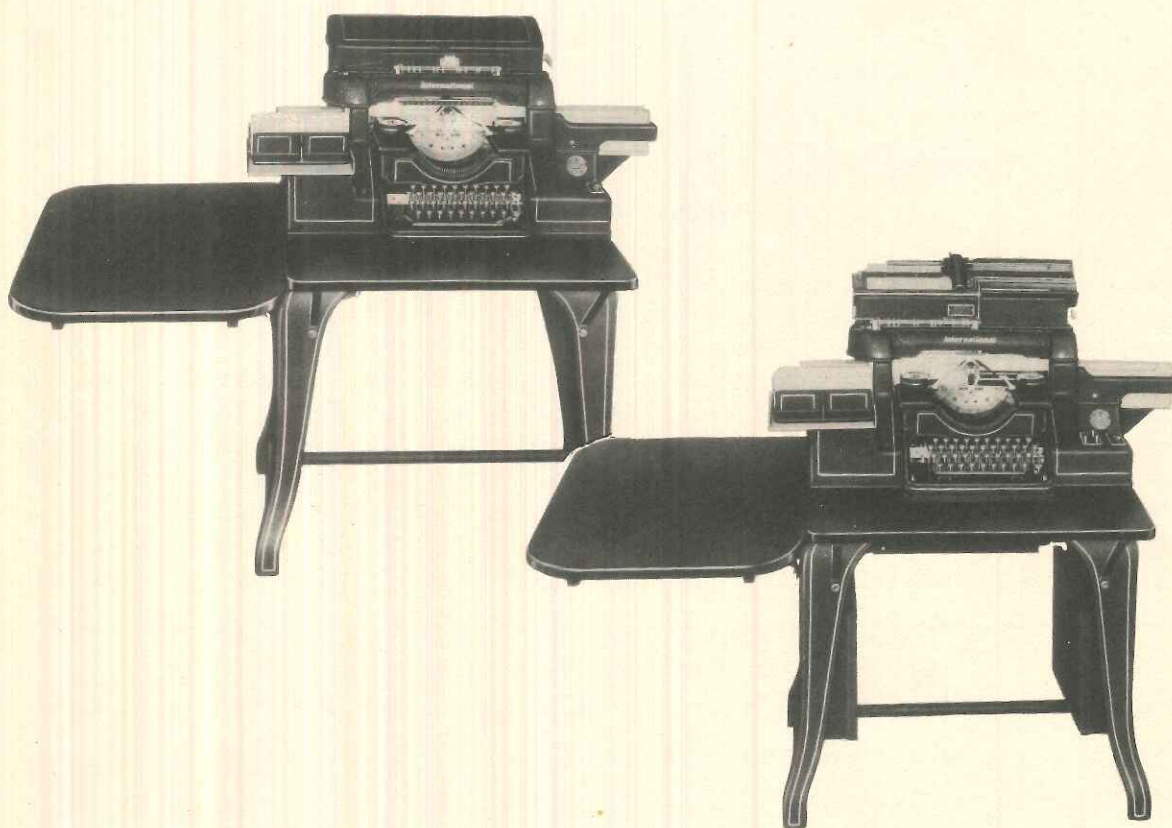


**ALPHABETIC
PRINTING PUNCHES**
TYPE 32 — TYPE 33

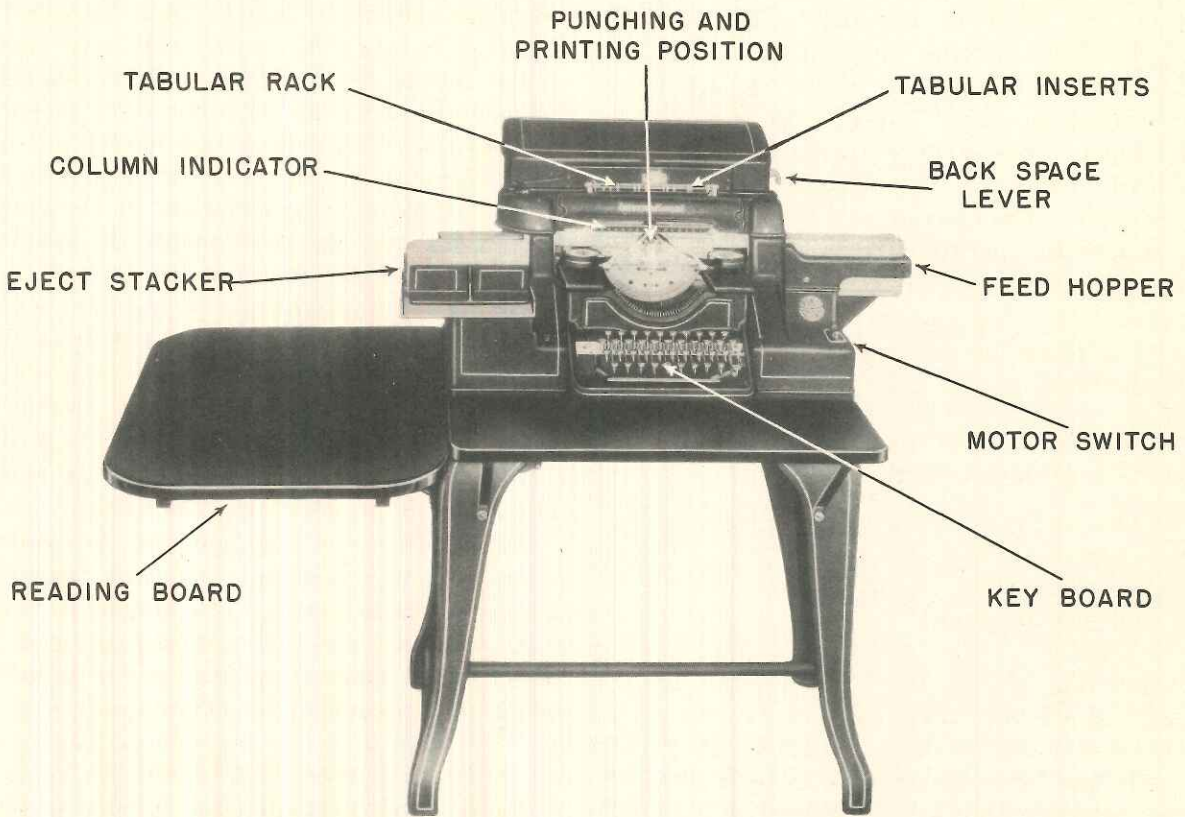


INTERNATIONAL BUSINESS MACHINES CORPORATION
TABULATING MACHINE DIVISION
270 BROADWAY, NEW YORK

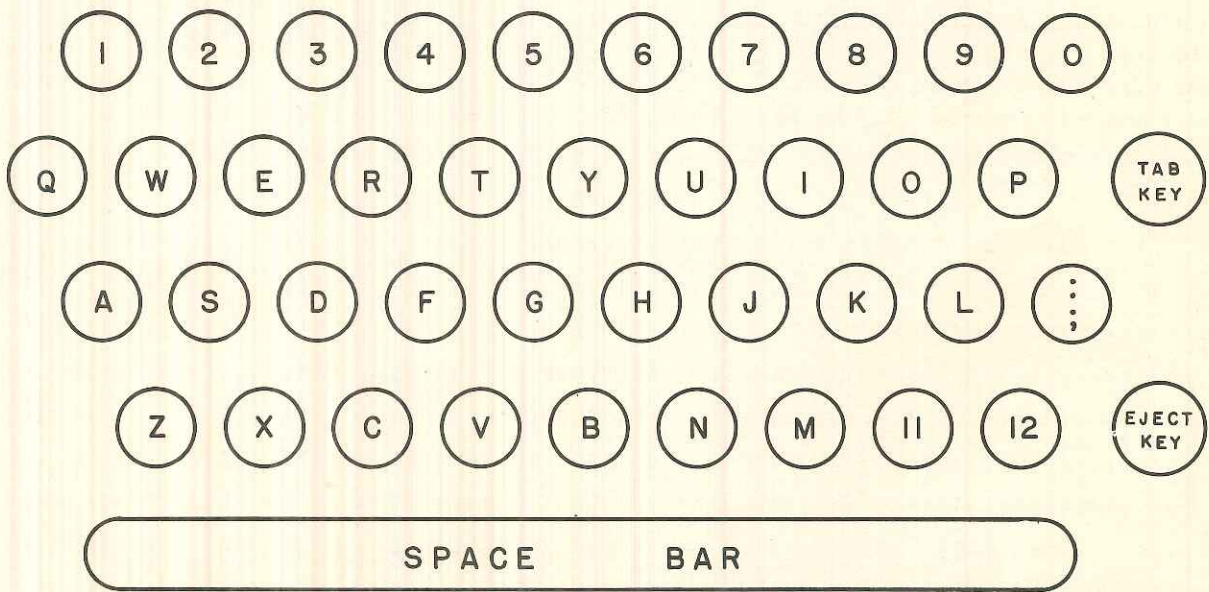
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Meth. Res.-9051

TYPE 32-ALPHABETIC PRINTING PUNCH



KEYBOARD DIAGRAM



card is ejected by depressing the eject key. This key must be used to eject the card regardless of whether the card is completely or partially punched. The ejecting mechanism causes the card to advance to a stacker whose operation may be described as being opposite to that of the feed hopper. The stacker (capacity 650 cards) is located in front of the machine to the left of the operator. The ejection and stacking of cards is an automatic operation.

Throughout the feeding, punching and ejecting operations, the card remains in an upright position. The following diagram illustrates the card positions and course of travel through the machine.

PUNCHING AND PRINTING

The depression of a key causes a clutch to engage a constantly running drive shaft. This engagement causes the proper punches to cut the card and simultaneously causes the proper type bar to print.

In punching alphabetic characters, the depression of a single key causes two holes to be punched simultaneously in the card. In numerical punching, only one hole is punched. In both cases, the proper interpretation of the punching is printed at the top of the card.

SKIPPING

The machine is equipped with a skipping mechanism similar in operation to the tabular skip on standard typewriters. A tabular rack, located at the top of the machine, contains 80 slots, one for each column of a card. Tabular inserts are placed

in the proper column slots to govern column skips. For example, if it is necessary to skip from any preceding column to column 25, a tabular insert is placed in the "24" notch. At any time the tabular key is depressed previous to this column, the machine will skip to column 25, except that no more than 12 columns may be skipped at one time. Several inserts must be used for longer skips. All skipping is governed by the action of the tab key and the positions of the tabular inserts, no automatic skipping being possible.

The tabular inserts have, on one side, a slightly raised flange which, when inserted uppermost in the tabular rack, causes a bell to ring when the card carriage reaches the selected column position. Any number of inserts may be placed in this manner to cause the bell to ring at predetermined column positions of the card.

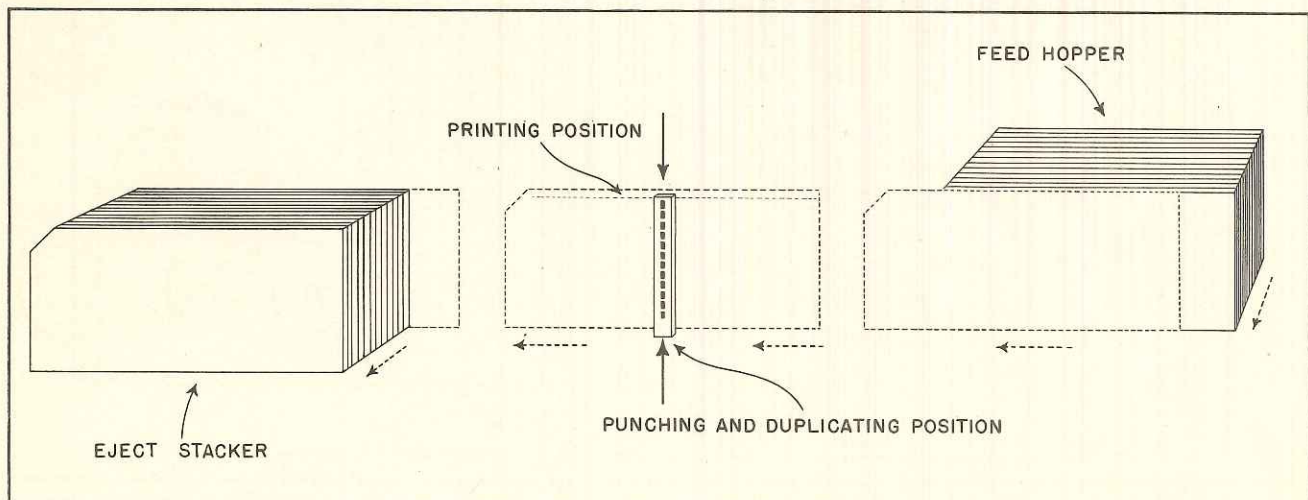
The skipping mechanism on the alphabetic printing punch provides complete flexibility in skipping arrangements. The tabular rack is conveniently located, easily operated and positive in action, all of which features greatly enhance the efficiency of punching operations.

MOTOR SWITCH

The machine is equipped with only one switch, the motor switch, which is used to start and stop the driving motor. This switch must be ON during operation of the machine.

SPEED

The machine may be operated at a speed of 16 key depressions per second, a speed well above that required by the fastest operators.



CURRENT

The machine is designed to operate on either alternating or direct current at 110 or 220 volts. The driving motor is supplied for operation on the current and voltage specified for the particular installation.

The power consumption is 5 amperes for starting and 1 ampere for running loads.

GENERAL

The machine is mounted on a base the same size as that of the numerical Motor Drive Duplicating Punch. The height of the machine is such that

it may be operated conveniently from a seated position. Ample leg room is provided.

A large waste receptacle is located directly beneath the machine. This may be removed easily for emptying.

A reading board of ample size is provided as illustrated in the operating diagram.

Two power outlets are furnished to permit multiple coupling of machines for current supply.

Careful consideration has been given to both design and finish in order to insure the general attractiveness of the Alphabetic Printing Punch.



Type 33 Alphabetic Duplicating Printing Punch

The Alphabetic Duplicating Printing Punch is basically the same as the Alphabetic Printing Punch, and performs all of the functions of which that machine is capable. In addition, it is equipped with a Master Card Unit, for automatic duplication of data punched in master cards, and with a Tabular Rack, by means of which the machine can be arranged to skip, space, duplicate and eject automatically as required.

MASTER CARD UNIT

The Master Card Unit is located at the top of the machine, at an angle which is convenient for the handling of master cards and for reading them while in place. This unit is similar in appearance and in operation to the corresponding unit of the numerical duplicating key punches.

TABULAR RACK

The Tabular Rack, and the Tabular Inserts used with it, perform a very important function. Together with the Control Switches, they permit automatic control of all operations which can be pre-determined, in any sequence or in any combination which may be required.

The Tabular Rack on this machine is similar in appearance to that on the Alphabetic Printing Punch, or that on any typewriter. It is provided with 80 slots, in which Tabular Inserts may be placed, corresponding to the 80 columns of the tabulating card (see last page).

TABULAR INSERTS

The Tabular Inserts automatically determine the action of the machine at or beyond the Tabular Rack column positions in which they may be placed.

Three different kinds of Tabular Inserts are furnished with the machine, each of which is capable of controlling either of two different operations. In this manner any one of six operations can be pre-determined for any column position. (These do not include automatic ringing of a bell in pre-determined positions, which is a feature of the non-duplicating punch only.)

The operation which is controlled by any insert depends upon which "leg" of that insert is turned uppermost when it is placed in the rack. The

operation controlled by each leg is identified by a number stamped on its left side, the six legs being numbered from one to six, as shown under the Operating Diagram.

For convenience in the description of their use, these inserts are hereinafter referred to as Inserts No. "1 to 6", inclusive, as if there were actually six instead of three.

Tab Start Insert (No. 1)—This insert, when placed in the rack with the "1" leg uppermost, causes the card carriage to tabulate (skip) automatically to the 80th or any intervening column. It must be placed in the column position following the last position punched, or, in other words, in the first column position to be skipped (see last page).

Any columns may be skipped manually by depression of the Tab Key or Space Bar on the keyboard.

Duplication from a master card is automatically prevented in those column positions which may be skipped either by a Tab Start Insert or by depression of the Tab Key.

Tab Stop Insert (No. 6)—This insert, when placed in the rack with the "6" leg uppermost, stops any skip which may have been started either automatically by a Tab Start Insert or manually by depression of the Tab Key. This stop insert must be placed in the last column position to be skipped or, in other words, in the column position preceding that in which punching is to be resumed.

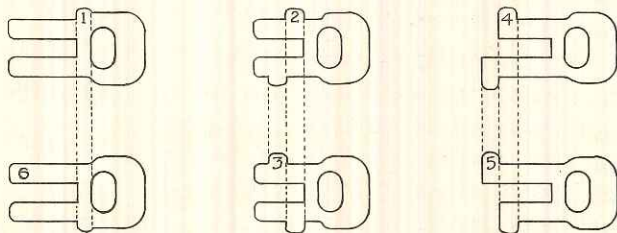
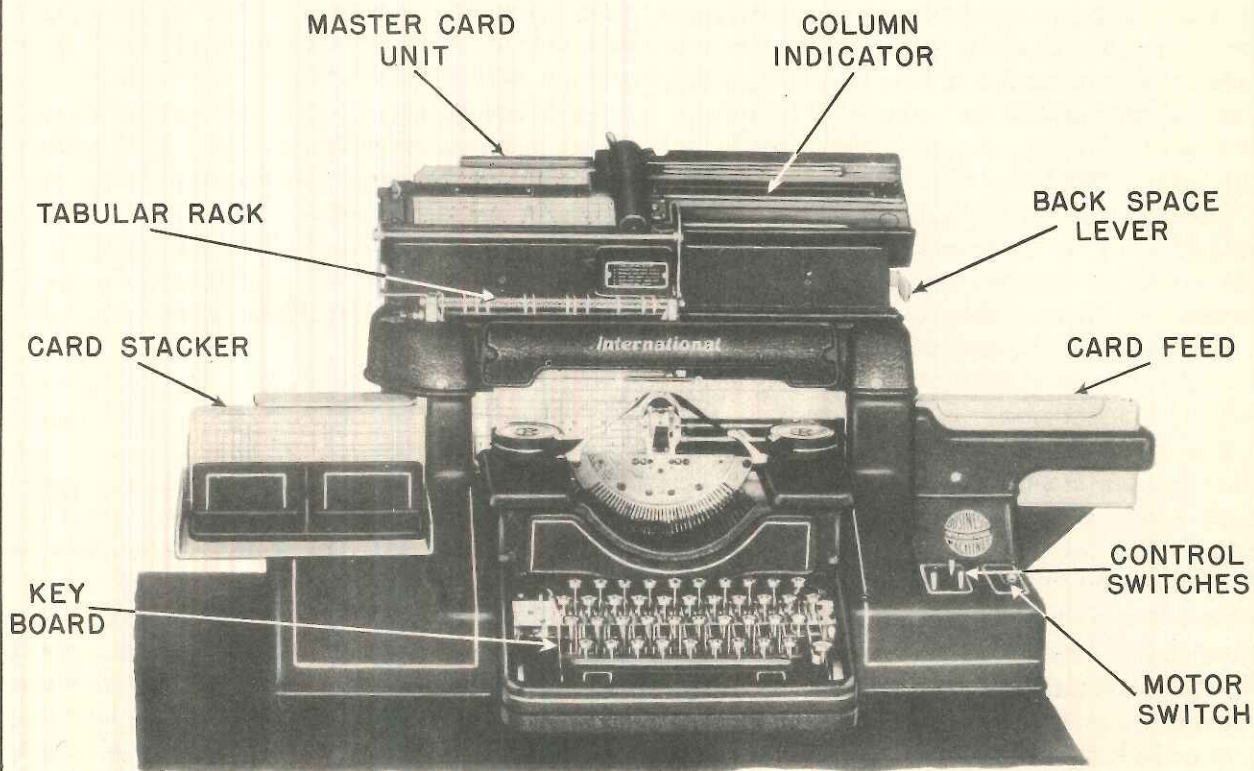
Duplication will be resumed after a skip has been stopped by a stop insert, if the master card is punched in the corresponding column, or if the Auto Space Switch is ON.

Single Space Insert (No. 3)—This insert, when placed in the rack with the "3" leg uppermost, causes the card carriage to space over one column automatically. It must be placed in the column position which is to be skipped. Its use is necessary because Tab Start and Stop Inserts cannot both be placed in the same slot.

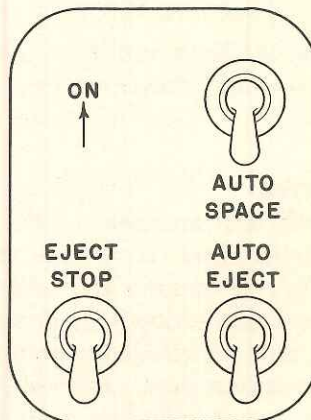
Duplicating Cutout Insert (No. 4)—All information punched in a master card is normally duplicated in the detail cards, no Tabular Insert being required to start duplicating.

The Duplicating Cutout Insert, when placed in

TYPE 33-ALPHABETIC DUPLICATING PRINTING PUNCH



TABULAR INSERTS



CONTROL SWITCHES

the rack with the "4" leg uppermost, prevents duplication from that column position to the 80th or any intervening column position. This insert must be placed in the first column position which is not to be duplicated.

This insert need be used only when card columns which are punched in the master card must be key-punched differently in the detail cards, or to prevent automatic spacing over unpunched columns in the master card when the Auto Space Switch is ON. When columns which are punched in the master card are to be skipped in the detail cards, Tab Start and Stop, or Single Space Inserts are used, and automatically prevent duplication while the card carriage is in motion.

Duplicating Restart Insert (No. 5)—This insert, when placed in the rack with the "5" leg uppermost, causes the punch to "restart" (resume) duplicating from the master card.

Unlike the Tab Stop Insert, the Duplicating Restart Insert must be placed in the column position in which punching (duplication) is to be resumed. Duplicating Cutout and Restart Inserts may therefore be placed in adjacent slots to prevent duplication of any single column.

Eject Insert (No. 2)—This insert, when placed in the rack with the "2" leg uppermost, causes the card carriage to skip to the 80th column position and eject the card automatically, unless the Eject Stop Switch is ON, in which case ejection will not take place. The Eject Insert must be placed in the first column position which is to be skipped for ejection.

A card may be ejected manually at any time by depression of the Eject Key. Manual ejection is not prevented when the Eject Stop Switch is ON.

CONTROL SWITCHES

The power switch and three Control Switches are located on the right side of the machine. The control switches play an important role in the automatic operation of the punch, as mentioned in the description of the Tabular Inserts. Following is a complete description of the function of each of these switches.

Auto Space Switch—This switch is used only when duplicating from a master card. When turned ON, it causes the card carriage to space automatically over all columns which are un-

punched in the master card. When detail cards are to be punched manually in some of the columns which are unpunched in the master card, automatic spacing over those columns must be prevented. This may be accomplished by using Duplicating Cutout and Restart Inserts, to prevent automatic spacing in certain columns; or by turning the Auto Space Switch OFF, which will prevent automatic spacing in all columns.

Auto Eject Switch—This switch, when turned ON, causes automatic ejection of a card after its 80th column has been punched, unless the Eject Stop Switch is also ON.

Automatic ejection before the 80th column has been punched can be accomplished by using an Eject Insert, and is possible only when the Eject Stop Switch is OFF.

Eject Stop Switch—The Eject Stop Switch is turned ON to prevent automatic ejection when it is necessary to change the master card in the master card unit. After the new master card is in place, the detail card just punched is ejected either by turning the Eject Stop Switch OFF or by depression of the Eject Key.

This switch need not be used to prevent automatic ejection which would be caused by the Auto Eject Switch, because the same result can be accomplished by turning the latter switch OFF. However, the Eject Stop Switch must be used to prevent automatic ejection which would be caused by an Eject Insert. It is therefore desirable to use the Eject Stop Switch habitually whenever it is necessary to prevent automatic ejection.

KEYBOARD

The keyboard of this machine is the same as that of the non-duplicating punch. A Back Space Lever is provided, located at the right of the Tabular Rack, as shown in the Operating Diagram.

The Tab Key, when depressed, causes the card carriage to skip to the column position following that in which a Tab Stop Insert is placed, or to the 80th column if no Tab Stop Insert intervenes.

The Eject Key, when depressed, causes the card carriage to skip to the 80th column, regardless of any Tabular Inserts intervening; and causes ejection of the card just punched, regardless of the positions of the Control Switches.

