Burroughs B

L/TC
Mini-Computers

OPERATOR MANUAL

PRICED ITEM

Burroughs ⅏

L/TC
Mini-Computers

OPERATOR MANUAL

INTRODUCTION

This publication provides step-by-step instruction for the understanding and operation of Burroughs L/TC mini-computers. Your job, as operator, will be to enter information into the machine through the keyboards. As you enter information the machine will automatically perform the steps necessary to provide the printing and the arithmetic called for in the job you are performing at the time. These automatic steps are controlled by a set of instructions (called a program) which is placed in the machine before a job is started. As the operator, you control this automatic operation and tell the machine what to do by using the keys, lights and other devices described in this manual.

The manual is divided into several sections, each one dealing with a separate area of the basic machine's operation.

For quick reference to each section, index marks are provided separating the sections as follows:

- PK Keyboard deals with turning the machine on and off in addition to the use of special keys and lights on the program key panel.

- Numeric Keyboard describes the location and use of all the keys on the numeric keyboard.

- Alpha Keyboard covers the typewriter keyboard and a few special keys.

- Forms Handler explains the use of different parts of the machine in moving paper through the printer area.

- "How To" section tells you what steps to follow to –

    a. Load paper

    b. Change printer ribbon

    c. Load a paper tape program

    d. Attach and remove forms racks

    e. Interrupt the program

    f. Turn off all power

    g. Correct errors and problems.

- A section which will have the pages necessary to describe the use of whatever additional equipment may be used with your basic machine. Examples of some of this equipment would be paper tape readers and punches, line printers, tape cassettes, magnetic tape units and magnetic ledger record handlers.

In addition to this manual which covers the machine operation, you will receive other special instructions to help you do different jobs on the machine. These special instructions should be placed at the back of the manual.

PK KEYBOARD

STARTING THE MACHINE

The On button is located above the keyboard on the left side of the front panel, right above the word "On."

Located directly below the On button is a green light. This light shows that the machine is receiving power and can be started. When the On button is pressed the green light will go out and the On button itself will light up. The machine is now ready to be operated.

TURNING OFF THE MACHINE

To turn the machine off, you must depress the Ready button, which is located above the ready light and to the right of the On button. Most of the time it will be necessary to depress the Ready button two times. After depressing the Ready button the first time, you must wait until the print ball moves across the typing area and returns. Then depress the Ready button a second time and the machine will be turned off.

READY MODE

Right after the On button has been depressed all the lights will come on and stay on for about 10 seconds. At the same time the print ball will move across the typing area and return. The bell will sound, all the lights will go out except for the green ready light and the first three white lights next to it. The machine is now in the Ready Mode.

Once the machine is in the Ready Mode, you are expected to choose whether you want to start your normal jobs or some special job. Page 1-2 tells you how to make that choice.

Only the L 8000/TC 1700/TC 3500 machines will display the above light pattern. However, all machines operate the same otherwise.

ON BUTTON   READY BUTTON

READY MODE
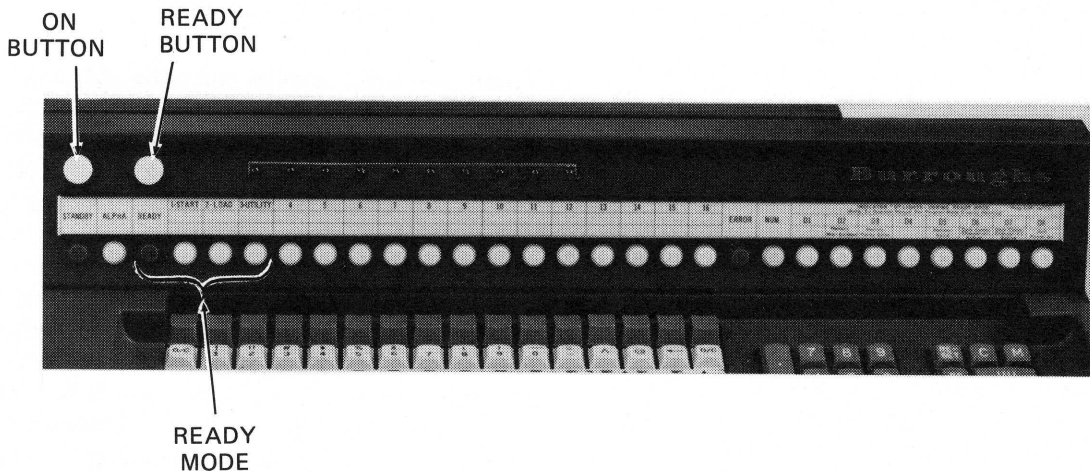
PROGRAM KEYS AND LIGHTS

There are several blue keys with a white light above each on the front panel above the typewriter keyboard. These blue keys are called Program Keys or PK's. The PK's are used to select the next operation you want to do. When a light is on, the PK below it can be depressed. These lights show you which keys can be depressed, making it easier to select the next operation. When the light is off, depressing the PK will ring a bell, turn on a red Error light and lock the keyboard. In order to correct this condition you must depress the Reset key. (See page 2-2.)

When the machine is in the Ready Mode the first three PK lights are on. Therefore, the first three program keys can be used to choose whether you want to start your normal jobs or a special job.

- To start your normal jobs depress PK 1.
- To load paper tape into memory, depress PK 2.
  See page 5-3 for instructions on loading paper tape.
- To choose a utility routine depress PK 3.

When the machine is not in the Ready Mode these PK keys and lights (1,2 and 3) are used for other purposes which will be explained later.

OPERATOR GUIDE STRIP

A removable Operator Guide Strip is placed on the front panel above the PK keys. This strip is labelled with the operation names to make it easy to choose the PK needed to do the next job or operation. Because the strip is removable, it can be changed as often as necessary.

ALPHA LIGHT

The Alpha light is a yellow light located between the green On and Ready lights. When the Alpha light is on you are expected to use the typewriter keyboard. When the Alpha light is on the numeric keyboard cannot be used. If the numeric keyboard is used when the Alpha light is on, the red Error light will come on, the bell will ring and the keyboard will lock up. When this happens no further entries can be made on either keyboard. To correct this condition you must depress the Reset key. (See page 2-2.)

ERROR LIGHT

The red Error light is located on the right side of the front panel just past the PK lights. This light will come on and a bell will ring when an error has been made. Some common errors that will turn on the Error light are:

- Depressing a PK when its light is off
- Using the typewriter keyboard when the Numeric light is on
- Using the numeric keyboard when the Alpha light is on
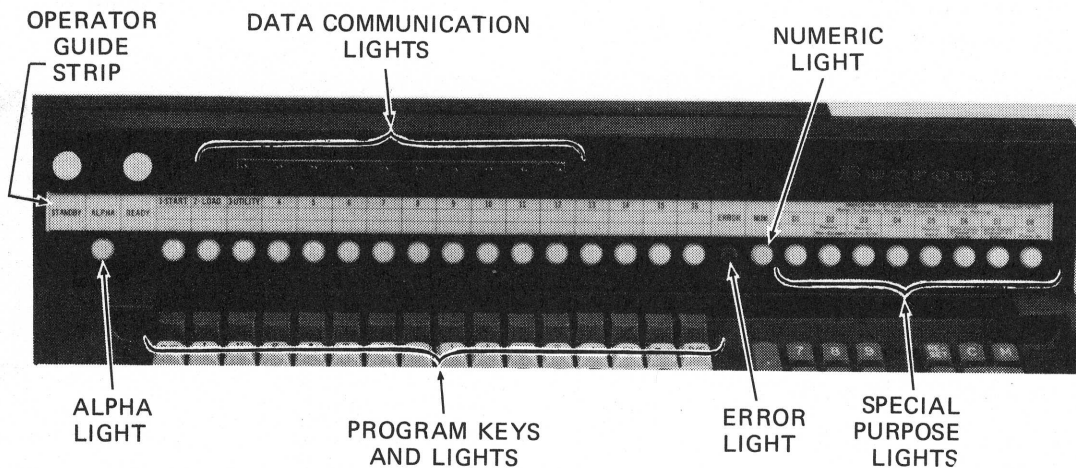- Keying in more information than the machine is expecting.

To correct an error, refer to the Reset key, page 2-2.

NUMERIC LIGHT

The Numeric light is a yellow light located on the right side of the front panel above the numeric keyboard. When the Numeric light is on, you are expected to use the numeric keyboard (or, sometimes, the numeric keys on the typewriter keyboard). If you try to key in alphabetic information when the Numeric light is on, the red Error light will come on, the bell will ring and the keyboard will lock up. When this happens no further entries can be made on either keyboard. To correct this condition you must depress the Reset key. (See page 2-2.)

SPECIAL PURPOSE LIGHTS

There are eight special purpose lights at the right end of the PK keyboard if your machine has a typewriter roller 15½" wide. If your machine has a 26" roller, these lights will be on the left end of the PK keyboard. One or more of these lights will come on if you have a problem with a card reader, a card punch, a paper tape reader, a tape cassette or some other equipment which may be attached to the machine. If any of these lights come on, you will have to correct the problem before you can continue using the machine. See your Equipment Reference Manual, Software Operation Guide, supervisor or Burroughs Sales Representative for instructions on how to correct the condition.

OPERATOR GUIDE STRIP
DATA COMMUNICATION LIGHTS
NUMERIC LIGHT
ALPHA LIGHT
PROGRAM KEYS AND LIGHTS
ERROR LIGHT
SPECIAL PURPOSE LIGHTS

DATA COMMUNICATION LIGHTS

The Data Communication Lights are the ten red lights directly above the PK lights. These lights will be turned on and off when the unit is receiving information from another computer or sending information to another computer. Operator action is not required.

TURNING THE TERMINAL MOTOR ON AND OFF

The Terminal Motor On and Off Buttons are located to the right of the red data communication lights. The On button is on the left and the Off button is on the right. The terminal motor may be turned off when the terminal is not receiving or sending messages by depressing the Off button. The terminal motor may be turned on by the main computer, or by depressing the On button. A common use of this feature would be to turn the motor off while at lunch. Normal operations could then be resumed later just by depressing the On button instead of going back to "Starting the Machine" (page 1-1).

Applies only to TC Series

NUMERIC KEYBOARD

NUMERIC KEYS

The Numeric Keys, 0-9, are located on the numeric keyboard which is on the right side of the machine. These keys can be used only when the Numeric light is on. They are designed to be operated like a ten-key adding machine using the touch method. The index finger should be used to key in the numbers 1, 4 and 7; the second finger to key in 2, 5 and 8 and the double zero; and the third (or ring) finger to key in 3, 6, 9 and triple zero. The thumb is used to key in the single zero. When keying in an amount, the numbers should be keyed from left to right just as you read them.

Example:

Key in the amount 4836
1. Key in 4 using index finger
2. Key in 8 using second finger
3. Key in 3 using ring finger
4. Key in 6 using ring finger
5. Depress an OCK (see page 2-1)

Print ball will type 4836
The numeric keys on the Alpha Keyboard may also be selected when the Numeric light is on (see Alpha Keyboard Section, page 3-2).

OPERATION CONTROL KEYS

There are four Operation Control Keys which are called OCK's. These keys are located on the right side of the numeric keyboard. They are numbered I, II, III and IIII (one, two, three and four). Just as you end a sentence with a period, you must end every keyboard entry by depressing one of the OCK's. In most cases you will depress OCK 1. Sometimes when a different action is required, you will depress OCK II, III or IIII. To help the operator, there is another set of OCK's located on the typewriter keyboard which do exactly the same thing. (See Alpha Keyboard Section, page 3-2.)

NUMERIC
KEYS

OPERATION
CONTROL
KEYS

RESET KEY

The Reset key is located above the OCK's and to the left of the "C" Key on the numeric keyboard. It can be used with either the typewriter or numeric keyboards. Its basic use is to turn off the red error light and unlock the keyboard when an error condition occurs.

Listed below are some common mistakes that will require you to use the Reset key before you can continue:

— Depressing a PK when its light is off.

— Using the typewriter keyboard when the Numeric light is on.

— Using the numeric keyboard when the Alpha light is on.

— Keying in more information than the machine is expecting.

— Using the "C" or "M" key when the machine is not expecting them to be used.

— Using the decimal (.) or the "RE" key when the machine is not expecting them to be used.

In addition to turning off the red error light and unlocking the keyboard, the Reset key has some special uses which will be helpful for you to know when operating the machine.

Special Uses of the Reset Key with the Numeric Keyboard.

If an error is made when keying in a number before an OCK has been depressed, you can depress the Reset key and it will remove all of the digits which have been keyed in. This feature is like the error key on an adding machine.

Special Uses of the Reset Key with the Typewriter Keyboard.

Sometime you may make a mistake on the typewriter keyboard by keying in more characters than the operation will allow. When you do this, the red Error light will come on, the bell will sound and the keyboard will lock up. To correct this condition, you may have to depress the Reset key two times. The first time will turn off the red Error light, but will not affect any of the characters you have typed. The second time you depress the Reset key, everything you have typed on that line will be removed from the machine and the print ball will return to the beginning of the line. Advance the paper one line (see page 3-4) and then enter the correct information.

Note:

If the Reset key is depressed when the terminal is in the Ready Mode, the operation will return to the last position it was in before it went to the Ready Mode.

REVERSE ENTRY KEY

The Reverse Entry key marked "RE" is located just above OCK I. It is used somewhat like the subtract key on an adding machine. To key in minus amounts on the machine, key in the amount, depress the RE key, then depress an OCK. The purpose of this operation is to tell the machine you want the number just keyed in to be minus or to be subtracted instead of added in the machine. You may use the RE key only in certain operations. If you use it when the machine is not expecting it, the Error light will come on, the bell will sound and the keyboard will lock up. (See page 2-2 for use of Reset key.)
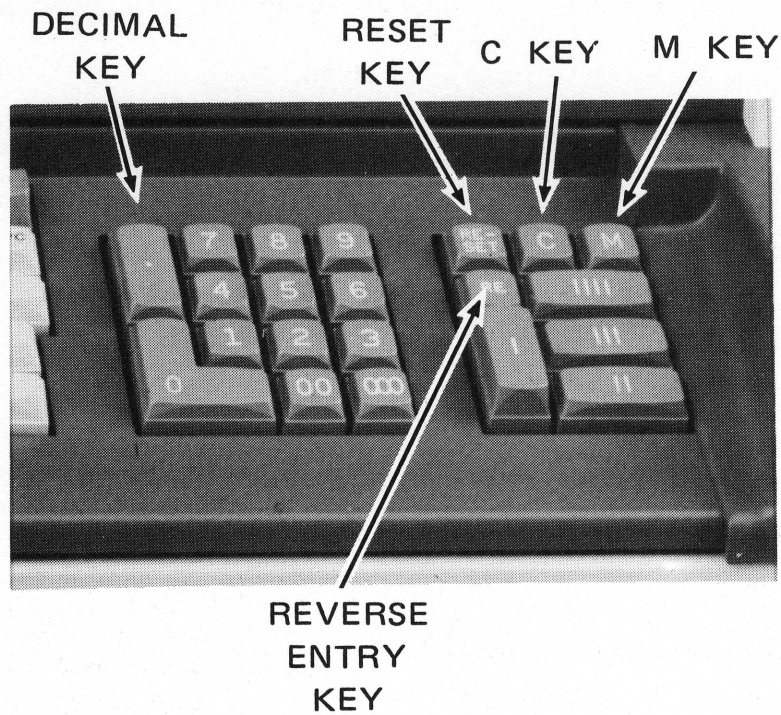
C KEY

The Per Hundred key is marked "C" and is located above the OCK's on the numeric keyboard. It is used only in specialized operations for which you should receive additional instructions. Depressing the C key will cause the decimal point to be automatically positioned when calculating prices per hundred. Use of the key when it is not required will turn on the Error light, ring the bell and lock up the keyboard. (See page 2-2 for use of the Reset key.)

Example:
   Determine the cost of
   2000 items at $1.50 per hundred
      1.   Key in the number of items — 2000
      2.   Depress an OCK
      3.   Key in the cost per hundred — 1.50
      4.   Depress the C key
      5.   Depress an OCK
   The result will print 30.00

DECIMAL KEY RESET KEY C KEY M KEY

REVERSE ENTRY KEY

M KEY

The Per Thousand key is marked "M" and is located to the right of the Per Hundred key above the OCK's on the numeric keyboard. It is used only in specialized operations for which you should receive additional instructions. Depressing the M key will cause the decimal point to be automatically positioned when calculating prices per thousand. Use of the M key when it is not required will turn on the Error light, ring the bell and lock up the keyboard. (See page 2-2 for use of the Reset key.)

Example:

Determine the cost of
2000 items at $1.50 per thousand

1. Key in the number of items — 2000
2. Depress an OCK
3. Key in the cost per thousand — 1.50
4. Depress the M key
5. Depress an OCK

The result will print 3.00

DECIMAL KEY

The Decimal key is marked with a period. It is located on the numeric keyboard just above the single cipher (0) key. To enter a decimal number, depress the Decimal key. Then all numbers keyed in will be to the right of the decimal point.

To key in a mixed number, first key in all numbers to the left of the decimal point. Then depress the Decimal key and key in all numbers to the right of the decimal point.

This key is used only in specialized operations for which you should receive additional instructions. Use of the Decimal key followed by additional numbers when the Decimal key is not required will turn on the Error light, ring the bell and lock up the keyboard. (See page 2-2 for use of the Reset key.)

Example:

Key in 21.534

1. Key in numbers to the left of the decimal — 21
2. Depress Decimal key
3. Key in numbers to right of the decimal — 534
4. Depress an OCK

Result will print 21.534

This key can also be used to key in fractions. However, the method used will depend on the additional instructions you receive.

ALPHA KEYBOARD

TYPEWRITER ALPHA KEYS

The Alphabetic keys on the typewriter keyboard can be used only when the Alpha light is on. These keys are arranged similar to those on a standard typewriter keyboard. They should be operated using the touch method. Depressing the shift key has no effect on the Alphabetic keys because the machine will only print in capital letters. However, the special characters on the upper part of the keytops, such as those above the numerals in the top row, can be printed by using the shift key. (See Shift Keys following.)

SPACE BAR

The Space Bar is the long unmarked bar located on the bottom of the typewriter keyboard. Depressing the Space Bar lightly will cause the print ball to move one space to the right without printing. Holding the Space Bar down firmly causes the print ball to continue spacing automatically until the Space Bar is released or until the print ball won't go any further.

SHIFT KEYS

There are two keys marked "Shift" — one on each side of the typewriter keyboard. The Shift keys are used in conjunction with those keys on the typewriter keyboard which have two characters on their keytops. In order to select the upper character on a keytop you must hold down either of the Shift keys and then depress the desired typewriter key.

SHIFT LOCK KEY AND LAMP

The Shift Lock key is located on the left of the keyboard and above the left shift key and is marked "Shift Lock." When depressed, this key causes the alpha keyboard to enter the Shift Mode. As long as the keyboard remains in Shift Mode the Shift Lock Indicator Lamp to the left of the Shift Lock key will be illuminated. Once the Shift Lock key has been depressed, the keyboard will remain in the Shift Mode until one of the Shift keys is depressed.

SHIFT LOCK KEY AND LAMP

TYPEWRITER ALPHA KEYS

SHIFT KEY

SPACE BAR

SHIFT KEY
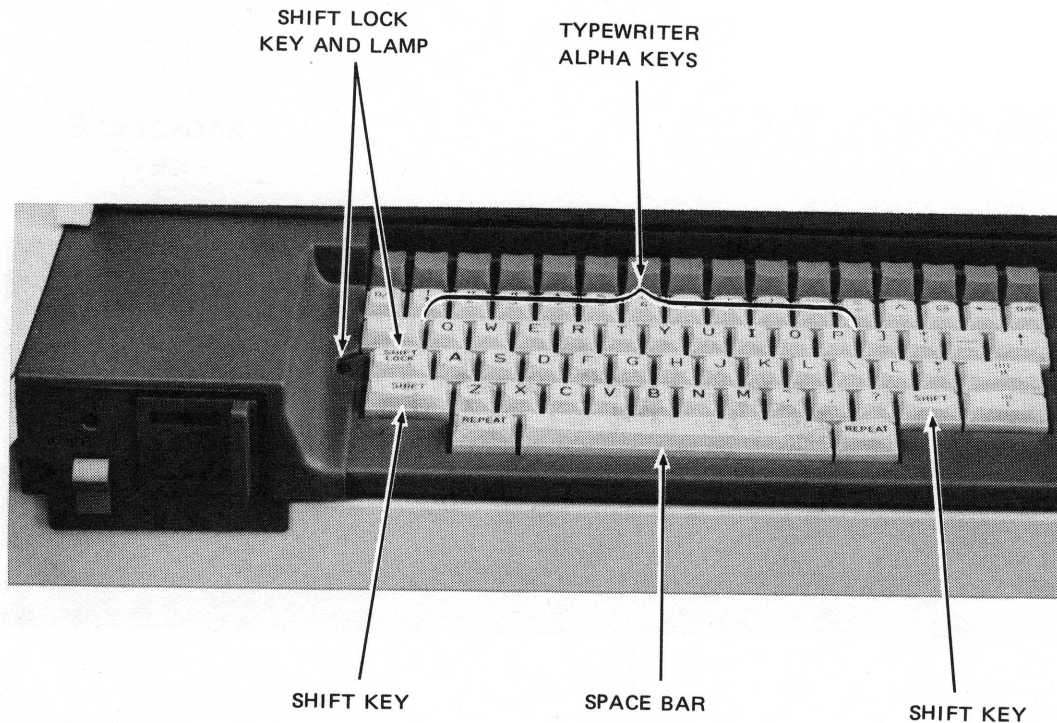
TYPEWRITER NUMERIC KEYS

There are ten Numeric keys located on the top row of the typewriter keyboard. They are marked "0—9." These keys are used to key in numbers or amounts.

When the Alpha light is on these keys are used to key in the numeric portion of information that has both alpha an numeric characters. (For example, a street address or a part number.)

For your convenience these keys can be used just like the keys on the numeric keyboard to key in amounts if the Numeric light is on. The special characters shown on the top of the numeric keys can be selected by depressing the Shift key (but only when the Alpha light is on).

OPERATION CONTROL KEYS

To make it more convenient for you there are four OCK's on the typewriter keyboard. They do exactly the same things as the four OCK's on the numeric keyboard. OCK I and OCK III are on one key located to the right of the right shift key. OCK II and OCK IIII are on one key just above OCK I. To use OCK III and OCK IIII, one of the Shift keys must be held down while depressing the desired OCK.

Example:

To use OCK III on the typewriter keyboard

1. Depress and hold down either Shift key.
2. Depress the OCK key marked I and III on the right side of the type-writer keyboard.
3. You will then have selected OCK III.

BACKSPACE KEY

The Backspace key, located on the right side of the typewriter keyboard and marked by an arrow pointing to the left, (←) is used when an error is made while typing. When depressed lightly, it will space the print ball one space to the left and remove from the machine the last letter or character that was typed. As long as the Backspace key is held down, it will move the print ball to the left one space at a time until it reaches the beginning of the typing line.

BACKSPACE
KEY

TYPEWRITER
NUMERIC
KEYS

OPERATION
CONTROL KEYS
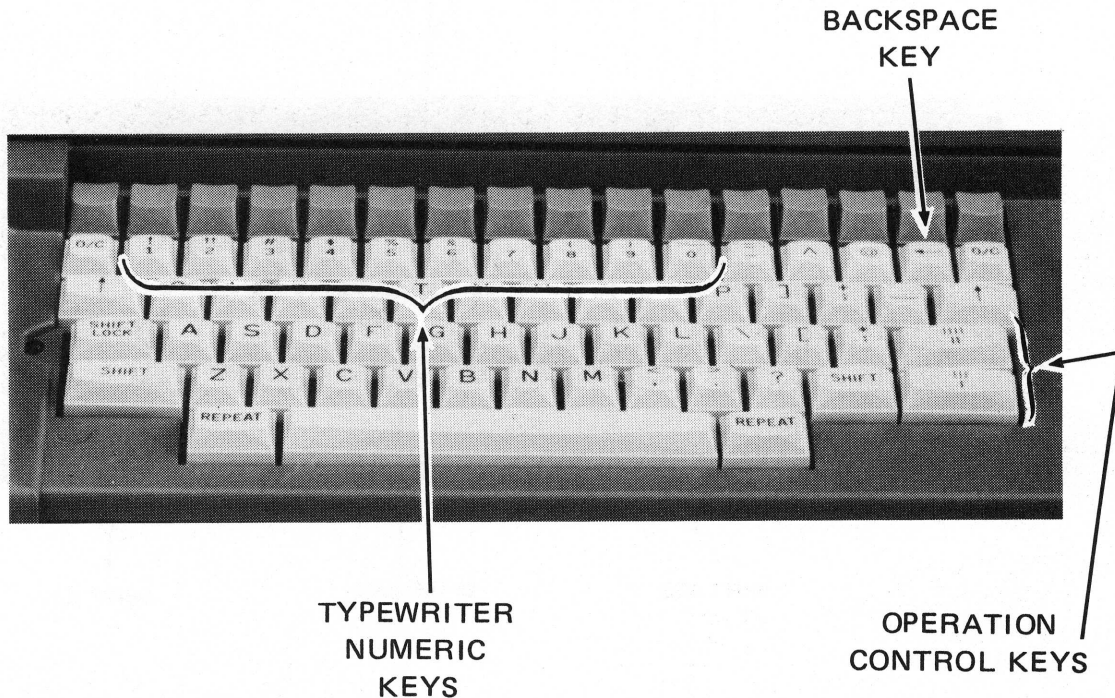
PAPER ADVANCE KEY

A Paper Advance key is located on both sides of the keyboard. They are marked by arrows pointing upward (↑). When the keys are depressed, the paper will space upward. Sometimes two forms will be in the machine, one on the right side and one on the left. To space the form on the left side, depress the Paper Advance key on the left of the keyboard. To space the form on the right, depress the Paper Advance key on the right of the keyboard. Depressing the Paper Advance key lightly will advance the paper one printing line. If the key is held down firmly, the paper will continue to advance until the key is released.

OPEN/CLOSE KEY

The Open/Close keys are located on each side of the alpha keyboard and are marked "O/C". They are used to open or close the forms bail (see page 4-5) and the small rollers which hold the paper against the bottom of the large roller (or platen). Depressing either key will open the bail and the rollers if they are closed or close them if they are open. (See page 5-1 for complete instructions on loading paper.)

REPEAT KEYS

The Repeat keys are located on each side of the space bar. When depressed simultaneously with another key of the alpha keyboard, the function of the key is repeated continuously until the Repeat key is released.

PAPER TAPE MEMORY LOADER

The Paper Tape Memory Loader is located on the left front of the machine, to the left of the typewriter keyboard. It has a removable cartridge so that it is easy to insert the paper tape that is used to load programs into the machine.

See "How To Load A Paper Tape Program", page 5-8.

PAPER TAPE MEMORY LOADER SWITCH

To the left of the removable cartridge of the Paper Tape Memory Loader is the Memory Loader Switch. This switch is used to turn the Memory Loader on. When the Memory Loader has been turned on, the red indicator lamp above the switch will be illuminated.
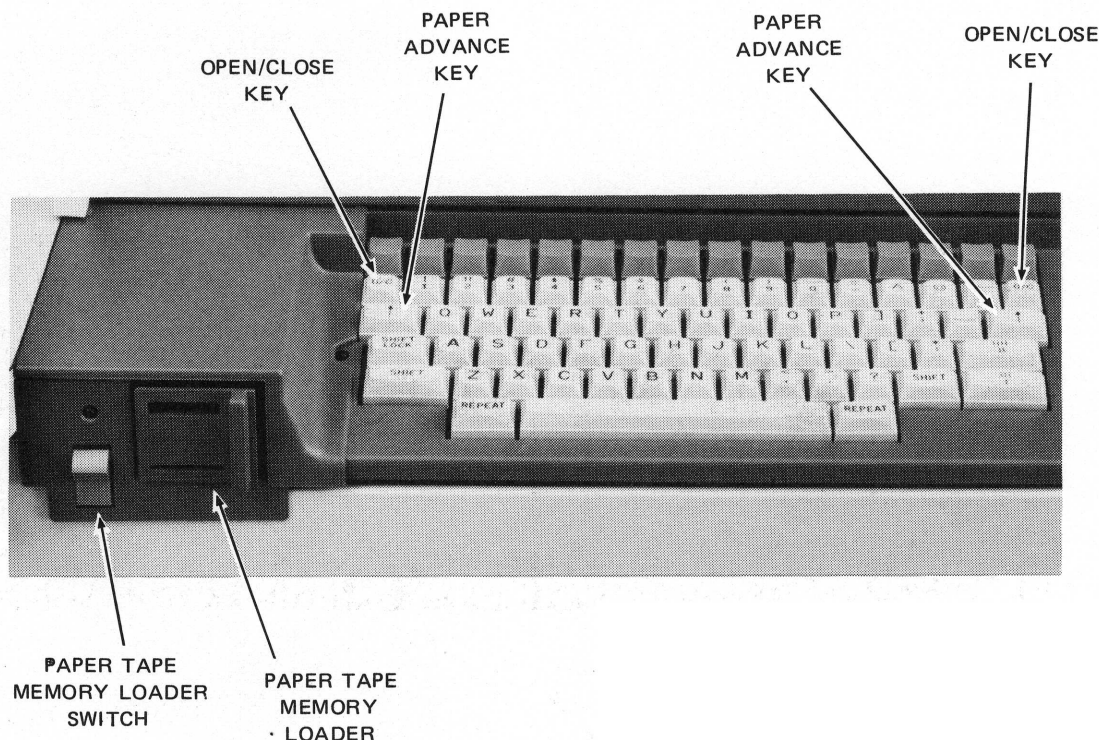
FORMS HANDLER

PLATEN AND PLATEN KNOBS

The Platen is the black rubber roller on which forms and/or plain paper are placed for typing or printing. There is a Platen Knob located at each end of the Platen. These knobs let you turn the Platen in order to put paper into the machine or change the position of the page. By holding in the large button in the center of the Platen knob you can change the position of the typing line. This aids you when reinserting a page for corrections or additions. Most of the time the Platen will be spaced automatically by the machine. Some of the machines have a Platen which can be split into two parts: a left-hand side and a right-hand side. This feature is used when two forms are inserted in the machine and allows you to space either form without moving the other. (See page 3-3 for use of the Paper Advance key.)

PLATEN COUPLER LEVER

If the machine is equipped with a two-part platen, it will have a Platen Coupler Lever which is located on the right side of the platen. It allows you to split the platen when using two forms. Holding the button down and turning the right platen knob toward the front of the machine will separate the platen into two parts. When the platen is separated, the right platen knob will turn the right side of the platen and the left platen knob will turn the left side of the platen. Holding the button down and turning the right platen knob toward the back of the machine will lock (or couple) the two parts of the platen together.

PRESSURE ROLL CONTROL LEVER

The Pressure Roll Control Lever is located at the right end of the platen. It is used to manually open or close the lower pressure rolls and keep them in that position. The lower pressure rolls are located at the bottom of the platen. When closed (lever toward rear of machine), they hold the forms and journal paper against the platen. If the lever is in the forward position (toward the front of the machine), the pressure rolls will be open at all times. The lever should be in the forward position when using the continuous forms holder. When the lever is to the rear, it allows the pressure rolls to open and close during all operations. It should be in this position while using roll journal paper.

TOP PRESSURE ROLL HOUSING

The Top Pressure Roll Housing is located across the top of the platen. It can be tilted backward to permit easy loading of paper. When the housing is tilted backward, the small rollers can be seen underneath the housing. These rollers may be adjusted for wide or narrow paper by sliding them over the paper. A paper tear off blade is located on the lower rear edge of the housing. It is used to tear off continuous journals.

Both Rear Feed and Front Feed Forms Handler, but not needed for continuous forms handling.
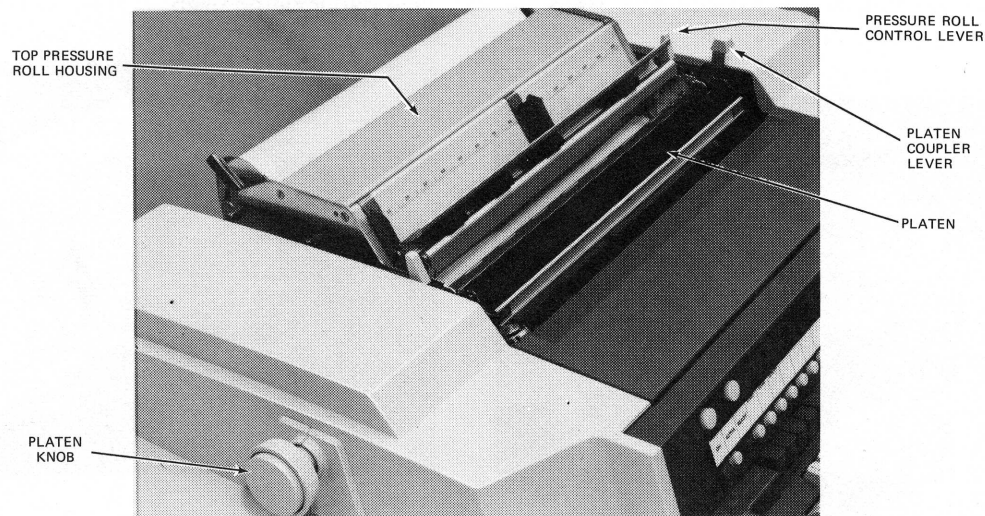
CONTINUOUS FORMS HOLDER

A removable Continuous Forms Holder is located on top of the forms and paper handler. It is directly above the platen. Depending on which holder the machine is equipped with, one or two continuous forms of different widths may be attached to the pin wheels. When locked in place, the Continuous Forms Holder will space the forms as needed for a particular job or operation.

For instructions on loading these forms, refer to page 5-1.

There is a small handle set into the right side of the Continuous Forms Holder near the top. Push in and turn toward the back of the machine to smooth out the paper.
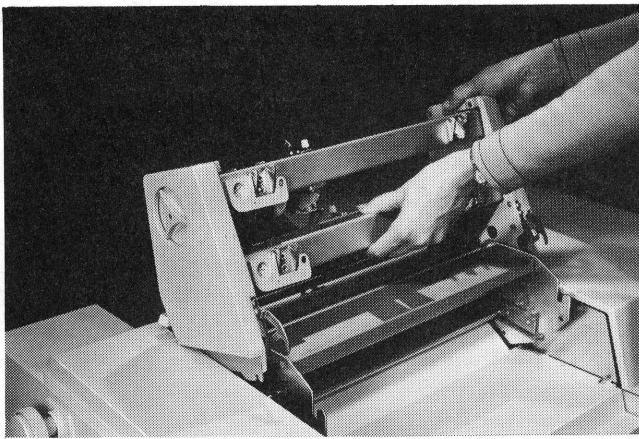
FORMS RACKS

Attached to the rear of the machine are two Forms Racks. They guide continuous forms into the machine for printing and out of the machine after they have been printed.

(See page 5-4 on "How to Attach and Remove Forms Racks.")

FORMS BAIL AND LEVER
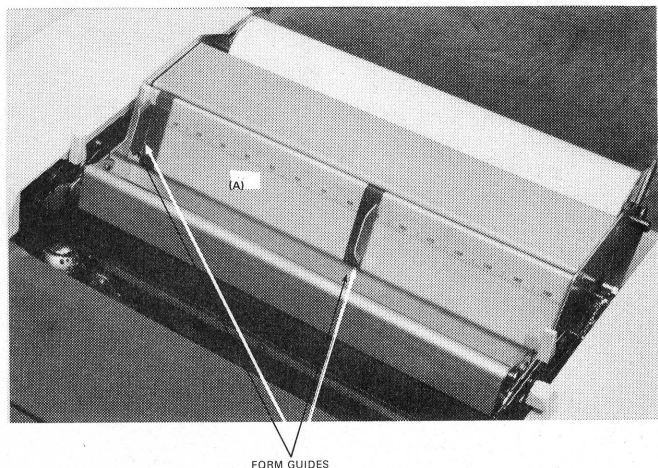
REAR FEED FORMS HANDLER

The Bail Lever, located at the left end of the platen, controls the Forms Bail which is located in front of the platen. When the bail is in the closed position, it holds the forms or journal paper against the platen. (The forms bail may be removed when using continuous forms.) The bail will open when the lower pressure rolls open. (See page 3-3, Open and Close key.) When the lower pressure rolls are closed, and the bail is open, pushing the Bail Lever to the rear will close the forms bail. If the lever is not depressed, the bail will close automatically after ten line spacings of the paper.

BAIL
LEVER
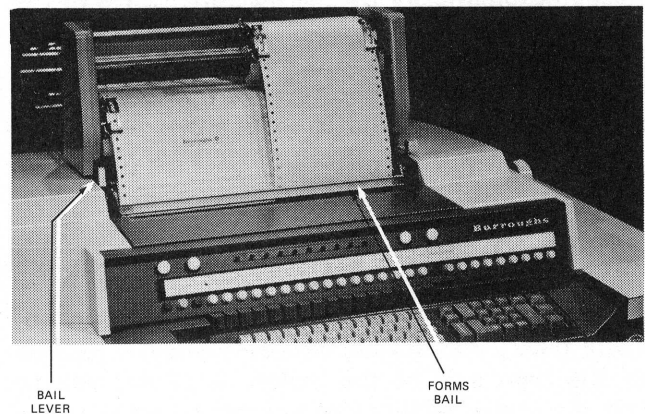
FORMS
BAIL

FORM GUIDES

REAR FEED FORMS HANDLER

Rear Guides — Snap onto the slanted plate with the ruled markings (A) located behind the top pressure roll housing. They guide the paper into the machine and around the bottom of the platen. These guides are movable so they can be set to the size paper being used.

(A)

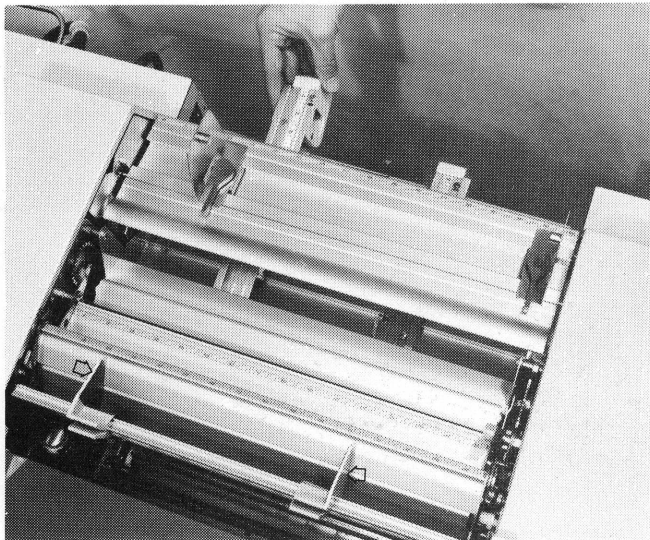FORM GUIDES

ROLL PAPER HOLDER

REAR FEED FORMS HANDLER

The Roll Paper Holder is located at the rear of the machine. It is used to hold a roll of journal paper. It consists of a metal shaft and adjustable guides. These guides can be adjusted to accept either one or more rolls of paper of any width that will fit the platen size of your machine.
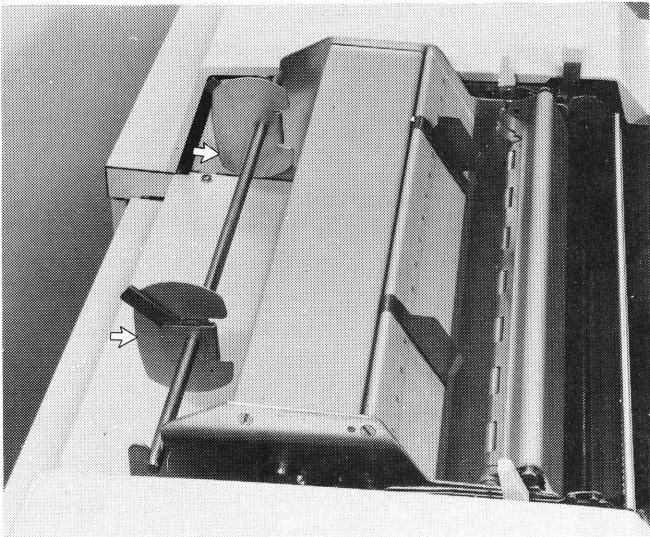

FORM GUIDES

FRONT FEED FORMS HANDLER

Front Guides — Clip onto the machine above the platen area to guide the left and right edges of front-inserted forms (ledgers or paper). The guides are movable so they can be set to the size paper being used.


Rear Guides — Attached behind the platen and below the hinged cover these guides direct the movement of front-inserted forms around the platen. The guides are movable so they can be set to the size paper being used. These guides also limit the downward movement of the form by means of an adjustable scale depending upon the depth of the form being used. (Except for the Magnetic Record models which have a fixed form depth and are adjustable to five specific form widths.)
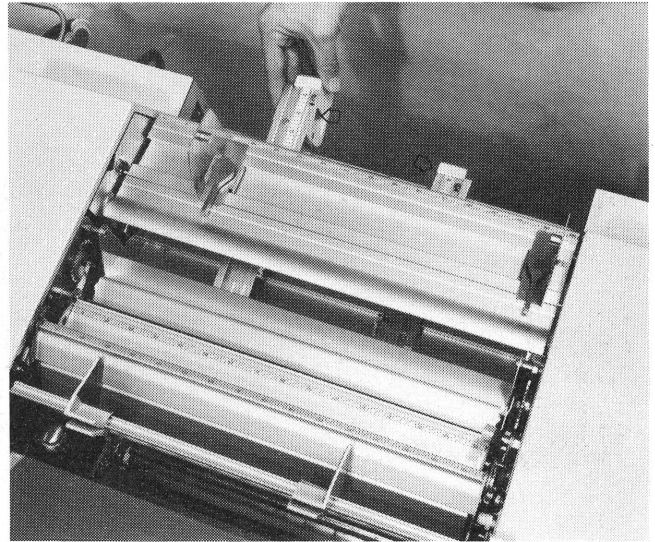
ROLL PAPER HOLDER

FRONT FEED FORMS HANDLER

The Roll Paper Holder is located at the rear of the machine. It is used to hold a roll of journal paper. It consists of two adjustable guides each with a stub to support the roll of paper. These guides can be adjusted to accept a roll of paper of any width that will fit the platen size of your machine. Two pair of guides can be used if two rolls of paper are desired.
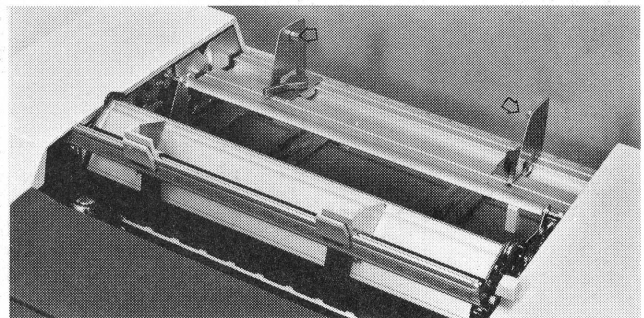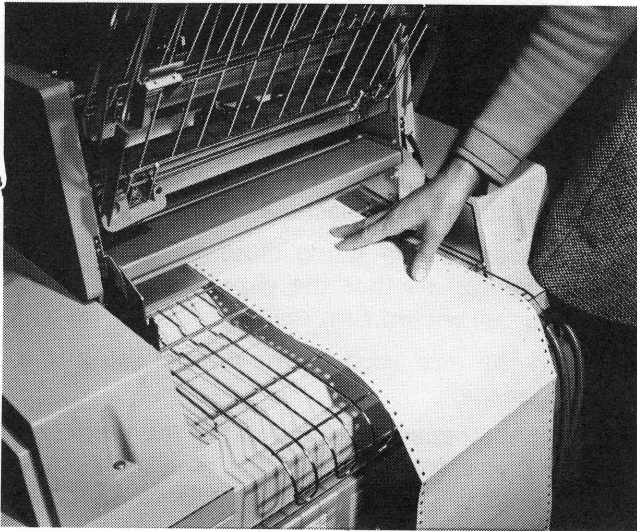
"HOW TO"

HOW TO LOAD PAPER

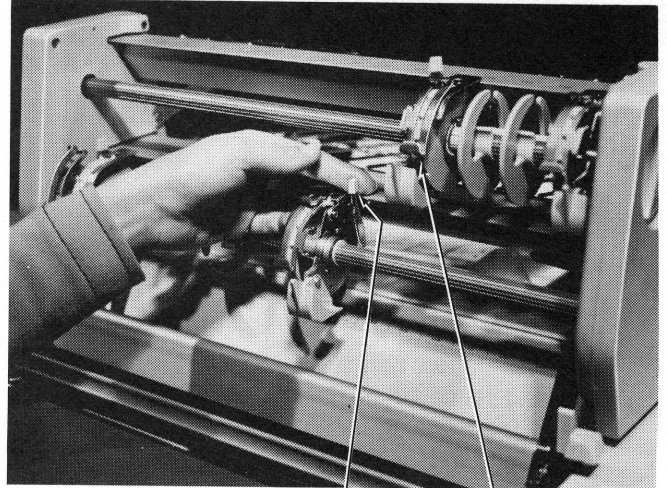Turn on the machine as outlined on page 1-1.

Open the lower pressure rolls, if closed, by pressing the Open/Close key on the typewriter keyboard.

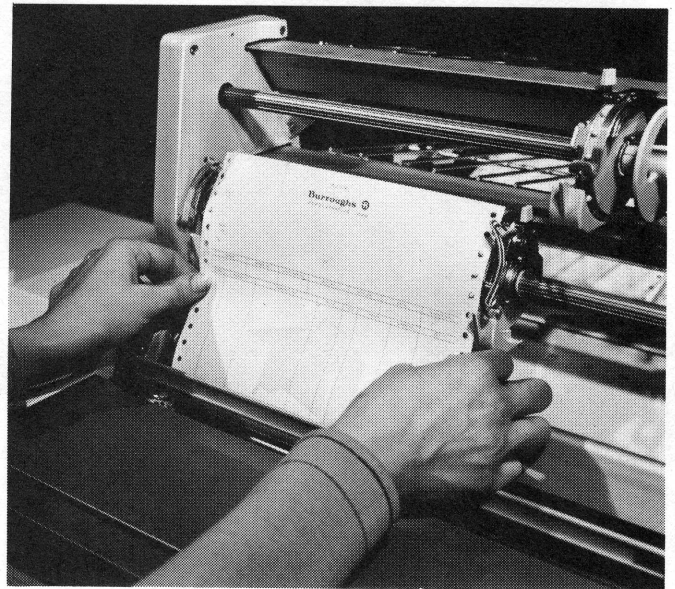### Loading Left Platen with Continuous Forms Paper

1. Place the supply of forms at the rear of the machine with the top of box open.

2. Fold the leading edge of the paper into a "V" shape.

3. Place the continuous form face down on the lower forms rack at the rear of the machine.

4. Push the form forward under the platen until the leading edge is at least ½ inch in front of the platen. It may be necessary to turn the left platen knob to move the form forward.

LOCK RELEASE LEVER   PAPER GUIDE

6. Open the guides on each lower pin wheel. Pull the form around the front of the platen and behind the forms bail. Then place the form on the pin wheels. Close the guides. Re-position the wheel if needed.

5. Each pin wheel has a guide which can be opened so paper can be placed on a wheel. At the side of each wheel is a lever which releases a lock. This allows the re-positioning of the wheel to adjust to the size of the paper.

7. Close the lower pressure rolls by pressing the O/C key.

8. Turn the left platen knob to move the paper to the first print line.

Loading Right Platen with Continuous Forms Paper

1. Procedure is the same as for the left side, except that the upper pin wheels on the continuous forms holder are used. The right platen knob turns these wheels.

HOW TO LOAD ROLL JOURNAL PAPER

FRONT FEED FORMS HANDLER

1. Remove all paper from the machine.

2. Remove holder shaft from machine.

3. Unlock one adjustable guide by moving locking lever to horizontal position. Remove guide from shaft.

4. Place journal roll on shaft so that it unwinds from the bottom of the roll when the paper is pulled toward the machine.

5. Place adjustable guide on the shaft close to the end of journal roll so that the paper locks in place. Paper roll should turn easily on shaft.
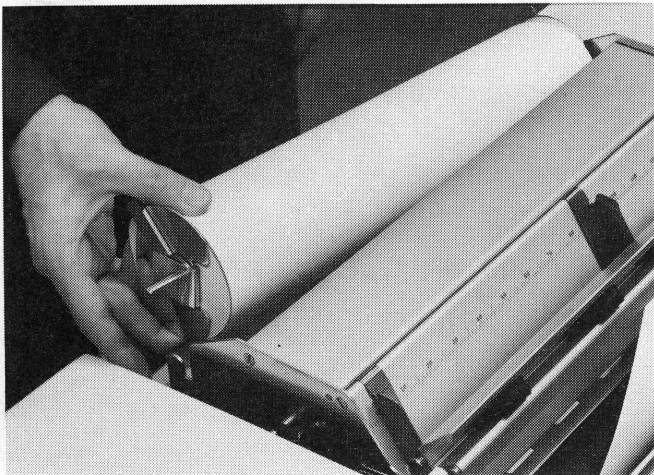
6. Return holder shaft to its place on the machine. Be sure flat side of shaft faces front of machine.

7. Fold the lead edge of the journal roll into a "V" shape.

8. Push the paper forward under the platen on the lower form rack at the rear of the machine until the lead edge is at least ½ inch in front of the platen.

9. Tilt top pressure roll housing to the rear. Pull journal paper forward and push lead edge back over top of platen and under roll housing. Adjust rollers in housing if necessary. (See page 4-1.) Return housing to its original position.

10. Pull paper through so that it will exit over rear from guides.

11. Close the lower pressure rolls with the O/C key.

12. If the journal paper covers the split in the platen make sure the platen is coupled (not split). (See page 4-1.)

Rear Feed Forms Handler Only.

HOW TO LOAD ROLL JOURNAL PAPER

FRONT FEED FORMS HANDLER

1. Remove all paper from the machine.

2. Unlock one adjustable guide by moving locking lever. Separate guides far enough to admit journal roll.
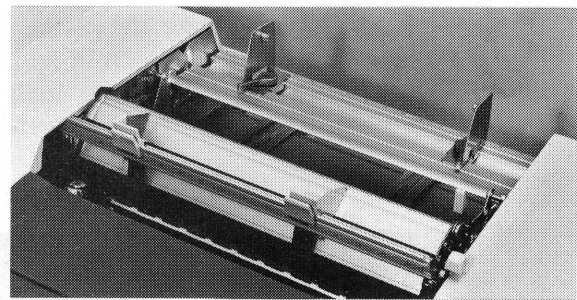

3. Place journal roll on stubs located on inside surface of guides. Paper should unwind from the bottom of the roll when the paper is pulled toward the machine.

4. Move adjustable guide close to the end of journal roll so that the paper locks in place. Paper roll should turn easily.

5. Fold the lead edge of the journal roll into a "V" shape.

6. Push the paper forwadrd under the platen on the lower form rack at the rear of the machine until the lead edge is at least ½ inch in front of the platen.

7. Tilt top pressure roll housing to the rear. Pull journal paper forward and push lead edge back over top of platen and under roll housing. Adjust rollers in housing if necessary. (See page 4-1.) Return housing to its original position.

8. Pull paper through so that it will exit over rear form guides.

9. Close the lower pressure rolls with the O/C key.

10. If the journal paper covers the split in the platen make sure the platen is coupled (not split). (See page 4-1.)

Front Feed Forms Handler Only.

HOW TO CHANGE PRINTER RIBBON

1. When it becomes necessary to change a worn-out ribbon, it should be done before a job is started. With the machine turned on and in the Ready Mode (see page 1-1) depress PK 1.

2. The print ball should move away from the left end and stop in about the middle of the print area. If the print ball does not move, you should choose another PK or OCK operation which you know from experience will move the ball to a printing position.

3. Depress the O/C key to close the lower pressure rolls.

4. Raise the hinged cover which is above the ribbon and printer area.

5. There is a ribbon-raising lever in front of the ribbon cartridge (toward the front of the machine). Press the lever down and away from you until it snaps in place. This will raise the ribbon guides.
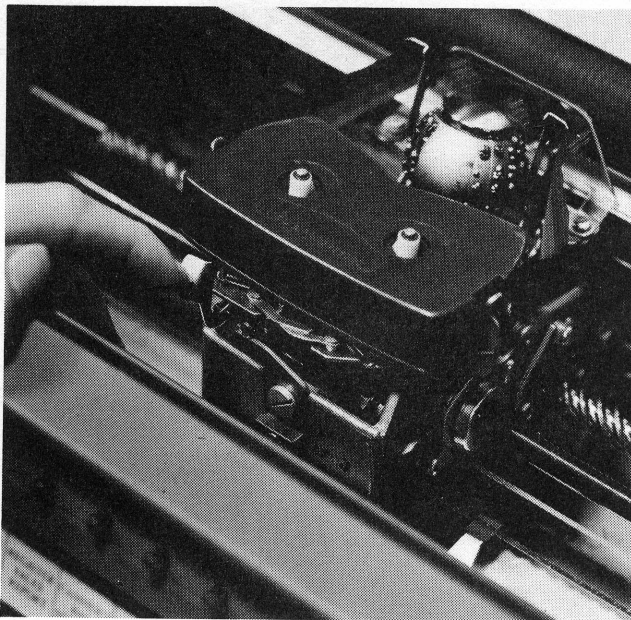

6. Remove the old ribbon from the raised guides.

7. Lift up the ribbon cartridge to remove it from the carrier. It will snap free. Discard the entire cartridge.

8. Holding the new ribbon cartridge in one hand, pull the ribbon out to form a half-loop about 2 inches from the cartridge.

9. With the exposed ribbon facing the printer ball, place the cartridge over the spindles of the carrier and snap into place. Make sure the red portion of the ribbon is on the bottom.

10. Now thread the half-loop of ribbon into the slots of the raised guides.

11. Reset the ribbon guide lever by pulling the lever upward and towards you.

12. Lower the hinged cover. Any loose ribbon will be taken up when printing starts.

13. Depress the ready button to return to the Ready Mode.

HOW TO LOAD A PUNCHED PAPER TAPE PROGRAM

1. If the machine is not turned on, depress the On button to bring the machine to Ready Mode. See page 1-1 for instructions.

2. Locate the paper tape memory loader at the left end of the typewriter keyboard. Its cartridge can be removed by pulling it straight out.

3. The beginning of the tape is usually "V" shaped. Hold the tape so the straight row of tiny holes is toward your right side and feed the tape into the lower slot of the cartridge.

4. Push the tape forward until the end touches the sprocket drive.

5. Turn the drive wheel, which moves the sprocket, counter-clockwise until the tape threads over the sprocket drive and just comes out of the upper slot of the cartridge.

6. Put cartridge back into the machine.
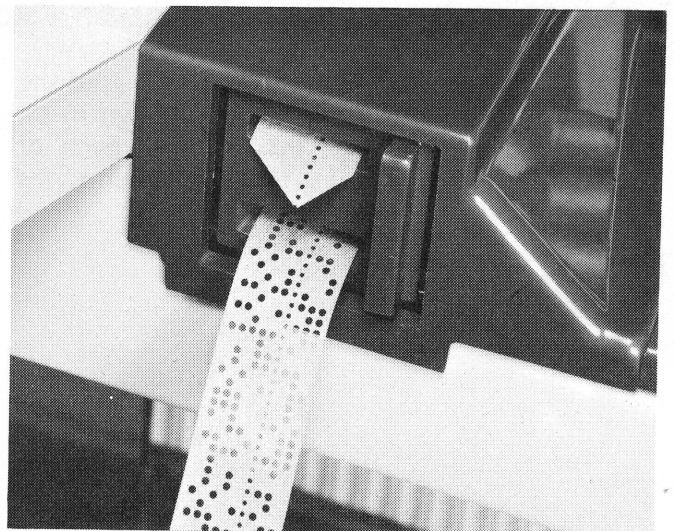
7. Depress PK 2 (Load Key).

8. Depress the top end of the paper tape memory loader switch on the typewriter keyboard. This will turn the memory loader on.

9. After all the tape has been loaded, depress the lower end of the switch to turn the reader off.
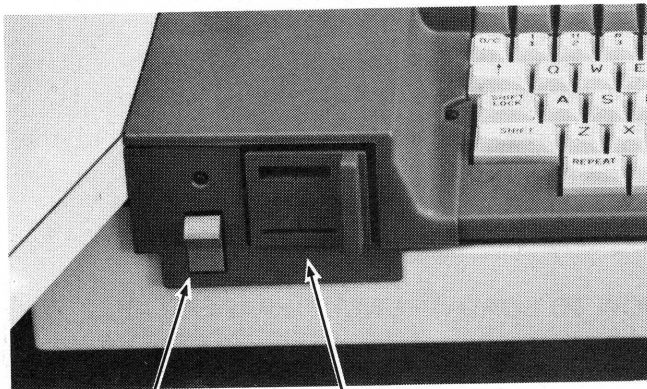
MEMORY
LOAD
SWITCH

MEMORY
LOADER

10. Pull the cartridge out a few inches. Slowly pull the remainder of the tape from the top slot. Push cartridge back in.

11. The machine should have returned to Ready Mode. If not depress the Reset key.

CAUTION: Make sure the paper tape feeds in properly and does not get tangled. If it does, depress the lower end of the paper tape memory loader switch to turn the memory loader off. If you move the paper tape or remove the cartridge, you will have to return to step 1 to start the loading procedure over again.

HOW TO ATTACH AND REMOVE FORMS RACKS

The lower forms rack is attached to the rear of the machine. Behind the platen there are two metal brackets on each side of the machine. Each of these brackets has a slot which the lower forms rack slides onto.

To Attach:

1. On one end of the forms rack there are two metal bars that are longer than the others. Position the lower forms rack so that the longer metal bars are facing the machine. Then place the metal cross bar in the slots of the metal brackets.

2. Slide the rack toward the front of the machine until the second cross bar locks into the metal brackets.

3. Make sure the rack is locked into place. The rack is now ready to use.
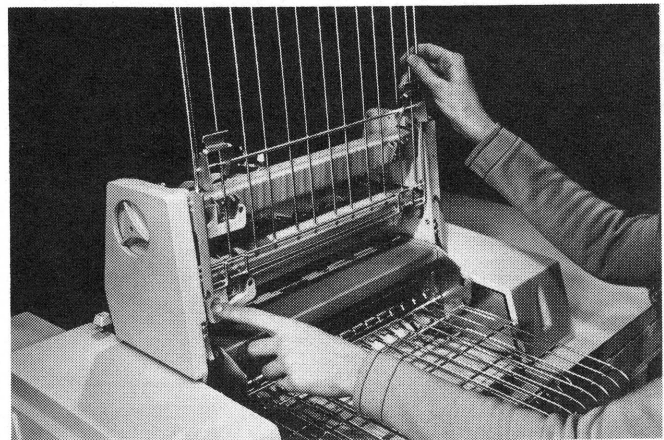
To Remove:

1. Remove all paper from machine.

2. Raise rear of forms rack until the ends of the second crossbar are free of the guides.

3. Pull rack toward you. It should come off.

HOW TO INTERRUPT THE PROGRAM

The Program Interrupt Button is a push-button located inside the left panel of the knee well. Depressing the button will cause the machine to go to the Ready Mode which is described on page 1-1. It should be used only when the ready button will not return the machine to the Ready Mode.
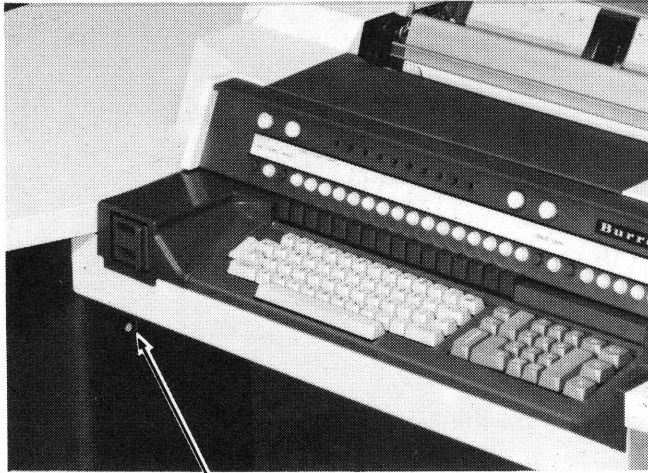
The switch should be on at all times. It should be turned off ONLY by the engineer servicing the machine or in the case of fire, flood or other like emergency.

If the Emergency Line Switch is turned off, the automatic function called "Memory Save" will not be performed as would normally occur during loss of power.
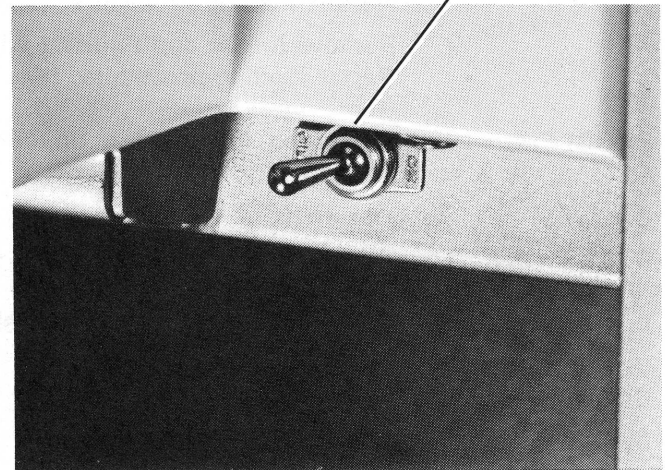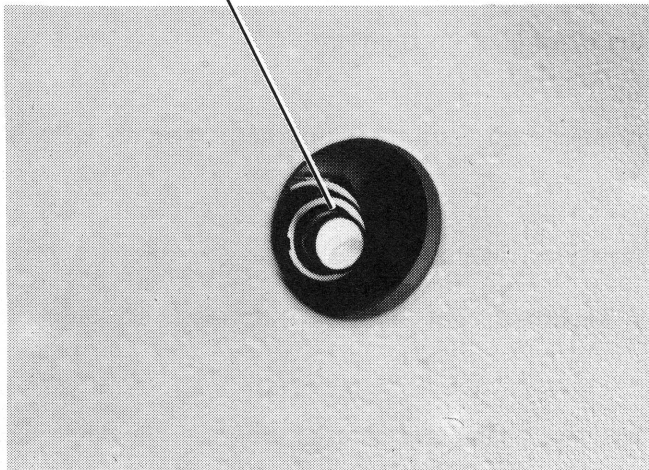
HOW TO TURN OFF ALL POWER

The Emergency Line Switch is an on/off switch located under the right end of the keyboard near the top of the right front leg. When this switch is in the Off position, the machine will not receive any power. When it is in the On position, the machine is receiving power and may be started.

HOW TO CORRECT ERRORS AND PROBLEMS

PROBLEM: The machine will not turn on.

CAUSE: The machine may be unplugged.

SOLUTION:
1.) Check to see if cord is plugged into outlet.

2.) Call the Burroughs field engineer.

PROBLEM: Machine is on but will not operate.

CAUSE: Terminal motor is turned off.

SOLUTION: Depress "Terminal Motor ON" button. (See page 1-3.)
Applies only to TC 3500.

PROBLEM: Machine is on but will not operate.

CAUSE: The form aligning table (or bail) has been left in open position.

SOLUTION: Pull form aligning table (or bail) forward to close.
Applies only to Front Feed Forms Handler.

PROBLEM: The paper tape program will not load.

CAUSE:
1.) The paper tape is not inserted properly in the loader.

2.) The tape loader is not inserted properly in machine.

SOLUTION:
1.) Remove loader and check paper tape. (See page 5-3.)
Restart loading procedure. (See page 5-4, item #7)

2.) Remove loader and re-insert with the drive gear on the right.
Restar loading procedure. (See page 5-4, item #7)

PROBLEM: Entered wrong information on numeric keyboard, but have not depressed an OCK to complete operation.

CAUSE: Operator error.

SOLUTION: Touch Reset key and enter correct information. (See page 2-2.)

PROBLEM: Entered wrong information on alpha keyboard, but have not dpressed an OCK to complete operation.

CAUSE: Operator error.

SOLUTION:
1.) To correct the last character or last few characters entered, depress the Backspace key the appropriate number of times (See page 3-2). To avoid overprinting the previous information depress the Paper Advance key (See page 3-3). Resume entering information.

2.) To delete the entire line depress the Reset key (See page 2-2). To avoid overprinting the previous information depress the Paper Advance Key (See page 3-3). Begin again to enter information.

PROBLEM: Red Error light comes on and bell rings.

CAUSE:
1.) You have entered data on the wrong keyboard.

2.) You have depressed a PK whose light was not on.

3.) You have entered too many characters or numbers.

4.) You have depressed a key which should not be used at this time, such as M, C, RE or decimal.

SOLUTION: Depress the Reset key (see page 2-2) and resume operation.

HOW TO CORRECT ERRORS AND PROBLEMS

PROBLEM: Wrong OCK depressed or proper OCK depressed following entry of wrong information on keyboard.

CAUSE: Operator error.

SOLUTION: Follow error correction procedure established for your installation which should remove the incorrect information and return the operation to a point from which you can continue.

PROBLEM: Wrong PK depressed.

CAUSE: Operator error.

SOLUTION: Follow error correction procedure established for your installation which should remove the incorrect information and return the operation to a point from which you can continue.

PROBLEM: Keyboard locked up.

CAUSE: An incorrect key was depressed.

SOLUTION: Depress Reset key. (See page 2-2.)

PROBLEM: Unable to load roll journal or continuous forms paper into machine.

CAUSE:
1.) Lower pressure rolls are closed.
2.) Paper catches on lower pressure roll supports.

SOLUTION:
1.) Depress O/C key to open lower pressure rolls. (See page 3-3.)
2.) Fold leading edge of paper into "V" shape and re-insert in machine. (See page 5-2.)

PROBLEM: Separate roll journal forms in machine do not move independently.

CAUSE: Platen not split.

SOLUTION: See page 4-1 for use of Platen Coupler lever.

PROBLEM: Continuous forms paper on right side does not advance properly.

CAUSE: Platen not split.

SOLUTION: See page 4-1 for use of Platen Coupler lever.

PROBLEM: Paper on continuous forms holder not spacing properly.

CAUSE: Pressure roll control lever in rearward position.

SOLUTION: Check Pressure Roll control lever (see page 4-1) and set lever in forward position.

TAPE CASSETTE

THE TAPE CASSETTE

The Tape Cassette looks like, and is used much the same as, the tape cassette on a home stereo. It consists of magnetic tape which is passed from one spindle (or reel) to another within a plastic case during a given job or operation. While so moving, the tape travels through an open area at the bottom of the cassette. At this time the tape touches a special part of the drive unit called the "Read/Write" Head. During this contact information is recorded (written) on the tape, or information is received (read) from the tape.


The ability to write (record) on the tape is controlled by a movable red tab located on the top edge of the cassette. Though there are two red tabs we are concerned only with the one on your left as you look at side A of the cassette. Writing on the tape is permitted when the tab is turned outward (or toward the left edge), covering the hole in the top edge of the cassette. The tab is hinged and may be flipped inward (or toward the right) to expose the hole in the top edge of the cassette and thereby prevent recording on the tape. Information may now be read from the tape but nothing may be written on the tape.

The reason for placing a tape cassette in a 'read only' condition instead of in a 'write' condition is to safeguard information such as operating programs or master file information (names and addresses of customers, etc.). When a tape cassette is in a 'write' condition, it may be used as an output tape — one on which new or updated information is written. When changing customer file information on the master file mentioned above, for example, the machine would read each record in from one cassette and make required changes in the appropriate records and rewrite onto a second cassette, thus creating a new master file.

CASSETTE COMMUNICATION LIGHTS

There are two red lights on the upper right corner of the front of the Cassette Drive Unit. The light on the left with an "R" below it is called the Ready Light. The one on the right with a "WS" below it is the Write Sync Light.
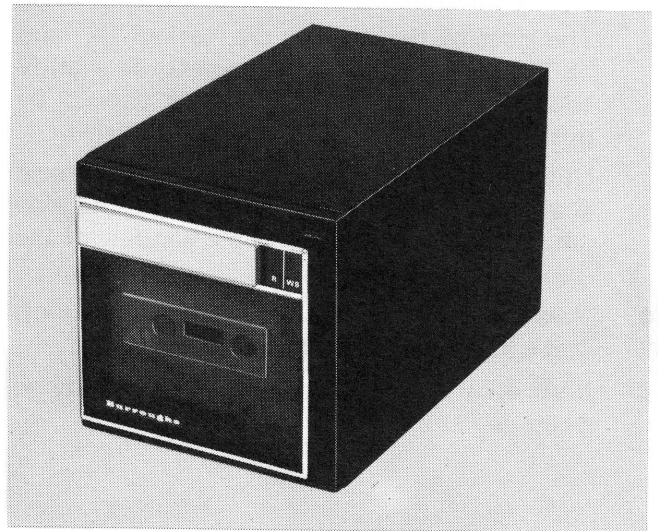
Ready Light ("R")

After putting a cassette in the drive unit and starting the operation, the ready light will do one of the following:

— — **The Light Will Come On.** This indicates that the cassette is ready to have information read from it and/or have information written on it.

— — **The Light Will Not Come On.** This suggests the drive unit cannot move the clear portion of the cassette tape from the read/write heads. Open the door and remove the cassette. With a pencil or your finger tip turn the right drive mechanism (or, the empty reel of the cassette) in a counterclockwise direction until the dark portion of the tape covers the open area on the bottom edge of the cassette. Return the cassette to the drive unit.

– – **The Light Will Start Flashing.** This means either the tape is in backwards or the drive is trying to read a tape with nothing written on it. Check the tape for the above conditions and correct. The flashing should stop. If not, call the Burroughs Field Engineering Department.

Write Sync Light ("WS")

When this light is on, it means that the tape is ready to receive information. If the light is off, information and data cannot be written on the tape. Writing on the tape is controlled by the red tabs on top of the cassette. For their description refer to page 1.

HOW TO LOAD CASSETTE TAPE DRIVE

1. Depress the long bar across the top on the front of the tape drive to open door. Cassette area is now visible.

2. The sides of the cassette are marked "A" and "B". The bottom of the cassette is slightly wider than the top. This edge should be positioned downward in the cassette drive.

3. Unless otherwise noted, hold the cassette so that when it is in the tape drive the side labeled "A" will appear in the window of the door.

4. Now slide the cassette into the open door. Make sure it is pushed all the way in.

5. Push door shut firmly. Drive is now ready to operate.
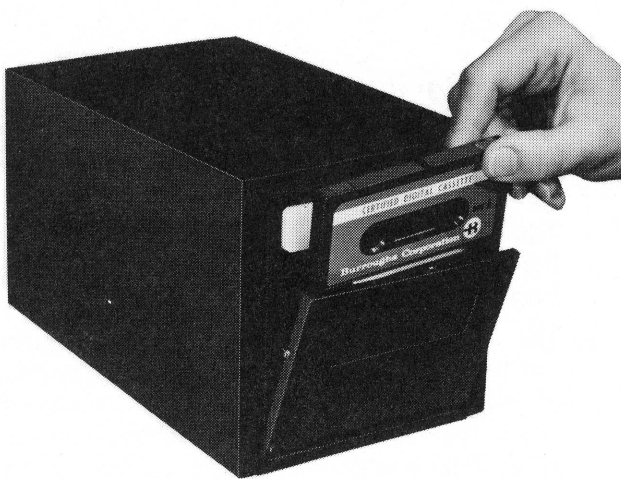
HOW TO CLEAN DRIVE READ/WRITE HEADS

1. Depress the long bar across the top on the front of the tape drive to open the door. If a cassette is in the drive, remove it. The read/write heads are located at the bottom in the center of the drive.

2. Using Burroughs TP35 cleaner on a cotton swab, wipe the heads thoroughly.

3. Then dry the heads by using a clean dry swab to wipe them after cleaner is applied.
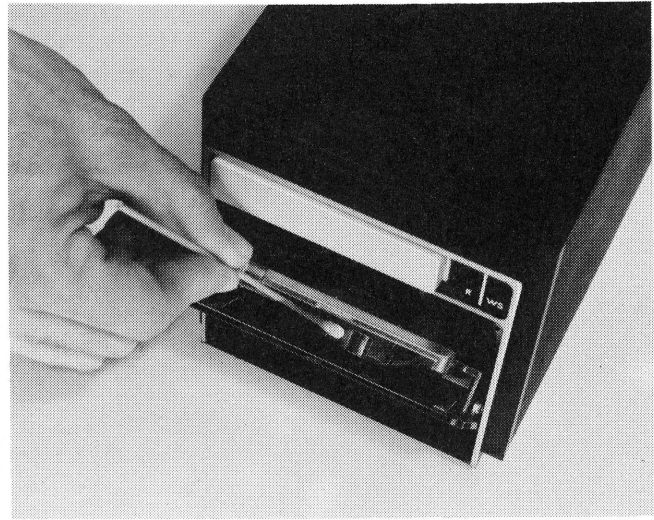
CAUTION: The tape drive doors should be closed at all times to keep dust and lint from getting the heads dirty.

FREQUENCY: The Tape Cassette Read/Write heads should be cleaned at least daily. The Burroughs service personnel may, however, specify that cleaning should be done more frequently due to unit use and environment.

HOW TO CORRECT ERRORS AND PROBLEMS

PROBLEM: The program will not load.

CAUSE: 1.)   The tape cassette may not be in properly.

2.)   You did not depress PK 1.

SOLUTION: 1.)   Remove tape cassette and re-insert.

2.)   Depress PK 1 (Start – see page 1-2, Program Keys and Lights).