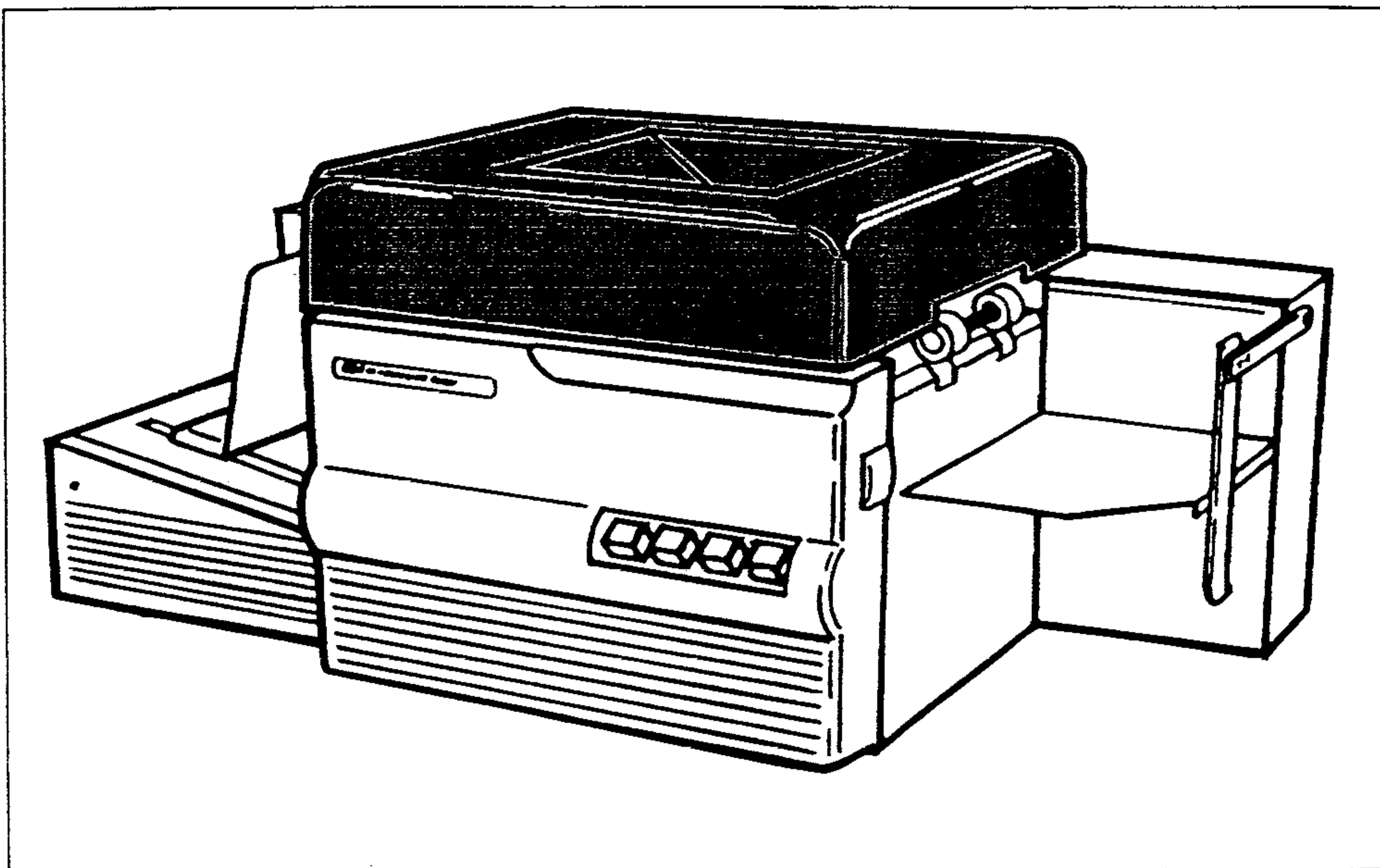


# *AP-1 Automatic Punch*

## OPERATOR MANUAL (115V)



**FOR YOUR PROTECTION, DO NOT CONNECT THE AP-1 AUTOMATIC PUNCH TO ELECTRICAL POWER OR ATTEMPT TO OPERATE IT UNTIL YOU READ THESE INSTRUCTIONS COMPLETELY, AND HAVE BEEN FULLY TRAINED ON ITS OPERATION. KEEP THESE INSTRUCTIONS IN A CONVENIENT LOCATION FOR FUTURE REFERENCE.**

## INTRODUCTION 4.1

Congratulations on your new AP-1 purchase! You have acquired the only automatic punch in the world designed specifically for print shops and electronic duplicating environments. The AP-1 has been designed for high-volume punching of 8½" x 11" sheets printed on an electronic laser/xerographic printer, photocopier, or offset press. Its simple design and controls make it easy for

anyone to set up and operate with minimal training.

The standard die-set included with the AP-1 punches a rectangular 19-hole pattern for documents to be plastic bound. However, GBC also offers optional die-sets to punch hole patterns for VeloBind, 3-hole and other mechanical binding styles. Ask your GBC sales representative for details.

## SAFETY MESSAGES 4.2

Your safety as well as the safety of others is important to GBC. In this Operator Manual and on the AP-1 itself are important safety messages. Read these messages carefully.

The safety alert symbol precedes each safety message in this Operator Manual. This symbol indicates a potential personal safety hazard that could hurt you or others, as well as cause product or property damage.



The following pictorial is found on the AP-1:



This safety message means there is a moving part that could hurt you. Exercise caution when your hand is near the moving part.

### FOR YOUR SAFETY:

- Do not connect the AP-1 to electrical power or attempt to operate it before you read this Operator Manual and have been fully trained to operate it.
- Save this Operator Manual for later use.
- Keep hands, long hair, neck ties, necklaces and other loose articles away from moving parts.
- NEVER override or attempt to defeat electrical or mechanical interlock devices.
- Do not place the AP-1 on an unstable stand, cart, or surface. The product may fall and hurt you. If you use the GBC AP-1 stand or a cart, move the product and stand carefully. Quick stops, rough or uneven surfaces, and excessive force may cause the product and stand to overturn and hurt you.
- Do not insert objects or spill liquids into the AP-1. They may contact dangerous voltage or short out components that may result in fire or electric shock.
- Only connect the AP-1 to the electrical supply shown in the machine specification section of this Operator Manual and the serial/rating label located on the equipment. Connect to a socket-outlet installed near the product that is easily accessible.
- Do not alter the plug on the end of the cord set provided with the AP-1. It was selected for your safety.

Connect the plug only to a matching receptacle. If you do not have such a receptacle, contact a qualified electrician to have one installed.

- Turn the AP-1 power "Off" at the end of the day.
- Unplug the AP-1 before moving it or when it will not be in use for an extended period of time.
- Do not attempt to service the AP-1. Contact an authorized GBC service representative if any of the conditions listed below are encountered:
  - Damaged plug or frayed power cord.
  - If liquid has been spilled into the product
  - If the product has been exposed to rain or water
  - If the product has been dropped, bumped or dented
  - If the product does not operate normally when following the operating instructions

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operator manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**CAUTION:** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY GENERAL BINDING CORPORATION COULD VOID YOUR AUTHORITY TO OPERATE THE EQUIPMENT.



This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruit radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

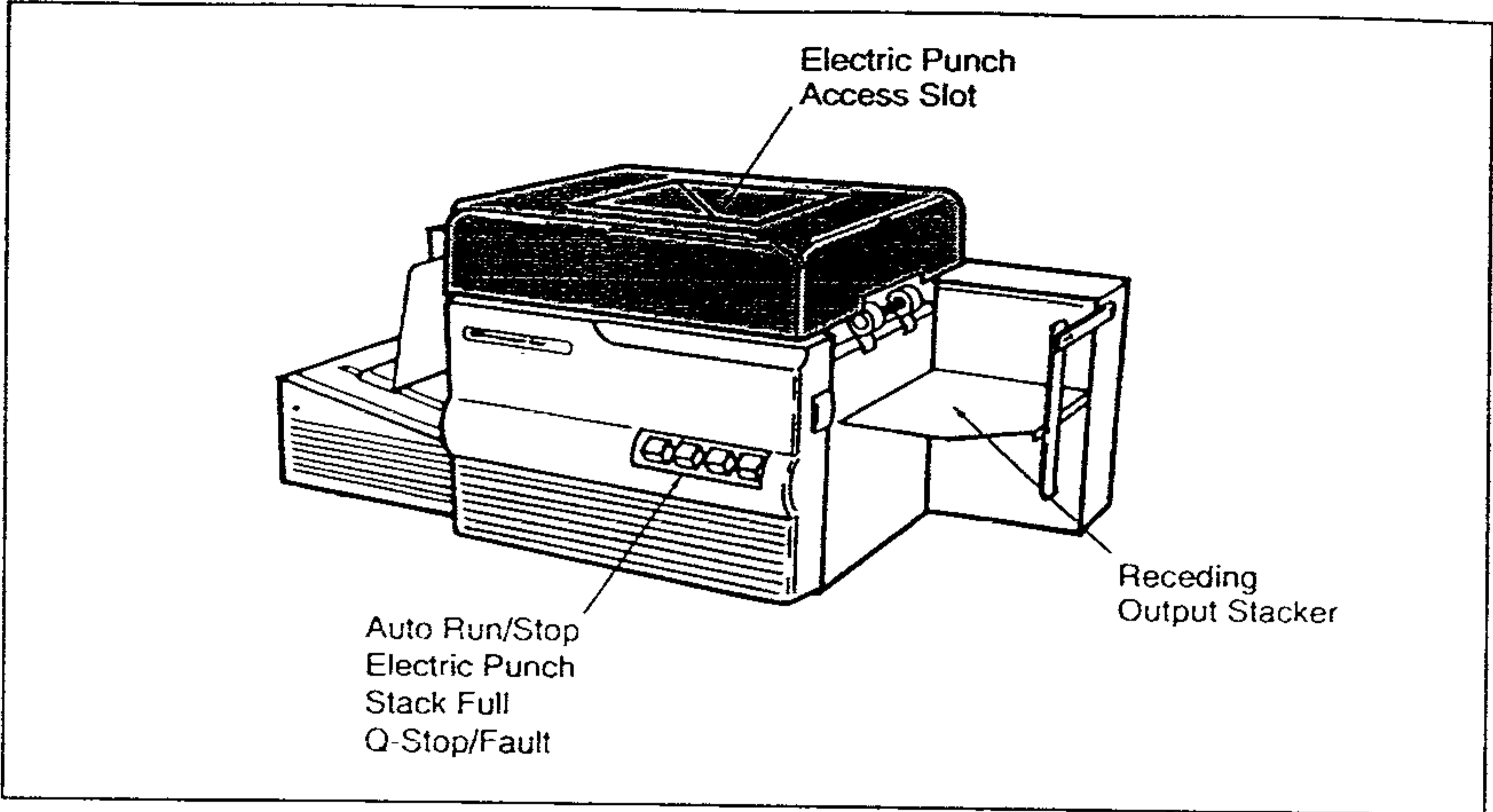


Figure 3

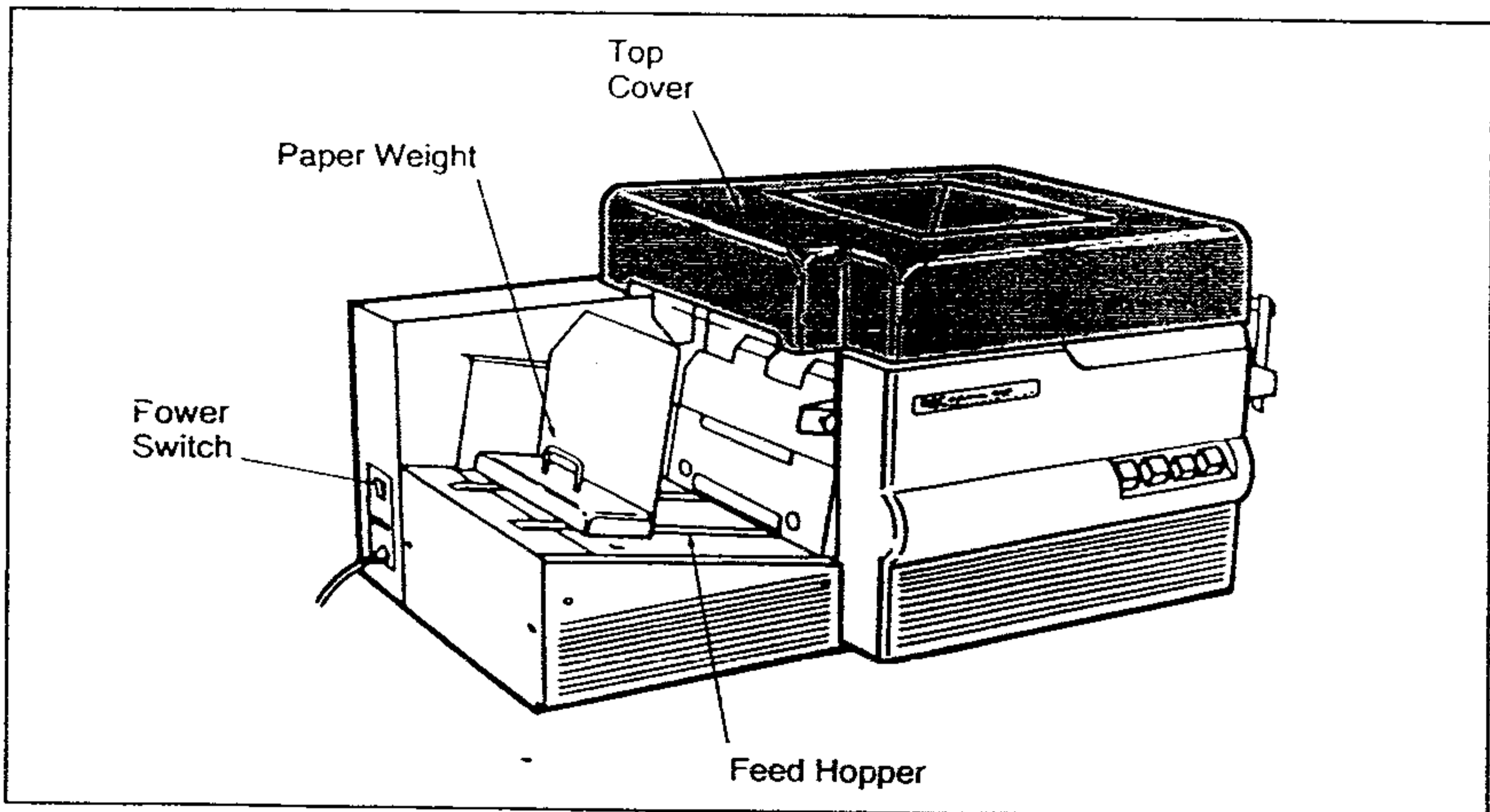


Figure 4

# LEARNING ABOUT YOUR AP-1 4.3

## FEATURES & CONTROLS

(Refer to Figures 3 & 4)

### Feed Hopper

Holds up to 2,500 sheets of 20 lb. bond paper or equivalent. Allows continuous loading as AP-1 punches. Accepts flush-cut covers collated together with 8½" x 11" sheets.

### Receding Output Stacker

Collects punched sheets ejected from punch die, maintaining collated order. It accepts the full amount of paper loaded into the Feed Hopper, as it automatically lowers while sheets are ejected into it. The AP-1 automatically shuts off when the Output Stacker is full. You can unload sheets continuously as the AP-1 punches, or you can let the Output Stacker fill up and then shut off.

### Top Plastic Cover

The cover must be lowered to operate the AP-1. A safety switch prevents the AP-1 from operating when the cover is raised. When you raise the cover to make an adjustment or remove paper push it back completely until it is engaged by the latch that holds it open.

### Power Switch

Turns electrical power on and off. A red indicator located by the punch die lights up when power is on. This indicator will not light up, however, if paper is in the punch die at the time.

### Auto Run/Stop Switch

Press to start or stop automatic feeding and punching of paper. When you press it to stop the AP-1 will stop punching immediately, but the rollers will continue rotating for approximately another 10 seconds and then stop.

### Electric Punch Switch

Press to punch items inserted through the Electric Punch Access Slot that cannot be punched automatically. These include such things as index tabs, glossy coated papers, laminated covers and odd sheet sizes.

Press the switch once to start the motor and a second time to actually punch.

### Stack Full Indicator

This lights up when the receding Output Stacker is full of paper. The AP-1 will automatically shut off when this occurs. Unload paper from the tray and press the AUTO RUN/STOP switch to shut the light off. The tray will automatically raise to its home position before punching begins.

### Q-Stop/Fault Switch & Indicator

This switch serves two functions:

1. Press to instantly stop the AP-1 if sheets become misaligned during automatic feeding. This will prevent the sheets from jamming within the punch die or holes being punched crooked.
2. This switch flashes to indicate the Feed Hopper is empty while automatically punching or if a paper jam occurs. Press the RUN/STOP switch once to stop the flashing and a second time to resume punching.

### Electric Punch Access Slot

Items that cannot be punched automatically can be

inserted into the punch die through this slot and punched using the ELECTRIC PUNCH Switch. These include such things as index tabs, glossy coated papers, laminated covers and sheets sizes other than 8½" x 11".

### Paper Weight

Holds stack of paper within the Feed Hopper in place.

### Rotating Feeder Disc (see Figure 5)

The function of this disc is to separate sheets of paper within the Feed Hopper into small groups for punching. As it rotates it separates sheets based upon total thickness of the group. The thinner the paper stock is the greater the number of sheets that will be separated for punching. For example, 15 sheets of 20 lb. bond may be the same thickness as 12 or 13 sheets of 24 lb. bond.

The number of sheets separated each cycle for punching is adjustable to accommodate a variety of paper and cover stocks. Turning the hexagon-shaped nut on the disc clockwise will decrease the number of sheets, and counter-clockwise will increase the number of sheets. Hold the disc steady with one hand while turning the nut with the other hand. Due to the fact the disc separates groups by total thickness the actual number of sheets separated each cycle can vary. For example, an average of 15 sheets per cycle may actually result in a range from 13 to 17 sheets at a time.

**CAUTION: FOR YOUR SAFETY KEEP HANDS AWAY FROM THE ROTATING DISC WHILE IT IS MOVING.**



An average of 15 sheets of 20 lb. bond or equivalent (.061") is the maximum number of sheets recommended for punching in one group. A greater number of sheets fed into the punch die at one time may jam in the die. Whenever you switch paper stocks or jobs please run a few test cycles first to check that the Rotating Feeder Disc does not separate too many sheets at a time. When punching thick paper stock such as a 10 pt. or 12 pt. cover a maximum of 3 or 4 sheets at a time is recommended.

### Back Guide Lever (see Figure 6)

The position of this lever determines the distance between the punched holes and the bind edge of the sheet (see Figure 7). There are three different settings. When the lever is all the way to the right (closest to the punch die) the holes are punched closest to the edge of the sheet for thin books. As you move the lever to the left, the distance between the edge of the sheet and the punched holes increases for thicker books.

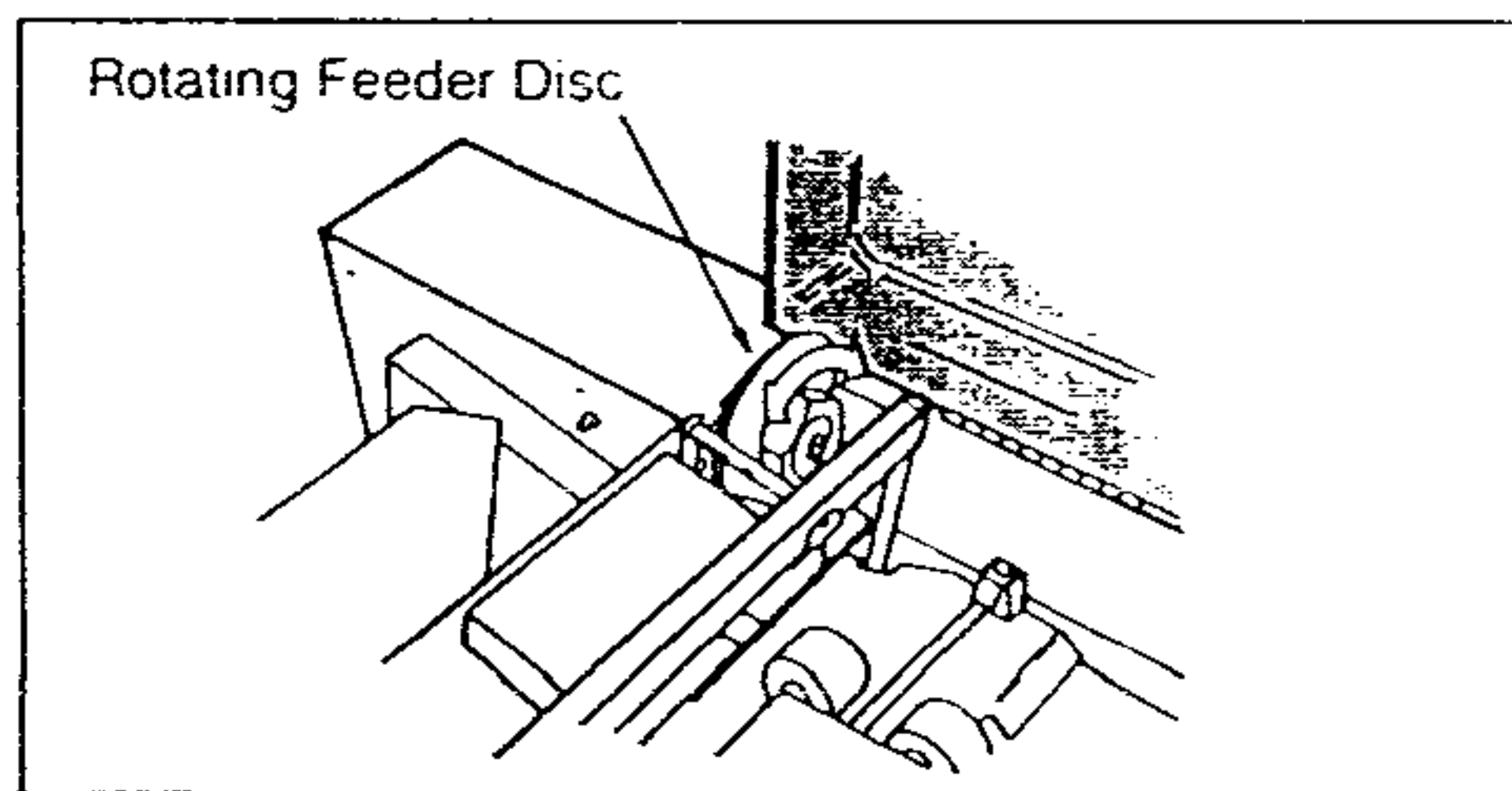


Figure 5

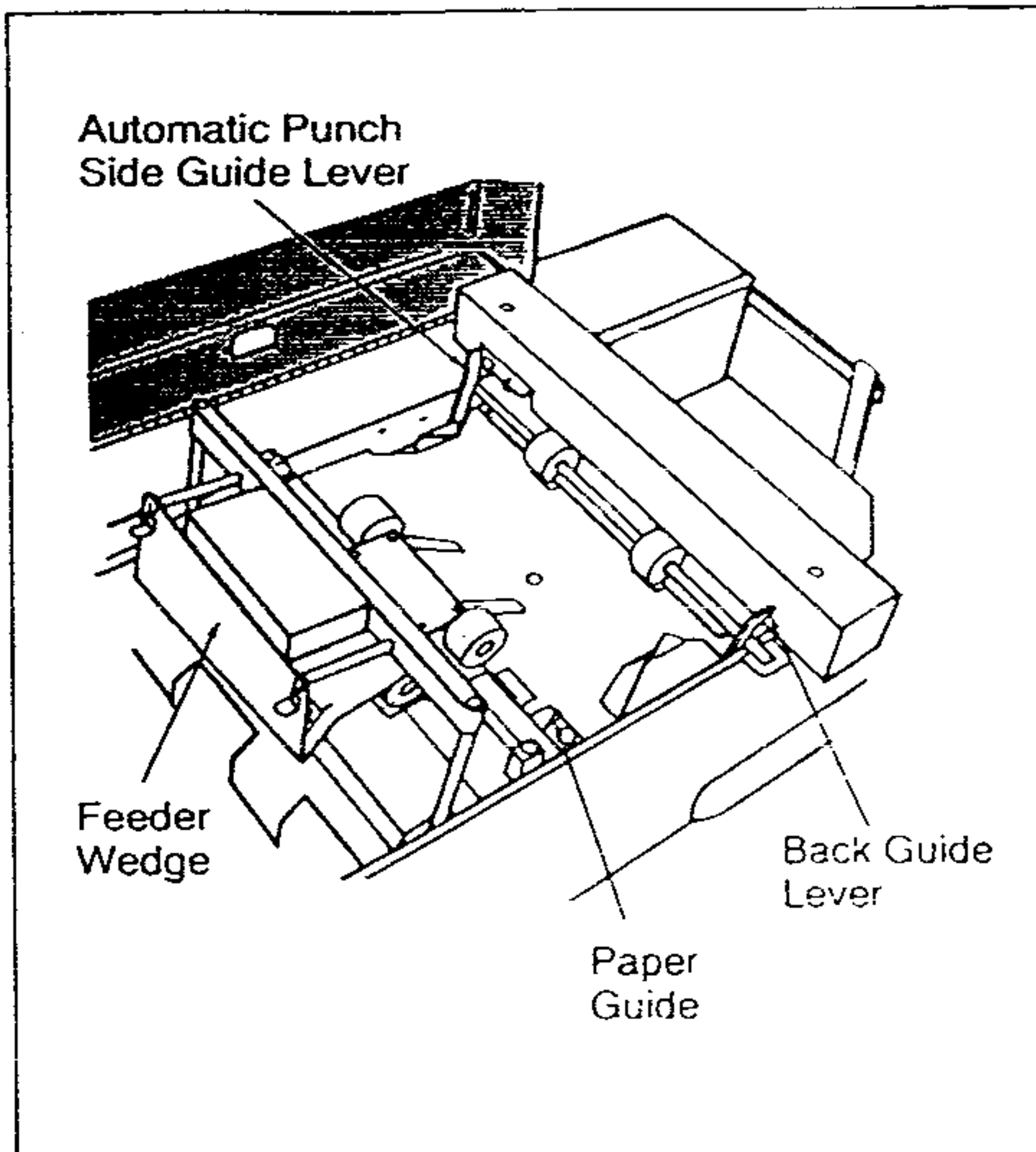


Figure 6

### ADJUSTMENTS TO PUNCH 8<sup>3</sup>/<sub>4</sub>" X 11<sup>1</sup>/<sub>4</sub>" OVERSIZED COVERS (Refer to Figure 6)

#### Rotating Feeder Disc

The position of the disc is pre-set for 8<sup>1</sup>/<sub>2</sub>" x 11" sheets. To punch oversized covers loosen the thumbscrew on the side of the Feed Hopper and slide the disc up. Slide it back down when you resume punching 8<sup>1</sup>/<sub>2</sub>" x 11" sheets.

#### Feeder Wedge

This wedge moves up and down to transport groups of paper separated by the rotating feeder disc into position for punching.

On the front of the wedge there are two metal tabs designed to help keep paper in the proper position. They are pre-set for 8<sup>1</sup>/<sub>2</sub>" x 11" sheet size. If you punch 8<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>4</sub>" oversized covers loosen the screws and slide each upward approximately 1/4". Slide them back down 1/4" when you resume punching 8<sup>1</sup>/<sub>2</sub>" x 11" sheets.

**CAUTION: FOR YOUR SAFETY KEEP HANDS AWAY FROM THE FEEDER WEDGE WHILE IT IS MOVING.**



#### Paper Guide

This helps guide paper into the punch die as it is automatically feeding. The position is pre-set for 8<sup>1</sup>/<sub>2</sub>" x 11" sheet size. If you punch 8<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>4</sub>" oversized covers loosen the thumbscrew and slide the guide outward (toward operator) approximately 1/4". Slide it back in 1/4" when you resume punching 8<sup>1</sup>/<sub>2</sub>" x 11" sheets.

#### Automatic Punch Side Guide Lever

This lever adjusts to center the punched holes on the width of the sheet. There are two settings for either 8<sup>1</sup>/<sub>2</sub>" x 11" sheets or 8<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>4</sub>" oversized covers. The position all the way to the right (closest to the punch die) is for 8<sup>1</sup>/<sub>2</sub>" x 11" sheets and to the left is for oversized covers.

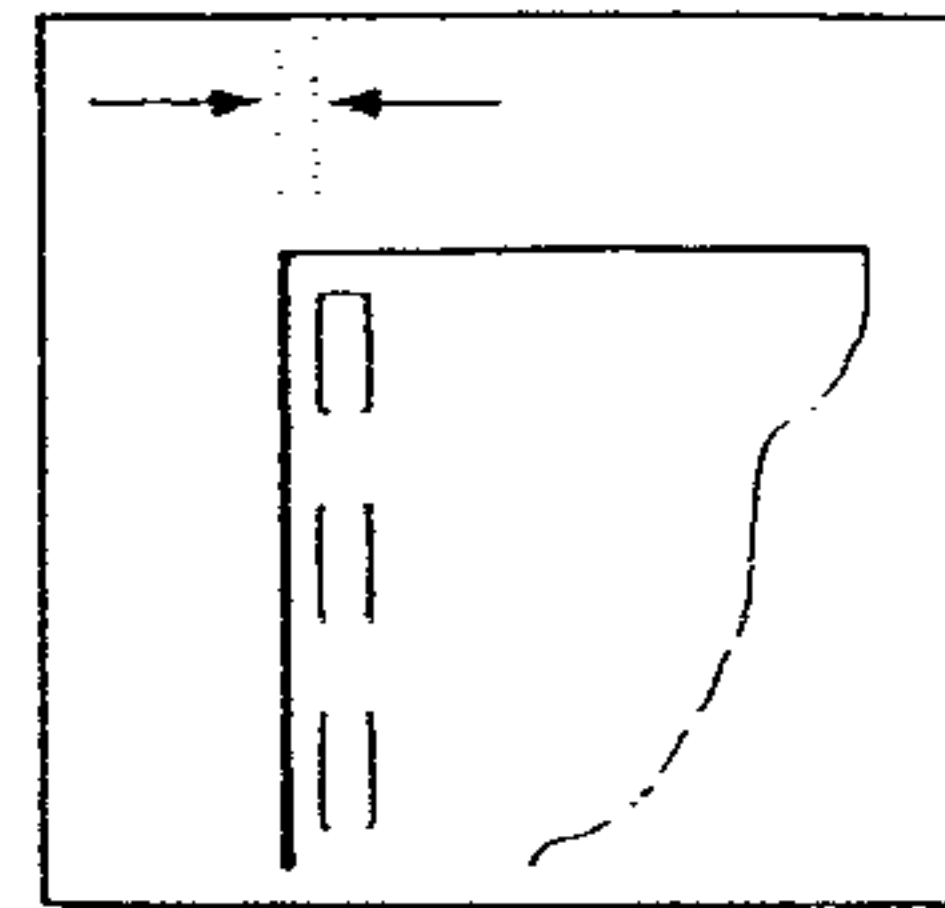


Figure 7

Refer to the following chart to determine which position the lever should be in for the particular size document to be bound.

#### Back Guide Lever Chart

Document Binding Element Size	Lever Position
3/16" to 5/16"	Right (closest to punch die)
3/8" to 9/16"	Middle
5/8" to 2"	Left (furthest from punch die)

#### Output Stacker Paper Stop (See Figure 3)

As punched sheets are ejected into the Output Stacker they hit this Paper Stop. There are two positions for this, depending upon whether you're punching 8<sup>1</sup>/<sub>2</sub>" x 11" size sheets or 8<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>4</sub>" oversized covers. The inside position (closer to the punch die) accommodates 8<sup>1</sup>/<sub>2</sub>" x 11" sheets, and the outside position (further from the punch die) is for oversized covers.

To move the Paper Stop raise it upward and slide it to the side.

### PERFORMANCE CAPABILITIES

#### Collated Sheets

Sheets remain in collated order as they are punched and ejected into the Output Stacker, allowing you to collate books together before punching.

Books can be loaded with page one facing inward toward the Punch Die or outward. If inward, page one will eject face down into the Output Stacker with page two on top for continuous operation.

If page one is loaded facing outward the last page will feed first, and page one will eject face up into the Output Stacker as the last page punched. If you load sheets in this manner be sure to keep books in complete sets.

#### Intermixed Paper Stocks

Covers and/or other paper stocks of various thickness can be intermixed together in the Feed Hopper, as long as they are within the specifications stated. This allows you to collate books together before punching them.

# AUTOMATIC PUNCHING 4.4 OPERATING PROCEDURE

(For 8-1/2" x 11" or 8-3/4" x 11-1/4" sheet sizes only)

1. Set the Back Guide Lever to the appropriate position for the document to be bound (see "Back Guide Lever Chart")

**NOTE:** If you punch index tabs or covers for the same document on another machine be sure the Back Guide setting is the same. It is best to punch a few test sheets to verify this.

2. Check that the Rotating Feeder Disc, Automatic Punch Side Guide Lever, Output Stacker Paper Stop, Paper Guide, and Feeder Wedge Tabs are in the correct position for either the 8 1/2" x 11" sheets or 8 3/4" x 11 1/4" oversized covers (see "Adjustments to Punch 8 3/4" x 11 1/4" Oversized Covers")
3. Turn the Power Switch on.
4. Remove the Paper Weight from the Feed Hopper
5. Check that the paper complies with the characteristics described in "Paper Guidelines for Automatic Punching"
6. Jog and fan sheets to be punched, making sure edges are evenly aligned.
7. Raise the Top Plastic Cover.
8. Load the first stack of paper into the Feed Hopper with the 11" or 11 1/4" edge to be punched facing upward (see Figure 8). Place the stack so the first sheet is flush against the front plate and the complete stack is flush with the side guide as shown.
9. Lower the Top Cover. The AP-1 will not operate with it raised.
10. Load additional sheets into the Feed Hopper, making sure to orient them the same way as the first stack (see Figure 9).
11. Place the Paper Weight behind the last sheet to keep the stack in place (see Figure 10)
12. Rotate the Paper Curl Thumbscrew shown in Figure 9, so the small metal plate is right next to the paper stack, but not touching it.
13. Press the AUTO RUN/STOP Switch to start punching.

**NOTES:** - Run a few test cycles first to check that the Rotating Feeder Disc does not separate too many sheets at a time, resulting in a jam within the punch die.  
- You can choose to load additional sheets and unload punched sheets while the AP-1 operates, or let the AP-1 punch and automatically shut off when the Feed Hopper is empty or the Output Stacker is full.

**CAUTION:** FOR YOUR SAFETY KEEP HANDS AWAY FROM THE ROTATING FEEDER DISC AND FEEDER WEDGE WHILE THEY ARE MOVING.



14. To stop the AP-1 while it is punching press the AUTO RUN/STOP Switch. The AP-1 will stop punching immediately, but the rollers will continue to run for approximately another 10 seconds before stopping.

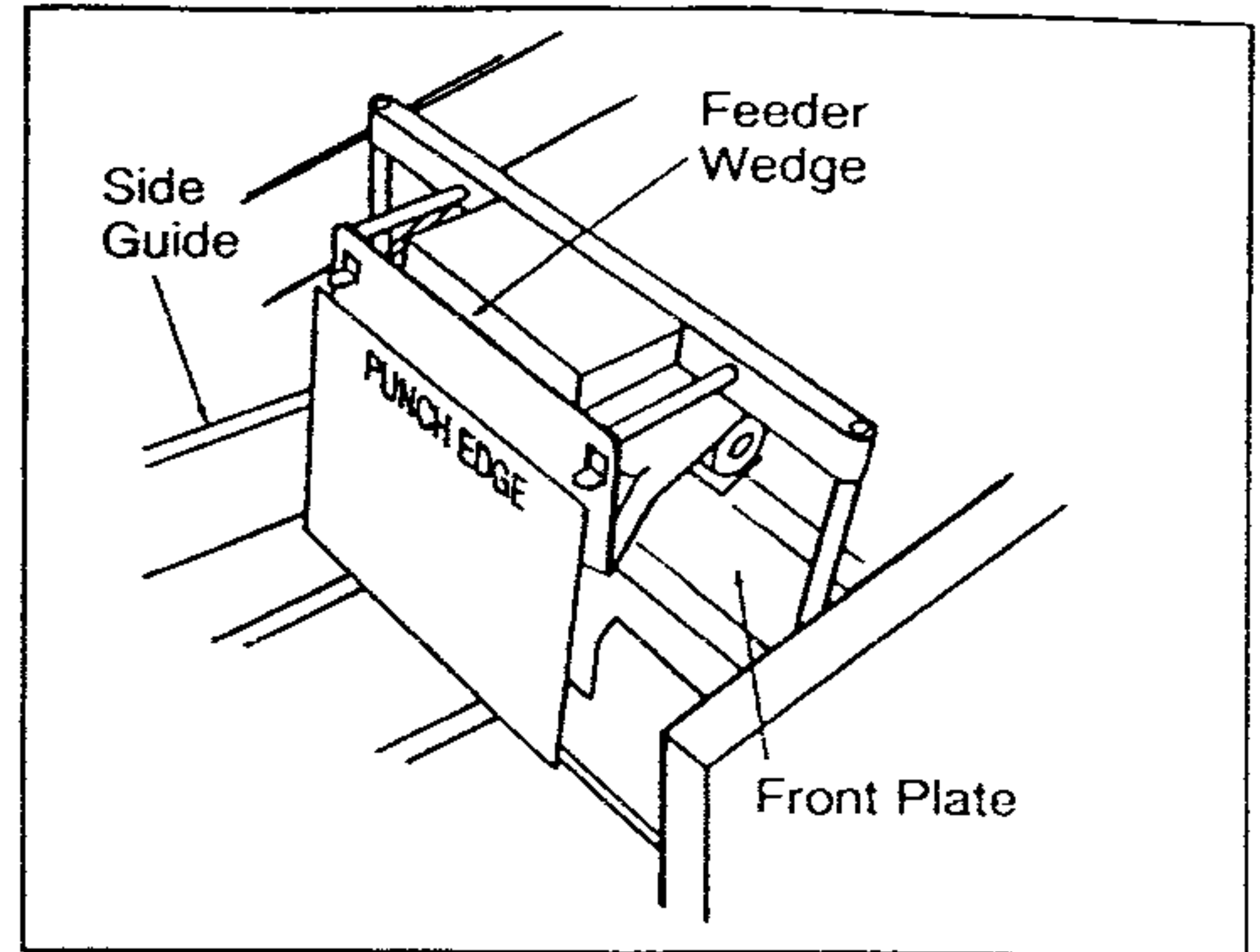


Figure 8

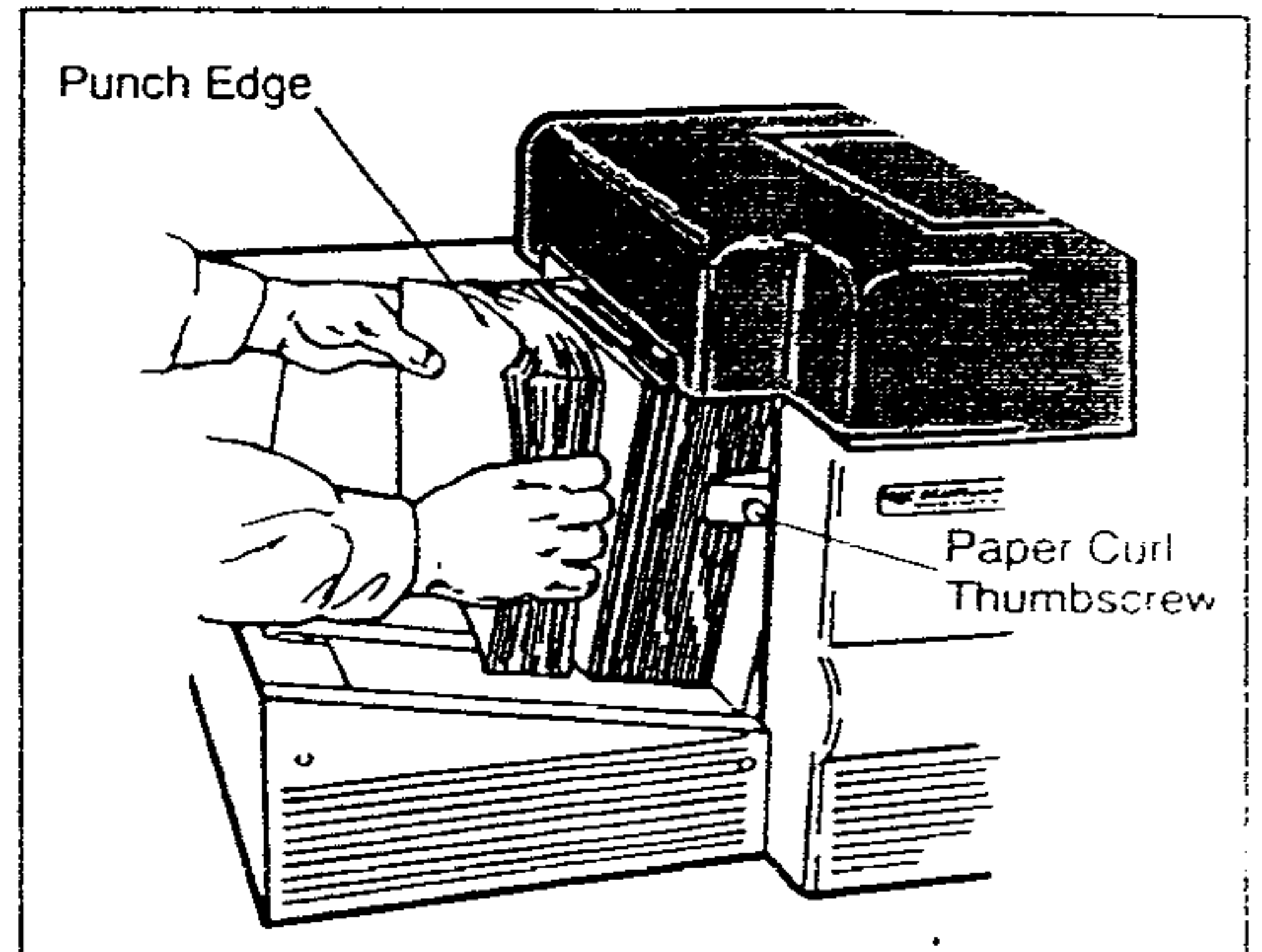


Figure 9

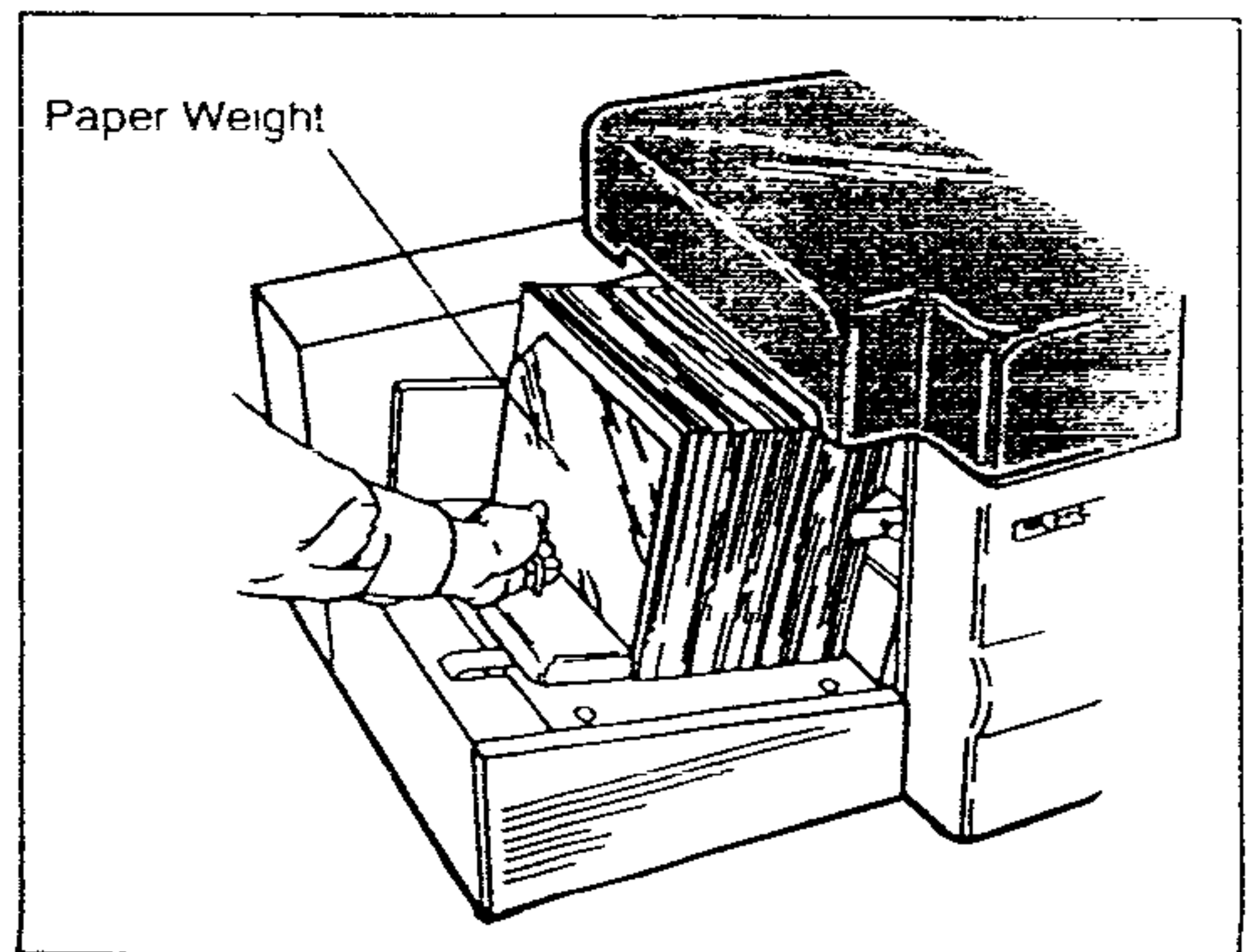


Figure 10

## PAPER GUIDELINES FOR 4.5 AUTOMATIC PUNCHING

The AP-1 is designed to operate with a range of paper stocks from 16 lb. bond to 110 lb. index, that have been printed on an electronic laser/xerographic printer, photocopier, or offset press. Due to the wide variety of paper stocks commonly used and the effects of different printing processes upon them, this section explains how an operator can achieve satisfactory performance with the AP-1 as particular paper characteristics are encountered. While the AP-1 can effectively process most applications, there are some paper characteristics you may not be able to run satisfactorily. Please read this section carefully.

### Paper Curl

Paper curl can affect AP-1 performance in one of two ways. First, if the paper stock loaded into the Feed Hopper curls too far forward against the Rotating Feeder Disc and the Front Plate a very thick group of paper may occasionally be separated and fed into the punch die or sheets may be crushed by the Feeder Wedge as it moves downward. Both of these result in a paper jam. Second, if the paper stack loaded into the Feed Hopper curls too far away from the Rotating Feeder Disc paper may not be separated and fed forward at all, resulting in the AP-1 shutting off as if it is out of paper.

Following are steps to follow in order to effectively punch curled paper on the AP-1.

#### A. Curl forward against Rotating Feeder Disc and Front Plate

1. Before loading paper into the Feed Hopper bend the stack backward in the opposite direction of the curl to straighten it out.
2. If step #1 is not sufficient, first turn the Paper Curl Thumbscrew on the side of the Feed Hopper clockwise (See Figure 11). This will move a small plate against the side of the paper stack to hold it away from the Front Plate slightly. The more you turn the thumbscrew, the further the plate will hold the paper away from the Front Plate

Next, attach the Paper Curl Bracket to the Front Plate by snapping it into position as shown in Figure 12. This also holds the paper stack away from the Front Plate slightly. The Paper Curl Bracket should only be attached when you punch paper with a severe forward curl. Remove it when you punch paper that is flat or curled away from the Front Plate and Rotating Feeder Disc.

3. Adjust the Rotating Feeder Disc to separate a fewer amount of sheets than you normally would with flat paper. This is to guard against an occasional thick group that jams in the punch die.
4. If curl is still too severe, try turning the paper stack around and loading it into the Feed Hopper in the opposite direction.

#### B. Curl away from the Rotating Feeder Disc

1. Before loading paper into the Feed Hopper bend the stack backward in the opposite direction of the curl to straighten it out.

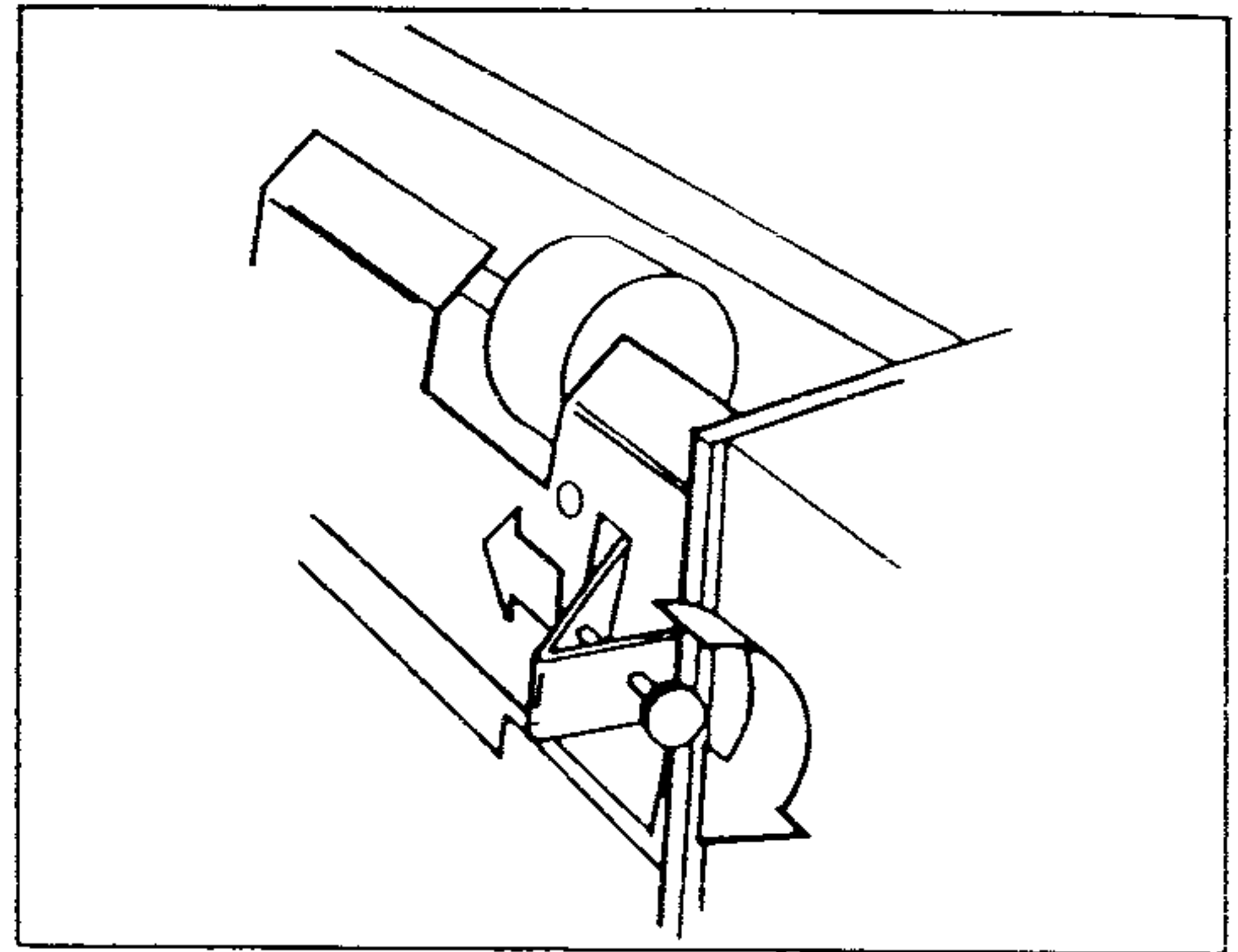


Figure 11

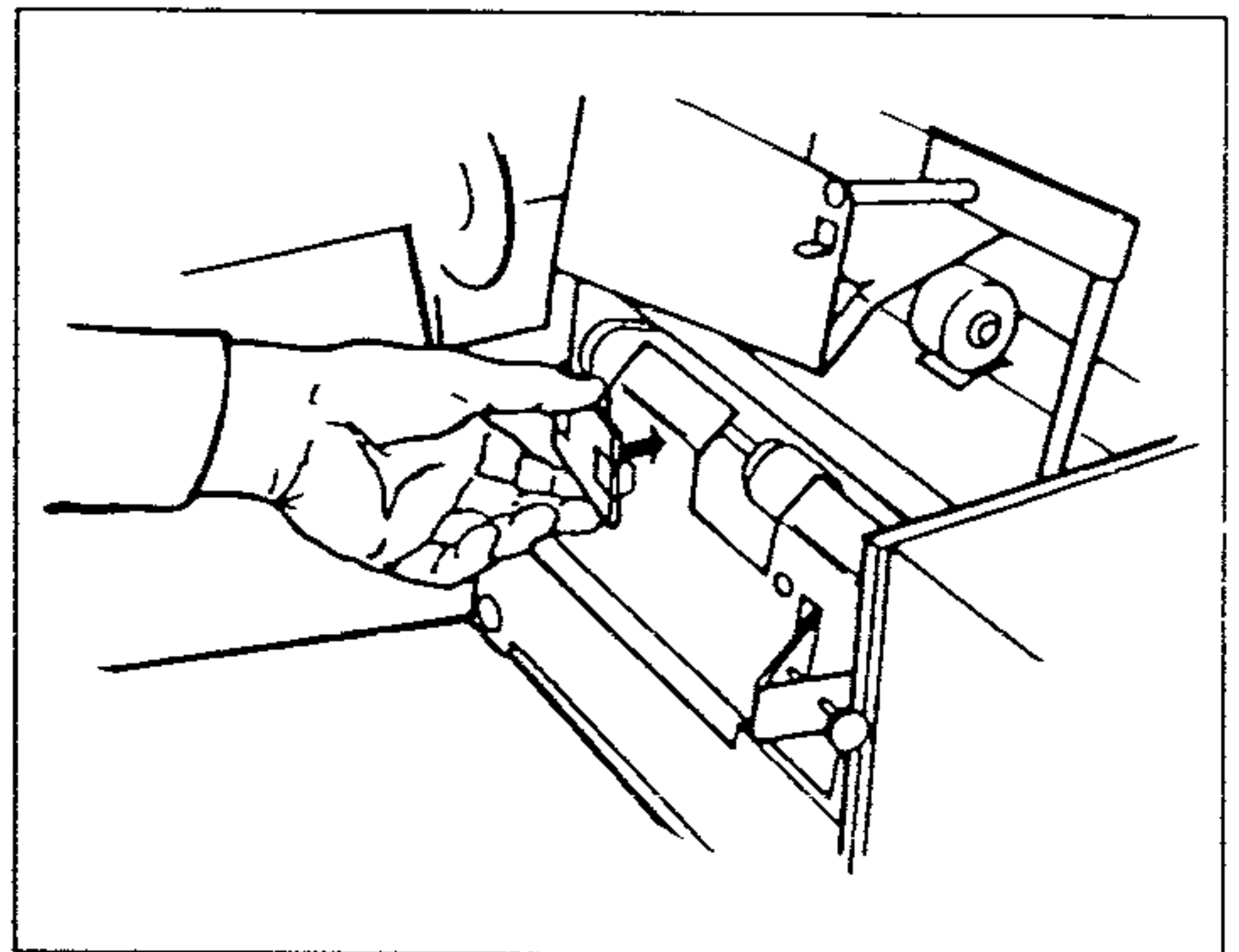


Figure 12

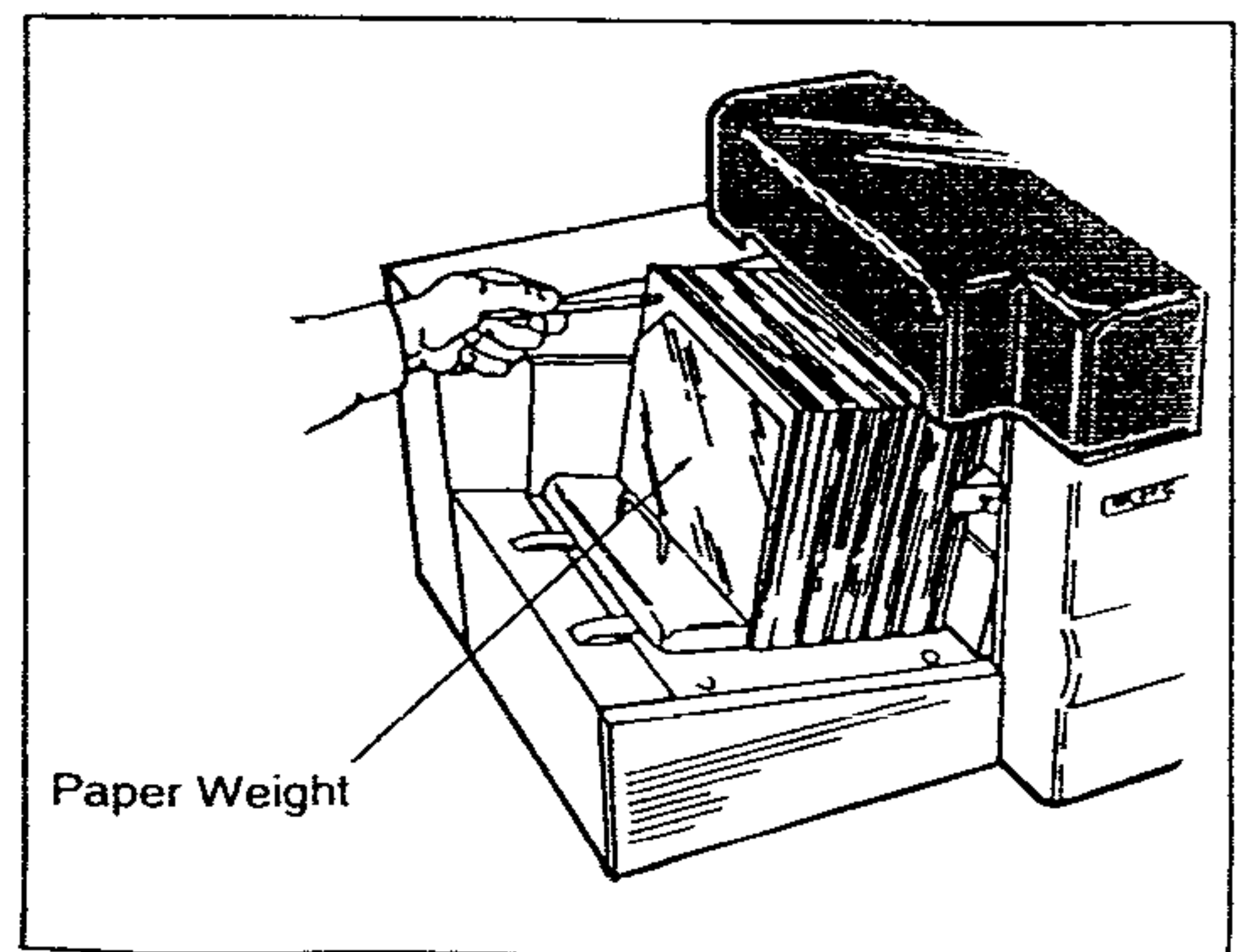


Figure 13

2. If step #1 is not sufficient, turn the paper stack around and load it into the Feed Hopper in the opposite direction. The curl will then face forward toward the Rotating Feeder Disc and Front Plate.
3. Another option to address severe paper curling away from the Rotating Feeder Disc is to push the upper left corner of the stack forward with the blunt end of a pen or pencil (See Figure 13). This will press the paper corner far enough forward for the Rotating Feeder Disc to separate groups.

### Paper Static & Heavy Toner Coverage

Sheets sticking together due to static or heavy toner coverage can affect AP-1 performance in one of two ways. First, a very thick group of paper may be separated and fed into the punch die, resulting in a paper jam. Second, if sheets cling to each other when they are tapped into position for punching, they may not register properly during punching. This results in poor registration/alignment of punched holes.

In order to eliminate static or toner related problems simply fan stacks of paper slowly before loading them into the Feed Hopper. As a rule of thumb, it is good practice to always fan sheets before loading them, even if you're not aware of static or heavy toner coverage.

### Sheet Size Tolerance

If your sheet sizes are not precisely 8½" x 11" or 8¾" x 11¼" you may encounter marginal punched hole registration/alignment. If sheets are not these sizes they may not register properly when being tapped into alignment for punching. Slightly undersized or oversized sheets generally occur when paper has been trimmed on a guillotine cutter or some other mechanical cutting method. Please pay very close attention to alignment when cutting paper that will later be punched on the AP-1.

### Coated Paper Stocks

Glossy coated, laminated, and plastic stocks generally are not recommended for automatic punching on the AP-1. The smooth surface of these stocks sometimes causes them to slip against each other during the automatic feeding process. There are some situations, however, in which you may achieve satisfactory results as follows:

#### A. Paper coated on one side

If paper stock is coated on one side only, and it is collated within the Feed Hopper such that the coated surface contacts the uncoated surfaces of the sheets next to it, it may feed and punch reliably. The uncoated surfaces may provide sufficient friction against the coated surface to prevent slippage.

If sheets are collated such that coated surfaces contact each other you can add a slip-sheet between them to reduce slippage.

#### B. Paper coated on both sides

In order to punch paper coated on both sides you must add a slip-sheet between each coated sheet to reduce slippage during the automatic feeding process.

### Cover Stocks

Standard cover stocks used within the printing industry, such as 65 lb. or 80 lb. linen, cover, and index are acceptable for automatic punching.

The following standard GBC cover stocks are also acceptable:

- 104 Linen
- 103 Sturdy Grain
- 101 Beauty Gloss (see "Coated Paper Stocks" section A)
- 415 Regency (may require slip-sheets between covers. - See "Coated Paper Stocks")

The following standard GBC cover stocks are not recommended for automatic punching:

315 Leatherette - The soft, porous inside of this cover stock causes it to be damaged by the Rotating Feeder Disc

202 Clear - The smooth, yet clinging properties of this stock causes misalignment during feeding.

Scored covers - The score mark alters the angle of for Velobind or the covers in relation to the Rotating Surebind Systems Feeder Disc, resulting in erratic feeding

Occasionally the edge of a cover may be damaged by the Rotating Feeder Disc. This usually occurs when covers are curled forward against the disc. To minimize the chance of this occurring first bend the covers backward in the opposite direction of the curl to straighten them out. Then turn the covers around, and load them into the Feed Hopper so the remaining curl is away from the Rotating Feeder Disc.

### Die-Cuts & Windows

Sheets with die-cuts or windows may not feed reliably if the die-cut/window is positioned directly in line with one of the AP-1 rollers. If a problem arises turn the paper stock around and load it into the Feed Hopper in the opposite direction. This may off-set the die-cut/window from the roller path.

### Color Copies

Due to the heavy toner coverage on most color copies they are generally very curled and contain an excessive amount of static in relation to normal copies. As a result, GBC does not recommend automatic punching of them on the AP-1. If you wish to try punching color copies please follow the instructions stated earlier in this section addressing paper curl, static, and heavy toner coverage. However, you may not achieve satisfactory performance.

## ELECTRIC PUNCHING 4.6 OPERATING PROCEDURE

1. Set the 3 position Back Guide Lever to the appropriate position for the book to be bound (see "Back Guide Lever Chart")
2. Set the Side Guide located within the electric Punch Access Slot to the appropriate position.
3. Turn the Power Switch on, and make sure the Top Cover is lowered.
4. Jog sheets to be punched, making sure edges are evenly aligned.

**IMPORTANT:** Punch test sheets first to check the Side Guide and Back Guide alignment.

5. Insert sheets into the Electric Punch Access Slot as far as possible, aligning them square against the Side Guide (see Figure 14).

**NOTES:** - Be sure to insert sheets until you feel them squarely contact the Paper Stops.  
- The maximum number of sheets that can be punched in one group is 18-20 of 20 lb. bond.

6. Press the ELECTRIC PUNCH Switch once to turn the motor on, and a second time to punch the sheets

**NOTE:** When punching clear plastic covers you must insert a slip-sheet into the punch die with them to activate the punch. This is due to an optical sensor that does not allow the punch die to cycle unless it senses an opaque sheet.

7. Remove punched paper
8. If the spacing at the top and bottom of the sheet is not equal, or if the edge of the sheet is nicked by a partial hole adjust the Side Guide slightly. Depending upon the sheet size, you may have to disengage a punch pin to prevent the sheet edge from being nicked. To do so please follow the procedure below. Refer to Figures 15 and 16

1. Turn AP-1 power off, and unplug the unit.
2. Raise the Top Cover. Push it back completely until it is engaged by the latch.
3. Remove the two (2) screws holding the metal cover over the punch die, and then remove the metal cover. The upper two (2) exit rollers will remain attached to the metal cover.
4. Remove the bolt and locking nut above the punch pin you wish to disengage.
5. Replace the metal cover over the punch die.

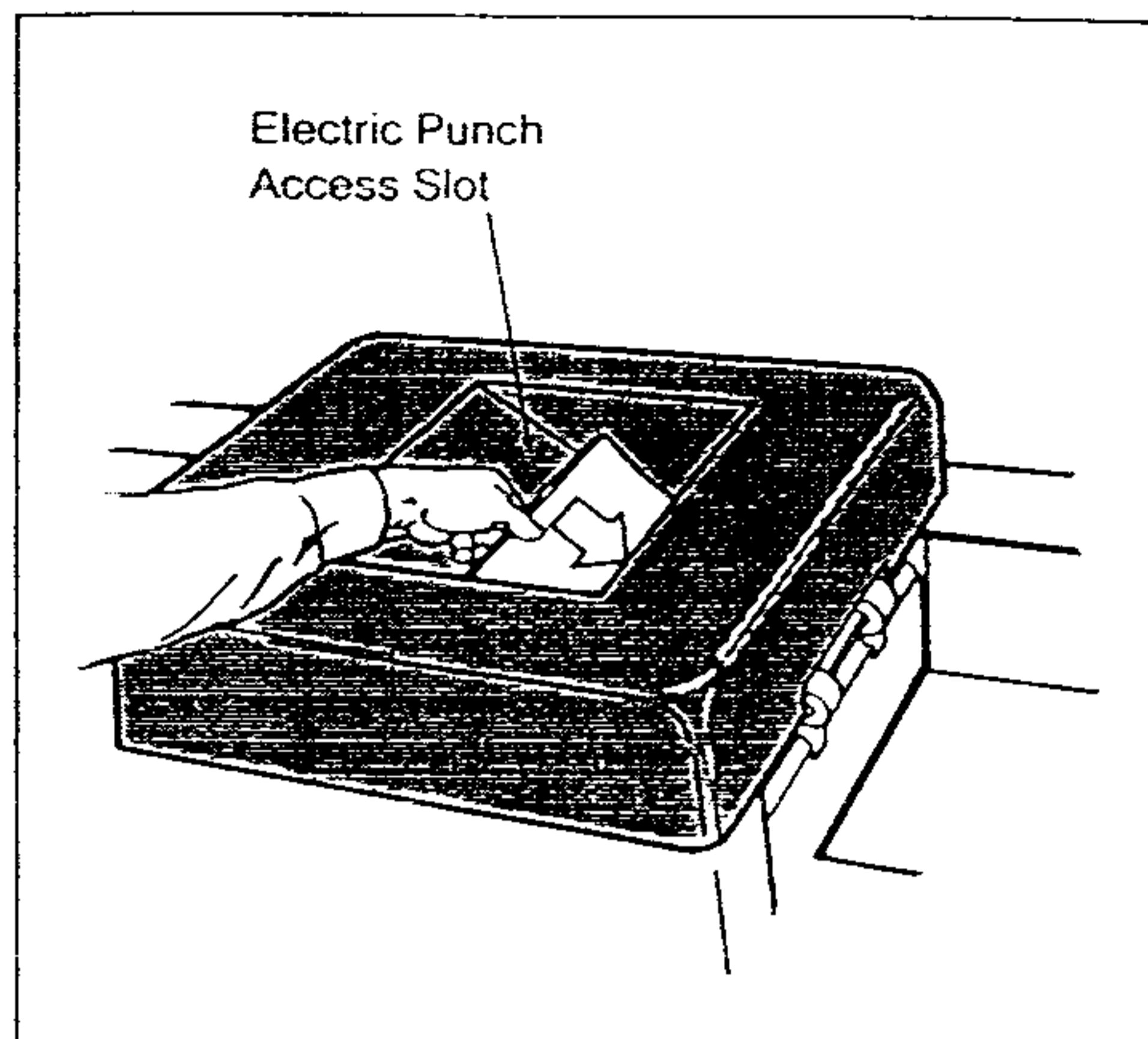


Figure 14

## CARING FOR YOUR AP-1 4.7

**CAUTION:** DO NOT ATTEMPT TO CLEAN THE AP-1 WHILE IT IS RUNNING. BE SURE THAT MACHINE POWER IS OFF WHEN CLEANING IT.



- Periodically vacuum out paper dust.
- Periodically wipe the external surfaces of the AP-1 with a moist cloth. You may use a mild window or counter-top cleaner, however, use caution not to spray near or on electrical components
- Approximately once a year lubricate the punch die driver bar guide slots that the die cycles up and down within (see Figure 16). Use Lubriplate MO-Lth #2 (GBC item #1961505), and follow the steps listed below:
  1. Unplug machine
  2. Raise the Top Cover
  3. Remove the 2 screws holding the metal cover over the punch die, and remove the metal cover.
  4. Apply a moderate amount of lubricant in and along the guide slot on each side.
  5. Replace metal cover over punch die, and tighten screws firmly

# PUNCH DIE REMOVAL AND 4.8 INSTALLATION PROCEDURE

Following is the procedure for removing and installing the 19-hole punch die for documents to be plastic bound. For removal and installation procedures of optional punch dies used for other hole patterns please refer to the specific instructions provided with each punch die.

## 19 HOLE PLASTIC BINDING PUNCH DIE REMOVAL (Refer to Figures 15 to 18)

1. Turn AP-1 power off, and unplug the unit.
2. Raise the Top Cover. Push it back completely until it is engaged by the latch.
3. Remove the two (2) screws holding the metal cover over the punch die, and then remove the metal cover. The upper two (2) exit rollers will remain attached to the metal cover. (See Figure 15)
4. Remove the two (2) screws located at the bottom of the Output Stacker vertical panel. (See Figure 15)
5. Remove the one (1) screw on each side that fastens the vertical panel to the side frame. (See Figure 15)
6. Remove the vertical panel from the AP-1 by raising it upward. (See Figure 15)
7. Using an Allen wrench, remove the two (2)  $\frac{1}{2}$ " Allen head screws (socket head cap screws) and washers that retain the circular punch arms to the ends of the punch die driver bar. Then slide the circular punch arms off each end of the punch die driver bar. (See Figure 16)
8. Remove the seven (7) bolts and locking nuts that attach the punch die driver bar to the stripper bar. (See Figure 16)
9. Remove the two (2)  $1\frac{1}{4}$ " Allen head screws that attach the stripper support bars to the assembly (one on each side). On the side with the photo sensor, you may have to lift up the punch die driver bar to gain access to the screw with an Allen wrench. (See Figure 16)
10. Lift the punch die driver bar vertically from the AP-1. (See Figure 16)
11. Remove the one (1) screw with washer from each of the three (3) paper in-feed guides. Insert the Allen wrench through the access holes in the upper guide plate over each screw. After the screw near the photo sensor has been loosened use pliers to remove it. (See Figure 17)
12. Note the position and orientation of each in-feed guide for later re-installation, then remove each in-feed guide. (See Figure 17)
13. Loosen the two (2) 1" Allen head screws holding the punch die to the mount blocks. Rotate the Allen head screws three (3) full turns. Do not remove them. (See Figure 18)
14. Rotate the punch die in the direction of the Output Stacker slightly so that it disengages from the horizontal platform and is clear of the photo sensor. Remove the punch die by carefully lifting it vertically from the AP-1. (See Figure 18)

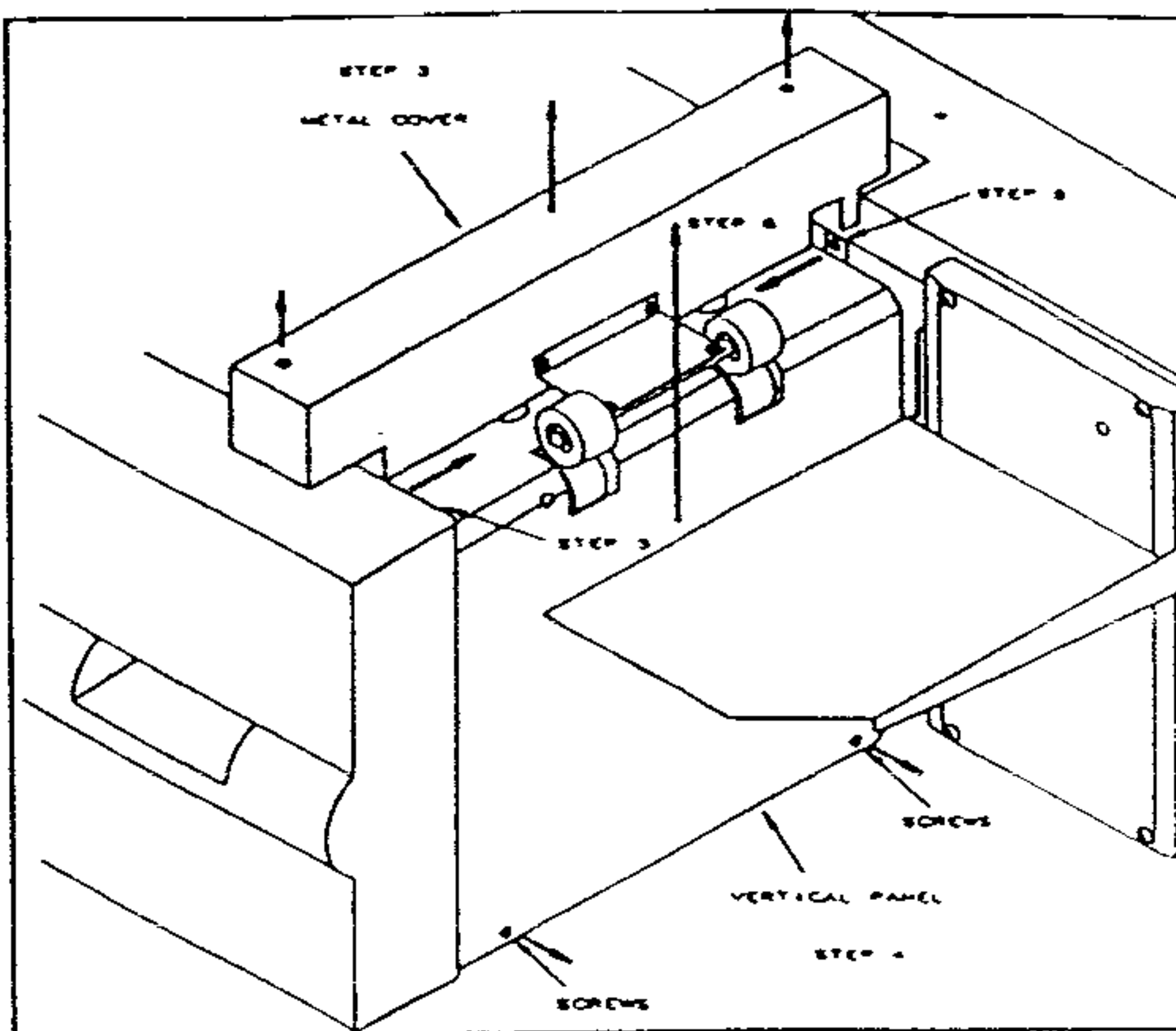


Figure 15

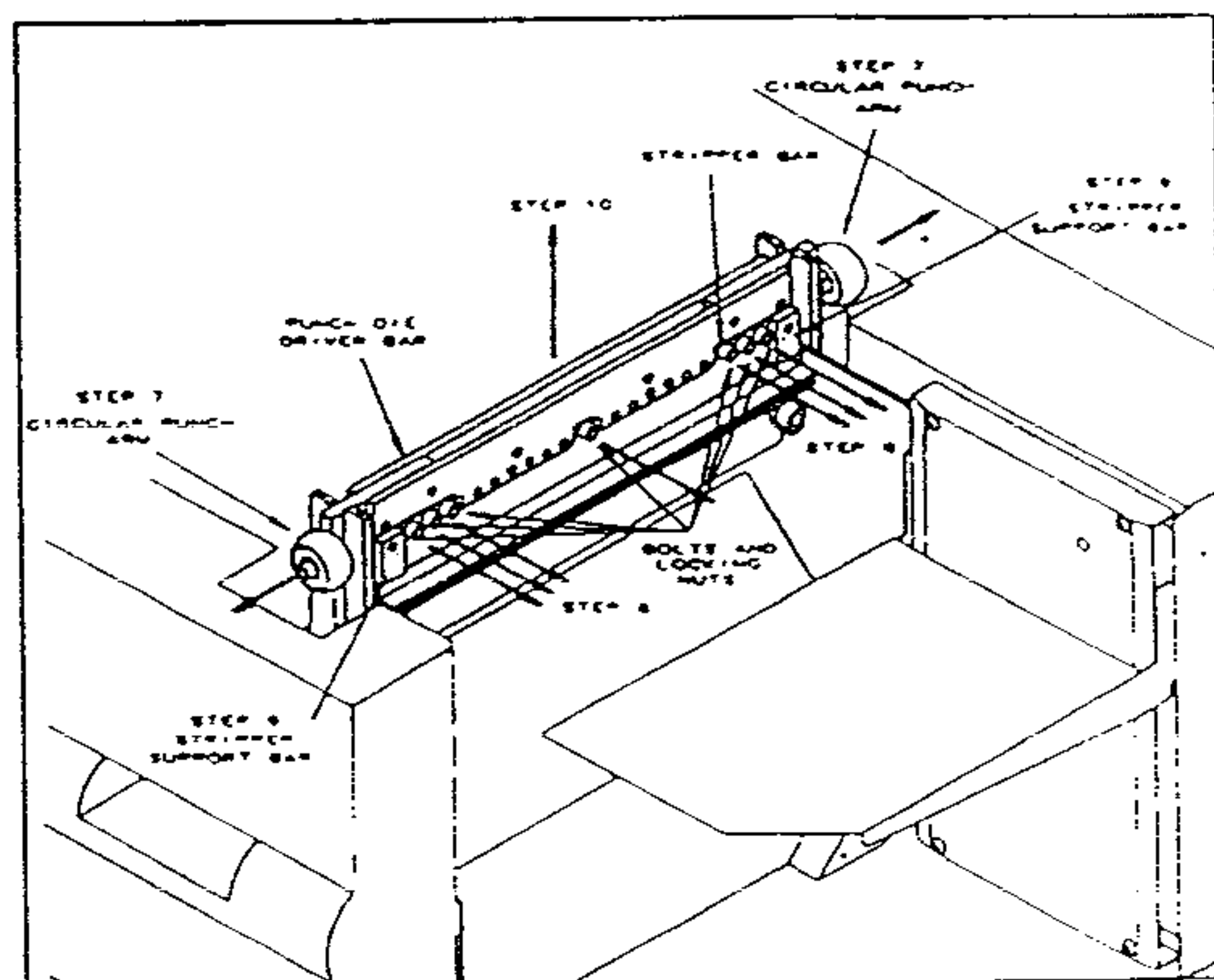


Figure 16

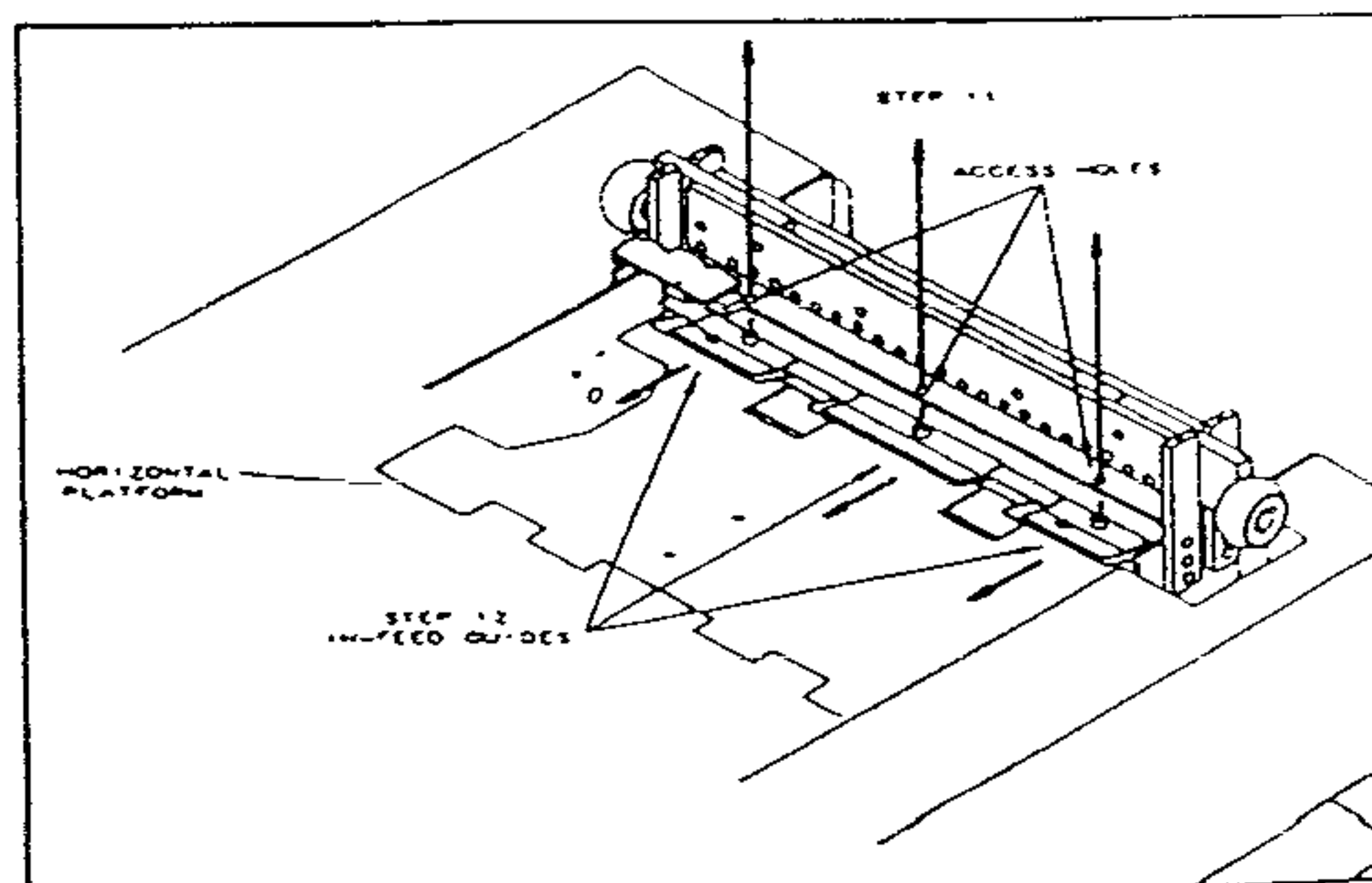


Figure 17

## 19 HOLE PLASTIC BINDING PUNCH DIE INSTALLATION

(Refer to Figures 19 to 24)

1. Unplug the AP-1.
2. While holding the paper stops slightly toward the Output Stacker place the punch die into the AP-1. Tip it slightly as needed to clear the photo sensor. Position the die so that the slots in the bottom of it rest on the two (2) 1" Allen head screws threaded into the mount blocks. The precision flat washer and standard washer must be on the outside of the slot as indicated in the illustration. (See Figure 19)
3. Carefully push the punch die slightly in the direction of the Output Stacker, and observe the two (2) spring clips attached to the bottom of the horizontal platform. Also observe the three (3) sections of the horizontal platform that are separated by the two (2) red rollers. Then push the punch die toward the horizontal platform. Engage it so the two (2) spring clips are under the die's lower guide plate and the three (3) sections separated by the red drive rollers are over the die's lower guide plate. You may have to pull up slightly on the horizontal platform to allow the three (3) sections to slip over the die's lower guide plate. Make sure the spring clips remain under the guide plate as you do this. (See Figure 20)
4. With the punch die firmly seated on the Allen head screws and properly engaged with the horizontal platform carefully tighten the screws. Insure that the precision flat washers seat into the counter bores provided for them in the bottom of the punch die. Firmly tighten the screws. (See Figure 21)
5. Place the three (3) paper in-feed guides in position and proper orientation on the punch die's middle guide plate as follows: The two (2) shorter in-feed guides should be positioned at the ends of the guide plate with the longer in-feed guide in the center. The flange on each should angle upward (See Figure 22)
6. Line up the three (3) in-feed guide mount holes with the holes in the die's middle guide plate. Insert one (1) Allen head screw with washer in each of the three (3) paper in-feed guides. Near the photo sensor, use pliers to place the screw in position. Use the hole in the plate just above each screw head to insert an Allen wrench and tighten the screw to the middle guide plate. (See Figure 22)
7. Place the punch die driver bar into the slot between the punch guide bars on each side. (See Figure 23)
8. Install the seven (7) bolts through the stripper bar and punch die driver bar, and attach the locking nuts to them. Near the photo sensor use pliers to place the locking nuts in position. Tighten them sufficiently until they are secure, but not enough to flex the punch die driver bar. (See Figure 23)
9. Attach the two (2) stripper support bars to the assembly using the two (2) Allen head screws and washers. (See Figure 23)
10. Slide the circular punch arms onto each end of the punch die driver bar, and secure them with the 1/2" Allen head screw and washer on each side. (See Figure 23)
11. Lower the Output Stacker vertical panel into position so that the horizontal plane of it is slightly below the exit rollers. Secure it by replacing the screws that fasten it to each side frame and the two (2) screws located at the bottom of the vertical panel. (See Figure 24)
12. Place the metal cover with the upper two (2) exit rollers over the punch die, and secure with two (2) screws. (See Figure 24)

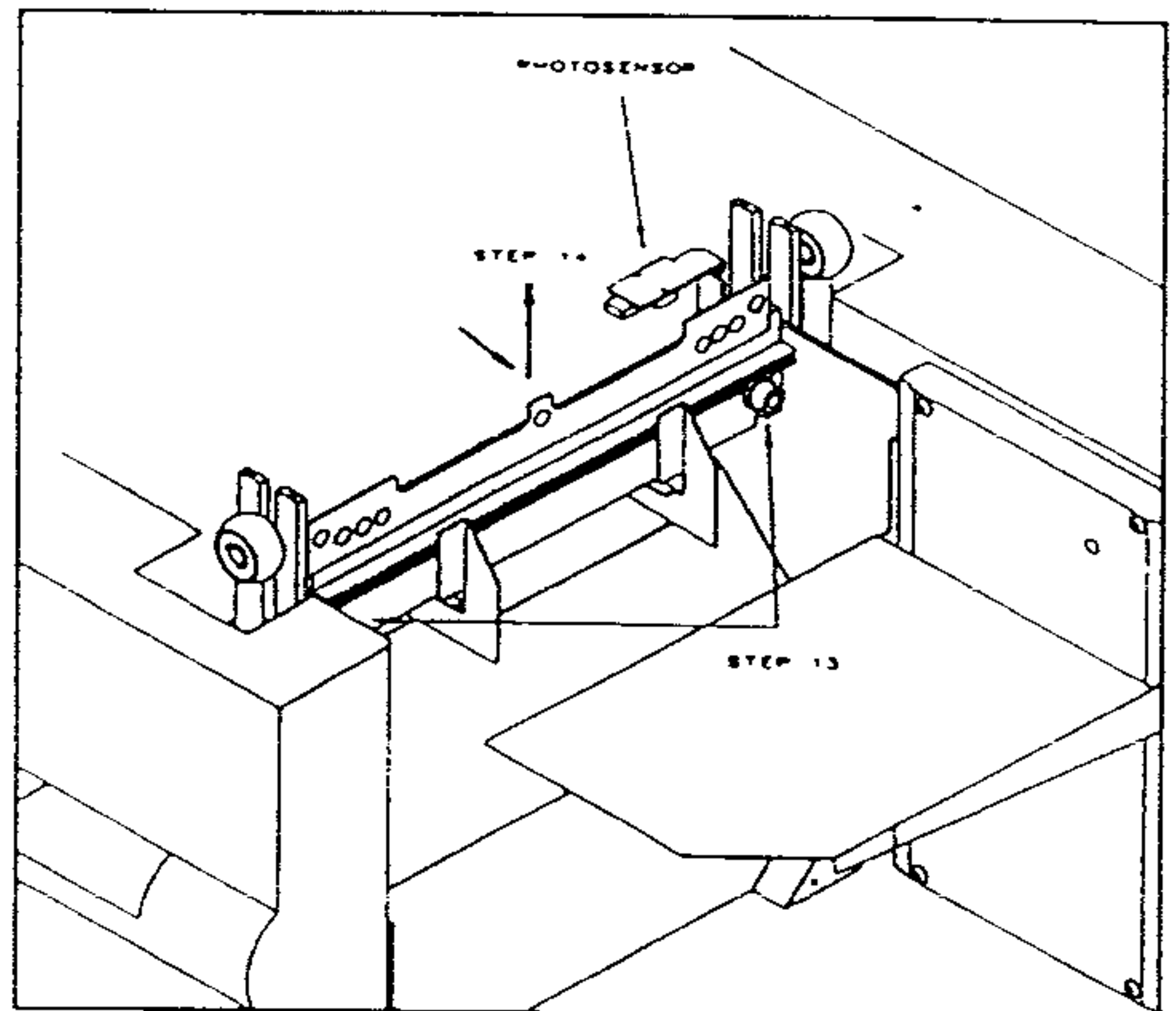


Figure 18

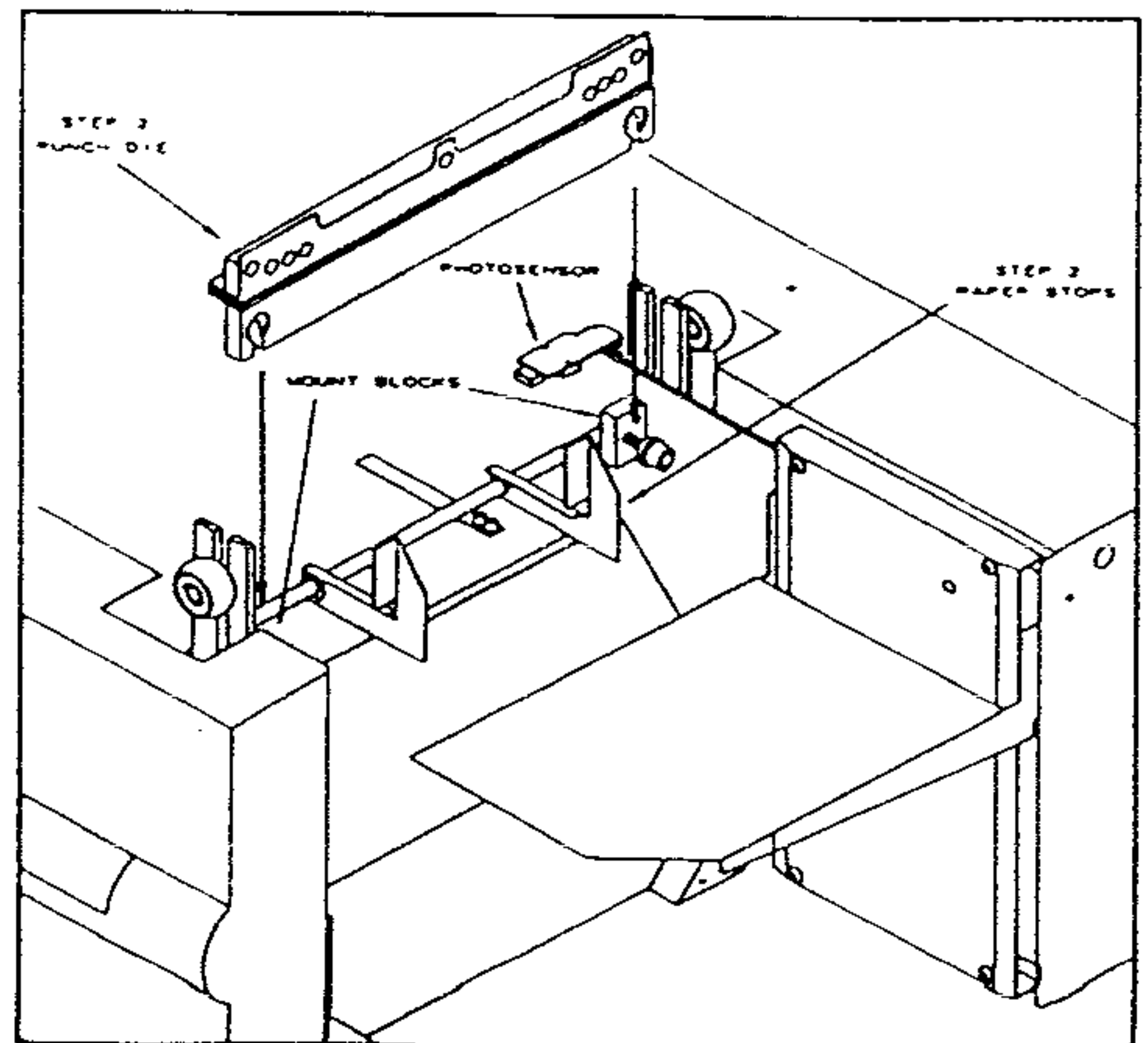


Figure 19

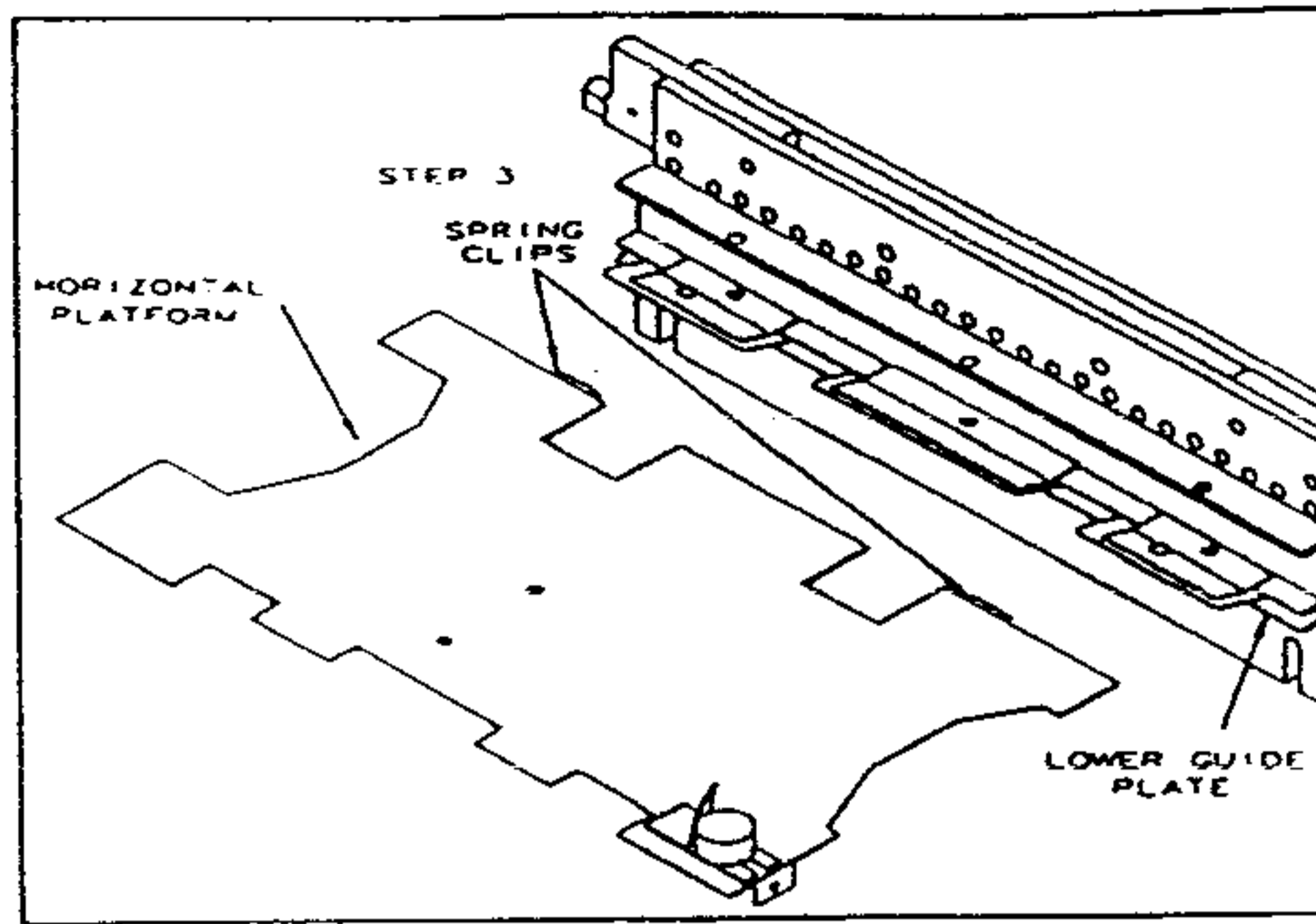


Figure 20

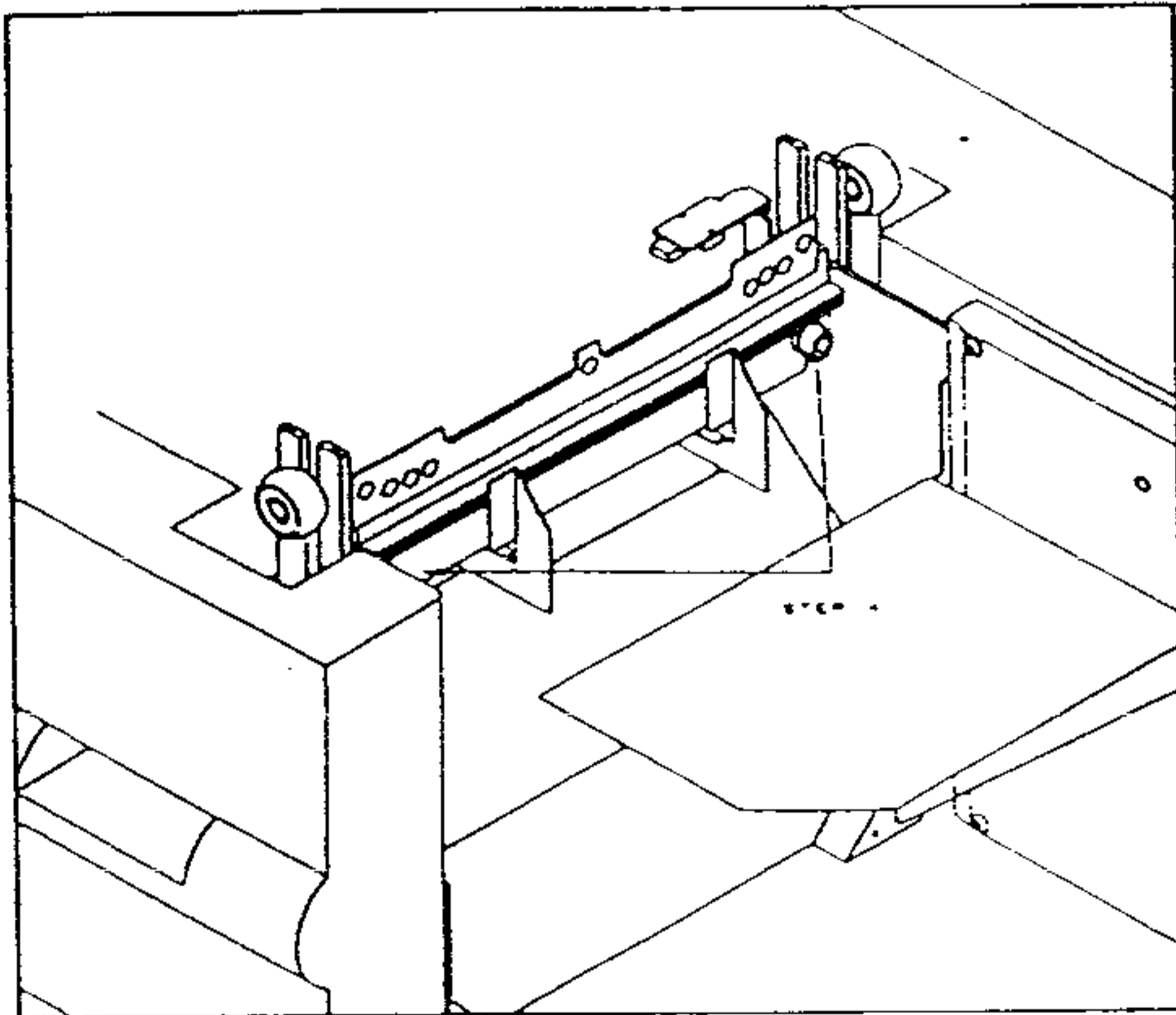


Figure 21

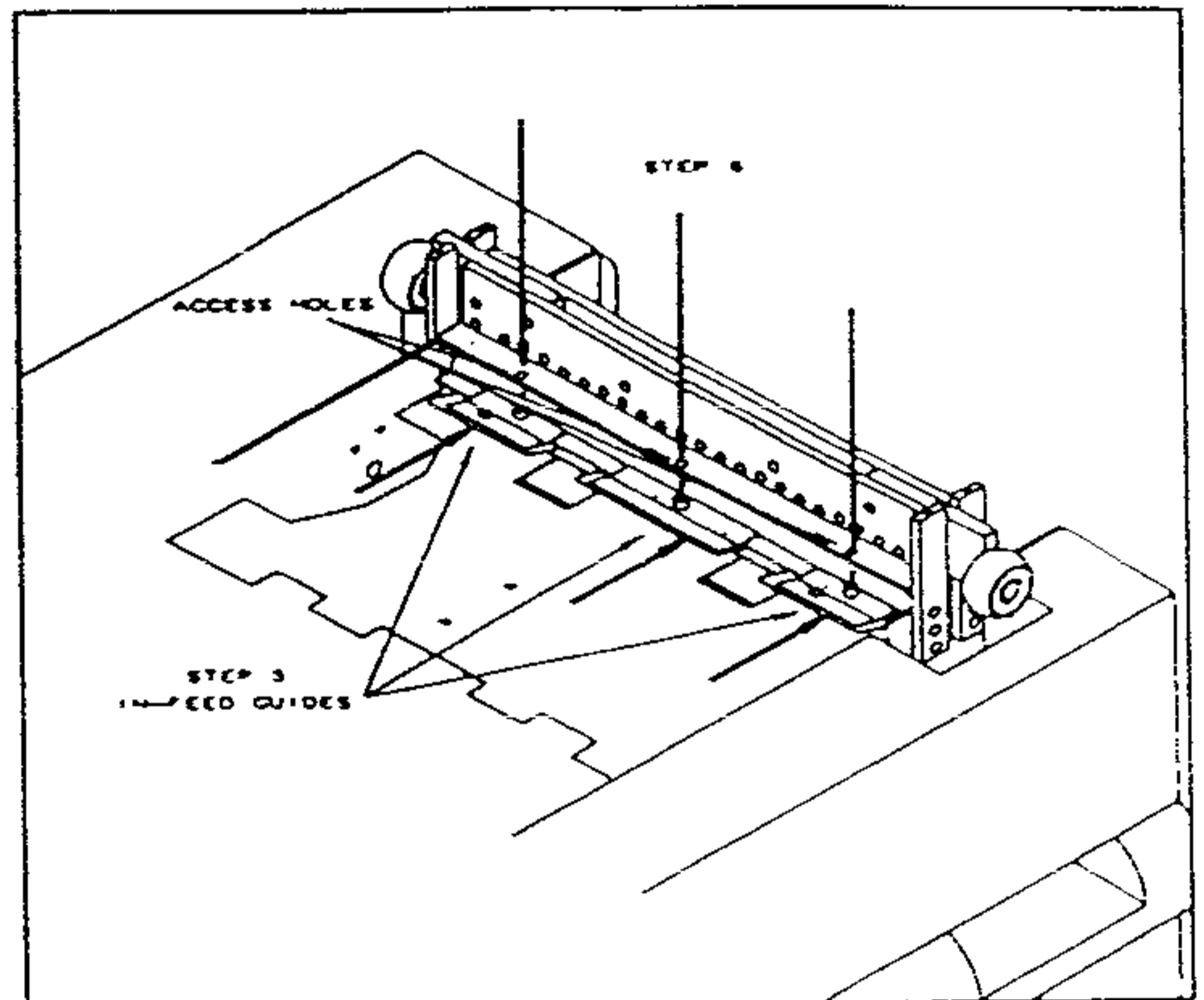


Figure 22

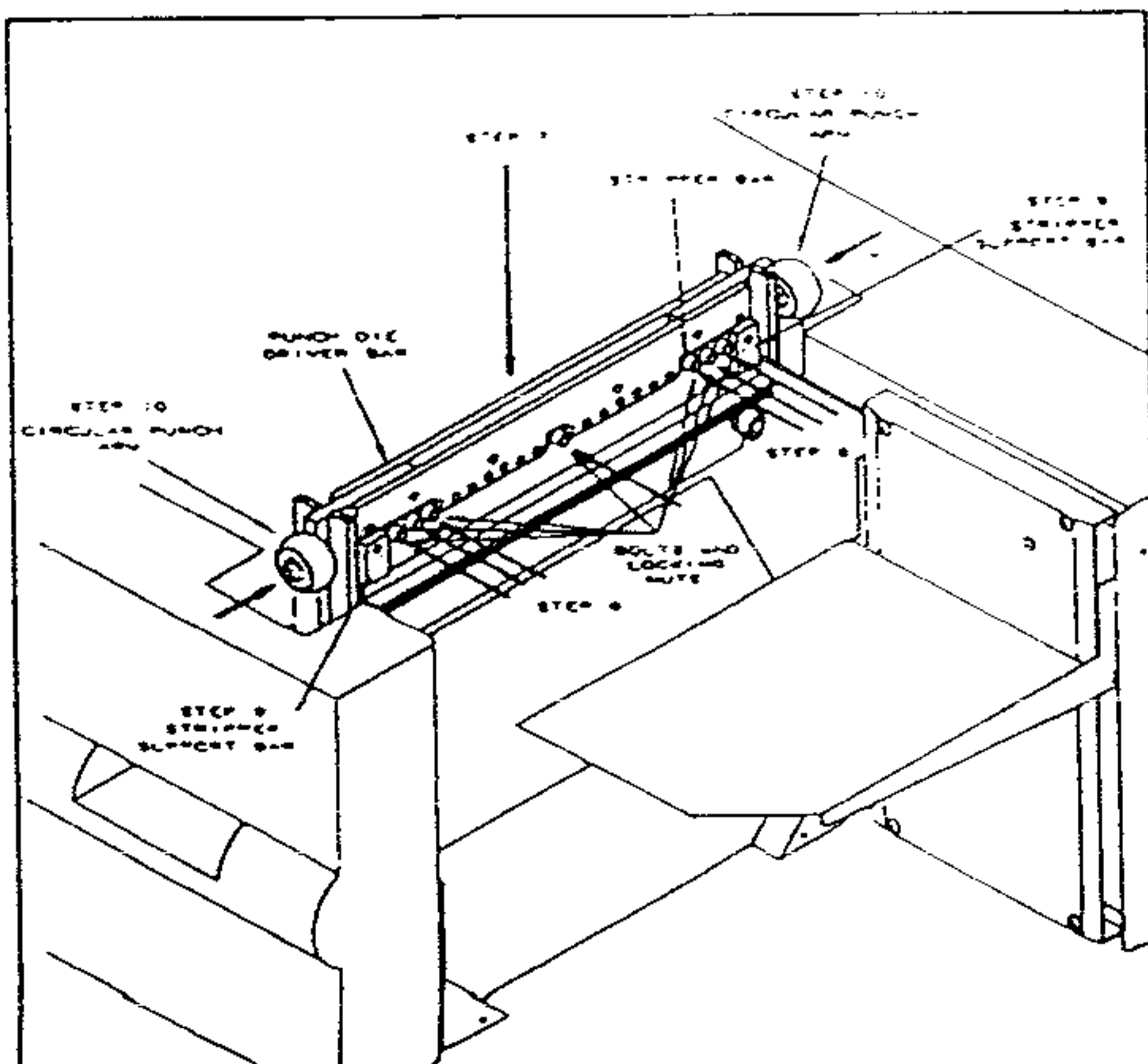


Figure 23

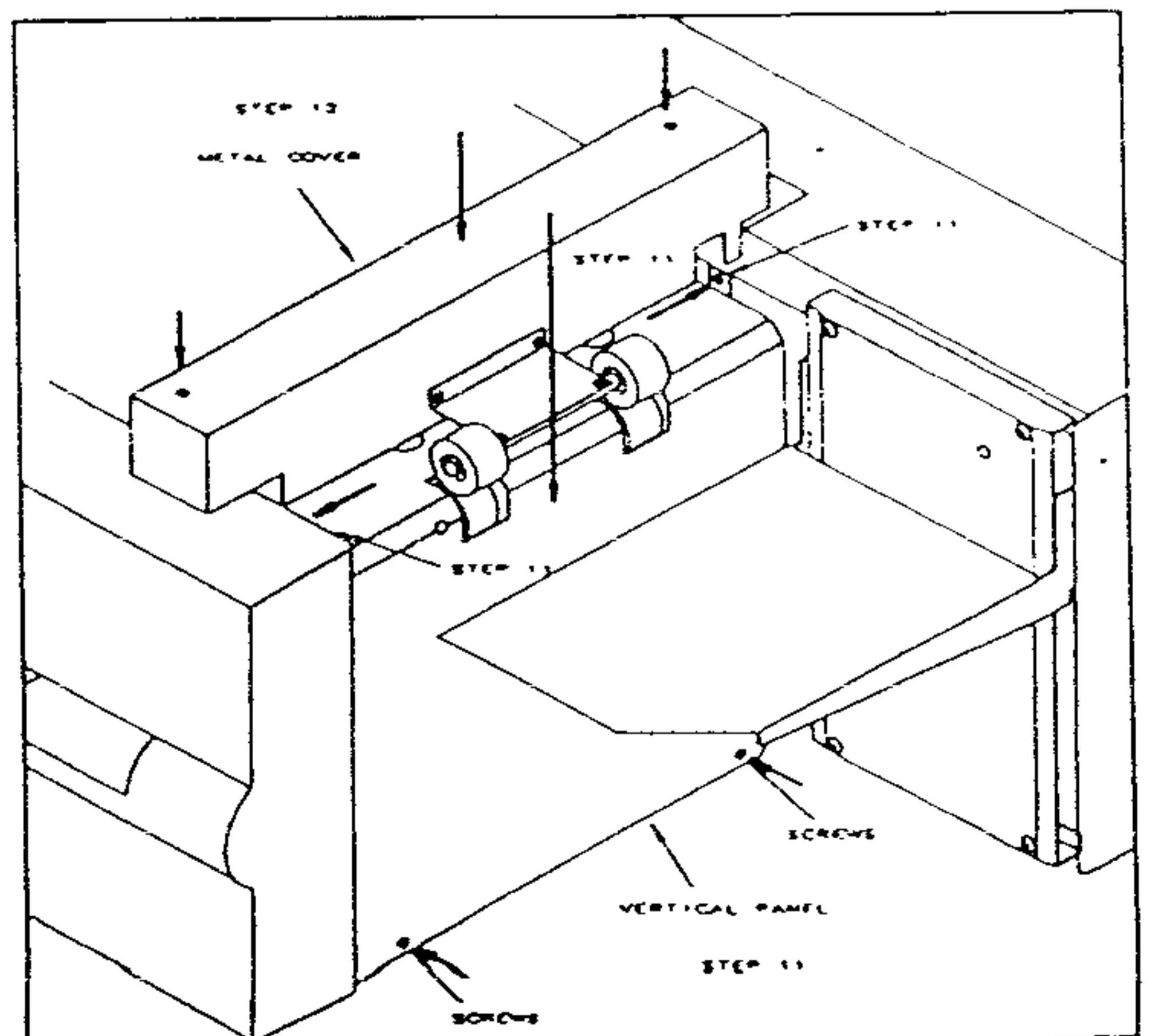


Figure 24