OPEX®

EAGLE™

Operator Manual

⚠️	**WARNING**

Read this manual thoroughly before attempting to operate or service this equipment. Keep a current copy for your reference.

Contacting OPEX

For technical support:

OPEX Technical Support
1224 N Church Street
Moorestown, NJ 08057 USA

Americas: 1 800.673.9288 -OR- 856.727.1950

EMEA: +1 800.673.9288

Australia: +1 800.945247

Service@opex.com

Please have the model name and serial number of the product ready (see).

For other inquiries:

OPEX® Corporation
305 Commerce Dr.
Moorestown, NJ 08057-4234 USA
Tel: +1 856.727.1100
Fax: +1 856.727.1955
https://www.opex.com/

If you find errors, inaccuracies, or any other issues or concerns with this document, please contact the OPEX Technical Writers via email at:
GroupDMATechWriters@opex.com

For help with opexservice.com website-related issues, please contact the OPEX Web Developers via email at: dshelp@opex.com

Document History

Doc Rev	Date	Changes (click blue text to go to that page)
21-01	Sept. 27, 2021	Complete overhaul of existing manual. This includes bringing it up to modern formats, updating to the current version of the machine and software, and correcting various issues throughout.
24-01	Apr. 30, 2024	• Improved wording throughout. Reorganized info. • Revised to current formats. Updated Eagle logo on cover. • Merged Safety chapter into the Introduction • Changed appendices into proper chapters. • Page 20 - Added brief description of options. • Page 33, 34, 36 - Improved images throughout paper path explanation. • Page 45 - Added virtual keyboard to graphic • Page 91- 94 - Improved images throughout Maintenance chapter.

Eagle Operator Manual
OPEX Corporation

Table of Contents

Eagle Operator Manual
OPEX Corporation

Chapter 3
Operating the System

Chapter 4
Statistics

Chapter 5
Outsorts, Reunites, and Rejects

Eagle Operator Manual
OPEX Corporation

Chapter 6
Maintenance

Glossary 101

Eagle Operator Manual
OPEX Corporation

1. Introduction and Safety

Eagle

Operator Manual

1.1. About the Manual

This manual contains information about the OPEX Eagle remittance processor and its operational procedures and safety-related components, including:

- safety information, safety hazards and precautions
- main component identification and function
- system specifications
- minor maintenance and cleaning

This information is intended for use by the main operator of the Eagle. The operator can power up the Eagle, start a job and feed product onto the conveyor for sorting into bins. They can also perform minor maintenance. Read all information thoroughly before attempting to operate or service this equipment.

This manual will be updated to reflect equipment design changes, part number changes, or to correct errors (a table detailing the document revision history can be viewed on page 3). Be sure to retain the latest electronic release of the manual for your reference. The latest release can be downloaded in PDF format at www.opexservice.com.

1.1.1. Manual navigation aids

This manual is designed primarily for use on a tablet device. To improve navigation, the manual contains blue underlined links you can click on or tap to go directly to a particular page or web address. In addition, all items in the "Table of Contents" as well as the bookmarks in the side bar of the PDF file can be clicked or tapped to navigate directly to a particular page. Make sure to use the latest version of Adobe$^{®}$ Acrobat Reader$^{®}$* for optimal performance.

*Adobe and Acrobat Reader are registered trademarks of Adobe Systems Incorporated.

1.2. Safety Message Conventions

This manual uses the following conventions to alert you about safety hazards associated with certain procedures and situations. Please be aware of these conventions when reading the manual and operating the equipment:

⚠ **DANGER**

Indicates a hazardous situation that, if not avoided, will result in death or severe injury. The use of this signal word is limited to the most extreme situations.

⚠ **WARNING**

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ **CAUTION**

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates information considered important, but not hazard related (e.g. messages relating to property damage).

1.3. Safety Guidelines

Your main responsibility as an Eagle operator is safety: your safety and that of your co-workers. Before operating the Eagle, become familiar with these safety precautions:

- Read and understand all of the material within this manual.

- Keep loose clothing, jewelry, hair from becoming entangled in the moving parts and/or the moving belts on Eagle.

- Do not attempt to bypass any safety device or otherwise render the door interlock mechanisms non-functional.

- Do not attempt to reach into the Eagle mail pathways while the Eagle is processing mail pieces. Always allow complete stoppage of motion before attempting to clear mail pieces from within the pathways.

- Never place open liquid containers on the Eagle. Do not allow any liquids or cleaning agents to enter gaps or openings on the Eagle.

- Do not perform any cleaning or maintenance of the Eagle while the Eagle is processing mail. Properly shut the Eagle off before performing any maintenance.

1.4. Enclosed paper path

The entire path taken by envelopes, checks, and documents through the Eagle is protected by clear acrylic doors (Figure 1-1). These doors allow you to see the Eagle in operation without risk of injury. **The Eagle will not start up if a door is open. During operation, the Eagle will stop when one of the doors is opened**.

Figure 1-1: Enclosed paper path

1.5. Interlock system

When the Eagle is running, rapidly-moving belts and pulleys can pose a safety hazard for the operator. For your safety, magnetic interlocks have been installed on the front doors of the Eagle (Figure 1-2 and Figure 1-3).

The interlock system will shut the Eagle down whenever a cover is lifted or a door is opened.
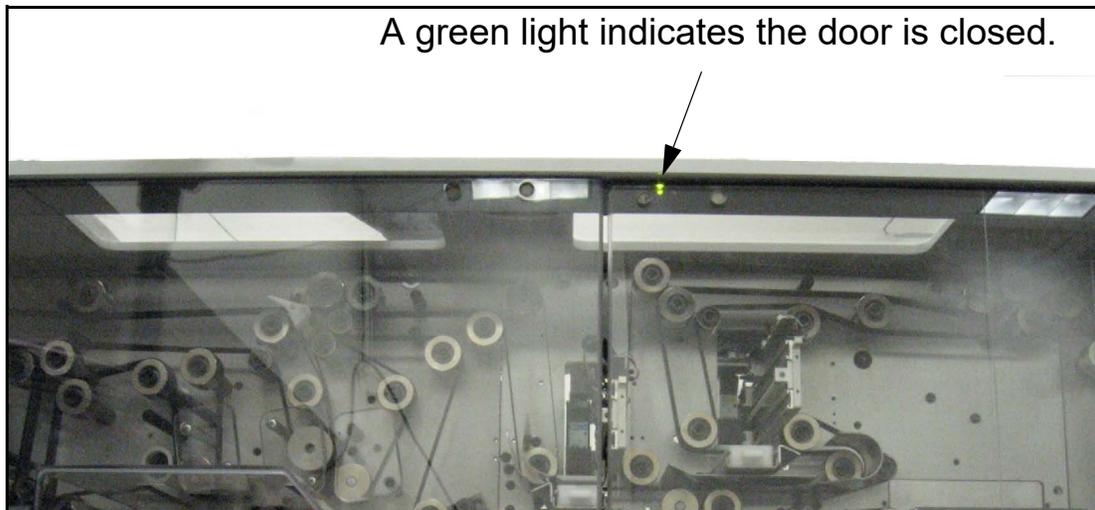
Figure 1-2: Green interlock indicator light, doors closed

A green light indicates the door is closed.
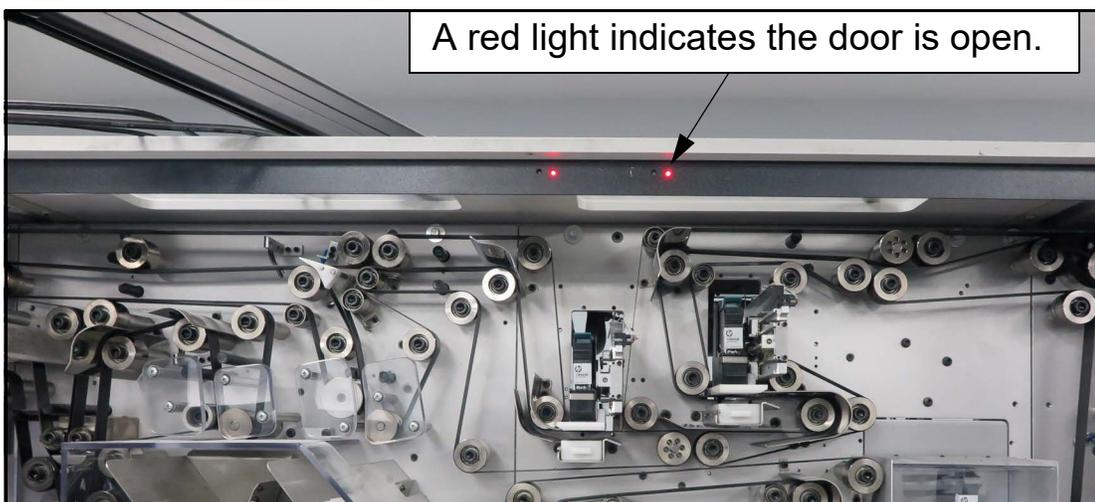
Figure 1-3: Red interlock indicator light, doors open

A red light indicates the door is open.

Eagle Operator Manual
OPEX Corporation

1.6. Emergency Stop Buttons

The big, red, mushroom-shaped emergency stop (e-stop) buttons (Figure 1-4) can be used to stop the Eagle in an emergency. If necessary, push the nearest e-stop and the Eagle will stop immediately. To restart the Eagle, pull the e-stop out, clear the Eagle, and press the white On button.

Note: *Also keep in mind that opening any of the clear, acrylic doors will also stop the Eagle in the event of an emergency.*
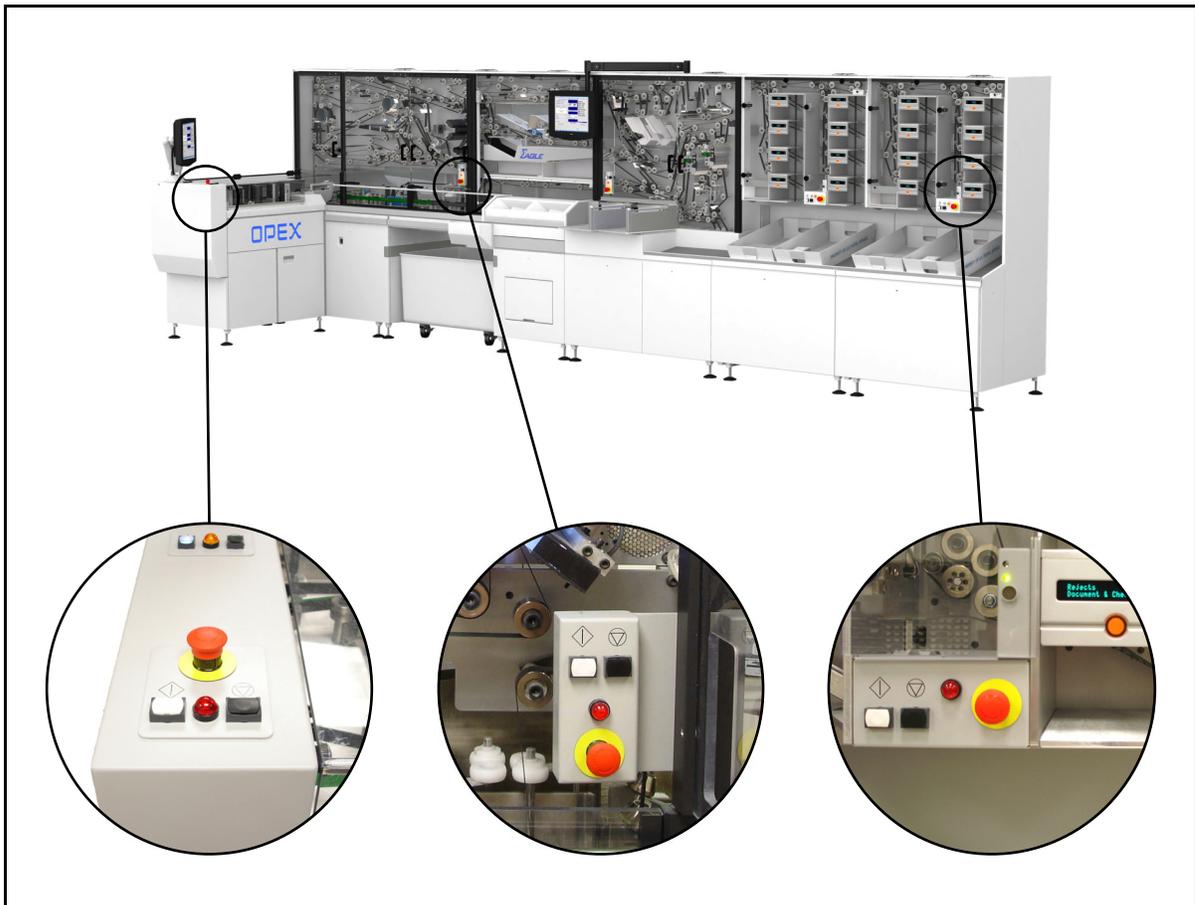
Figure 1-4: Emergency Stop Buttons

Eagle Operator Manual
OPEX Corporation

1.7. Serial Label

The Eagle's serial label is located in Module 1, inside the access door for the host computer (see Table 1-1). It identifies the Eagle's serial number, date of manufacture, patents, certification standards, and electrical ratings.

Table 1-1: Product Label

Label Location	Label
	 (3793100)

1.8. Pinch Point Caution Labels

These labels are placed on the envelope feeder, refeeder, batch ticket feeder, and on outsort bins (see Table 1-2).

They indicate potential pinch hazards in places where there is the potential for the operator to get a finger or other article squeezed between two devices. Exercise caution when working in these areas.

Table 1-2: Pinch Point Caution Label

Label Locations	Label
	(1637200)

(This page is intentionally blank)

2. Overview

Eagle™

Operator Manual

2.1. Eagle Mail Extractor

Figure 2-1: Eagle Overview

The Eagle (Figure 2-1) is a high-speed mail extractor and remittance processor. It is designed to automate the payment processing workflow, combining and reducing multiple processing tasks into a single operation.

A brief summary of what the Eagle does is given below. This process will be described in detail later in this chapter ().

1. As envelopes enter the Eagle from the conveyor, the Eagle first outsorts any that contain metal or are too thick to process.

2. The envelope is cut open and its contents are separated.

3. The contents pass through imaging cameras so they can be captured for Check21/ARC compliance.

4. The Eagle flips the contents to the same orientation, reads MICR if required by the job settings, then puts pieces in the right order.

5. Optional printers, if present, can apply an audit trail to each processed piece.

6. Pieces are sorted into stacker bins according to the job parameters.

2.2. Module Descriptions
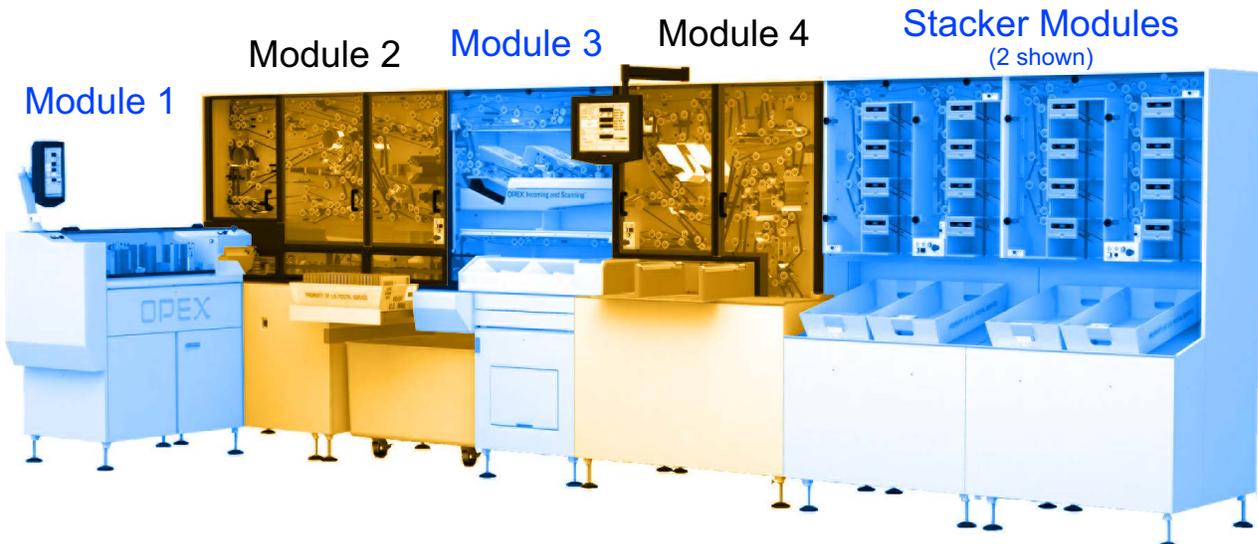
Figure 2-2: Eagle modules

The Eagle is split into several modules (Figure 2-2), described below. Note that the paper path goes back and forth between modules. To see it in detail, refer to .

Module 1   This is usually called the Outsort Module, or occasionally the Qualifier or Envelope Validation. Mail enters here from the conveyor, and any envelopes that are too thick or that contain metal are outsorted.

Module 2   Many functions happen in Module 2. The conveyor's feeder is attached to this module, and it also houses part of the cutter path, the content imagers, MICR reader, and the orientation & sequencing areas. This module is sometimes called the Image Export Module (IEM).

Module 3   The most prominent features on Module 3 are the refeeders, but it also contains the rest of the cutter path and the singulator.

Module 4   This module is often called the Extractor or Extract Module. It extracts the contents from the envelope. The outsort bins and optional audit trail printers are also part of this module.

Stacker Modules   Processed pieces are sorted into the stacker modules according to the job parameters. The Eagle can have 2 to 4 stacker modules.

2.3. Options

The base Eagle is sold with the "e-Package", which includes many of its features such as: Reorientation, metal detection and envelope thickness detection, bin zero, the buffer feeder, IEM with 1 printer, barcode reading, content imaging cameras, and two stackers.

Separate optional features on the Eagle include (Figure 2-3):

- Envelope imaging camera (front only)
- A second IEM printer, to allow printing on either side
- Additional 8-bin stacker modules (maximum of 4 stackers)
- Dust collection system

Envelope imaging

2nd IEM printer

Additional stacker modules (max 4 total)
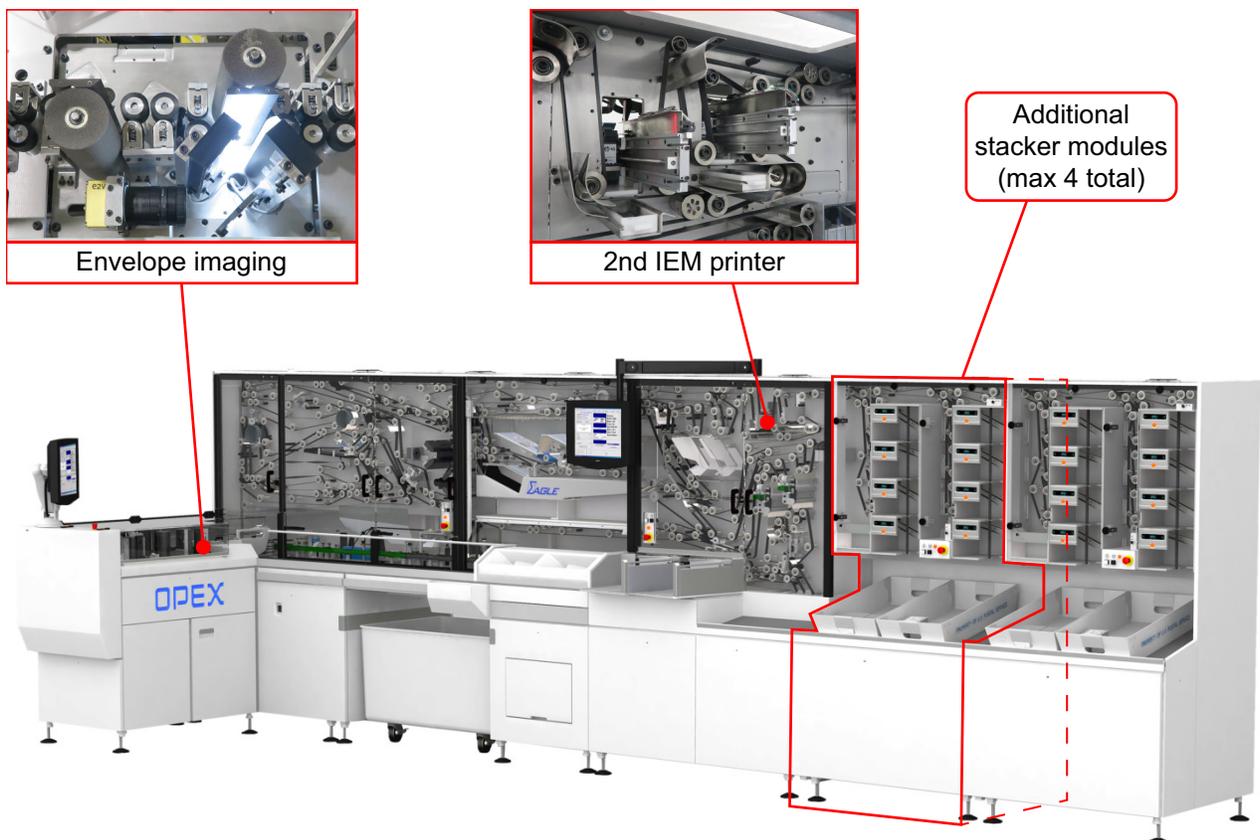
Figure 2-3: Options not included in e-Package
(dust collection system not shown)

2.4. Input, Output, and Control Locations

This section provides a quick reference for all the parts of the Eagle an operator is expected to interact with as part of a run. For these diagrams, inputs and outputs refer to physical envelopes, checks, and documents going into or being taken out of the Eagle.

2.4.1. Input Locations
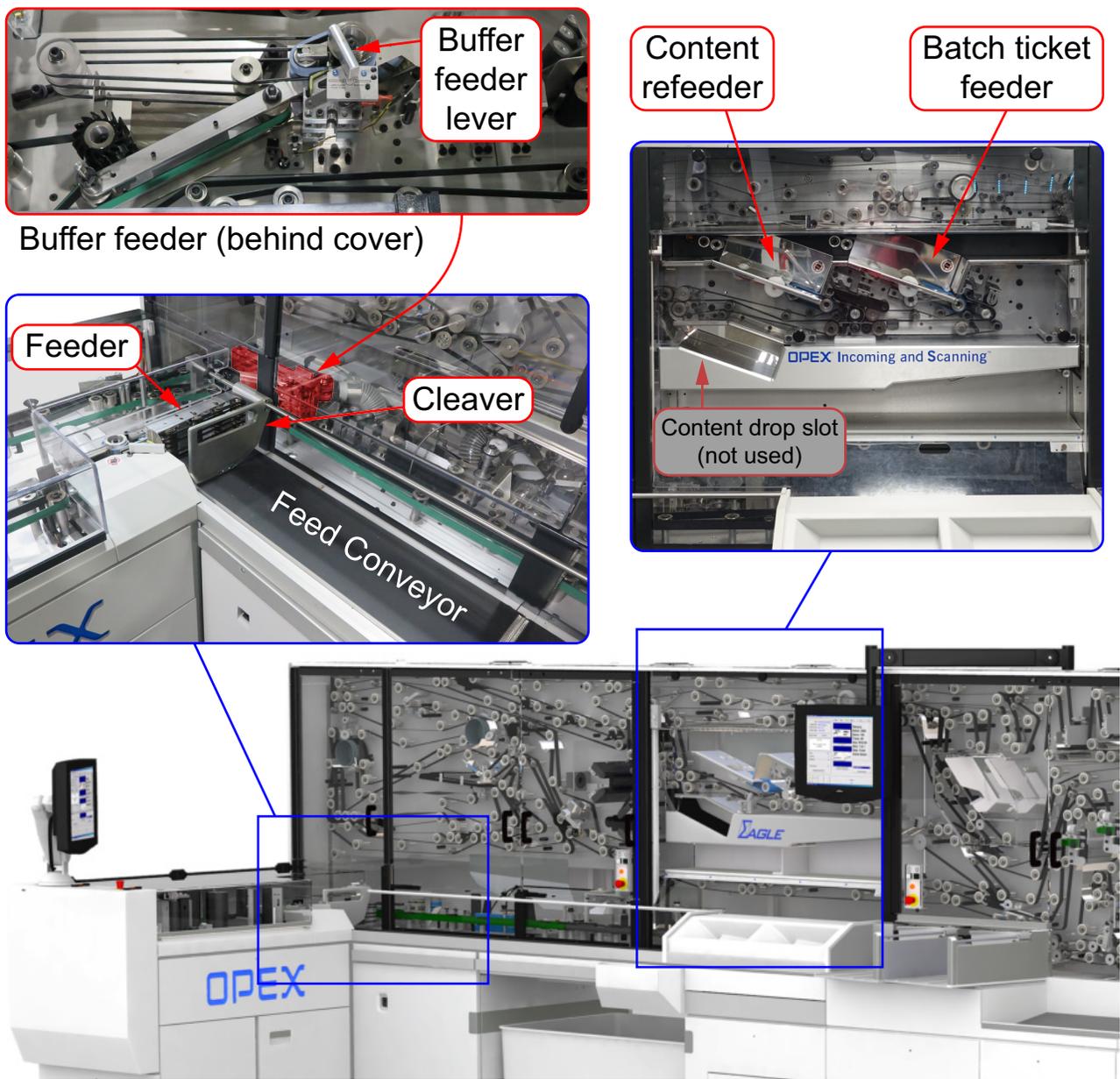
Figure 2-4: Input Locations (descriptions on next page)

Batch ticket feeder   Batch tickets are placed here, for the Eagle to automatically feed into the paper path during an extraction job.

Buffer Feeder   To prevent gaps in throughput when the Eagle encounters envelopes it cannot process, it first sends all acceptable pieces to a buffer feeder. This allows it to make up for outsort rates of up to 15%.

The **Buffer Feeder Lever** on top allows you to disengage it. This can be useful when clearing jams.

Content drop slot   This was designed to fill a role similar to the Content Refeeder, but is not currently used.

Content refeeder   When running in one of the refeeder modes, the Eagle will feed documents and checks from the content refeeder as opposed to feeding envelopes from the main feeder.

Feed Conveyor   Envelopes are loaded onto the conveyor belt. A sliding metal plate called the **Cleaver** holds them upright and against the **Feeder**.

Eagle Operator Manual
OPEX Corporation

2.4.2. Output Locations
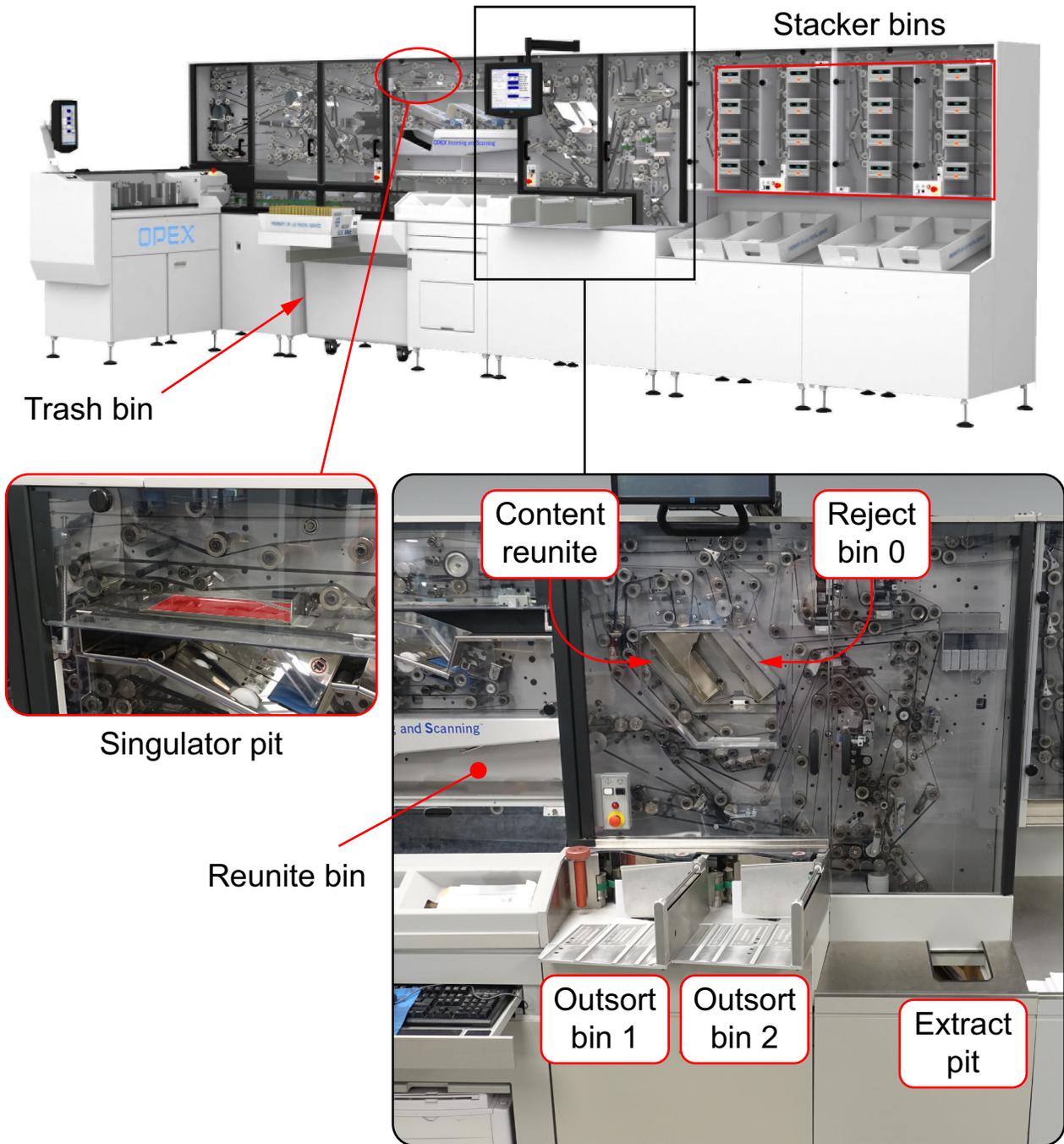
Figure 2-5: Output Locations (descriptions on next page)

Eagle Operator Manual
OPEX Corporation

Content reunite   Pieces are sent to this location only under certain rare jamsort conditions.

Extract pit   Envelopes that were opened but could not have their contents extracted are sent here. The contents can be run via the refeeder.

Outsort bins   Outsort bin 1 is for pieces that contain metal or are too thick for the Eagle to process.

Outsort bin 2 is for pieces that do not meet the job's expectations.

Reject bin 0   Stubs and checks are sent here when there is a problem with imaging, MICR reads, OCR reads, or orientation.

Reunite bin   When the envelope and contents could not be separated, they are sent here. The contents can be run via the refeeder.

Singulator Pit   This spot is for contents that were extracted but not separated enough to be imaged.

Stacker bins   The final destination of processed checks and documents. The last bin is typically used for rejects.

Trash bin   Once the contents of the envelope are successfully extracted, the envelope is sent to the trash.

2.4.3. Control Locations

Envelope Imaging Monitor

Operator station

Touch-screen Monitor

Each bin

A

B

B

B

B

C

C

Keyboard tray

Host computer cabinet

Breaker switch

Report printer cabinet

A Host On/Off Panel

On   Standby light   Off

B Machine Start/Stop Panel

Start / Resume   Stop / Cancel   E-stop   Status Light

C Bin Panel

Bin light button   Illuminated display
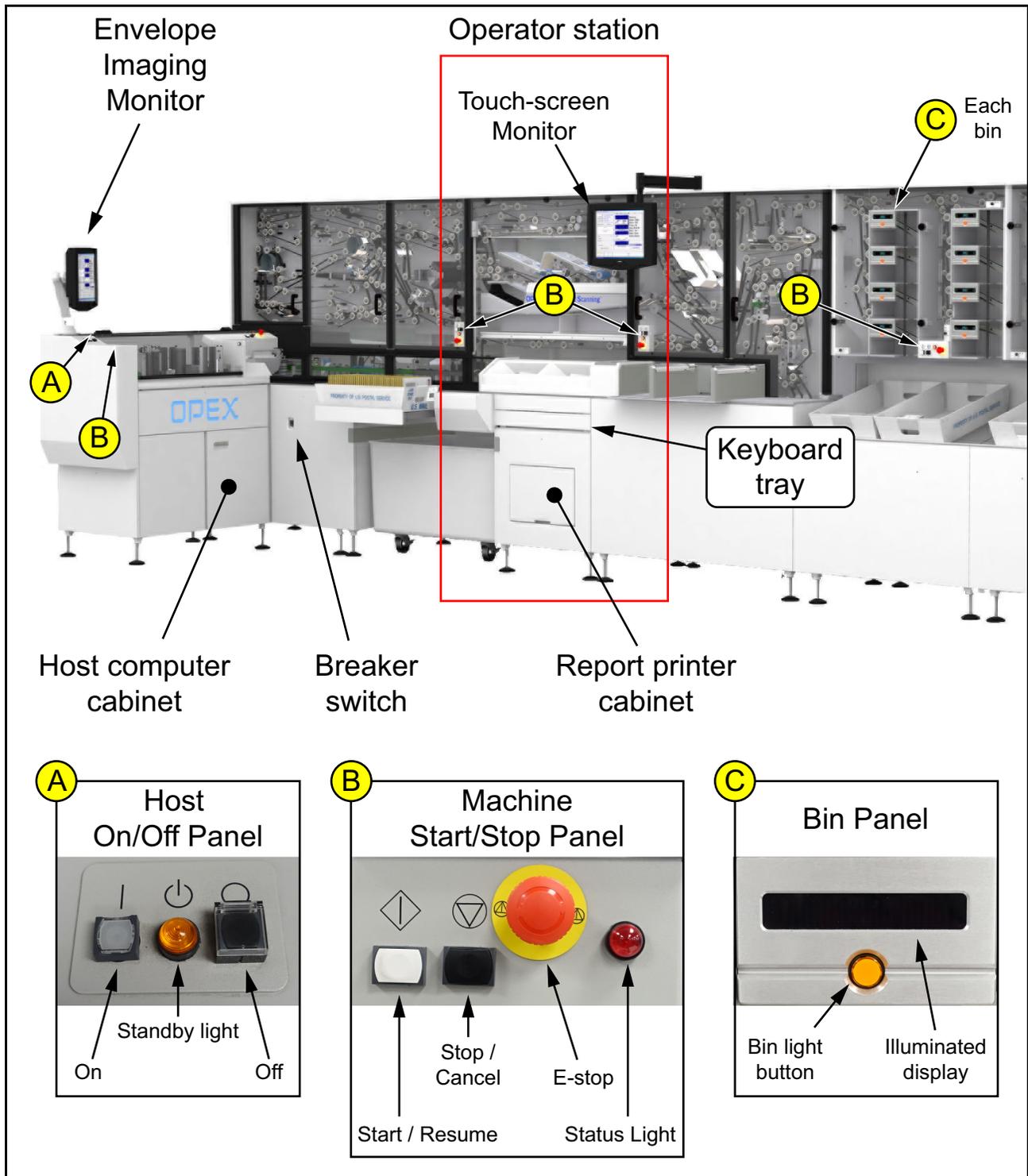
Figure 2-6: Control Locations
(descriptions on the following pages)

Eagle Operator Manual
OPEX Corporation

Bin Light Button   This light turns on when the bin is full or bypassed. It flashes when the bin is awaiting a batch ticket, has not received an expected piece, or received an unexpected piece. Pressing this button closes the batch if the Eagle is jammed, or bypasses a bin.

Breaker Switch   Controls main power to the system.

Envelope Imaging Monitor (optional)   This monitor displays images of envelopes as they pass through the envelope imager.

Host Computer   This computer controls the Eagle system.

Host On/Off Panel   This panel's buttons turn the Host computer and its power supply on and off. While the host computer is on, the On button is lit up white. While the computer is off or in the process of starting or stopping, the orange standby light will be blinking.

If any interlocks are open, the white On button will blink continuously. Once the interlock condition is satisfied, you must press the button before the Eagle can start or resume.

Eagle Start/Stop Panels   The Eagle monitors the paper path at several points, allowing it to notify the operator when and where jams occur. Buttons to resume the run are located at various points on the Eagle, so it can continue as soon as the jam is cleared.

The white button starts the current job, or resumes it if it was paused.

The black button stops the current job, like the Cancel button in the software. The feeder stops bringing new pieces into the Eagle, and the Eagle continues running only until all pieces currently inside the Eagle have been processed.

Note: The white start button has no effect while the Eagle is in its cancel sequence. You must wait until it comes to a complete stop before you can start it running again.

These panels also hold the Emergency Stop buttons, used to stop the Eagle in the event of an emergency. See for more details.

Eagle Operator Manual
OPEX Corporation

Operator Station   This is where the operator usually stands while running the Eagle, since it places them in easy reach of several key areas. See "Operator Station" on page 28 for more details.

- **Keyboard Tray**   The keyboard and mouse for the host computer are in a tray that slides out of Module 3. The touch-screen is normally adequate for normal operation.

- **Report printer cabinet**   This printer is for statistics reports. See Chapter 4: "Statistics" for more information.

- **Touch screen monitor**   The main interface with the Host software.

Eagle Operator Manual
OPEX Corporation

2.5. Operator Station

Most functions of the Eagle system are accessible from the operator station (Figure 2-7). From this station, the operator is within easy reach of the touch-screen monitor, outsort bins, reunite bins, refeeders, and the main feeder.
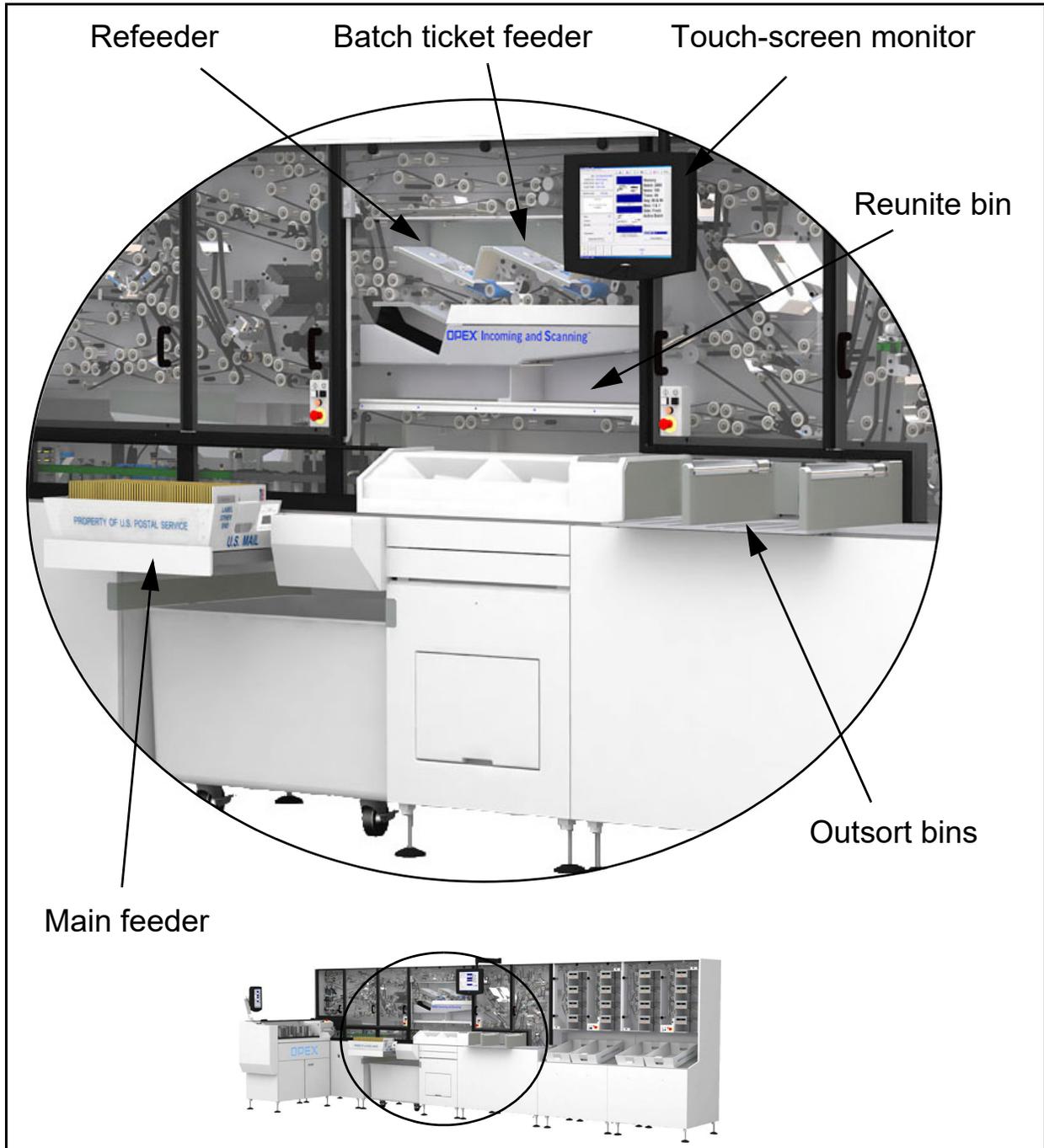
Figure 2-7: Operator station

2.5.1. Host Computer

The touch-screen monitor provides the operator's main interface with the Host software, which controls the entire Eagle system. Use the Host software to manage operators, run jobs, and create system efficiency reports.

The keyboard and mouse are located in the drawer beneath the reunite sorting area. The Eagle Host computer is located in the cabinet under the extract area (Figure 2-8).

Note: For normal operation (such as running jobs), the touch-screen monitor is adequate.

Host computer

Keyboard

Report printer
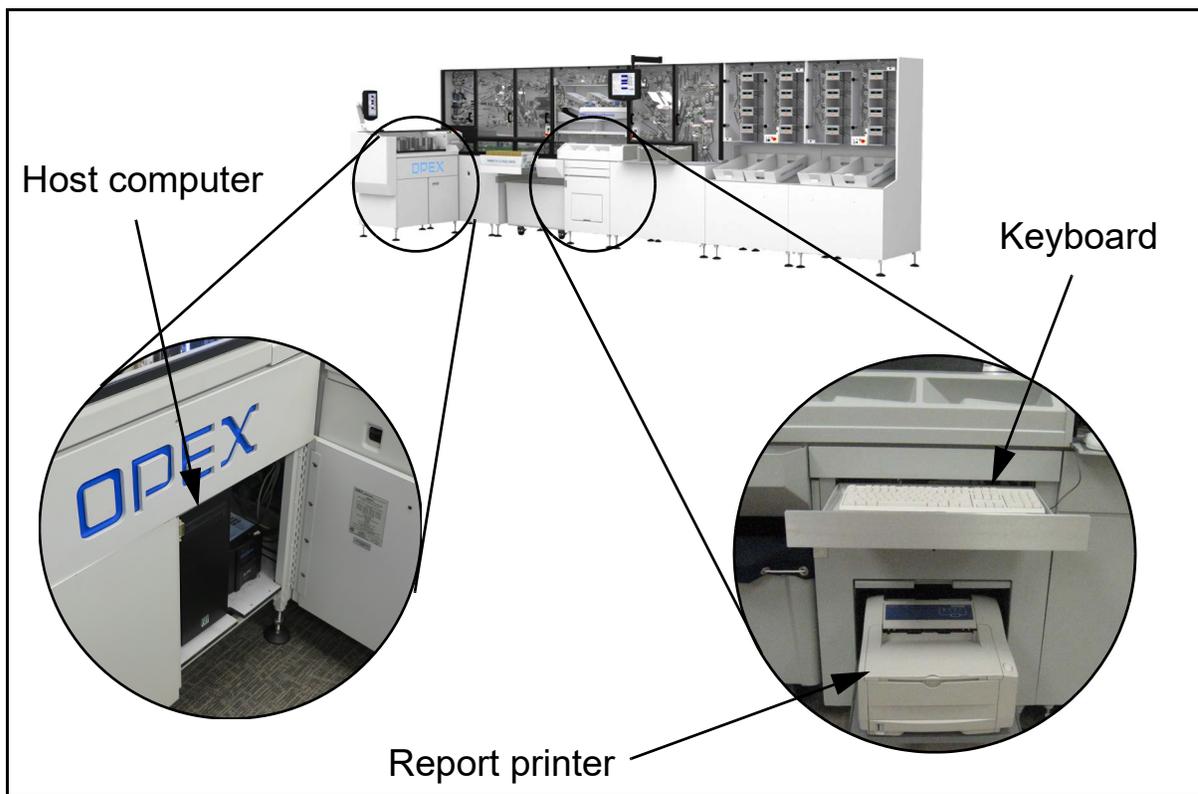
Figure 2-8: Host computer and peripherals

2.6. The Paper Path

The Eagle system processes envelopes in one continuous, non-stop stream. Envelopes travel through the processes of cutting, opening and extraction of contents. Contents are singulated (one piece is placed in front of another), imaged, oriented and stacked.

This section describes how the Eagle converts your mail from envelope to image. Refer to Figure 2-9. The process is as follows:

- Step 1: Qualification (page 31)
- Step 2: Cutting (page 32)
- Step 3: Extraction (page 33)
- Step 4: Singulation (page 34)
- Step 5: Content Imaging/IEM (page 35)
- Step 6: Orientation & Sequencing (page 36)
- Step 7: Stacking (page 37)
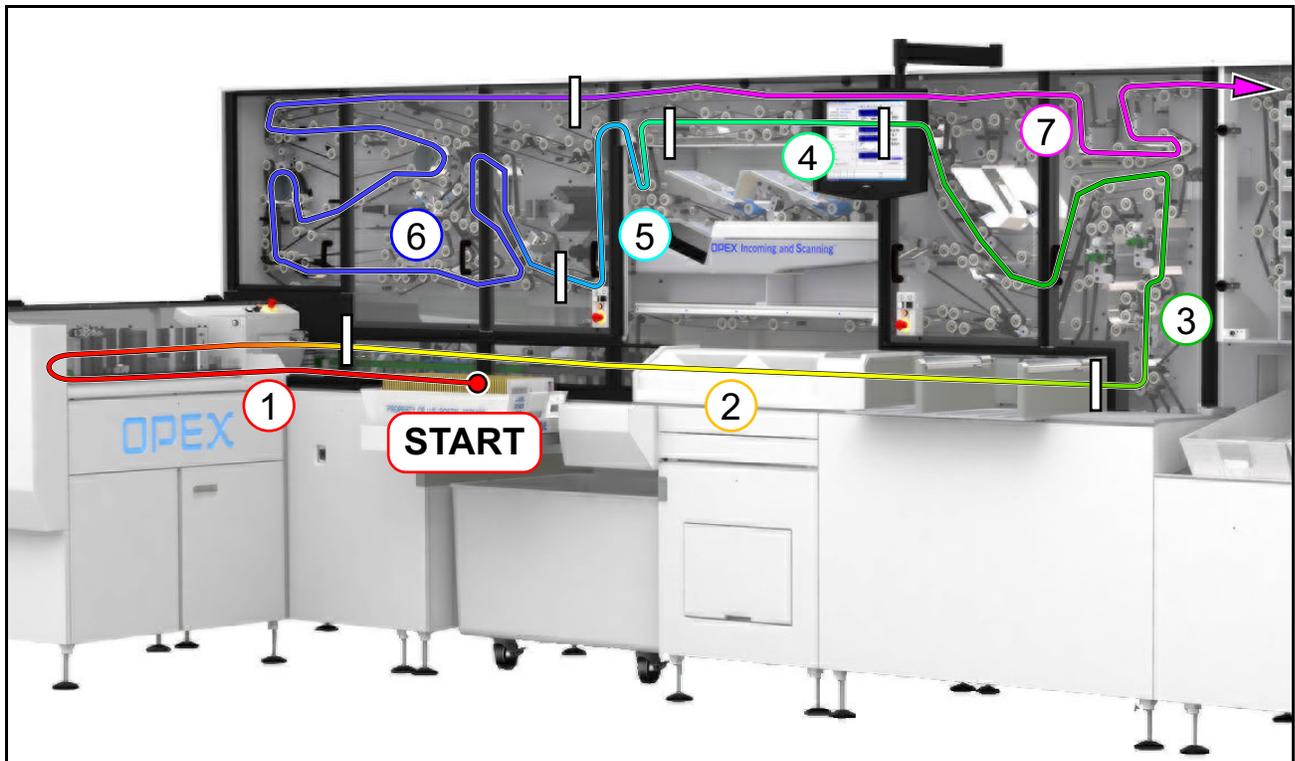
Figure 2-9: Processes along the paper path

Step 1: Qualification

Not all envelopes can be processed by the Eagle. As the envelope enters the paper path, it passes through three devices which qualify the envelope to proceed through the Eagle (Figure 2-10):

- The optional Envelope Imaging camera, if installed

- A Thickness Measuring Device (TMD).

- A metal detector.

Envelopes which do not qualify (because they contain staples, coins, folded checks, correspondence, etc.) may be outsorted at your option for processing on another machine, such as an OPEX Model 72 Rapid Extraction Desk.
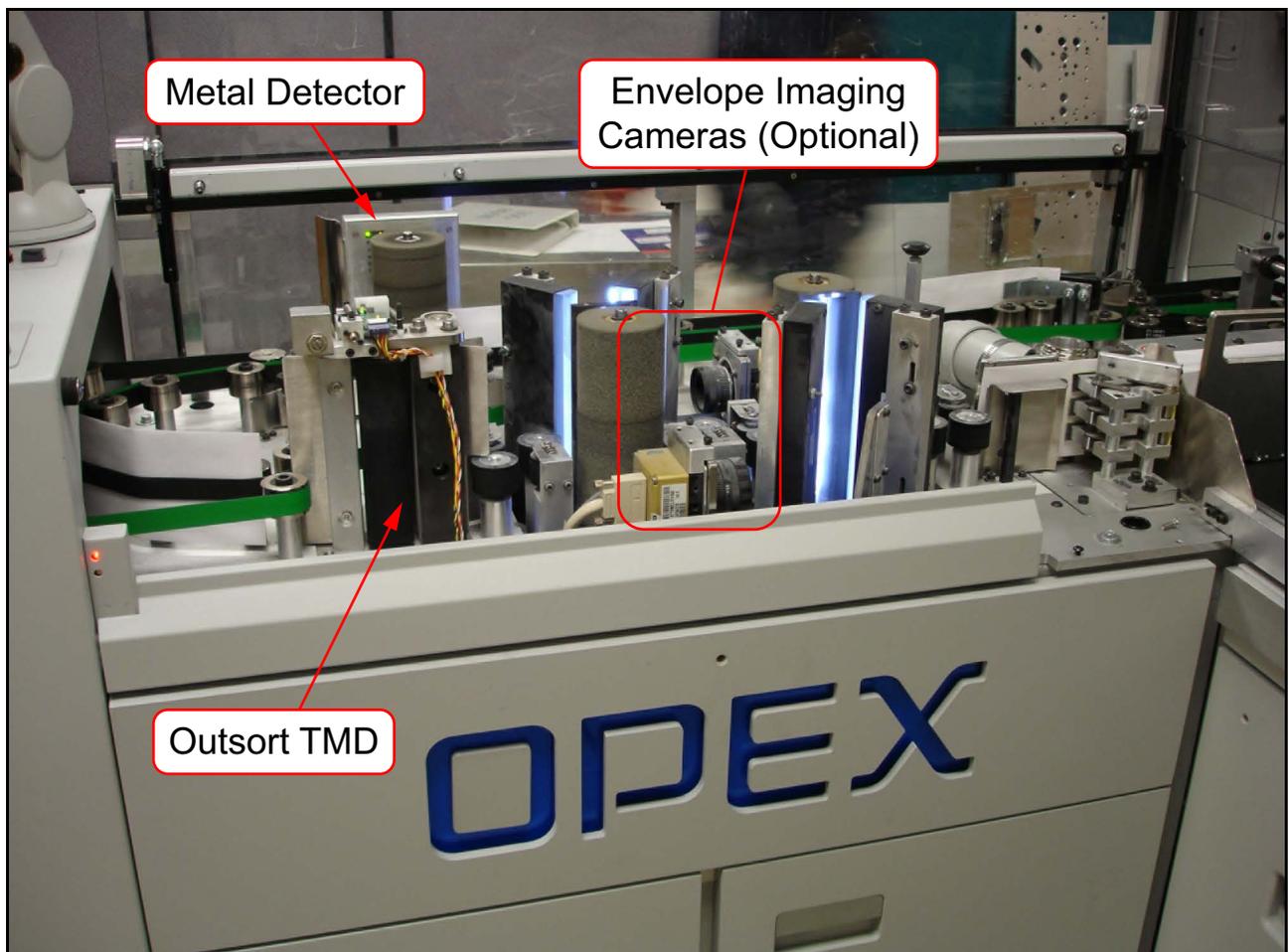
Figure 2-10: Qualification Area

Step 2: Cutting

As each envelope proceeds through the cutting station (Figure 2-11), the leading edge, top and bottom of the envelope are cut. The trailing edge of the envelope is not cut.
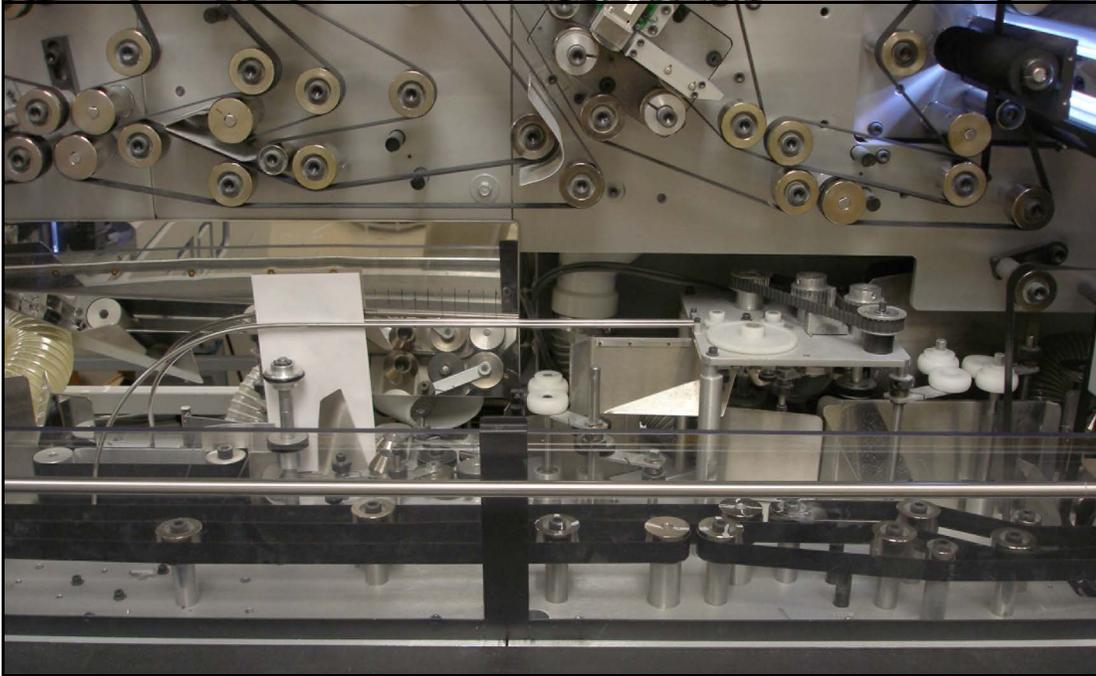
Figure 2-11: Cutting Area

Step 3: Extraction

After the envelope is cut, it 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 (Figure 2-12). Each path has its own TMD, so the Eagle can verify that the contents are all on the right path for processing, and that only the empty envelope will proceed to the trash.
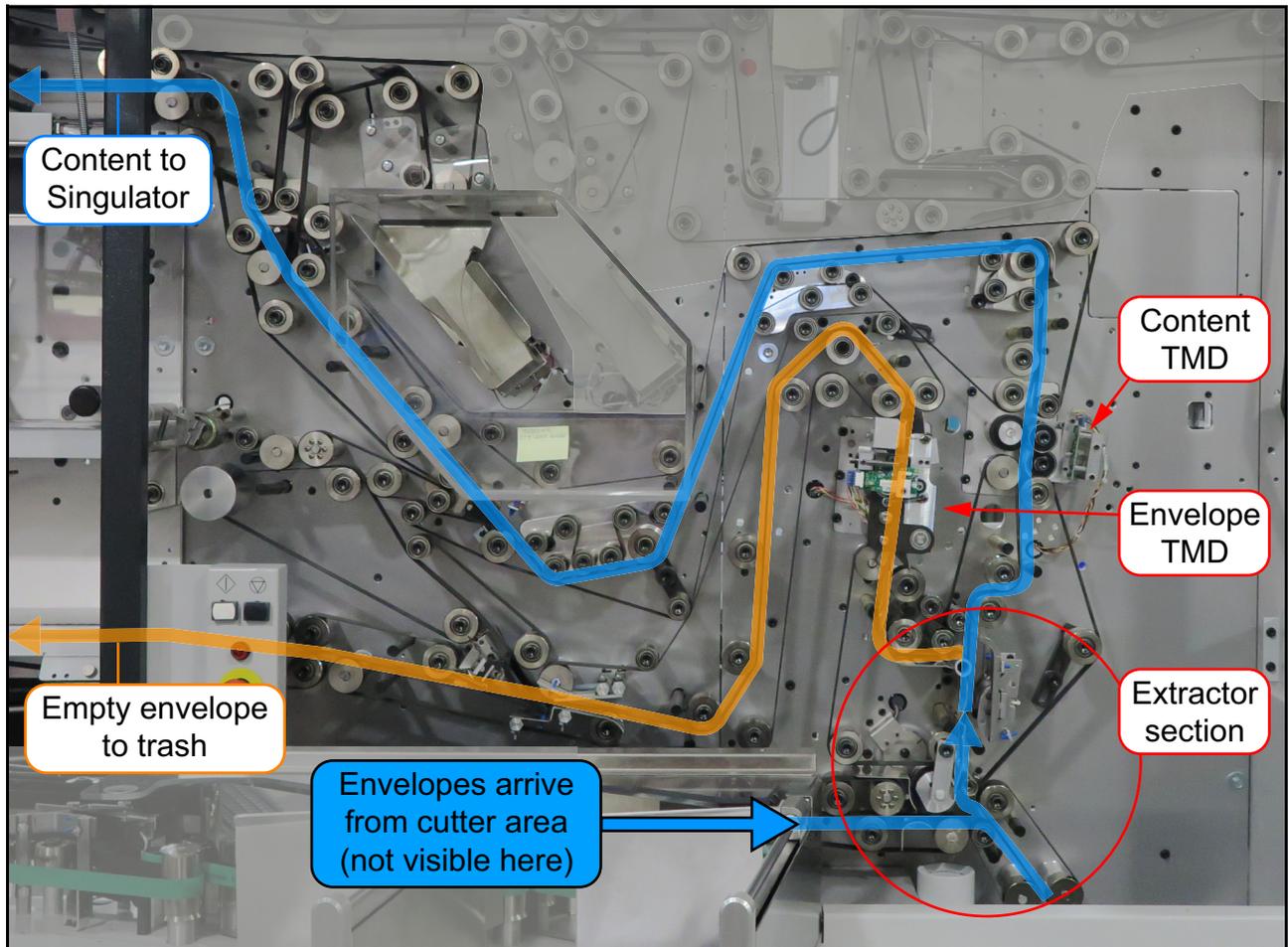
Figure 2-12: Extraction Area

Step 4: Singulation

At this point, the check and document are right on top of each other, just as they were in the envelope.

The Eagle singulates (separates) the contents of the envelope, by feeding them between a pair of tires and applying a brake to one side (Figure 2-13). The contents proceed down the paper path in single file.
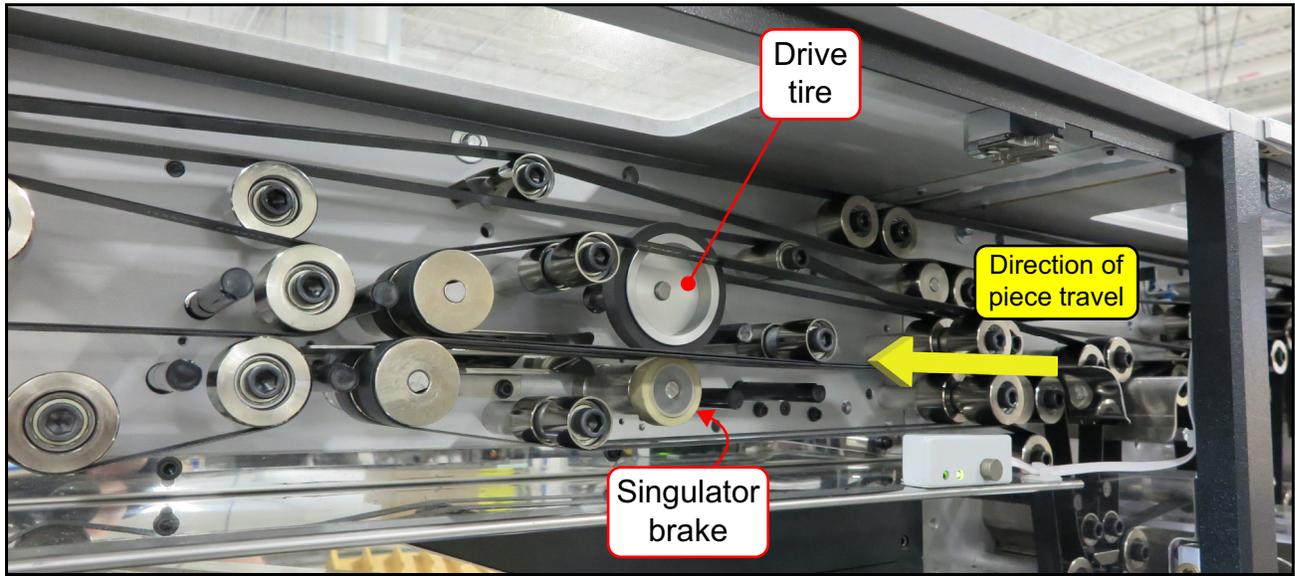
Figure 2-13: Singulation Area

Step 5: Content Imaging/IEM

The Eagle, when equipped with the optional IEM functionality (Figure 2-14), can perform OCR and MICR reads as well as image capture on the contents. The Eagle can then transmit the collected data to a network location where a software plug-in can perform many functions that previously had to be done off-line. Character Amount Recognition (CAR) and Legal Amount Recognition (LAR), Accounts Receivable Conversion (ARC) and Check 21 decisions can be made in real time and used in the sort criteria.

Note: The IEM functionality also adds the audit trail printers that print designated information on the check and/or document. The printing of the audit trail actually takes place further down the paper path, just before the items reach the stackers.
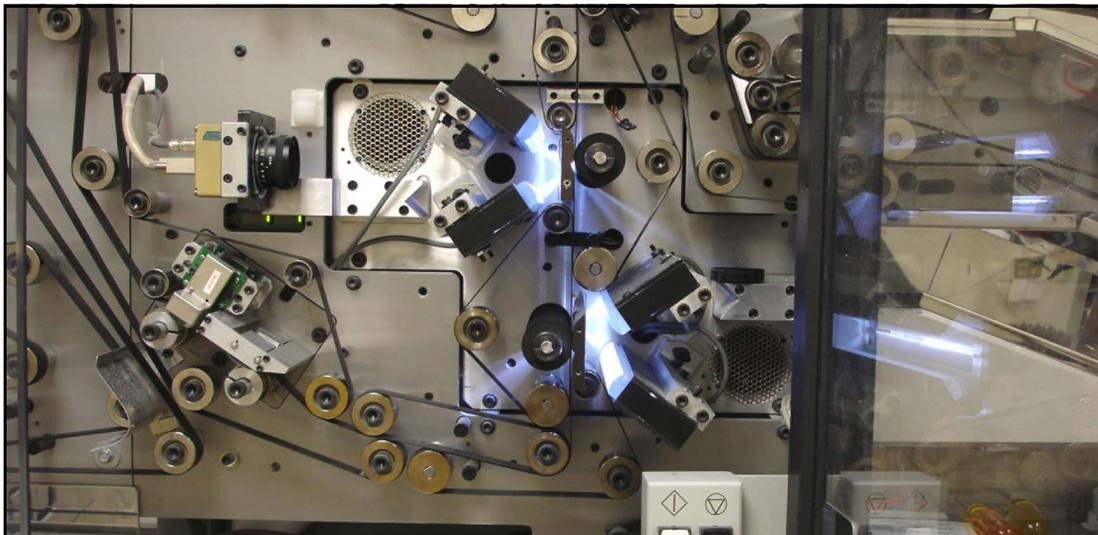
Figure 2-14: Content Imaging Area

Step 6: Orientation & Sequencing

The Eagle orients both the check and the document as configured in the job settings (Figure 2-15).

- The reverser can flip a check or document horizontally, so the lead edge becomes the trail edge

- The twister can flip a check or document vertically, so the edge against the Eagle's base plate faces toward the operator.

- The reorder section can change which item comes first in line, by diverting pieces to shorter or longer routes to the same point in the path.
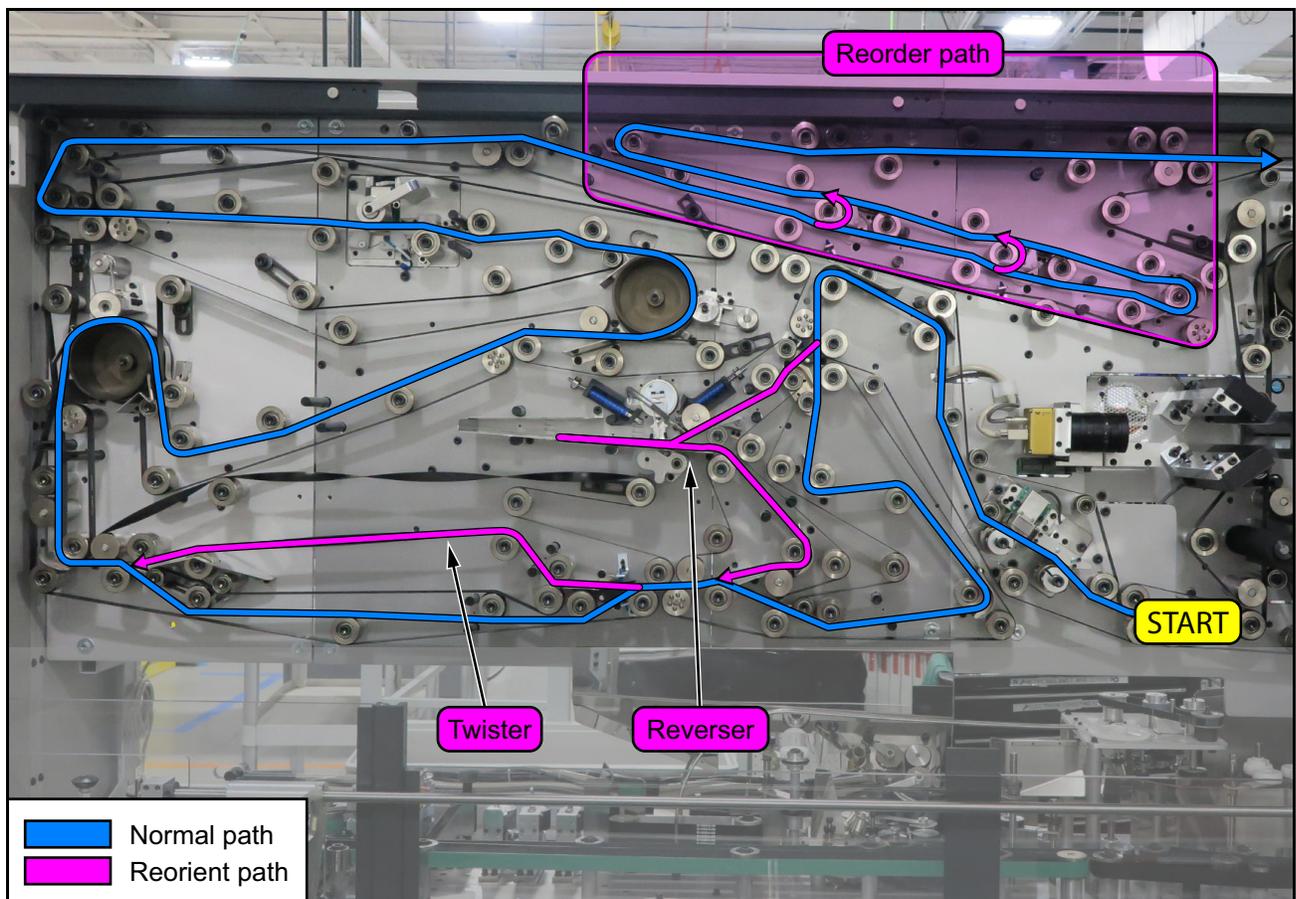
Figure 2-15: Orientation and Sequencing Area

Eagle Operator Manual
OPEX Corporation

Step 7: Stacking

With the check and document properly sequenced and oriented, the Eagle stacks them in the appropriate stacker bins (Figure 2-16).

Your Eagle may be configured with 2, 3, or 4 stacker modules, with 8 bins per module. The last bin in the configuration is typically used for rejected checks and documents.

Figure 2-16: Stacking Area

2.6.1. Jobs

A job is a collection of the parameters the Eagle uses for processing mail. The jobs set up by your service technician describe how your system will process your mail in the same manner from run to run.

The Eagle scans documents and checks, and stores the information it collects in batches, which consist of one or more transactions (a check and a stub).

If your Eagle system has the IEM functionality installed, you can also send the information the Eagle collects to another computer for further processing. Every action the Eagle performs to process your mail is set up in the specific job's parameters.

2.6.2. Factors affecting processing rates

Length of document   The Eagle operates at a maximum track speed of 160 inches per second. This assume an envelope length of 7.75 inches and a document length of up to 7.5" to provide a good fit within the envelope.

Shorter envelopes and documents will enhance throughput rates; longer envelopes will degrade the throughput rates, since fewer envelopes can pass through the Eagle in a given period of time.

Paper quality   Quality in document construction has two components: (1) the content and construction of the paper itself, and (2) the consistency with which each document is printed, perforated, and cut to size.

Paper basis weight   24 pound white wove (virgin) paper provides optimum performance in most applications. A decrease in paper basis weight usually means a decrease in the stiffness of the paper. This can result in a higher jam rate and poorer performance.

The Eagle system is designed to run best using envelopes and documents manufactured from paper with a basis weight of 20 to 24 pounds.

Recycled paper has less stiffness for a given basis weight than white wove (virgin) paper. This can generate excessive paper dust, and may degrade performance.

Quality of envelope construction Well-constructed envelopes have a positive impact on the throughput rate. Poorly constructed envelopes – those with out-of-specification window locations, for example – can require an unusual orientation of the envelope as it feeds into the system. This leads to higher jam rates at the reverser part of the extractor, and degrades overall throughput.

A quality envelope and document, designed within specifications, will contribute greatly to optimum performance of the Eagle.

Note: **OPEX offers expert help in envelope and document design**. *There is no cost for this service to OPEX customers. For help, contact your local Sales Engineer or Regional Service Manager.*

Eagle Operator Manual
OPEX Corporation

2.7. Specifications

Table 2-1: Physical Specifications

Length	19'3" for e-Package; two stackers are included with e-package. Each additional stacker adds 36"
Width	74" at widest point.
Height	75" maximum (on shipping dollies)
Weight	TBD for e-Package
Shipping Size	Maximum sections is 32" wide by 65" long by 75" high

Table 2-2: Envelope Specifications

Height	3.5–4.4"
Length	6–9.5"
Thickness	0.12" maximum at the feed
Window Limitations	No open window at the edge opposite the stamp. Plastic windows within 2" of the edge opposite the stamp will increase reunites due to static attraction.
Long flaps	Allowed up to ½" from bottom edge
Envelopes with Attached Bangtails	May be run; they will be outsorted without stopping the Eagle.
Paper Weight	20 to 24 lb. White wove is best. High stiffness preferred. Lighter paper will degrade performance. Recycled paper is not recommended due to lack of stiffness.
Other notes	Highly porous paper degrades extract reliability. Envelopes that are prone to damage from USPS (such as torn windows or flaps, crumbled, previously opened, etc.) will degrade performance. Please discuss your envelope design with your OPEX Sales Engineer.

Table 2-3: Return Document Specifications

Fit	The return document should be designed for a comfortable fit within the return envelope, with an optimum clearance of 1/8". This will make insertion of the document and check easier, thus minimizing folded pieces inside the envelope.
Height	2.75–4.25"
Length	5.75–9.25"
Paper Weight	18 to 24 lb. white wove is best. High stiffness preferred. Lighter paper will degrade performance.
MICR Ink on Document	Magnetic documents may be processed, but they must not have the same magnetic profile as the check.
OCR	Single font per document - OCR-A, OCR-B, E13B and others, up to 3 lines with a maximum of 80 characters per line.
Paper Thickness Variation	All documents to be run as a single job must be of the same size and thickness. *Note: Thickness and paper weight do not always correlate. Coated paper stock is thinner for a given weight than virgin white wove paper stock.*
Miscellaneous	Holes are not allowed in the document. Perforated edges should be minimized, and where used should be of high quality to prevent sloppy torn edges. Top edge perforation is preferred.

Table 2-4: Check Specifications

MICR Ink on Check	E13B and CMC-7 printing and locations as defined by ANSI X9.13-1983

Table 2-5: Environmental Specifications

Sound Level	84.5 dB average
Ambient Temperature	60–85°F
Humidity	40–95% relative humidity
BTU Output	24,125 BTU @ 34 amps

Eagle Operator Manual
OPEX Corporation

3. Operating the System

Eagle™

Operator Manual

3.1. Turning the Power On/Off

Turn the Eagle On

1. Turn the breaker switch (Figure 3-1) to the On position. The standby light will begin to blink.
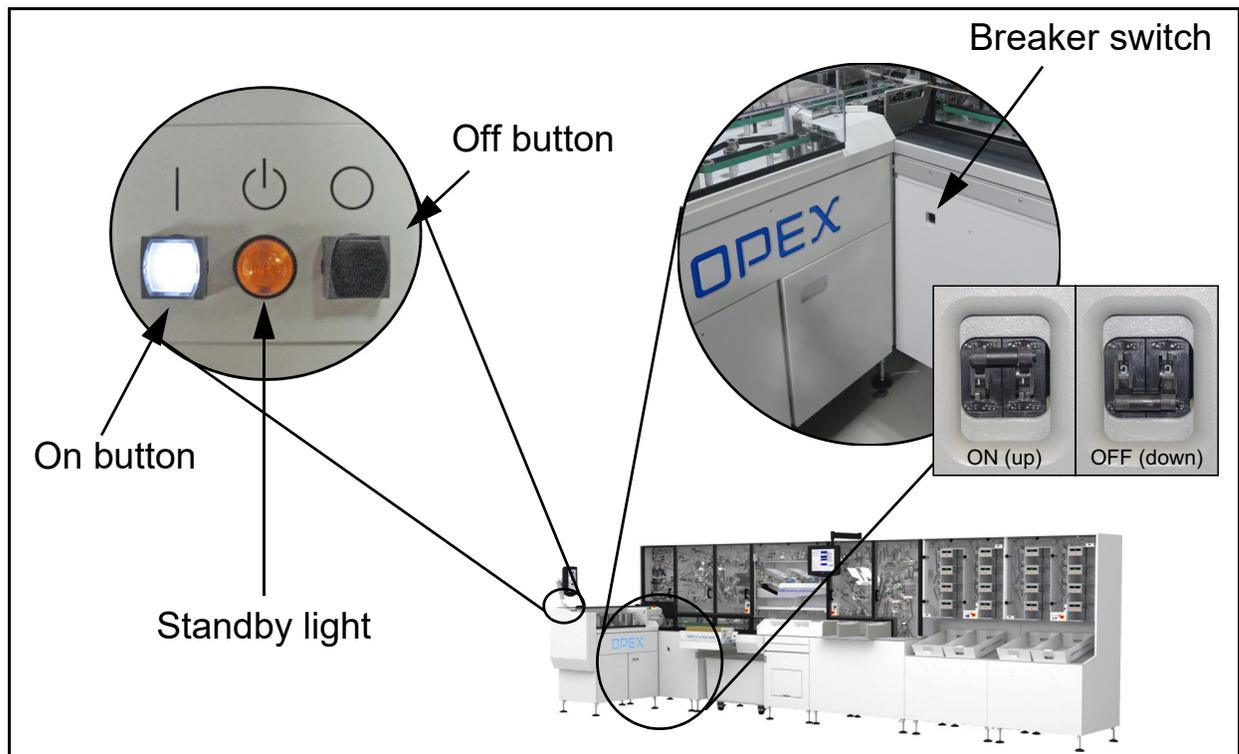
Figure 3-1: On/Off button locations

2. Press the white ON button. The On button will light up and the standby light will remain solid. The Eagle will begin its power up routine and the computer and monitor will come on.

   Note: If the ON button is flashing, this means an interlock is open. Close any open doors on the Eagle to continue.

3. Log in to Windows.

Turn the Eagle Off

1. Press the black Off button (see Figure 3-1). The standby light will blink.

2. Turn the breaker switch to the Off position.

Eagle Operator Manual
OPEX Corporation

3.2. Opening the Host software

The Eagle Host computer will launch the Host software as part of the system's start-up routine. If you mistakenly close the Host software or, if the Host software does not start with the Eagle, you can start it manually.

Open the Host software

1. If the Host software is not already running, double-click on the Eagle icon on the desktop OR click **Start** > **Programs** > **OPEX** > **Eagle** to open it.

2. The Host software opens to the login screen.

3. Select your user name from the Name dropdown list, then enter your password using either the keyboard in the operator station or the on-screen "Virtual Keyboard" (Figure 3-2).
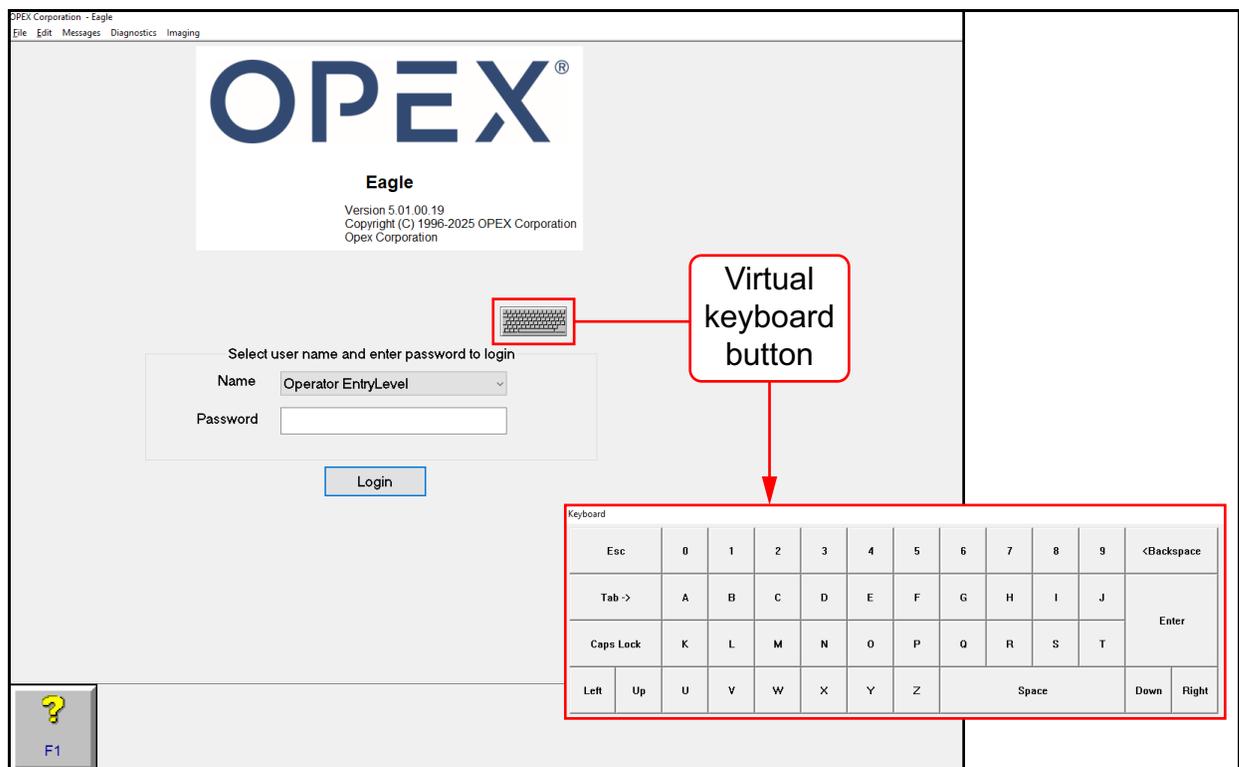
Figure 3-2: Login screen and virtual keyboard

4. Click **Login**. The Host software displays the Job Select screen.

Eagle Operator Manual
OPEX Corporation

3.3. Navigating the Host software

The Explorer bar (Figure 3-3) always appears at the bottom of the screen when the Host software is running. Use the Explorer bar buttons to quickly access the various functions of the software.

| ? F1 | OPEX F2 | ← F3 | ⇨ F4 | Job Select F5 | Statistics F6 | Parameters F7 | Diagnostics F8 | Utilities F9 | Logout F10 |

Figure 3-3: Explorer bar

The buttons on the Explorer bar may change, depending on what functions of the software you are currently accessing.

The following four buttons always appear:

? (F1)   Accesses the online help. This button is not in use at this time.

OPEX (F2)   Provides quick access to all of the features of the Host software.

← (F3)   Go back to the previous screen.

→ (F4)   Move forward one screen (if you have previously pressed ← **(F3)**).

3.4. Closing the Host software

1. Click **OPEX (F2)**. A menu appears listing several options, including the options for closing the Host software (Figure 3-4).
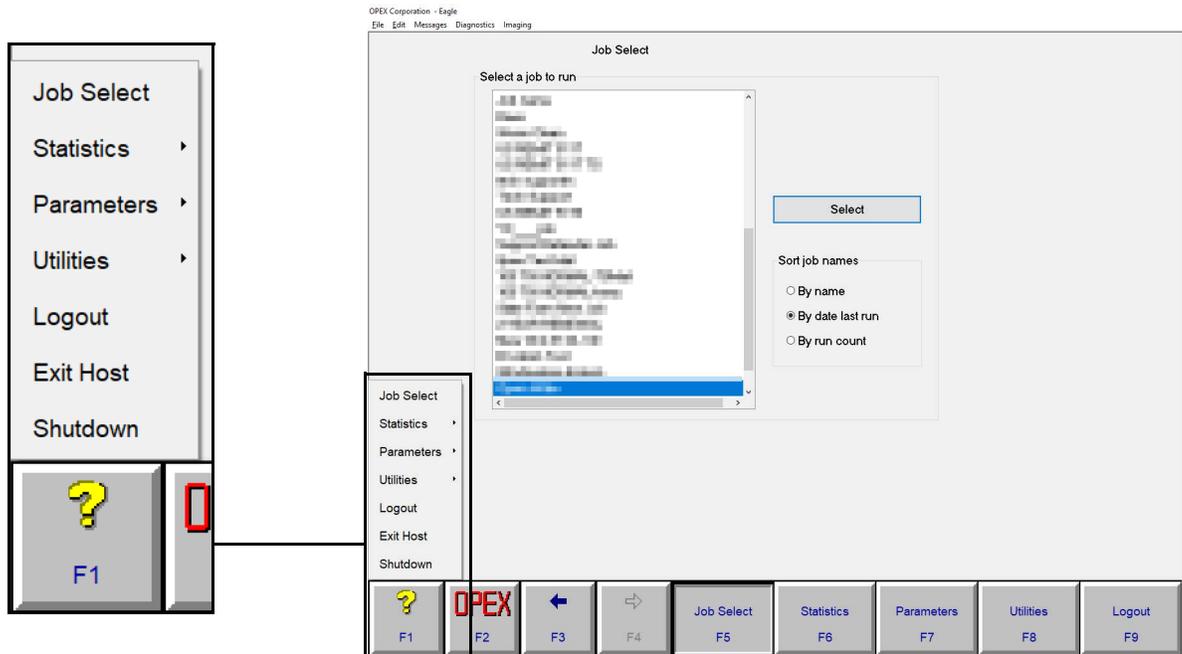
Figure 3-4: Exit options

2. Select the desired close option:
   - Logout: Log out the current user, and return to the opening screen.
   - Exit Host: Close the Host software and return to the desktop.
   - Shutdown: Close the Host software and shut down the Host computer.

Eagle Operator Manual
OPEX Corporation

3.5. Running Jobs

This section describes the sequential operations involved in a typical job run: Selecting a job, loading envelopes, starting the job, and clearing jams.

3.5.1. Selecting a job

1. Click **OPEX** > **Job Select**. This will bring you to the Job Select screen.

2. Select the job you want to run, and click **Select** (Figure 3-5).
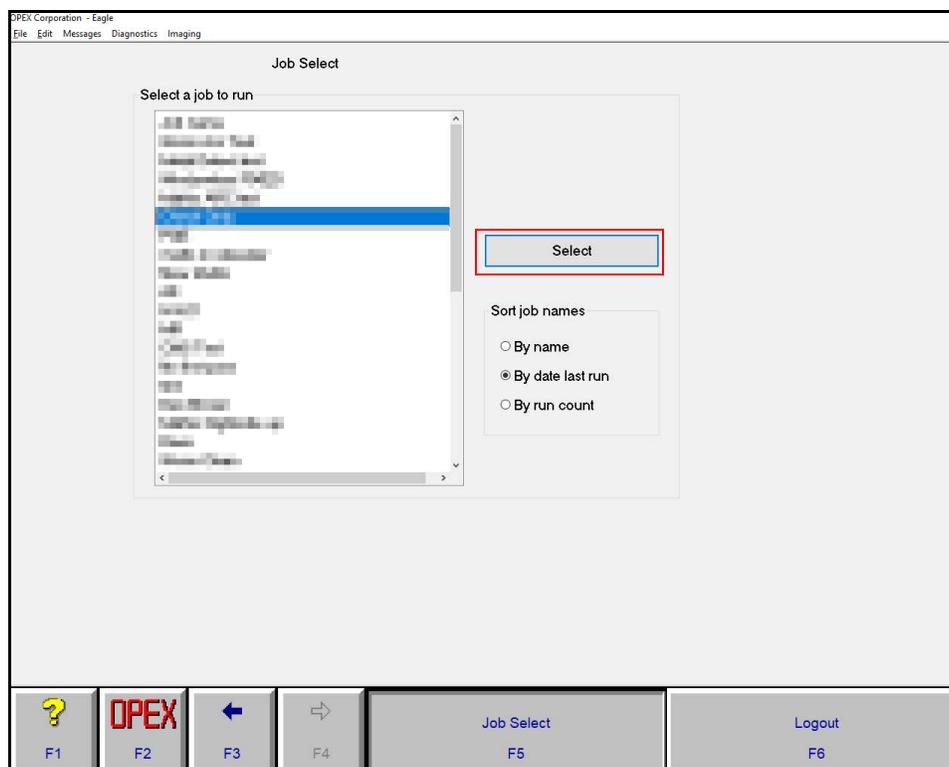
Figure 3-5: Job Select screen

3. If the job you select includes IEM functions, the Run Type dialog box will appear. Highlight a run type and click **Select**. This dialog and the run types are discussed in detail on the next page.

4. The Run screen will appear.

3.5.1.1. Run types

Select a type of run for the selected job (Figure 3-6). The different run types activate and deactivate certain Eagle functions depending on your intended usage.
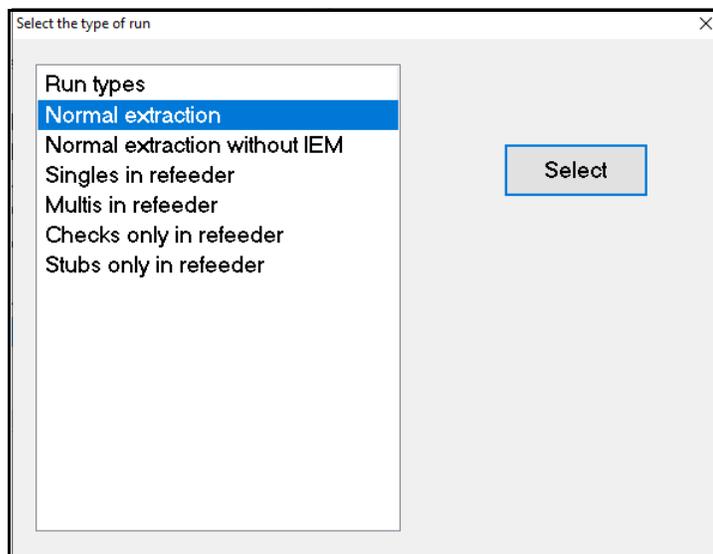
Figure 3-6: Select a run type

3.5.1.1.1. Normal extraction

The **Normal extraction** run type will run the job as it was originally set up. Envelopes will feed from the main feeder and contents will be imaged and sent to the network for processing.

*Note: Fill the batch ticket feeder with batch tickets when running in **Normal extraction** mode. The Eagle will automatically feed batch tickets where necessary.*

Select **Normal extraction without IEM** to run the job without the IEM functionality.

Eagle Operator Manual
OPEX Corporation

3.5.1.1.2. Refeeder

The Eagle refeeder provides the option of imaging stubs and checks that have already been extracted from their envelope. The refeeder run modes are run as a separate operation and are not dependent on the system's extractor functions. Select a refeeder run type for what you plan on running.

Table 3-1: Refeeder run types

Singles in refeeder	Singles transactions include one stub followed by one check. These are the most commonly run refeeder transactions. The operator must arrange the stubs and checks accordingly before feeding them into the refeeder and running the job.
Multis in refeeder	Multis transactions include one or more stubs followed by one or more checks.
Checks only in refeeder	Only sending checks through the refeeder.
Stubs only in refeeder	Only sending stubs through the refeeder.

Eagle Operator Manual
OPEX Corporation

3.5.2. Loading envelopes

Make sure envelopes are properly loaded on the conveyor in order to run the job.

1. Place envelopes in a stack on the conveyor as shown in Figure 3-7 and Figure 3-8. Make sure the envelopes are facing the proper direction as per the job parameters. If possible, load the entire conveyor with envelopes.

    Note: *The Run screen status display (**) will tell you how to load the envelopes for the selected job.*

Figure 3-7: Loading envelopes
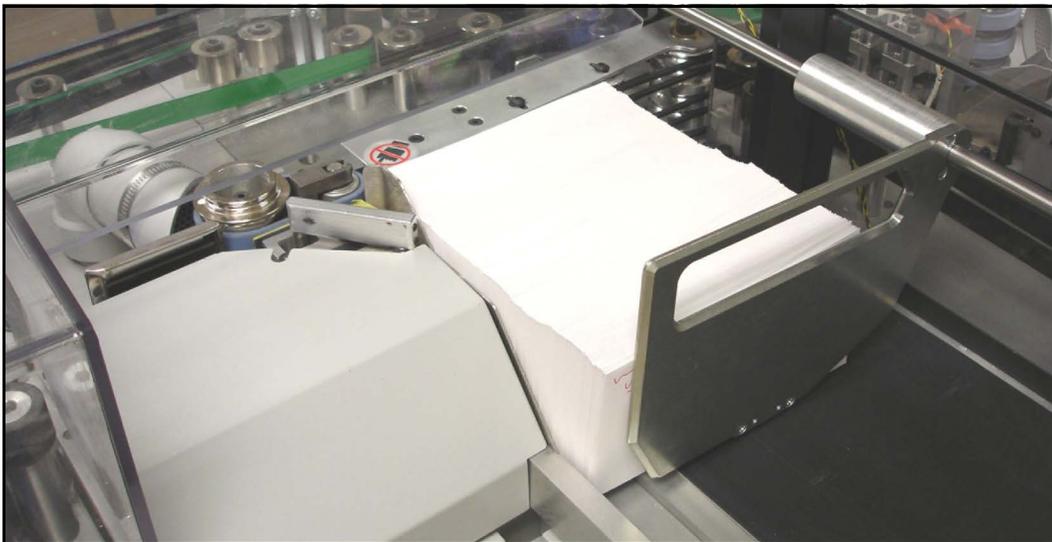
Figure 3-8: Properly positioned envelopes

2. If you are running in **Normal extraction** mode, fill the batch ticket feeder with batch tickets. The Eagle will feed batch tickets into the paper path when necessary.

3. While the job is running, continue loading envelopes on the conveyor until the job is completed.

3.5.2.1. Refeeder modes

When running in one of the refeeder modes, the Eagle will feed documents and checks from the content refeeder as opposed to feeding envelopes from the main feeder.

Place sorted documents and checks in the refeeder face down as shown in Figure 3-9. Only place items in the refeeder when the Eagle is stopped, to avoid jams in the refeeder path.
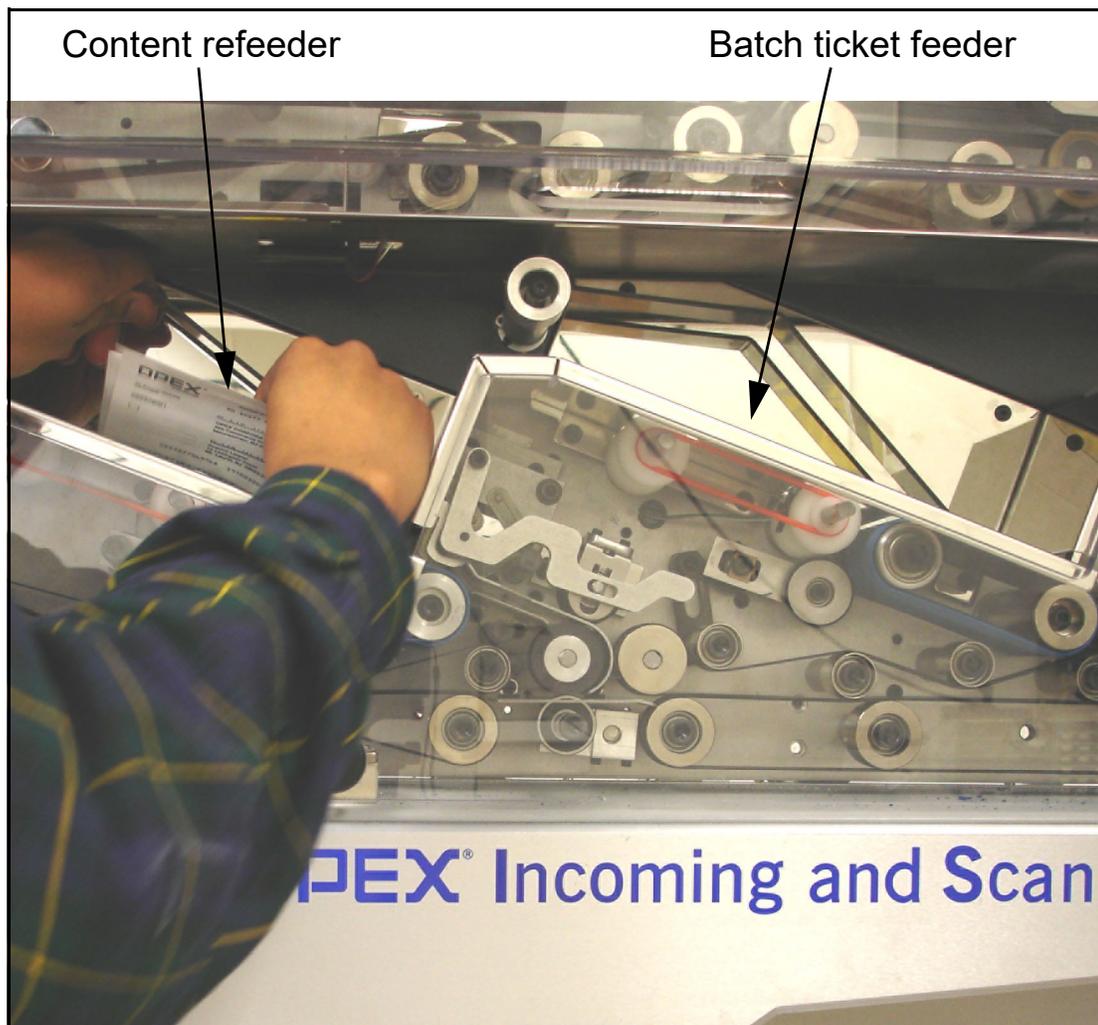
Figure 3-9: Loading items into the refeeder

Eagle Operator Manual
OPEX Corporation

3.5.3. Starting the job

Once you have selected a job and loaded the feeder with envelopes, you are ready to start the job. Use the Run screen (Figure 3-10) to start and stop running jobs and view important information on your job.
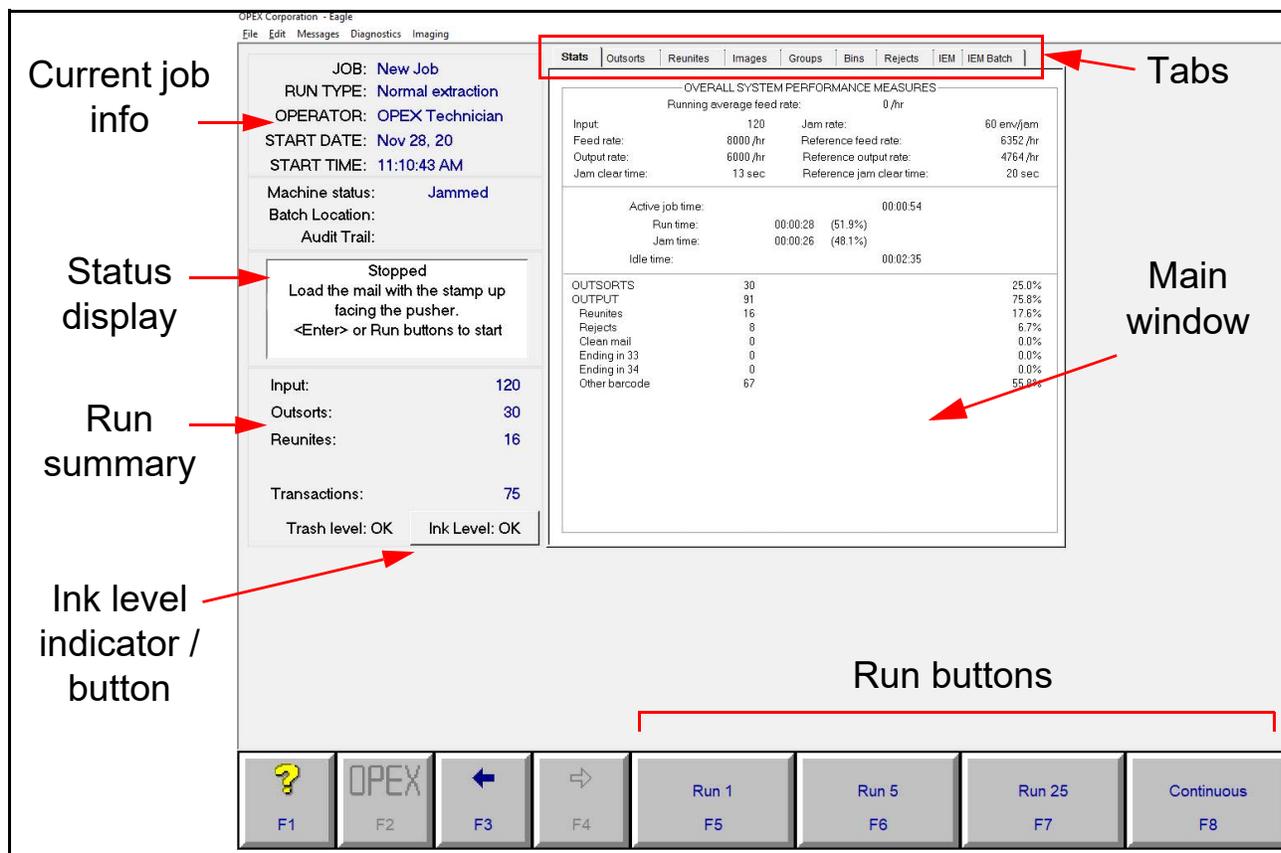
Figure 3-10: Run screen

Click one of the following buttons on the Run screen to begin the run:

Run 1   Runs one envelope.

Run 5   Runs five envelopes.

Run 25   Runs twenty-five envelopes.

Continuous   Runs envelopes until the feeder is empty.

Starting with the stacker module and moving toward the feeder module, the Eagle starts running all its motors. When the conveyor motor is ready, it starts feeding envelopes into the paper path for processing.

Eagle Operator Manual
OPEX Corporation

3.5.3.1. Outsorts, reunites and rejects

While the Eagle is extracting, imaging and sorting mail, envelopes and documents will be outsorted for various reasons. The possible destinations of outsorted and rejected pieces are shown in Figure 3-11.

Some envelopes may contain a paper clip or other foreign object and be outsorted before being opened at all. Some envelopes that are not opened properly will be outsorted because the contents could not be removed. Other envelopes will open correctly, but the document and check may not be separated properly and that document and check is outsorted. There are many reasons for outsorts, and many of them can be processed by the Eagle after some action by the operator.
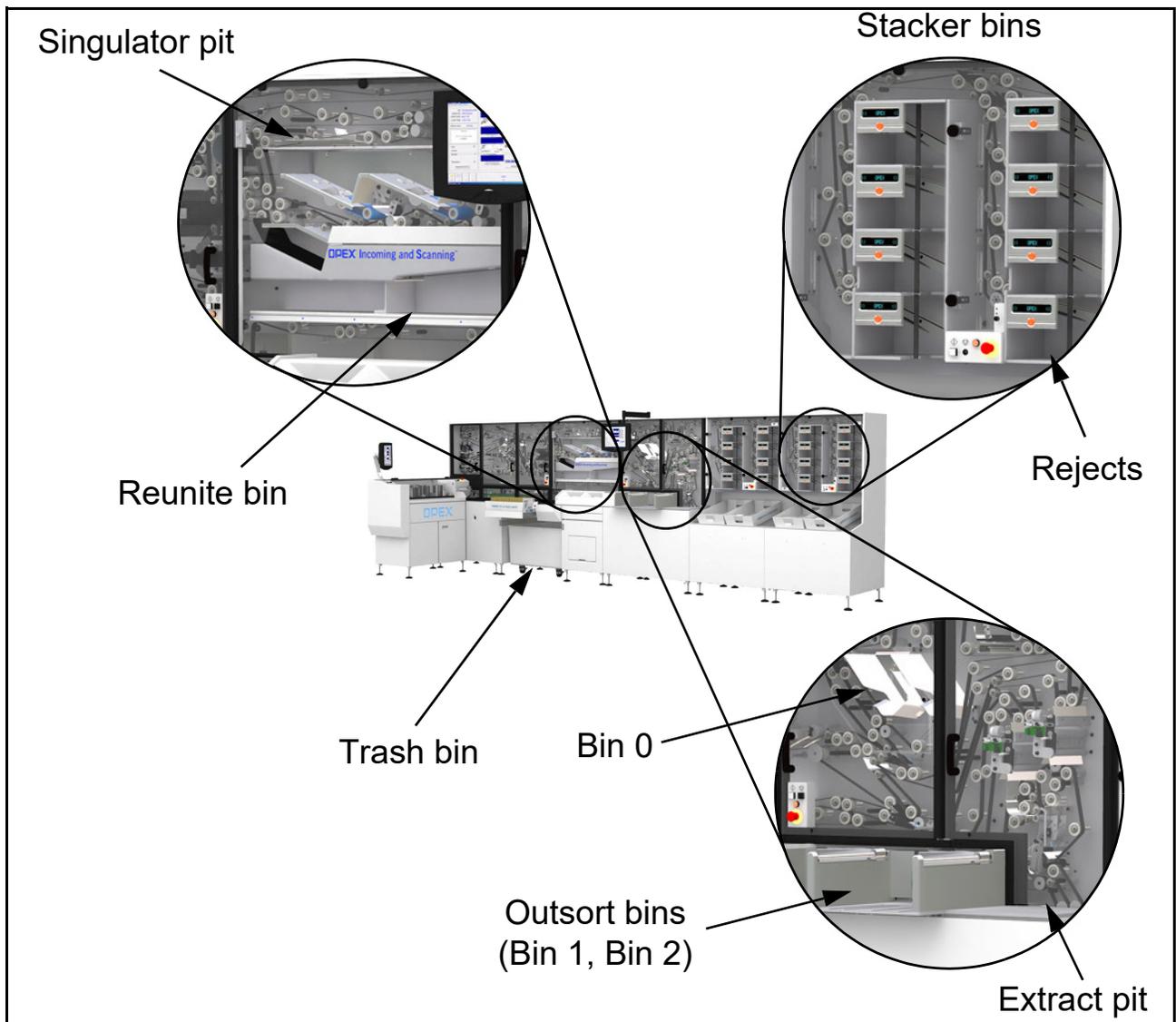

Figure 3-11: Outsort, reject locations

Table 3-2 describes the reasons for envelopes and documents to be outsorted. This information is based on the default settings, and may change slightly depending on your job.

Table 3-2: Outsorts, rejects and reunites

Destination	Purpose	What to do with it
Outsort bins (Bin 1, Bin 2)	Envelopes that do not meet the requirements of either the Eagle or the job.	Envelopes sent to Outsort Bin 1 cannot be run on the Eagle. Envelopes sent to Outsort Bin 2 may be run using a different job.
Extract pit	Envelopes that were cut open but the documents were not extracted properly	Remove the contents and prepare them for the refeeder
Reunite bin	Envelopes and contents that were reunited. Could be due to the envelope and check or document sticking together.	Separate the envelope and contents and prepare the contents for the refeeder
Singulator pit	Contents were extracted but not separated enough to be imaged	Prepare for the refeeder
Bin 0 Reject bin(s)	Stubs and checks that were not imaged properly; MICR or OCR information was not read properly; could not orient items, etc.	Prepare for the refeeder or transport

Note: *See* Chapter 5: "Outsorts, Reunites, and Rejects" *for detailed information on the individual messages.*

3.5.3.2. Stacker bins

The stacker modules contain the documents and checks extracted from the envelopes. Depending on the configuration of the job, certain documents and checks will go to certain bins.

Eagle Operator Manual
OPEX Corporation

Each Eagle stacker houses eight bins, and an Eagle can have up to four stacker modules installed. Figure 3-12 shows the stacker modules and how the bins are numbered.
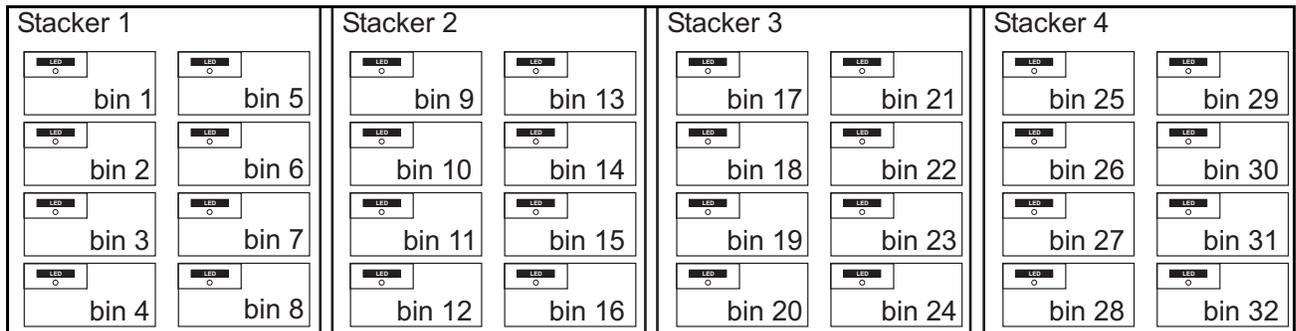
Stacker 1		Stacker 2		Stacker 3		Stacker 4	
bin 1	bin 5	bin 9	bin 13	bin 17	bin 21	bin 25	bin 29
bin 2	bin 6	bin 10	bin 14	bin 18	bin 22	bin 26	bin 30
bin 3	bin 7	bin 11	bin 15	bin 19	bin 23	bin 27	bin 31
bin 4	bin 8	bin 12	bin 16	bin 20	bin 24	bin 28	bin 32

Figure 3-12: Stacker bin numbering

Each stacker bin has an illuminated display (Figure 3-13) that identifies the bin number and its contents. The Bin ID text is configured in job setup. The first line is the group name and bin number, and the second line says whether documents, checks, or both belong here.
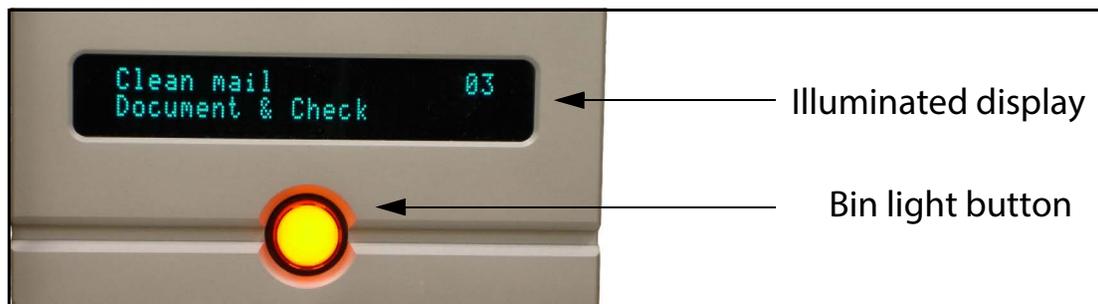

Figure 3-13: Stacker bin components

Each bin has a bin light button that displays the status of the bin:

- **Off** - bin is ready to accept content.
- **On** - bin is full and needs to be emptied to be used again. When the content is removed from the bin, the light automatically goes off. You can also bypass a bin prior to running a job by pressing the button so that it is lit.
- **Flashing** - bin is in need of attention. It may be waiting for a batch ticket, a piece required to get there may not have arrived, or an unexpected piece arrived in the bin.

  Note: If the Eagle jams and you want to remove the contents from a bin, you must first press its bin light button. This effectively closes the batch.

3.5.4. Using the Run screen

The Run screen information is broken down into six areas, indicated below (Figure 3-14). Along the top of the run screen are several tabs which will display different sets of information in the main window

Figure 3-14: Run screen

3.5.4.1. Stats tab

The Stats tab displays statistical information from the current job. This information is broken up into three different sections:

- Overall System Performance Measures
- Time
- Job Run Percentages

3.5.4.1.1. Overall System Performance Measures

The Overall System Performance Measures section (Figure 3-15) displays the information the rates and clear times for the current job.

```
OVERALL SYSTEM PERFORMANCE MEASURES
        Running average feed rate:          15000 /hr

Input:                          29    Jam rate:                      29 env/jam
Feed rate:                5220 /hr    Reference feed rate:             2269 /hr
Output rate:              5220 /hr    Reference output rate:           2269 /hr
Jam clear time:            4 sec     Reference jam clear time:          30 sec
```

Figure 3-15: Overall System Performance Measures

This section displays the following information:

Input   Number of envelopes the system has started to process.

Feed Rate   Number of envelopes per hour the system is currently feeding. The formula for the Feed Rate is:

$$\text{Feed Rate} = \frac{\text{Input} * 3600}{\text{Active Job Time}}$$

Output Rate   Number of envelopes per hour the system is processing. The formula for the Output Rate is:

$$\text{Output Rate} = \frac{\text{Output} * 3600}{\text{Active Job Time}}$$

Jam Clear Time   Time it takes the operator to clear the jam. The formula for the Jam Clear Time is:

$$\text{Jam Clear Time} = \frac{\text{Jam Time}}{\text{Jams}}$$

Jam Rate   Number of jams per run. The formula for the Jam Rate is:

$$\text{Jam Rate} = \frac{\text{Input}}{\text{Jams}}$$

Eagle Operator Manual
OPEX Corporation

Reference Feed Rate   Number of envelopes fed into the system per hour. The formula for the Reference Feed Rate is:

$$\text{Reference Feed Rate} = \frac{\text{Input} * 3600}{\text{Run Time} + (\text{Jams} * \text{Reference Jam Clear Time})}$$

Reference Output Rate   Number of envelopes processed by the system. The formula for the Reference Feed Rate is:

$$\text{Reference Output Rate} = \frac{\text{Output} * 3600}{\text{Run Time} + (\text{Jams} * \text{Reference Jam Clear Time})}$$

Reference Jam Clear Time   Estimated time it takes to clear a jam. This number is fixed at 20 seconds.

3.5.4.1.2. Time

Active job time:		00:00:20
Run time:	00:00:16	(80.0%)
Jam time:	00:00:04	(20.0%)
Idle time:		00:01:00

Figure 3-16: Time

The Time section (Figure 3-16) displays information about the time it is taking the system to process the job. This information includes:

- Active Job Time - Total time it takes from the start to the end of the job.

- Run Time - Time that the system is actively running the job.

- Jam Time - Total time that the system is stalled while a jam is cleared.

- Idle Time - Time Eagle was active during Active Job Time.

3.5.4.1.3. Job Run Percentages

OUTSORTS	0	0.0%
OUTPUT	29	100.0%
Reunites	0	0.0%
Rejects	7	24.1%
Clean mail	22	75.9%

Figure 3-17: Job Run Percentages

The Job Run Percentages section (Figure 3-17) provides a breakdown of how the mail fed into the system was processed. This information is provided in both numerical form and by percentage. It includes:

Outsorts   Envelopes sent to the Outsort bins.

Output   Envelopes that have been processed. These pieces could be processed as:

- **Reunites** - Envelopes and pieces were reunited and sent to the Reunite bin.
- **Rejects** - Pieces that were rejected.
- **Clean Mail** - Pieces that were successfully processed.

3.5.4.2. Outsorts tab

The Outsorts tab displays the possible reasons for outsorts, and the number of envelopes that were outsorted for each of these reasons. See "Outsorts" on page 84 for more information.

3.5.4.3. Reunites tab

The Reunites tab displays the possible reasons for the envelopes and contents being reunited and sent to the Reunite bin. It also shows the number of pieces that were reunited for each reason. See "Reunites" on page 86 for more detailed information.

3.5.4.4. Images tab

The Images tab (Figure 3-18) displays grayscale and/or bitonal images of the documents and checks scanned in the current batch.
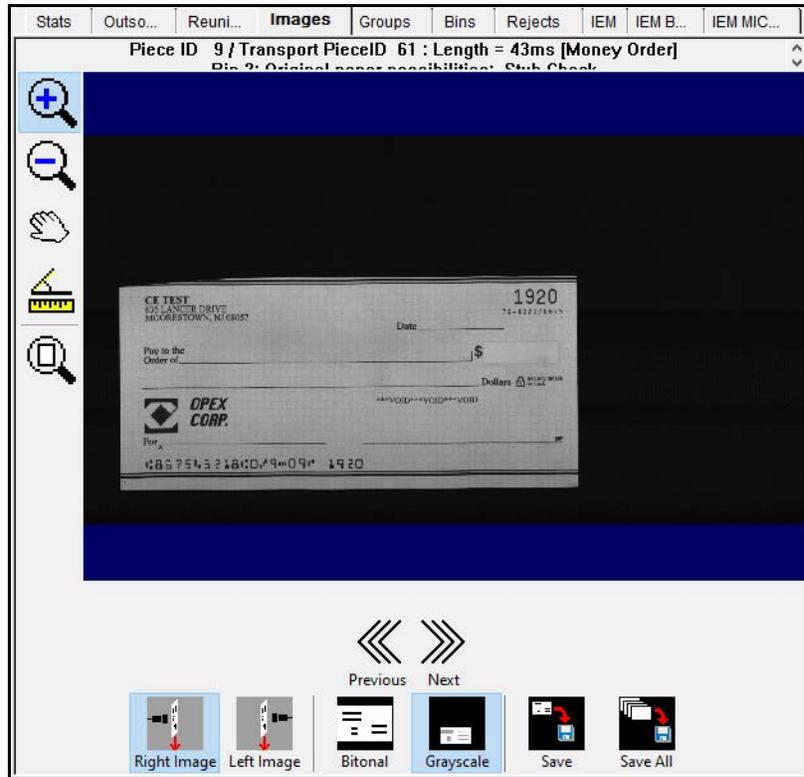
Figure 3-18: Images

Press **G** on the keyboard to view the grayscale image of the item; press **B** for the bitonal image. Press the up and down arrow keys to cycle checks and documents and press the right and left arrows to see the front and back of the image.

3.5.4.5. Groups tab

The Groups tab displays the various group names and the bin assignment for each group. The Groups tab also shows the number of pieces that have gone to each bin and how many pieces were rejected.

3.5.4.6. Bins tab

The Bins tab displays information on every bin on the system:

Count   Number of pieces currently in the bin.

Status   Information regarding the status of the bin.

Full Count   Total number of pieces sent to the bin.

3.5.4.7. Rejects tab

The Rejects tab displays all the possible reject reasons, and how many pieces were rejected for each of those reasons. See for more information.

3.5.4.8. IEM tab

View MICR and OCR read information for items scanned in IEM jobs (Figure 3-19). This tab will only be available when running in IEM mode.
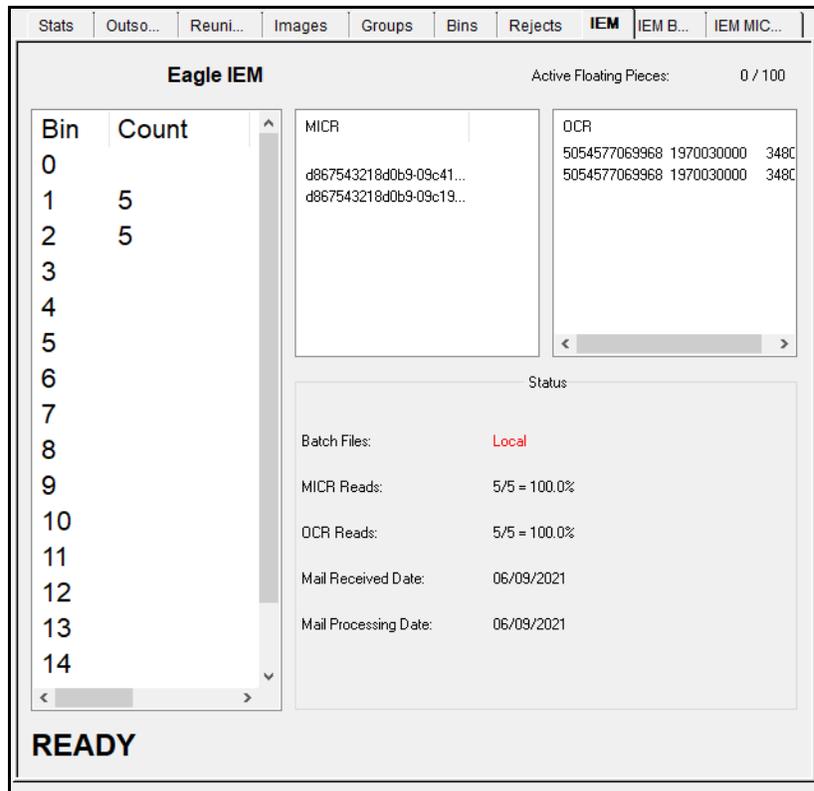

Figure 3-19: IEM tab

3.5.4.9. IEM Batches tab

View transactions, by batch, when running in IEM mode (Figure 3-20). This tab will only be available when running IEM jobs and when the Eagle is stopped.
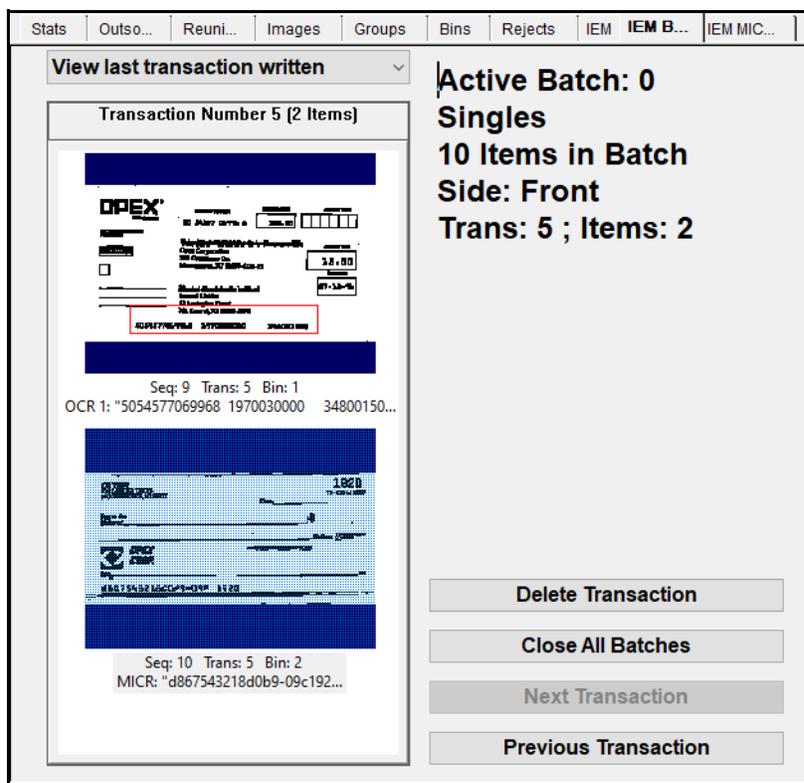
Figure 3-20: IEM Batches tab

3.5.5. Stopping and Resuming a Job

While a job is running, the run buttons in the software are replaced by the **Cancel** button (Figure 3-21).
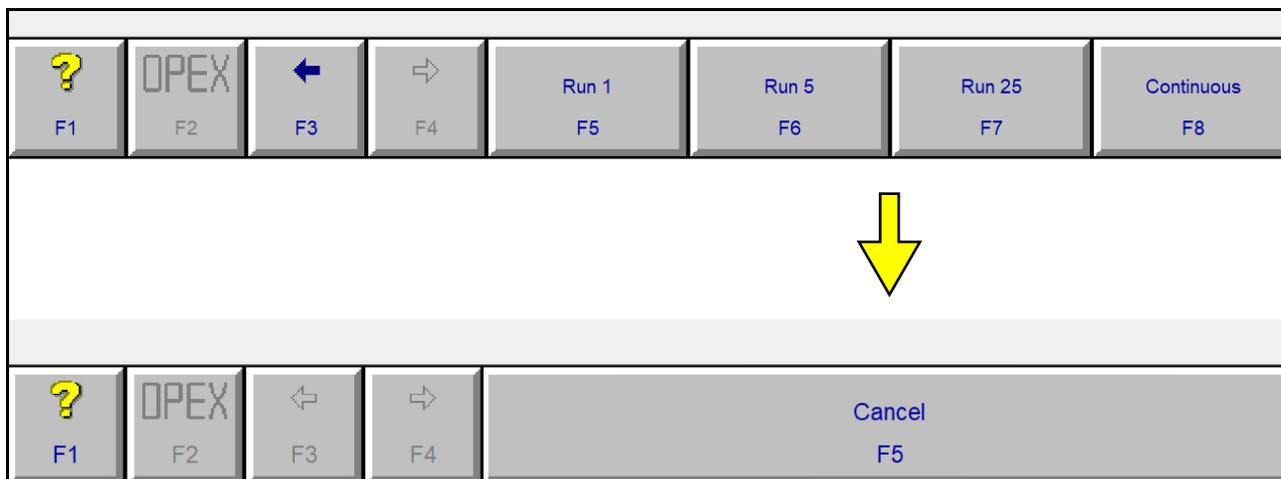
Figure 3-21: Cancel replaces the Run buttons

The Cancel button stops the job. The feeder stops bringing new envelopes into the Eagle, and the Eagle finishes processing any pieces that are currently on the paper path, then it stops all of the motors.

You can cancel a job either from the Cancel button in the host software, or by pressing the black Stop button on one of the Eagle start/stop panels.

3.5.6. Clearing jams

From time to time, you will experience the inevitable paper jam. When a jam occurs, the system will alert you as to where the jam has taken place. Clear the jam, press the white On button to reset the interlock system, and press **Continue** on the dialog box (Figure 3-22) to continue running the job.


Figure 3-22: Jam dialog box

Tips for clearing jams

- **Don't rush**   Develop good habits in clearing jams to maintain the sequence integrity of the document and check. 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 Eagle running again.

- **Clear only the actual jam**   Remember that the Eagle will clear the paper path automatically. You only have to deal with the actual jam area. Check areas where an envelope transfers from one set of belts to another.

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

- **Manually moving belts**   As part of the normal task of clearing a jam, it is sometimes necessary to move belts in the paper path with your 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

Eagle Operator Manual
OPEX Corporation

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.

The following are tips for clearing some of the more common paper jams:

3.5.6.1. Main feeder

Jams can sometimes occur at the main feeder, where envelopes can get stuck between the retard pad and feeder o-rings (Figure 3-23).
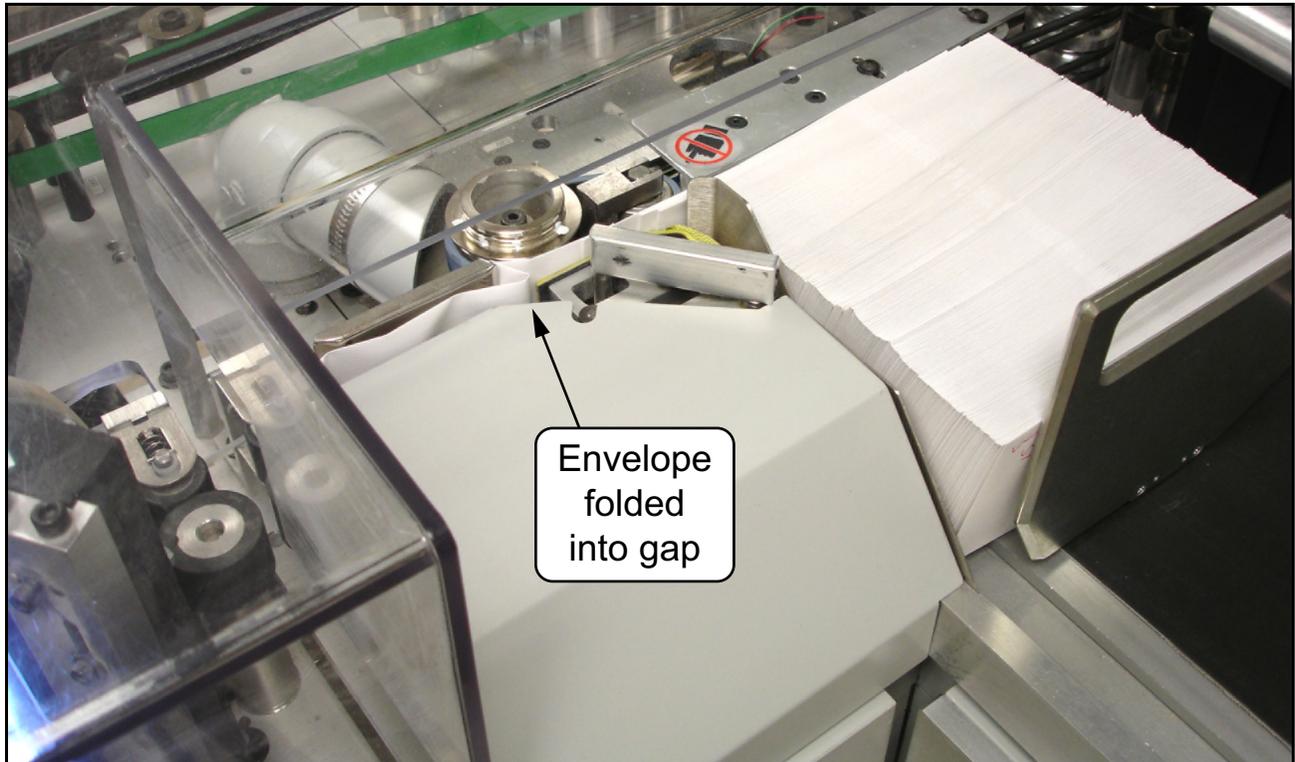
Figure 3-23: Envelope feeder jam

To clear jams here, pull the lever away from the paper path as shown in Figure 3-24 and remove the misfed envelopes.

Figure 3-24: Clearing envelope feeder jams

3.5.6.2. Buffer feeder

Jams can occur at the buffer feeder when feeding envelopes into the paper path. To clear jams at the buffer feeder, turn the switch to the jam clear/pass thru position (as shown in Figure 3-25) and remove the misfed envelopes.
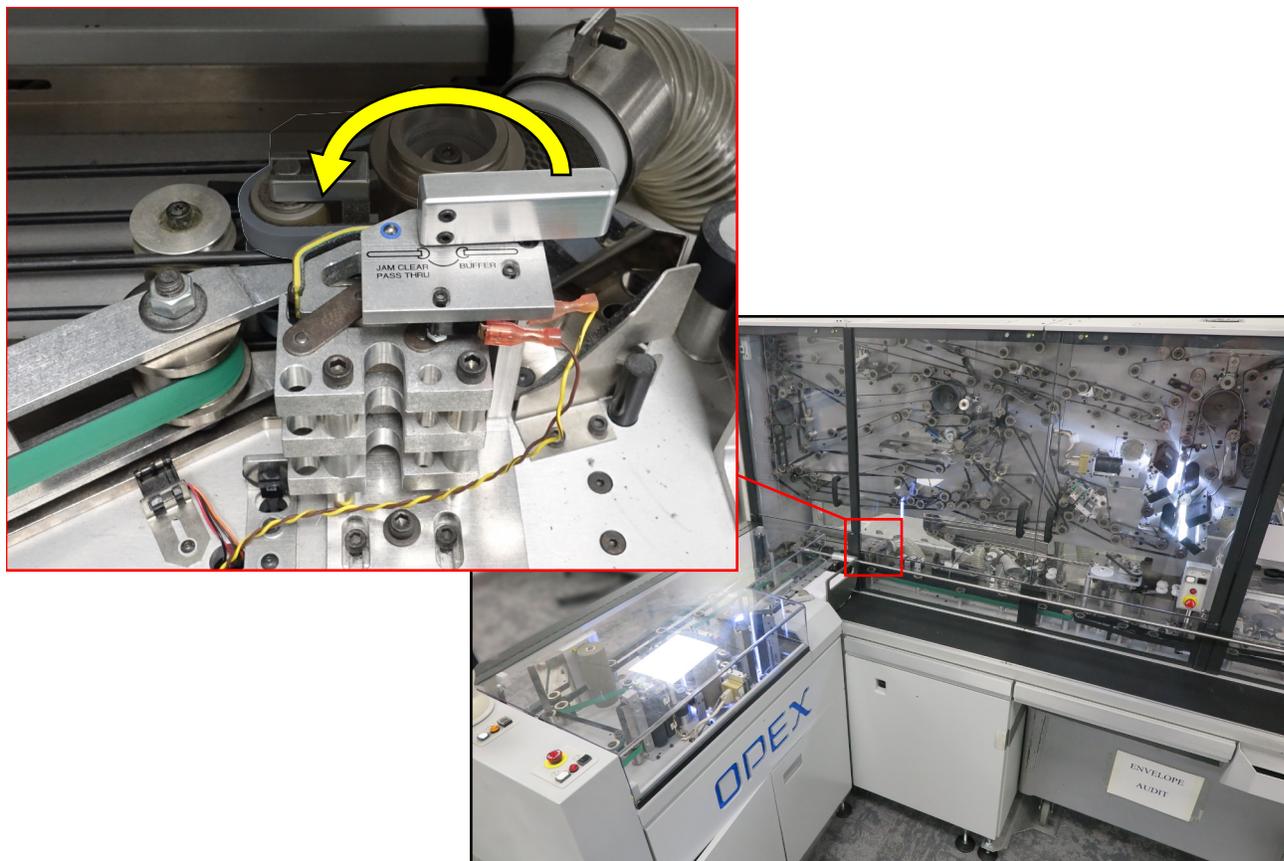
Figure 3-25: Buffer feeder control switch

3.5.6.3. Refeeders

Jams can occur in the refeeder paper path. Use the jam clear lever to separate the retard pad and nip (Figure 3-26), so you can pull misfed envelopes from the refeeder paper path.

Note: *To avoid jams, only fill the refeeder pockets when the Eagle is stopped.*

Figure 3-26: Clearing refeeder jams

3.5.6.4. Stacker modules

Use the jam clearing tool to turn certain pulleys (Figure 3-27) in the stacker modules and free documents from the paper path. This tool is stored in a holder near Outsort Bin 1, below the emergency stop button (Figure 3-28).
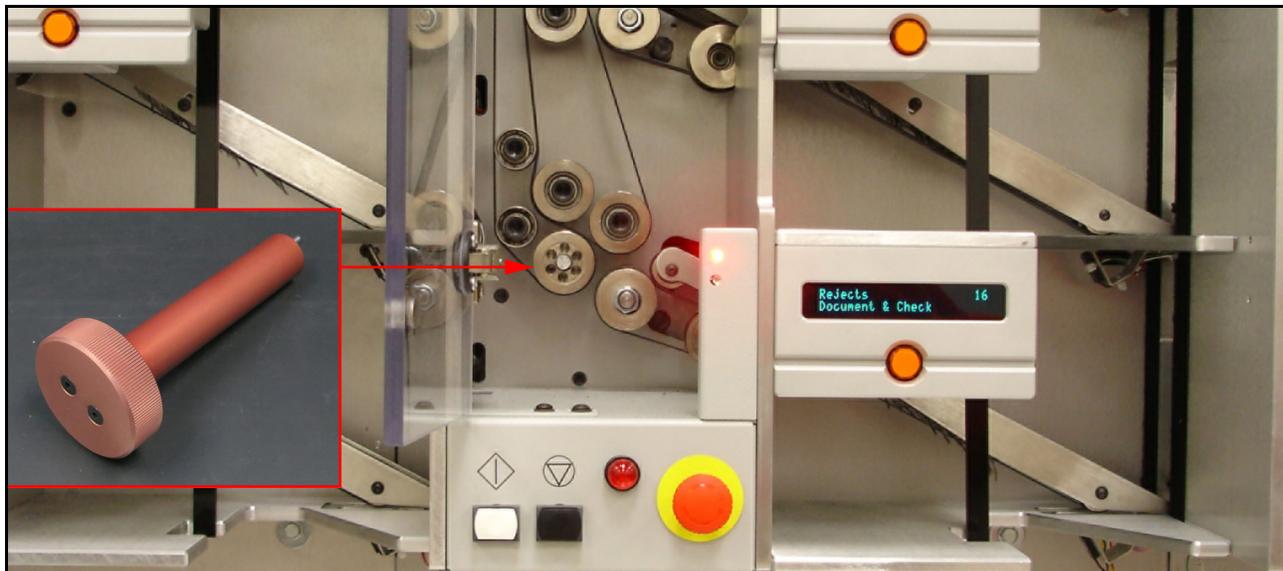
Figure 3-27: Jam clearing tool and pulley
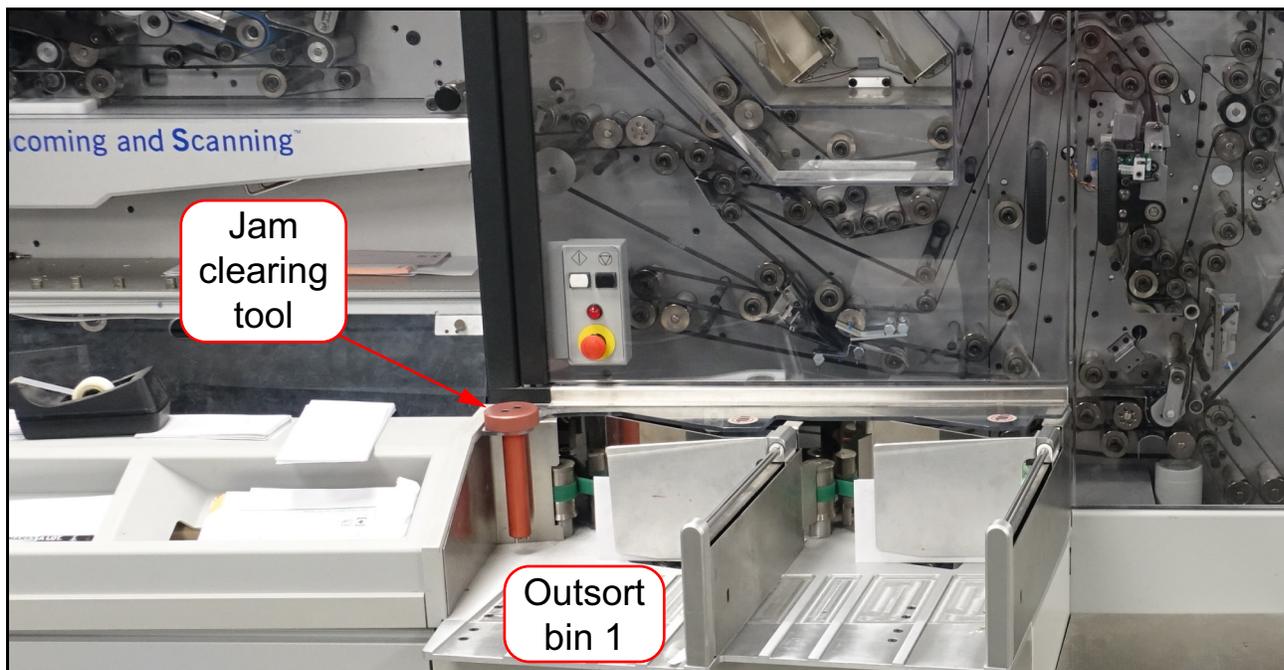
Figure 3-28: Jam clearing tool in its holder

Eagle Operator Manual
OPEX Corporation

3.6. Operator accounts

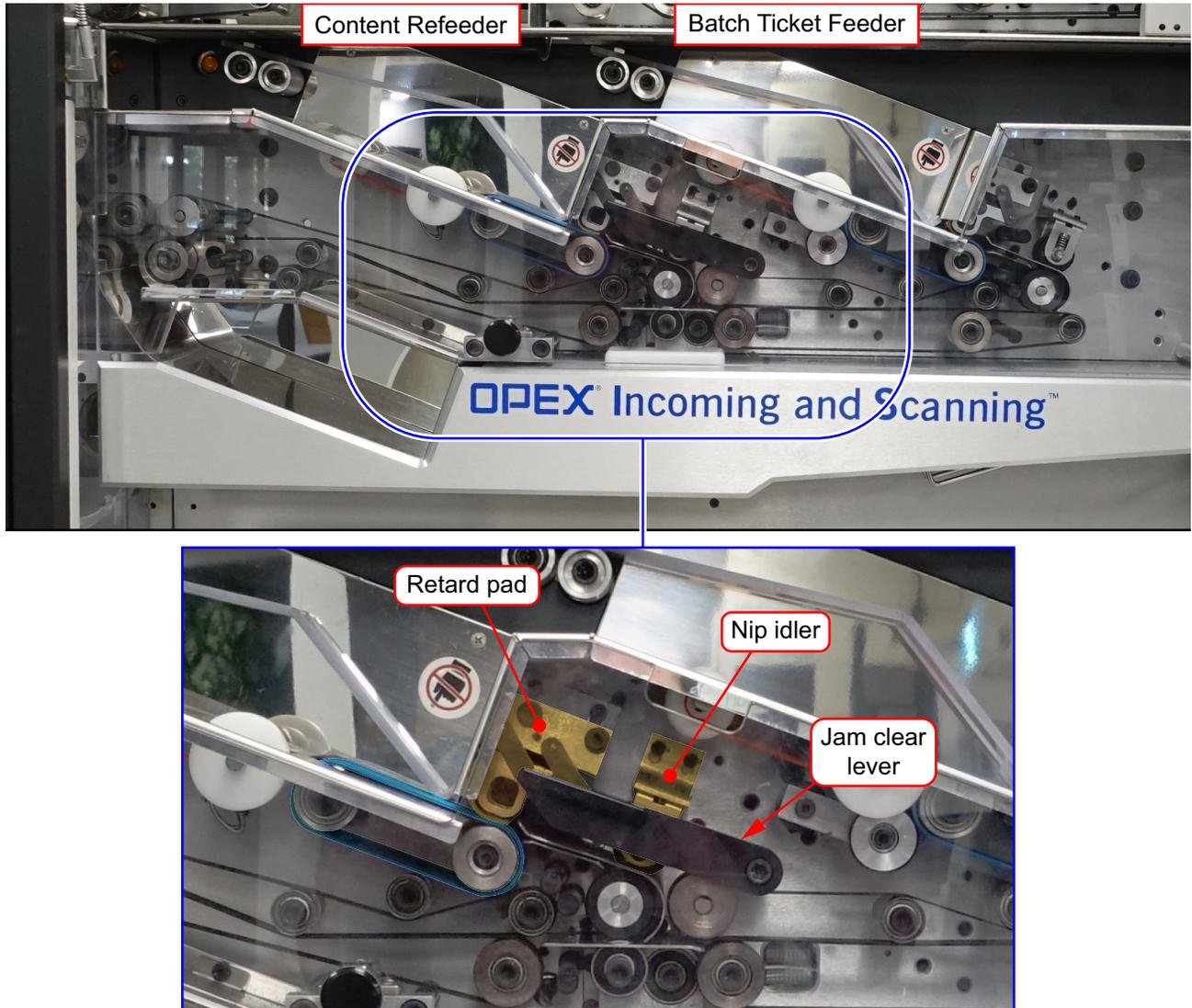Operators log in to the system by way of a predefined account. These operator accounts provide different levels of access to the features of the Eagle. The three levels of operator accounts are:

- **Entry**   An operator with an Entry level account will only be able to run jobs.

- **User**   A User level account will allow an operator to run jobs and create statistical, system efficiency reports.

- **Supervisor**   A Supervisor level account will grant all privileges provided to Entry and User level operators, as well as full access to the system utilities. A Supervisor level operator can also create & manage user accounts.

3.6.1. Creating Operator Accounts

1. Open the Operator Parameters screen (Figure 3-29) by clicking **OPEX** > **Parameters** > **Operator**.
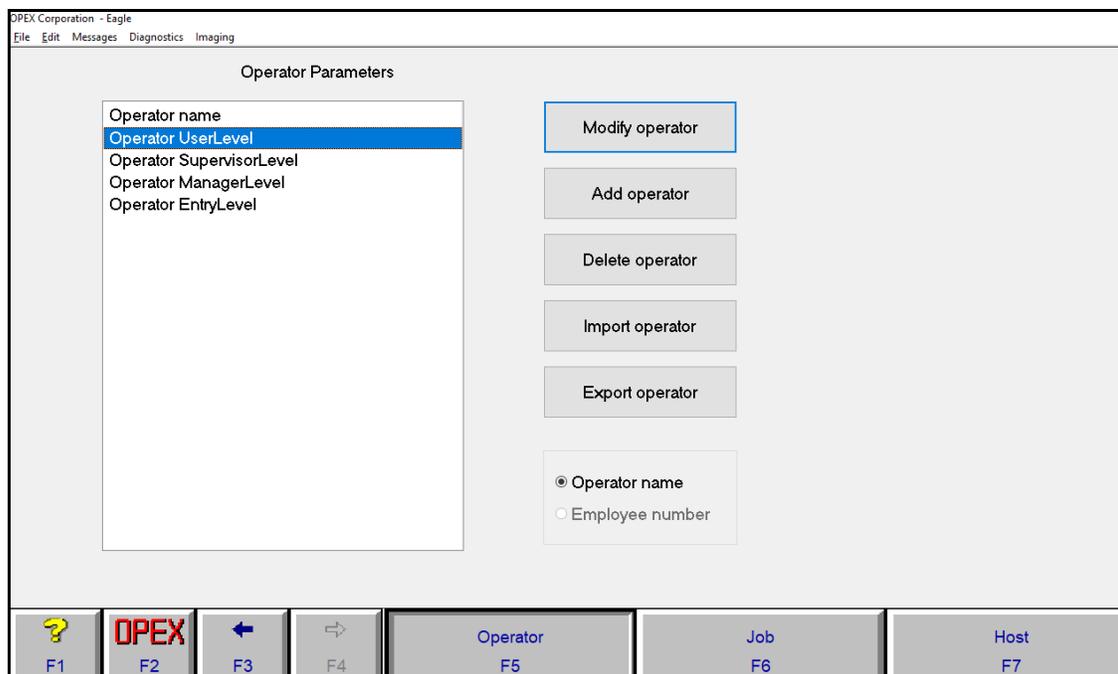
Figure 3-29: Operator Parameters screen

2. Click the `Add Operator` button.

3. Fill in the operator information and click **Save** (Figure 3-30). The new operator's name will appear in the Login list.
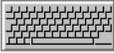
Figure 3-30: Operator information

3.6.2. Modifying/deleting Operator Accounts

1. Open the Operator Parameters screen by clicking **OPEX** > **Parameters** > **Operator**.

2. Highlight the operator account you wish to modify and click `Modify Operator` (see Figure 3-29).

3. Edit the operator information as shown in Figure 3-30 and click `Save`.

    *Note: To delete an operator account, click `Delete Operator` in step 2 in place of **Modify Operator**.*

Eagle Operator Manual
OPEX Corporation

4. Statistics

Eagle™

Operator Manual

4.1. Statistics Overview

The Eagle statistics provide information on the jobs run on the system. This section provides information on:

- Statistics reports

- Backing up statistics

- Restoring statistics

Create statistics reports on a per-run basis (**Individual Report**), or as a summary of several runs over a certain period of time (**Summary Report**).

An individual report will be available after you have run any job. To create an individual report, select **OPEX** > **Statistics** > **Individual Report** (Figure 4-1). Individual reports detail one run at a time only.
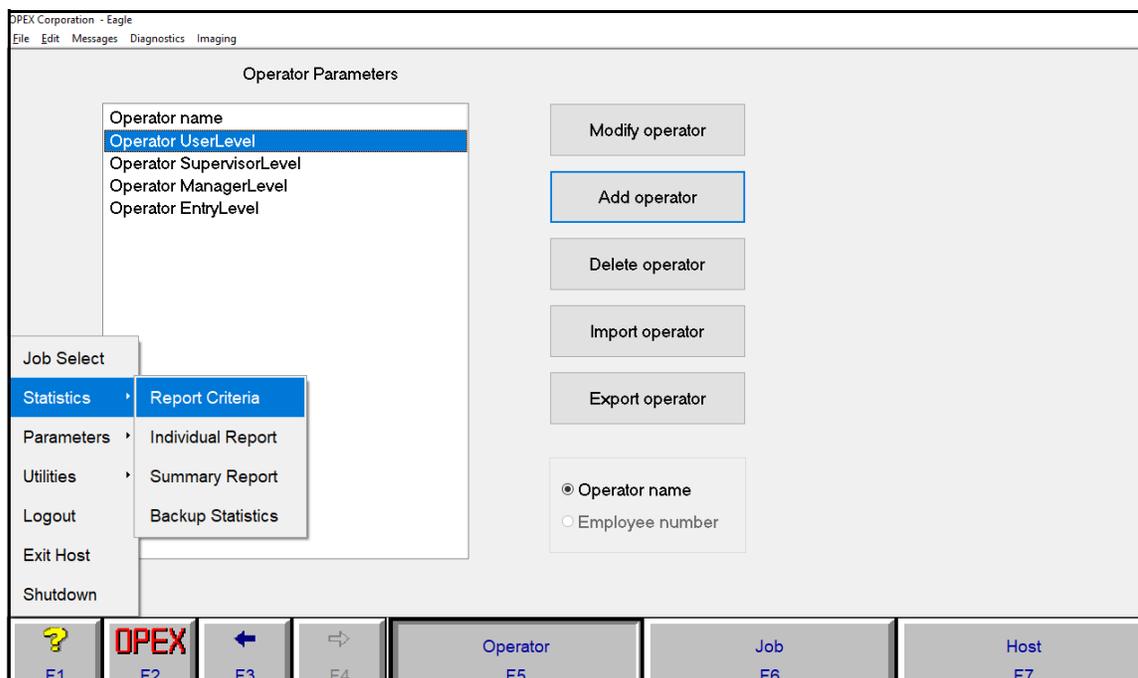
Figure 4-1: Accessing Statistics

A Summary report is based on the Report Criteria you set up. The Report Criteria establishes which jobs, operators and dates will make up the Summary report. See for more information.

4.2. Creating a report

1. Select **OPEX** > **Statistics** > **Report Criteria**. This screen lets you choose which items will be included in your reports (Figure 4-2).

Figure 4-2: Report Criteria

2. For a summary report, use the list on the left to select which job(s) you want to include. Select **All Jobs** to include all the jobs run on this Eagle.

3. The next list is the **Operators** field. Select the operator(s) or shift(s) for which you want to run a statistics report.

4. For a summary report, enter the date range for the report in the **Date** section.

5. In the **Time** section, enter a range of time during the day that you want to include in the report. Click the up or down arrow to set the times for the range.

6. In the Job/Operator Lists section, select one of the options below, and then click `Refill`.
    - **Current jobs/operators** - To use the job names and operator names currently stored in the Eagle Host computer's memory.
    - **Read thru previous runs** - To find runs deleted from the current list of jobs and operators. For example, if a job file was deleted from the job name frame, it is still stored in the stats file. You can access it by selecting this.

7. In the Summary section, select one of the following:
    - **All** - To generate a statistics report for every job run.
    - **Jobs** - To generate a statistics report by Job name.
    - **Operators** - To generate a statistics report by Operator name.

    Note: *Check the "Exclude jobs run by Opex Tech" box to include operator statistics only. Uncheck the box to get total system performance reports.*

8. Click **Individual (F6)** or **Summary (F7)** to create the report (Figure 4-3). By default, reports are saved to C:\OPEX\Eagle\Support on the host computer.
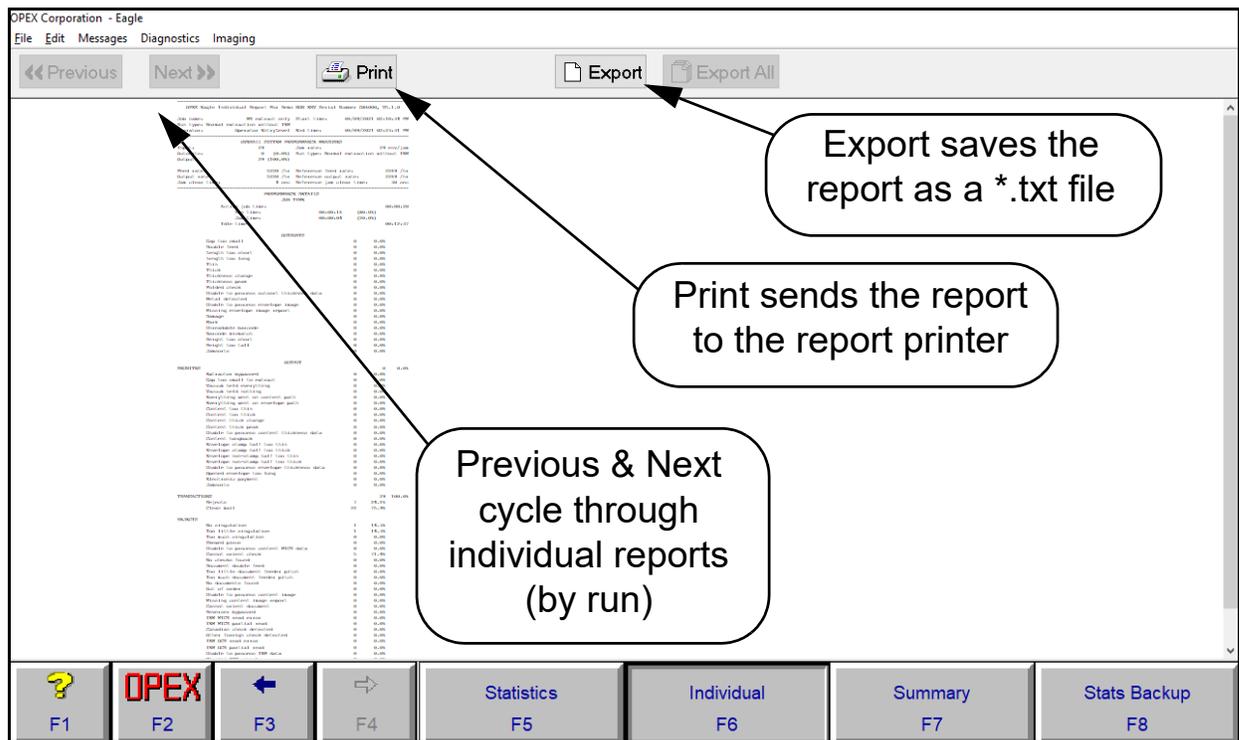
Figure 4-3: Sample individual report

Note: *Individual and summary reports are very similar. The following tables define the terms you find in both of these reports.*

4.2.1. Overall System Performance Measures

Table 4-1: Overall System Performance Measures

Term	Description
Input	Number of envelopes to enter the paper path via the feeder module.
Outsorts	Number of envelopes deemed unsuitable for processing.The statistic report contains a list of counts for each outsort category. Each envelope that is directed to the Outsort Bin will only increase one category on the list. If a piece has the potential to increase multiple categories, only the first category in the list is increased. See Chapter 5: "Outsorts, Reunites, and Rejects" for more information.

Table 4-1: Overall System Performance Measures (continued)

Term	Description
Output	Transactions that have passed through the Extract module and have been sent to either the reunite bin or a stacker bin.
Jam Rate	Number of jams per run. The formula for the Jam Rate is: $$\text{Jam Clear Time} = \frac{\text{Jam Time}}{\text{Jams}}$$
Run Type	Shows how much of the job was run on the Eagle and how much of the job was run from the IEM refeeders.
Feed Rate	Number of envelopes per hour the Eagle is currently feeding. The formula for the Feed Rate is: $$\text{Feed Rate} = \frac{\text{Input} * 3600 \text{ (seconds per hour)}}{\text{Active Job Time}}$$
Output Rate	Number of envelopes per hour the Eagle is processing. The formula for the Output Rate is: $$\text{Output Rate} = \frac{\text{Output} * 3600}{\text{Active Job Time}}$$
Jam Clear Time	Average time the Eagle was halted while the operator was clearing a jam. The formula for the Jam Clear Time is: $$\text{Jam Clear Time} = \frac{\text{Jam Time}}{\text{Jams}}$$
Reference Feed Rate	This calculation approximates the feed rate if jams are cleared in the time designated by the Reference Jam Clear time: $$\text{Reference Feed Rate} = \frac{\text{Input} * 3600}{\text{Run Time} + (\text{Jams} * \text{Reference Jam Clear Time})}$$
Reference Output Rate	This calculation approximates the Eagle output rate if jams are cleared in the time designated by the Reference Jam Clear time: $$\text{Reference Output Rate} = \frac{\text{Output} * 3600}{\text{Run Time} + (\text{Jams} * \text{Reference Jam Clear Time})}$$
Reference Jam Clear Time	**Estimated** time it takes to clear a jam. This is set at **20** seconds by default, but most sites have set it to **30** seconds. The Reference Jam Clear Time is used to calculate Reference Feed and Reference Output Rates, which are intended to provide the rates the Eagle would achieve if the operator cleared jams within a certain period of time.

4.2.2. Performance Details

Table 4-2: Performance Details

Term	Description
Active Job Time	Amount of time the Eagle was either actively running or halted due to a jam. It is further broken down into: **Run Time:** the time spent processing mail **Jam Time**: the total time the system was halted for a jam
Idle Time	Time the operator spent with the Run screen open without a job running.
Outsorts	The Outsorts section of the Performance Details lists the number of envelopes that the Eagle could not process and the reasons why. These reasons are defined in Chapter 5: "Outsorts, Reunites, and Rejects".
Output	The Output section of the Performance Details lists the number of transactions that were processed by the Eagle. Keep in mind that in addition to clean mail and rejects, "Output" also includes reunites and jamsorts. The items in the Output section are defined in Chapter 5: "Outsorts, Reunites, and Rejects".

Eagle Operator Manual
OPEX Corporation

4.2.3. Overall Jam Data

Table 4-3: Overall Jam Data

Term	Description
Jams	Reports occasions when run was halted due to a paper jam or a processing problem that was Eagle related.
Jam Index	
Stops	Any time the Eagle is halted due to a problem which could have been avoided by the operator (i.e., feed empty, no bin available, etc.).
Stop Index	

4.2.4. Jam/Stop Information

Table 4-4: Jam/Stop Information

Term	Description
Reorder Gate 2 Sensor Missing Jam	Reports occasions when run was halted due to a paper jam or a processing problem that was Eagle related.
Stops	Any time the Eagle is halted due to a problem which could have been avoided by the operator (i.e., feed empty, no bin available, etc.).

Eagle Operator Manual
OPEX Corporation

4.3. Backing Up Statistics

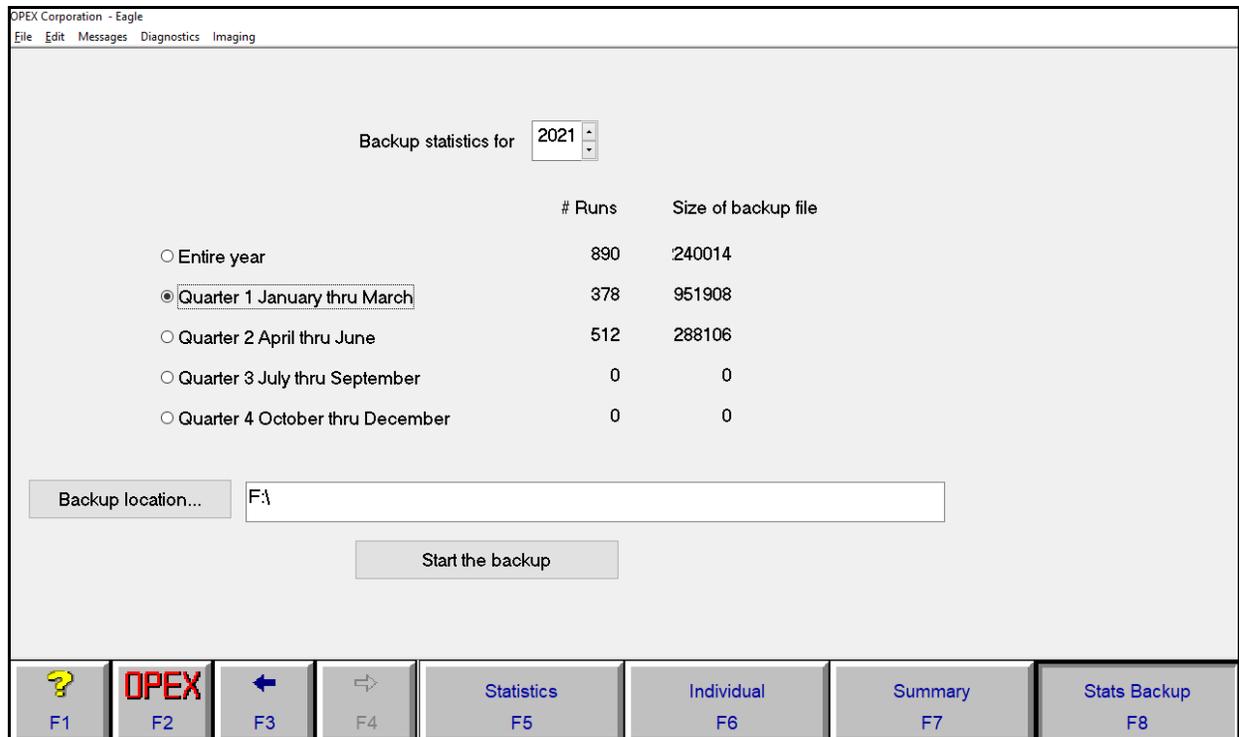The Eagle Host software allows you to backup job statistics (Figure 4-4).

Figure 4-4: Stats Backup screen

1. Click **OPEX** > **Statistics** > **Backup Statistics**.

2. In the **Backup Statistics for** field, use the up and down arrow to select the year of statistics you want to backup.

3. Select the appropriate quarter of the year (or the entire year).

4. Click `Backup location...` and choose where you want to save it.

5. Click `Start the Backup`. It will show a notification when the backup is complete.

4.3.1. Restoring Statistics

Restoring statistics can only be done by an OPEX technician.

(This page is intentionally blank)

5. Outsorts, Reunites, and Rejects

Eagle™

Operator Manual

5.1. Outsorts

Reason	Description
Double Feed Outsort	The gap between two sequential envelopes exiting the feeder was smaller than the DOUBLE OUTSORT GAP SIZE machine parameter.
Gap Too Small Outsort	The gap between two sequential envelopes exiting the feeder was smaller than necessary to perform a proper extraction. (See the Feed Gap Control section of this document for more information.)
Short Outsort	The measured length of an envelope at the right envelope OCS sensor was less than the Length Minimum job parameter.
Long Outsort	The measured length of an envelope at the right envelope OCS sensor was greater than the Length Maximum job parameter.
Thin Outsort	The outsort TMD determined that average thickness of an envelope was less than the full envelope Average Thickness Low job parameter.
Thick Outsort	The outsort TMD determined that average thickness of an envelope was greater than the full envelope Average Thickness High job parameter.
Thick Change Outsort	The outsort TMD determined that the envelope had a change in thickness that fell between the full envelope Minimum Thickness Change and Maximum Thickness Change job parameters.
Thick Peak Outsort	The outsort TMD determined that the envelope had at least one thickness reading above the Thickness Peak Threshold job parameter.
Invalid Thickness Data	Could be caused by the following outsort TMD problems: null value too small, null value too large, no valid readings, no valid readings after the offsets were applied, TMD processing was not completed on time.

Reason	Description
Metal Outsort	The metal detector found metal in the envelope.
Invalid Envelope OCS Report	The envelope OCS sent no report or more than one report for an envelope to the main control board.
Damage Outsort	The envelope OCS detected a damaged envelope.
Mark Outsort	Could mean that envelope OCS either detected or did not detect a mark depending on how the Identify by Mark job parameter is set.
Outsort Jamsorts	Accounts for pieces directed into the outsort bin during a jam condition.

5.2. Reunites

Reason	Description
Extract bypassed	Gap between two envelopes entering the extractor is too small for extraction. Envelopes outsorted for this reason are sent to the extract pit, not the reunite bin.
Gap too small to extract	Gap between two envelopes entering the extractor is too small for extraction. Gap is not small enough to warrant outsorting an envelope.
Vacuum held everything	When the extract gate sensor is tripped, but the extract open sensor is not tripped.
Vacuum held nothing	When the extract open sensor is tripped, but the extract gate sensor is not tripped.
Everything went on content path	When the Content TMD sensor is tripped, but the Envelope TMD sensor is not tripped.
Everything went on envelope path	When the Envelope TMD sensor is tripped, but the Content TMD sensor is not tripped.
Content too thin	Content TMD determines contents are too thin to fit thickness parameters.
Content too thick	Content TMD determines contents are too thick to fit thickness parameters.
Content thick change	Content TMD determines a thickness change in contents.
Content thick peak	Content TMD determines a thickness peak in contents.
Unable to process content thickness data	Content TMD cannot process thickness data.
Content hangback	Envelope thickness was detected, but not content thickness, and assumes that the content was left in the extract area.

Reason	Description
Envelope stamp half too thin	The Envelope TMD determines the envelope stamp half is too thin to fit thickness parameters.
Envelope stamp half too thick	The Envelope TMD determines the envelope stamp half is too thick to fit thickness parameters.
Envelope non-stamp half too thin	The Envelope TMD determines the envelope non-stamp half is too thin to fit thickness parameters.
Envelope non-stamp half too thick	The Envelope TMD determines the envelope non-stamp half is too thick to fit thickness parameters.
Unable to process envelope thickness data	The Envelope TMD cannot process thickness data.
Jamsorts	When a jam occurs, pieces that cannot be sorted are "jam sorted." This can be in the reunite bins, outsort bins, or the reject bins.

5.3. Rejects

Reason	Description
No Singulation	The singulator exit sensor detected no gap or a very small gap between the pieces in a pair.
Too Little Singulation	The lead edge to lead edge pitch between pieces in a pair was measured at the MICR entry sensor and was smaller than the MINIMUM GOOD SINGULATION PITCH machine parameter.
Too Much Singulation	The lead edge to lead edge pitch between pieces in a pair was measured at the MICR entry sensor and was greater than the MAXIMUM GOOD SINGULATION PITCH machine parameter.
Invalid Content MICR Report	The content MICR sent no report or more than one report for a pair to the main control board.
Unknown MICR Profile	The content MICR could not recognize the profile of the magnetic ink on the check in a pair.
MICR Found Two Statements	The content MICR found no MICR ink on either of the pieces in a pair.
MICR Found Two Checks	The content MICR found valid MICR ink profiles on both pieces in a pair.
Out Of Order	With windowed mail, the content MICR detected that the check and the document in a pair were out of order.
Cannot Orient Document	With windowless mail, the content OCS was not able to determine the orientation of the document in a pair.
Reverser Bypassed	The Eagle control system determined that the gap between pieces in a pair was too small to allow the reverser to operate properly. (This should only occur when two pieces in a row must be reversed.)
Jamsorts	Accounts for pieces that were directed into the reject bin during a jam condition.

6. Maintenance

Eagle™

Operator Manual

6.1. Cleaning the System

⚠️ **WARNING**
Do not clean belts, rollers or pulleys while they are moving. This can result in severe personal injury and costly equipment damage. If a belt, roller, pulley, etc., needs to be cleaned, hand-crank the component or clean it while stationary.

6.1.1. Acetone

Acetone is a powerful solvent and degreaser. Only use it on metal objects or surfaces when your intention is to remove all of the grease or lubricant from the object or surface being cleaned.

Exercise care when using acetone near any type of bearing. Flooding the bearing with acetone removes the lubricant from the bearing. This can result in severe degradation of the materials in a short period of time.

6.1.2. Alcohol

Alcohol is a degreaser, but less powerful than acetone. Use it in place of acetone for shafts or bearings when your intention is to remove grease or lubricant from them.

Use only isopropyl or rubbing alcohol on the Eagle. Denatured alcohol is much stronger and more hazardous. Do not use denatured alcohol for any reason.

Exercise care when using alcohol on bearings. Flooding the bearing with alcohol removes the lubricant from the bearing, and can result in degradation of the materials over time.

6.1.3. Detergent-based cleaners

A detergent-based cleaner, such as Formula 409, is less powerful than acetone or alcohol. Use it to clean the glass and plastic surfaces of the Eagle. Detergent-based cleaners do not cause component degradation.

If you use a detergent-based cleaner on a feed or singulator mechanism, remove any residue left by the cleaner by wiping down the mechanism with a cloth moistened with water.

6.1.4. Shift maintenance

Shift operators should perform the following duties:

- Vacuum all areas of the paper path. Pay special attention to:
  - Feeder area
  - The area behind the Outsort bins
  - Dust collection system pickup locations
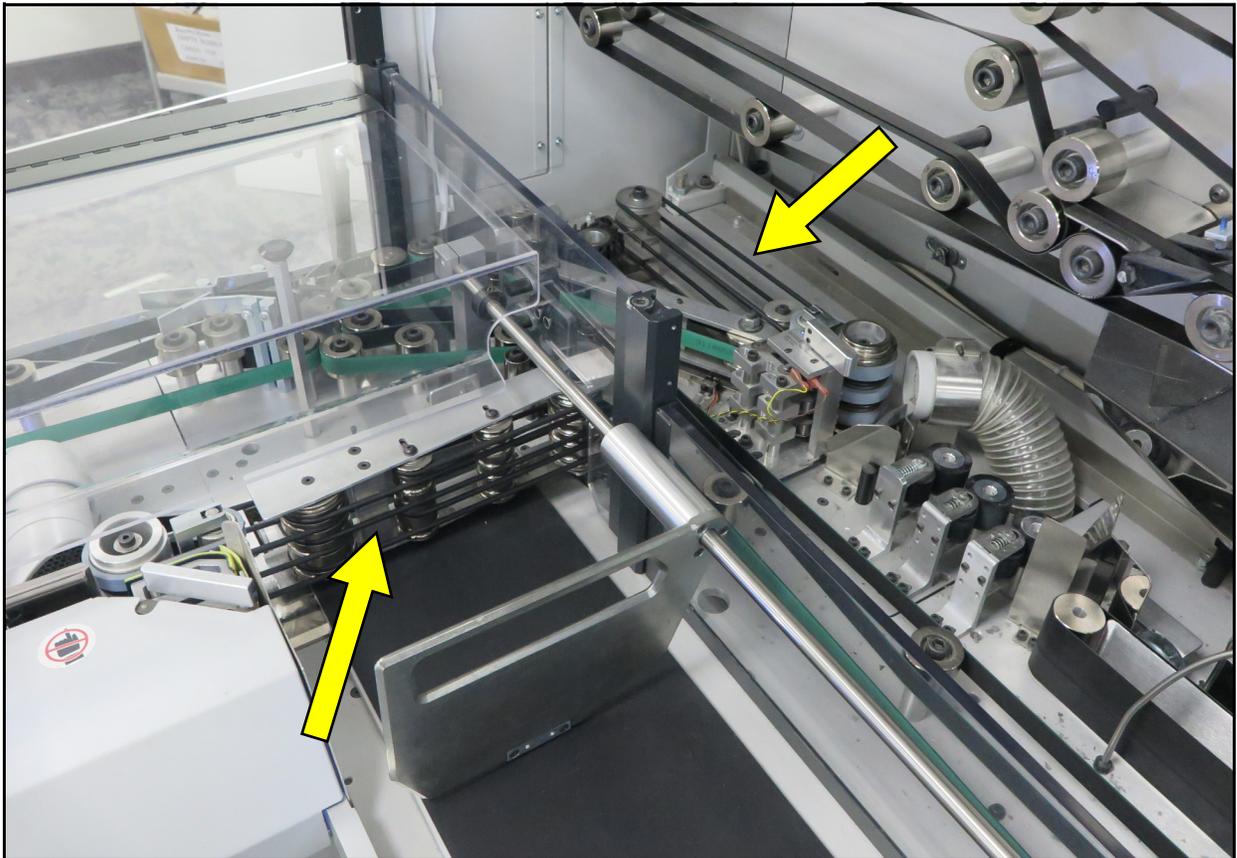- Clean the main and buffer feeder o-rings (Figure 6-1).

Figure 6-1: Main and buffer feeder O-rings

- Clean the outsort TMD area (Figure 6-2). Remove any tape, paper, or other obstructions from the TMD rollers and surrounding area.
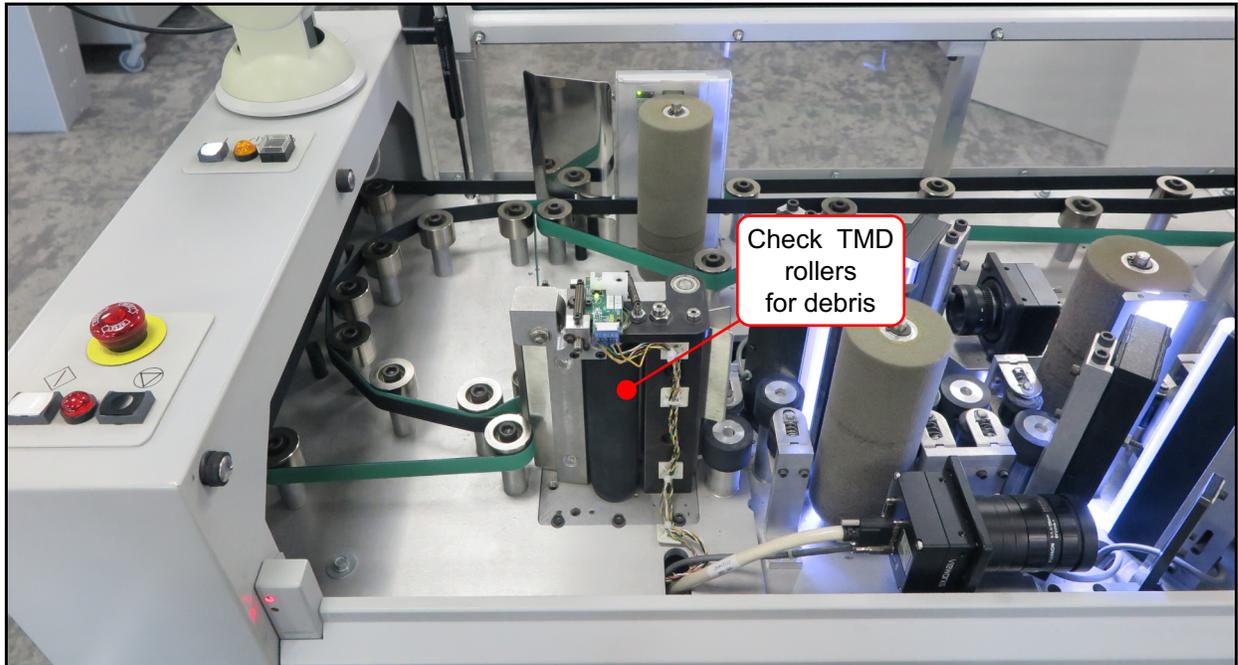

Check TMD rollers for debris

Figure 6-2: Outsort TMD area

- Inspect each cutter (Figure 6-3). Remove any paper chips that are caught in and around the cutter blades.
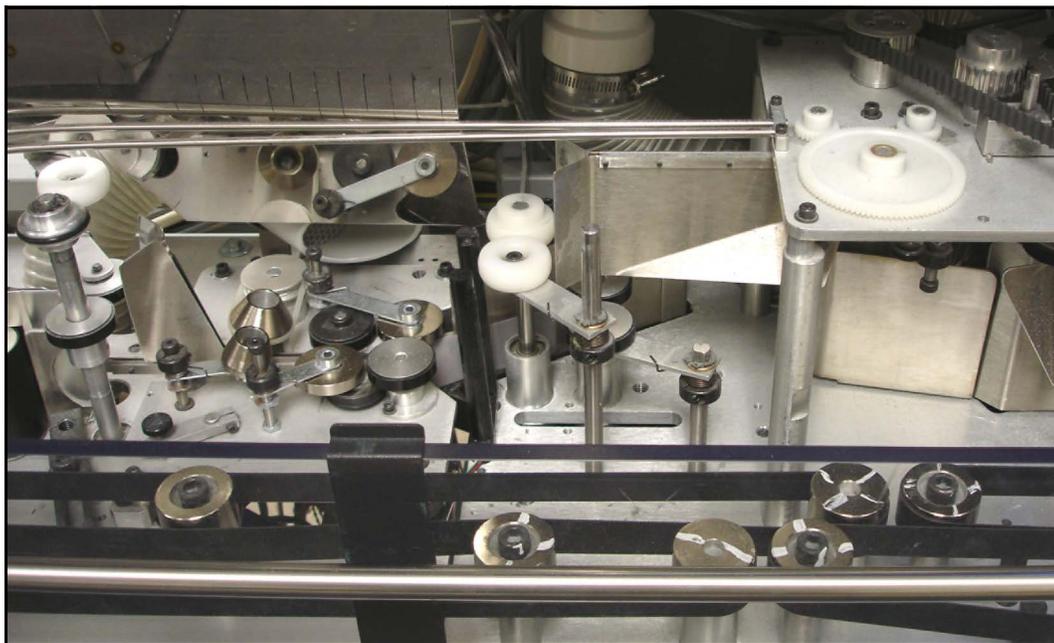

Figure 6-3: Cutter area

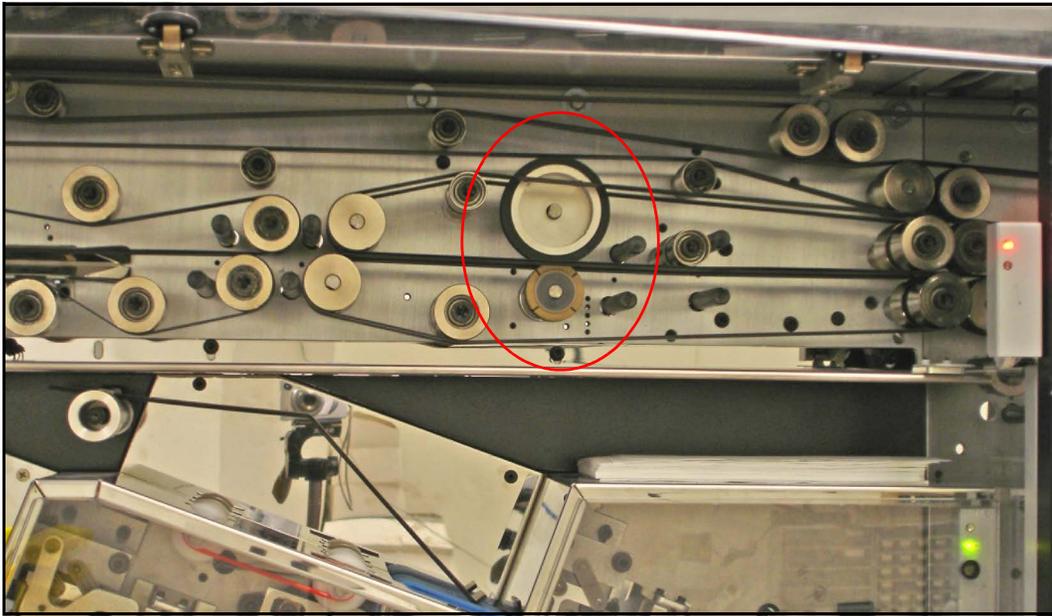- Clean the singulator tires (Figure 6-4).

Figure 6-4: Singulator tires

- Check the extract area (Figure 6-5) for tape, paper scrap, etc. Check the envelope and content TMD rollers for debris and remove accordingly.
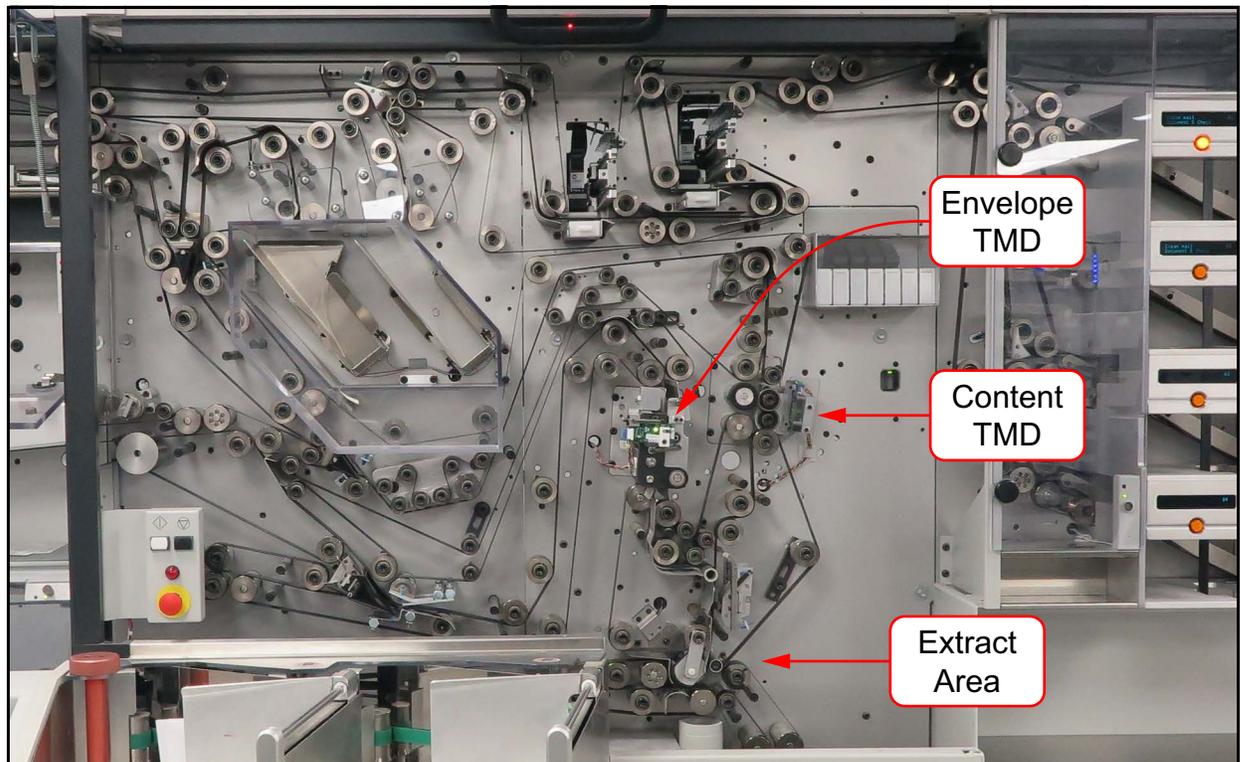

Figure 6-5: Extract area

Eagle Operator Manual
OPEX Corporation

6.2. Dust Collection & Air Filtration System Maintenance

The Eagle has an optional Dust Collection and Air Filtration system. Its primary purpose is improvement of the environment for the Eagle operator. Additional benefits include improved functionality, maintainability and appearance.

6.2.1. Pickup locations

Refer to Figure 6-6. Dust pickup locations are provided where:

- paper-handling causes shear between pieces,
- paper cutting is being performed,
- opening and extraction of envelope contents takes place, and
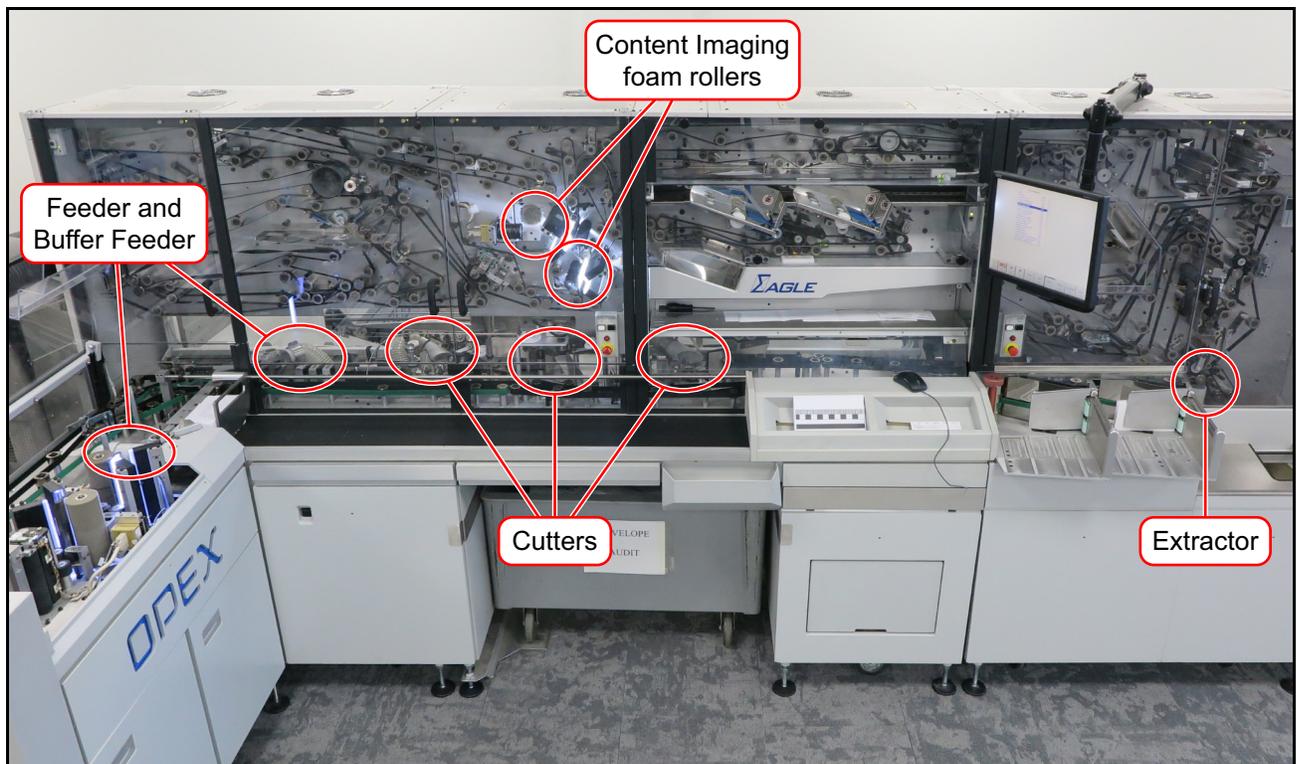- high-wear components of the Eagle are operating (i.e. foam rollers).

Figure 6-6: Dust pickup locations

Eagle Operator Manual
OPEX Corporation

6.2.2. Air Scrubber Unit

The Eagle uses a portable air scrubber unit. A control panel on the side of the unit (Figure 6-7) enables power/speed control and status monitoring.

Figure 6-7: Air Scrubber Unit with Control Panel

6.2.3. Power and electrical safety

The dust collection system is powered by 120VAC/60Hz. It draws about 3.5 amps on the "High" setting.

6.2.4. Maintenance

The only routine maintenance required is changing the filters. The Dust Collection System has a set of prefilters and a cylindrical HEPA filter. Status lights on the control panel indicate when the filters need to be changed. These status lights might also indicate restricted air flow in or out of the unit.

6.2.4.1. Primary Filter Change

The Primary Filter Change Indicator signals that the prefilters need to be changed. These are accessed by lifting and turning the latch and opening the panel on the top-front of the unit.

1. Open the top-front panel with the unit operating.

2. Replace the 1" thick coarse particulate filter in the top slot (Figure 6-8).

3. Close the door flush against the cabinet and close the latch.

4. If the Primary Filter Change Indicator light is still on, open the panel again and replace the 2" thick pleated filter in the second slot. Close the panel and latch.

Coarse filter

Pleated filter

Figure 6-8: Prefilters
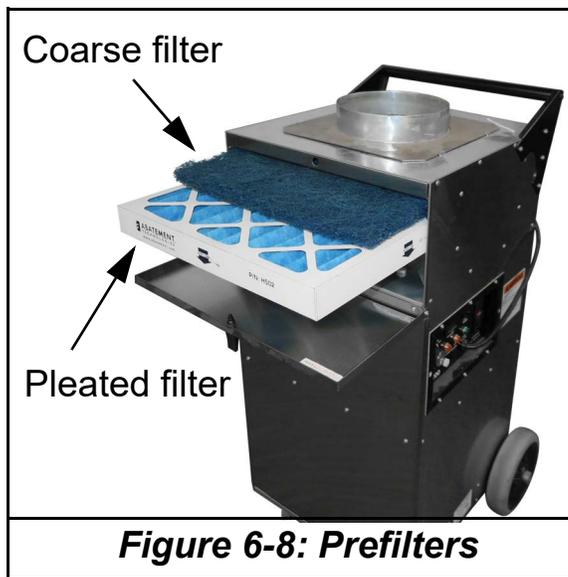
The top compartment has a third slot, meant for an optional carbon filter. This filter is not needed for the Eagle.

6.2.4.2. HEPA Filter Change

1. Turn off and unplug the unit.

2. Remove the lower front panel, held on by 8 Phillips screws along the front.

3. Loosen the retaining bolts (1/2" wrench) to lower the V-shaped platform that the HEPA filter rests on.

4. Replace the HEPA filter. Verify that the new filter is centered on the V-shaped platform, and that the side with the foam seal faces up.

5. Tighten the retaining bolts to press the filter against the top of its housing, then close the lower front panel.

Retaining bolts

Figure 6-9: HEPA filter

6.3. Printer Cartridge Maintenance

6.3.1. Replacing printer cartridges

The Eagle audit trail printer's HP ink cartridges will run out over time and are easily replaced. The ink level indicator/button on the Run screen (Figure 3-10 on page 53) will read LOW, indicating that one or both of the ink cartridges needs to be replaced.

Note: *Check the expiration date of the new cartridge you plan to use. The Eagle printer cartridges, when stored in sealed containers, have a shelf life of two years from the date of manufacture.*

1. Press the ink level indicator/button on the run screen (when the Eagle is stopped) to open the ink cartridge maintenance screen.

    The ink cartridge maintenance screen (Figure 6-10) will indicate the status of the installed printers and provide the option to replace cartridges and purge the print heads (see page 100).
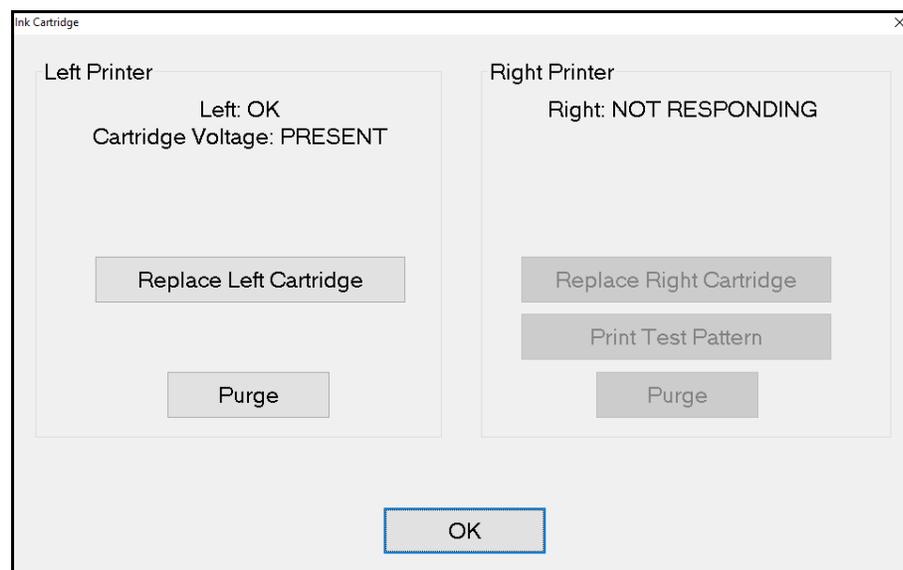

Figure 6-10: Ink cartridge maintenance

2. Press the appropriate `Replace` button. The print head will extend forward for you to replace the cartridge (Figure 6-11).
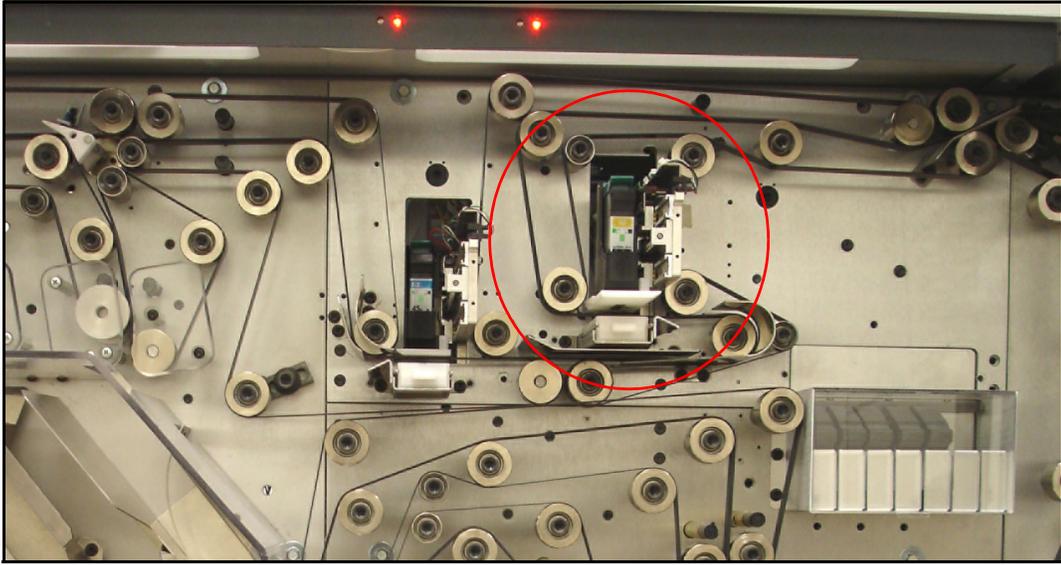

Figure 6-11: Extended print head

3. Lift the latch that holds the printer cartridge in position (Figure 6-12), and remove the cartridge by lifting it up and away from the Eagle.
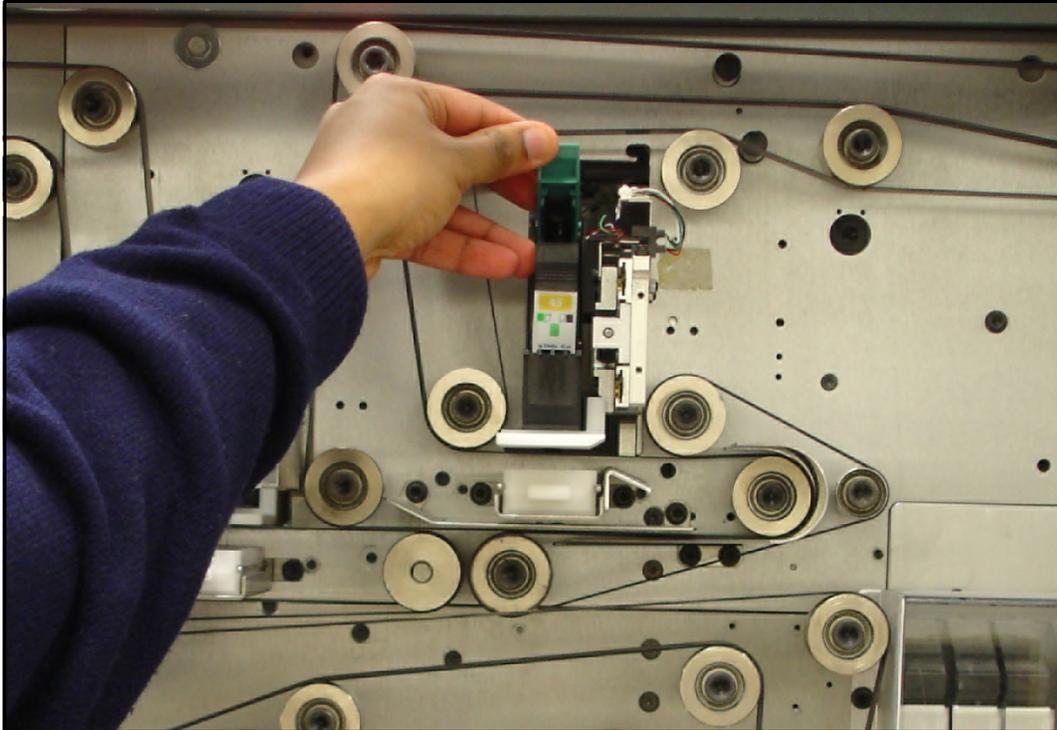

Figure 6-12: Removing the printer cartridge

Eagle Operator Manual
OPEX Corporation

4. Install the new cartridge in the old cartridge's place.

5. Press the `Replaced Right/Left Printer Cartridge` button on the screen (Figure 6-13).
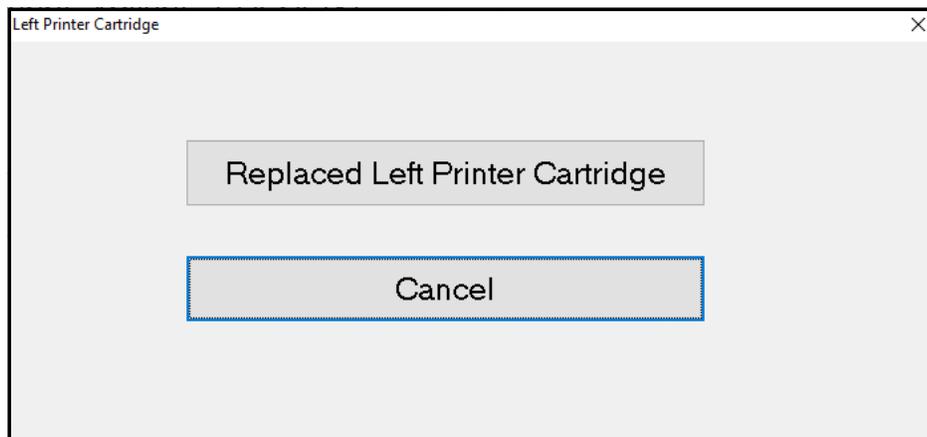

Figure 6-13: Replacement confirmation

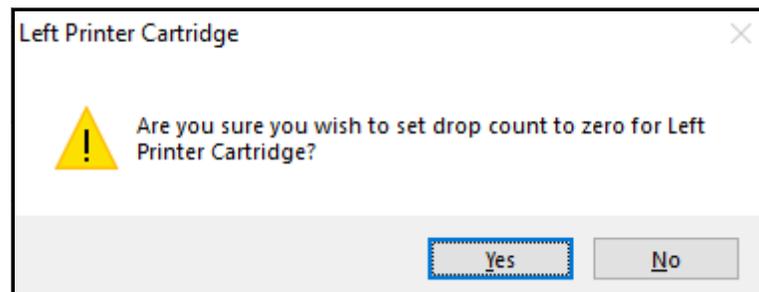6. Click **Yes** when asked to reset the printer cartridge's drop count (Figure 6-14).

Figure 6-14: Reset the drop count

Eagle Operator Manual
OPEX Corporation

6.3.2. Purging the print heads

From time to time, the print heads may become clogged and produce erratic audit trails. If this is the case, try purging the heads to improve print quality.

To purge the print heads, press the `Purge` button for the appropriate head on the ink cartridge maintenance screen ().

Note: After purging the print head, it is usually a good idea to empty and wipe out the excess ink bin underneath the printer (Figure 6-15). Pull the bin away from the Eagle to remove it.
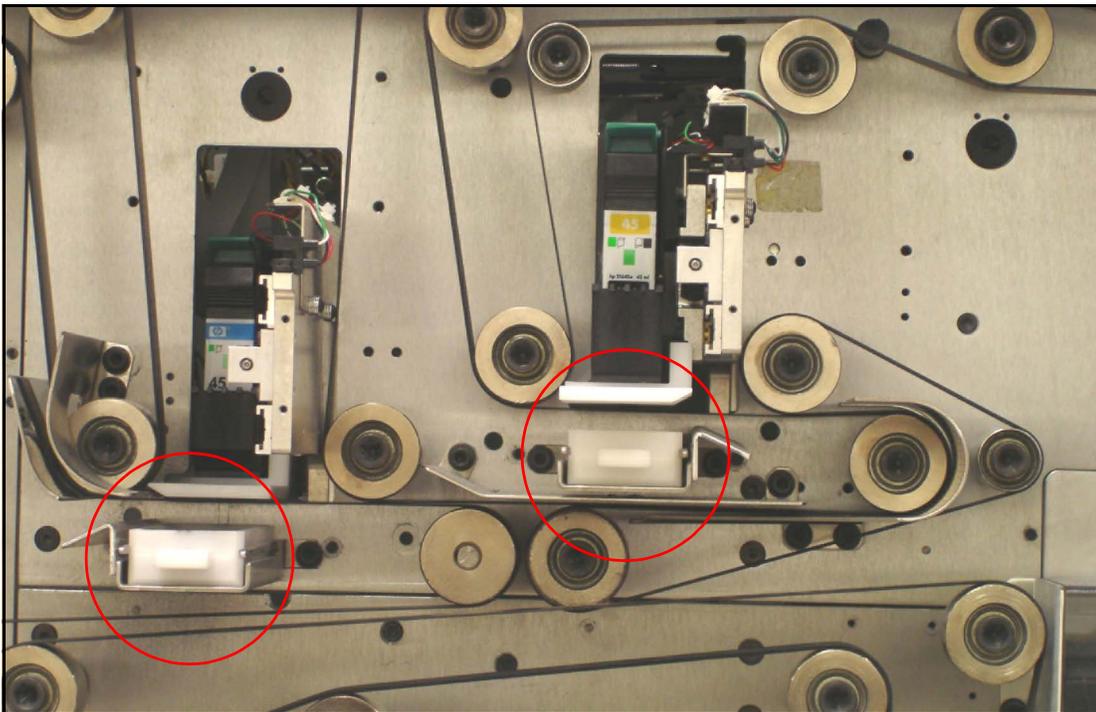

Figure 6-15: Excess ink bins

Glossary

Eagle™

Operator Manual

G.1. List of Acronyms

IEM (Image Export Module)   IEM functionality refers to taking images of the documents and checks to record MICR and OCR data such as account and check numbers and CAR information.

MICR   Magnetic Ink Character Recognition. Used by the system to read the magnetic ink letters, numbers, and symbols found on documents such as checks and batch tickets.

OCR   Optical Character Recognition. Used by the system to identify letters, numbers, and symbols on documents.

OCS   Opex camera system.

G.2. List of Terms

Audit Trail   User-definable information printed on documents and/or displayed on document images.

Barcode   A series of bars and spaces arranged in a predetermined pattern to represent elements of data.

Batch   One or more transactions. Information on pieces is grouped and sent to the user in batches.

Bitonal   Image format where every pixel is either black or white.

Checksum   A character included within a barcode whose value is based on other characters within the data string. It is used to perform a mathematical check to ensure the data is accurately read.

Document   The remittance piece included with the check that details the customer's account/payment information.

Grayscale   Image format where all pixels are processed as a shade of gray (i.e., gray level). Gray levels range from 0 (black) to 255 (white).

Host   Operator's main interface with the Eagle. Software that interfaces with the INtime Controller to manage the system's non hardware-related functions.

Job   A profile of parameter settings you use for processing documents. When you run documents through the system, you must specify which job to run. Jobs allow you to process mail in a similar manner from run to run.

Multi   A transaction consisting of one or more stubs followed by one or more checks.

Operator   The person running the Eagle.

Single   A transaction consisting of a document and a check.

Skew   Deviations from straight lines in scanned images.

Transaction   One or more stubs followed by one or more checks.

Transaction Boundary A term used to indicate the beginning or end of a single transaction.

About OPEX Corporation

OPEX Corporation is more than a manufacturer of machines. We continuously reimagine technology to power the future for our customers.

With an innovative approach, we engineer unique automated solutions that support our customers so they can solve the most pressing business challenges for both today and tomorrow. Our scalable Warehouse, Document, and Mail Automation solutions improve workflow, accelerate change, and drive efficiencies in infrastructure.

We are a family-owned and operated organization with more than 1200 committed employees who innovate, manufacture, install, and service products that are helping transform industry every day. We listen to our customers, respect each other, and work together to help reimagine the future through automated solutions.

At OPEX, we are Next Generation Automation.