

SYSTEM 150

Operator's Manual

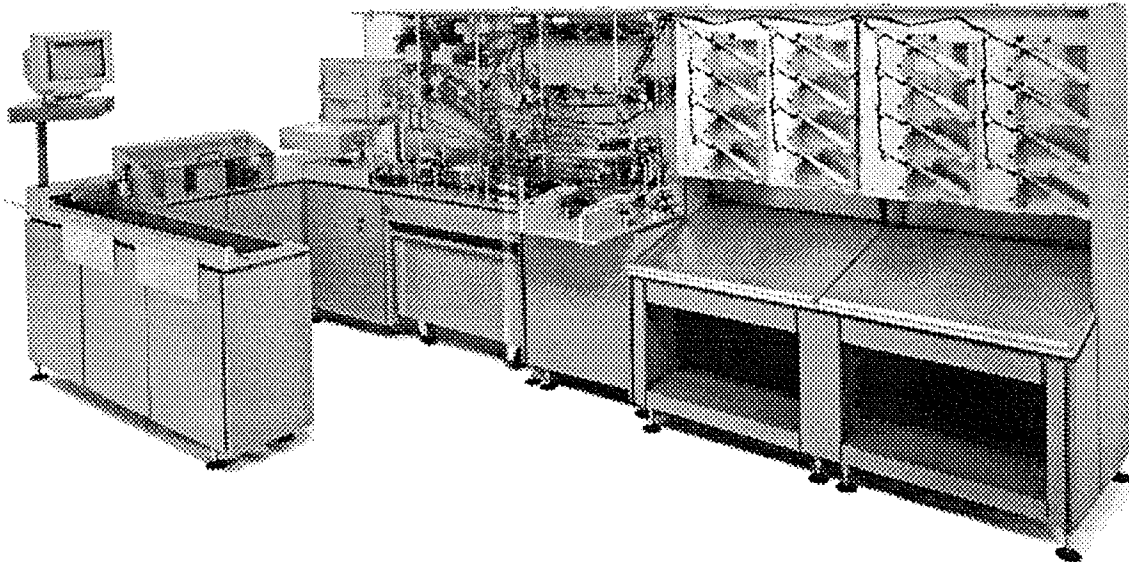
OPEX

COPYRIGHT INFORMATION

Copyright © 1994, OPEX Corporation. All rights reserved.

The information contained in this manual is copyrighted and all rights are reserved by OPEX Corporation. OPEX Corporation reserves the right to make periodic modifications to this manual without obligation to notify any person or entity of such revision. Copying, duplicating, selling, or otherwise distributing any part of this product without the prior written consent of an authorized representative of OPEX Corporation is prohibited.

THE OPEX SYSTEM 150



**WELCOME TO THE FUTURE
OF EFFORTLESS MAIL PROCESSING!**

Contents

- 4..... INTRODUCTION
- 5..... SAFETY FIRST!
 - Steps to Follow for Your Safety
- 6..... OPEX SYSTEM 150: Machine Identification
- 7—9 HOW DOES THE SYSTEM 150 WORK?
 - Step 1 — Qualification
 - Step 2 — Cutting
 - Step 3 — Extraction
 - Step 4 — Singulation
 - Step 5 — Orientation & Sequencing
 - Step 6 — Stacking
 - Step 7 — Output Transfer
- 10..... HOW DO I TURN THE MACHINE ON?
 - Machine Controls
- 10..... HOW DO I TURN THE MACHINE OFF?
 - Stopping the Machine In an Emergency
 - Powering Down Normally
- 11..... WHAT IF AN ENVELOPE GETS STUCK IN THE MACHINE?
 - Jam Management
 - Covers
- 12..... I. GETTING STARTED
 - Before Pressing the "ON" button
 - Power-Up Checklist
- 13,14 II. TURNING THE MACHINE ON
- 15..... III. ENTERING YOUR ACCESS NUMBER
- 16..... IV. SELECTING A JOB
- 19..... V. LOADING THE MAIL
 - Prepping the mail
- 17-22 VI. RUNNING THE JOB
- 23..... VII. CLEARING A JAM
 - Tips on clearing jams
- 23..... VIII. ENDING A JOB
- 24..... SYSTEM 150 OPERATOR MAINTENANCE RESPONSIBILITIES
- 25..... GENERAL ADVICE
 - Good things to do
 - Good things not to do
 - Optimizing your performance
- 26..... NOTES

Dear Operator:

Your OPEX System 150 is not a complicated machine from the operator's point of view. You might not believe that at first, especially if you are one of those people like me who has trouble programming a VCR, especially when you are forced to read the manual. If that makes you smile, you know what I mean.

Learning the System 150 is like learning to drive.

You didn't learn to drive a car by reading a list of the car's features and advantages. You took it a step at a time, doing basic things like turning on the engine, figuring out how to put the car in gear, and backing out of the driveway without hitting the telephone pole.

This manual will teach you to operate your OPEX System 150 step by step, answering the questions that all of us have when learning to operate something new and unfamiliar:

- How do I turn it on?
- How do I turn it off?
- If I do this, what happens then?
- Oh, no! It's got a computer... What if...

So relax; you'll do fine! Keep this manual handy, and refer to it when a new question comes to mind.

If you have an idea that might make this a better manual for new operators, I'd like to hear from you. You can write c/o OPEX Corporation, 305 Commerce Drive, Moorestown, NJ 08057 or call 609-727-1100.

Congratulations!

Michael Jones
Product Specialist

Safety First!

Your first responsibility as a System 150 operator is safety: yours and that of your co-workers. For your safety, the System 150 has the following features built-in:

- **AN ENCLOSED PAPER PATH:**

The entire paper path (the path taken by the envelope, check, and document through the machine) is protected by clear acrylic doors. These allow you to see what is going on without risk of injury. *The machine will not start up if a cover is open. During operation, it will stop operating whenever one of these covers is opened.*

- **INTERLOCKS:**

Belts and pulleys, spinning at high speed, can cause problems for a careless operator. They can grab long hair, neckties, scarves or loose clothing. As a precautionary measure, electro-mechanical interlocks have been installed on the System 150. *These interlocks will shut down your machine whenever a cover is lifted or a door is opened.*

- **PANIC BUTTONS:**

Big, red, mushroom-shaped "panic buttons" are used to stop the machine in an emergency. Learn where they are along the machine. In an emergency, push the nearest panic button. Use your hand, your thigh, or your hip. Your machine will stop immediately. In order to turn the machine on again, you must pull out on the button, clear the machine, and press the "ON" button.

Our engineers have gone to great lengths to design the OPEX System 150 so that it can be operated safely. **NEVER DISABLE ANY OF THE ABOVE FEATURES!** Doing so will not increase your productivity. It will put you and your company at risk, should anyone be injured.



Steps to Follow for Your Safety

- **Read this manual.** If you know how the machine works, and what to expect, you're less likely to get into trouble.

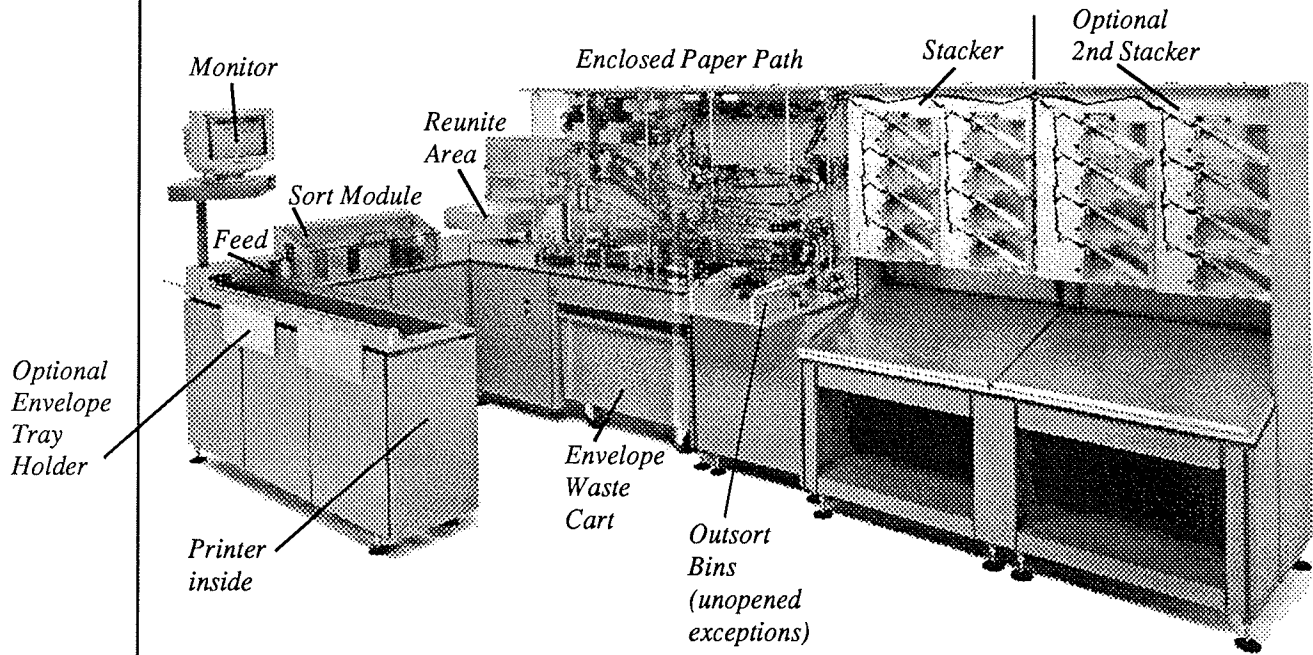
- **Understand** what this machine does, and how it does it. This is covered in the manual on pages 7 to 10. Read these pages before you start pushing buttons!

- **Wear appropriate clothing** when operating your System 150. Neckties, scarves and loose-fitting shirts, blouses or sleeves are not appropriate for the job.

- **If you have long hair, tie it back** so that it does not hang down in front of you as you are working.

- **Listen to your machine.** You will soon become familiar with the sounds made by your System 150 as it runs. Your ears will tell you if something is not quite right. Report any unusual sounds to your supervisor.

THE OPEX SYSTEM 150



HOW DOES THE SYSTEM 150 WORK?

The OPEX SYSTEM 150 processes envelopes in one continuous, non-stop stream. Envelopes travel through the processes of cutting, opening, and extraction of contents. Contents are singulated (this means that one piece of paper is placed in front of another,) oriented and stacked.

Step 1 — Qualification

Not all envelopes can be processed on the System 150. As the envelope enters the paper path, it immediately passes through a device which measures the thickness of the envelope. The measuring device, called an **LVDT**, looks like a miniature wringer out of an old-fashioned washing machine. Its job is to qualify each envelope that passes through the two rollers.

Envelopes which do not qualify (they contain staples, coins, folded checks, correspondence, or the like) may be outsorted at your option for processing on OPEX Model 50 Rapid Extraction Desks.

Step 2 — Cutting

As each envelope proceeds through the cutting station, the leading edge, the top and the bottom of the envelope are cut. The trailing edge is not cut.

Step 3 — Extraction

This is where the action is. The envelope is opened out into one long piece of paper. Extracted contents are sent to one paper path, while the envelope is directed on a separate path. A thickness check is performed on each paper path. Empty envelopes are fed into the disposal cart housed beneath the machine. The wheeled cart is heavy when full; see your management for proper procedure to empty it.

Note: If a check or document remains attached to the envelope, the envelope and its contents are re-united and outsorted to the reunite area for manual processing.

What might cause a re-unite? Among other things, glue inside the envelope may have stuck to a document or check. Perhaps someone used scotch tape to make sure the address showed correctly through a window in the envelope.

Step 4 — Singulation

At this point, the check and the document are side by side, just as they came out of the envelope. The System 150 singulates (properly sequences) the contents of the envelope, so that one piece goes first, and the other follows it down the paper path in single file.

Step 5 — Orientation & Sequencing

The machine orients both the check and the document. Any check or document which enters the paper path that is backwards is flipped end for end so that it faces the right way as it enters the stacker. Any check or document which enters the paper path upside down is turned right-side up before entering the stacker.

Checks and documents are sequenced according to the pre-set program for each job. With an optional Re-order Module, the System 150 can switch the order of a document pair in the paper path prior to stacking it in the Stacker Bins.

Step 6 — Stacking

With the check and the document properly sequenced and oriented, the machine stacks them in the vertical bins in preparation for transfer to your company's remittance processing machines.

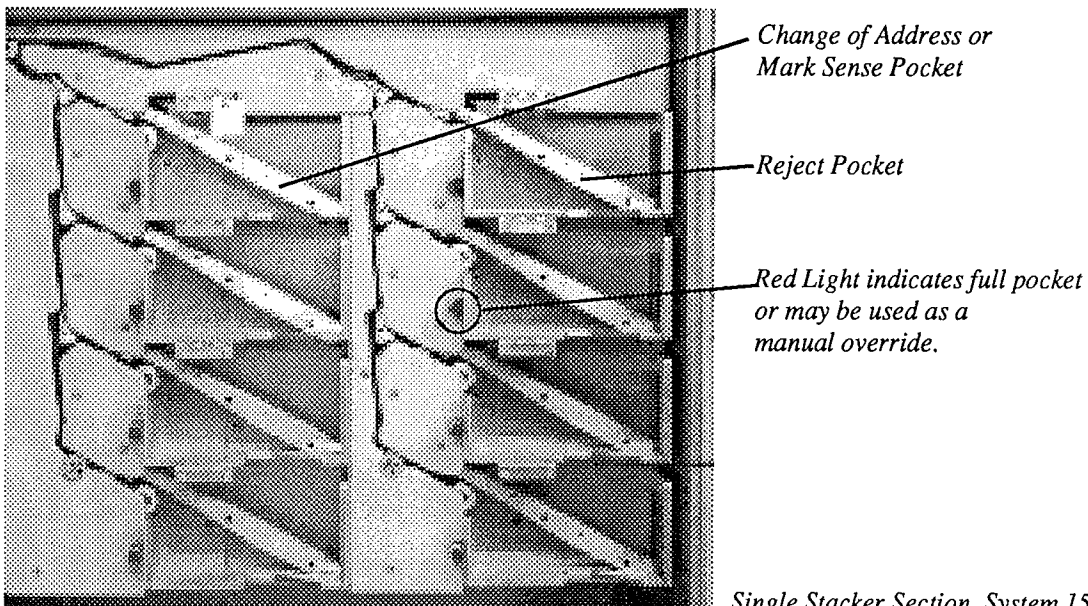
The Output Stacker Bins are located near your work area. Your machine may be configured with either 8 or 16 stacker bins. Since the machine is relatively compact, you don't have to run around a lot in order to get your job done.

— System 150 Stacker arrangement (no windowless capability) —

Output is sent to stacker pockets. Notice that each bin has a red warning light. When a bin is filled, the monitor will alert you to this fact, and the bin's red light will turn on. Each bin has a 3" capacity for finished work, which is just the amount you can comfortably hold in your hand. Your supervisor will tell you how to batch each binful of output, and you will put the finished batches in trays.

— System 150 Stacker arrangement (windowless capability) —

The addition of image cameras to the System 150 gives it the capability of extracting contents from non-windowed envelopes.



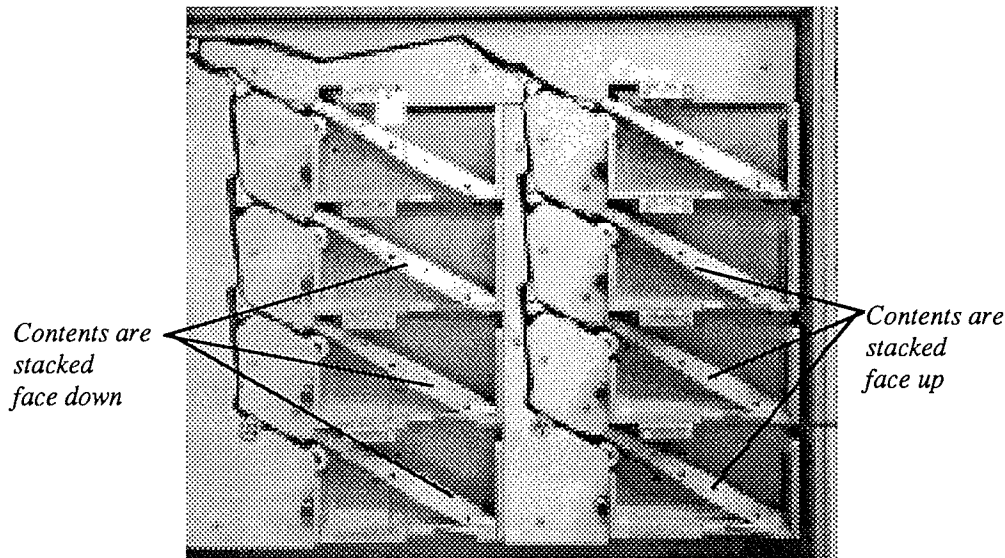
Single Stacker Section, System 150

Think about the difference between windowed and non-windowed envelopes—with the window, we know two things: (1) the document is in front of the check, and (2) the document is oriented properly. The System 150 just has to orient the check properly.

If the envelope has no window, we cannot know whether the document is in the front of the envelope or not. It may be *behind* the check, and it may be upside down. The System 150 must identify the document as well as the check, and properly orient both pieces of paper.

If your machine is configured with a "Re-order Module," the machine can change the order of the check and the document in the paper path. This allows efficient use of the stacker bins.

If your machine does not have the Re-order module, the machine cannot change the position of the check relative to the document. In this case, the System 150 uses orientation in the stacker bins to correctly position the check and the document for remittance processing.



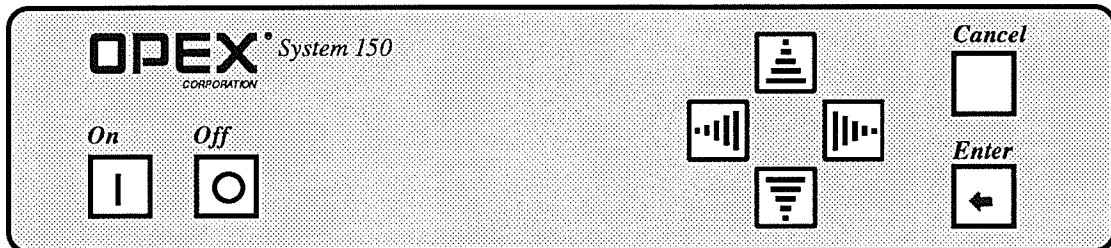
On the System 150, any bin may be designated to receive a particular category of output. Designated bins receive items which enter in doc / check order, while other designated bins receive items which enter in check / doc order. Address-change items go to a designated bin or bins. We recommend that the last bin in the stacker section (either #8 or #16) be designated for rejects.

Step 7 — Output Transfer

A convenient, angled shelf beneath the stacker bins allows you to transfer documents from the Output Stacker Bins to trays. The trays of processed transactions are taken to the remittance processing area of your company.

HOW DO I TURN THE MACHINE ON ?

Machine Controls



The machine controls are depicted above.

Once you have turned the machine on, all machine functions are controlled by the eight buttons on the control panel, which in turn allow you to choose from menus displayed on the monitor.

In addition to prompting you through each step of job start-up and run procedures, the monitor will display job information as the machine operates. It will even tell you when to empty the trash.

HOW DO I TURN THE MACHINE OFF ?

Stopping the Machine In an Emergency (Do this ONLY in an emergency.)

If you want things stopped in a hurry, there are three ways to shut down:

1. Turn the machine off at the Monitor.
2. Open any plastic cover.
3. Depress any "Panic Button."

All of these are *emergency procedures only*.

Do not use any of these as a normal shut-down procedure!

Powering Down Normally

Usually, you will finish a job and shut down in an orderly manner.

Here's how to power down:

1. Press the Cancel button. This will allow you to exit the job. The Run Menu will be displayed.
2. Press the Cancel button again to exit the Run Menu Screen. The Main Menu screen will be displayed.
3. Choose "Change Operator." The OPEX Corporation screen will be displayed.
4. Press the Off Button.

This procedure, and the screens that accompany it, will be outlined step by step later on in this manual.

Important note: Turning off the System 150 will not erase your job statistics.

WHAT IF AN ENVELOPE GETS STUCK IN THE MACHINE?

Jam Management

During the entire process, the System 150 performs jam management automatically, identifying the jam point for you on your Monitor. Don't get nervous about paper jams; they're bound to occur, and the machine has been designed to deal efficiently with them. When a jam does occur, look at the paper path to determine whether the jam is the result of a paper crunch. If so, open the clear acrylic door and deal with the jam. Remove only the envelopes or documents that are crunched. When you hit the On button, the rest of the paper in the paper path will clear itself automatically in most instances.

The machine keeps track of the time it takes to clear a jam. We refer to **the time it takes the operator to clear a jam as *jam-clear time***. After you become comfortable operating your System 150, you can expect to clear a jam in less than 20 seconds, on average.

Clear Acrylic Doors

The System 150 paper path is completely covered for safety. You will open the transparent doors to clear jams. **Electrical interlocks provide you with assurance that the machine is off when the covers are open.**

The clear acrylic doors allow you to see what's happening in the paper path at all times, they keep the noise level down, and eliminate unnecessary dirt accumulation. These functions make your job more enjoyable.

Now that you've had an overview, let's get started!

I. GETTING STARTED:

Before Pressing the "ON" button

Perform a routine checklist before powering up. At the start of your shift, you don't know who used your machine last, or in what condition they have left it.

Power-Up Checklist

1. Walk around the machine. Are all of the panels in place?
2. Check the trash. Has it been emptied? Has the paper path been vacuumed?
3. Open the clear doors. Look for damage.
4. Examine the paper path. Have any checks or documents been left in the paper path? Have any belts been pushed off their pulleys?
5. Look in the Output Stacker Bins. Are they empty?
6. Using compressed air, blow out debris and paper dust that may have accumulated in the machine. Pay special attention to the sensors. If you don't have compressed air in your shop, you'll find that a fine, soft paintbrush will do.
6. Make sure all doors are closed.
7. Prep your mail.

OPEX CORPORATION System 150

(c) Copyright, 1994, OPEX Corp.
All rights reserved

II. TURNING THE MACHINE ON:

1. Perform your Power-Up Checklist.
2. Press the "ON" button located on the control panel (under the monitor.) The button will light up.

The machine will come to life. You will hear the mechanical relays go "clunk!" The red lights on the Output Stacker Bins will flash on and then off again. The Monitor will remain black for less than a minute, except for indecipherable (to you) characters which will appear temporarily in the top left-hand corner. You will hear two little "beeps." This is the computer checking itself out.

The first screen to appear says "OPEX Corporation." It is shown above.

OPEX CORPORATION System 150

OPERATOR SELECT

Fred Jones
Bobby Clark
Joe Curran
Bill Orem
Ellen McKay
Ginny DeBruckert
Jeff Beaumont
Margie Rief

(c) Copyright 1994 Opex Corp.
All rights reserved.

<up>/<down> change <enter> select <cancel> exit.

II. TURNING THE MACHINE ON: (CONT'D)

- Press the Enter button, and the screen will display the list of approved operators.
- Find your name in the list, and highlight it, using the up or down arrow keys.
- Press Enter to select your name.

OPEX CORPORATION System 150

Input Password

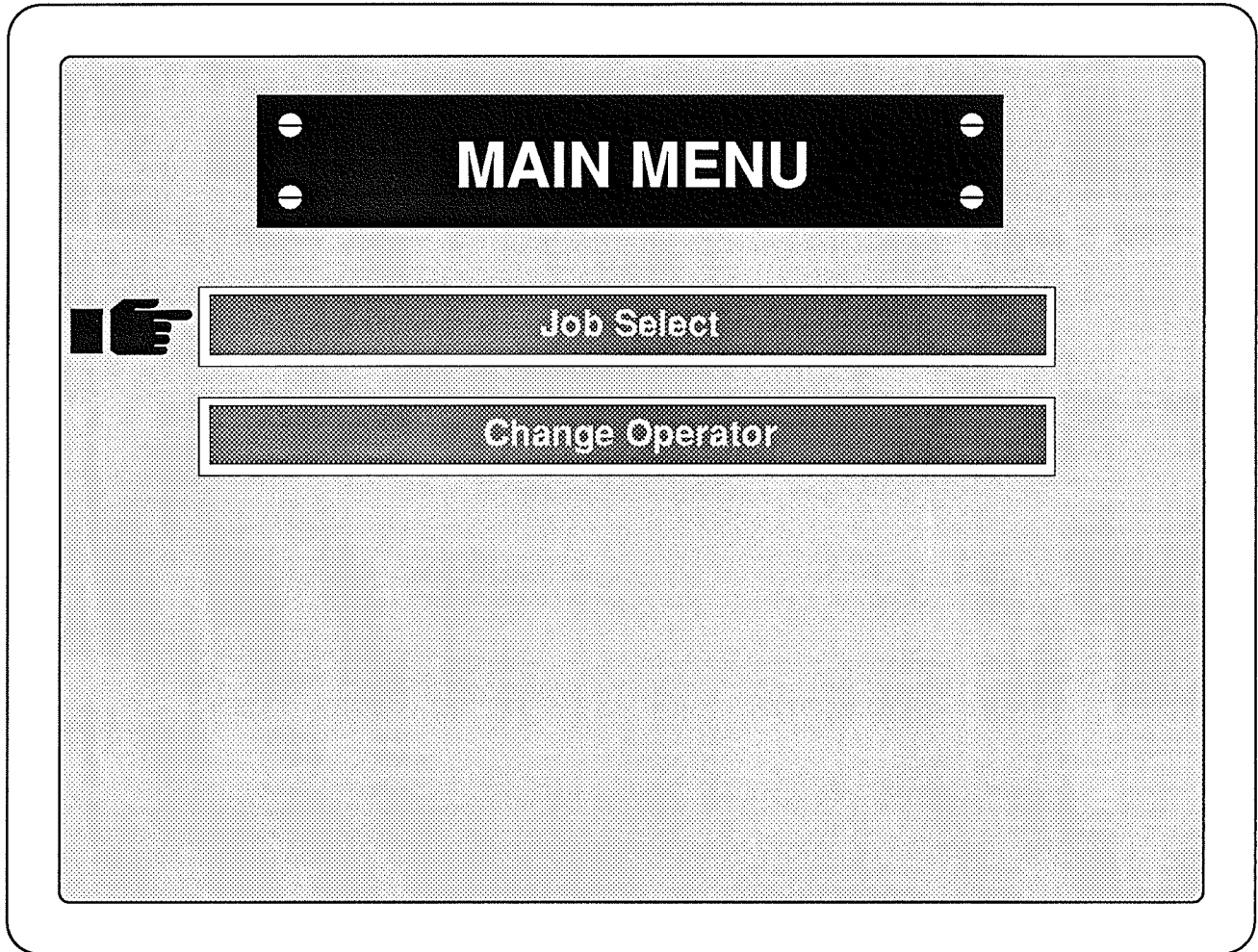
0 1 2 3 4 5 6 7 8 9

Enter <CANCEL> to escape. Input: X

III. ENTERING YOUR ACCESS NUMBER:

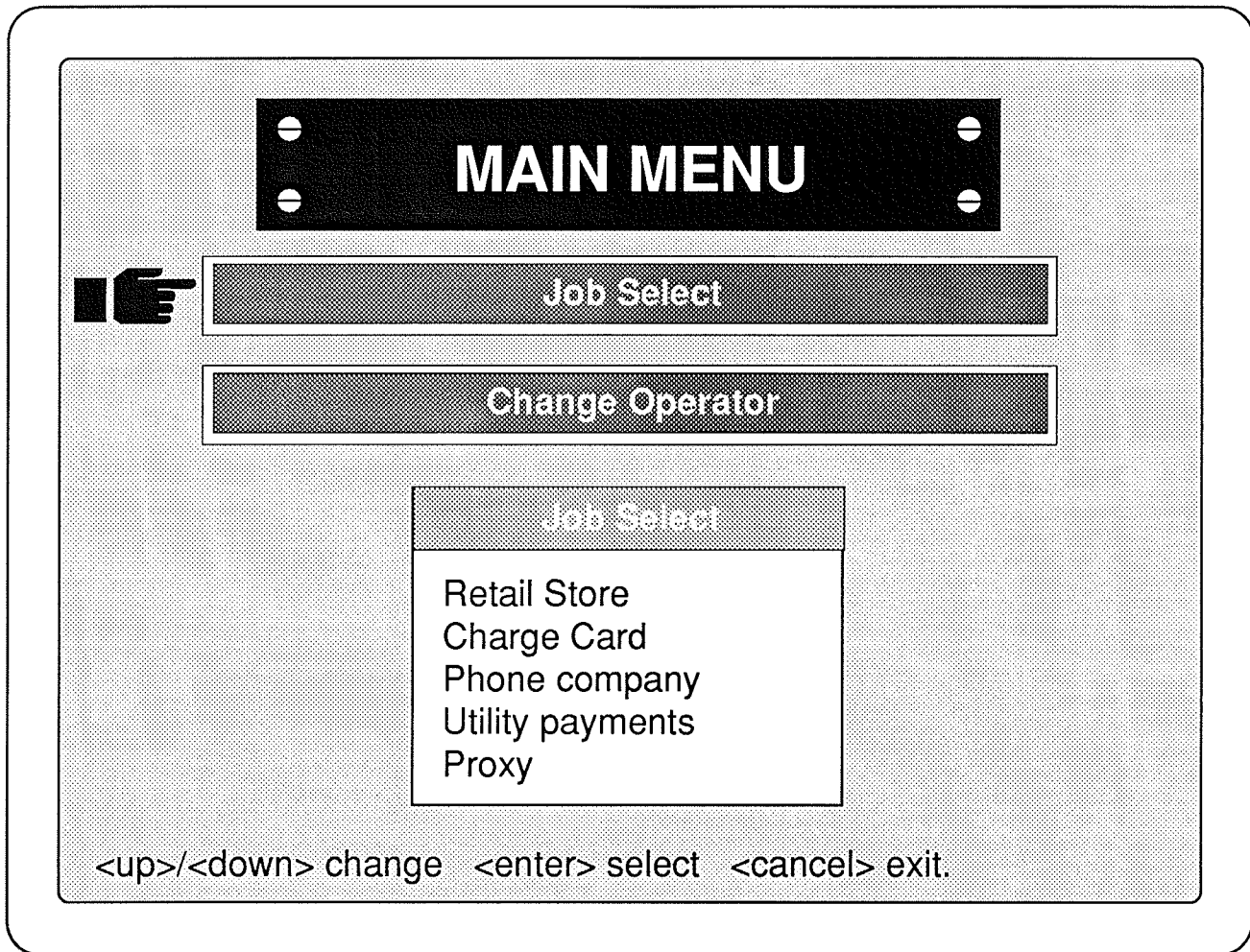
Your supervisor will assign you a unique identification number. Right now, let's assume that your last name is Morgan, and you have been assigned ID #0223.

To gain access to the System 150, you will enter the four-number security code 0223. As you enter each number, an X will appear next to the word "input." This will keep others from seeing your password as you enter it.



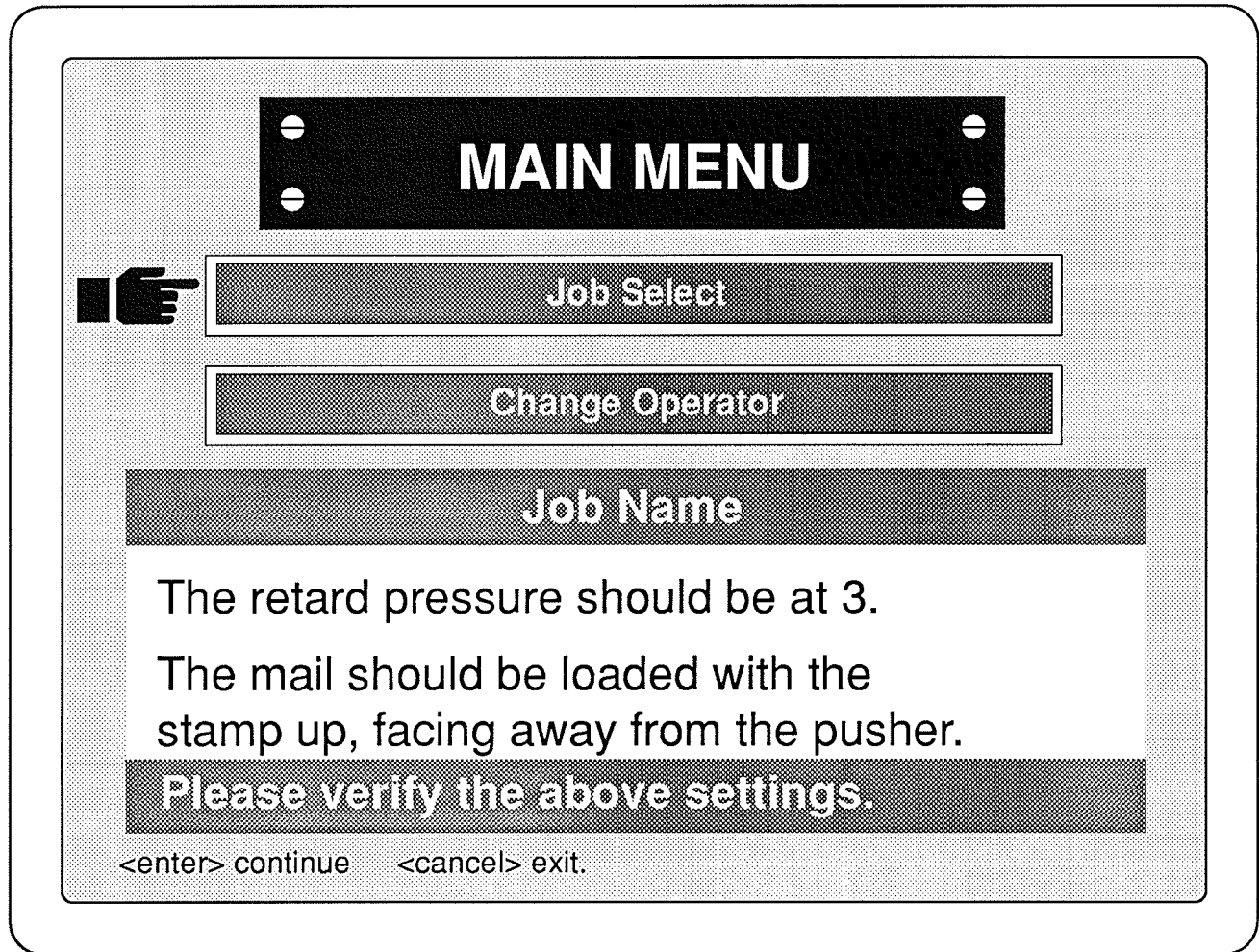
IV. SELECTING A JOB:

Using the up and down arrows on the control panel, choose Job Select.
The screen will display a menu titled Job Select. That's it on the next page.



IV. SELECTING A JOB (CONT'D):

Using the up and down arrows, highlight the job that you wish to run. Press Enter to select the job. The next screen to appear will give specific instructions for machine setup prior to running the job.



IV. SELECTING A JOB (CONT'D):

Choose the job that you wish to run. This screen will be displayed, instructing you as to (1) the appropriate setting for the retard pressure at the feed, and (2) the proper way to face the mail for this job.

Note that the job name is displayed at the top of the window.

Press Enter to continue. The next screen to appear will allow you to run the job.

V. LOADING THE MAIL:

— PREPPING THE MAIL —

In reality, you will already have prepped some of your mail at this point — at least enough of it to start the job. But prepping will be an ongoing part of running the job, and this is a good place to talk about it.

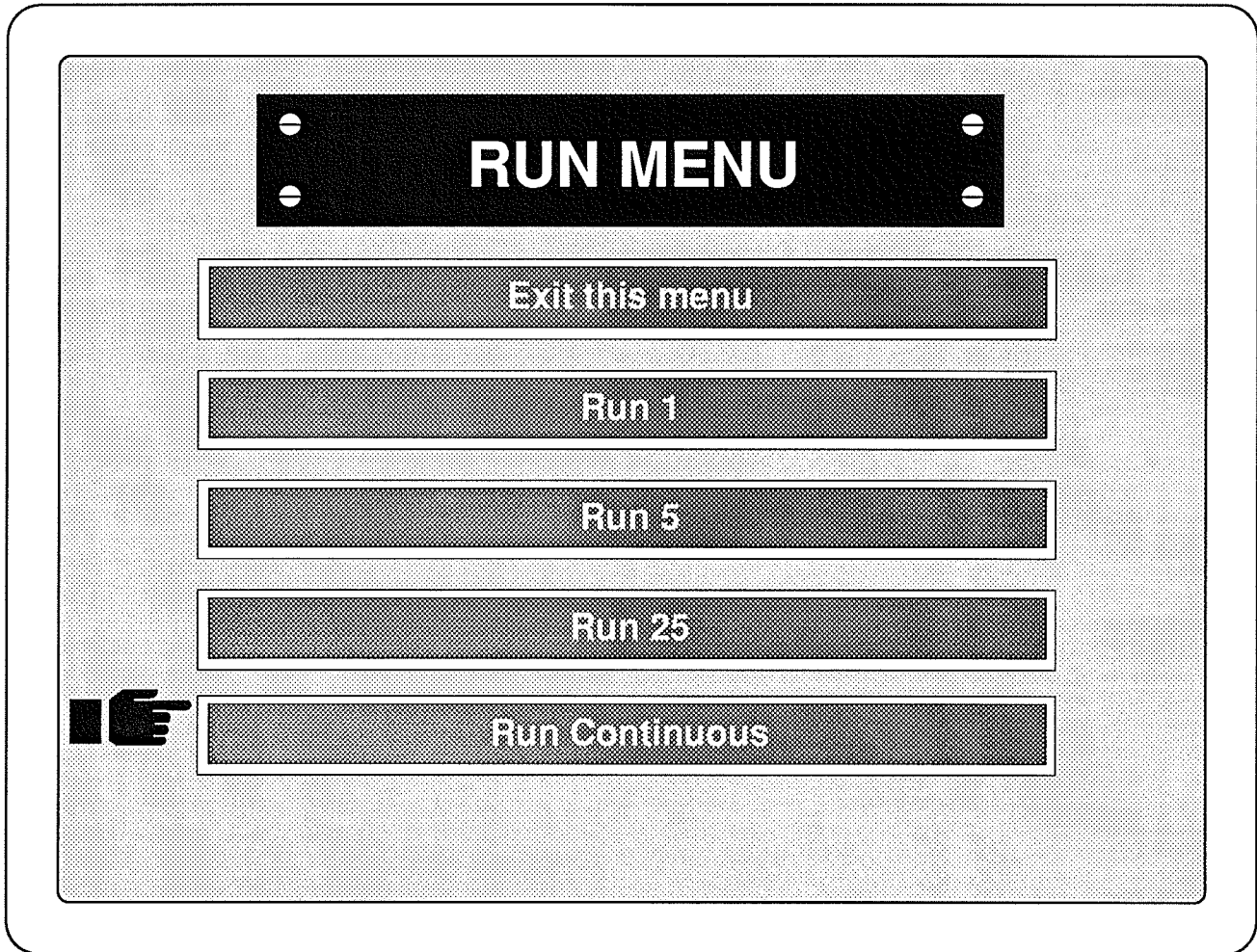
The single most important thing you can do to get great performance from your System 150 is to conscientiously prepare (this is also called picking, or cleaning) the mail prior to feeding it into the System 150. If you have image cameras on the sort module, the machine will automatically outsort damaged envelopes, using a feature called Damage Detect.

1. Pick through the mail as you load it, and remove the following exceptions:

- Non-standard envelopes
- Bent envelopes
- Envelopes with torn windows (if you have windowed envelopes)
- Badly wrinkled envelopes
- Envelopes with tape or excessive stamps / seals
- Excessively thick envelopes (greater than 1/8" thick)

2. As the mail is loaded on the feed conveyor, look over it once more. This is the best time to look for folded corners on the leading edge of the envelopes.

All exceptions should be removed from the conveyor before you start to run the job.



VI. RUNNING THE JOB:

Before running the job, you will have loaded and prepped your mail. (See instructions on the next page.)

When you are ready, choose Run Continuous. Use the up and down arrow keys to move the pointing finger to make your selection, and press Enter.

Job Name		Date			
Operator		Time			
Pieces Processed		v^	Bin Status		
Input	682	300	0	0	0
Outsorts	0	300	0	0	0
Output	0	072	0	0	0
Rejects	10	0	10	0	0
Group Name	Bin Count	Bin Assignment/s			
Clean Mail	300	4,3,2,1			
Rejects	300	8,7,6,5			
<up>/<down> change <enter> select <cancel> exit					

VI. RUNNING THE JOB (CONT'D):

When you select Run Continuous, your System 150 will start opening mail. The screen shown above will keep track of your progress. As work progresses, the Bin Status sub-screen will show you how many pieces are in each bin. You may use the up and down arrows to scroll between this information and another sub-screen called Groups, which displays each group within the job, and the number of pairs that have been sent to each group.

The area under the white sub-screens displays the configuration of the machine for this particular job, identifying group names, the number of pieces designated for each bin, and the bin assignment(s) for each group.

Job Name		Date			
Operator		Time			
Pieces Processed		v^	Bin Status		
Input	682	300	0	0	0
Outsorts	0	300	0	0	0
Output	0	072	0	0	0
Rejects	10	0	10	0	0
Group Name	Bin Count	Bin Assignment/s			
Clean Mail	300	4,3,2,1			
Rejects	300	8,7,6,5			
Missing piece column 1 sensor					
<up>/<down> change <enter> select <cancel> exit.					

VI. RUNNING THE JOB (CONT'D):

When a jam occurs, the Monitor will display a message identifying the jam that occurred, and the area of the paper path involved.

Clear the jam by removing any paper crunch, leaving all other envelopes and documents in the paper path. When you press the On button to resume opening, the machine will clear it's jamsorts into designated pockets, making your job easier, and speeding up the operation as a whole.

You should be able to clear a jam in less than 20 seconds once you have become familiar with the machine.

VII. CLEARING A JAM:

1. Look at the jam message on the monitor.

The important things to know are:

a. **The screen tells you the location of the jam.**

b. **It identifies the specific sensor that declared the jam.**

(We say that the machine "declares a jam" because one of its sensors sees something wrong and sends a message to the main computer to stop the machine.

2. **Allow all belts and motors to stop.** If you have any questions about this step, please read page 5 entitled "SAFETY FIRST."

3. **Open the clear door to the area where the jam is, and clear the jam.**

4. **Clear the jam pocket at the bottom right of the paper path.**

5. **Close the door(s).** Remember that the interlocks will prevent the machine from re-starting if the doors are not closed.

6. **Push the "ON" button** There are two locations, one below the monitor and the second at the left of the stacker section.

— TIPS ON CLEARING JAMS —

1. **Don't rush.** Develop good habits in clearing jams to maintain the sequence integrity of the document and the check. If you fail to do this, you can be sure you will hear from the supervisor in Remittance Processing. Speed is of no use without quality. You will improve with practice; thoroughly trained operators average under 20 seconds to clear a jam and get the machine running again.

2. **Clear only the actual jam.** Remember that the machine will clear the paper path automatically. You only have to deal with the actual crunch. Check "dead zones" where an envelope may not be positively controlled by the belts.

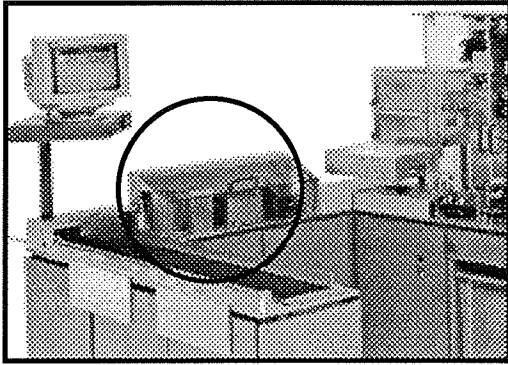
3. **Match up each check and document.** Doing this will reduce the possibility of mis-matching checks and documents. Looking through batches of "finished work" manually wastes time.

4. **Manually moving belts:** As part of the normal task of clearing a jam, it is sometimes necessary for the operator to move belts in the paper path with his/her hands. In most (but not all) cases, the belts should be pulled in their normal direction of travel. Pulling them in the opposite direction may cause them to come off of the pulleys. Moving the belts by hand (when necessary) is done to move checks and documents to areas of the paper path where they are easily removed.

VIII. ENDING A JOB:

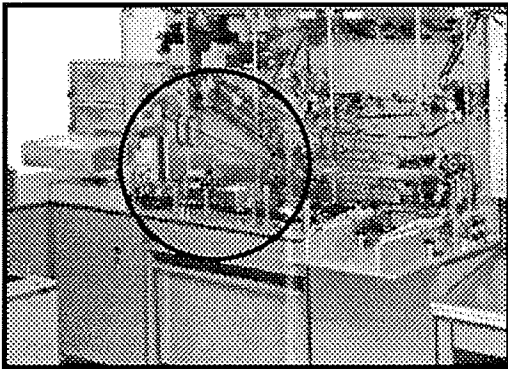
Press the Cancel button to end a job.

Make sure that all checks and documents have been removed from the stacker bins.

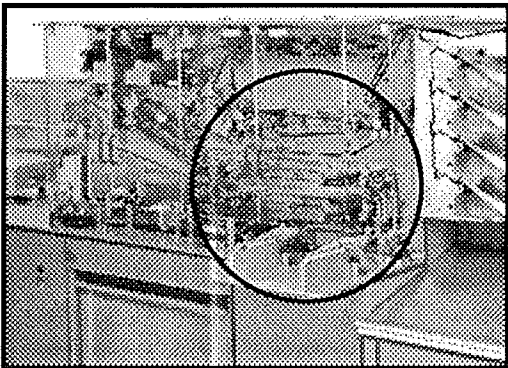


SYSTEM 150 OPERATOR SHIFT MAINTENANCE

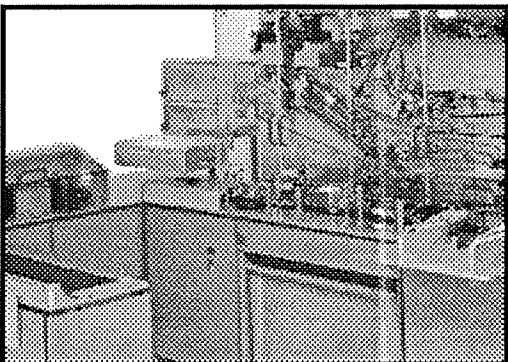
- Inspect the feeder retard rings. Replace if badly worn or cracked.
- Clean the outsort LVDT rollers. Remove any tape, paper, etc. that may be caught in LVDT.
- CAREFULLY vacuum the foam rolls in the envelope MICR and envelope camera system.



- Inspect each cutter. Remove any paper chips that are caught in and around the cutter blades.
- Clean the singulator brake ring.



- Check the extractor area for paper scrap, tape, and so forth.
- Clean the envelope and content LVDT rollers. Remove any tape, paper, etc. that may be caught in the LVDT.
- Carefully vacuum the entire paper path, paying particular attention to the path sensors.



- With compressed air, blow off the entire paper path, taking special care to any areas that could not be reached with the vacuum.

NOTE: For cleaning tasks such as the LVDTs, use a cloth lightly moistened with Glass Plus™, Fantastic™, or 409™. Glass Plus™ is best. First clean the device, then wipe off with a cloth lightly moistened with water.

GENERAL ADVICE

GOOD THINGS TO DO

- Before starting up a job, vacuum the machine to remove paper scraps, then invert the vacuum and blow the machine clean of all dust and paper particles.
- Be extremely careful around the sensors so they do not get bumped when cleaning the machine or clearing a jam.
- Keep ahead of the machine; clean the mail as you load it, and empty the output bins while the machine is running.
- Practice "preventive maintenance" on paper jams by periodically cleaning the machine, emptying the cutter and envelope trash, and running only good clean mail.
- Match all checks and documents from a jam before resuming operation.
- Keep the sensors free of paper dust; vacuum after each break, prior to re-start.

GOOD THINGS NOT TO DO

- Don't sit on any part of the machine.
- Don't allow anyone to bring food or drink around your machine.
- Treat the clear doors with care; don't slam them.
- Don't let anyone who is not qualified operate your machine.
- Never leave the System 150 while it is running.
- Don't bump the doors when the machine is running; the interlocks are very sensitive, and the machine will shut down when it thinks a door is open.
- Don't spray Static Guard into the machine.

OPTIMIZING YOUR PERFORMANCE

- Prep the mail! This is your most important task. "Cleaning the mail" properly can dramatically increase your through-put on the System 150.
- Prepare the first tray of mail before you turn the machine on. Don't waste "on-time" cleaning the machine or prepping the mail. Of course, the process of prepping will continue as the machine is running.
- Keep the machine clean. If allowed to accumulate, paper dust and chips will hurt your performance by causing unnecessary jams. They do this by building up on, and blocking the sensors.
- Work smoothly. The most effective System 150 operators never appear to be in a rush. They work "smart" by knowing what they intend to do next.
- Work carefully. Follow your supervisor's instructions for handling checks and documents as you transfer them from the Output Stacker Bins to the Output Transfer Trays. Concentrate initially on accuracy; as you get more proficient, speed of operation will follow.

Notes