AS180™

USER MANUAL

From the President of OPEX Corporation

The AS180 is designed to bring mail opening efficiency with IEM delivery capability to lower volume operations and exception processing.

In the past, some companies wanted the benefits of IEM but didn't have the volume to justify our highest volume equipment like the OPEX Eagle. Other customers wanted to process their exceptions on the same IEM platform they used for clean mail. The AS180 makes IEM affordable for almost any processor and handles exceptions as if they are standard.

The AS180 is able to handle a wide variety of payments, including both single and multiple check and coupon transactions. Mail is loaded onto the extraction desk, automatically opened and presented to you, the operator, for easy extraction. The transaction is then removed and dropped together into a drop slot feeder for processing.

Fully check 21 and ARC compliant, the AS180 supports full check truncation in a single pass. Implementing full truncation can eliminate encoding and sorting passes entirely for truly dramatic labor and equipment savings.

Thank you for taking the time to familiarize yourself with all of the great features of the AS180. We've gone to great lengths to make it "user friendly." We trust that you will enjoy using the AS180 and that it will make your job more productive.

Sincerely,

OPEX CORPORATION

Mark Stevens
President/CEO

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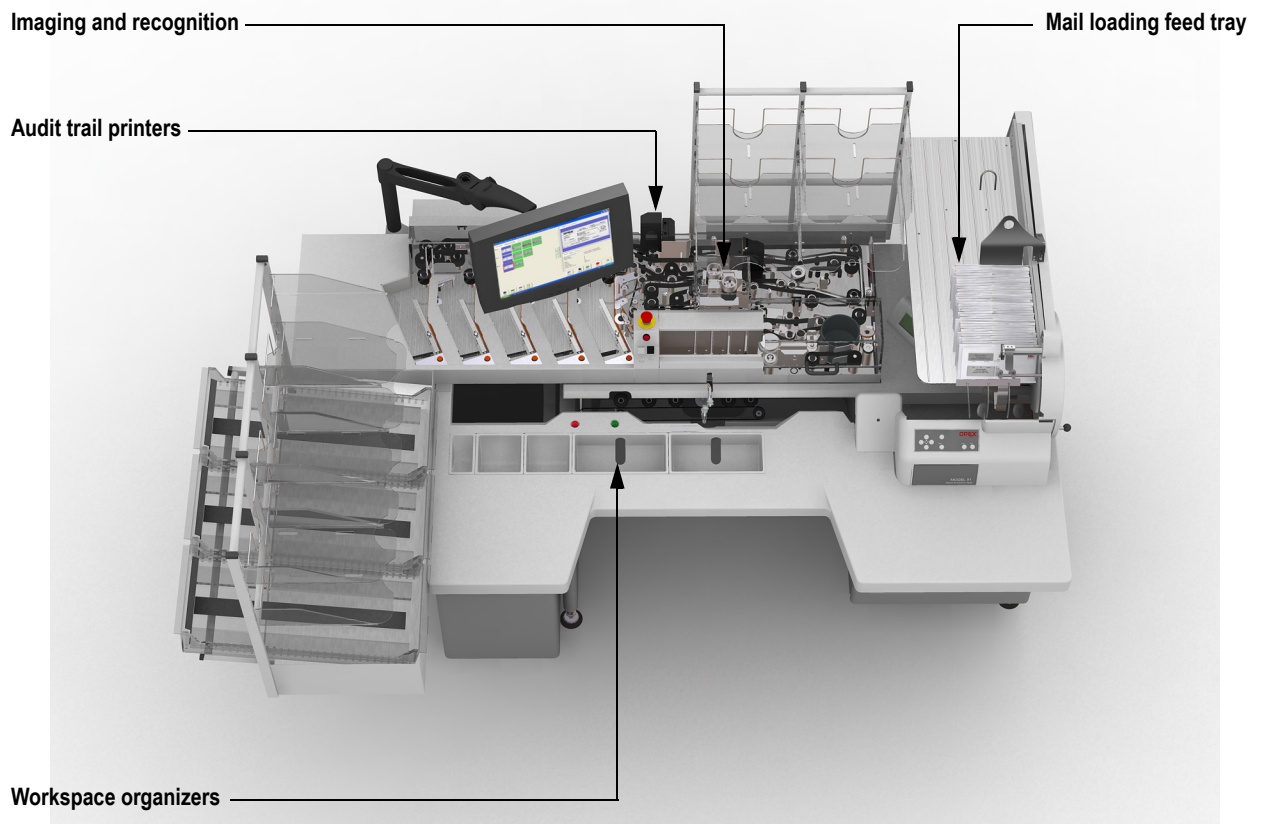
System Overview

The AS180 is a retail payment automation workstation comprised of two proven OPEX technologies: The OPEX Model 51 Rapid Extraction Desk and IEM. Combining the most utilized mail extraction device in the world with the industry-leading electronic check delivery platform, the AS180 offers streamlined remittance processing at the lowest cost ever. Imaging and recognition occur in conjunction with mail extraction, which eliminates a separate first pass process and reduces information management risks.

Handling both single and multiple check and coupon transactions, the AS180 can capture virtually any retail payment in a single pass.

NOTE: This manual assumes that you have used and understand the functionality of the Model 51 Rapid Extraction Desk. Refer to your *Model 51 Rapid Extraction Desk Operator Manual* for information on how to extract mail with the RED.

Features of the AS180 include:

- **Extraction desk integration**   The AS180 works in conjunction with the Model 51 Rapid Extraction Desk (RED) to provide an all-in-one solution for lower-volume operations and exception processing. The RED will quickly open envelopes and present the contents to the operator for processing by the AS180.

- **Touch-screen controls**   Eliminates the immediate need for the keyboard and mouse because of its convenient accessibility.

- **Automatic Jam Control**   Greatly reduces downtime by electronically monitoring the paper path, notifying the operator of the location of jams and allowing for run resumption from buttons conveniently located at various positions on the machine.

- **Check 21/ARC compliance**   Allows for most efficient clearing method to be utilized while assuring compliance with applicable rules and regulations. The AS180 allows you to interface with the image quality check software of your choice and easily integrates the software into the workflow via the IEM (Image Export Module) functionality.

- **Image Export**   Provides image capture of checks and documents for immediate pass-off via a network connection. Five hundred milliseconds of decisioning time allows for input from multiple plug-ins.

Specifications

Physical specifications

Width	86" with all racks installed; 77" without racks
Height	58" with all racks installed; 50" without racks
Depth	58" with all racks installed; 48" without racks
Weight	273 lbs.
Shipping Size	65" L × 39" W × 52" H
Electrical	3.5 AMP, 120 VAC, 60Hz

Paper specifications

Height	2.75–4.25 inches
Length	6–9.25 inches
Thickness	0.007–0.0035 inches
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.

Check specifications

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

Environmental specifications

Ambient Temperature	Non-operating: 0°F–110°F Operating: 10°F–100°F
Humidity	Non-operating: 0%–85% Operating: 40%–90%

Safety

Your main responsibility as an AS180 operator is safety: your safety and that of your co-workers. Before operating the machine, become familiar with these safety precautions:

- **Read and understand all of the material within this manual and in the *Model 51 Operator Manual*.**

- **Keep loose clothing, jewelry, hair from becoming entangled in the moving parts on the machine**.

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

- **Do not attempt to reach into the machine mail pathways while the machine 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 machine**. Do not allow any liquids or cleaning agents to enter machine openings.

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

The following symbols are used throughout the manual and on the machine to help you become aware of potential problems:

The shock hazard symbol indicates a potential electric shock hazard. Avoid these areas to prevent injury caused by electric shock. These areas are not within the responsibilities of the operator.

This symbol and the following text provide information which should be followed for best results when operating or maintaining the machine.

This symbol indicates a potential pinch hazard. The pinch hazard symbols are placed throughout the machine 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.**

The AS180 incorporates the following safety features:

Enclosed paper path

The paper path (path taken by the check and document through the machine) is protected by clear acrylic panels. These panels allow you to see the machine in operation without risk of injury. **The machine will not start up if a panel is removed or a door is open. During operation, the machine will stop when one of the panels/doors is opened**.
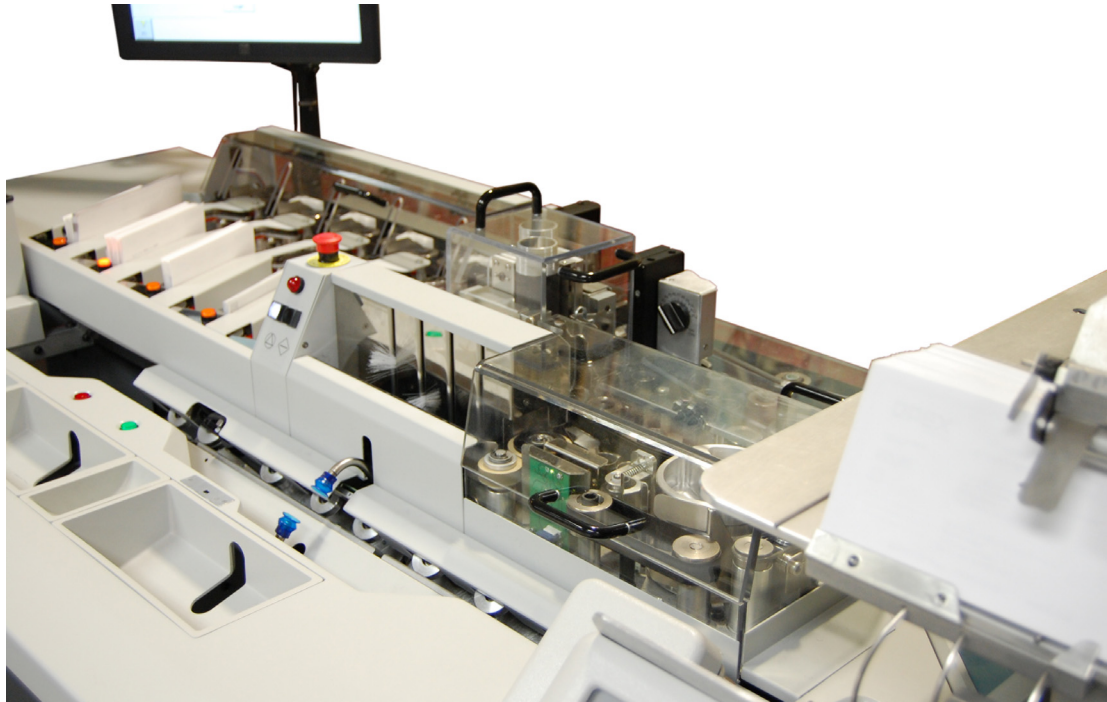

Interlock system

When the machine is running, rapidly-moving belts and pulleys can pose a safety hazard for the operator. For your safety, magnetic interlocks have been installed on all of the removable panels and doors of the AS180 machine. The interlock system will shut the machine down whenever a panel is removed or a door is opened.

Emergency stop button

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

NOTE: Also keep in mind that opening any of the clear, acrylic panels will also stop the machine in the event of an emergency.
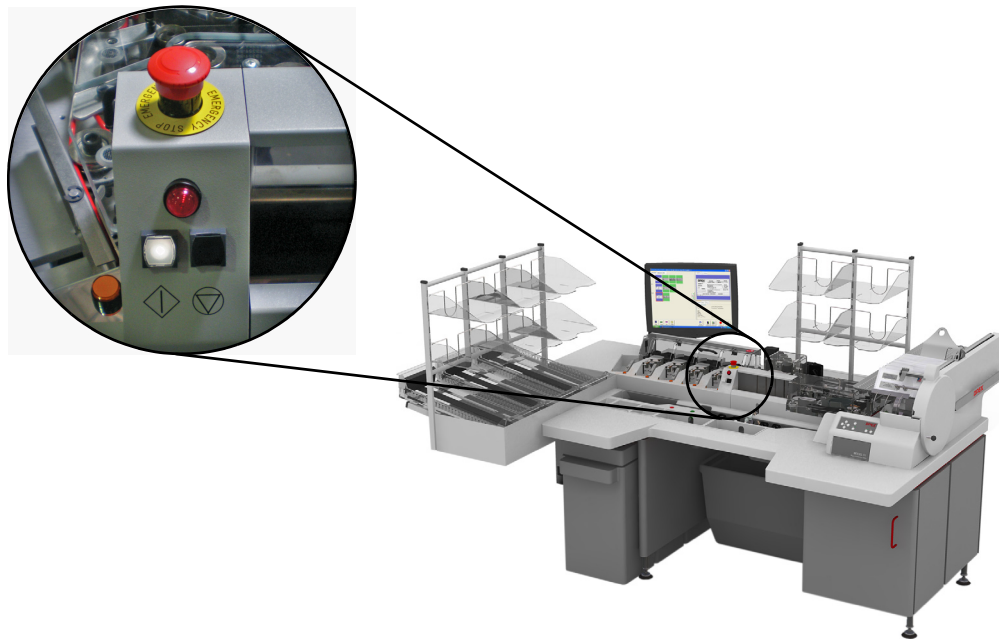
How the AS180 Works

The AS180 system processes checks and documents in one continuous, non-stop stream. The pieces are singulated (one piece is placed in front of another), imaged, information is printed on them and they are stacked.

This section describes how the AS180 converts your pieces from envelope to image. The process is as follows:

Step 1: Extracting and Feeding Pieces

The first step in the AS180 workflow is the extraction of the contents from the envelope. The contents can be removed by the Model 51 attached to the machine, by the operator (by hand), or, in some cases, the pieces may have already been extracted by another machine and carried to the AS180 for processing.

Once the pieces have been extracted, they are ready to be dropped into the drop-slot on the AS180 for feeding into the machine.

Step 2: Singulation

The operator can drop a stack of documents into the drop feeder at once, so the next step requires the machine to separate the pieces for entry into the paper path. The AS180 singulates the pieces so that one piece goes first and the next follows down the paper path in single file.

Step 3: Content Imaging/IEM

The AS180 system can perform OCR and MICR reads as well as image capture on the contents. The AS180 can then transmit the collected data to a network location where a software plug-in can perform many functions. 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.
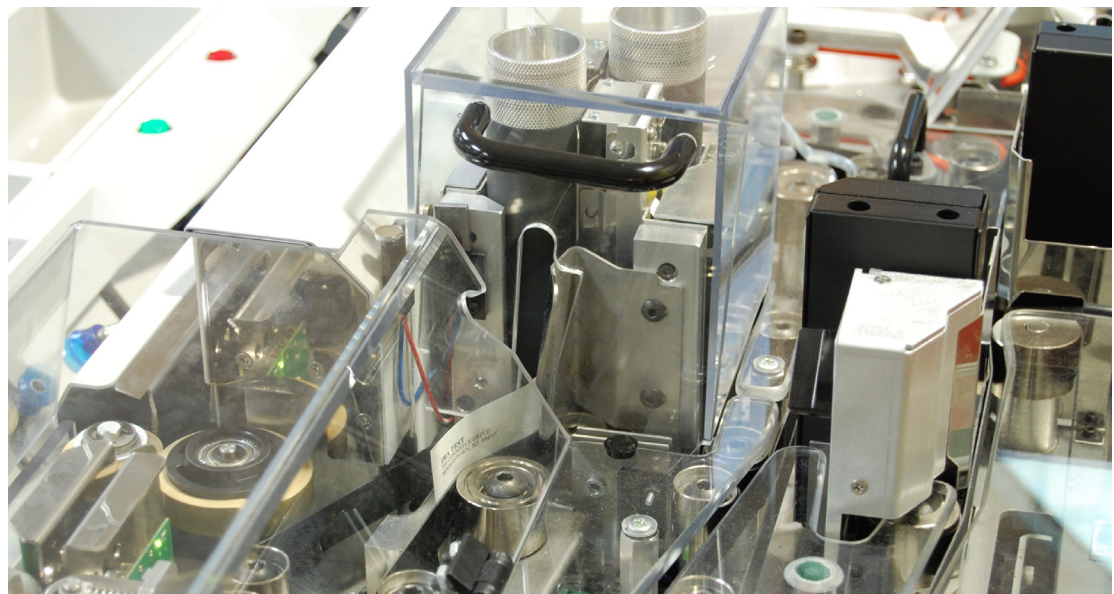
Step 3: Audit Trail Printing

The audit trail printers print designated information on the back and/or front of the piece before it makes its way into the stackers. The basic AS180 is shipped with the back printer installed, and a front printer is optional.

Step 4: Stacking

Once the pieces have been processed, the machine stacks them in one of the 5 stacker bins. The bin destinations are determined by the job settings.

Jobs

A job is a collection of the parameters the AS180 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 AS180 scans documents and checks and stores the information it collects in batches, which consist of one or more transactions (a check and a stub). You can also send the information the AS180 collects to another PC for further processing. Every action the AS180 performs to process your mail is set up in the specific job's parameters.

Factors affecting processing rates

Length of document   The AS180 operates at a maximum track speed of 36 inches per second. The rates quoted above assume a document length of 9.5 inches. Shorter documents will enhance throughput rates; longer documents will degrade the throughput rates, since fewer pieces can pass through the machine 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 AS180 system is designed to run best using 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.

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

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.

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 AS180. The three levels of operator accounts are:

- **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 user accounts.

- **Manager**   An operator with an Manager level account will have full access to the machine's features.

  NOTE: See "Managing Operator Accounts" on page 3-3 for more information on how to create new accounts.

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Chapter

2

Operating the System

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Overview

The touchscreen monitor provides the operator's main interface with the Host software, which controls the entire AS180 system. Use the Host software to manage operators, create and run jobs, and create system efficiency reports. The keyboard and mouse are located underneath the output bin rack.

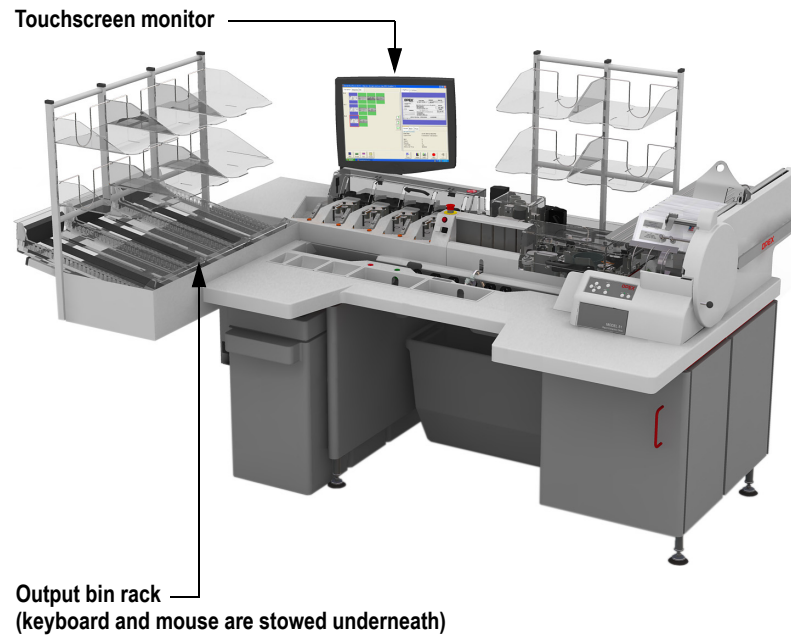**NOTE:** For normal machine operation (such as running jobs), the touchscreen monitor is adequate.

Touchscreen monitor

Output bin rack
(keyboard and mouse are stowed underneath)

FIGURE 1: Interface locations

Turn the power on

1 At the back of the machine, turn the main power switch to the On position. The switch will illuminate.

2 Press the power button on the front of the UPS. The power light on the front of the machine will illuminate and Windows will boot on the monitor.
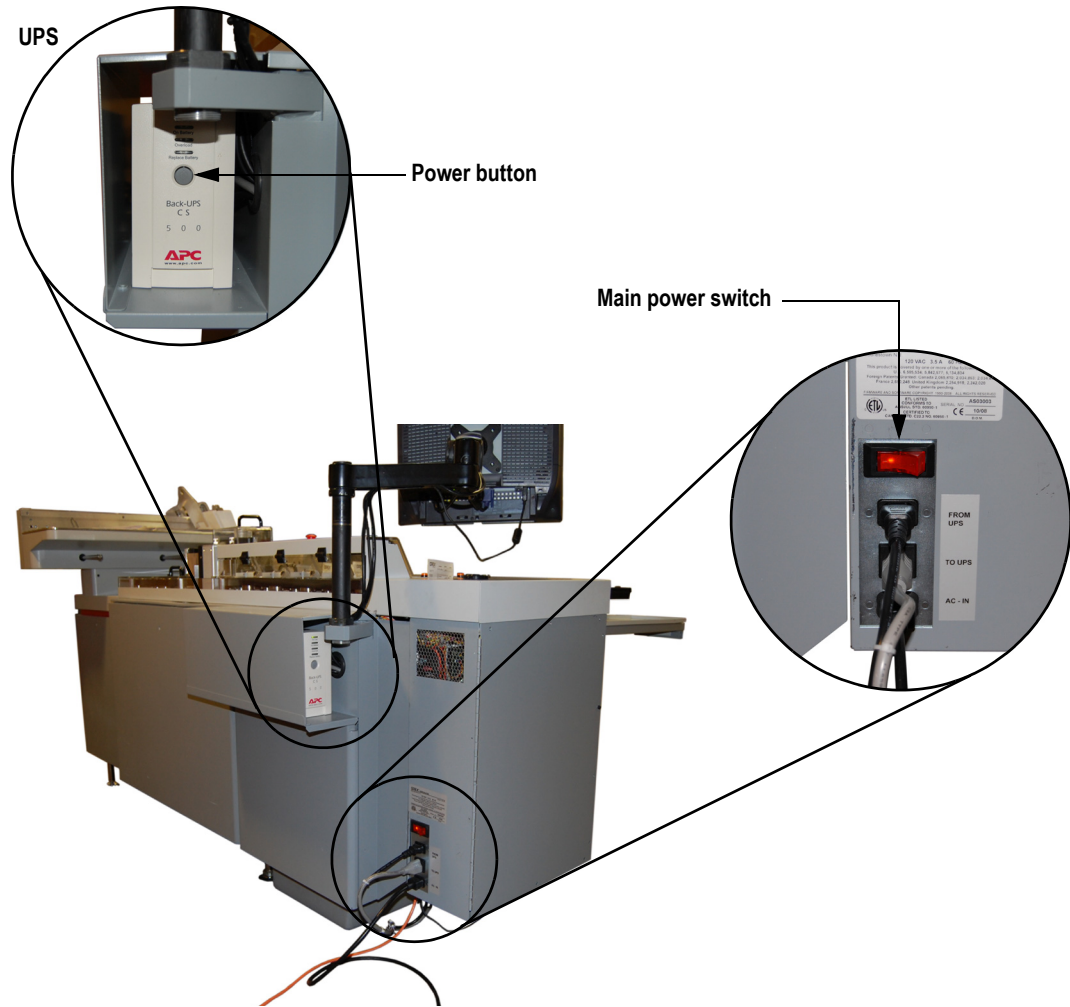

FIGURE 2: UPS/Power switch locations

Open the Host software

The AS180 Host software will launch as part of the system's start-up routine. If you mistakenly close the Host software or, for some reason, the Host software does not start with the machine, you can start it manually.

1 Double-click on the AS180 icon on the desktop OR click **Start** > **Programs** > **OPEX** > **AS180** to open it.

FIGURE 3: Opening screen

2 Select your user name from the Name dropdown list.

3 Enter your password in the Password field.

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

Navigating the Host software

The Explorer bar 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. An example of the Explorer bar is shown in Figure 4.

FIGURE 4: Explorer bar

The buttons on the Explorer bar may change, depending on what function the software is performing. 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. Works if you have previously pressed ← **(F3)**.

Exiting the Host software

There are two ways to exit the Host software:

Logout   Log out the current user. This returns you to the opening screen.

Shutdown   Exit the Host software and close Windows.

NOTE: The exit options available to you depend on your level of access to the machine. Users can only log out of the software; supervisors and managers also have the shutdown option.

To close the Host software

1 Click **OPEX (F2)**. A menu appears listing several options (depending on your level of access), including the options for exiting the Host software.
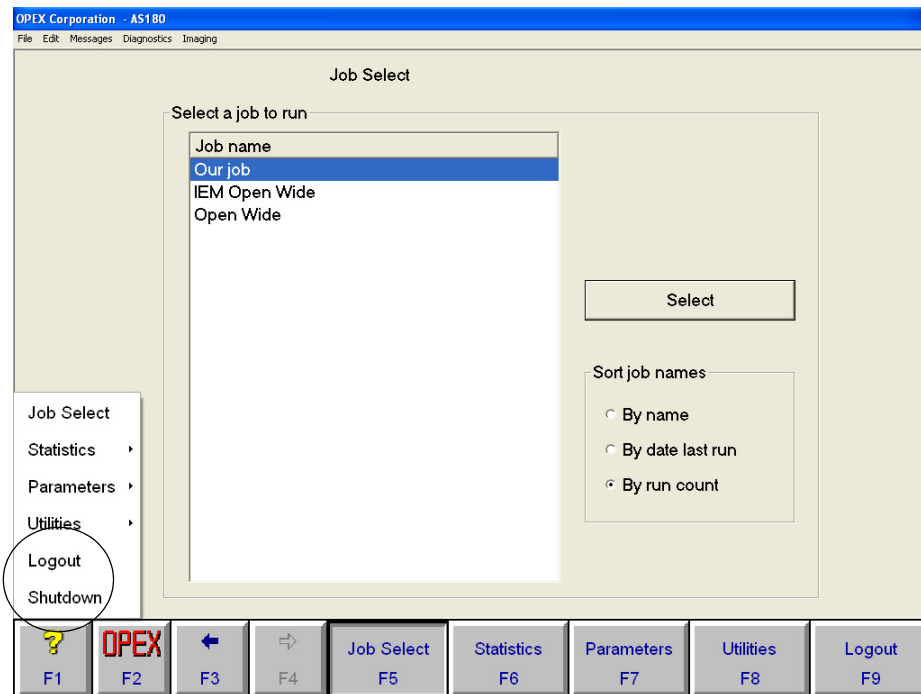

FIGURE 5: Exit options

2 Select an exit option.

Turn the machine off

To shut the machine down:

1 Click **Start** > **Shut Down** > **Shut Down** to close Windows.

2 Turn the power switch to the Off position.

3 Press the power button on the front of the UPS to turn it off.

Running Jobs

The jobs available on your AS180 are set up ahead of time by an OPEX Technician. If you have any questions or concerns about how your jobs are set up, consult your site manager or your OPEX Technician.

Selecting a job

1   Click **OPEX** > **Job Select**.

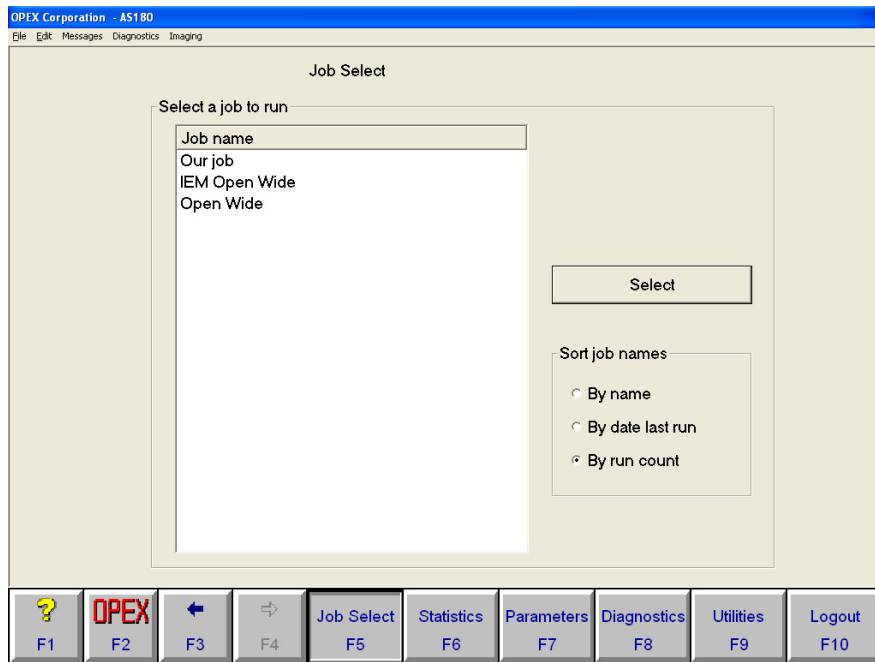**2**   Select the job you want to run in the Job Select screen and click **Select**.

FIGURE 6: Job Select screen

3   If the run type select screen appears, highlight a run type and click **Select**. See "Run types" on page 2-7 for more information.
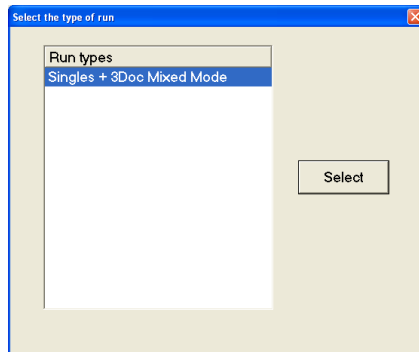
FIGURE 7: Select a run type

4   The Run screen will appear.

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Run types

Each AS180 job can be run in one or more modes, or run types, which determine how the system will process mail. The jobs will be set up ahead of time for you to process the mail at your site accordingly.

The possible run types are listed here. You will see one or more of these choices for each job you select:

Run type	The AS180 expects to see	Notes
Singles	2 pieces (1 check and 1 stub), dropped in any order	The most likely mode of operation. Drop one transaction of one check and one stub into the feeder simultaneously.
Singles + 3 Doc mixed mode	2 or 3 pieces	Select this run type if **some** of your transactions consist of 3 pieces (2 checks and 1 stub or 1 check and 2 stubs). The machine will classify all of the pieces you drop in the feeder at once as one transaction, whether you drop 2 or 3 pieces.
3 Doc	3 pieces (at least 1 check and 1 stub), dropped in any order	Select this run type if **all** of your transactions will consist of 3 pieces. Drop transactions into the feeder 3 pieces at a time.
Multis drop slot empty	At least 1 stub and 1 check, dropped in any order	Multis transactions can consist of between 2 and 6 pieces. Select this run mode if you don't know how many pieces will be in each transaction. The machine will classify all of the pieces you drop in the feeder at once as a transaction.
Multis	At least 1 stub and 1 check, dropped in a specific order	Select this multis run type if you need to drop 1 or more stubs, then drop one or more checks. The AS180 will start a new transaction when a stub follows a check, no matter how many checks or stubs have been dropped.
Checks only	Only checks (no stubs)	Select this mode if you are only processing checks. Each check will be a separate transaction.
Docs only	Only stubs (no checks)	Select this mode if you are only processing stubs. Each stub will be a separate transaction.

Running the job

NOTE: This manual assumes that you have used and understand the functionality of the Model 51 Rapid Extraction Desk. Refer to your *Model 51 Rapid Extraction Desk Operator Manual* for information on how to extract mail with the RED.

Once you have selected a job, a run type and prepared your mail, you are ready to start the job. Use the Run screen to start and stop running jobs and view important information on your job.
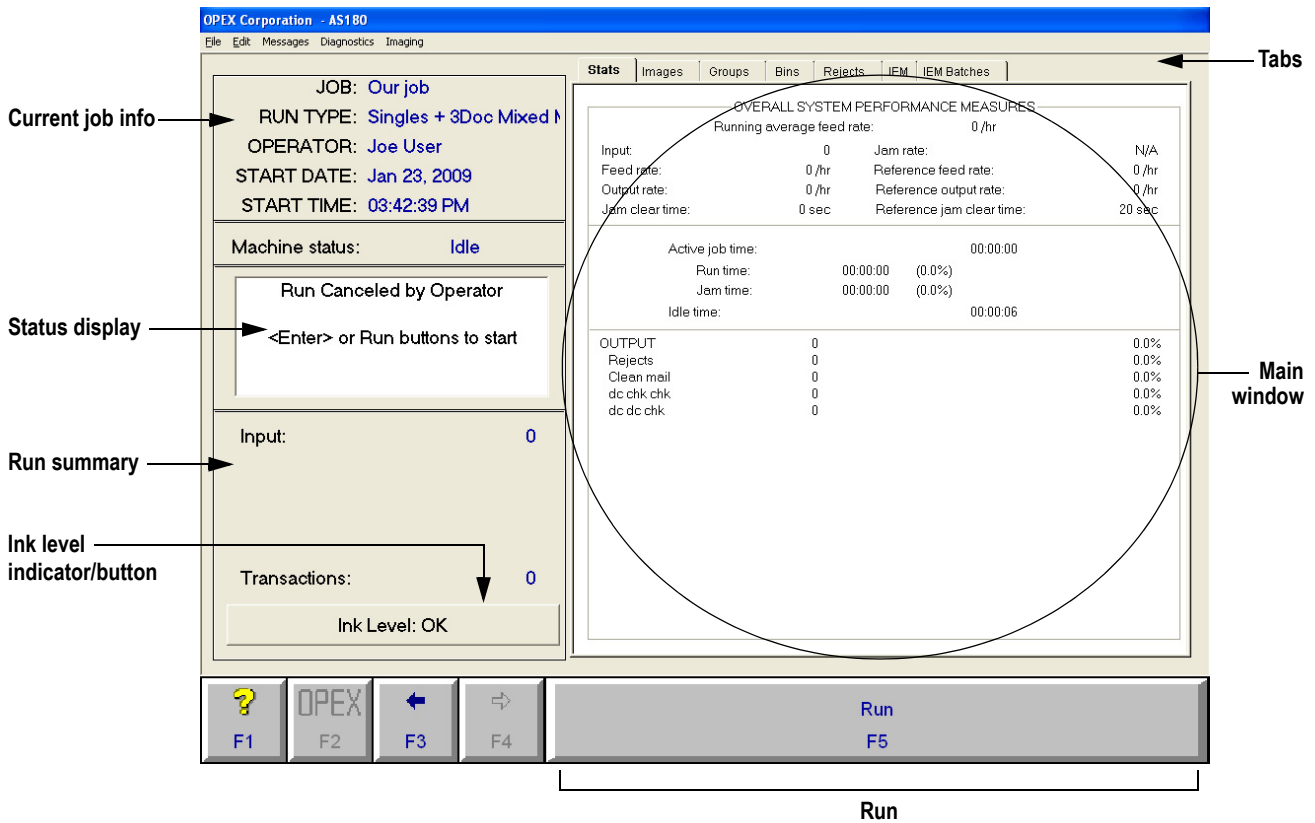

FIGURE 8: Run screen

Click the **Run** button on the Run screen to begin processing documents.

Feeding documents

When you click run, the machine will start up and the feeder will be ready to receive transactions. Drop full transactions into the feeder according to the run type you chose after selecting the job. For example, if you are running in Singles mode, you must drop a check and stub into the feeder. If you are running in 3 Doc mode, you

must drop 3 pieces (1 check and 2 stubs or 2 checks and 1 stub) into the feeder at a time. The run types are described in depth on page 2-7.

FIGURE 9: Using the drop-slot feeder

Stacker bins

The stacker bins contain the documents and checks processed by the AS180. Depending on the configuration of the job, certain documents and checks will go to certain bins. One of the bins (typically bin 1) will be used for rejects.
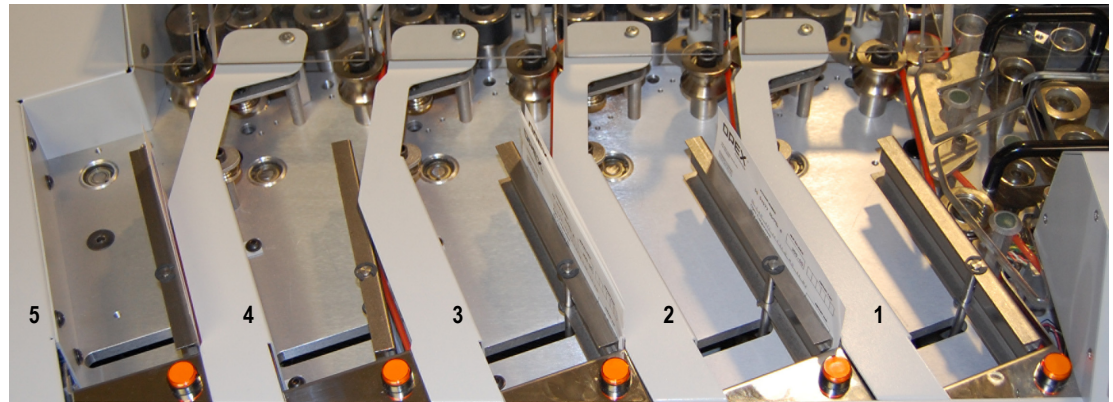

FIGURE 10: Stacker bin numbering

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 required piece may not have arrived or an unexpected piece arrived in the bin. The button also flashes if pieces are removed from the bin before it is full. This will close the batch and make the bin inactive until the user makes it active again.

   NOTE: If the AS180 should jam and you want to "properly" remove the contents from a bin, you must first press its bin light button. This effectively closes the batch.

Using the Run screen

The Run screen information is broken down into six categories. The information is found on the tabs in the Run screen (Figure 11).
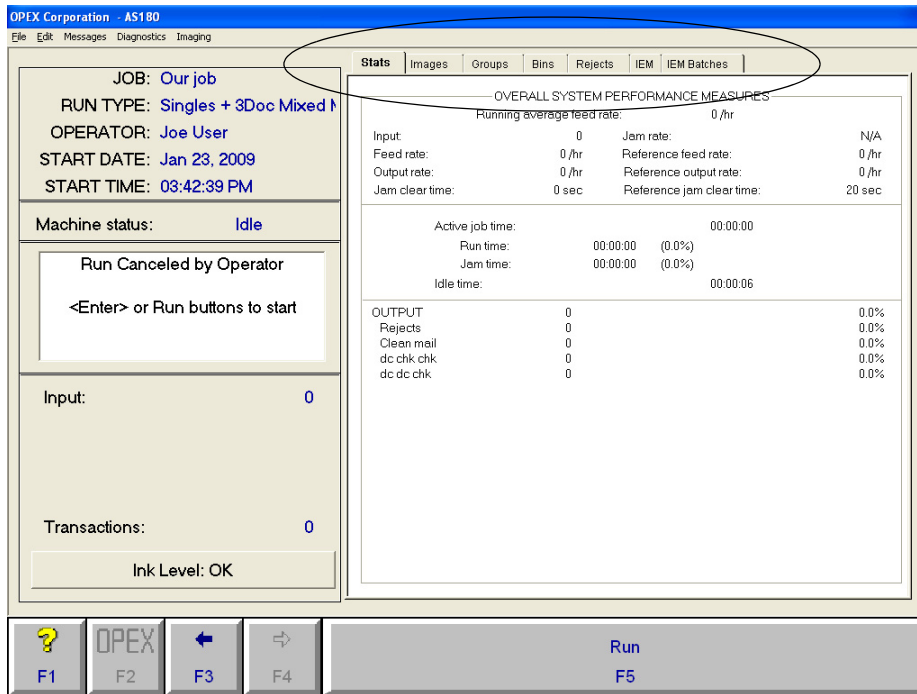

FIGURE 11: Run screen tabs

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

Overall System Performance Measures

The Overall System Performance Measures section displays the information the rates and clear times for the current job.

```
┌─────────────── OVERALL SYSTEM PERFORMANCE MEASURES ───────────────┐
│                  Running average feed rate:              0 /hr      │
│   Input:                       44     Jam rate:                22 env/jam │
│   Feed rate:               177 /hr    Reference feed rate:       226 /hr  │
│   Output rate:             177 /hr    Reference output rate:     226 /hr  │
│   Jam clear time:          117 sec    Reference jam clear time:   20 sec  │
└────────────────────────────────────────────────────────────────────┘
```

This section displays the following information:

Input Number of transactions the system has started to process.

Feed Rate Number of transactions 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 transactions 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:

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

Reference Feed Rate Number of transactions 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 transactions 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.

Time

Active job time:		00:14:54
Run time:	00:10:59 (73.7%)	
Jam time:	00:03:55 (26.3%)	
Idle time:		00:07:17

The Time section 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 machine was active during Active Job Time.

Job Run Percentages

OUTPUT	43	97.7%
Rejects	5	11.4%
Clean mail	27	61.4%
dc chk chk	8	18.2%
dc dc chk	3	6.8%

The Job Run Percentages section provides a breakdown of how the mail fed into the system was processed. This information is provided in both numerical form and by percentage. The output is arranged by the group it is sorted to.

Images tab

View grayscale and/or bitonal images of the documents and checks scanned in the current batch.

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.
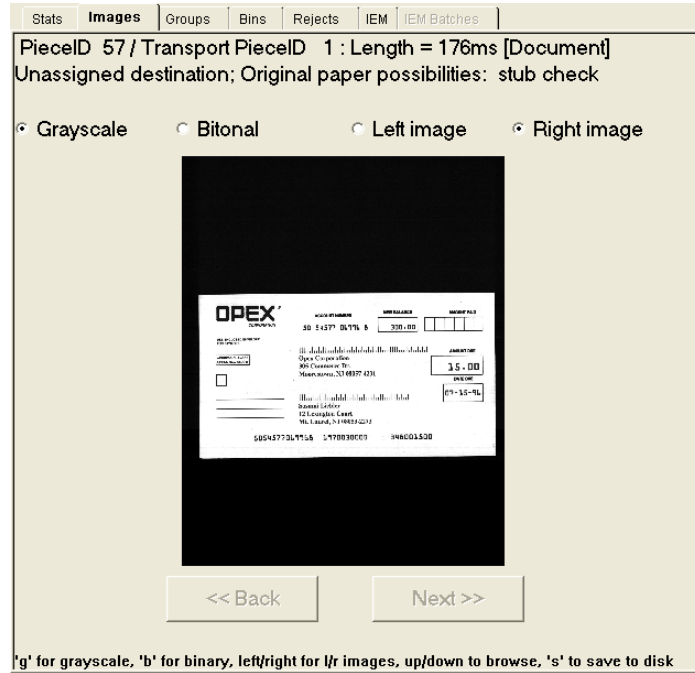
Groups tab

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.

Group name	Count	Bin assignment
Rejects	3	1
Clean mail	16	4, 5
dc chk chk	4	4, 5
dc dc chk	2	4, 5

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.

Bin	Count	Status	Full Count
Stacker bin 1	5	Available	300
Stacker bin 2	0	Available	0
Stacker bin 3	0	Available	0
Stacker bin 4	13	Available	300
Stacker bin 5	11	Available	300

The bins tab will also provide information on the current status of each bin. Status information includes Available, Inactive, Needs Priming, Full, and Overridden.

Bin	Count	Status	Full Count
Stacker bin 1	0	Available	300
Stacker bin 2	0	Available	0
Stacker bin 3	0	Available	0
Stacker bin 4	0	Inactive	300
Stacker bin 5	4	Inactive	300

Rejects tab

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

Rejects	Count
No checks found	0
No documents found	0
IEM MICR read error	0
IEM MICR partial read	0
Canadian check detected	0
Other foreign check detected	0
IEM OCR read error	0
IEM OCR partial read	0
Unable to process IEM data	0
Missing IEM report	0
Electronic payment	0
Did not match any group	0
IEM plug-in timed out	0
IEM plug-in reject	0
Jamsorts	0

IEM tab

View MICR and OCR read information for items scanned in IEM jobs. This tab will only be available when running in IEM mode.

IEM Batches tab

View transactions, by batch, when running in IEM mode. This tab will only be available when running IEM jobs and when the machine is stopped.

Choose to view transactions by the order they were entered into the system (Browse by write order) or by the batch they are saved to

Designate the current transaction as the end of the batch

Close all active batches

Scroll through the open batches
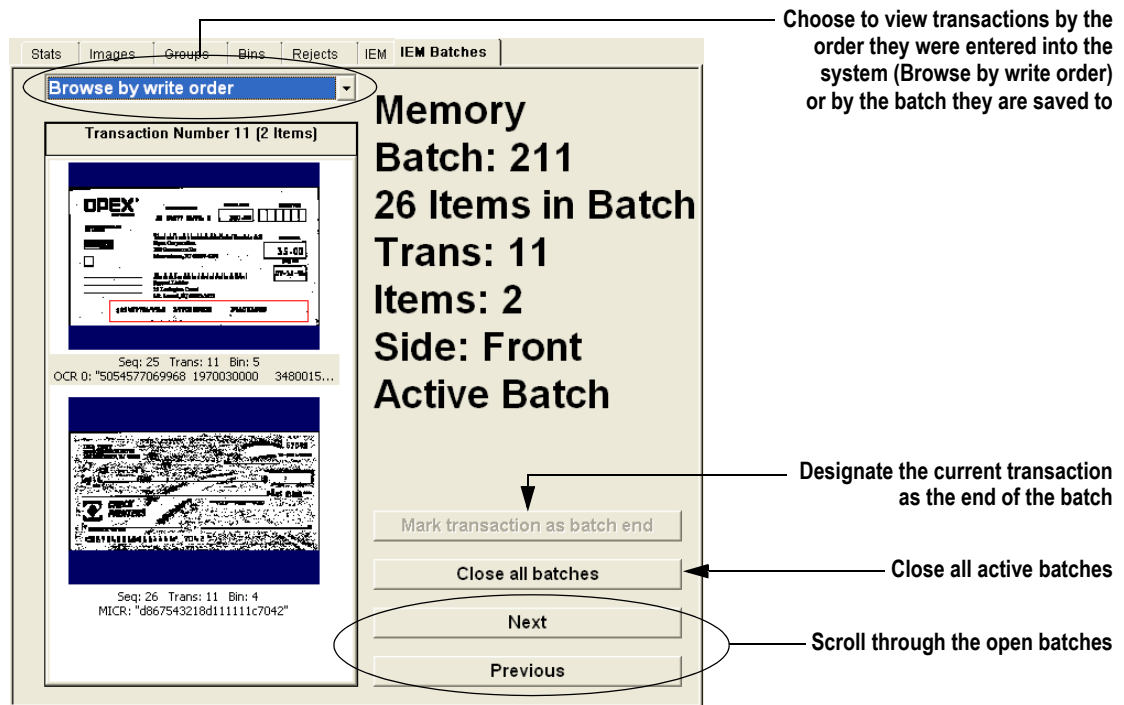
Removing transactions from the batch

Sometimes you may drop transactions into the feeder in the wrong order, or you may, for instance, forget a piece of a transaction and compromise your transaction integrity. In this case, you will need to remove pieces from the batch and rescan them correctly.

Take, for example, an instance when you are processing payments in the **Singles + 3 Doc** run type. If you drop a 3-piece transaction, the machine will process the transaction properly, sorting the pieces as defined by the job. The next transaction is *supposed* to have 3 pieces, but you only drop 1 check and 1 stub. The AS180 will accept the 2-piece transaction as valid and sort it correctly, even though there should have been a third piece.

To remedy this situation, you will have to remove the transaction from the batch from the IEM Batches tab:

1 Use the **Next** and/or **Previous** buttons to find the transaction before the one in question.

2 Click **Mark transaction as batch end** to make this the last transaction in the batch.

3 Remove the transaction(s) that come after the newly-marked last transaction from the stacker bins and rescan them correctly.

Force transaction feature

You can force group selection for content that is about to be dropped. The list of possible forced groups will be taken from the group setup portion of the job. The operator will drop content for the transaction one piece at a time in a host-specified order.

When the track starts up, a button will display on the run-screen to allow forcing the group selection. On pressing the button, you will be prompted to select the appropriate group for the transaction in hand. After a group is selected, you will be prompted to drop a piece type (stub or check) one at a time. For transactions of known size (such as Singles, Check Only, Stub Only, 3Doc), the prompt will disappear when the number pieces processed matches the number of pieces expected. For transactions of unknown size (Multis, Unstructured), you will indicate when the transaction is complete with a button press.

All pieces of a forced transaction must be oriented prior to dropping them, such that they are facing you in the drop slot, right-side up.

Pieces from forced transactions will be marked as being "operator overridden" in the batch output.

When specifying groups for the job, any group may be included or excluded from the list of forced groups. Not all groups will be appropriate for forcing transactions.

Implementation

Enable the feature in Host Parameters

A new parameter, **Host Parameters>Technician Settings>Force Transaction Type Enabled**, should be set to "**1**". By default, this is set to "**0**". After changing the parameter's value, re-start the host application.

Enable the job to allow "Force Transaction" on selected groups

In every group except Rejects for each job, there is a new parameter whose value is set by a checkbox labeled **OK to force transaction** (see Figure 13). If a group has this checkbox checked, and the host is configured to allow "Force Transaction Type", a new **Force Transaction Type** button will appear on the runscreen after starting the track. This parameter cannot be set for Reject group.

The new group parameter **OK to force transaction type** is not set by default.

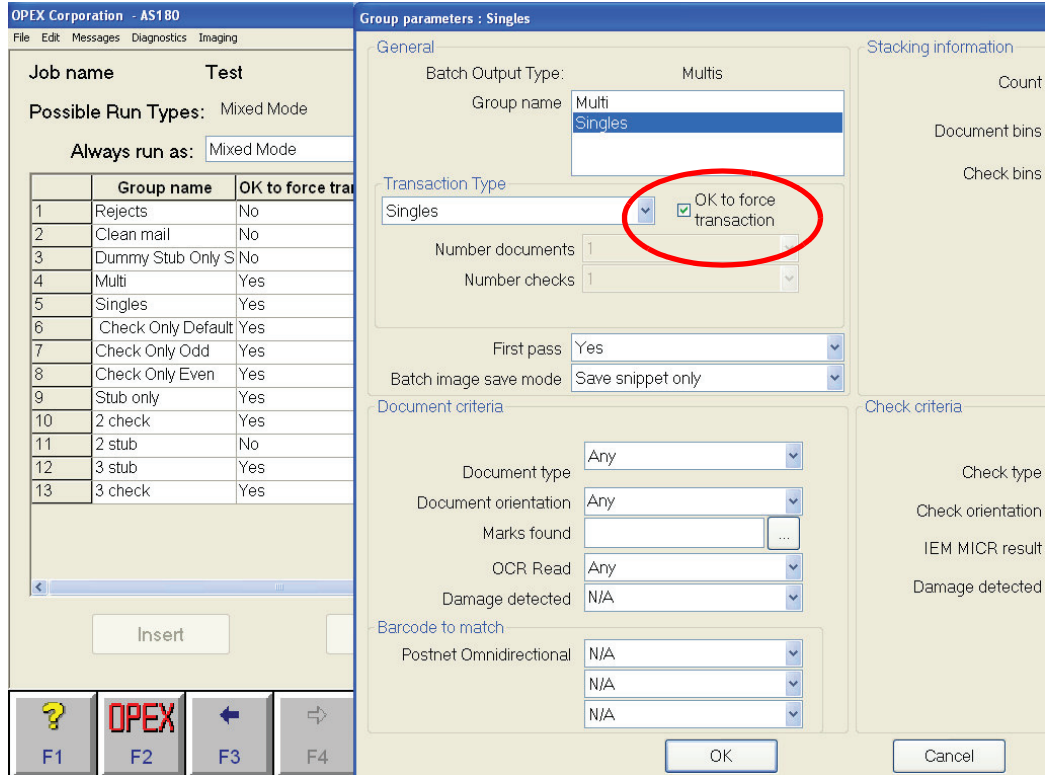**FIGURE 12: New group parameter**

FIGURE 13: OK to force transaction checkbox

Using the Force Transaction feature

Select a job to run which has at least one group with **OK to force transaction** checked.

On starting the track, a new button will appear in the row of navigation buttons along the bottom of the screen, labeled **Force Transaction Type** (see Figure 14).
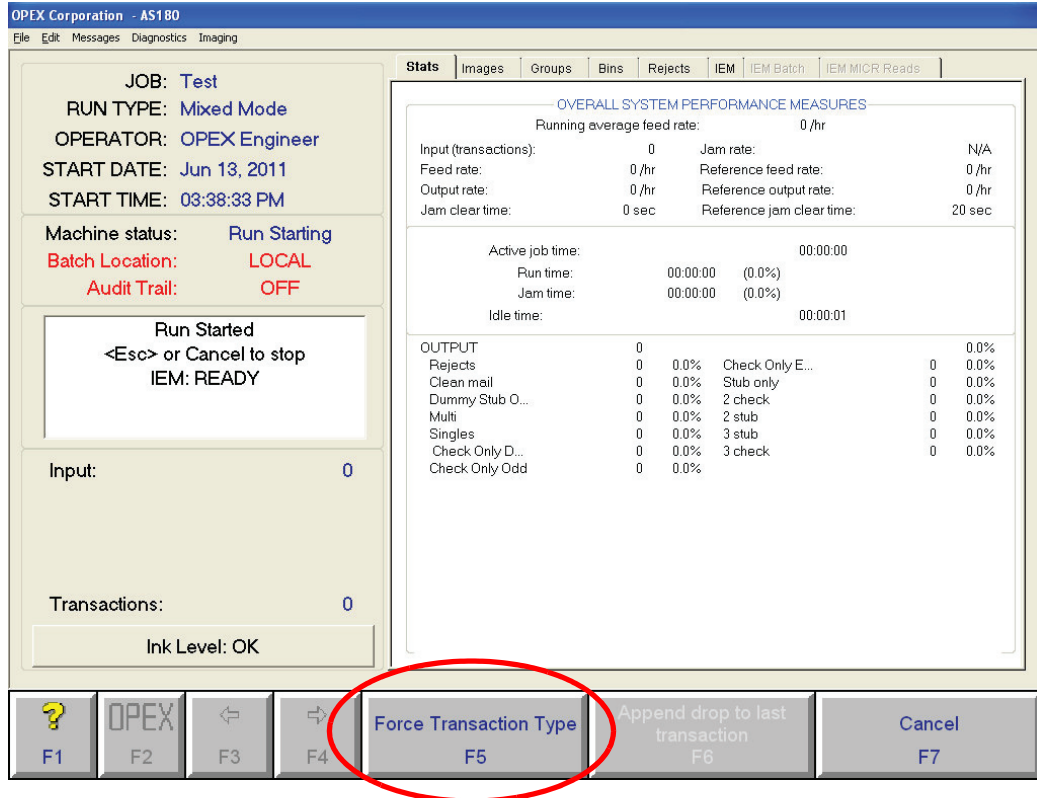
FIGURE 14: New Force Transaction Type button

To force a transaction, press this button. The Transaction Type Selection screen will be displayed. You will be prompted to select the desired transaction type.

NOTE: If there is only one group set up as a valid forced transaction type, the prompt to select a transaction type will be skipped and go automatically to next screen.

See Figure 15.

To select a transaction type, either:

• Select one from the list. This will enable the **Select Transaction Type** button. After the button enables, press the button.
• Hold the left mouse button on the desired transaction type in the list box for at least ½ second. When the selection highlight color turns red, release the mouse button to proceed to the next screen. You may do the same using the touchscreen instead of a mouse button.
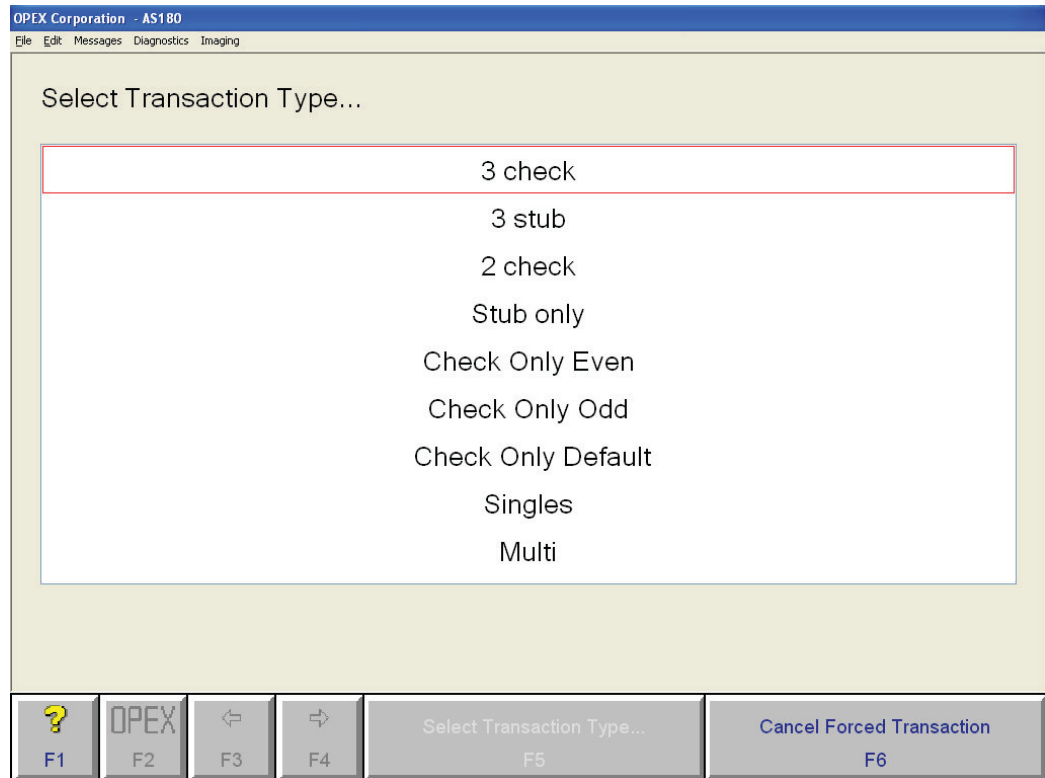
FIGURE 15: Select Transaction type screen

When a transaction type has been selected and the **Select Transaction Type** button is pressed, the Piece Type Prompt screen will appear.

You will be prompted to reorient and drop the pieces one at a time. You should take care to drop exactly the piece type for which the host is requesting. Each piece should be dropped into the drop slot with the front facing you, right-side up. See Figure 16 for an example of the prompting done when forcing a Singles type transaction.
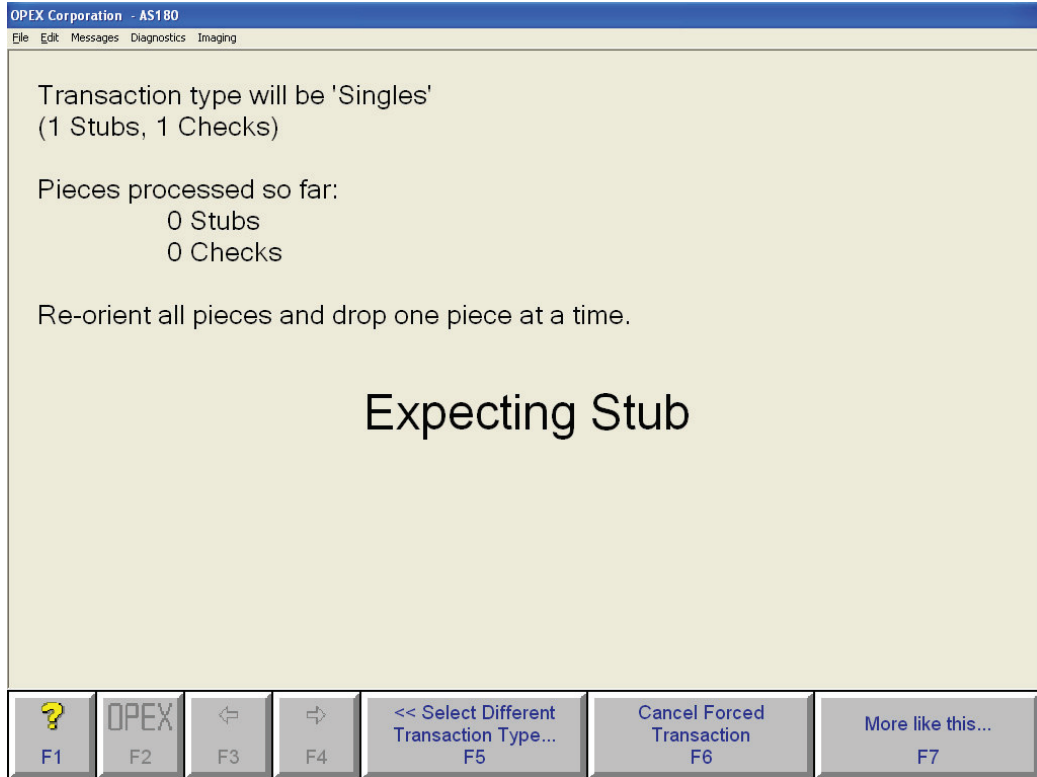
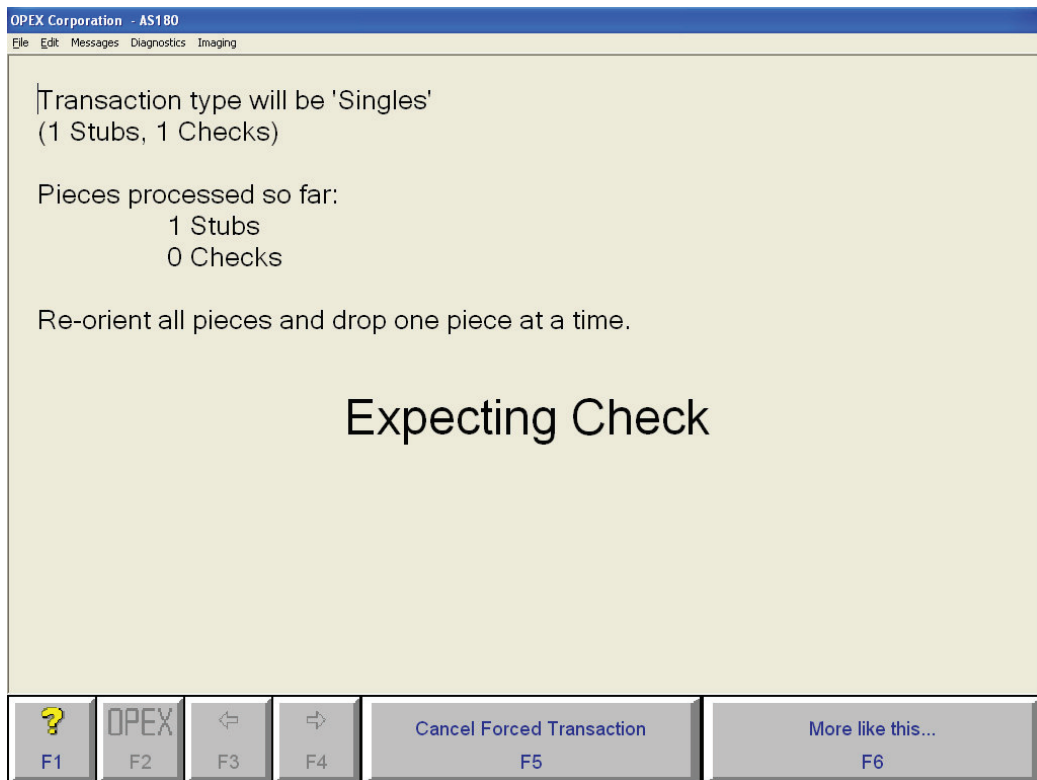**FIGURE 16: Piece Type Prompt screen - example 1**

FIGURE 17: Piece Type Prompt screen - example 2

The prompt will be slightly different for transactions that are multi or unstructured, as the exact numbers of each piece type is unknown.

You will need to specify the piece type about to be dropped, and also press the **Transaction Complete** button after the last piece of the transaction has been accounted for. The **Transaction Complete** button will not be accessible before pieces are dropped. When one piece has entered the system, the button will appear. The button will be disabled until the minimum number of pieces of each piece type have been dropped. For multi, the button will enable after dropping at least one stub and at least one check. For unstructured, the button will enable after dropping any one piece. See the figures below.
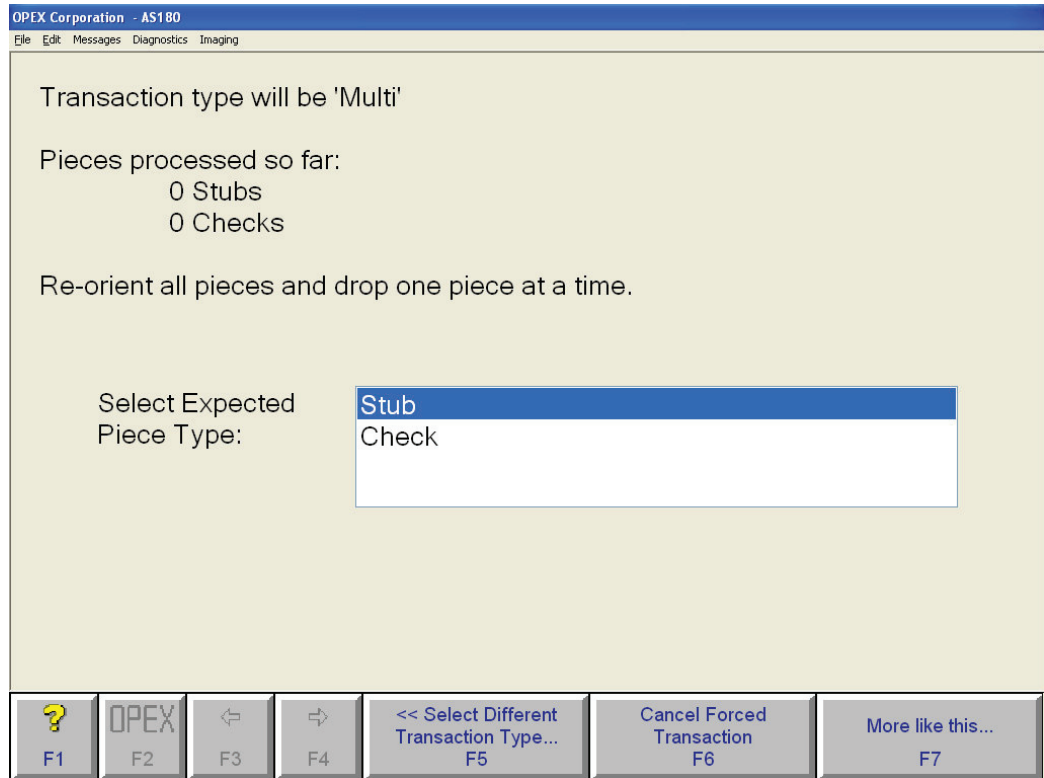

FIGURE 18: Piece Type Prompt screen - multis or unstructured example 1
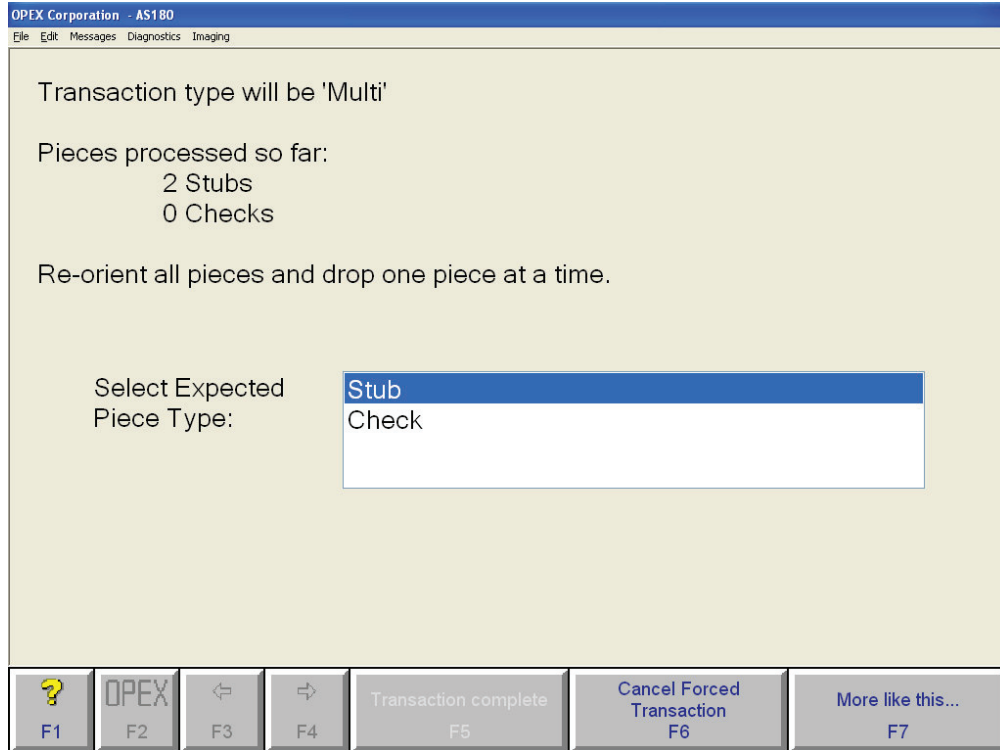
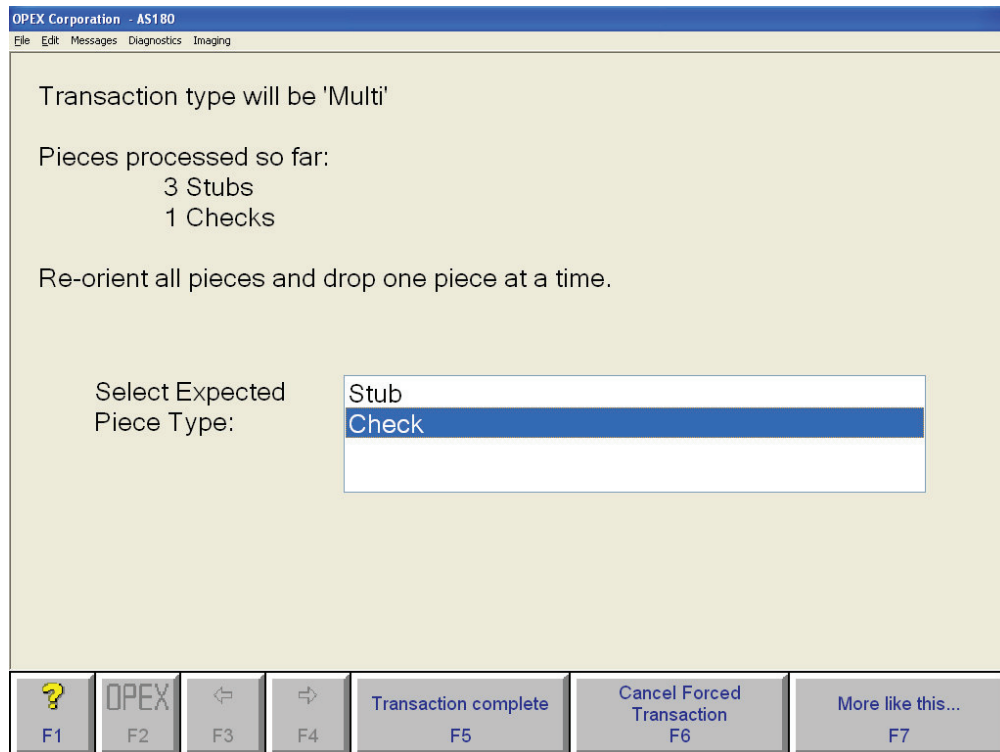**FIGURE 19: Piece Type Prompt screen - multis or unstructured example 2**

FIGURE 20: Piece Type Prompt screen - multis or unstructured example 3

Note the sticky button labeled **More like this**... on the Piece Type Prompt screen. When there are multiple transactions to be forced which are all of the same type, this button may be pressed. For transaction types of known size (not multi or unstructured), you will be prompted to drop the same transaction type repeatedly until the button is un-pressed.

In the batch, pieces that were part of a forced transaction will be marked as such. In the IEM's batch viewer, this is indicated along with the information about the piece. See the figure below.
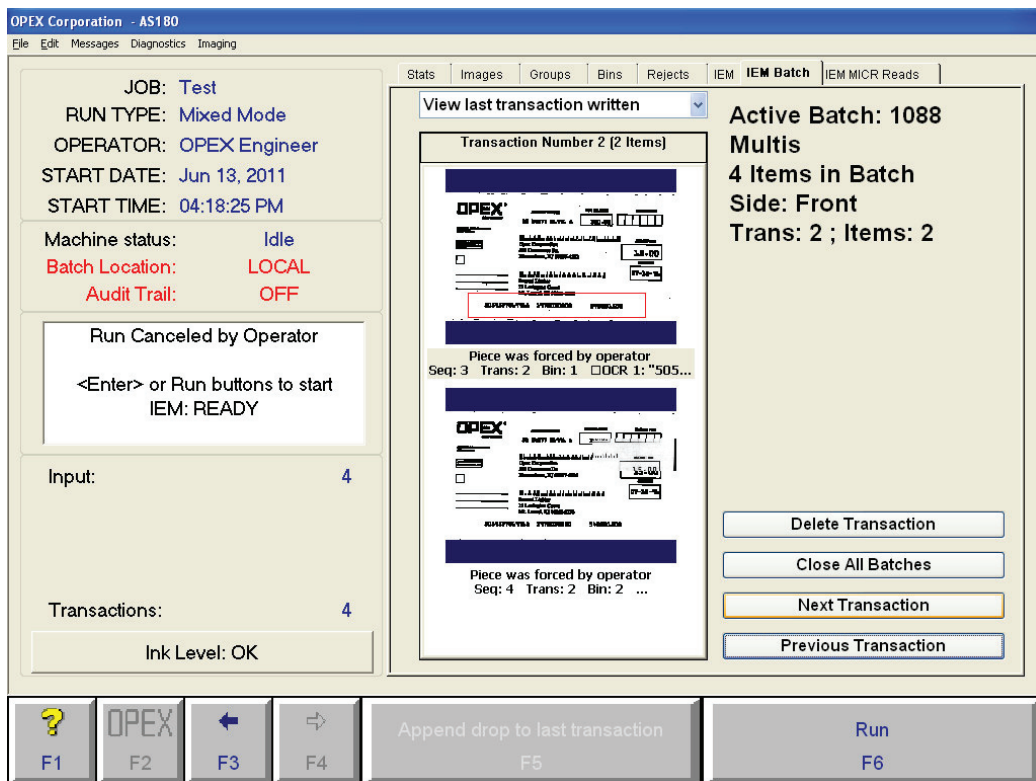

FIGURE 21: IEM's batch viewer

Tips for using the new feature

- Follow the on-screen prompts very carefully, and avoid dropping more than one piece at a time while in "Forced Transaction" mode. If more than one piece is dropped, as long as the number of pieces in the drop slot is equal to or less than the expected transaction size, the software will be able to process the pieces. However, the feeder cannot guarantee that pieces are fed from front to back in order, so there can be no guarantee that pieces are assigned the correct piece type. It is always safest to drop only the piece type prompted.
- If more than the expected number of pieces is dropped into the drop slot while in "Forced Transaction" mode, one of two things will happen.
  - If the **disable too may pieces in transaction jam** machine parameter is set to **1**, the system will jam with "Too Many Pieces In The Transaction".
  - If the machine parameter is set to **0**, the system will pocket the expected number of pieces but reject the rest. For example, if three pieces are dropped for a forced Single, the first two pieces fed will be assigned Stub and Check, respectively, and directed into the selected Singles group, and the third piece will be rejected.

- It is recommended that transactions that reject are re-processed immediately using the **Force Transaction Type** button. If rejects are allowed to accumulate, it puts the onus on the operator to keep close track of transaction boundaries.
- This feature can be used to force transactions into batches in bins that have already reached their full state. For example, a Singles batch may have reached the "Bin Count" specified in its group, but additional Singles transactions may be forced into the batch, as long as it has not closed yet. If the software-imposed hard limit of about 550 pieces per bin is reached, however, the IEM will jam and not allow any further transactions into the batch.

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 22) to continue running the job.

This symbol indicates a potential pinch hazard. The pinch hazard symbols are placed throughout the machine in places where there is the potential for the operator to get a finger or other article squeezed between components. **Exercise caution when working in these areas.**
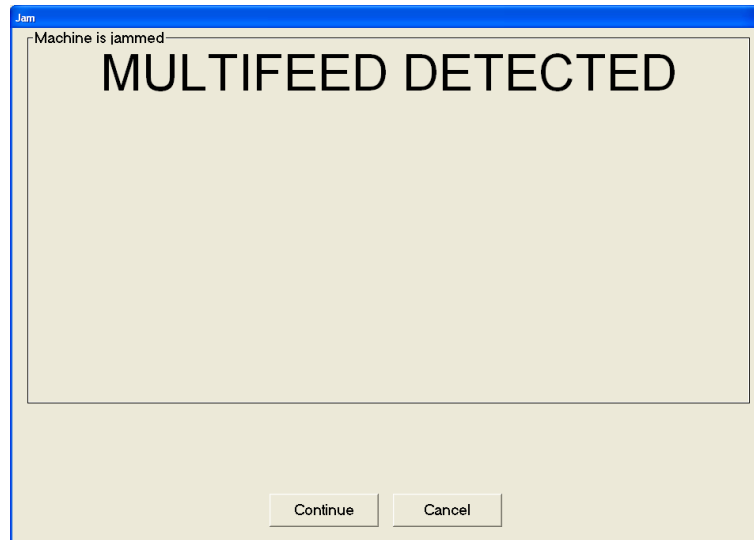

FIGURE 22: Jam dialog box

Tips for clearing jams

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

*   **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 a piece may not be positively controlled by the belts.

*   **Match up each check and document**   Doing this will greatly reduce the possibility of mismatching 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 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:

Drop feeder

Jams can sometimes occur at the main feeder, where pieces can get stuck in the singulator. These jams usually occur when pieces are not singulated properly.

When multifeed jams occur, simply open the singulator/justifier cover and pull the pieces out of the singulator. You can push the spring-loaded rear singulator tire (not shown) away from the paper to avoid tearing documents.

Stacker bins

Jams can sometimes occur as a piece is on its way into the stacker bins. When these jams occur, lift the cover and pull the piece out of the paper path. It may be necessary to move one of the gates out of the way to get the piece out.
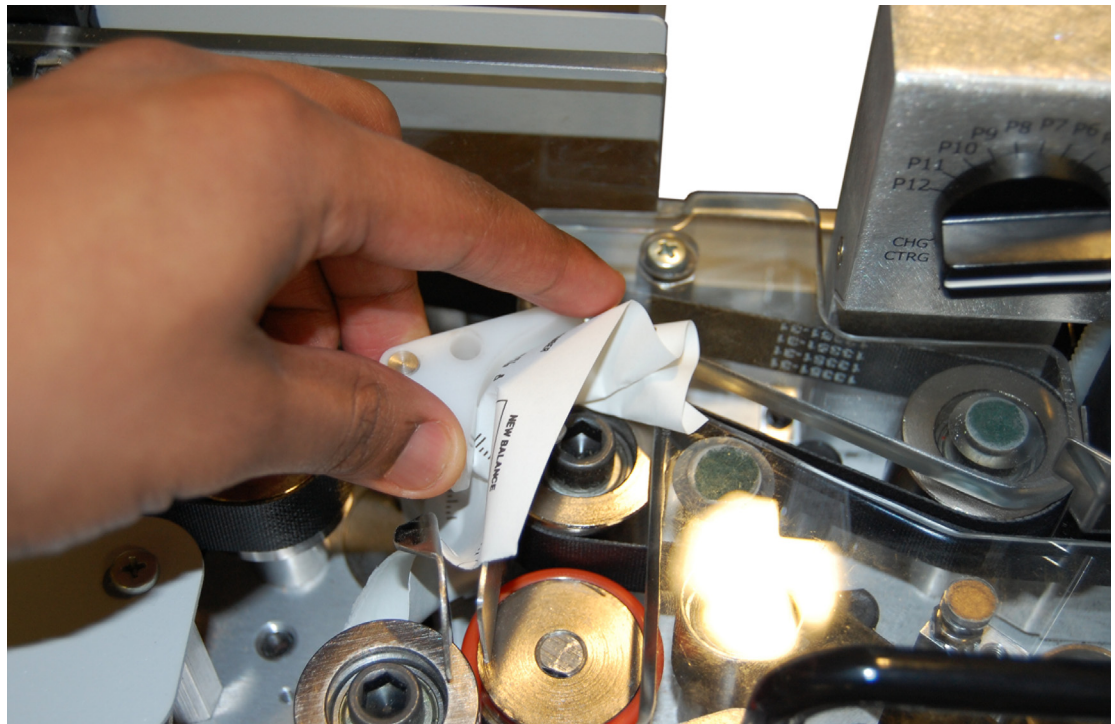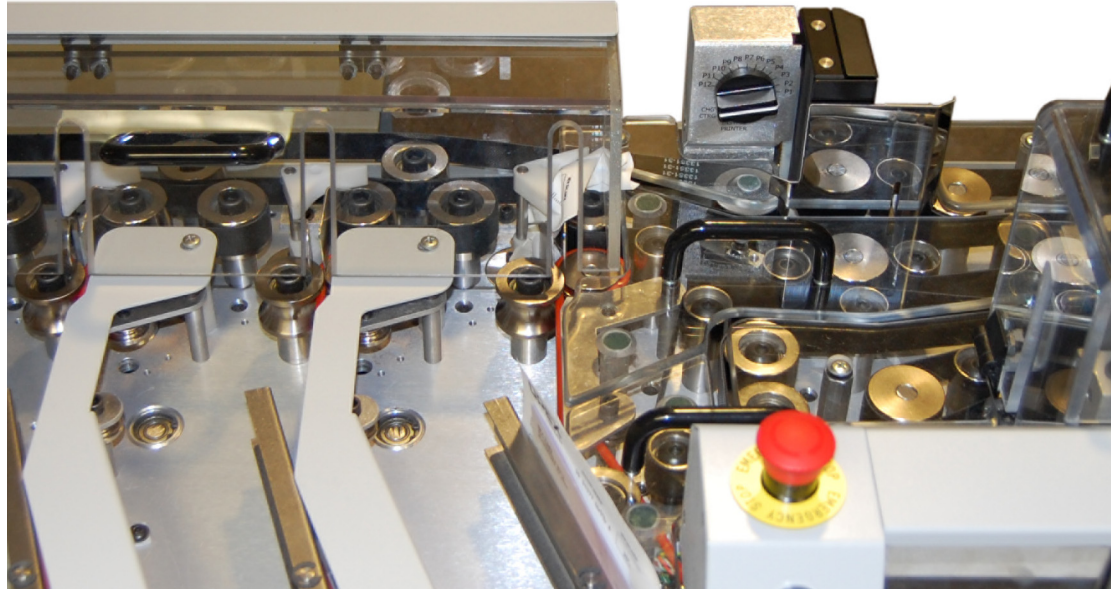
Chapter

Maintenance

3

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Cleaning the System

IMPORTANT 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.

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.

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 AS180. 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.

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 AS180. 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.

Shift maintenance

Shift operators should perform the following duties:

- Vacuum all areas of the paper path. Pay special attention to:
  - Feeder area
  - Justifier area
  - Stacker bins
- Clean the feeder belt.
- Clean the singulator tires.
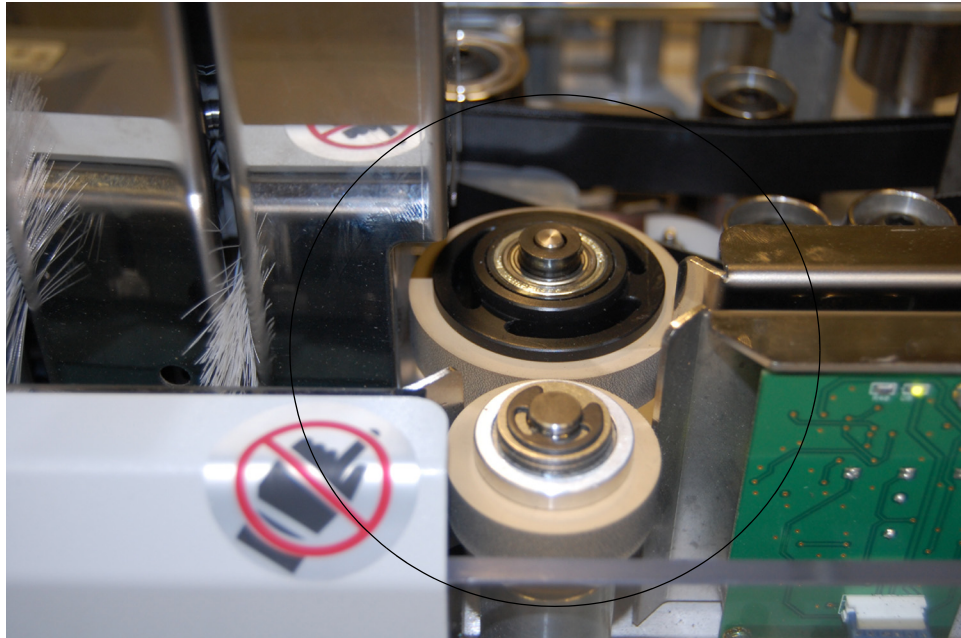
FIGURE 23: Singulator tires

Managing Operator Accounts

NOTE: Keep in mind that only operators with Supervisor level accounts can create and modify operator accounts.

Creating operator accounts

1 Open the Operator Parameters screen by clicking **OPEX** > **Parameters** > **Operator**.
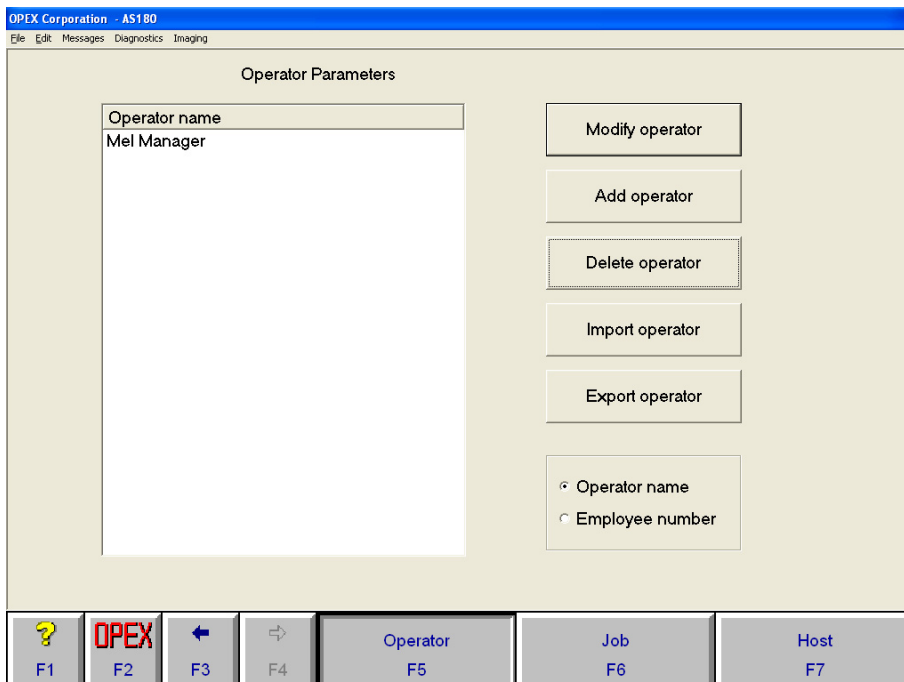
FIGURE 24: Operator Parameters screen

2 Click the **Add Operator** button.

3 Fill in the operator information and click **Save**. The new operator's name will appear in the Login list.
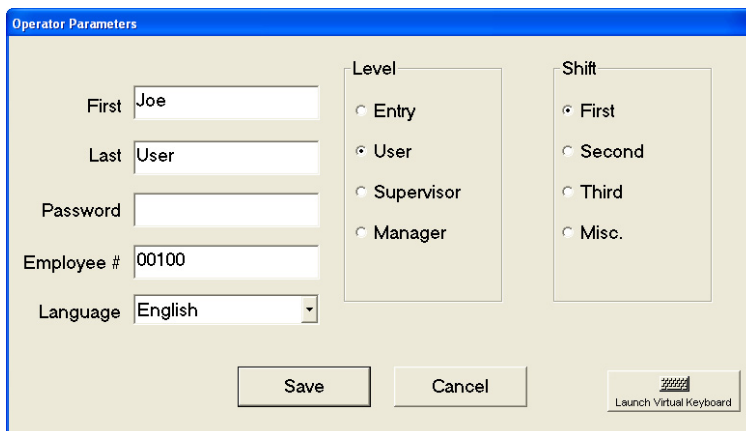
FIGURE 25: Operator information

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 24).

3 Edit the operator information as shown in Figure 25 and click **Save**.

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

Printer Maintenance

Adjusting the printer carriage height

You can adjust the vertical position of print on documents by turning the printer carriage adjustment knob, which moves the printer carriage vertically.

FRONT PRINTER (OPTIONAL)
Printer adjustment knob

REAR PRINTER
Printer adjustment knob

The adjustment height from the bottom edge of the paper ranges from approximately 3/8 inches (position **P1**) to 3-1/8 inches (position **P12**), with 1/4-inch increments in between. The **CHG CTRG** stop is used for changing the ink cartridge. The **INSTALL PRINTER** stop is a reference mark for an OPEX technician to install a new printer.
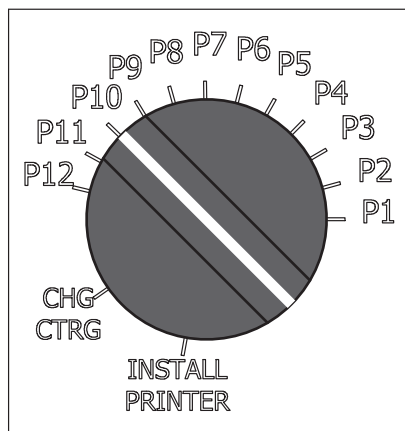
FRONT
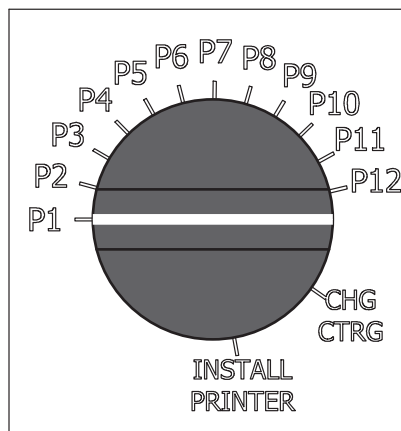
REAR

Removing/replacing the printer cartridge

The audit trail printers use disposable HP thermal ink jet cartridges, which will eventually require replacement. The ink level indicator/button on the Run screen will read LOW, indicating that one or both of the ink cartridges needs to be replaced.

NOTE: Ink level status is not a measure of actual ink level. The machine estimates ink level by counting the number of drops dispensed from an ink cartridge after the reset button is pushed.

NOTE: Check the expiration date of the new cartridge you plan to use. The AS180 printer cartridges, when stored in sealed containers, have a shelf life of two years from the date of manufacture.

To replace a printer cartridge:

1 Press the Ink Level indicator/button on the Run screen (when the machine is stopped) to open the Ink Cartridge maintenance screen.
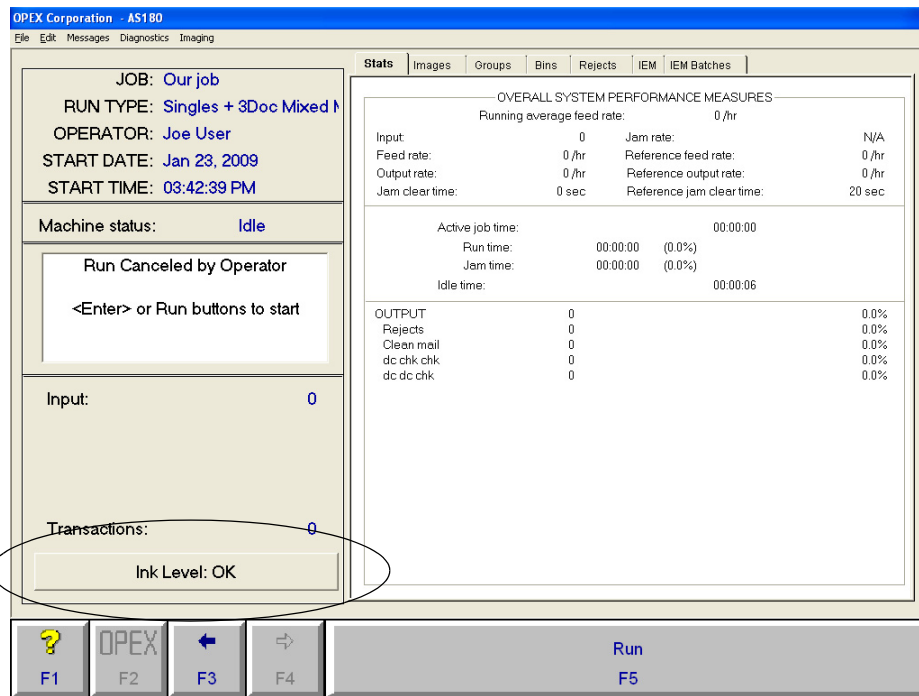
2 The Ink Cartridge maintenance screen will indicate the status of the installed printers and provide the option to replace cartridges, print a test pattern and

purge the printer(s) (see "Printing a test pattern" and "Purging the printers" on page 3-8).
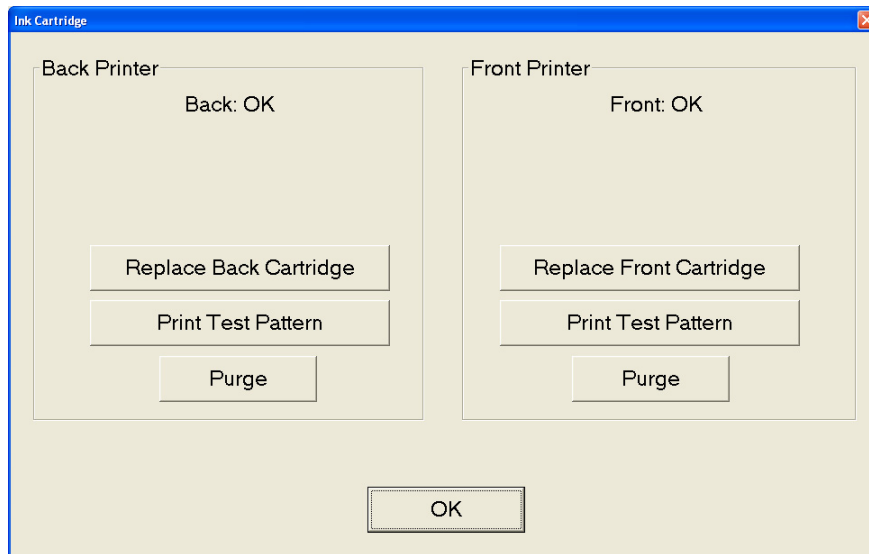
3 Turn the printer adjustment knob all the way to **CHG CTRG** (see "Adjusting the printer carriage height" on page 3-5).

4 Pull the tab on the printer cartridge and rotate the cartridge upward until it is free of the carriage.
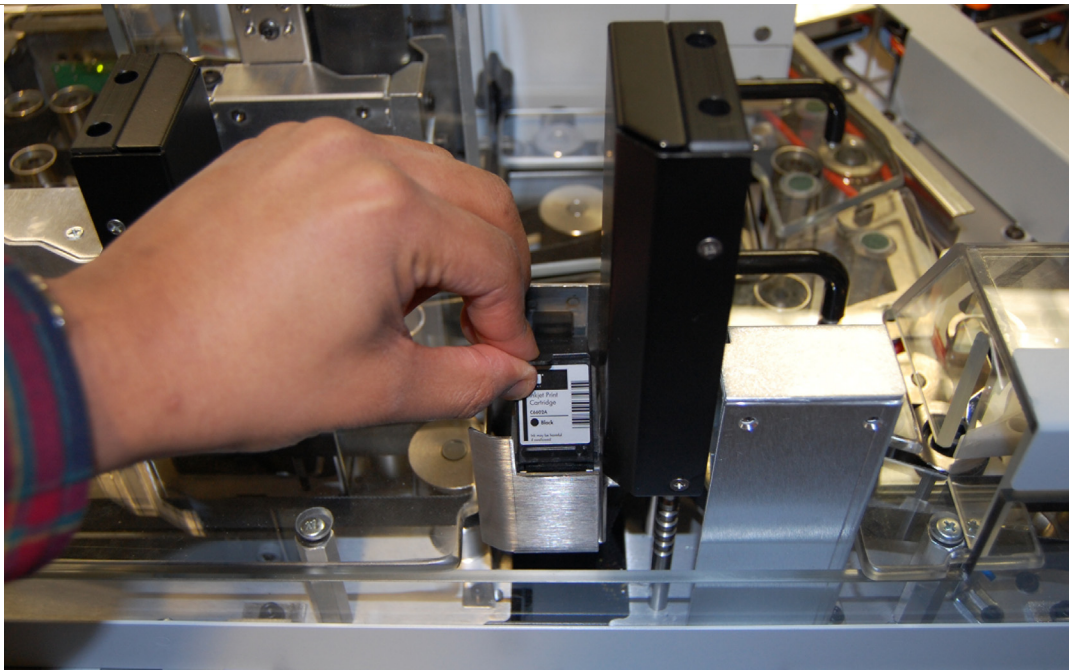
5 Insert the new cartridge by tipping the front (nozzle) end of the cartridge in first, and then pushing in the rear of the cartridge until it "clicks" into place.

6 Lower the carriage assembly to its previous position.

7 If installing a new cartridge, press the appropriate **Replaced Cartridge** button to reset the printer cartridge drop count.
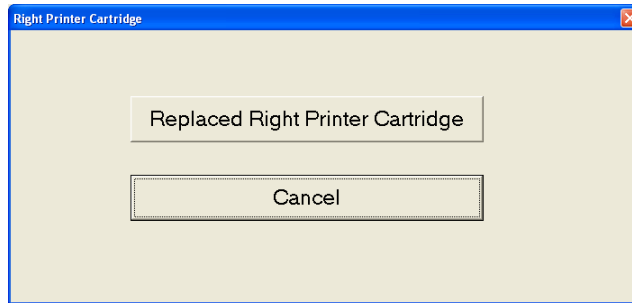
8 Press **Yes** when asked to reset the printer cartridge's drop count.
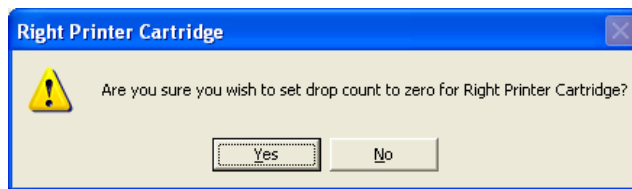
Printing a test pattern

1 Place a slip of paper in front of the nozzles

2 On the ink cartridge maintenance screen, press the **Print Test Pattern** button for the appropriate printer. A 1/8" vertical line should appear on the paper.

Purging the printers

Occasionally the printer nozzles may become clogged with dried ink, producing poor quality audit trails. If this is the case, try purging the printer to improve print quality.

To purge the printer, place a slip of paper in front of the nozzles and press the appropriate **Purge** button on the ink cartridge maintenance screen.

Cleaning the ink jet printer

It may be necessary to clean the printer cartridge if purging does not produce good results. In some cases, debris may accumulate on the electrical contacts, preventing the printer from firing. Inspect the cartridge and clean as required using OPEX cleaning swabs.

Calibrating the Touchscreen Monitor

The touchscreen monitor is calibrated for its touch sensitivity before it leaves OPEX. However, you may need to recalibrate, especially if it is in use for an extended period of time.

To calibrate the monitor:

1 Open the Windows Control Panel by clicking **Start** > **Settings** > **Control Panel**.

2 Double-click the **Elo Touchscreen** icon to open the Elo Properties screen.

3 Click **Align**.

4 Follow the instructions on the screen, using the monitor to touch the three targets.

  NOTE: Make sure you touch the monitor's surface. Do not use the mouse to perform this step, as you are calibrating the monitor to touch.

5 Check Video Alignment dialog box appears next. Touch around the screen, making sure the cursor follows where you touch.

6 If the test was successful, touch **Yes**.

7 If the test was not successful, you are prompted to repeat the test. Complete steps 3 through 6 again.

8 When finished, touch **OK** to close the Elo Touchscreen Properties window.

Appendix

Statistics

A

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Statistics

The AS180 statistics provide information on the jobs run on the system. This section provides information on how to create statistical reports and how to create backup files of machine statistics.
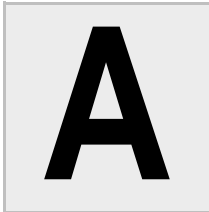
Creating statistical reports

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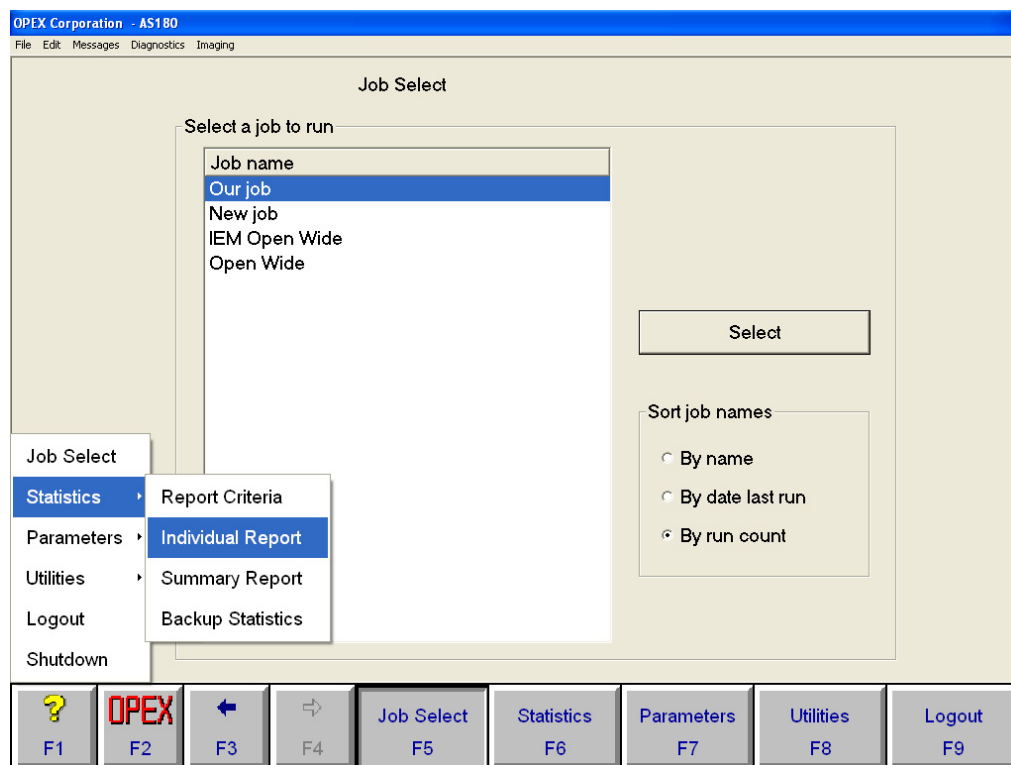
An individual report will be available after you have run any job. To create an individual report, select **OPEX** > **Statistics** > **Individual Report**. Individual reports detail one run at a time only.

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 "Creating a report" on page A-2 for more information.

Creating a report

1 Select **OPEX** > **Statistics** > **Report Criteria**. These are the items that will be included in your reports.
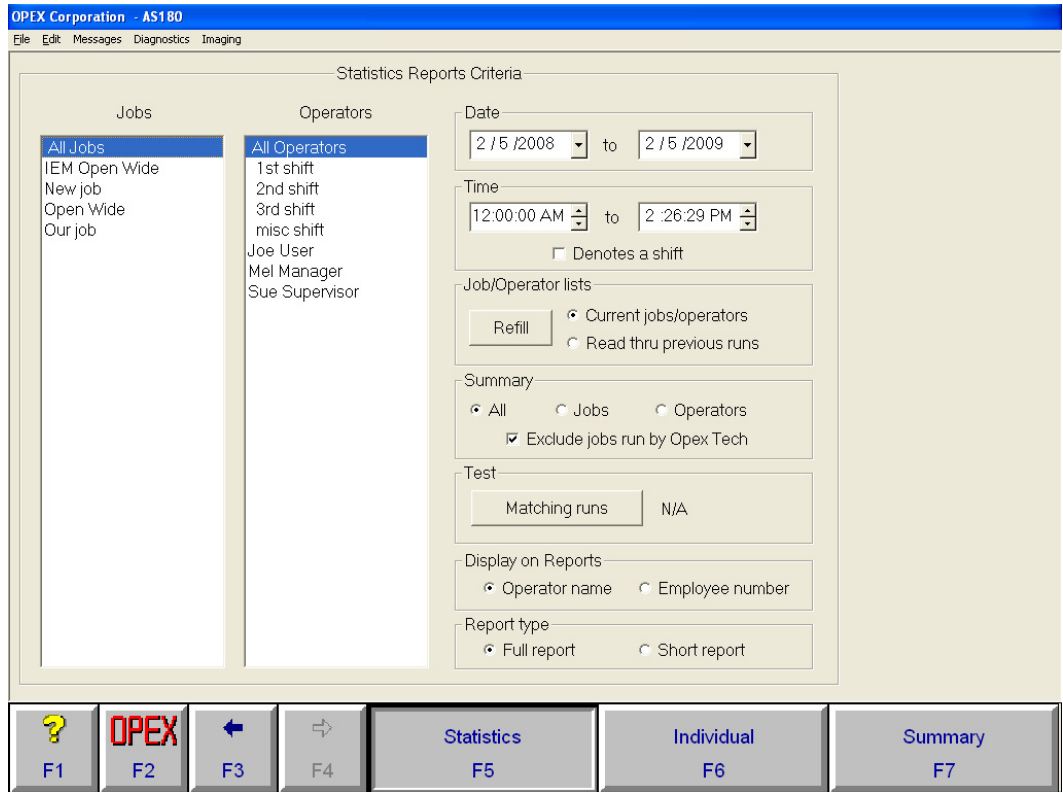
2 For a summary report, select which job(s) you want to include. Select **All Jobs** to include all the jobs run on this machine.
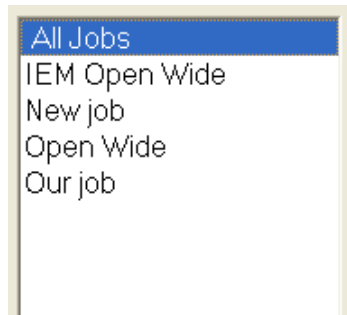
NOTE: Make sure **All Jobs** is selected if you are running an individual report. If **All Jobs** is not selected, there will only be individual reports available for the job(s) selected here.

3 In 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 following, then click **Refill**:

  - **Current jobs/operators** - To use the job names and operator names currently stored in the AS180 Host software.
  - **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 Select whether to display the employee's name or number on the report.

8 Choose to generate the **Full report** or an abbreviated version (**Short report**).

9 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.

Check the Exclude jobs run by Opex Tech check box to include operator statistics only. Uncheck the box for total system performance reports.

10 Click **Individual (F6)** or **Summary (F7)** to create the report.

Click the Previous and Next buttons to cycle through Individual reports (by run)

Click the Print button to print the current report to the report printer

Click Export to save the current report to a file on the machine's hard drive.

```
OPEX Corporation - AS180
File  Edit  Messages  Diagnostics  Imaging

   ≪ Previous        Next ≫           🖨 Print        📄 Export              Page 9 of 17

------------------------------------------------------------------
        OPEX AS180 Individual Report For Demo Room Serial Number X00003, V4.0.4

Job name:                Our job   Start time:      01/23/2009 03:42:39 PM
Run type:     Singles + 3Doc Mixed Mode
Operator:                Joe User  End time:        01/23/2009 04:07:31 PM
------------------------------------------------------------------
                   OVERALL SYSTEM PERFORMANCE MEASURES
Input:                   44         Jam rate:                   22 env/jam
Output:                  44 (100.0%)

Feed rate:                        171 /hr   Reference feed rate:        217 /hr
Output rate:                      171 /hr   Reference output rate:      217 /hr
Jam clear time:                   117 sec   Reference jam clear time:    20 sec
------------------------------------------------------------------
                      PERFORMANCE DETAILS
                          JOB TIME
            Active job time:                            00:15:24
                  Run time:            00:11:29   (74.6%)
                  Jam time:            00:03:55   (25.4%)
            Idle time:                                  00:09:28

                           OUTPUT
TRANSACTIONS                                          44   100.0%
         Rejects                            6    13.6%
         Clean mail                        27    61.4%
         dc chk chk                         8    18.2%
         dc dc chk                          3     6.8%

REJECTS
         Too much singulation               0     0.0%
         Skewed piece                       0     0.0%
         Unable to process content MICR data 0     0.0%
         Cannot orient check                0     0.0%
         No checks found                    1    16.7%
         Document double feed               0     0.0%
         Too little document feeder pitch   0     0.0%
         Too much document feeder pitch     0     0.0%
         No documents found                 1    16.7%
         Unable to process content image    0     0.0%
         Missing content image report       0     0.0%
         Cannot orient document             0     0.0%
         IEM MICR read error                0     0.0%
         IEM MICR partial read              0     0.0%
         Canadian check detected            0     0.0%
         Other foreign check detected       0     0.0%
         IEM OCR read error                 0     0.0%
         IEM OCR partial read               0     0.0%
         Unable to process IEM data         2    33.3%
         Missing IEM report                 0     0.0%
         Transaction gap too big            0     0.0%
         Electronic payment                 0     0.0%
         Did not match any group            0     0.0%
         Open IEM plug-in timed out         0     0.0%
         Open IEM reject                    0     0.0%
         Jamsorts                           2    33.3%

IEM READ RATES
         MICR read attempts                53
         Successful MICR reads             53   100.0%
         OCR read attempts                 47
         Successful OCR reads              44    93.6%


  ?        OPEX       ←        ⇨       Statistics      Individual      Summary
  F1        F2        F3       F4         F5              F6             F7
```

FIGURE 26: Sample individual report

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

Overall System Performance Measures

|	
Input	Number of transactions to enter the paper path.
Output	Transactions that have passed through the machine and sent to one of the stacker bins.
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 which of the run types was used for this particular run.
Feed Rate	Number of transactions per hour the AS180 is currently feeding. The formula for the Feed Rate is: $$\text{Feed Rate} = \frac{\text{Input} * 3600}{\text{Active Job Time}} \text{ (seconds per hour)}$$
Output Rate	Number of transactions per hour the AS180 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 AS180 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 machine 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 machine would achieve if the operator cleared jams within a certain period of time.

Performance Details

Active Job Time	Amount of time the AS180 was either actively running or halted due to a jam. Active Job Time 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.
Output	The Output section of the Performance Details lists the number of transactions that were processed by the machine. Keep in mind that in addition to clean mail and rejects, "Output" also includes jamsorts.

IEM Read Rates

MICR read attempts	Number of times the system detected MICR ink on a piece and attempted to read the characters magnetically.
Successful MICR reads	Number of times the system successfully read the MICR information on a piece.
OCR read attempts	Number of times the system attempted to read an OCR line on a piece.
Successful OCR reads	Number of times the system successfully read an OCR line on a piece.

Backup statistics

The AS180 Host software allows you to backup job statistics.
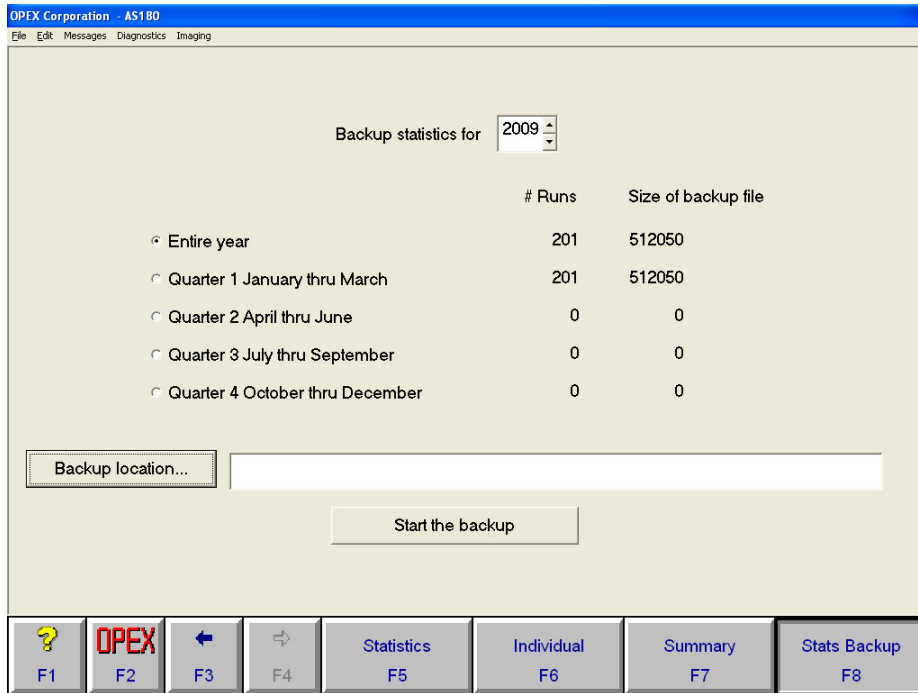
To backup job statistics:

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 the directory to save the statistics to, then click **OK**.

5 Click **Start the backup** to save the statistics file to the chosen directory.

Glossary

G

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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 machine. Software that interfaces with the INtime Controller to manage the system's non machine-related functions.

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.

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.

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.

Multi A transaction consisting of one or more stubs followed by one or more checks. Multis transactions can contain as many as six pieces.

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

Operator The person running the machine.

Single A transaction consisting of a document and a check.
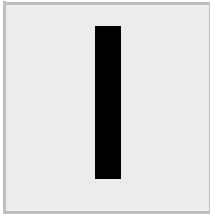
Skew Deviations from straight lines in scanned images.

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.

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