Operator Handbook

DURA® MACH 10-B®

®REGISTERED TRADE MARK

REGISTERED
TRADE MARK
OF
DURA CORP.

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NP all. was n. NP in
Fachstr. ersch. wird gelesen
u. gelacht (n. Gesch.)
PR Sept NP auf
SCIPP-Stopp übersp.
v. Zeilen

FORWARD

DURA® MACH 10®-B*

The Dura MACH 10-B is more than an automatic typewriter – much more. It's a systems machine which combines speed and simplicity of operation with an unparalleled flexibility that lets you realize the peak of efficiency in paperwork automation.

The operational and functional characteristics of the Dura MACH 10-B are described in this manual. For detailed information regarding programming techniques, please contact your Dura Business Machines systems representative.

"WHERE TOTAL SYSTEMS BEGIN"

* This Manual was prepared for the Domestic Model of The DURA MACH 10-B only.

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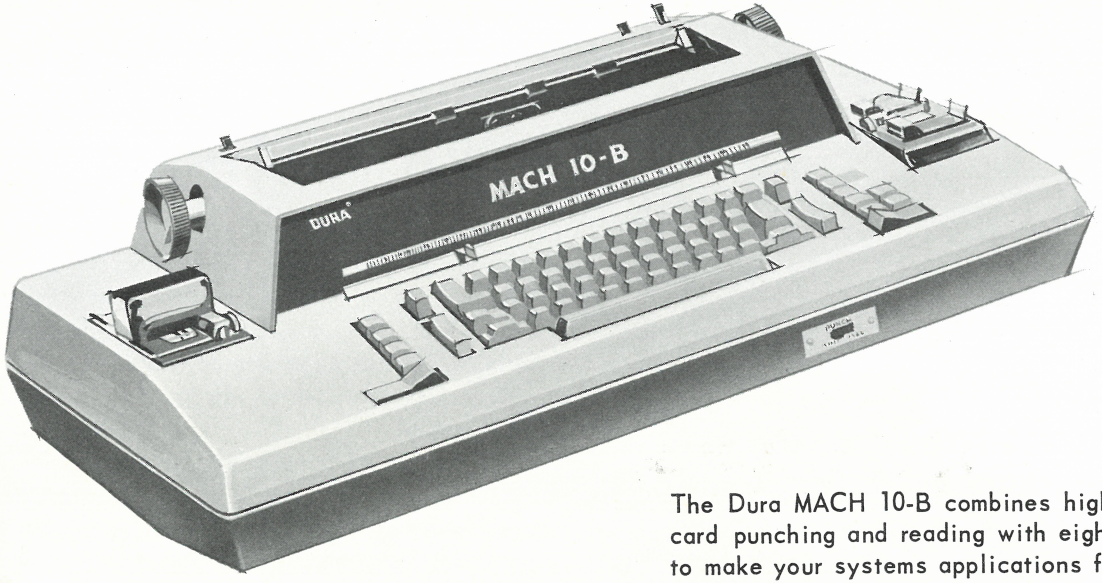


The Dura MACH 10-B combines high speed tape and edge card punching and reading with eight channel BCD coding to make your systems applications faster, easier and practically unlimited. Operating at speeds up to 175 words a minute, the MACH 10-B creates 8-channel binary code in paper tape and cards, which in turn may be used to operate other tape-oriented equipment and can be used as direct input to computers. Greater systems flexibility is made possible through auxiliary tape and edge card punches and readers, available as optional equipment.

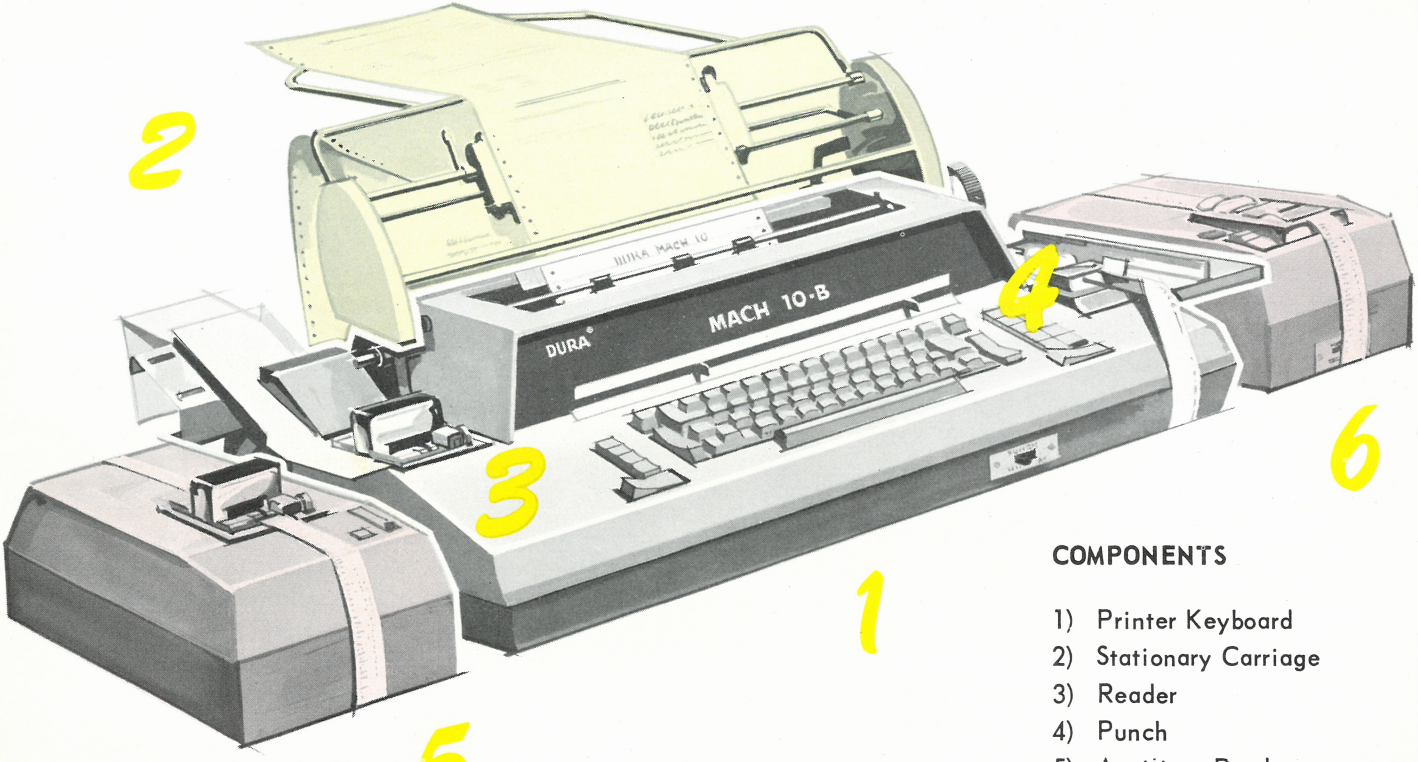
INTRODUCTION

General

The Dura MACH 10-B is a systems writing machine designed to automate invoices, purchasing records, shipping documents—virtually any paperwork application. It combines a heavy duty, high speed typewriter with a built-in tape punch and tape reader and is one of the easiest, most efficient business machines you'll ever use.

Paper tape is read on the Dura MACH 10-B at speeds up to 175 words per minute or 15.4 characters per second. Data may be introduced into the machine either automatically via punched tape or edge-punched cards, or manually through a standard typewriter keyboard. Errors punched in tape during the manual typing operation are easily corrected. Punched tapes produced by the MACH 10-B can be used to operate other tape oriented equipment in the business machines field and can also be used as direct input to computers.

Greater systems flexibility is made possible with the Dura MACH 10-B through the availability of an auxiliary tape or edge card punch and an auxiliary tape or edge card reader, both of which are discussed in detail later in this manual.



COMPONENTS

1) Printer Keyboard
2) Stationary Carriage
3) Reader
4) Punch
5) Auxiliary Reader
6) Auxiliary Punch

GENERAL DESCRIPTION

Physical specifications of the Dura MACH 10-B are as follows:

Color – Armosol Tan or Gray

Maximum Paper Accomodation – 15-1/4''

Writing Line – 13''

Size – Length: 28'', Width: 15-3/4''
Height: 7-3/4''

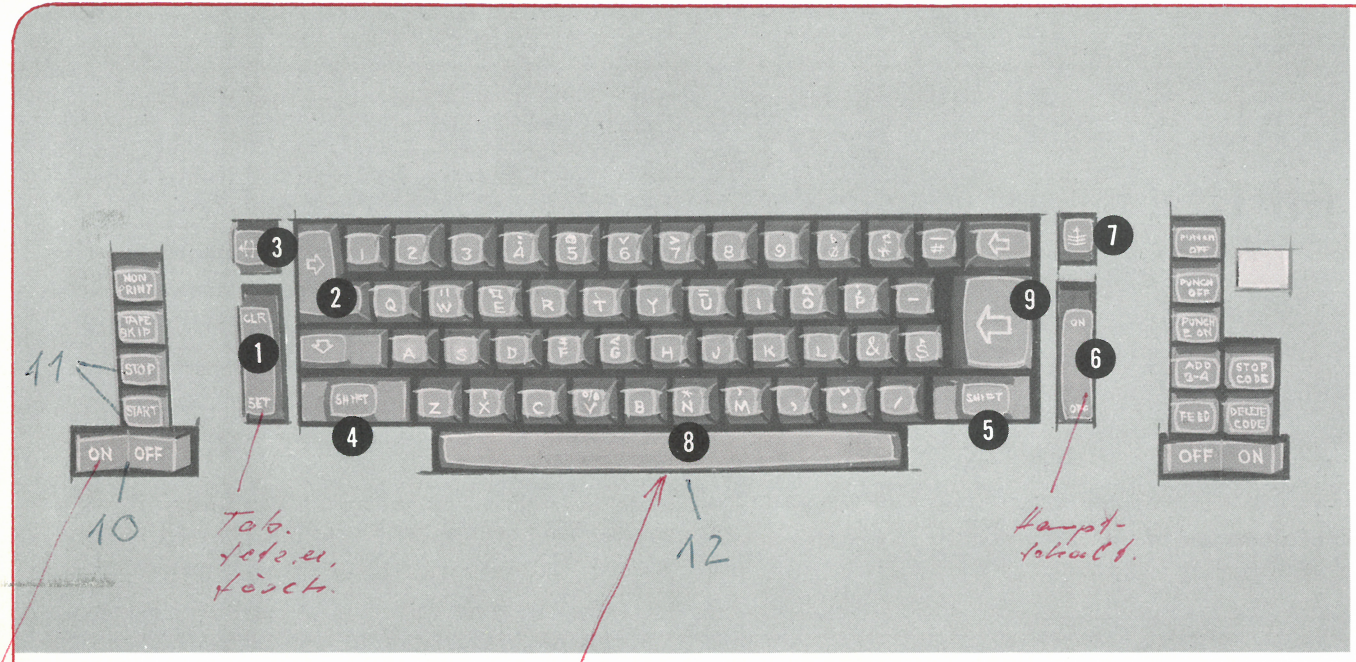
Eight-Channel Code Structure

The Dura MACH 10-B utilizes an eight (8) channel code structure known as BCD (Binary Coded Decimal) coding, often referred to as the common language code because of its wide usage in data processing systems. This eight channel code structure makes the Dura MACH 10-B compatible with other input and output equipment.

Reader Parity

In 8-Channel BCD coding there are 256 possible code combinations: 128 even and 128 odd. As a means of checking accuracy, your MACH 10-B is designed to operate on 128 of these codes, all of which are in the odd configuration.

Parity check is a means of detecting codes that are outside this format. Therefore should an out of parity code be recognized by the MACH 10-B reader, the machine will lock.



Tab. setzen, lösch.

Hauptschalt.

Hauptsch. An-Aus

Lösch. Steuerg. Schalter select / All

Buoyant Keyboard

The picture above illustrates the sculptured, natural position of the MACH 10-B keyboard. The standard keyboard should be familiar to any typist. Pictures 1-9 are explained on the following page.

1) Tab Control (set and clear) – sets and clears tab stops. To set the Tab Stop, space the carrier to the desired tab position and depress the tab set button. To clear an individual tab, move the carrier onto the tab stop and depress "clear". To clear all tabs, move the carrier to the extreme right, depress "clear", hold depressed and initiate a carrier return.

2) Tab Key – moves the carrier to all set tab stops and through the right margin.

3) Margin Release Key – permits the carrier to move beyond the previously set left hand and right hand margins.

4/5) Shift Key and Shift Lock – shifts sphere to the upper case. Shift lock holds the machine in upper case until it is released.

6) Power On/Off – controls the power supply of the unit.

7) Index Key – advances the paper vertically without moving the carrier.

8) Space Bar – advances the carrier one space at a time.

9) Return – returns the carrier to the left margin and indexes.

Power On/Off Switch

Located on the right side of the keyboard immediately below the index key is the Power On/Off Control. This turns the machine on. The red base of the key will remind you to turn the machine off when not in use. In order to protect unfinished work, the keyboard remains in a locked position when the Power On/Off Switch is OFF.

The MACH 10-B As An Electric Typewriter

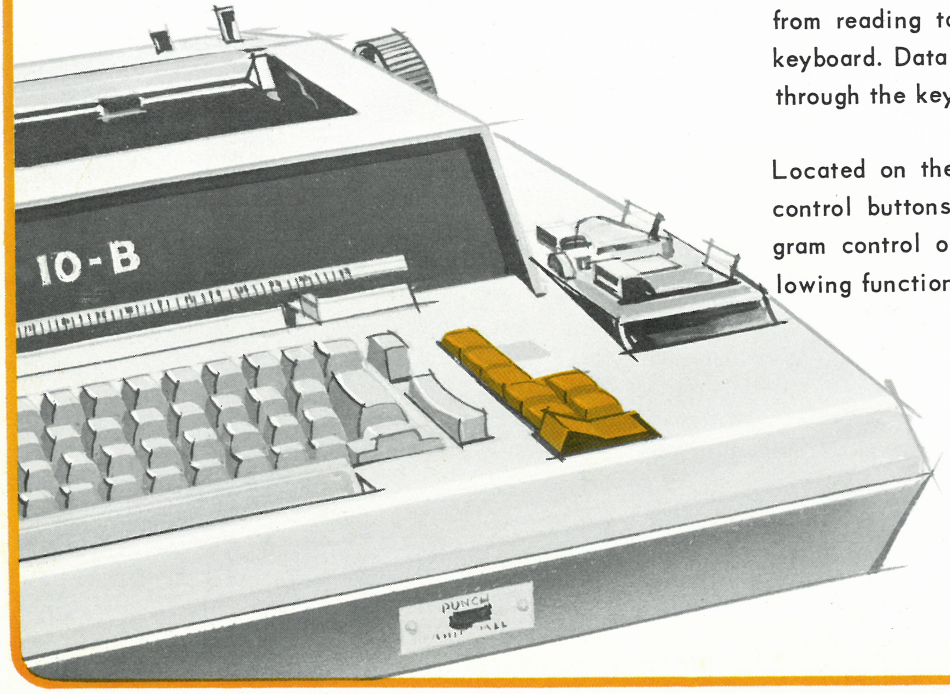
Press the MACH 10-B Power On/Off Control to On, insert paper and you are ready to begin. Feed the paper into the typewriter by turning the platen knob. Or, hold down the INDEX key and the paper will be fed in until you release the key. Please note as indicated in the picture _on pages 16 and 17_, that the Margin Guide and Margin Stops are directly above the MACH 10-B keyboard. The typing position indicator, a red arrow, locates the exact position of the carrier.

To Reset Margins

1) Using the Space Bar, place the typing indicator at the margin setting desired.
2) Press the left margin stop back toward the typewriter.
3) Align the mark on the Margin Stop with the red mark on the typing position indicator by gliding the stop along the channel in the direction desired.

Should you want to reset the margin to the left of the typing position indicator, press the left Margin Stop and guide it to the desired position on the margin guide.

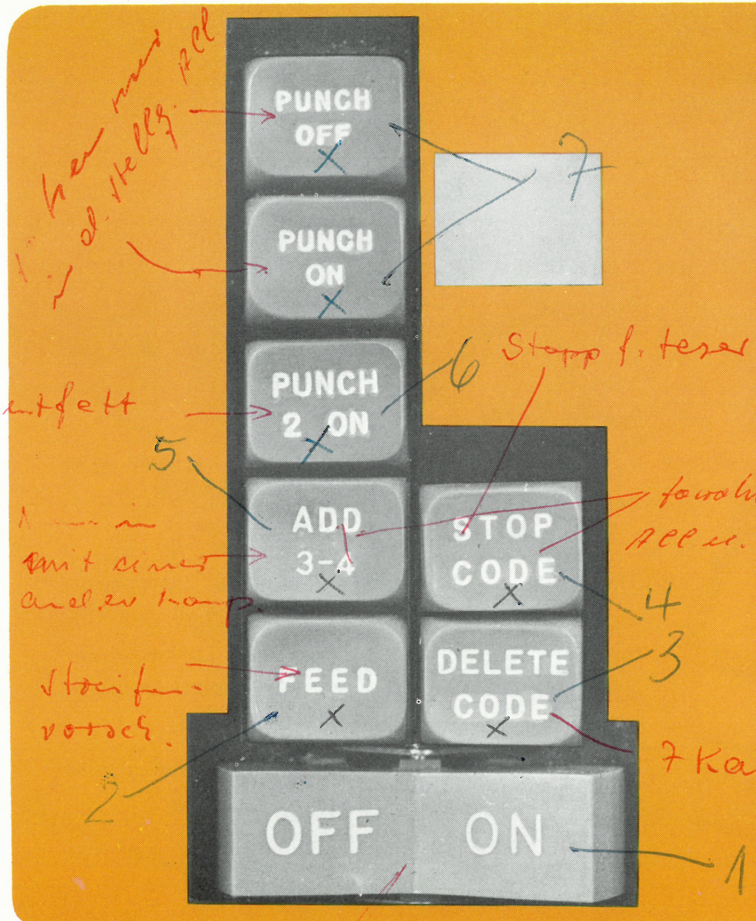
To release the left margin when the carrier is at the left margin, simply press the margin release key. To release the right margin, depress the margin release key.



Dura MACH 10-B Punch

This component, located on the right side of the unit, accepts codes at speeds up to 15.4 codes per second from reading tape or cards, or from manual typing on keyboard. Data may also be fed into the punch manually through the keyboard.

Located on the extreme right of the keyboard are the control buttons which are used for operation and program control of the punch and which perform the following functions:



Punch On Indicator Light – glows when the Punch is in the On position.

Punch On/Off – controls the power for the punch.

Punch On – activates the punch so that it is conditioned to punch codes in the tape or cards.

Punch Off – deactivates the punch so that it will not accept or punch codes.

Punch 2 On – turns the auxiliary punch on.

Feed – a combination of Tape Feed and Edge Card Feed Button, advances tape or edge cards through the punch. When the tape is in the punch, this button will allow tape to feed. When continuous edge cards are being punched, the depressing of the Feed button will cause the punch to feed to the next edge card.

Stop Code – punches a single Stop Code into the tape. When the code is read, the reader will stop automatically.

Delete Code – punches holes in all seven columns. When the button is depressed, continuous codes will be punched. The reader will disregard any delete codes.

Add 34 – conditions the punch to allow the next punch cycle to punch a 34 code in addition to its normal code.

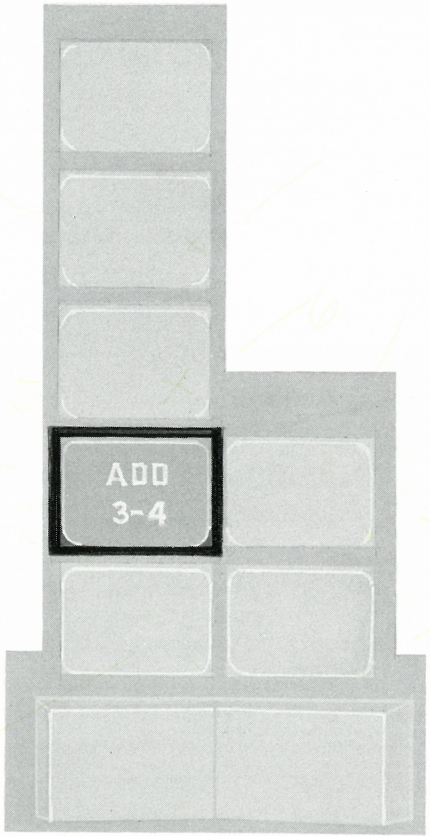
SPECIAL CODES

Special Codes

To enhance the flexibility of your MACH 10-B, certain special codes are used.

These special codes are normally not represented on the keyboard. Consquently, they are non-reproducing under normal reading. To cause reproduction of these codes, the manual or automatic non-print feature must be utilized.

To correctly produce these special codes, the following procedures should be followed.



Hold down the add 34 key, followed by depressing the proper operation key to manufacture the following program control codes:

Non Print (code 345) – depress Add 34 + Space Bar.

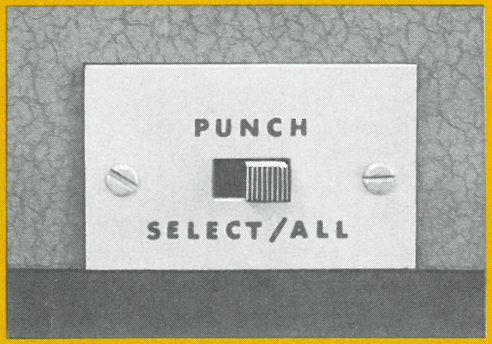
Print Restore (code 346) – depress Add 34 + the numeral 0.

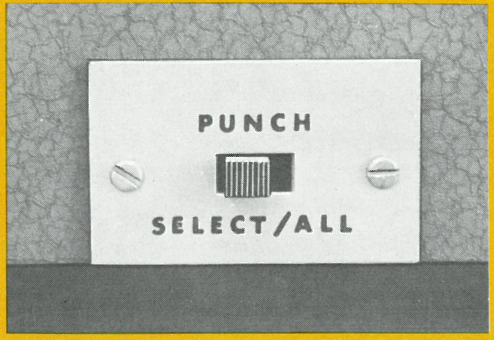
Skip Restore (code 134) – depress Add 34 + the numeral 1.

First Line (code 12347) – depress Add 34 + the letter "L".

Punch On (code 347) – depress Add 34 + the dash.

SELECT/ALL SWITCH





ALL

With the Select/All Switch in the All position and the Punch ON, all codes assigned to keys may be punched into tape or cards from the typewriter keyboard. Punch ON and Punch OFF codes may be punched into the tape or cards, but will not turn the Punch on or off while the machine is in this mode.

SELECT

With the Punch On/Off Switch turned ON, and the Select/All Switch in SELECT, the Punch can be turned On and Off by the Punch On and Punch Off buttons or the Punch On/Off codes. In the Select positions, Punch On and Punch Off cannot be punched into the tape or cards from these buttons.

The Punch can be turned On and Off by reading On and Off codes during the normal reading mode, not during Non-Print or Tape Skip operations. The Punch ON and Punch OFF codes **will not reproduce** when in Select.

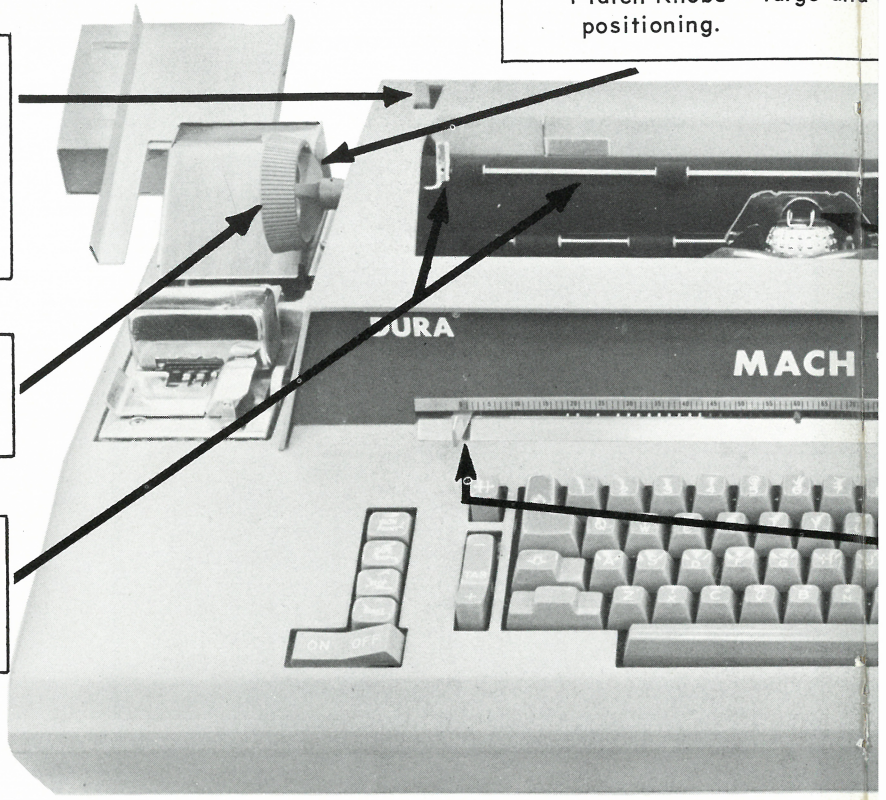
When the Punch has been conditioned OFF, either by code or manually, no punching can occur. In order to punch a code, it is necessary to press the Punch On Button. To restore the program back to the Off condition, depress Punch Off.

Platen Knobs – large and
positioning.

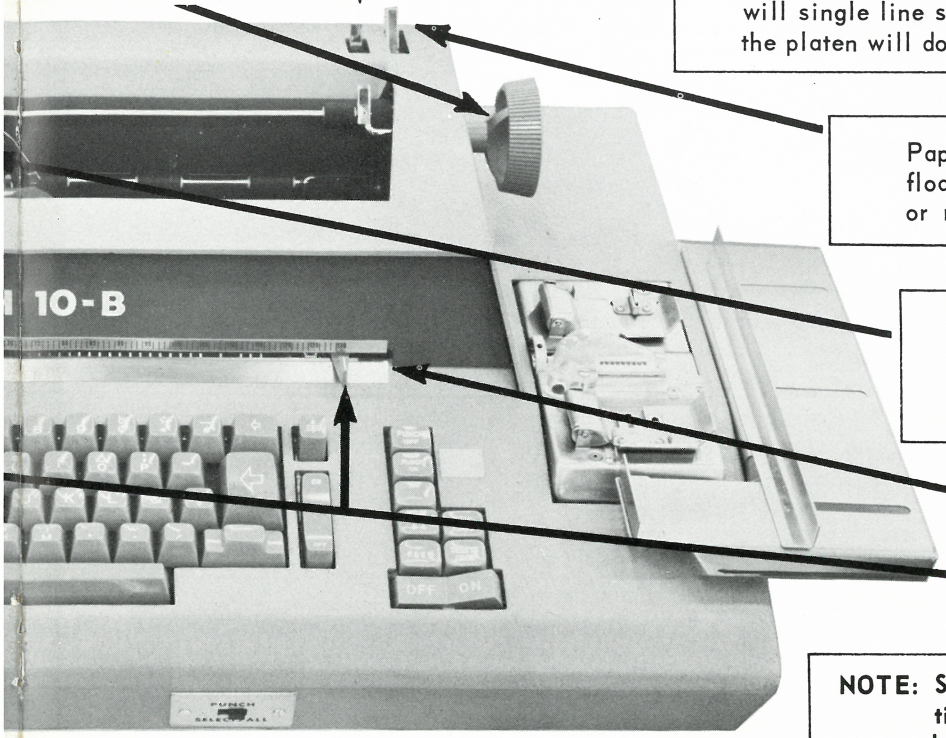
Multiple Copy Control – Normally in forward position, when typing multiple copies, this lever may be moved toward the rear to compensate for the thickness of a multi part form. Your Dura representative will assist you in determining the best setting of this lever for your primary application.

Platen Variable – Press center of left platen knob to allow platen to rotate freely in either direction.

Paper Bail Lever and Paper Bail – Holds paper against the platen. Move the paper bail lever forward to insert paper and to the rear to hold the paper against the platen.



nd easy to grip for forms



Line Space Lever – Controls vertical movement of the platen. With the lever forward, the platen will single line space. When moved to the rear, the platen will double line space.

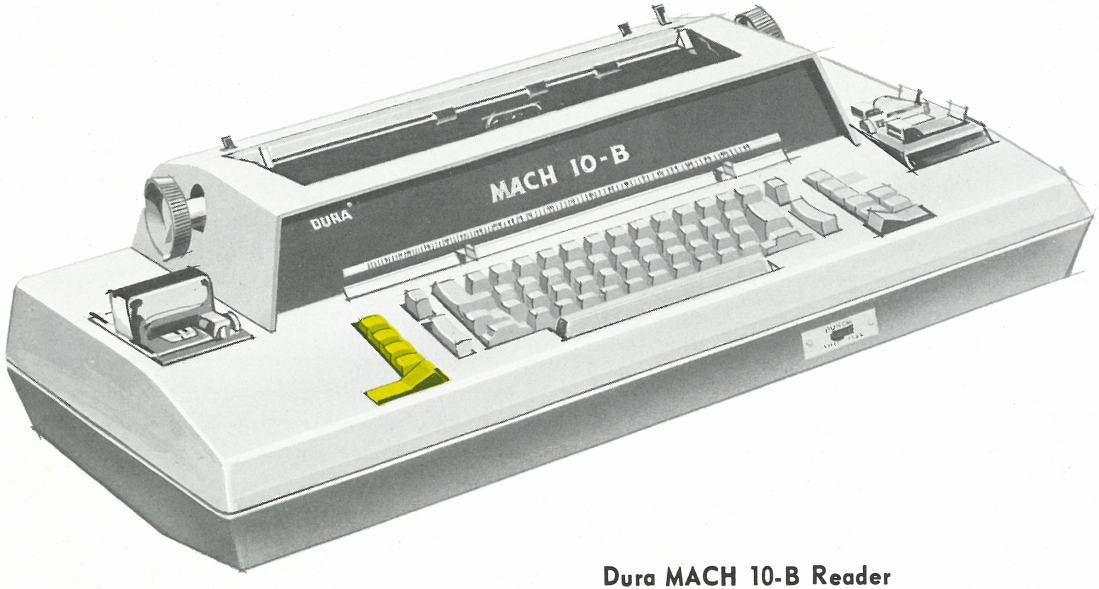
Paper Release Lever – Allows the paper to float freely in the platen used for positioning or removing paper when it is moved forward.

Clear View Card Holder – Aids in inserting paper and holds small cards in place. It is also a valuable aid in aligning material vertically and hortizontally.

MARGIN GUIDE

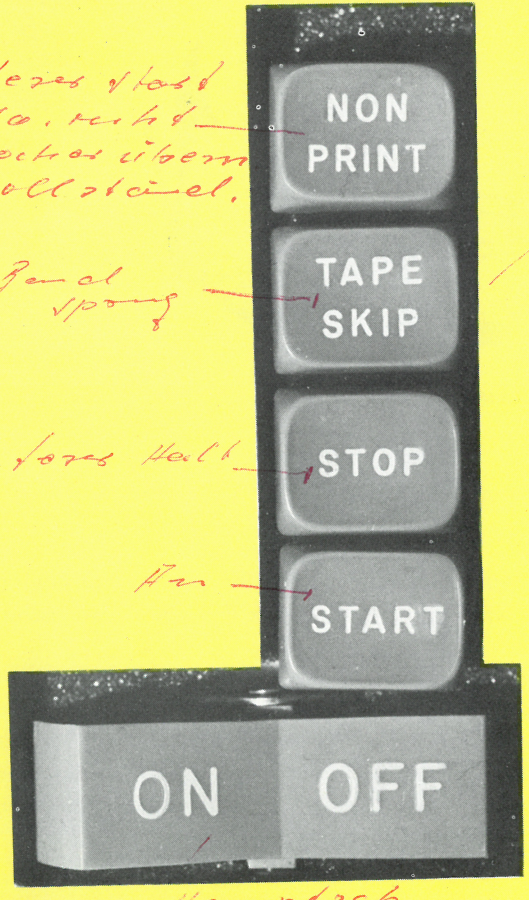
MARGIN STOPS

NOTE: Should your machine be equipped with a continuous form device, the paper release should be forward at all times.



Dura MACH 10-B Reader

The Dura MACH 10-B reader, located at the left of the machine features solar cell sensing which reads coded tape and edge cards at the rate of 15.4 characters per second or 175 words per minute. The unit functions and features of the reader are detailed on the next page.



Reader On/Off – turns reader power on and off and is also used to reset reader parity condition.

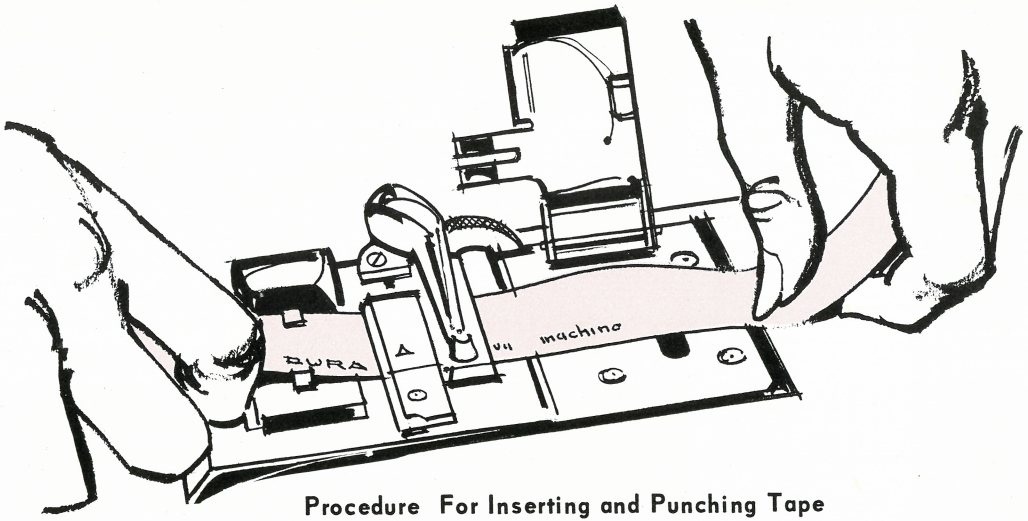
Start – will start the reader. The MACH 10-B will now respond to the codes in the tape.

Stop – will stop the reader.

Tape Skip – will start the reader and cause the tape to skip all codes until a skip restore code is read. No punching or printing will occur while in tape skip.

Non-Print – will start the reader and cause a manual non-print condition. No printing will occur. However, **all** codes will reproduce except blanks, and deletes, if a punch is on. Manual non-print will restore only from a stop code or the stop key. Depression of the non-print key will not cause its code to be punched even if the punch is on.

Automatic non-print – will be initiated by a non-print code being read in the reader. The non-print function will be the same as manual non-print with the exception that it is restored by a print restore code only. The initiating non-print code will not be punched.

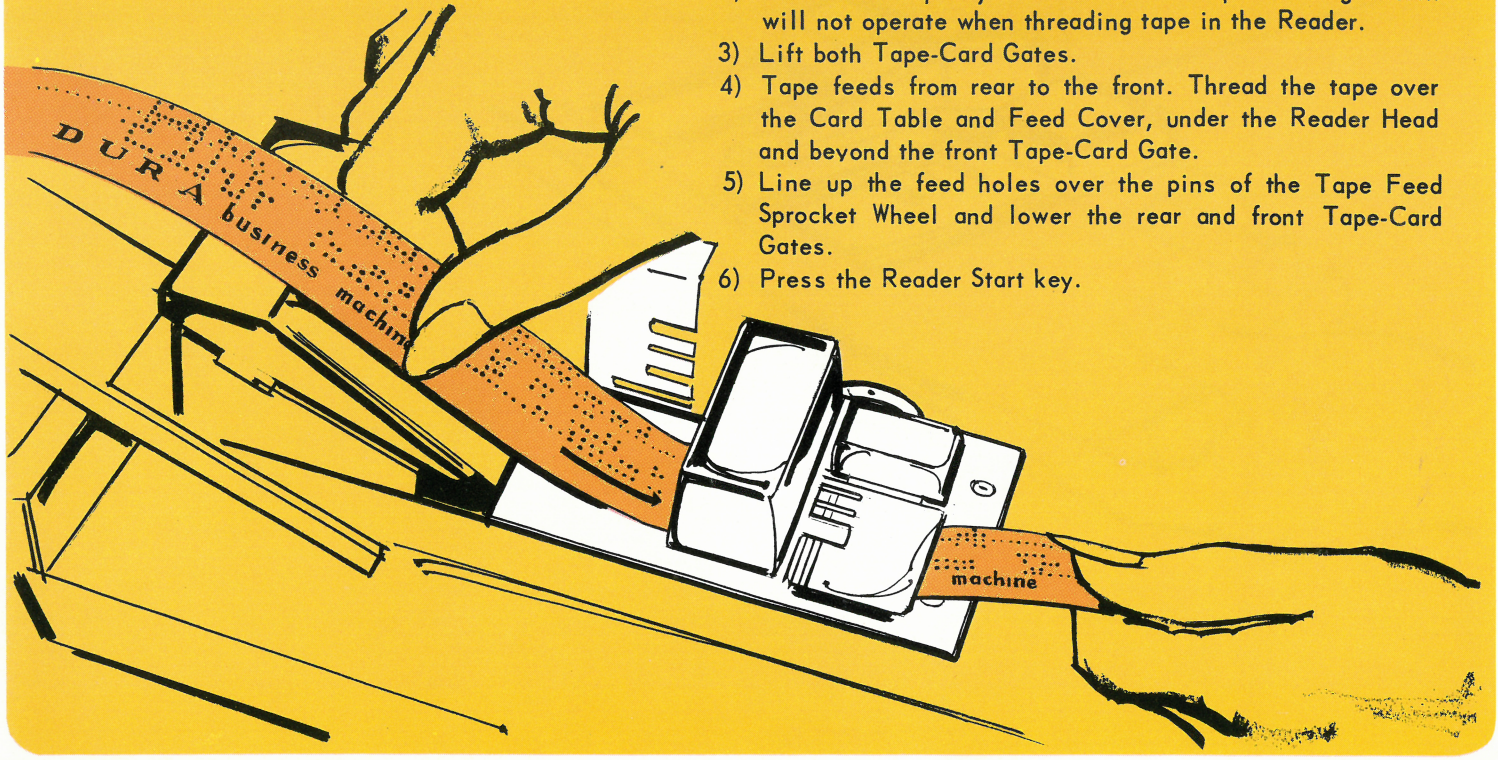


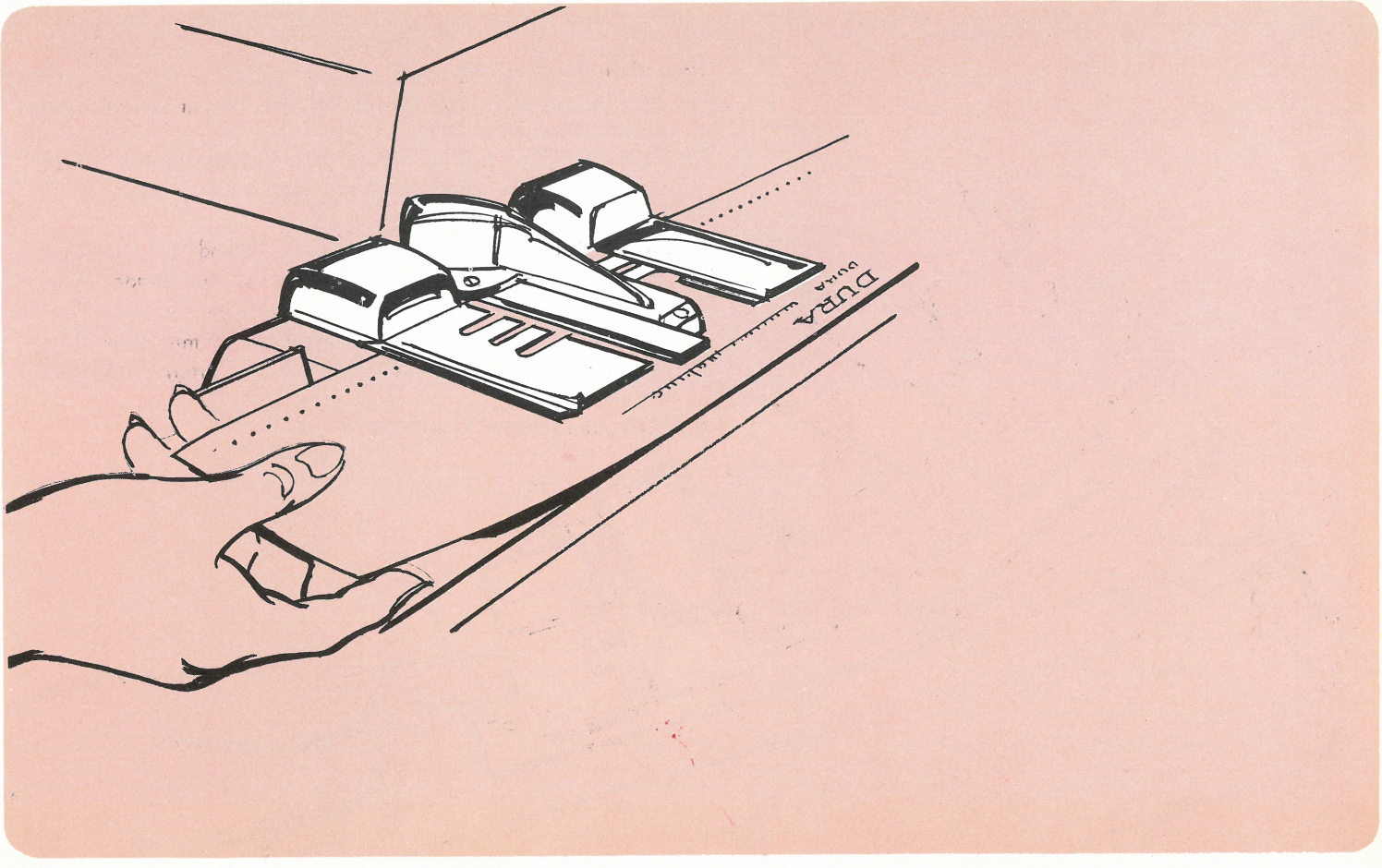
Procedure For Inserting and Punching Tape

1) Lift the rear Tape Gate.
2) Tape feeds from front to rear. Thread the tape through the guides on top or the front Card Gate under the Punch Block and about two inches beyond the rear Tape Gate.
3) Lower the rear Tape Gate and turn the Tape Guide, located on top of the Gate, to its down position.
4) Pull gently on the tape while pressing Tape Feed button until thetape is feeding evenly. A minimum of two inches of tape should be punched with blank codes (Feed Hole only). If it is necessary to punch tape with Delete Codes, then press the Delete key.

Procedure For Reading Tape

1) Turn the MACH 10-B Power On/Off Switch ON with the Reader Power key ON.
2) Press the Stop key to insure that the positioning switch will not operate when threading tape in the Reader.
3) Lift both Tape-Card Gates.
4) Tape feeds from rear to the front. Thread the tape over the Card Table and Feed Cover, under the Reader Head and beyond the front Tape-Card Gate.
5) Line up the feed holes over the pins of the Tape Feed Sprocket Wheel and lower the rear and front Tape-Card Gates.
6) Press the Reader Start key.

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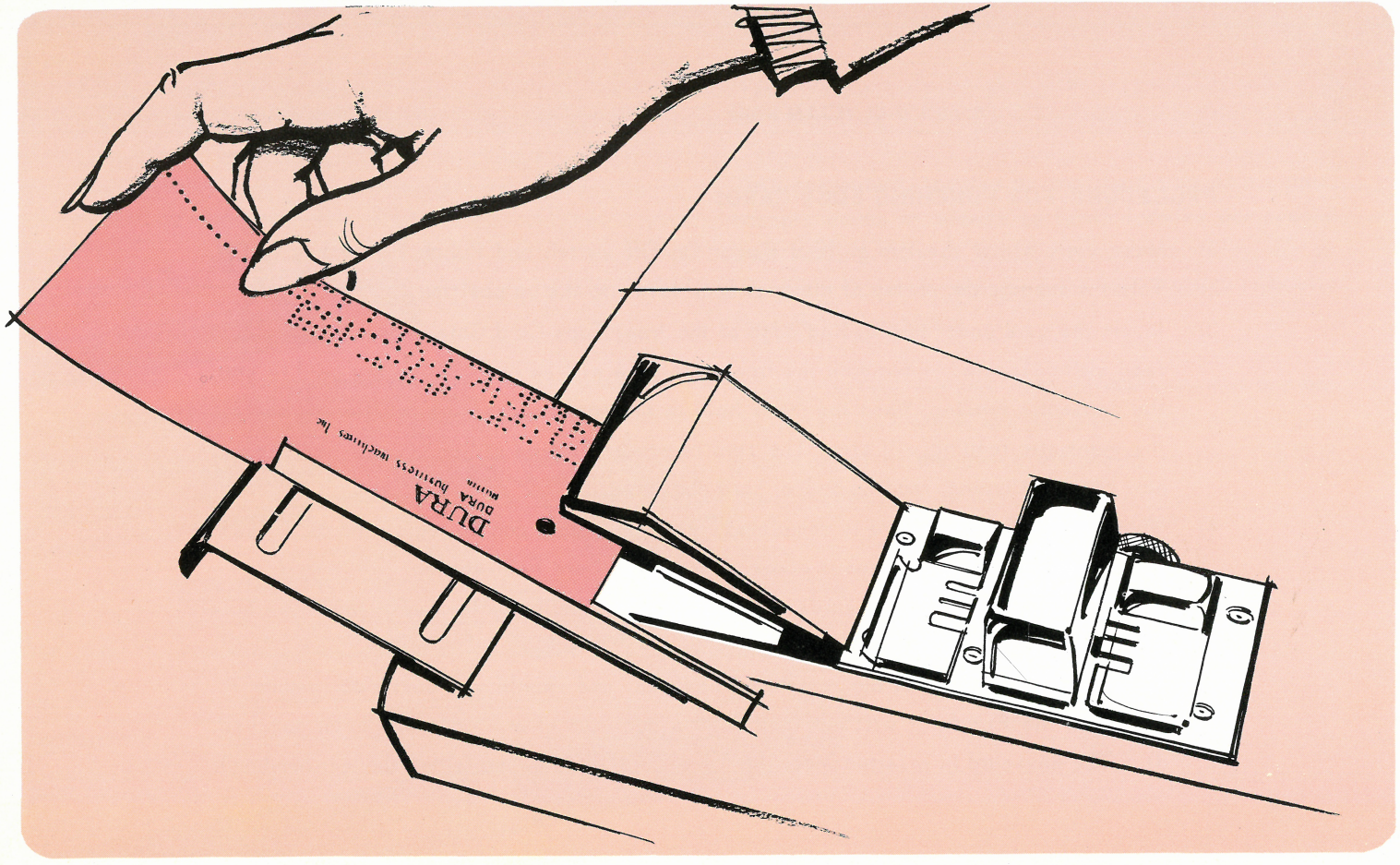
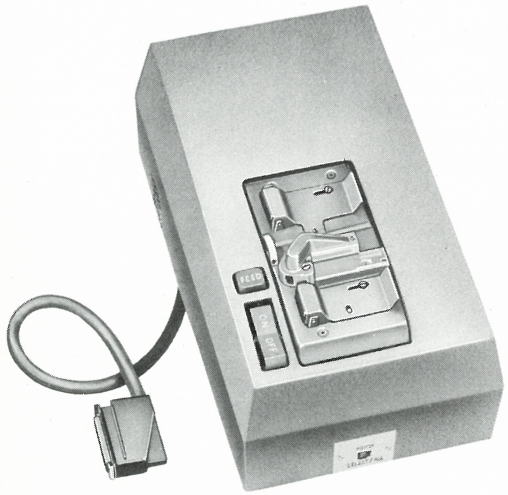
PROCEDURE FOR PUNCHING EDGE CARDS

1) Make certain that the MACH 10-B Power On/Off switch and Punch Power key is ON.
2) Turn the tape guide, on top of the back lock lever, to the up position.
3) Insert the card under the leading edge of the front Tape-Card Gate. The automatic card feed switch located underneath the front tape gate will be operated by the card to start the automatic feeding. When the index hole in the card engages the positioning switch, the automatic feeding will stop. The card is now registered at the Punch Head and you now can start typing, reading and/or card punching.
4) When punching for one card is completed, the second card can be registered as follows:
   a) If you are using continuous cards, depress the Card Feed Button.
   b) If you are using single cards, the card will automatically feed until the index hole positions the card.
   c) When the card is in the registered position, and should you desire to remove it from the Punch, it will not feed until a minimum of one code has been punched.
   d) The next card is inserted under the Tape-Card Guide as described above in number 3.


DURA
DURA Dynamics Machines Inc

PROCEDURE FOR READING CARDS

1) Turn the MACH 10-B Power On/Off Switch ON, with the Reader Power Key ON.
2) Place the card on the Card Feed Table and insert into the Feed Slot and release.
3) Depression of the Reader Start key will start the Reader.
4) If the end of the card has been punched with Delete Codes, the reading will continue until the card moves past the front Sprocket Wheel. The front feed switch which has been held operated by the card, will restore to normal and the Reader will stop.



Auxiliary Punch

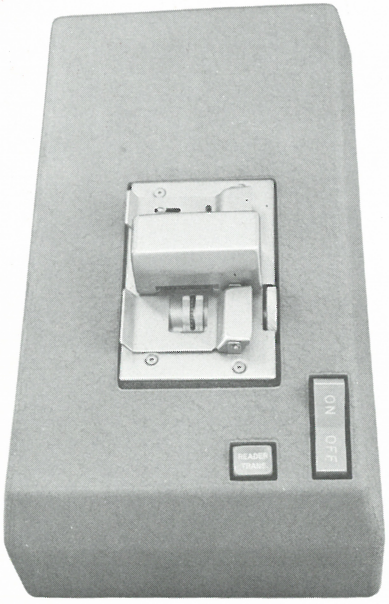
The auxilary punch, available as optional equipment, may be used for tape and edge card punching. There are no control keys on the auxiliary punch except the punch power on/off switch, feed key and select/all switch. All other control codes originate from the MACH 10-B.

The auxiliary punch may be operated simultaneously with the MACH 10-B punch, or may be operated alternately with the MACH 10-B switching from one to the other.

The Select/All Switch, used to activate either the MACH 10-B or the auxiliary punch, is located on the MACH 10-B and is described fully on pages 14 & 15.

Tape and Edge Cards are fed into the auxiliary punch in the same manner as on the MACH 10-B punch.

Note: When the auxiliary punch is not connected to the MACH 10-B, a dummy plug must be inserted in the output connector.



Auxiliary Reader

Also available with the Dura MACH 10-B as optional equipment is an auxiliary tape reader.

Tape is fed into the reader in the same manner as in the MACH 10-B Reader (page 19). The only controls on the auxiliary reader are the power on/off switch and the Reader Start key. All other control codes are located on the MACH 10-B Reader (page 19).

If the Auxiliary Reader is in the ON position and a switch code is read in the tape, the machine will switch from one reader to the other. However, if a switch code is read when the auxiliary reader is in the OFF position, the switch code will be ignored and reading will continue in the same reader.

Note: When the auxiliary reader is not connected to the MACH 10-B, a dummy plug must be inserted in the input connector.

Type Elements

The Dura MACH 10-B utilizes a new typing principle which offers faster, easier typing. Type bars are replaced with an interchangeable printing element containing all type characters.

Change Type Styles by Simply Changing Spheres

The MACH 10-B typing element can be replaced readily, permitting various type faces to be used.

On the top of each typing element is shown: the type face, name, typewriter pitch number (10 characters per inch or 12 characters per inch), and an orientation arrow.

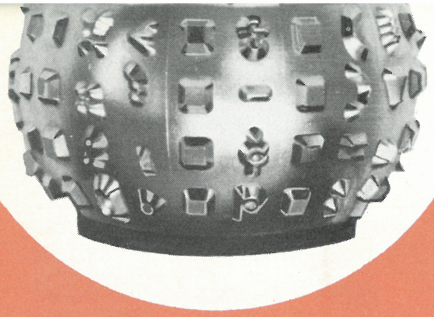
To Remove the Typing Element

1. Put the MACH 10-B in lower case, releasing the SHIFT key if locked, so that the orientation arrow on the typing element points toward the platen.
2. Press the POWER ON-OFF SWITCH OFF and raise the machine cover to its uppermost position.
3. Press the typing element spring levers (on top) together firmly.
4. Lift the typing element up and off the element post.

To Replace Typing Element

1. Grasp the spring levers and select the typing element desired.
2. With the orientation arrow pointed toward the platen, ease the typing element down into position.
3. Release the spring levers and seat the typing element until it clicks.

Following are some of the type styles which are available on the Dura MACH 10-B. Consult your Dura Business Machines representative when special type styles are desired.



DURA MACH 10-B TYPE STYLES

Type Styles

Type styles may be changed in seconds simply by removing one element and snapping on another in its place. The selective element versatility now lets you change the type style best for each application.

938 Standard Graphics

```
This is the DURA MACH 10 - B
1234567890    =¤;:%'"*()¢±_!+?.,
```

904 Manifold

```
THIS IS THE DURA MACH 1Ø - B
123456789Ø    ■■■:@√>■■b¢_-■&■˘■
```

1050 Upper Case - Lower Case

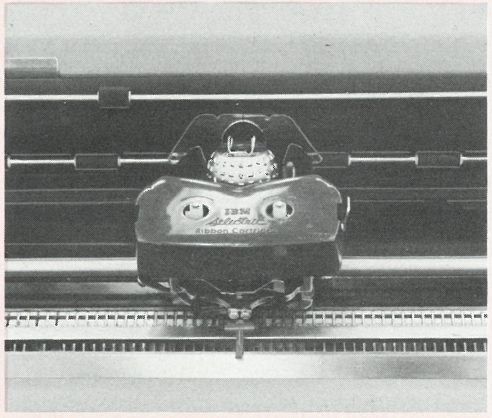
```
This is the DURA MACH 10 - B
1234567890    =¢;:%'"*()°±_!+?.,
```

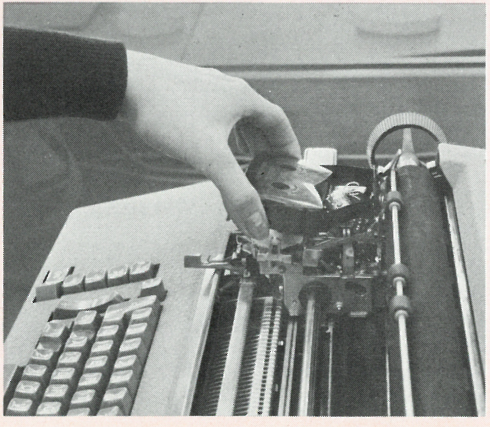
33M Gothic

```
This is the DURA MACH 10 - B
1234567890    '@#$=¢?*()<>"_;:.,
```

12M Advocate Pica

```
This is the DURA MACH 10 - B
1234567890    '@#$=¢?*()<>"_;:.,
```



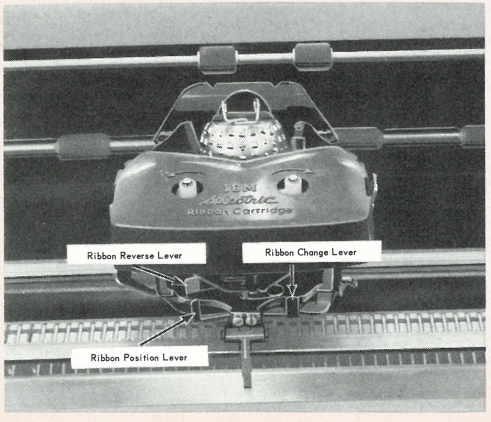


To Change The Ribbon

The new **Ribbon Cartridge** makes ribbon changing on your Mach 10-B just as easy as changing the type face.

To Remove Ribbon

1. Move the **Carrier** toward the center of the carrier rod.
2. Press the **Power On-Off Switch** to **Off.**
3. Lift the cover all the way off.
4. Raise the ribbon guide by shifting the ribbon change lever to the right.
5. Lift ribbon cartridge straight up off the carrier ribbon posts.
6. Ease ribbon through the slots.
7. To take up ribbon slack, put wooden pencil point in the cartridge hole and turn in the direction of the arrow.



To Install Ribbon

1. Hold the ribbon cartridge so that the exposed length of ribbon faces the platen.
2. Slide the ribbon down through the ribbon guide slots.
3. Place the ribbon cartridge on the cartridge post and press
4. To take up excess ribbon, turn either cartridge post in the direction of the arrow.
5. Finally, lower the ribbon guide into typing position by moving the ribbon position lever to the left.

Ribbon Positions of the Four Ribbon Lever Settings

When the lever is in position one, all the way to the right, the ribbon is in stencil position. Settings two, three and four permit the top, middle or bottom sections of the ribbon to be used. For longer wear and sharp, even impression, change the **Ribbon Position Lever** frequently.

To reverse ribbon winding direction, move the **Ribbon Reverse Lever** located at the center of the **Carrier.**

Prevent extra ribbons from drying out by storing them in the original plastic containers. The description of each ribbon is printed on the underside of the cartridge.

KEEPING THE MACH 10- B CLEAN IS NO PROBLEM

Cleaning the Mach 10-B

Do not use cleaning fluids or oil on your typewriter. You may gently brush to remove dust or chad.

To Clean the Typing Element

Clip the typing element to the end of the dual-purpose brush. With the typing element brush, brush away from you and toward the top of the element.

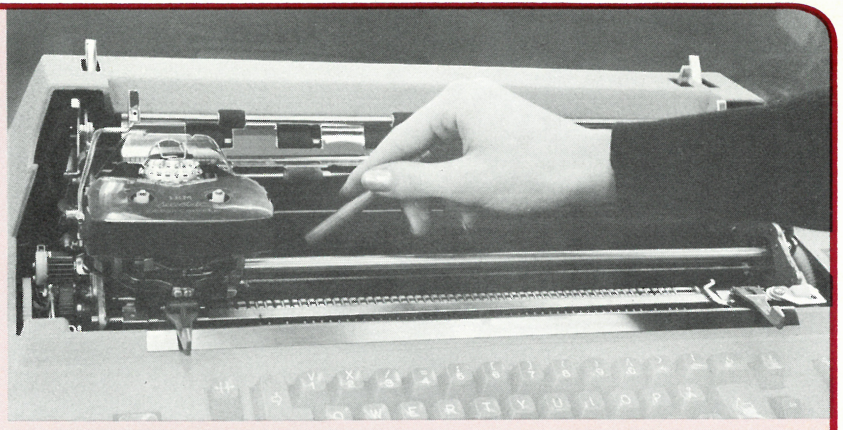
To assure proper paper feed and to prevent roll marks on the paper, clean the platen, feed rolls and bail rolls periodically. Platen cleaning liquid can be obtained from office supply dealers. Apply sparingly to the platen and rollers with a cloth and rub off any ink or stains.

It is necessary to remove the platen for cleaning, but the feed rolls and metal deflector need not be removed.

To clean the Mach 10-B case, simply wipe with a damp cloth.

To Sweep the Erasure Dust Pan

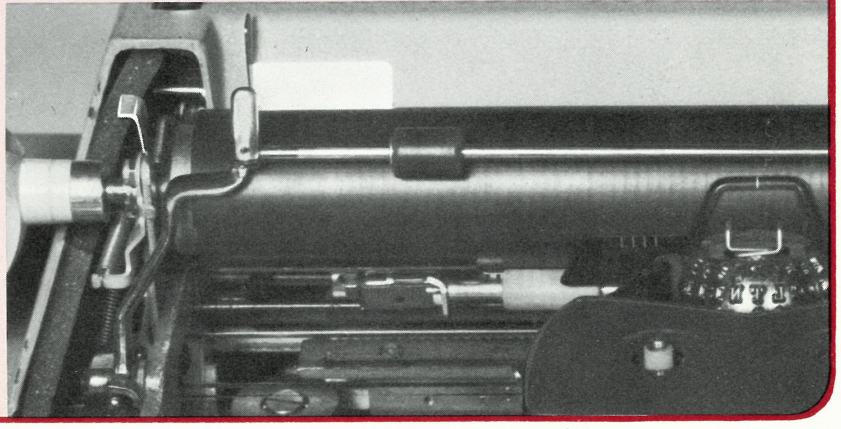
1. Move the **Carrier** aside by pressing the **Tab** key.
2. Turn **Power On-Off Switch** to **Off** and lift the cover carefully.
3. With the dual-purpose brush, sweep lightly toward the front of the typewriter, **Caution:** do not allow your brush to interfere with the thin wires.



To Remove the Platen

1. Press **Power On-Off Switch** to **Off.**
2. Bring the **Paper Release Lever** and the **Paper Bail** forward.
3. Lift the top cover of the Mach 10-B carefully.
4. Depress the platen spring and lift the platen.

To replace the platen, position it with the ratchet teeth to your right. Then center the end plate in the groove in the platen shaft and press down. It clicks into place.



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BUSINESS MACHINES
32200 STEPHENSON HIGHWAY MADISON HEIGHTS, MICHIGAN 48071