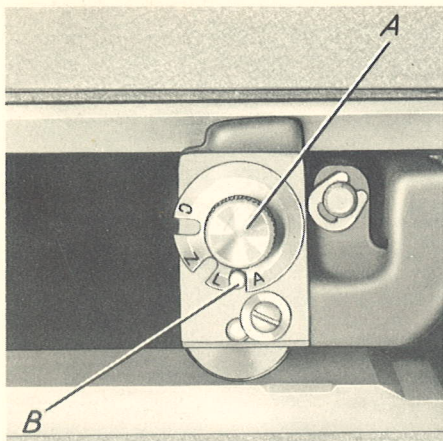


Figure 7

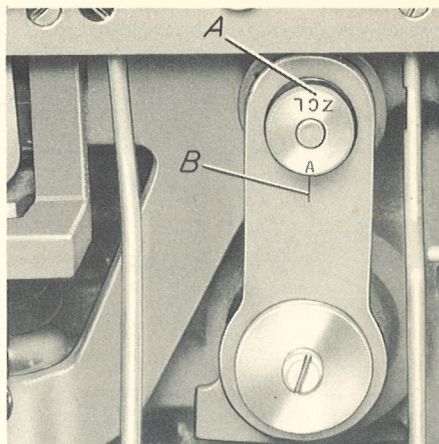


Figure 8

### QUICK-CHANGE PRESSURE DEVICE

When changing from one type of plate material to another, it is important that the embossing pressure be set to the correct metal. The quick-change pressure device allows this to be done by the operator. To gain access to this device, the lower front cover 9A must be removed from the machine. Before removing this cover, depress the carriage release key 9B to move the carriage to the right. This is necessary to protect the line space indicator from damage. Grasp the lower ends of the cover with both hands and pull forward, as shown in Figure 9.

To set the pressure for Addressoloy plate material, press the knob 8A rearward and turn it so the letter "A" is directly above the indicating line 8B. Releasing the knob will allow it to return to its original position. To set the pressure for Addressozinc, Addressolite or metal Credit plates, set the knob to "ZCL" position. Replace the front cover. Turn on the motor switch so the plate roller will release the carriage; then, manually, return the carriage to neutral position.

### QUICK-CHANGE PLATE ROLLER

To change the plate roller pressure, grasp the knob 7A and pull it toward the operator. Turn the knob so the locating pin 7B falls into the correct notch -- "A" for Addressoloy, "ZL" for Addressozinc and Addressolite, and "C" for metal Credit plates.

NOTE: The plate roller setting must correspond with the embossing pressure setting.

### TABULATOR

The tabulator program unit 10A is set for a predetermined stop at the Factory, but may be reset at the time of installation. Additional program units are available to meet variable tabulating requirements. To change from one program unit to another, the front cover must be removed. Depress the carriage release key 9B so that the carriage moves to the extreme right.

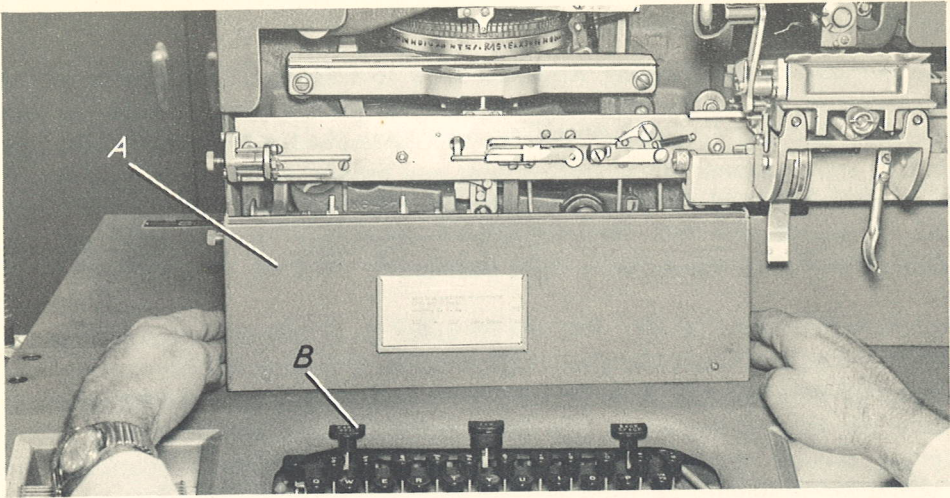


Figure 9

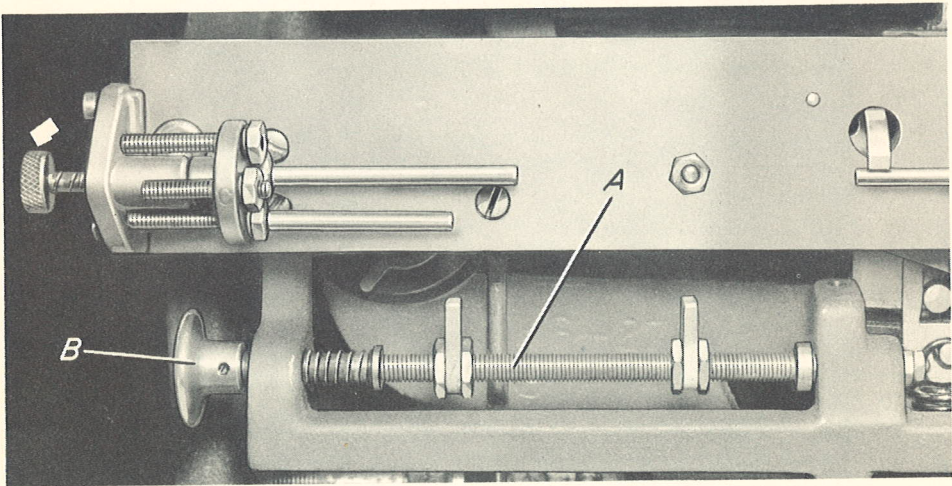


Figure 10

Grasp the lower part of the front cover 9A with both hands and pull forward. Grasp the program unit release knob 10B with the left hand and pull the knob to the left. With the right hand, remove the program unit 10A. To install the new program unit, slip the right end of the unit over the locating pin and into the right hand pivot hole. Pull the release knob 10B to the left. Position the left end of the program unit in line with the pivot hole in the knob and release the knob. Replace the front cover. Turn on the motor switch so that the plate roller will release the carriage. Return the carriage to neutral position.

## TIPPING ATTACHMENT

The purpose of the Tipping Attachment is to transfer color from a roll of color-coated foil to the embossed surface of plastic credit cards. In this process, the foil is applied to the tips of embossed characters on the credit card by means of controlled heat and pressure. The Tipping Attachment accomplishes this result automatically and the tipping operation occurs immediately after the carriage release key is depressed and the carriage moves to the extreme right position.

Plastic cards must be free from oil in order to secure satisfactory tipping results. Operators should use caution when handling blank cards. That portion of the card that is to receive the embossing should not be touched, since the fingers deposit a film onto the cards that can adversely affect tipping results. If the operator is required to periodically lubricate the machine, care should be used to keep machine surfaces that come in contact with the cards free from oil.

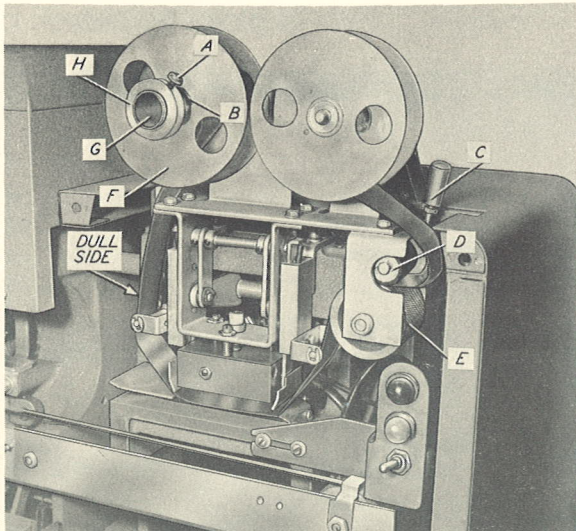


Figure 11

## OPERATION

### THREADING THE ROLL OF FOIL

1. Remove the cover 13D by pulling it forward and to the right of the machine.
2. Loosen the screw 11A, remove the collar 11H, the spring 11B and the guide plate 11F.
3. Place a roll of foil onto the core 11G so that it will unwind as shown in Figure 11. Replace the guide plate 11F, the spring 11B and the

collar 11H. Locate the collar to compress the spring slightly and tighten the set screw 11A.

4. Thread the foil as indicated in Figure 11.
5. Clearance for passing the foil between the pressure roll 11D and the drive roll 11E can be obtained by pressing the lever 11C to the right. Remove the rewind guide plate 12A by pulling it forward.
6. Loop the end of the foil over the pin 12B in the rewind guide plate as shown in Figure 12 and replace the guide plate. Be sure that the guide plate is located in the position which corresponds with the width of tipping foil being used.
7. During operation, the foil will unwind from the left spool, feed to the right of the machine and wind onto the right spool.

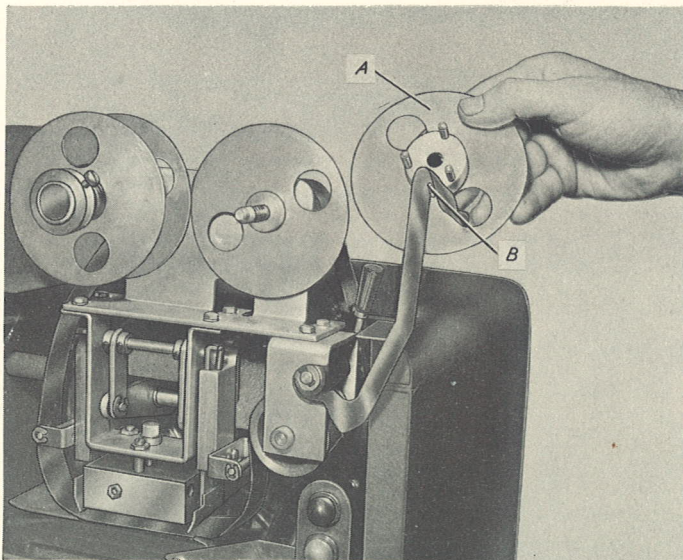


Figure 12

## PREPARING FOR OPERATION

Turn on the toggle switch 13C. When this switch is in the on position, both indicating lights will go on. The white light 13B is the tipping attachment "off-on" light, indicating that the switch 13C is "on" when the light is illuminated. The red light 13A is on while heat is being applied to the tipping platen. When starting operation, the operator should wait until this light goes "off" (about 8 minutes) before tipping plastic cards. During operating, the red light 13A will go on and off indicating that proper automatic controlled temperature is being maintained.

## EMBOSSING PLASTIC CARDS

Class 6400 Graphotype machines arranged to emboss plastic cards are equipped with an "inverted" carriage. Spacing between lines of embossed characters is accomplished in a reverse direction from the standard operational procedure that is outlined under "Operation" on page 4.

After the plate has been inserted into the plate jaws, and the operating handle 13G has been moved to its downward position, press rearward on the operating handle to advance the plastic card to the extreme rear embossing position. When the line space and carriage return lever 13E is pressed to the left to accomplish spacing between lines of embossed characters, the plastic card will move one space toward the front of the machine.

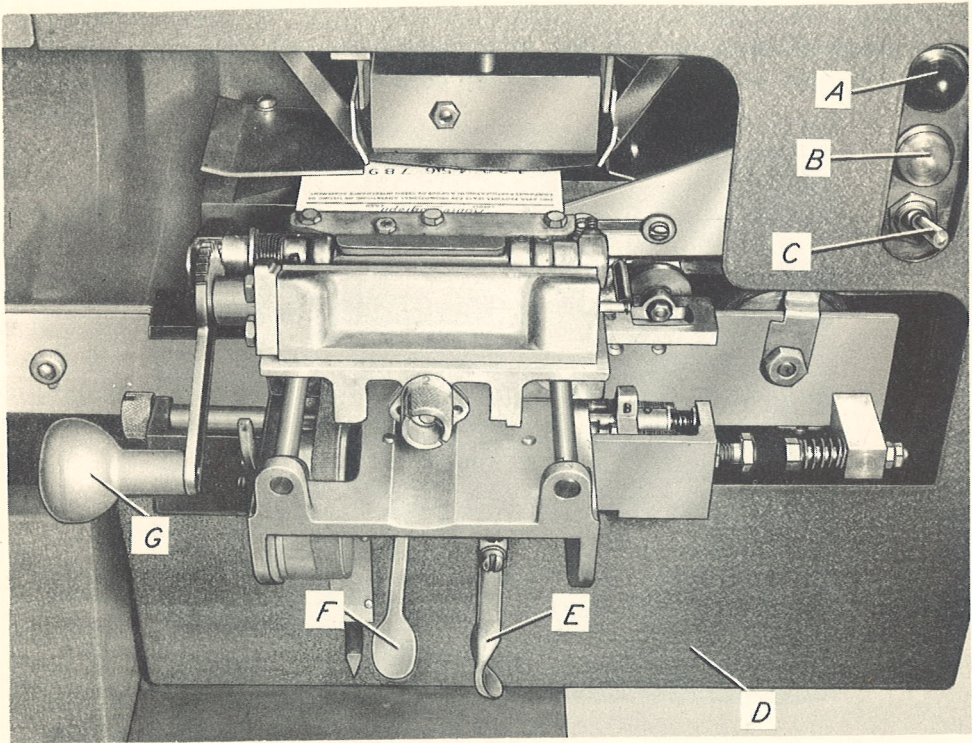


Figure 13

## TIPPING PLASTIC CARDS

After the card has been completely embossed, move the operating handle 13G to the extreme rear embossing position. Depress the carriage release key to move the carriage to the extreme right position and automatically tip the embossed characters. After the card has been tipped, move the carriage to the extreme left (neutral) position and lift upward on the line space restoring lever 13F. The plate jaws will automatically be restored to the front position to facilitate removal of the completed card.



# MAINTENANCE

## REPLACING DIES AND PUNCHES

Dies and punches are simple to replace -- no mechanical skill being required. The dies are located in the upper section of the die head. The punches are located in the lower section. Always turn off the motor before making die or punch replacement.

### TO REPLACE DIE (Class 6440 Series Only)

CAUTION: When making die or punch replacement on a Graphotype Class 6440, check carefully during each step in the procedure to see that the notches in the dies and punches (which face toward the center of the die head) are all in alignment. In handling the die head, a die or punch may accidentally be moved up or down, beyond its normal position. When turning the die head, such die or punch will strike the inner edge of the stripper disc 14C and may cause considerable damage.

1. Facing the rear of the machine, turn the die head 14G by hand, until the hole 14J in the stripper disc 14C is directly beneath the bottom end of the plunger 14H.
2. Lower the plunger by turning the handle 14A until it locates in the deep slot of the sleeve 14K. This will permit the lower end of the plunger to drop into the hole 14J.
3. Turn the die head clockwise until the die to be replaced is located directly beneath the notch 14D. Then remove the die by pushing it upward through the notch. NOTE: With the plunger 14H located in the hole 14J, more effort will be required when first starting to turn the die head. However, after it is disengaged from its locking pawl 14B, the die head will turn with comparative ease.
4. Insert the new die through the notch 14D with the die face down and the slot near the upper end of the die facing the center of the die head. Thrust the die downward until the top of the die is approximately even with the tops of the other dies in the die head.
5. Turn the die head clockwise until there is a distinct "click", signifying that the locking pawl 14B has become engaged.
6. Raise the handle 14A and turn it to the shallow slot in the sleeve 14K. This will retain the plunger in a raised position so that it will not engage the hole 14J. Always be sure that the plunger is located in this raised position before turning on the motor.

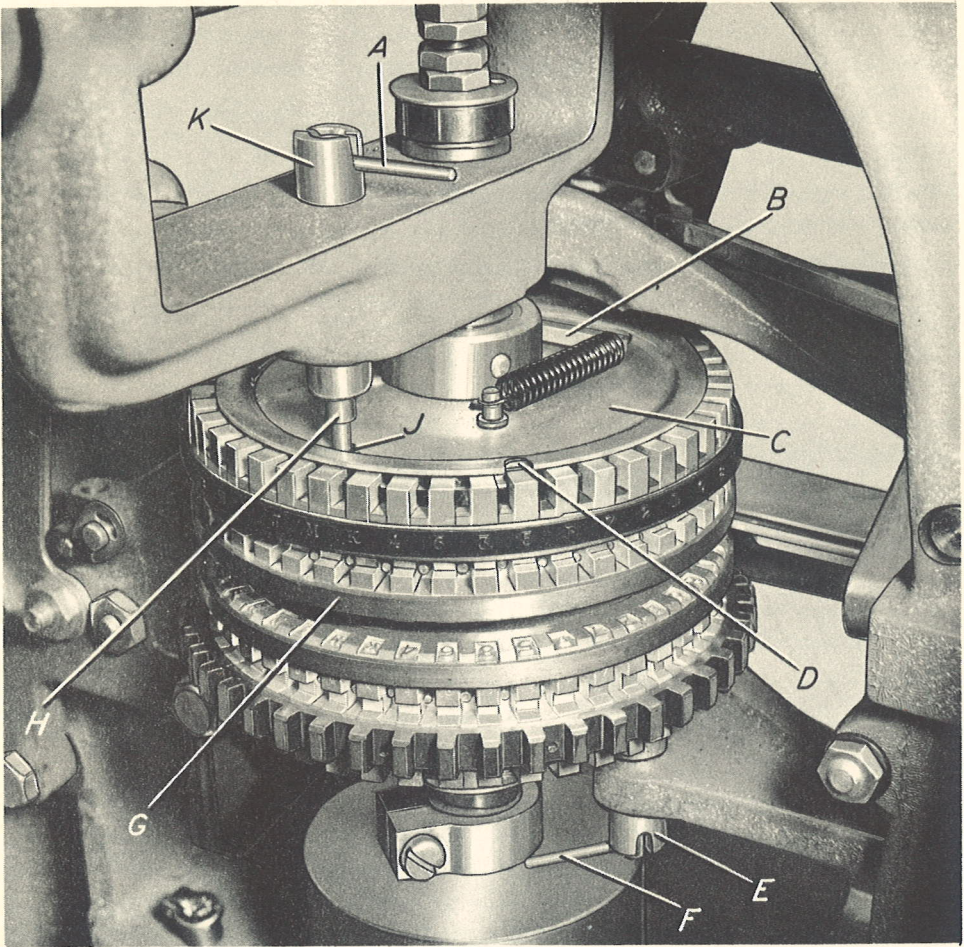


Figure 14

**TO REPLACE PUNCH (Class 6440 Series Only)**

1. Facing the rear of the machine, raise the lower plunger by locating the handle 14F in the deep slot of the sleeve 14E. This will cause the plunger to rise until it contacts the lower stripper disc where it will be held by spring tension.
2. Turn the die head 14G slowly in a clockwise direction until there is a distinct "click", signifying that the lower plunger has entered the hole in the lower stripper disc.
3. Turn the die head clockwise until the punch to be replaced is located directly above the notch in the lower stripper disc. Then remove the punch by pushing it downward through the notch in the

## MAINTENANCE (CONT'D.)

disc. NOTE: With the lower plunger located in the hole in the lower stripper disc, more effort will be required when first starting to turn the die head. However, after it is disengaged from its locking pawl, the die head will turn with comparative ease.

4. Insert the new punch through the notch in the lower stripper disc with the face of the punch up in the slot near the lower end of the die head.
5. Turn the die head clockwise by hand until there is a distinct "click", signifying that the locking pawl has become engaged.
6. Press down on the handle 14F of the lower plunger and turn the handle until it locates in the shallow slot in the lower sleeve 14E. This will retain the plunger so that it will not engage the hole in the lower stripper disc. Always be sure that the handle of the lower plunger is located in the shallow slot of the sleeve before turning on the motor.

### TO REPLACE DIE (Class 6480 Series Only)

1. Facing the rear of the machine, turn the die head 15B by hand until the die to be replaced is toward the rear, in which position it is readily accessible. Then insert a stylus (pointed wooden stick) 15A in the slot at the top of the die and lift upward, thus releasing the die from the die head 15B.
2. Insert the new die into the slot in the die head, with the die face down, and the large slot near the upper end of the die facing toward the outside edge of the die head.

### TO REPLACE PUNCH (Class 6480 Series Only)

1. Facing the rear of the machine, turn the die head 15B by hand until the punch to be replaced is toward the rear, in which position it is readily accessible. Insert a stylus (pointed wooden stick) 15A into the large slot near the lower end of the punch and press downward, thus releasing the punch.
2. Insert the new punch into the slot with the face of the punch up, and the large slot near the lower end of the punch facing toward the outside edge of the die head.

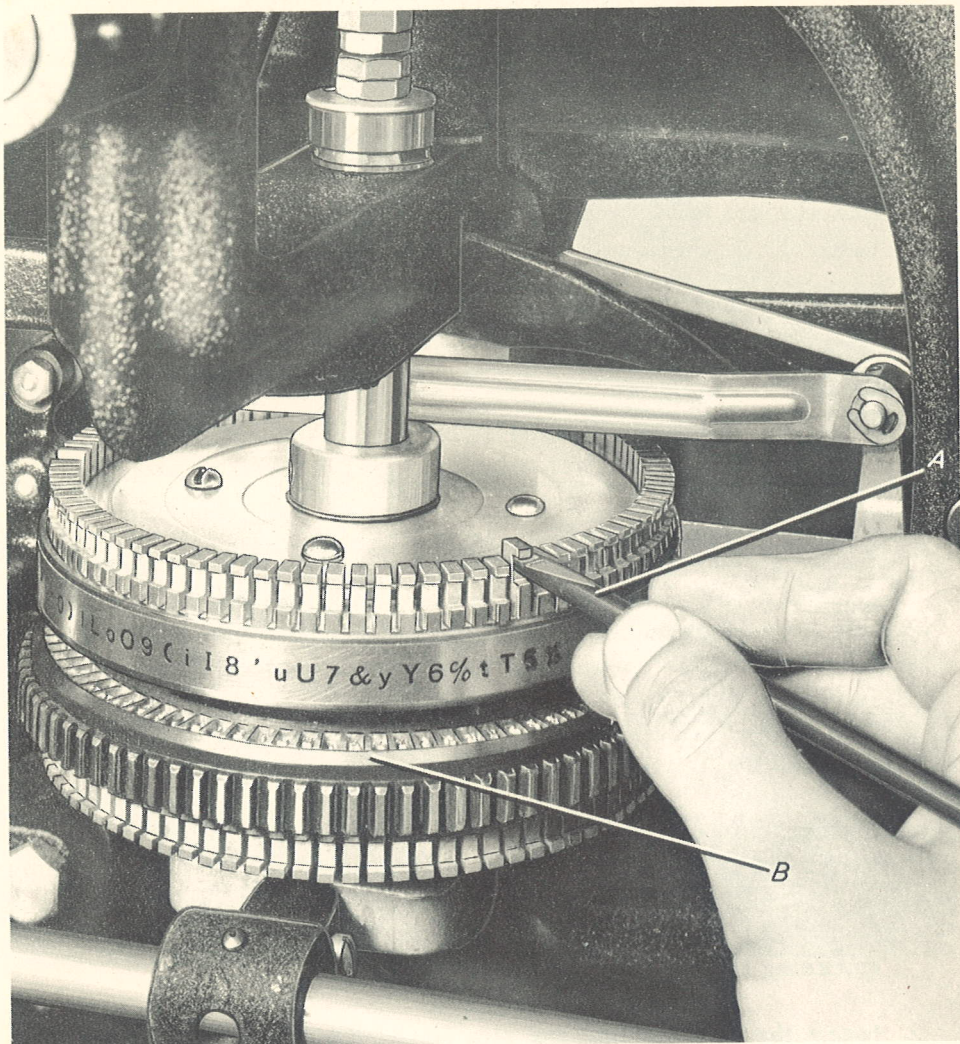


Figure 15

## LUBRICATION

Proper lubrication of all parts of your Graphotype machine which are subject to wear is important. The frequency of oiling is determined by the conditions under which the machine is operated. For example, if your Graphotype machine is operated daily and continuously, the bearings should be lubricated once a week, unless otherwise indicated in the following instructions.

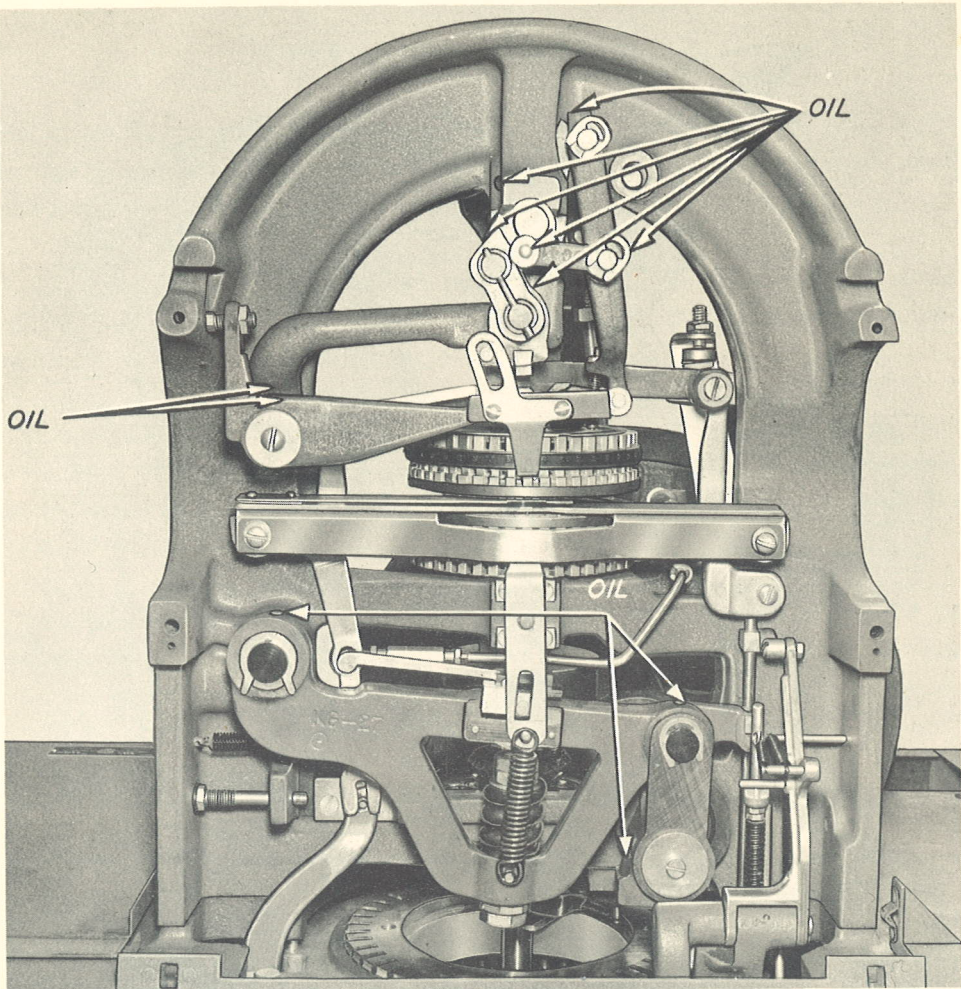


Figure 16

**NOTE:** Never attempt to lubricate when a machine is in operation. **ALWAYS TURN OFF THE SWITCH.** Do not apply oil in the slots in which the dies and punches operate, nor to the dies and punches. If oil lodges in the face of a die or punch, the character will not emboss to a full and distinct formation, and will result in indistinct impressions from the plate. After each eight hours of use, apply a few drops of Duro-Vis oil to the points of lubrication, as indicated in Figures 16 and 17. An oil cup 17B is provided at the top of each main bearing. Fill these oil cups (one on each bearing) with Duro-Vis once a week.

The clutch should be kept lubricated by applying about twenty-five drops of Duro-Vis oil through the oil hole 17A about once each month. The motor is equipped with the latest type packed bearings. Consult your local Addressograph Service Representative on the lubrication of your motor.

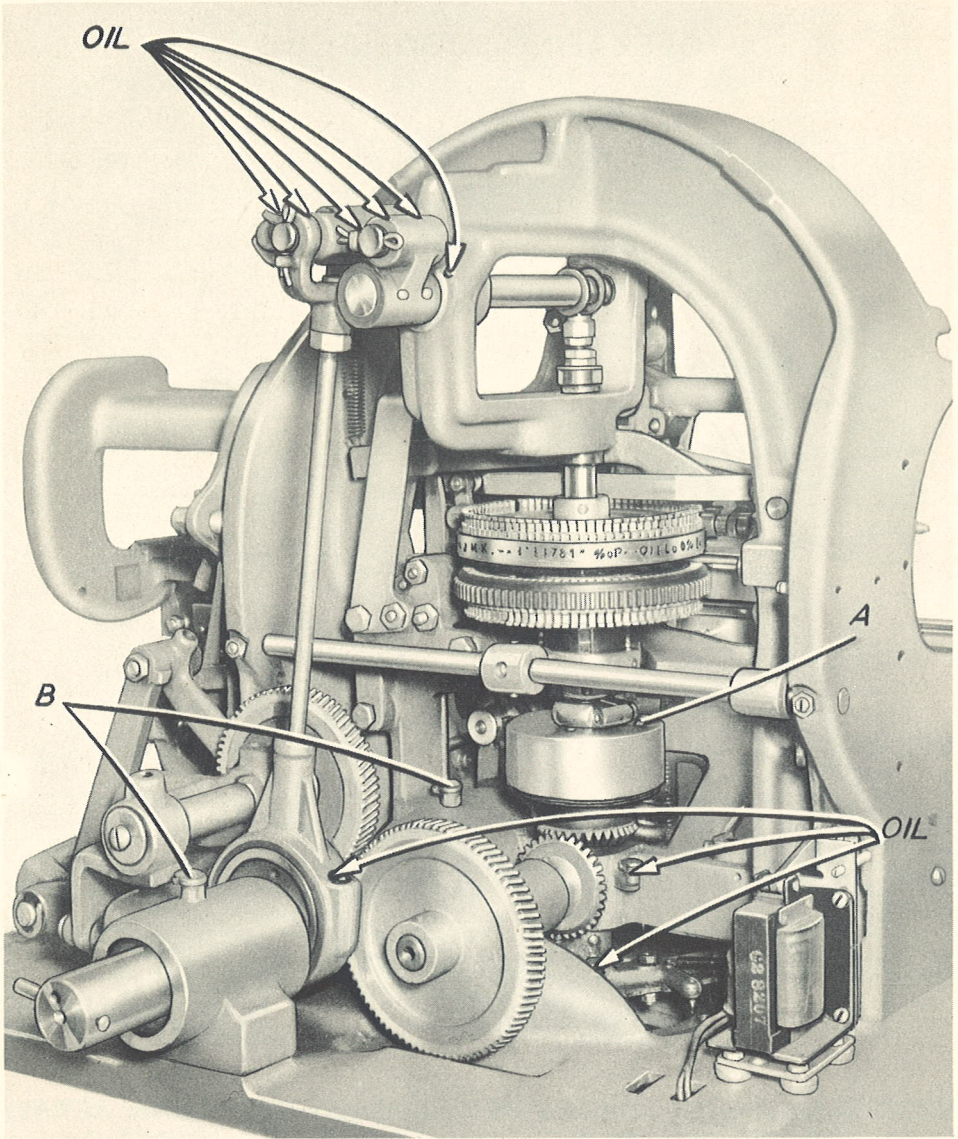


Figure 17

**DO NOT OVER-OIL.** Should excess oil appear on the outside of the various parts after oiling, it should be wiped off.

Duro-Vis oil is especially prepared and has been proven to be the most satisfactory lubricant for Addressograph products. Duro-Vis oil is available through your local Addressograph Sales and Service Office. An all-purpose oil is not satisfactory and may fail to lubricate properly.

## OPERATING SUGGESTIONS

By observing the following suggestions, the operator will acquire skill in operating the Graphotype machine which will result in greater speed and accuracy.

It is important that the operator be comfortably seated, directly in front of the machine. Use the left hand to open the carriage jaws while inserting a blank plate with the right hand.

The operator should frequently emboss and imprint all Graphotype characters on a plate and inspect carefully to see that each character is properly formed. Dies and punches, through normal use, are subject to breakage and wear.

To avoid the possibility of vibration, your Graphotype machine should be set so that all four legs bear evenly and solidly on the floor. Do not operate your machine with vacant die or punch slots in the die head. Be sure that such die and punch positions are occupied by "dummy" dies and punches. NOTE: "Dummy" dies and punches may be had by grinding off the faces of discarded dies and punches of the same style of type.

To secure the most satisfactory operating results from your Graphotype machine, it is recommended that a standard operating speed be maintained at approximately 500 revolutions per minute.

**NOTES:**



## PROTECTING YOUR INVESTMENT

The high quality and rigid manufacturing standards of Certified Addressograph Supplies protect you against loss of time and money by providing low cost, trouble-free machine operation, as well as extended machine longevity.

Certified Addressograph Supplies are made only by the Addressograph-Multigraph Corporation and conform to the engineering standards of the machines for which these supplies were designed. Only the best materials are used which must meet rigid specifications and exacting tests.

It is this combination of quality control and one company responsibility for both machines and supplies that assures you of the best possible operating results.