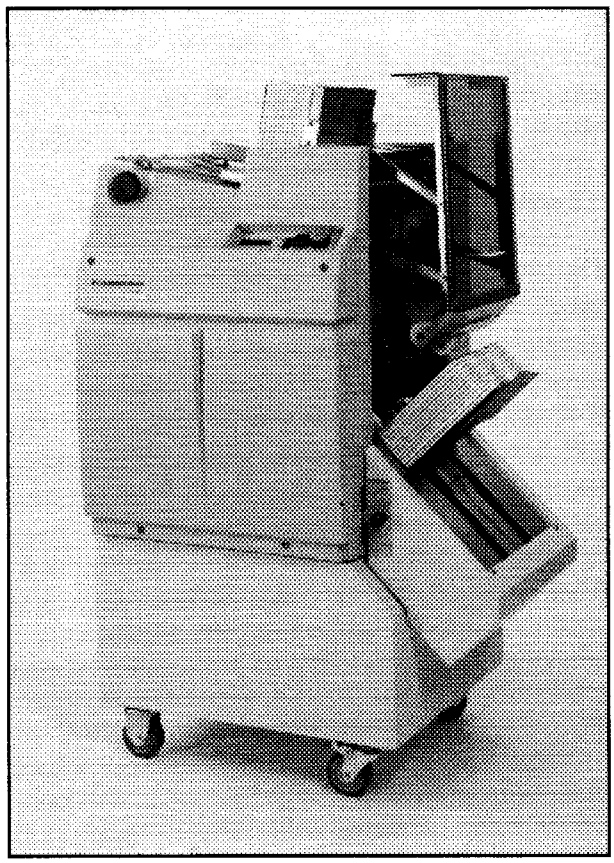
GBC®

Automated Finishing Division

AP-2 AUTOMATIC PUNCH



Operator's Manual

DOMESTIC/INTERNATIONAL

1774599900

GBC Automated Finishing Division
P.O. Box 215230, Auburn Hills MI 48321-5230 USA

REVISION A

INTRODUCTION

Congratulations on your new AP-2 purchase! You now own the most flexible automatic punch on the market. With only small setup changes you can punch multiple sizes, a variety of punch patterns, and even index tabs. The simple design and easy to operate controls on the AP-2 make it easy for anyone to set up and operate the machine with minimal training.

CONTENTS

Introduction 1

Safety Messages 2,3

Main Cordset Selection (230 V.A.C., 50Hz Machine) 4

Specifications 5

Functional Parts Description 6,7,8,9

AP-2 Set Up 10,11

Operating Procedures 12

Error Recovery 12

Paper Guidelines For Automatic Punching 13,14

Troubleshooting Guide 15,16

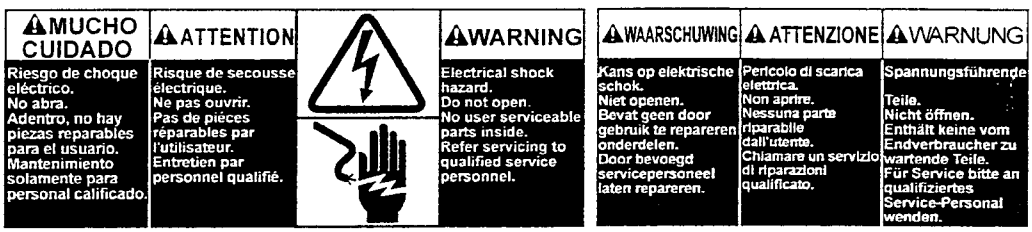
SAFETY MESSAGES:

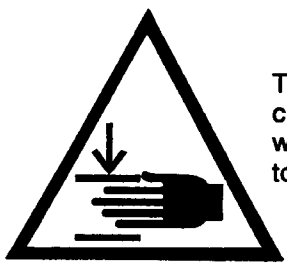
Your safety as well as the safety of others is important to us at GBC. In this Operator's Manual and on the AP-2 itself are **important safety messages**. Please read these messages carefully.



The **Safety Alert** symbol precedes each safety message in this Operator's 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 warning for an electrical shock hazard is found on the AP-2.
These symbols mean that you could be seriously hurt or killed if you open a cover and come in contact with hazardous high voltage.





This symbol warns you could crush your fingers or hand when the Output Stacker moves to its upward position.



This label (right) warns that clothing, hands, or hair could become entangled by moving parts in the machine. Always allow a safe distance.

THE FOLLOWING SYMBOLS APPEAR ON THE AP-2:

ISO and IEC SYMBOLS:

| Means Power ON
○ Means Power OFF

OPERATING SYMBOLS:

 **Means SELECT**

 **Means FUNCTION**

 **Means RUN/STOP**

 **Means EMERGENCY STOP**

WHEN THE AP-2 IS "ON" (I) THE FOLLOWING SYMBOLS MAY APPEAR:

Jog Time - Shown on the display unit means cycle time can be changed.

Long Paper ON/OFF - Shown on the display unit means paper function can be changed.

Back Curl ON/OFF - Shown on the display unit means Back Curl function can be changed.

Ready - Means run can be initiated.

Press Run - Means that when the Run/Stop switch is depressed one time, and the Input Hopper has paper, the AP-2 will start punching.

FOR YOUR SAFETY:

- Do not connect electrical power to the AP-2 or attempt to operate it before reading this Operator's Manual or before you have been fully trained as an operator.
- Save this Operator's Manual for future use and referal.
- Keep hands, long hair, neckties, necklaces, and loose articles away from moving parts.
- Never override or attempt to defeat electrical or mechanical interlock devices.
- Never insert objects or spill liquid into the AP-2. They may contact dangerous voltage or short out components, resulting in fire or electrical shock.
- Connect the AP-2 only to the electrical supply shown in the machine specification section of this Operator's Manual and the Serial/Rating label on the equipment. Connect to a power outlet installed near the equipment that is easily accessible.
- Never alter the plug on the end of the cord set (if provided) of the AP-2. This plug was provided 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-2 power "Off" (O) at the end of each day.
- Unplug the AP-2 before moving it or when it will not be in use for an extended period of time.
- Do not attempt to service the AP-2. *Contact an authorized GBC service representative if any of the conditions listed below are encountered.*
  - Damaged plug or frayed power cord.
  - Liquid has been spilled into the AP-2.
  - The AP-2 has been exposed to rain or water.
  - The AP-2 has been dropped, bumped or dented.
  - The product does not operate normally when following the operating instructions.

U.S. and CANADIAN AP-2's ONLY:
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's 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/her own expense.

CAUTION:

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

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel broullier du Canada.

MAIN CORDSET SELECTION (For 230V AC Machine Only)



When choosing a detachable line cord for use with the AP-2, always observe the following:

The cordset consists of three components; the attachment plug, cordage and appliance inlet. Each of these components must have European regulatory approvals for safety.

The following minimum electrical ratings for the specific cordset are published for safety purposes. DO NOT USE CORDSETS THAT DO NOT MEET THE FOLLOWING MINIMUM ELECTRICAL REQUIREMENTS:

PLUG: 3 A, 250 Volts, 50/60 Hz, Class 1, 3 conductor, European safety agency approved.

CORDAGE: Type H05 V V-F 3G0.75 Harmonized (◁HAR▷). The symbols " ◁▷ " indicate cordage approved to appropriate European standards. NOTE: " ◁HAR▷ " may be substituted for approval mark of European safety agency which approved the cordage. An example would be "VDE".

APPLIANCE CONNECTOR: 3 A, 250 Volts, 50/60 Hz, European safety approved, Type IEC 320. Cordset shall not exceed 3 meters in length. Cordset with component electrical ratings greater than the minimum specified electrical ratings may be substituted.

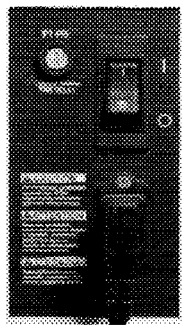
SPECIFICATIONS

Sheet Size	5½" x 5½" - 12" x 11¾" 13.97cm x 13.97cm - 30.48cm x 29.85cm
Paper Basis Weight	16# bond to 110# index 70gm M^2 to 163gm M^2 index Cover stock up to 17 pt.
Paper Finish	Glossy, coated, laminated, and plastic stocks are not recommended. Refer to "Paper Guidelines for Automatic Punching" for details.
Punching Productivity	56,000 sheets of 20# basis (70gm M^2) paper per hour maximum. 3700 cycles per hour, 15 sheet per cycle average with GBC pattern die. Optional available dies will punch less.
Feed Hopper and Output Stacker Capacity	Up to 2,500 sheets of 20# basis (70gm M^2)
Dimensions	25" long x 34" wide x 53" high. 63.5cm long x 86.4cm wide x 134.6cm high.
Weight	300 lbs. 136 kg
Electrical Power	115V AC ± 10%, 60Hz, 5A, 210 Watts, Single Phase (domestic) or 230V AC ± 10%, 50Hz, 2.2A, 266 Watts, Single Phase (international
Short Circuit Interrupt Capacity	2000A
Ambient Air Temperature	41.7 → 104°F / 5 → 40°C
Humidity Rating	30% - 95% (non-condensing)
Altitude Rating	Up to 1,000 Meters (minimum) 2,540 Feet (minimum)
Acoustical Noise	74 dB A
Initial Year of Manufacture	1997

FUNCTIONAL PARTS DESCRIPTION

Power Switch

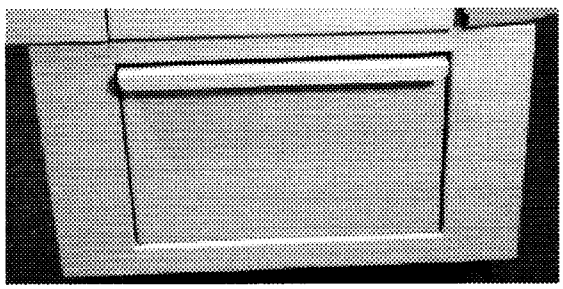
Located on the rear of the machine. This switch turns electrical power ON (I) and OFF (O) by rocker switch. The LCD informational display will illuminate when the power is ON (O).



Power Switch

Safety Shield

Located on the right side of the unit. This shield must be in the down position for the AP-2 to operate. A safety switch prevents the AP-2 from operating when the shield is raised for removing paper from the die or making adjustments.



Chip Drawer

Located at the bottom of the AP-2. The chip drawer collects the paper chips as they exit the punching die. The AP-2 display will notify the operator when the chip drawer should be emptied.

The AP-2 counts punch cycles to determine when the chip drawer must be emptied. When the chip drawer is opened the counter automatically resets to zero. **Empty the chip drawer every time it is opened, otherwise the drawer may overfill.**

Feed Hopper

Located in the upper portion of the unit. Holds up to 5 reams of 20 lb. bond (70gm M^2) paper (2,500 sheets). The operator can continuously load the hopper as the machine is running. Conveyor belts move paper toward the feeding area.

Sheets to be punched must all have the same dimension along the binding edge. Index tabs or or covers oversized along the unbound dimension may be intermixed/varied.

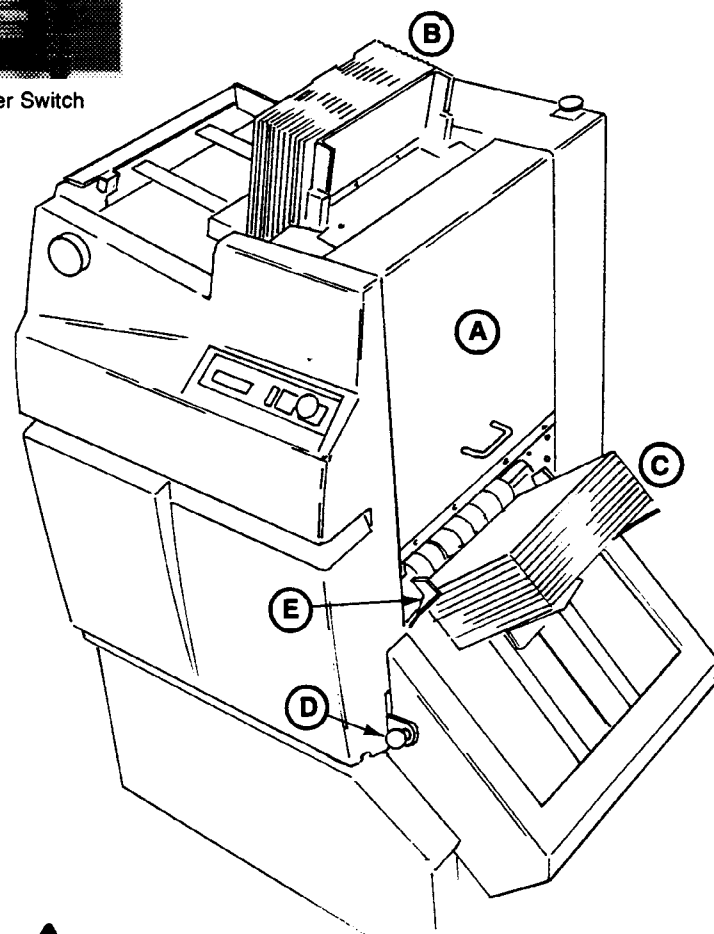
Paper Weight

Holds the stack of paper in place and advances the paper stack toward the feeding area. The paper weight must be centered on the feed hopper belts.

Receding Output Stacker

Collects punched sheets in collated order. It accepts the same number of sheets that can be loaded into the input feed hopper. The stacker will automatically lower as it fills up. Sheets can be removed at any time, but, the punch may skip a cycle while the stacker moves back into position. When the stacker fills, the system will automatically stop punching.

A. Safety Shield
B. Feed Hopper
C. Receding Output Stacker
D. Redirector Paper Adjustment Lever
E. Output Justifiers



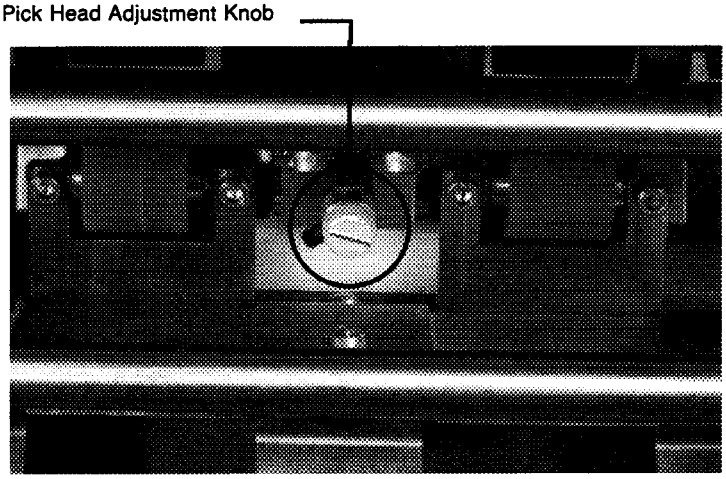
CAUTION! A trip hazard exists when the stacker is in the lowest position. Be careful not to trip on the stacker plate. After emptying the stacker, switch the AP-2 ON (I) and depress the Start switch once. When you finish using the AP-2 depress the Start switch once to raise the stacker plate.

Redirector Paper Adjustment Lever

Located on the output stacker. Used to adjust for various paper lengths.

Output Justifiers

The Output Justifiers are located on the Receding Output Stacker. The gently tap the paper after it has entered the stacker in order to better justify the paper for subsequent binding.



Pick Head

Located at the bottom of the Input Hopper under the Safety Shield. The Pick Head selects the lift to be punched from the paper stack in the Input Hopper.

Pick Head Adjustment Knob

The Pick Head is adjustable to accommodate various paper stocks, covers and curled paper. The maximum thickness that can be fed is equivalent to about 15 sheets of 20 lb. bond (70gm M^2). Because the Pick Head separates groups by total thickness, the actual number of sheets separated in each cycle may vary.

For example, an average of 15 sheets per cycle may actually result in a range from 13 to 17 sheets at a time.

If good quality paper (without heavy curl) is being punched and high productivity is desired then the pick feeder should be adjusted toward the maximum.

Feed Hopper Edge Guide

Located at the rear of the Feed Hopper. When loading paper, align the edge of the paper carefully against the edge guide.

Edge Position Indicator Scale

Located at the far left side of the Feed Hopper. Used to position the paper.

Edge Guide Adjustment Knobs

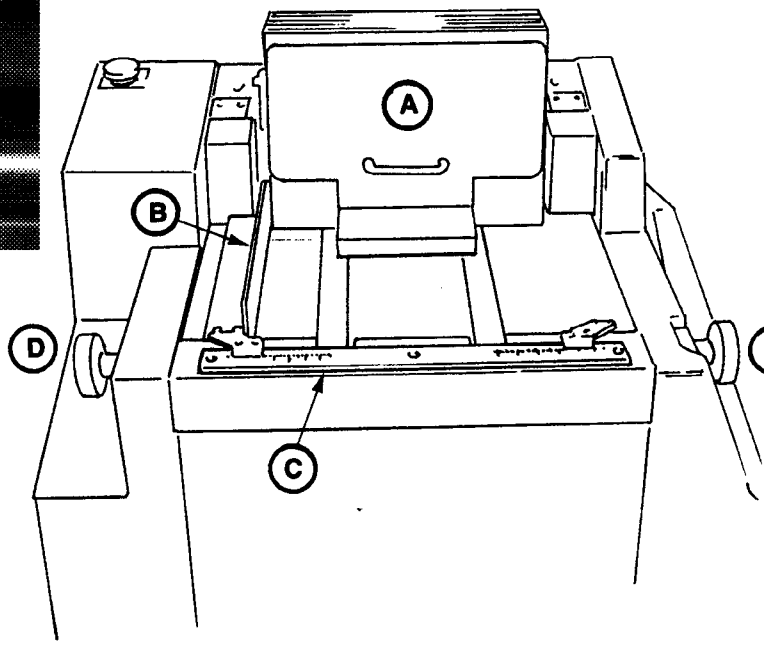
There are 2 Edge Guide Adjustment Knobs located on both the front and rear of the machine. Both knobs must be adjusted to position the paper path properly.

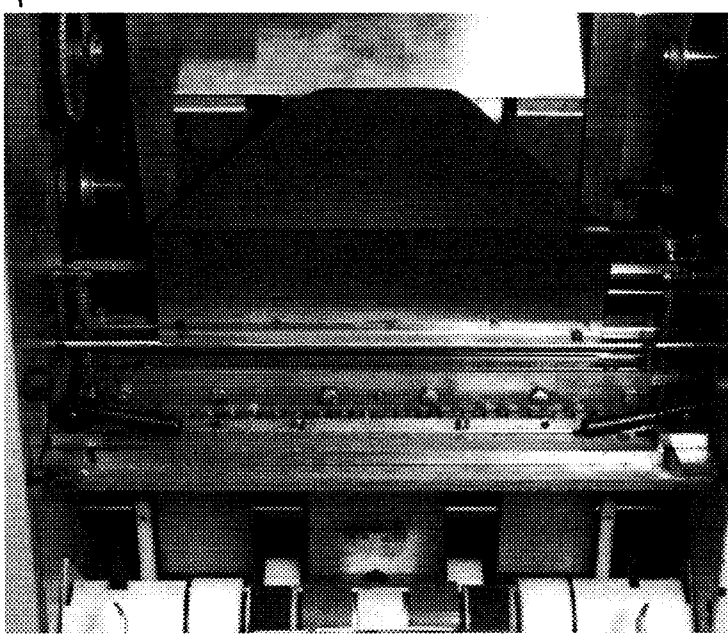
Punch Deck Door

The Punch Deck Door is located in the punch area and helps to guide the paper into the die set. It is held in position by a magnet and can be swung outward to remove mis-fed paper.

The Punch Deck Door must be removed when changing die sets. To remove, lift the interlocked shield, press the two latches inward and remove the entire assembly. **Do not forget to replace the Paper Guide after the die set has been replaced as paper will not feed properly.**

A. Paper Weight
B. Feed Hopper Edge Guide
C. Edge Position Indicator Scale
D. Edge Guide Adjustment Knobs



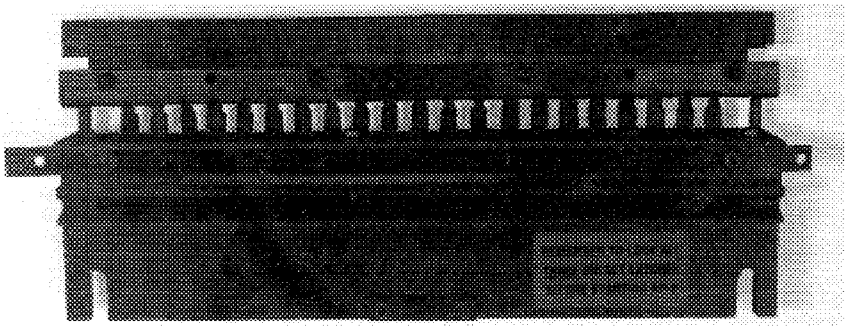


Above: Punch Deck Door and Die Set in position. (Safety Shield open).

CAUTION: Close the Safety Shield before operating the AP-2.

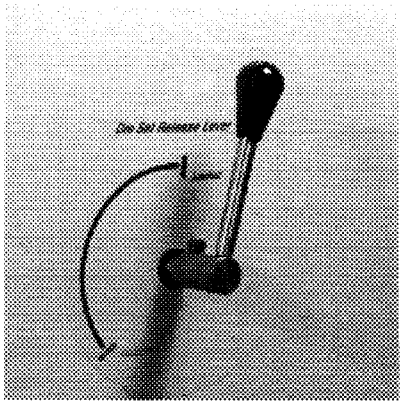
Stop Finger Release

Located beneath the die set. This must be depressed to release paper when jammed in the die set area.



Die Set

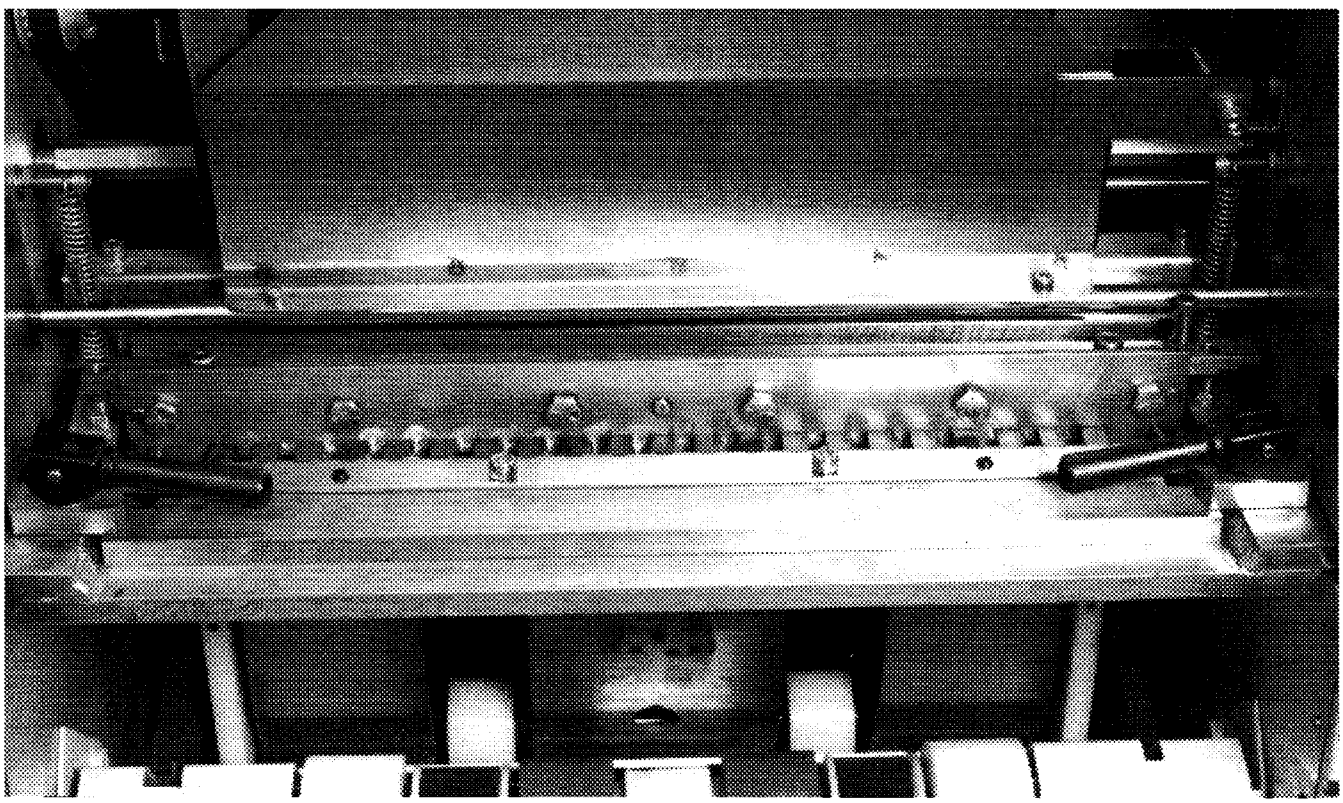
The die set for the AP-2 should arrive in a separate package. It does not come installed with the AP-2. The die set is the assembly that physically does the punching. It can be ordered in a variety of different patterns. The die sets have removable punches so that various paper sizes can be punched without nicking the edges of paper with the punches.



Die Set Release Lever

Located on the back of the machine. To lock the die set into place this lever must be in the **Locked** position. To unlock the die set the lever must be in the **Unlocked** position.

CAUTION: Check that release latches, blocks and release levers are locked. AP-2 damage will occur.

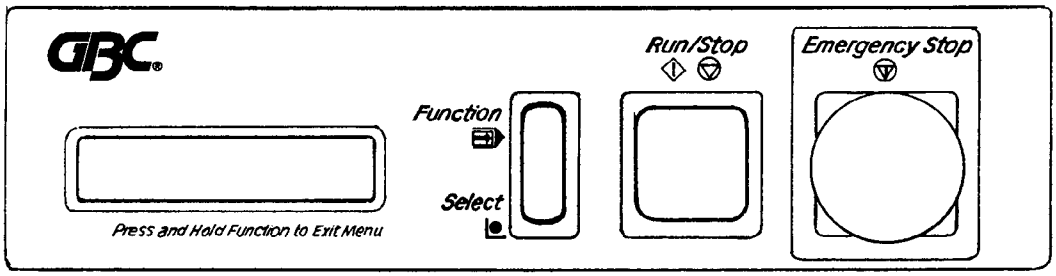


Die Set Release Latches

There are two Die Set Release Latches located in the punch area. When removing the die set both die locking levers must be moved into the unlocked position. When re-installing a die set the two levers on the driver bar must be in the locked position and pointed toward each other before running.

Die Set Release Blocks

The Release Blocks are located just underneath the Die Set Release Latches. To remove the die set, the release blocks must be rotated off of the die set drive bar. After installing the die set, they should be turned so that the release blocks are extended over the die set drive bar when locking the die set in place.



Operator Control Panel

Function Switch

Located on the Operator Control Panel. Depress the Function Switch once to enter the AP-2's menu system. Momentarily depress the Function Switch to view each available selection. *The selections are as follows:*

Jog Time. Changes the cycle time of the AP-2. This is variable from 0 to 1 second. The jog time should be increased for difficult-to-run paper stock, covers, and heavily curled paper.

Long Paper. If the unbound edge of the paper is greater than 9" this function should be set to "ON."

Back Curl. This function should be set to "ON" for very heavily curled covers and paper stock, or whenever there are persistent "No Feed" error messages (may occur for certain cover stocks). At start-up the AP-2 automatically reverts to Back Curl "OFF."

Service. This is an electronic diagnostic system that is to be used only by authorized service technicians.

To exit the menu and return to the "READY" state depress and hold the Function Switch for about 2 seconds.

Select Switch

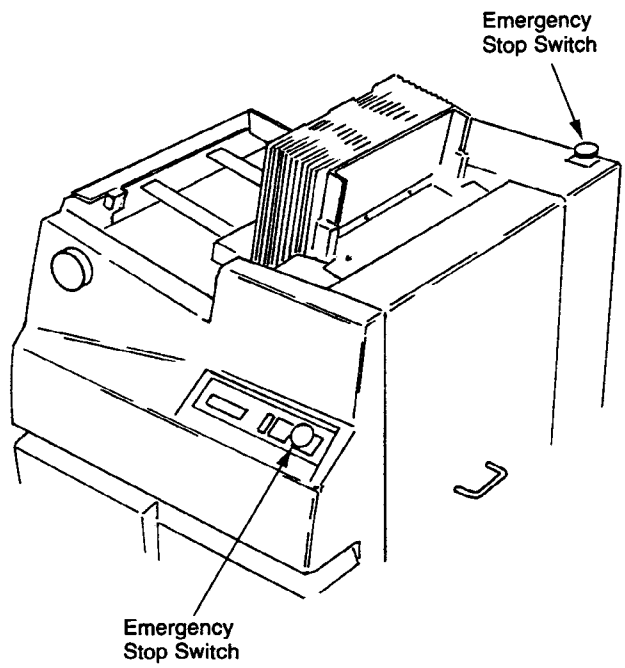
Located on the Operator Control Panel. Use this switch to make selections within the menu. *For Example: Actuate the Select Switch to adjust the jog time in the menu.*

Run/Stop Switch

Located on the Operator Control Panel. This switch is used to both start and stop the AP-2. Also, the Run/Stop switch must be depressed to clear an error as shown on the informational display. This switch will halt the punching, feeding, and transport systems only when the unit is still on.

Emergency Stop Switches

Located on the Operator Control Panel and on the back panel. These switches are only to be used in **emergency situations.** Depressing this switch immediately cuts off electrical power to all motors.



AP-2 SET UP

Because the AP-2 is very flexible, there are some simple setup procedures which must be undertaken when operating the AP-2 for the first time.

Die Set Preparation, Installation and Removal:

The punching die set is not included with the AP-2. Before operating the unit a die set will need to be installed. The following procedure is the same for all die set patterns.

Die set preparation (pin removal)

AP-2 die sets have enough pins for 12" (30.48cm) paper, therefore, before using the die set it may be necessary to remove pins. For example, if you are using the GBC plastic comb pattern the die set will initially have 21 pins. However, to punch 11" (27.94cm) paper only 19 pins should be used to avoid nicking the paper edges. **Therefore, it would be necessary to remove one pin from each side of the die set.** The procedure (which applies for all die set patterns) is as follows:

1. Place the die set on a flat surface with the two "L" shaped brackets facing upward.
2. With the thumb and forefinger slide the two "L" shaped brackets toward each other.
3. Remove the driver bar.
4. Slide the necessary pins out of the die set.
5. Making sure all of the pins are properly aligned, replace the driver bar and slide the "L" shaped brackets outward.

Die set installation:

1. Unplug the AP-2.
2. Lift the safety shield.
3. Remove the punch deck door by moving the spring loaded latches inward and remove the door straight out.
4. Make sure the die set release lever, the die set release latches, and the die set release blocks are all in their "unlocked" position.
5. Hold the die set with the "L" shaped bracket facing down and the driver bar facing out.
6. Slide the die set into the die set area at the bottom of the paper path. Check that locating slots engage pins and the die key and keyway are seated.
7. Move the die set release lever into the "locked" position.
8. Slide the driver bar outward until the key slots on the driver bar match the keys on the AP-2. *Note: It may be necessary to slightly shift the permanent drive bar to engage the die set fully.*
9. Move the die set release blocks and the die set release latches into their "locked" positions.
10. Replace the Punch Deck Door. **THE AP-2 WILL NOT OPERATE IF THE PUNCH DECK DOOR IS NOT IN PLACE.**
11. Lower the Safety Shield.

Die set removal:

1. **Unplug the AP-2.**
2. Lift the safety shield.
3. Remove the punch deck door by moving the latches inward and sliding the door straight out.
4. Move the die set release latches, die set release lever and the die set release blocks to their "unlocked" position.
5. Disengage the die set by pressing up on the die set from the bottom.
6. Pull the die set straight out.

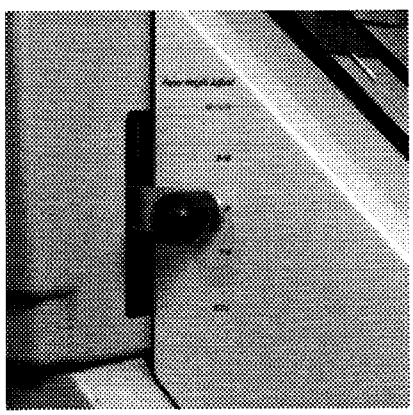
Paper Size Adjustments

The AP-2 accepts paper from 5½" x 5½" (13.97cm x 13.97cm) up to 12" x 11¾" (30.48cm x 29.85cm). Some simple adjustments are necessary to change from size to size. No special adjustments need to be made for intermixed index tabs.

Edge Guide Adjustment:

This single adjustment will adjust the edge guides on the input feed hopper, on the paper path and the output side justifiers. The maximum bind edge is 12" (30.48cm).

1. Fold a sample piece of paper in half perpendicular to the edge which you will be punching.
2. Align the folded edge with the center line imprinted on the rear of the machine.
3. Rotate the edge guide adjustment knob until the edge position indicator is even with the side of the paper opposite the fold.
4. Repeat the procedure for the opposite edge position indicator.
5. Run several sheets through the punch.
6. Check that the holes are properly centered on the paper.
7. If the holes are not centered, adjust both guides (left or right) slightly until the holes are perfectly centered on the paper.



Paper Height Adjustment:

IF THE PAPER HEIGHT (NON-BIND EDGE) IS LESS THAN 9" (22.86cm)...

1. Measure a sample sheet of paper to be punched.
2. Move the redirector back stop adjust lever to the approximate size range.

IF THE PAPER HEIGHT IS GREATER THAN 9" (22.86cm)...

1. Measure a sample sheet of paper to be punched.
2. Move the redirector paper back stop adjust lever to the appropriate size range.
3. Depress the function switch twice to display the long paper menu on the information screen.
4. Depress the select switch to set "Long Paper" to "ON".
5. Depress and hold the function switch for about two seconds. This returns the AP-2 to the ready state.

Paper Quality Adjustments

Paper that has been printed on high speed duplicators or printers are often charged with static electricity and/or are curled and wrinkled. The AP-2 can be adjusted in the following ways to punch paper that may have these characteristics more reliability:

Jog Time:

If you are punching difficult-to-run paper stock or covers then it will be necessary to increase the jog time on the AP-2. (*See section on Paper Guidelines for Automatic Punching*). Jog time can be varied from 0 to 1 second. The following explains how to change the jog time:

1. Depress the function switch once so that the jog time menu is displayed on the information screen.
2. Depress the select switch until the desired jog time is displayed on the information screen.
3. Depress and hold the function switch for about two seconds. This returns the AP-2 to the ready state.

Lift Size Adjustment:

If you are punching difficult-to-run paper stock or covers it is recommended that the number of sheets fed into the punch be decreased. This will increase the life of the die set as well as improve the quality of the punched holes. To increase productivity with good quality paper increase the lift size. For cover stock or heavily curled paper it is suggested that fewer sheets or covers be fed into the AP-2.

1. Lift the safety shield.
2. Locate the pick head adjustment knob near the top of the machine.
3. To increase the number of sheets turn the knob counter-clockwise. To decrease the number of sheets turn the knob clockwise.
4. Connect the AP-2 to the appropriate power source and position the on/off switch to the "ON" (I) position.
5. With sample paper, test the number of sheets which are being fed.

OPERATING PROCEDURES

Before operating the AP-2, make sure that:

- Die set is properly installed.
- Paper guide is in place.
- Chip tray is closed.
- Safety shield is in down position.

Before starting the AP-2 you should run through the following checklist:

- Edge guides have been adjusted for paper width.
- The backstop lever has been adjusted for paper length.
- If paper is longer than 9" the "Long Paper" function should be set to "ON" and the paper path extensions should be installed.
- The jog time should be set for the type of paper being punched.
- The pick head should be properly adjusted.

After the AP-2 has been set up according to the directions in the previous section, the AP-2 is ready to be loaded with paper.

1. Connect the AP-2 to the appropriate power source and position the on/off switch to the "ON" (I) position.
2. Load fanned paper (see Paper Guidelines for loading techniques) binding edge downward into the feed hopper.
3. Place the paper weight on the feed hopper, making sure to center the weight on the belts.
4. Depress the Run/Stop switch to start punching.

The AP-2 will continue punching until either the feed hopper has run out of paper, the output stacker is full or the Run/Stop switch has been depressed. Paper may be continuously loaded as the AP-2 is operating. Also, paper may be unloaded from the output stacker as the machine is operating. When a large stack of paper is unloaded from the output stacker, the AP-2 may skip a punch cycle so that the output stacker back stop can move back into position.

All motors will immediately shut down if the safety shield is opened or if the chip tray is removed. Also, in emergency situations the Emergency Stop switches should be depressed to immediately shut down all motors.

ERROR RECOVERY

Occasionally, paper may become jammed in the punching area or in the paper eject area.
To remove jammed paper:

1. Lift the safety shield.
2. Remove the jammed paper.
3. Close the safety shield.
4. Depress the Run/Stop switch to clear the error.
5. Depress the Run/Stop switch to resume punching.

OTHER ERROR CONDITIONS THAT MAY OCCUR ARE:

MCR or Lid Open - Make sure that the safety shield is closed and the Emergency Stop switches are not depressed.

Paper Jam - Paper is jammed in the punch area. Remove paper and continue punching.

No Paper - Paper has not fallen into the punch area. The feed hopper may be empty or the paper is curled away from the pick head.

Redirect Jam - Paper is jammed in the redirect area. Remove paper and continue punching.

Stack full - The output stacker is full. Remove paper and continue punching.

PAPER GUIDELINES FOR AUTOMATIC PUNCHING

The AP- is designed to operate with a range of paper stocks from 16# basis to 110# index (70gm M^2 to 163gm M^2) that have been printed on electronic laser/xerographic printers, photo-copiers, or offset presses. A wide variety of paper stocks are commonly used and different printing processes have different effects upon them. Therefore, this section is devoted to how the AP-2 can operate satisfactorily when different paper characteristics are encountered.

Note: This section is important because understanding how to deal with a variety of paper characteristics will eliminate many unnecessary service calls.

Collated Sheets:

Sheets remain in collated order as they are punched and ejected into the Output Stacker, allowing for the book to be pre-collated prior to punching. Documents may be loaded either face inward or face outward.

Remember, if the documents are loaded face outward, the last page of the document will feed first into the Output Stacker. Care should be taken to remove books in completed sets.

Intermixed Paper Stocks:

Covers and/or other paper stocks of various thickness can be intermixed in the Feed Hopper. This allows for books to be collated together prior to punching. **The bind edge length must be the same for all intermixed pages.** However, pages in the unbound dimension may vary. For example, index tabs may be intermixed because they vary in the unbound dimension. Oversized covers, however, may not be intermixed because they also vary along the bound dimension.

Loading Techniques:

For the AP-2 to run efficiently, it is necessary to take care to load the paper properly. *The following method should always be followed:*

1. Fan all paper before loading.
   Grasp a small paper stack loosely, holding the sheets with both hands. Tighten your grip on the ends of the stack of paper and bend the sheets, ends toward each other.
   Hold the ends of the sheets firmly while straightening the stack of paper. This will "bow" the sheets, creating air space between them.
2. Stack fanned paper in input hopper as neatly and squarely as possible...no sheets "sticking up".
3. Set the Paper Weight in place with light to moderate pressure to the stack. *Do not use excessive pressure and force sheets too tightly together.*

Unloading Techniques:

For most efficient removal of paper we recommend that only 1 or 2 reams of paper be removed at a time.



CAUTION: Do not lift or twist at the same time. Stand close to the Output Stacker with both feet firmly on the floor. Squat down with your back straight, knees bent, and stomach muscles taut. Grasp the paper firmly with both hands. Bring the paper stack close to your body. Letting your knees do the lifting, stand up slowly. Take small steps and move your feet to change directions without twisting.



CAUTION: A trip hazard exists when the Stacker is in the lowest position. Be careful not to trip on the Stacker Plate. After emptying the Stacker, switch the AP-2 to ON (I) and depress the Start switch once to raise the Stacker Plate when you finish using the machine.

Paper Curl:

Caused by moisture in the paper or toner from one or two-sided copying, or from the static electricity generated by copy machines.

Paper curl can affect the performance of the AP-2 in one of two ways:

1. If the paper stock loaded into the Feed Hopper curls too far away from the Pick Feeder, paper may not be fed into the punching die, resulting in the AP-2 shutting off as if it were out of paper.
2. If the paper stock loaded into the Feed Hopper curls too far forward against the Pick Feeder a thick group of paper may occasionally be fed into the punch die, creating a paper jam or incomplete punch.

CURLED PAPER & STATIC ELECTRICITY PROBLEM SOLVING:

Curl away from the Pick Feeder:

Before loading the paper bend the paper stack in the opposite direction of the curl to straighten it out. When loading the paper make sure to press the Paper Weight firmly against the stack of paper.

If this is still insufficient set the "Back Curl" function to "ON" by using the AP-2's menu system.

If the curl is still too severe, turn the paper around in the Feed Hopper.

Curl forward toward the Pick Feeder:

Before loading the paper bend the paper stack in the opposite direction of the curl to straighten it out. When loading the paper make sure to press the Paper Weight firmly against the stack of paper.

If this is insufficient, reduce the number of sheets that the Pick Feeder separates by using the Pick Feeder Adjustment Knob.

If the curl is still too severe, turn the paper around in the Feed Hopper.

Paper static an heavy toner coverage:

Sheets of paper with heavy static electricity or toner coverage tend to cling together, resulting in thick stacks being separated and fed into the Punching Die, causing a paper jam. To eliminate static electricity or toner problems fan stacks of paper thoroughly before loading them into the Feed Hopper. It is good practice to *always* fan sheets before loading them, even if you are not aware of problems with static electricity or toner.

Increasing jog time will sometimes overcome problems with static electricity.

Paper Types:

Coated paper stocks:

Glossy coated, laminated and plastic stocks are generally not recommended for punching in the AP-2. The smooth surface of these stocks can cause them to slip against each other during the automatic feeding process. *Following are some situations where satisfactory results may be achieved. However, we do not guarantee that this will work on all stocks.*

1. Paper coated on one side: If paper stock is coated on one side only, and it is collated within the Feed Hopper so that a coated and uncoated surface contact each other, it may feed and punch reliably. The uncoated surface may provide sufficient friction against the coated surface to prevent slippage.
   If sheets are collated so that two coated surfaces contact each other a slip sheet may added to reduce slippage.
2. Paper coated on two sides: To punch paper coated on two sides you may need to add a slip sheet between coated sheets to reduce slippage.

For any coated stock we recommend that the AP-2 Jog Time be increased for best registration results. This may be accomplished by using the AP-2's menu system.

Cover stocks:

Standard cover stocks used in the printing industry, such as linen and index stock should be acceptable for the AP-2.

The following GBC cover stocks are acceptable:

Linen
Sturdy Grain
Beauty Gloss (may require slip sheets. See previous section).
Regency (may also require slip sheets)

The following standard GBC cover stocks are <u>not</u> <u>recommended</u> for use in the AP-2:

<u>Leatherette</u> (this material has a tendency to curl more than is allowable on the AP-2)
<u>Clear</u> (the smooth, clinging properties of this stock may cause misalignment during feeding.

Covers and/or sheets with die cuts and windows:

These may not feed reliably if the die cut or window is positioned directly in line with one of the AP-2 rollers. If a problem arises, try turning the stock around and load it into the Feed Hopper in the opposite direction. The sheets may now avoid obstacles in the feed path.

Color copies:

The heavy toner coverage on most color copies causes more curl and static electricity than black and white copies. Therefore, *GBC does not recommend punching color copies in the AP-2.* If you wish to try punching color copies in the AP-2 please refer to the instructions addressing the problem of curl, static electricity and heavy toners. For best results, make sure the color copies cool for at least 60 minutes after copying.

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
No Feed error. Paper not feeding properly.	Curl is away from the pick head	Follow the guidelines listed in the "Paper Guidelines" section addressing paper curl.
	Unacceptable paper type	Follow the guidelines listed in the "Paper Guidelines" section addressing paper types.
	Lift thickness is set too low.	Increase lift thickness.
	Paper is not loaded properly.	Be sure that paper is placed in the Input Hopper snug and square. Use the back stop to slightly increase compression against the stack, but not excessively. Follow guidelines listed in the "Paper Guidelines" section addressing loading techniques.
	Front sheet is folded.	Remove the stack and straighten the first sheet.
Punched hole distance from edge not consistent.	Static or excessive toner coverage is causing sheets to cling together.	Fan sheets thoroughly before loading them in the Feed Hopper. Increase the jog time.
	Edge guides not properly adjusted.	Adjust Edge Guides leaving approx. 1/8" on either side of paper.
	Sheets are mis-aligned in Feed Hopper.	Jog sheets well before loading.
Punched holes not properly centered on the page.	Edge Guides improperly adjusted.	Adjust Edge Guides to center paper.
Nicking of paper edge.	Pins have not been removed from from the die set. Edge Guides not adjusted.	Remove the outside pins on the die set. Check Edge Guide adjustment.
Cannot punch paper with an unbound edge over 9".	Long Paper function not set to "ON"	Set Long Paper function to "ON".
Paper jams after it enters Redirector.	Redirector paper height not adjusted properly. Redirector sensor is blocked by paper dust.	Position lever to correct paper size. Use compressed air to clear dust from sensor.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Paper jams in the punch area.	Pick Head is adjusted to feed too many sheets.	Reduce the lift thickness.
	Unacceptable paper type.	Follow guidelines in the "Paper Guidelines" section addressing paper types.
	The Paper Guide has been removed.	Replace the Paper Guide.
	Small pieces of paper are jammed in the die set.	Remove the die set and clean out the die set holes with a thin instrument such as a ruler.
Paper jams in the output area.	Paper is stuck in the output area.	Clean out paper from the output area.
	Paper height adjustment is incorrect	Adjust the paper height lever to the proper paper height.
The AP-2 stops cycling while automatically punching, or will not cycle at all.	Output stacker is full.	Remove paper from the output stacker and resume punching.
	Feed Hopper is empty.	Load more paper into Feed Hopper.
	Paper is curled away from the Pick Head.	Follow guidelines in the "Paper Guidelines" section addressing paper types.
	Safety Shield has opened.	Close the Safety Shield.