*User's Manual*

*A-61408*
*Part Number 693625*
*September 1995*

# KODAK IMAGELINK™ Scanner 500

BUSINESS IMAGING SYSTEMS

**Declaration of Conformance**

The *Kodak Imagelink*™ Scanner 500D (CAT No. 125 8755) and *Kodak Imagelink*™ Scanner 500S (CAT No. 111 7746) with the following accessories:

- Patch Reader 500
- Bar Code Reader 500
- Controller 500
- Document Printer 500
- Footswitch

Conforms with the following standards and bears a CE mark:

EN 55022 Klasse B/1987, EN 50082-1/1992 and EN 60950/1993 following the provisions of the applicable directives:

89/336/EEC and amendments
73/23/EEC and amendments

# Table of Contents

# 1 Introduction

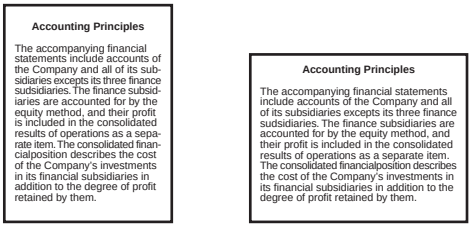
The *Kodak Imagelink*™ Scanner 500 is a high-speed, high-resolution rotary scanner designed for medium- to high-volume digital capture of documents. The Scanner 500 captures printed characters, handwritten text and graphics from documents of various sizes and thicknesses in an electronic format for indexing and database storage.

This manual explains how to setup, operate, maintain and troubleshoot the Scanner 500.

## Scanner Features

This section describes the basic features of the scanner, shows the basic scanner component locations and lists the Control Panel component operations.

### High Speed Scanning and Image Resolution




Portrait Landscape

- Scans 85 landscape-style or 60 portrait-style documents (8.5 x 11 inch or 216 x 279 mm) per minute at 200 dpi.
- Scans 42 landscape-style or 30 portrait-style documents (8.5 x 11 inch or 216 x 279 mm) per minute at 300 dpi.

### Manual or Automatic Feeding

- For manual feeding, documents can be hand-fed one at a time.
- For automatic feeding, documents can be stacked up to 1.5 inches (38 mm) or approximately 350 documents of 20-pound stock.

### Front and Rear Side Scanning

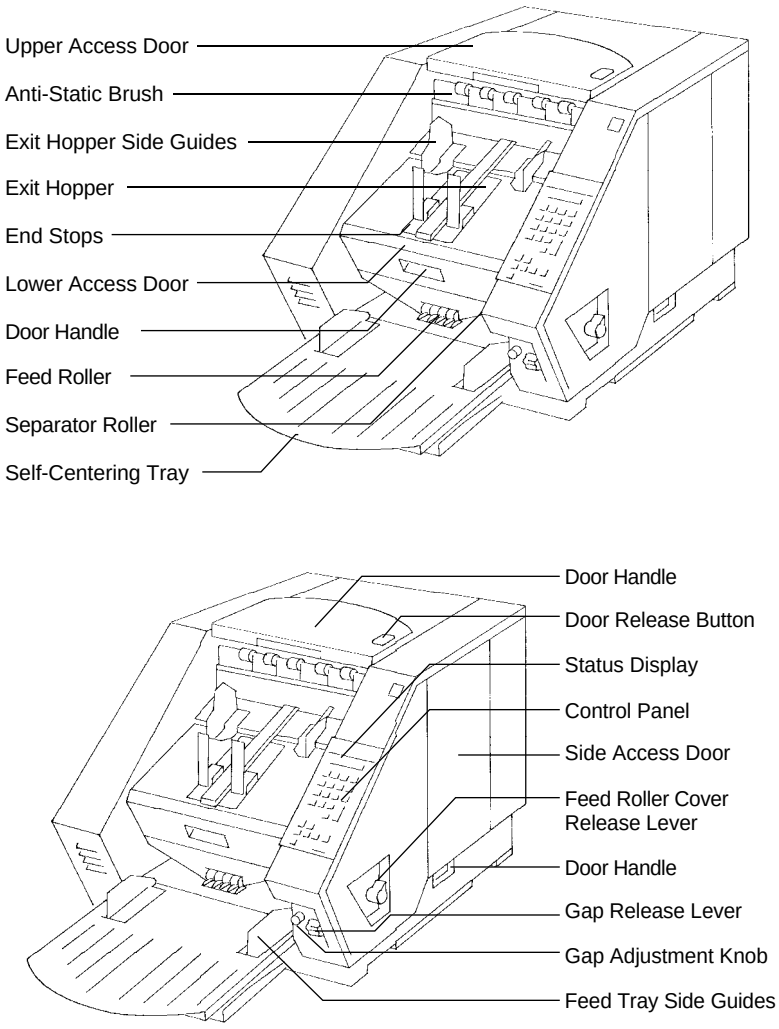
- Scans one or two sides of a document in a single pass.

### Easy to Operate

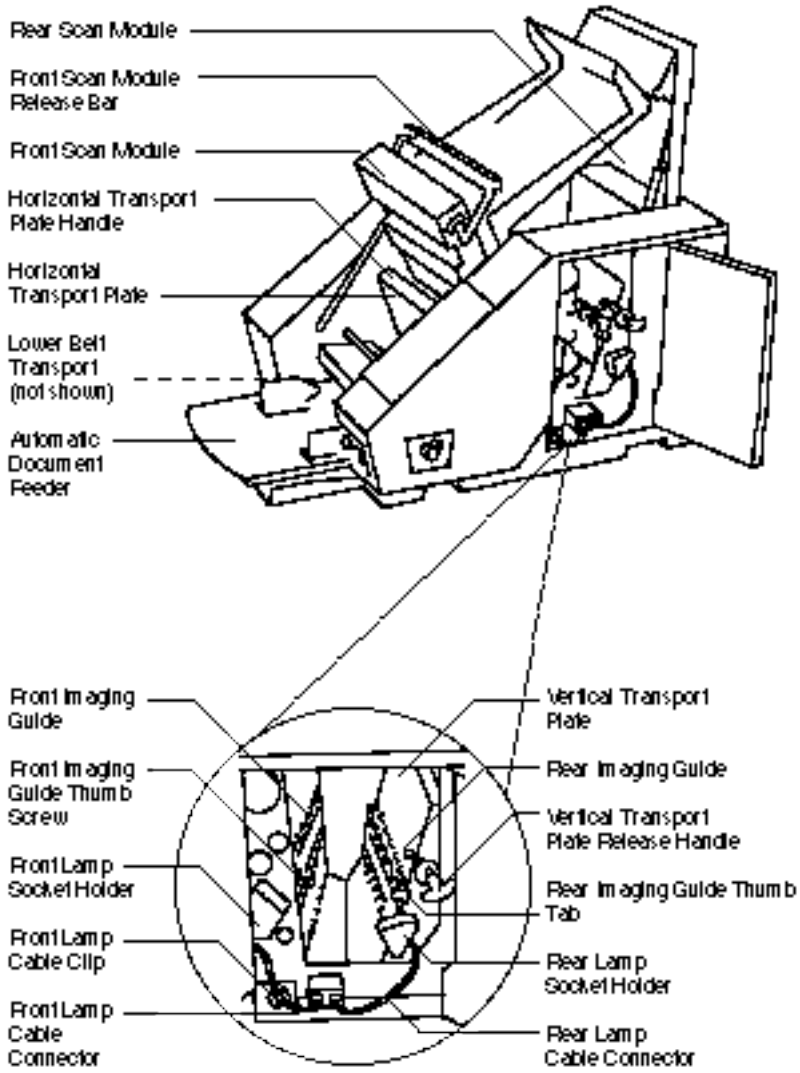
- Documents enter and exit the scanner in the same order.
- Document image addresses, current application modes, and error messages are displayed in the Status Display located on the Control Panel.

## Scanner Overview

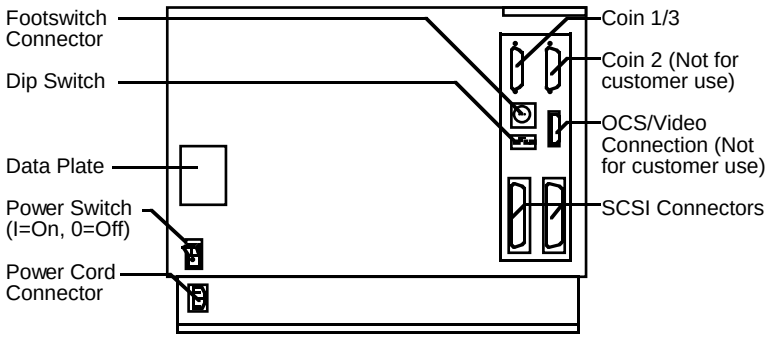
The scanner consists of a single tabletop unit with a Feed Shelf and Exit Hopper. Use the following illustrations and descriptions to locate and become familiar with the scanner components.




***Kodak Imagelink*™ Scanner 500 Front Views**




***Kodak Imagelink*™ Scanner 500 Side Views**




***Kodak Imagelink*™ Scanner 500 Back View**

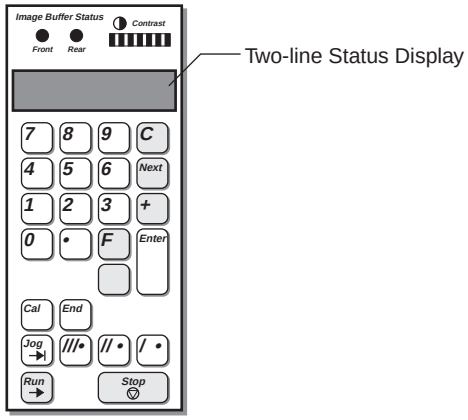
NOTE: For European units only:

**WARNING:** ***Between the Scanner 500 and the host computer / the other SCSI device, standard accessory SCSI cables with ferrite cores (TDK: HF70RH26X29X13) must be used for radio frequency interference suppression.***

***Between the Scanner 500 and the host computer / the other RS-232C device, standard accessory RS-232C cable with ferrite core (TDK: HF70RH12X15X7.3) must be used for radio frequency interference suppression.***

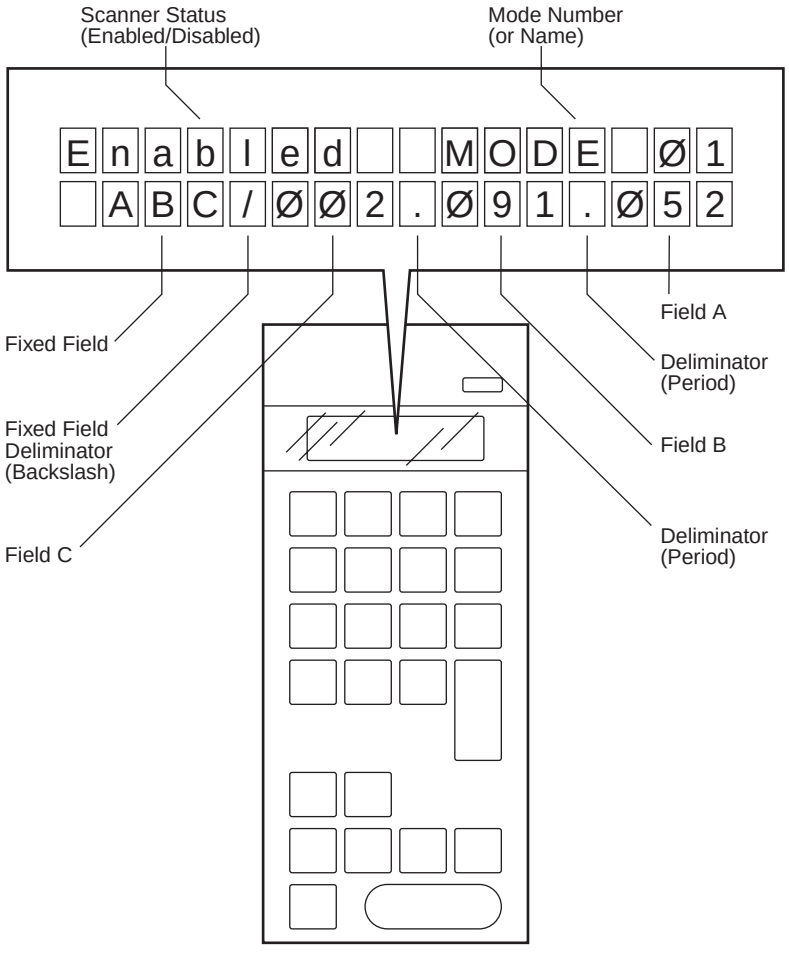
## Control Panel

The Control Panel consists of operation keys, operation indicators and the Status Display. Use the following illustration and descriptions to locate and become familiar with the Control Panel components.

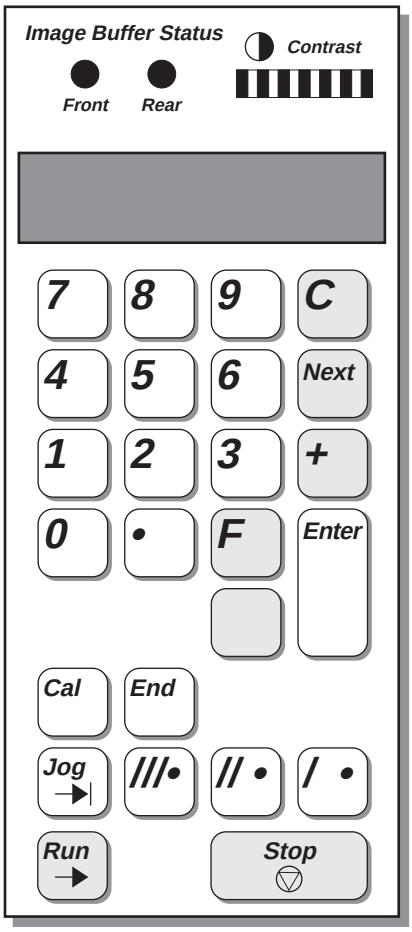



## Status Display

The Status Display indicates the Image Address, current Application Modes, and Error messages. Use the following illustration and descriptions to become familiar with the Status Display output.



## Operation Keys/Indicators




### Image Buffer Status LEDs

Front: Green indicates the buffer is available for scanning; red indicates the buffer is not available and the feeder is off (for simplex- and duplex-defined applications modes).

Rear: Same as *Front* (for duplex-defined applications modes only).

### Contrast Thumb Wheel

Used to adjust the display contrast between the characters and the background in the display.

### Numeric Keys (0–9)

Used with the Enter key to enter numeric data such as an Image Address or Function Code.

### Decimal Key

Used to insert a field separator in an Image Address. Also used to designate the front and/or rear document printer vertical start print position.

**F (Function) Key**

Used with numeric data and the Enter key to enter a function code.

**C (Clear, Cancel) Key**

Used to clear error messages from the display. Also used to cancel a function without changing the preset value(s).

**Next**

Allows operator to enter the next document Image Address.

**Plus (+) Key**

Used when inputting a new value for the Image Address. When pressed, it allows a field to remain unchanged.

**Enter**

Used to enter numeric data for a Function Code or an Image Address change.

**Back (Backspace)**

Used to move the cursor back one space during numeric data input; the last data input is erased.

**Cal**

Used to start the calibration function.

**End**

Used at the end of a batch or job to stop the feeder and transport system and to alert the host computer that the batch or job has ended. When pressed, the documents in the transport system will be scanned and stacked face down in the exit hopper before the transport is disabled.

**Jog**

Used to momentarily turn on (jog) the transport system.

**Level 3**

Used to identify the next document fed into the scanner as a Level 3 document. This key includes an internal LED that illuminates green when the next document image level to be assigned is Level 3.

**Level 2**

Used to identify the next document fed into the scanner as a Level 2 document. This key includes an internal LED that illuminates green when the next document image level to be assigned is Level 2.

### Level 1

Used to identify the next document fed into the scanner as a Level 1 document. This key includes an internal LED that illuminates green when the next document image level to be assigned is Level 1.

### Run

Used to turn on the feeder and transport system.

### Stop

Used to stop the feeder and transport system. Documents in the transport system, when the Stop key is pressed, will be scanned and placed in the exit hopper before the transport system stops.

### Confirmation Tone/Alarm (located under the Control Panel)

The confirmation tone/alarm sounds when one of the following conditions occur:

- Run key is pressed (one long tone).
- Stop or End key is pressed (many short tones followed by one long tone).
- Feeder clutch engages/disengages (one short tone).
- Incorrect key input (three short tones).
- Document skew is greater than allowed skew parameter, or when a document is shorter or longer than specified length parameters (one short tone).
- Footswitch is pressed (one short tone).
- Bar Code detected (if accessory is enabled and option is setup to alarm).
- Patch Code detected (if accessory is enabled and option is setup to alarm).

# 2 Getting Started

The *Kodak Imagelink* Scanner 500 is easy to set up and use. This section describes the power-up process, the calibration function, and the feeder, feeder shelf and exit hopper adjustments.

## Scanner Operation Overview

The following steps are recommended to prepare the scanner for operation.

1. Turn on the power to the scanner.
2. Calibrate the scanner.
3. Prepare the documents for scanning.
4. Adjust the gap between the feed roller and separator roller, the height of the feed shelf, the width of the feed shelf side guides, the height of the exit tray, the width of the exit tray side guides, and the length of the exit tray end stop.
5. Select the appropriate application mode and image level, or the count only function.
6. Start the scanner from the host computer.

NOTE: This step is not necessary for the Count Only function.

7. Press **Run**.
8. Feed the documents into the scanner.
9. Press **Stop** or **End**, depending on whether the batch or job has been completed.

NOTE: After pressing **Stop**, **Run** can be pressed again and more documents can be fed into the scanner. After pressing **End**, you must enable the scanner from the host computer before scanning again.

## Power-up Process

The following steps are required to power up the scanner:

1. Turn the power switch (located on the rear of the scanner) to the on (I) position.

NOTE: Several initialization messages will appear in the Status Display. If you cannot see any messages, try adjusting the contrast.

2. Send the SCAN command from the host computer to the scanner. The message *Enabled* will appear in the Status Display, as well as the current application mode number and the next image address. The scanner is ready for operation.

IMPORTANT: *Do not use the Operation keys located on the Control Panel until the "Warming Up Completed" message has been displayed in the Status Display. Entries made before this message is displayed will not be recognized by the scanner.*

## Calibrating the Scanner

You should calibrate the scanner:

- Once a day
- If image quality is poor
- After changing the lamps

NOTE: The Calibration function compensates for the varying intensity of the scanner lamps which contribute to the image quality of the scanned document.

Calibrate the scanner with a sheet of paper (calibration target) that is:

- Blank
- Clean
- Matte (non-glossy finish)
- White or the same color as the background color of the documents you are going to scan

NOTE: When you are using a duplex-defined application mode, make sure that both front and rear colors of the calibration target correspond with the front and rear colors of the documents to be scanned. If you are scanning a variety of colored documents, use a white sheet of paper to calibrate the scanner.

- Wider than the documents you are going to scan. To scan 8.5 x 11 inch (216 x 279 mm) documents, the calibration paper should be wider than 8.5 inches (216 mm).

  To scan 11 x 17 inch (280 x 432 mm) documents, the calibration paper should be wider than 11 inches (279 mm) but no wider than 12 inches (305 mm).
- Between 12 inch (305 mm) and 25.5-inch (648 mm) long.

NOTE: For your convenience, 12" x 12" calibration targets are supplied with the scanner and are also available from Parts Services. (Refer to the Appendices in this manual for ordering details.)

To calibrate the scanner:

1. Be sure the power switch is on, and initialization has completed.
2. Press the **Cal** key on the Control Panel. A message will appear in the Status Display prompting you to feed the calibration target.
3. Insert the calibration target into the feeder.
4. When the scanner calibration is successful, the Status Display will return to its normal operating display (either “Disabled” or “Enabled,” depending on the status of the scanner prior to calibration).

## Unsuccessful Calibration

If calibration fails, perform the following steps:

1. Verify that you are using a clean, matte (non-glossy), blank sheet of paper to calibrate the scanner.
2. Make sure that length of calibration target is ≥ 12".
3. Make sure no paper is in the document path. Refer to the section entitled, *Clearing the Document Path*.
4. Clean the imaging guides. Refer to the section entitled, *Cleaning the Imaging Guides*.
5. Calibrate the scanner again. If this calibration fails, change the lamps. Refer to the section entitled *Changing the Lamps*. Be sure to calibrate the scanner after changing lamps.

If calibration still fails, contact your local service representative.

## Adjusting the Feed Roller and Separator Roller

The Gap Adjustment Knob on the front panel increases or decreases the space between the feed roller and separator roller. The gap must be adjusted properly so that documents feed smoothly without overlapping. When documents of different thicknesses are fed in a group, adjust the gap using the thinnest document in the group.

The feed rollers might have to be adjusted to compensate for:

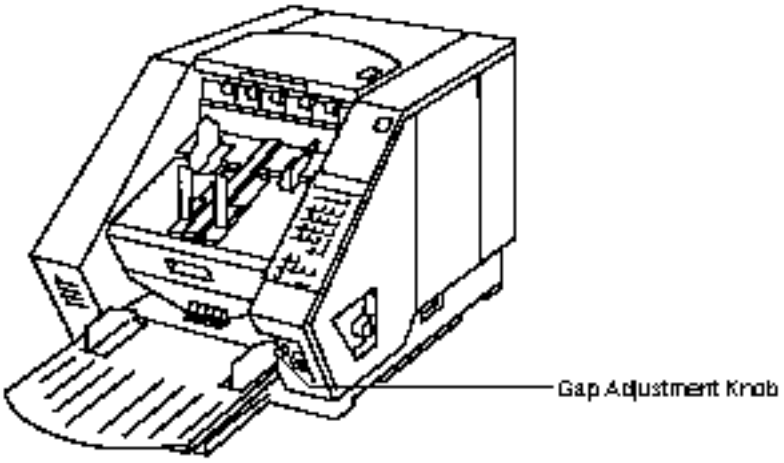
- Very thin documents (onion skin, tracing paper, etc.)
- Very thick documents (card stock, punch cards, cover stock)
- Some coated documents (photographic paper, plastic coated paper)

If the gap is not adjusted properly:

- More than one document at a time might be drawn into the transport; not all of the documents will be scanned.
- Documents may be drawn into the transport too quickly; documents may overlap or be spaced too closely (causing an error display).
- Documents may become skewed during transport; jamming may occur.

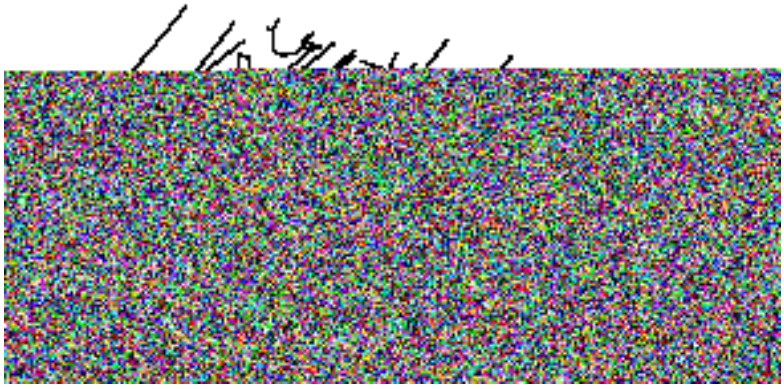
**To adjust the feed roller and separator roller gap:**

1. Check to see that the power switch is on.
2. Turn the Gap Adjustment Knob clockwise three complete turns to open the gap between the feed roller and the separator roller.




3. Use Function Code F04 to start the Count Only function.
4. Press **Run**.
5. Select two documents of similar size, texture, and thickness to the types of documents you will be scanning.

6. Place one document on top of the other, hold them firmly by their trailing edges (the edge opposite the side to be inserted into the scanner), and insert them approximately 1/8-inch (3 mm) into the gap.



7. If the documents do not separate, proceed to step 8. If the documents separate, remove the documents from the feeder and turn the Gap Adjustment Knob clockwise 1/2 turn and insert the documents again. Repeat this step until the documents do not separate. Proceed to step 8.
8. Rotate the Gap Adjustment Knob counterclockwise 1/4 turn.

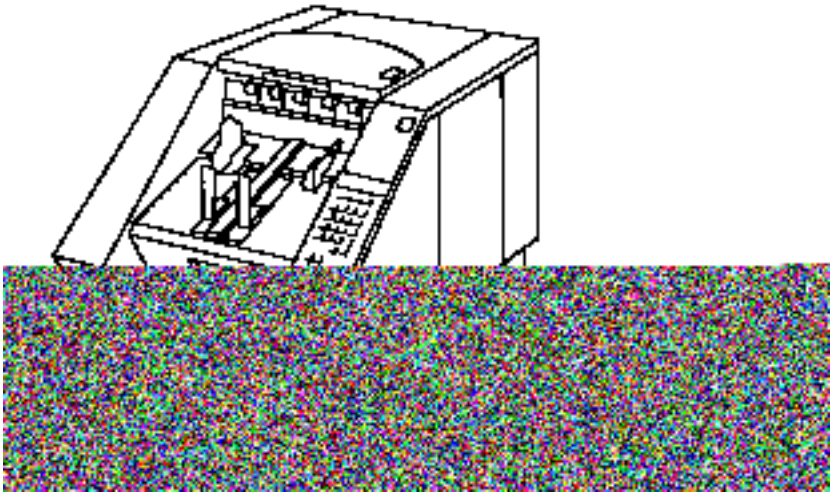
   IMPORTANT: *Do not adjust the gap while documents are in the feeder or transport systems; an inaccurate adjustment will result.*

9. Firmly hold the trailing edges of the documents and reinsert the leading edges into the gap.
10. If the bottom document is not separating from the top document, remove the documents from the feeder and repeat steps 7 and 8 until the bottom document separates from the top document.
11. When you have adjusted the gap so that the bottom document separates from the top document consistently, rotate the Gap Adjustment Knob counterclockwise another 3/4 to 1 turn to complete the adjustment.
12. Feed a stack of 50 or 100 documents through the scanner two times. Make sure the Count Only value on the status display reflects the total number of documents that were fed and that the Count Only value shows the same amount each time the documents are fed into the scanner. This shows that the gap is adjusted correctly.
13. Use Function Code F04 to turn off the Count Only function.

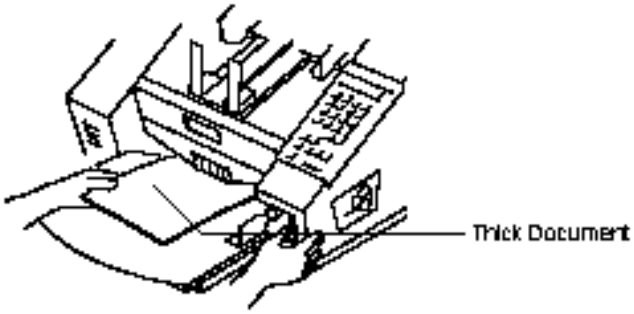
## Adjusting the Separator Roller to Scan Thick Documents

To scan very thick documents (card or cover stock), use the Gap Release Lever to increase the gap between the feed roller and separator roller to allow documents to be fed into the transport.

The Gap Release Lever is located on the front panel of the scanner to the right of the Gap Adjustment Knob.



1. Press down and hold the Gap Release Lever. This opens the gap between the feed and separator rollers and allows thick documents to pass between them.
2. Manually feed the thick documents while holding down the Gap Release Lever.

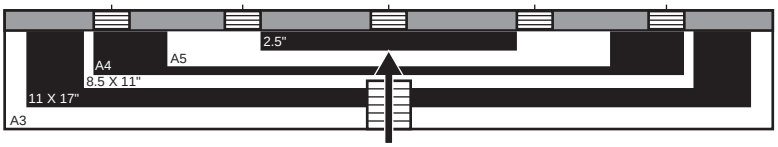


## Adjusting the Self-Centering Feed Shelf

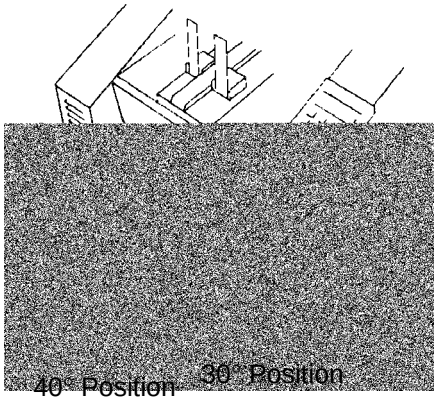
Before you begin scanning, adjust the width of the Feed Shelf Side Guides and the height of the Feed Shelf.

1. Adjust the width of the Feed Shelf Side Guides to hold the widest document you will be scanning. Leave approximately $^{1}/_{16}$-inch (2 mm) clearance on each side of the largest document to allow for proper feeding.

   NOTE: Ensure that documents are center-fed so that each document covers the 2 $^{1}/_{2}$ inch—required width as indicated by the label on the feed tray.




2. For manual feeding, the Feed Shelf can be in the 0°, 30°, or 40° position. For automatic feeding, raise the Feed Shelf to the 30° or 40° position.

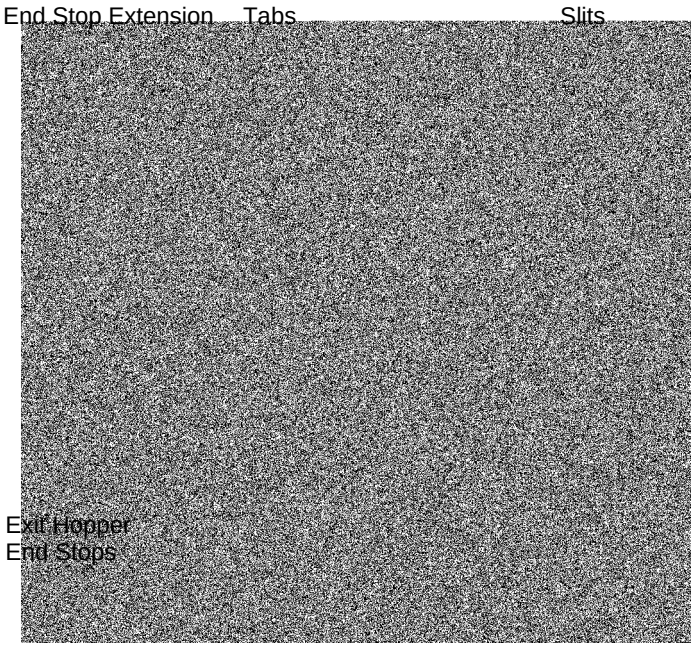


## Adjusting the Exit Hopper

The Exit Hopper must be adjusted properly so documents will stack correctly.

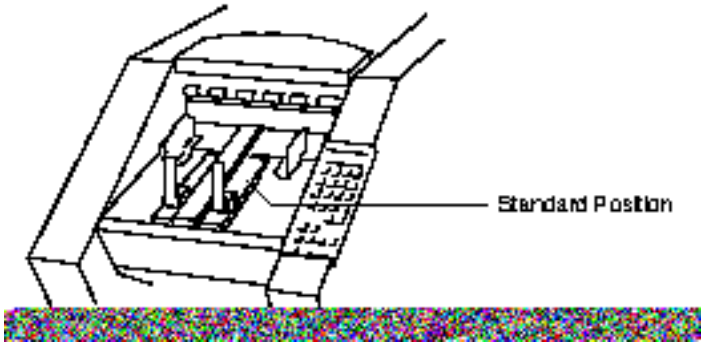
1. Adjust the width of the Exit Hopper Side Guides to hold the widest document you will be scanning. Leave 1/4-inch (5 mm) clearance on each side of the document.
2. Adjust the length of the Exit Hopper End Stop to hold the longest document you will be scanning.

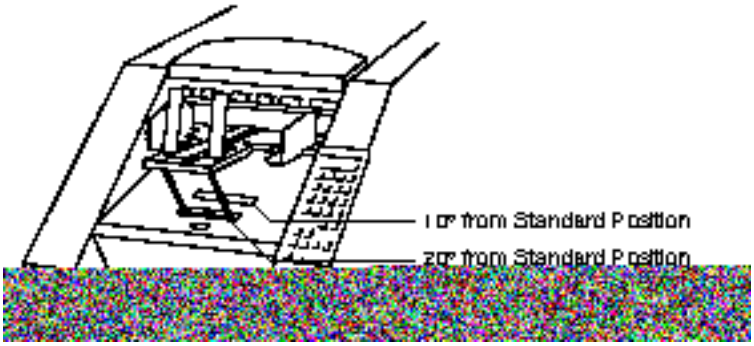
NOTE: An End Stop Extension is included to accommodate documents up to 17 inches in length. To attach the End Stop Extension, fold the spring-loaded Exit Hopper End Stops down and slide the extension's tabs into the slits just above the Exit Hopper End Stops. To remove the extension, slightly press the spring-loaded Exit Hopper End Stops and pull the extension out from the Exit Hopper.



3. Adjust the height of the Exit Hopper so the scanned documents naturally fall between the Exit Hopper Side Guides and the Exit Hopper End Stop. The Exit Hopper has three height positions: standard, 10° from standard, and 20° from standard.

   NOTE: The 20° position is specifically for A4 size, onion skin documents.



# 3 Operating the Scanner

This section describes the scanning process, application modes, image level settings and function key operation. Function Codes and their descriptions are also listed.

## Scanning Process

To scan documents, follow the steps below:

1. Prepare the scanner for operation (refer to Section 2).
2. Select the application mode.
3. Select the appropriate operating values and conditions required for the application on the host computer.
4. Press the **Run** key.
5. Feed the documents into the transport.

   The scanner assigns a sequential ID number, document image level, and image address to the electronic image.

   As the document is scanned, the sequential ID number, document image level, and the image address become part of the image header file associated with the electronic image; this information is transferred to the host computer.

NOTE: When a duplex-defined application mode is used, each document has a front and rear image, each having independent image headers. These image headers are stored in the front and rear image buffers, respectively.

The host computer initiates a transfer of the image header and electronic image information to a magnetic or optical disk media for fast and easy retrieval of the documents.

When finished scanning, the documents are deposited in the Exit Hopper face down in the same order in which they were fed.

6. Press **Stop** to disable the transport system after the last document has been scanned or press **End** to alert the host computer the batch or job has ended and to disable the transport system after scanning the last document.

NOTE: If **Stop** or **End** is pressed while scanning a stack of documents, the feeder will stop, but documents in the transport system will be scanned and deposited face down in the exit tray before the transport system is disabled.

## Function Codes

There are a number of functions available for use in the scanner which can be used to temporarily change scanner operating conditions and values, and to obtain system and accessory status and information. These functions are selected using the function keys on the Control Panel.

### Using Function Codes

To use the available functions:

1. Press the **F** key.
2. Press the numeric key(s) which correspond to the desired Function Code.
3. Press **Enter**.
4. If the Function Code is used to enable/disable an option (turn an option On/Off):
   - Press the numeric key 1 to turn the option On (enable) or press the numeric key 0 to turn the option Off (disable).
   - Press **Enter**.

   – or –

   If the Function Code requires numeric input:
   - Press numeric key(s) to enter the required value.
   - Press **Enter**.

NOTE: The **C** key can be used to cancel a function before **Enter** pressed in step 4.

## Function Code Summary

Listed below is a summary of each function code. Following this list, is a detailed description of each function code.

## Function Code Listing

### F01 Select Application Mode

Allows you to select one of the scanner's predefined application modes. Enter a value from 1–18.

### F02 Restore Application Mode

Allows you to restore the current application mode to its original user-defined preprogrammed status.

### F04 Count Only On/Off

Allows you to count the number of documents entering the scanner without scanning the documents. The Count Only counter will be reset to 0 when this function is selected and displayed in the Status Display. All accessories are inhibited when the Count Only function is selected.

### F05 Accessory Status

Displays the current statuses of the system's optional accessories (except Footswitch), software functions (Skew Monitor function and Length Monitor function), and confirmation tone selections.

The status of the first accessory/function is indicated in the Status Display; press **Enter** to display, one at a time, the status of the next and subsequent accessories and functions.

"On Via Fnc Code" and "Off Via Fnc Code' indicate the optional accessory, software function, or confirmation tone has been enabled or disabled with the appropriate function code. "Not Machine Set" indicates the optional accessory has not been software enabled for the scanner.

### F07 Level 0

Allows you to define the next document scanned a Level 0 document.

### F08 Last Image Address

Allows you to display the image address of the last document scanned.

### F09 Total Document Counter

Allows you to display the total number of documents that have entered the feeder as Level 3, Level 2, Level 1 and Level 0 documents. By entering 0, or any valid number, the Total Document Counter can be reset or preset. The Document Counter also resets to 0 when 999,999,999 is reached. Reset and preset will not affect the individual level counters.

### F10 Level 0 Counter

Allows you to display the total number of documents that have entered the feeder as Level 0 documents. The counter is automatically incremented whenever Level 0 is requested and scanned. By entering 0, or any valid number, the Level 0 Counter can be reset or preset. The counter also resets to 0 when 999,999,999 is reached, or when the Reset Level Counters function (Function Code 14) is performed. Reset and preset will not affect the Total Document Counter.

### F11 Level 1 Counter

Allows you to display the total number of documents that have entered the feeder as Level 1 documents. The counter is automatically incremented whenever Level 1 is requested and scanned. By entering 0, or any valid number, the Level 1 Counter can be reset or preset. The counter also resets to 0 when 999,999,999 is reached, or when the Reset Level Counters function (Function Code 14) is performed. Reset and preset will not affect the Total Document Counter.

### F12 Level 2 Counter

Allows you to display the total number of documents that have entered the feeder as Level 2 documents. The counter is automatically incremented whenever Level 2 is requested and scanned. By entering 0, or any valid number, the Level 2 Counter can be reset or preset. The counter also resets to 0 when 999,999,999 is reached, or when the Reset Level Counters function (Function Code 14) is performed. Reset and preset will not affect the Total Document Counter.

### F13 Level 3 Counter

Allows you to display the total number of documents that have entered the feeder as Level 3 documents. The counter is automatically incremented whenever Level 3 is requested and scanned. By entering 0, or any valid number, the Level 3 Counter can be reset or preset. The counter also resets to 0 when 999,999,999 is reached, or when the Reset Level Counters function (Function Code 14) is performed. Reset and preset will not affect the Total Document Counter.

### F14 Reset Level Counters

Allows you to reset the four level counters (Level Counters 0, 1, 2, 3) to 0. All previous level counter values will be lost and cannot be restored. The Reset Level Counters function will not affect the Total Document Counter.

### F17 Transport System Operation Time

Allows you to display elapsed time of operation of the transport system.

NOTE: This elapsed time is recorded in the scanner's software and will be reset if a ROM replacement is performed. Therefore, this software time display can vary from the elapsed time indicated in the transport system operation meter located inside the side access door.

### F19 Display Language

Allows you to choose your preferred language. Enter 1 for Japanese, 0 for English.

### F20 Measurement System

Allows you to choose the measurement system to be used. Enter 1 for inches, 0 for millimeters.

### F21 Set Time

Allows you to set the time on the Status Display. The format is HH:MM. HH equals the hour using the 24-hour clock. MM equals the minutes, valid entries are from 00 to 59.

NOTE: The HH:MM format is the default setting. However, one of various display formats can be selected at installation or upon request.

### F22 Set Date

Allows you to set the date on the Status Display. The format is YYYY/MM/DD. YYYY equals the four-digit year. MM equals the month; valid entries are from 01 to 12. DD equals the day; valid entries are from 01 to 31.

NOTE: The YYYY/MM/DD format is the default setting. However, one of various display formats can be selected at installation or upon request.

### F23 Display Date ant Time

Allows you to view the time and date in the Status Display in the selected display formats.

The following function codes can be used when the optional Document Printer Accessory is installed.

### F40 Front and Rear Document Printers On/Off*

Allows you to enable/disable the Front and Rear Document Printers.

Enter 1 to enable or 0 to disable.

### F41 Front Document Printer On/Off*

Allows you to enable/disable the Front Document.
Enter 1 to enable or 0 to disable.

### F42 Rear Document Printer On/Off*

Allows you to enable/disable the Rear Document Printer.
Enter 1 to enable or 0 to disable.

### F44 Omit Printing on Next Document On/Off*

Allows you to specify that no information be printed on the next document scanned. Normal printing resumes with subsequent documents. Enter 1 to enable or 0 to disable.

### F45 Print Test*

Allows you to test for print position, print quality and print message contents. The Document Printer(s) can be tested on any number of documents until you press **Stop**.

### F46 Front Document Printer Vertical Start Print Position*

Allows you to specify how far printed information will appear vertically from the leading edge of the documents. Use the numeric keys to input values between 0.125 and 20 inches (3 to 508 mm) in increments of 0.125 inches (3 mm).

NOTE: The value will correspond to the selected measurement system. The value should not exceed the document length. The horizontal start print position is changed manually.

### F47 Rear Document Printer Vertical Start Print Position*

Allows you to specify how far printed information will appear vertically from the leading edge of the documents. Use the numeric keys to input values between 0.125 and 20 inches (3 to 508 mm) in increments of 0.125 inches (3 mm).

NOTE: The value will correspond to the selected measurement system. The value should not exceed the document length. The horizontal start print position is changed manually.

### F48 Purge Print Heads*

Allows you to purge and clean slightly hardened ink from each Document Printer's print head(s). Feed a single blank document after the Feeder Clutch engages.

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* The Document Printer is an optional accessory.

### F50 Patch Reader On/Off*

Allows you to enable/disable the Patch Reader. Enter 1 to enable or 0 to disable.

### F53 Patch Reader Confirmation Tone On/Off*

Allows you to enable/disable the confirmation tone that informs you if the Patch Reader has successfully read a patched document. Enter 1 to enable or 0 to disable.

### F54 Omit Patch Reading on Next Document On/Off*

Allows you to inhibit patch reading on the next document scanned. Normal patch reading resumes with subsequent documents. Enter 1 to enable or 0 to disable.

### F55 Patch Test*

Allows you to test for patch position and patch quality. The test result will indicate: T-Patch, 2-Patch, 3-Patch, or Patch Not Read.

### F60 Bar Code Reader On/Off†

Allows you to enable/disable the Bar Code Reader. Enter 1 to enable or 0 to disable.

### F63 Bar Code Reader Confirmation Tone On/Off†

Allows you to enable/disable the confirmation tone that informs you if the Bar Code Reader has successfully read a bar code document. Enter 1 to enable or 0 to disable.

### F64 Omit Bar Code Reading on Next Document On/Off†

Allows you to inhibit bar code reading on the next document scanned. Normal bar code reading resumes with subsequent documents.

### F65 Bar Code Test†

Allows you to test for bar code position, bar code quality and bar code read rate.

### F70 Length Monitor On/Off

Allows you to enable/disable the length monitor which monitors the length of the document(s) scanned against predefined minimum/maximum allowable lengths. Messages and/or confirmation tones indicate if the document is shorter/longer than the predefined minimum/maximum.

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* The Patch Reader is an accessory.
† The Bar Code Reader is an accessory.

### F71 Omit Length Monitor on Next Document On/Off

Allows you to inhibit the length monitor on the next document scanned. Normal length monitoring resumes with subsequent documents. Enter 1 to enable or 0 to disable.

### F72 Skew Monitor On/Off

Allows you to enable/disable the Skew Monitor which monitors for an unacceptable skew. The degree of an unacceptable skew is preprogrammed at installation. It can be either 5° or 10°.

Messages and/or confirmation tones indicate if the document is shorter/longer than the predefined minimum/maximum.

### F73 Latch Flag On/Off

Allows you to enable/disable the Latch Flag function. When enabled, the Latch Flag function activates the Latch Flag bit in the image header of documents entering the feeder to indicate the scanned documents are of special interest. Enter 1 to enable or 0 to disable.

### F74 Momentary Flag On/Off

Allows you to enable/disable the Momentary Flag function. When enabled, the Momentary Flag function activates the Momentary Flag bit in the image header of documents entering the feeder to indicate the scanned documents are of special interest. Enter 1 to enable or 0 to disable.

NOTE: The Momentary Flag will automatically disable after a single document has been fed.

### F75 Footswitch Confirmation Tone On/Off‡

Allows you to enable/disable the Confirmation Tone which is issued whenever the footswitch is pressed and/or released. Enter 1 to enable or 0 to disable.

‡ The Footswitch is an accessory.

## Setting Image Levels

Image levels are document management tools used to identify specific types of documents or sets of documents for later indexing and retrieval. The image level assigned to each document is inserted into the image header associated with the document image. This information is later used to index and retrieve the scanned image.

There are four document image levels: 3, 2, 1, and 0. There are three ways to set levels 3, 2, and 1, and two ways to set level 0:

- The operator can press a document Image Level key on the Control Panel to assign level 3, level 2, or level 1.
- The operator can use the F key and function code F07 to assign level 0.
- The operator can use the optional *Kodak Imagelink* Footswitch Accessory to assign levels 3, 2, 1, or 0.
- The operator can use the optional Patch Reader to set levels 3, 2, or 1.

## Setting Application Modes

Eighteen application modes are available for use with the scanner. These application modes can be defined by the user and selected when a specific combination of functions, scanning conditions and values are required.

These conditions and values include Display Language, Measurement Format, Index Format, Image Address Rules, Level Rules, Accessory Status (enabled/disabled), etc. This data is saved in the scanner until changed by a Kodak representative.

All eighteen application modes contain default values for general applications, but at installation or upon request, a Kodak representative can be called to program the scanner for specific applications. To access a specific application mode, utilize the Select Application Mode function and enter the corresponding application mode number (1-18) via the numeric keys and press **Enter**.

NOTE: In addition to these user-defined conditions and values, the image processing parameters from the host computer's image processing parameter list, such as cropping, noise filter, compression, resolution, and simplex/duplex are also included in the application modes. The scanner contains default image processing parameters for general applications. For specific applications the image processing parameters must be independently set at the host computer for each of the application modes.

## Preparing Documents

To prepare documents for scanning:

1. Remove any staples, rubber bands, loose mending tape, or paper clips from the documents.
2. Straighten any badly wrinkled edges.
3. Tape torn documents.

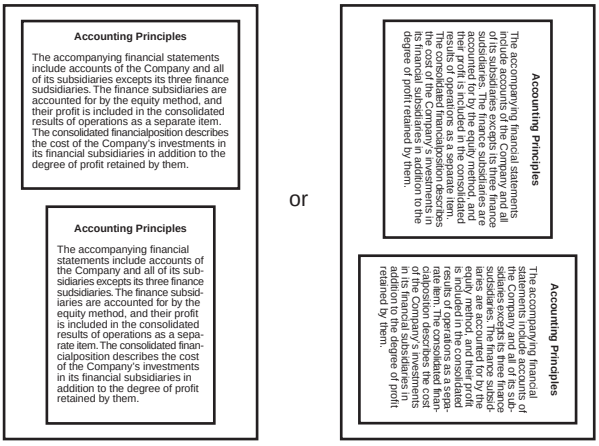
## Document Sizes

The following size documents can be scanned using the *Kodak Imagelink* Scanner 500:

- Length: 2.5 to 17 inches (64 to 432 mm)
- Width: 2.5 to 12 inches (64 to 305 mm)
- Minimum document thickness:
  Onion Skin (0.0015 inch/0.04 mm)
- Maximum document thickness:
  – Index Card (0.014 inch/0.36 mm)
  – Index Card (0.040 inch/1.00 mm) (with gap release lever held down)

## Document Orientation

Before you start scanning, position all documents the way you would like them to be displayed on the host computer. You should feed the documents so that the text or graphic appears to be facing in the same direction.




NOTE: The Document Feed Shelf can accommodate a single document or a batch of documents up to 1.5 inches (38 mm) thick.

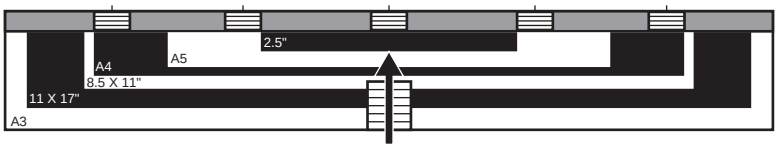
## Scanning Documents

After you have prepared the scanner and your documents, you are ready to begin scanning.

### Automatic Feed Method

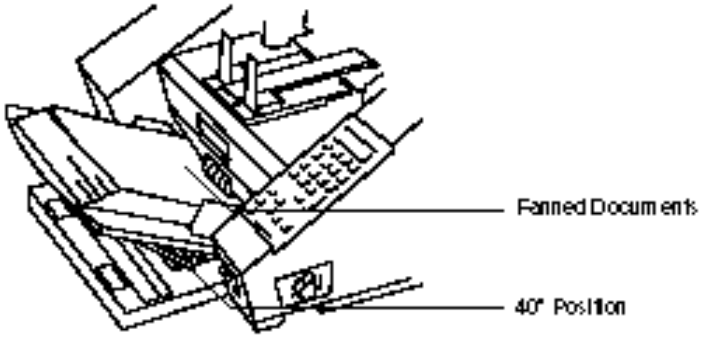
1. Make sure you select the correct scanning operation conditions and values.
2. Place the feed shelf in the up position.
3. Pick up a stack of documents up to 1.5 inches (38 mm) thick. Hold the stack with the front sides facing up and the top of the documents facing toward the scanner. Tap the bottom edge of the stack against a flat surface so the documents are in an even bundle.
4. Fan the stack of documents so the leading edge of the top document sticks out the farthest.
5. Make sure the power switch is on, then press **Run**.
6. Place the stack of documents into the feeder so the leading edge of the first document meets the feed roller. Each document will be drawn into the feeder, scanned, and deposited face down in the exit hopper in the same order it entered the feeder.

NOTE: Ensure the documents are center-fed so each document covers the 2.5-inch required width as indicated by the label on the feed tray.




**Feed Tray Label**

NOTE: The scanner is designed so each document automatically gravitates into the feeder. Depending on the friction between the documents, the automatic flow of the documents into the feeder may be inhibited. If the document flow is inhibited, gently push the top document towards the feeder to re-establish automatic feeding.



7. As you scan documents:
   – Set the image level, as required.
   – Periodically remove documents from the exit hopper.

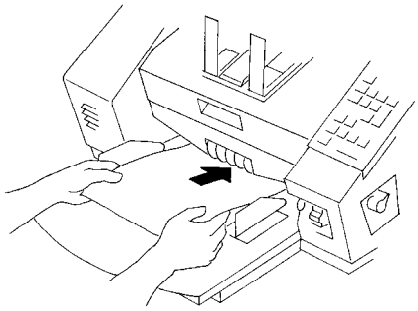
NOTE: When the image buffer is full, the feeder will turn off, the image buffer status LED illumination color will change to red, and a short pause in scanning may occur as images are being transferred to the host computer. The feeder will turn on, the image buffer status LED illumination color will change back to green, and scanning will resume automatically.

8. Press **Stop** to disable the transport system after the last document has been scanned or press **End** to alert the host computer the batch or job has ended and to disable the transport system after the last document has been scanned.

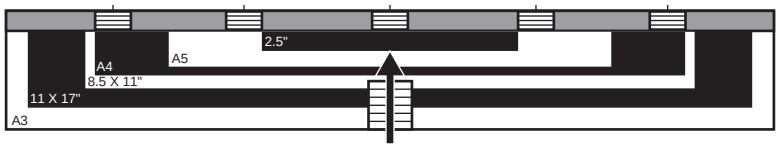
NOTE: If the **Stop** or **End** key is pressed while scanning a stack of documents, the feeder will disable, but documents in the transport system will be scanned and deposited face down in the exit tray before the transport system is disabled.

## Manual Feed Method

1. Make sure you select the correct scanning operation conditions and values.
2. Place the feed shelf in the up or down position—whatever is most convenient.
3. Insert the documents one at a time.



NOTE: Ensure the documents are center-fed so each document covers the 2.5-inch required width as indicated by the label on the feed tray.




**Feed Tray Label**

# 4 Error Messages

Error messages are classified into types of errors depending on the method of recovery from the error. There are three types of errors: Operator Information and Warnings, Operator Recoverable Errors or Service Errors.

NOTE: When a + (Plus) mark is displayed between the error code number and the error message, it indicates that more than one error message has been generated. Press the + (Plus) key to view the accompanying error message(s).

## User Actions

**Error Numbers 100 through 199**
**Operator Information And Warnings errors.**

When you see an Operator Information and Warning error, you may be required to verify, or reenter data.

If you cannot solve the problem, call the system administrator. If the error message persists, the system administrator will call service personnel.

**Error Numbers 200 through 299**
**Operator Recoverable Errors**

When you see a Operator Recoverable Error, perform the action specified by the error message and error code listing.

If you cannot solve the problem, call the system administrator. If the error message persists, the system administrator will call service personnel.

**Error Numbers 600 through 999**
**Service Errors**

When you see a Service Error, contact the system administrator immediately. Initial error recovery may be performed by the system administrator. If the error message persists, the system administrator will call service personnel.

NOTE: When an error message is displayed, various keys on the Control Panel may be temporarily invalid for safety reasons. However, the **Jog** key is available at most times so the documents in the transport system can be removed.

## System Administrator Actions

The system administrator is required to assist the operator when the E100–299 series error messages and error code listings indicate that host control is required.

Also, the system administrator is required to perform the actions suggested by the accompanying error message(s) when the E600-999 error messages are displayed. Remember to utilize the **+** (Plus) key to display the accompanying error message(s).

Listed below are the accompanying error messages that may be displayed with the E600-999 error messages:

- When the accompanying error message reads “E234 Press JOG To Remove Docs,” press the **Jog** key until all documents in the transport system are deposited in the exit hopper. Then perform the controlled power-down sequence.
- When the accompanying error message reads “E235 Controlled Power-Down Reqrd,” perform the controlled power-down as described in the section entitled, *Controlled Power-down Sequence*.
- When the accompanying error message reads “E298 Calibration Required,” perform the controlled power-down sequence. Then press the **Cal** key to perform the calibration process.

Furthermore, the system administrator is required to contact a service representative when:

- the initial error recovery has been performed but the error message persists
- the initial error recovery has no effect on the error message
- an indicated accessory must be replaced

## Controlled Power-down Sequence

Before performing the controlled power-down sequence, determine whether or not the error can be addressed from the host.

If the error can be addressed from the host, perform the required host recovery procedures. If the error cannot be addressed from the host, or if the scanner’s error message is not cleared when the host recovery procedures are performed, continue with the following power-down sequence:

1. Verify all images in the image buffer(s) are transferred to the host.
2. If necessary, prepare the host and corresponding system components for a scanner power-down.
3. Turn the scanner power off for at least five seconds, then turn the power back on again.
4. If necessary, determine the last image transferred to the host, reset the Image Address and Image Level to the correct values, and re-scan all documents whose images have not been transferred to the host. If required, calibrate before re-scanning.
5. If the error message persists, call service.

## Message Listings

When error codes are displayed, in most cases, you will need to press the **C** key to clear the message. Then proceed with any additional procedures as indicated in the Action column of the following chart. If the error persists, contact your system administrator.

| Error Code | | Description | Action |
|---|---|---|---|
| E102 | Press STOP<br>And Try Again | Tried to use a function code that is not valid while the transport system is running. | After pressing **C**, press **Stop** to stop the transport, then input the desired code. |
| E103 | Select<br>Valid Mode (1-18) | Tried to use an invalid application mode. | After pressing **C**, enter function code F01 and a valid application mode number (1-18) to select another mode. |
| E104 | Function<br>Not Available | Tried to use an invalid function code. | After pressing **C**, press **F** and input a valid function code. If this message is displayed during scanning, the message can be ignored. It will be cleared at the end of scanning when the **Stop** or **End** key is pressed. |
| E106 | Doc Length<br>Monitor Warning | Tried to scan a document which is longer/shorter than the maximum/minimum length which has been set for the current application mode. | After pressing **C**, check the document length. If longer than actual, change settings otherwise rescan. |
| E107 | Doc Skew<br>Monitor Warning | Tried to scan a document which is skewed greater than the maximum skew angle which has been set for the current application mode and less than 30 degrees. | Note the document that was skewed and press C to clear the message. Check self-centering feed tray. |
| E112 | Invalid<br>Patch Level | Tried to feed a patch document that is invalid for the current application mode. The patch document is ignored and the previous image level and image address remain unchanged. | After pressing **C,** feed correct patch. |
| E113 | Incorrect<br>Image Address | Tried to use an invalid image address for the current application mode. The image address was not completely input prior to pressing **Enter.** | After pressing **C**, press **Next** to input the correct image address. |
| E114 | Check<br>Current IA/Level | The operator pressed the **Level** key and then fed a T-Patch document. The Level key input is ignored and the level defined by the T-Patch of the current application mode is assigned to the next document. | After pressing **C**, verify the current image level and image address. |
| E116 | Accessory<br>Not Mode Enabled | Tried to use an accessory that has not been enabled. | After pressing **C**, press **F** and enter a different function code or select a application mode that is enabled. If the selected accessory is desired, service must be called to change the mode configuration. |

| Error Code | | Description | Action |
|---|---|---|---|
| E118 | Check<br>Correct IA/Level | The operator pressed the **Next** key, input a new image address and fed a patch document that conflicts with the image level of the **Next** key input. The image address defined by the **Next** key will be assigned to the next document and the patch level will be ignored. | After pressing **C**, verify the current image level and image address. |
| E119 | Check<br>Correct IA/Level | A T-Patch document has been fed and then the Next key was pressed to input a new image address. The image address of the T-Patch is ignored and the Next key input is assigned to the next document. | After pressing **C,** verify the current image level and image address. |
| E127 | Wait<br>Image Buffr Full | The image buffer has become too full. The feeder stops feeding documents but the documents in the transport system continue to be scanned. When the image buffer empties, the message will clear and scanning automatically continues. | Wait for the error message to clear and the feeder to automatically continue scanning. If the feeder does not automatically start, it is possible the host is not reading the images from the image buffer. If this happens, contact your system administrator. |
| E128 | Doc Interval<br>Too Narrow | The document interval has become too narrow. If not corrected may lead to false document jams or incorrect scanning and image addressing. | Adjust the gap adjustment knob to widen the document interval. See *Adjusting the Feed Roller and Separator Roller* section in this manual. Press **C** to clear the message. |
| E132 | Printer<br>Not Machine Enabled | Tried to use a Document Printer function code (F40-49) but the Document Printer accessory is not enabled. | Press **C** to clear the error condition. If the printer accessory is desired, service must be called to change the mode configuration. |
| E133 | Bar Code<br>Not Machine Enabled | Tried to use a Bar Code Reader function code (F60-65) but the Bar Code Reader accessory is not enabled. | Press **C** to clear the error condition. If the bar code reader accessory is desired, service must be called to change the mode configuration. |
| E134 | Patch<br>Not Machine Enabled | Tried to use a Patch Reader function code (F50-55) but the Patch Reader accessory is not enabled. | Press **C** to clear the error condition. If the patch code accessory is desired, service must be called to change the mode configuration. |
| E135 | Printer<br>Hardware Error | Tried to use a Document Printer function code (40-49) after the following two events occurred:<br>• The message E207 Printer Hardware Error was displayed at power on and<br>• The C key was used to clear the message (but the error status was not cleared. | Press **C** to clear the error condition. |

| Error Code | | Description | Action |
|---|---|---|---|
| E136 | Bar Code<br>Hardware Error | Tried to use a Bar Code Reader function code (60-65) after the following two events occurred:<br>• The message E208 Bar Code Hardware Error or E640-645 Bar Code Health Check Err was displayed at power on, and<br>• The C key was used to clear the message (but the error status was not cleared. | Press **C** to clear the error condition. |
| E137 | Footswitch<br>Not Machine Set | Tried to use footswitch function code but the footswitch accessory is not enabled. | Press **C** to clear the error condition. If the footswitch accessory is desired, service must be called to change the mode configuration. |
| E138 | Accessory<br>Off Via Fnc Code | Tried to use an accessory that is enabled for the current application mode during mode configuration, but the accessory is presently disabled via a function code. | After pressing **C, press** F and enter the function code that enables the desired accessory. |
| E139 | ConfirmTone<br>Not Mach Enabled | Tried to use a Confirmation Tone function code (F53, F63, F75) but Confirmation Tone is not enabled. | Press **C** to clear error condition. If Confirmation Tone is required, contact your system administrator. |
| E150 | Buffer Data<br>Transfer To Host | Tried to change function codes via function code F02. This function cannot be performed because scanned images still remain in the image buffer. | After pressing **C** enter F02 again. If all images have not been read by the host, the error message will be displayed again. If this cycle continues, contact your system administrator. |
| E151 | Buffer Data<br>Transfer To Host | Tried to use the bar code test via function code F65. This function cannot be performed because scanned images still remain in the image buffer. | After pressing **C** enter F65 again. If all images have not been read by the host, the error message will be displayed again. If this cycle continues, contact your system administrator. |
| E152 | Scanning<br>Try Again | Tried to enter a function code while scanning. | Press the **STOP/END** key to stop scanning. |
| E204 | Re-Scan<br>Skew Monitor Err | Tried to scan a document that is skewed greater than the maximum skew angle which has been set for the current application mode and less than 30 degrees. | Note the document that was skewed and press C to clear the message. |
| E205 | IA Overflow<br>Press Next Key | One of the three image address fields has been overflowed. For example, if the level 1 field is set to two digits, up to 99 level 1 documents may be scanned, the 100th document will cause an overflow. | After pressing **C**, press the **Next** key or one of the three Level keys to change the image address or image level so the corresponding field does not overflow. |
| E207 | Printer<br>Hardware Error | At power on, a hardware error has been detected in the Document Printer. The E236 Turn Off Accessory message is also displayed. | Press **C** to clear the error condition and contact System Administrator to disable printer. |
| E208 | Bar Code<br>Hardware Error | At power on, a hardware error has been detected in the Bar Code Reader. The E236 Turn Off Accessory message is also displayed. | Press **C** to clear the error condition and contact System Administrator to disable printer. |

| Error Code | | Description | Action |
|---|---|---|---|
| E209 | Bar Code DataOverflow | The Bar Code Reader detected more than the maximum 80 characters. The documents deposited in the exit hopper must be rescanned after the error has been corrected. | After pressing **C**, verify the bar code has more than 80 characters. Disable the Bar Code Reader (F64) and rescan the document. |
| E214 | Re-Scan Length Monitr Er | Tried to scan a document which is longer/shorter than maximum/ minimum length defined by the current application mode. | Rescan after checking length. |
| E216 | Printer Hardware Error | At power on, a hardware error has been detected in the Document Printer. The E236 Turn Off Accessory message is also displayed. The Document Printer was not disabled via function code F40-42. | Disable the Document Printer via function code F40-42 or select an application mode that does not use the Document Printer. |
| E217 | Bar Code Hardware Error | At power on, a hardware error has been detected in the Bar Code Reader. The E236 Turn Off Accessory message is also displayed. The Bar Code Reader was not disabled via function code F60. | Disable the Bar Code Reader via function code F60 or select an application mode that does not use the Bar Code Reader. |
| E222 | Jam–Feed/ Horz Trans Area | A document jam has been detected in the feeder or horizontal transport area. | Clear the jam by following the procedures outlined in Section 6, *Troubleshooting* in this manual. |
| E223 | Jam–Vert Trans/Exit Area | A document jam has been detected in the vertical transport or exit area. | Clear the jam by following the procedures outlined in Section 6, *Troubleshooting* in this manual. |
| E224 | Jam Or Dble Feed–Check Trans | A document jam or double-feed has been detected. | Clear the jam by following the procedures outlined in Section 6, *Troubleshooting* in this manual. |
| E225 | Jam–Check Entire Transport | A document jam has been detected. | Clear the jam by following the procedures outlined in Section 6, *Troubleshooting* in this manual. |
| E230 | Open Door Entire Transport | This message is displayed along with other document jam messages. | Open the access door and transport plate as suggested by the accompanying messages and proceed with clearing the jam by following the procedures outlined in Section 6, *Troubleshooting* in this manual. |
| E232 | Close All Access Doors | One or more access doors are open. | Close the door(s) that are open. |
| E234 | Press JOG, To Remove Docs | When pressing the **Run** key, a document has been detected under a document sensor. | Press the **Jog** key to remove all documents in the transport system. Press Run to start the transport system and rescan any documents which have not been scanned. |
| E235 | Controlled Power-Down Reqrd | This message is displayed accompanying a more detailed error message. | Perform a controlled power-down sequence. |
| E236 | Turn Off Accessory | Disable the accessory that has been selected via the corresponding function code so the current application mode can be used. | After pressing **C**, press the **F** key and the corresponding function code to disable to accessory. |

| Error Code | | Description | Action |
|---|---|---|---|
| E241 | Enter Correct IA, Re-Scan | The patch document fed conflicts with the level key pressed. | After pressing **C**, verify the current image level and image address and if necessary alter the image level or image address via the Level keys, **Next** key or press **Run** and rescan the patch document. |
| E244 | Enter Correct IA, Re-Scan | A T-patch document was fed then followed by a 2-patch or 3-patch document which conflicted with the level of the T-Patch. | After pressing **C**, verify the current image level and image address and if necessary alter the image level or image address via the Level keys, **Next** key or press **Run** and rescan the T-Patch, 2-patch or 3-patch document. |
| E245 | Enter Correct IA, Re-Scan | Two T-patch documents were fed one right after the other. | After pressing **C**, verify the current image level and image address and if necessary alter the image level or image address via the Level keys or **Next** key . Do not scan another T-Patch document. |
| E246 | Enter Correct IA, Re-Scan | The T-Patch document fed conflicts with the level of the image address entered. | After pressing **C**, verify the current image level and image address and if necessary alter the image level or image address via the Level keys, **Next** key . Do not scan another T-Patch. |
| E250 | Frnt Illumination Failure | A front lamp failure was detected while the front lamp was illuminated. | Press **Cal** to initiate the calibration process. If error persists, verify the front optical path is free of obstructions, clean the imaging guides, and replace both the front and rear (duplex scanners only) lamps. |
| E251 | Rear Illumination Failure | A rear lamp failure was detected while the rear lamp was illuminated. | Press **Cal** to initiate the calibration process. If error persists, verify the front optical path is free of obstructions, clean the imaging guides, and replace both the front and rear (duplex scanners only) lamps. |
| E261 | Fr Cal Illumination Failure | A front lamp failure was detected during the calibration process. | Press the **Jog** key to remove the Calibration Target from the transport system. Press **Cal** and try the calibration process again. If error persists, verify the front optical path is free of obstructions, clean the imaging guides, and replace both the front and rear (duplex scanners only) lamps. |
| E262 | Rr Cal Illumination Failure | A rear lamp failure was detected during the calibration process. | Press the **Jog** key to remove the Calibration Target from the transport system. Press **Cal** and try the calibration process again. If error persists, verify the front optical path is free of obstructions, clean the imaging guides, and replace both the front and rear (duplex scanners only) lamps. |
| E263 | Calibration Target Too Short | Tried to use a Calibration Target shorter than the specified 12 inches. | Press the **Jog** key to remove the Calibration Target from the transport system. Use the appropriate Calibration Target*. Press **Cal** and try the calibration process again. |

* Calibration Targets can be ordered from Kodak Parts Services. Targets come in a package of 5. Order Part #986527.

| Error Code | | Description | Action |
|---|---|---|---|
| E264 | Call Target<br>Front Too Dark | Tried to use a Calibration Target where the front side is darker than the specification required. | Press the **Jog** key to remove the Calibration Target* from the transport system. Use the appropriate Calibration Target. Press **Cal** and try the calibration process again. |
| E265 | Cal Target<br>Rear Too Dark | Tried to use a Calibration Target where the rear side is darker than the specification required. | Press the **Jog** key to remove the Calibration Target* from the transport system. Use the appropriate Calibration Target. Press **Cal** and try the calibration process again. |
| E278 | Re-Scan–<br>Doc Feed Error | A document has been fed which is off-center or skewed. | After pressing **C**, press **Run** to restart the transport system. |
| E291 | Scanner<br>Disabled | The operator has tried to run the transport system (other than via the Count Only function) when the scanner was disabled. | After pressing **C**, enable the scanner from the host, then press **Run.** |
| E294 | Fr Cal Fail<br>CalibrationReqrd | A calibration failure was detected in the Front Scan Module. | After pressing **C**, press **Cal** to start the calibration process again. If error persists, verify the front optical path is free of obstructions, clean the imaging guides, and replace both the front and rear (duplex scanners only) lamps. |
| E295 | Rr Cal Fail<br>CalibraitonReqrd | A calibration failure was detected in the Rear Scan Module. | After pressing **C**, press **Cal** to start the calibration process again. If error persists, verify the front optical path is free of obstructions, clean the imaging guides, and replace both the front and rear (duplex scanners only) lamps. |
| E600 through E699 | | various messages | Follow the procedures indicated on the display. If the error message remains, turn the scanner off and then on again. If the problem persists, call service. |
| E700 through E799 | | various messages | Follow the procedures indicated on the display. If the error message remains, turn the scanner off and then on again. If the problem persists, call service. |
| E800 through E899 | | various messages | Follow the procedures indicated on the display. If the error message remains, turn the scanner off and then on again. If the problem persists, call service. |
| E900 through E999 | | various messages | Follow the procedures indicated on the display. If the error message remains, turn the scanner off and then on again. If the problem persists, call service. |

* Calibration Targets can be ordered from Kodak Parts Services. Targets come in a package of 5. Order Part #986527.

# 5 Scanner Maintenance

The *Kodak Imagelink* Scanner 500 is easy to maintain. It requires minimal adjustments, no special tools, and provides easy access to internal parts via three access doors: side, upper, and lower. This section describes daily and weekly maintenance procedures and lamp replacement procedures.

To keep your scanner in good operating condition, periodically:

- Clean the image guides
- Clean the feed and separator rollers
- Vacuum the inside of the scanner
- Clean the exterior of the access doors and covers
- Change the lamps

## Cleaning Materials

You will need the following materials to perform all maintenance:

- A mild cleaning agent
- A soft lint-free cloth
- A cleaning brush (with natural bristles)
- A vacuum cleaner with plastic accessories
- STATICIDE Wipes

IMPORTANT: *Do NOT use industrial cleaning solvents in any of the cleaning procedures.*

# Daily (or as required)

## Cleaning the Imaging Guides

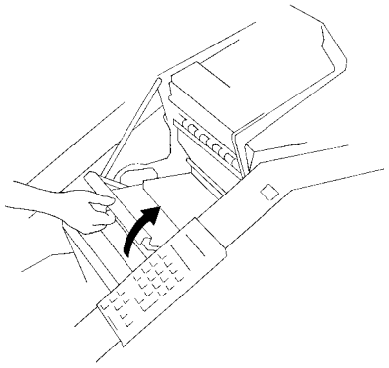
Documents are scanned through two transparent glass imaging guides. Clean these guides daily or as required to obtain high-quality scanned images.

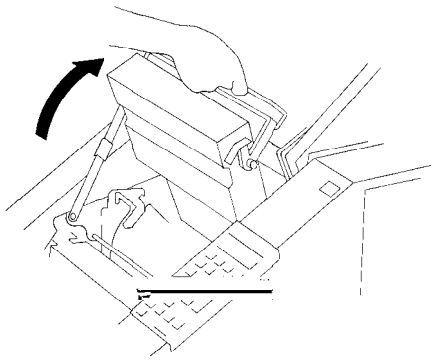
IMPORTANT: *Do NOT use abrasive cleaners, industrial solvents, or coarse cloth to clean the guides. These materials can damage the optical surfaces and cause poor image quality.*

1. Open the Upper Access Door.
2. Lift open the Lower Access Door.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

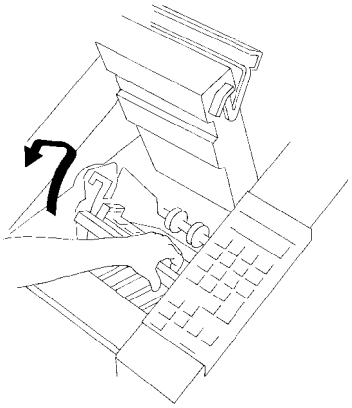
3. Lift the release bar to raise the underlying Front Scan Module.



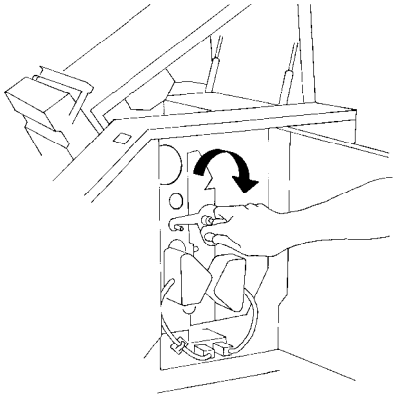


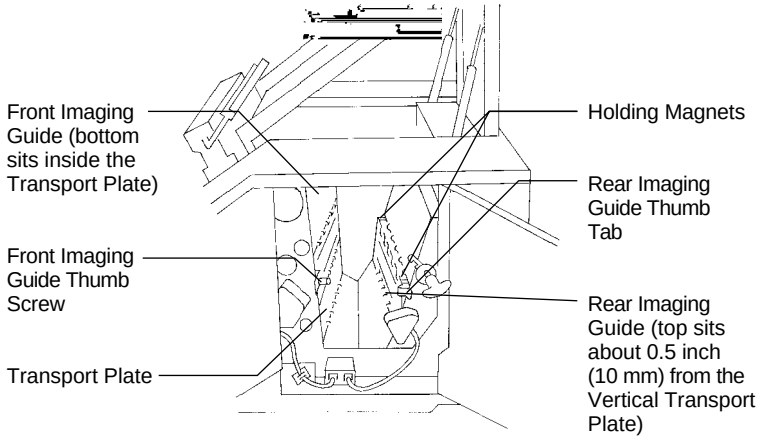
4. Lift up and latch the Horizontal Transport Plate into its open position.

NOTE: If the Patch Reader Accessory is installed, the Patch Reader must be removed from the mounting plate in order to lift up the Horizontal Transport Plate.



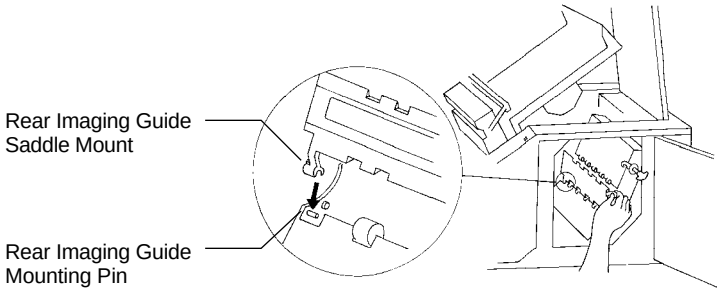
5. Open the Side Access Door.
6. Release and open the Vertical Transport Plate by rotating the release handle 180° clockwise.





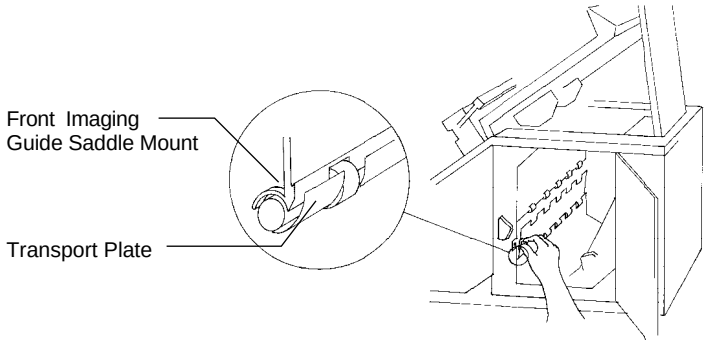
7. Release and remove the Front Imaging Guide by rotating the thumb screw 90° counterclockwise, and lifting the guide's two saddle mounts from the scanner's mounting shaft.
8. Release and remove the Rear Imaging Guide by swinging the guide toward the front of the scanner (to release it from the two magnets), and lifting the guide from the scanner's two mounting pins.
9. Clean both surfaces of both the Front and Rear Imaging Guides with an antistatic wiper or a clean, soft, lint-free cloth, slightly moistened with water or lens cleaner.
10. Dry the Imaging Guides with a dry, lint-free cloth.
11. To avoid fingerprints on the glass and area painted white, hold the Rear Imaging Guide by the edges, and carefully set it back into the scanner by seating it on the scanner's mounting pins. Swing the guide toward the rear of the scanner to fix it to the two magnets.

NOTE: Look through the Upper Access Door and Side Access Door to make sure the Imaging Guide is mounted correctly. There are two sets of pins; make sure the guide is seated on the small, lower set of pins. When the Rear Imaging Guide is seated correctly, the top of the guide will sit approximately 0.5-inch (10 mm) from the Vertical Transport Plate. The Rear Imaging Guide will become flush with the plate when the plate is closed.

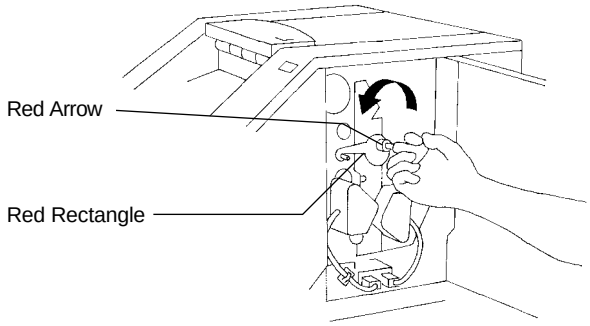



12. Hold the Front Imaging Guide by the edges to avoid fingerprints on the glass and area painted white, and carefully slide it back into the scanner by seating the guide's two green Saddle Mounts on to the scanner's green Mounting Shaft, and rotating the Front Imaging Guide Thumb Screw 90° clockwise.

NOTE: Observe through the Upper Access Door and Side Access Door to ensure that the Imaging Guide is mounted correctly; the bottom of the Front Imaging Guide must be seated just inside the vertical plate. If the bottom of the Front Imaging Guide is seated outside the vertical plate, the Imaging Guides could be damaged when the Vertical Transport Plate is closed.




13. Swing the Vertical Transport Plate closed and rotate the release handle 180° counterclockwise (so the red arrow aligns with the red rectangle) to latch the plate.




14. Close the Side Access Door.
15. Release and lower the Horizontal Transport Plate back into its original position.
16. Lower the release bar and latch the Front Scan Module into its original position.
17. Close the Lower Access Door.
18. Close the Upper Access Door.

# Weekly (or as required)

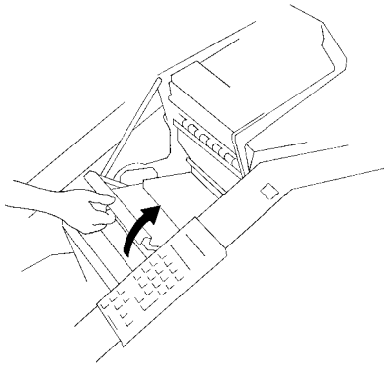
## Cleaning the Feed Roller and Separator Roller

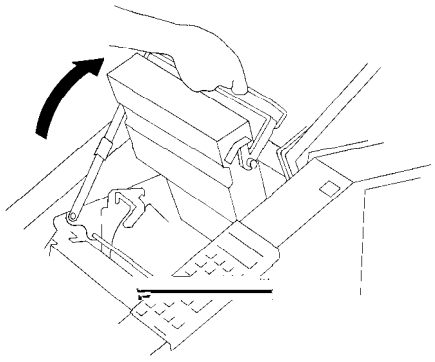
The feed roller and separator roller draw documents into the transport. After extended use, ink and toner dust can coat the surfaces of the rollers and may prevent documents from separating. Clean these rollers weekly or as required (i.e., when document overlapping (double-feeding) occurs or when the last document is not fed).

1. Lift open the Lower Access Door.

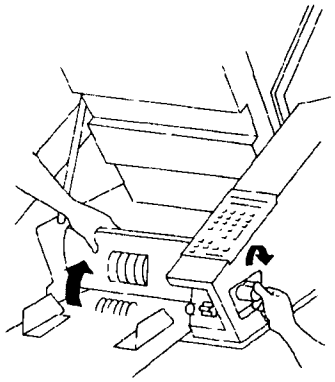
**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

2. Lift the release bar to raise the underlying Front Scan Module.

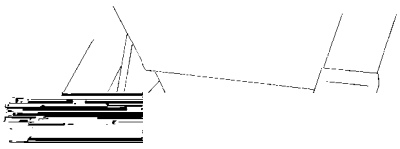




3. Rotate the feed roller cover release lever downward while rotating the feed roller cover to expose the rollers. Do not attempt to remove the assembly; it is permanently attached to the frame.



4. Rotate the feed roller downward and clean with a water-moistened cloth. Continue cleaning until all residue is removed from the roller ribs.



## Cleaning the Exterior of the Scanner

Clean the exterior of the scanner, the feed shelf, and the exit hopper with a soft cloth to remove dust and other particles. Remove fingerprints or stains with a water-dampened cloth or a mild cleaning agent.

## Vacuuming Inside the Scanner

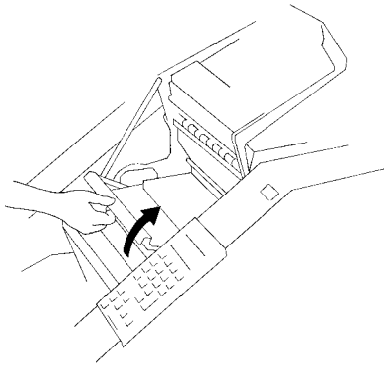
Vacuum the inside of the scanner weekly or as required to remove any dust or debris.

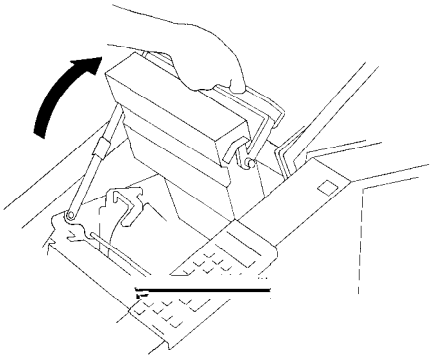
**Vacuuming the Horizontal Transport Area**

1. Turn the power off.
2. Lift open the Lower Access Door.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

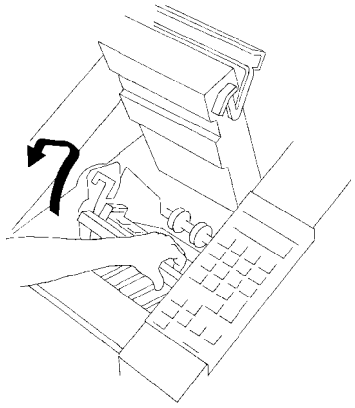
3. Lift the release bar to raise the underlying Front Scan Module.





4. Lift up and latch the Horizontal Transport Plate into its open position.

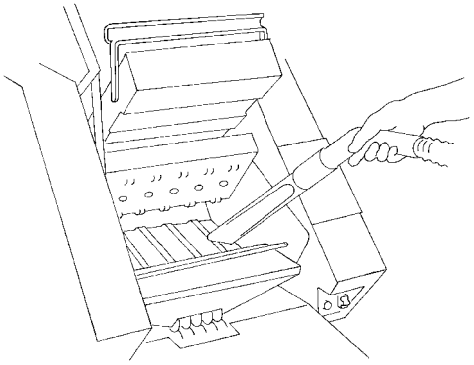
NOTE: If the Patch Reader Accessory is installed, the Patch Reader must be removed from the mounting plate in order to lift up the Horizontal Transport Plate.



5. Vacuum the Lower Belt Module and Transport Belts.

**WARNING:** ***Do not make contact with any electrical components when vacuuming inside the scanner.***

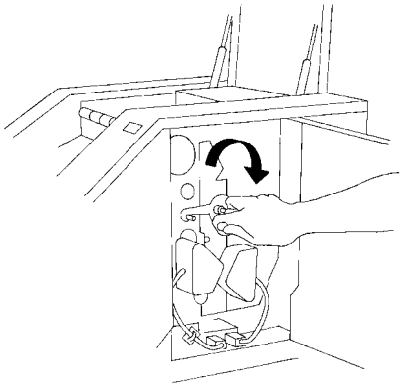
***WARNUNG:*** ***Beim Staubsaugen innerhalb des Abtastgerätes keine elektrischen Einzelteile berühren.***



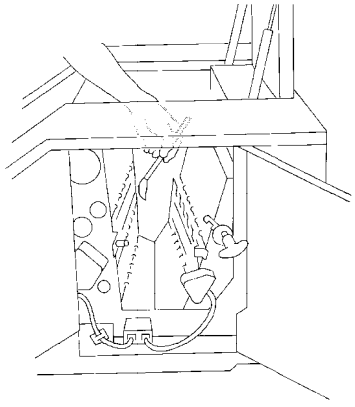
6. Release and lower the Horizontal Transport Plate back into its original position.
7. Lower the release bar and latch the Front Scan Module into its original position.
8. Close the Lower Access Door.

**Vacuuming the Side Access Door Area**

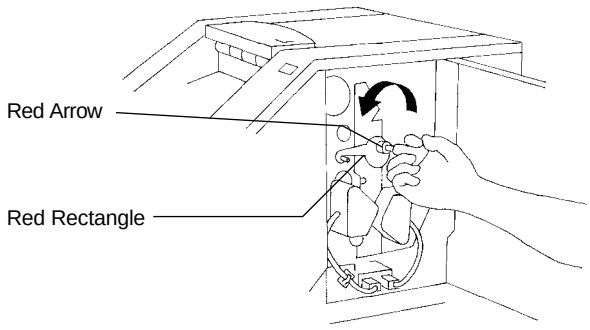
1. Turn the power off.
2. Open the Side Access Door.
3. Open the Upper Access Door.
4. Release and open the Vertical Transport Plate by rotating the release handle 180° clockwise.



5. Use a natural bristle cleaning brush to remove debris from inside the transport system.

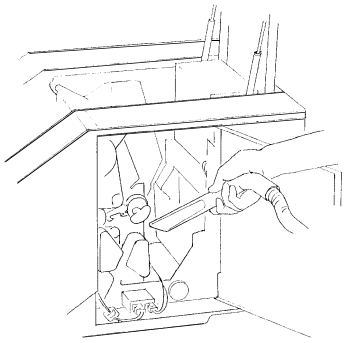


6. Swing the Vertical Transport Plate closed and rotate the release handle 180° counterclockwise.



7. Vacuum the Side Access Door area.

**WARNING:** ***Do not make contact with any electrical components when vacuuming inside the scanner.***



***WARNUNG:*** ***Beim Staubsaugen innerhalb des Abtastgerätes keine elektrischen Einzelteile berühren.***

8. Close the Upper Access Door.
9. Close the Side Access Door.

# Changing the Lamps

## Zum Auswechsein Der Lampen

The exposure system consists of two special, long-life fluorescent lamps. The lamps slide in and out of the scanner for easy lamp replacement.

- Always replace both lamps at the same time. If both lamps are not replaced, exposures may not be acceptable.
- Use recommended lamps only. Other lamps may result in unacceptable image quality.

Change the lamps every 600 hours, when required for error recovery, or when image quality is poor.

**WARNING:** ***Make sure the lamps are cool before attempting to remove them from the lamp socket holder.***

**WARNUNG:** ***Sicherstellen, dab die Lampen kalt sind, bevor versucht wird, sie aus der Lampenfassung zu entfernen.***

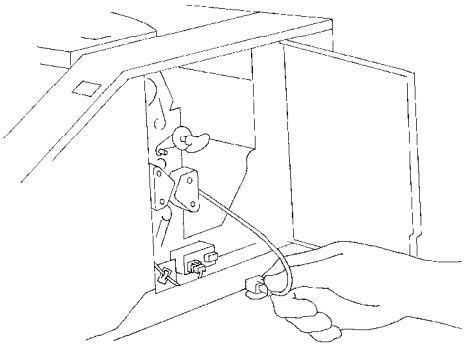
**Changing the Lamps**

1. Turn the Power Switch off.

   Den Netzschalter ausschalten.
2. Open the Side Access Door.

   Die seitliche Zugangstür öffnen.
3. Release the rear lamp cable connector from the scanner electrical system.

   Den hinteren Lampenkabelanschluß vom elektrischen System des Abtastgerätes abtrennen.



4. Pull the green rear lamp socket holder out from the scanner frame. Be sure to pull the lamp socket holder straight out along its axis.

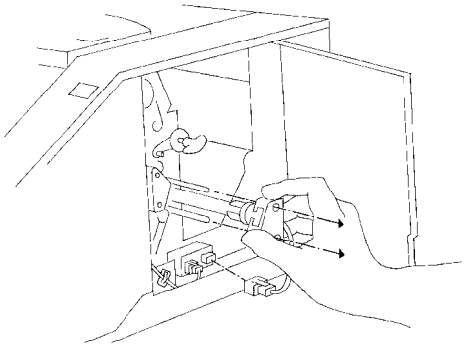
   Den grünen Halter der hinteren Lampenfassung aus dem Rahmen des Abtastgerätes herausziehen. Darauf achten, den Halter der Lampenfussung gerade entlang seiner Achse herauszuzienhen.

***WARNING:*** **Even though you can always handle the green lamp socket holder, the lamp may be very hot. Do not remove the lamp or the lamp socket holder until the lamp has cooled.**

***WARNUNG:*** ***Obwohl der früne Halter der Lampenfassung immer angefaßt werden kann, ist die Lampe möglicherweise noch sehr heiß. Die Lampe oder den Halter der Lampenfassung nicht entfernen, bevor sich die Lampe nicht abgekühlt hat.***

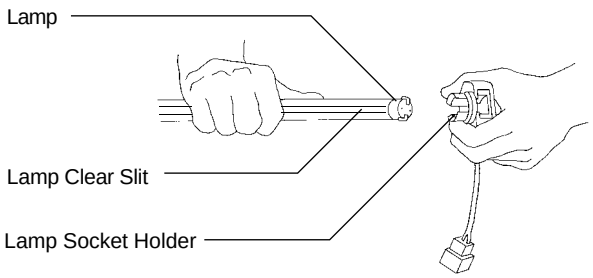
NOTE: If the Lamp Socket Holder pulls off from the lamp when removing the lamp and socket from the scanner, remove the lamp by grasping the lamp at the end, once it has cooled.

Hinweis: Wenn sich der Halter der Lampenfassung beim Entfernen von Lampe und Fassung von der Lampe löst, die Lampe an ihrem Ende anfassen und entfernen, nachdem sie sich abgekühlt hat.



5. Once the lamp has cooled, remove the lamp from the Lamp Socket Holder by carefully pulling the lamp straight out along its axis.

   Sobald sich die Lampe abgekühlt hat, die Lampe durch vorsichtiges gerades Herausziehen entlang ihrer Aschse aus dem Halter der Lampenfassung entfernen.



6. Replace the lamp, making sure that the clear slit on the lamp faces toward the document path. In the case of the rear lamp, the clear slit should face toward the front.

   Die Lampe wieder anbringen und sicherstellen, daß der klare Schlitz an der Lampe zum Dokumentpfad hinweis. Bei der hinteren Lampe sollte der klare Schlitz nach vorne weisen.

**CAUTION: Lamps are fragile. Do not force the lamp into place.**

**ACHTUNG: Die Lampen sind zerbrechlich. Die Lampe nicht mit Gewalt einschieben.**

7. Carefully insert the green Rear Lamp Socket Holder and Rear Lamp into the scanner frame. Be sure to insert the Lamp Socket Holder straight in along its axis.

   Den grünen Halter der hinteren Lampenfassung und die hintere Lampe vorsichtig in den Rahmen des abtastgerätes einschieben. Darauf achten, den Halter der Lampenfassung gerade entlang seiner Achse einzuschieben.

8. Connect the rear lamp cable connector to the scanner electrical system.

   Den hinteren Lampenkabelanschluß an das elektrische System des Abtastgerätes anschließen.

9. Repeat steps 3 through 8, referring to the Front Lamp, noting that in step 3 the Front Lamp Cable must be released from the Front Lamp Cable Clip, and in the step 6 the clear slit should face towards the rear. In step 8 the Front Lamp Cable Connector must be fastened to the Front Lamp Cable Clip.

   Die Schritte 3 bis 8 für die vordere Lampe wiederholen, und dabei darauf achten, daß in schritt 3 das vordere Lampenkabel von der vorderen Lampenkabelklemme gelöst werden muß und daß in Schritt 6 der klare Schlitz nach hinten weisen sollte. In Schritt 8 muß der vordere Lampenkabelanschluß an der vorderen Lampenkabelklemme befestigt werden muß.

10. Close the Side Access Door.

    Die seitliche Zugangstür schließen.

11. Perform the Calibration Function. Refer to *Calibrating the Scanner.*

# 6 Troubleshooting

This section lists possible problems and remedies and describes procedures for clearing the document path and removing non-jammed documents.

| Procedures | Problem | Solution |
|---|---|---|
| **Scanner Does Not Start** | The power cord is not connected. | Connect power cord to the scanner and to the power outlet. |
| | The power switch is in the OFF position. | Check the power switch. Place the switch in the ON position. Call service if the problem persists. |
| | One or more of the three access doors is open. | Make sure each access door is closed. |
| **Documents Not Feeding Properly** | Feed shelf side guides are not properly aligned. | Adjust the guides. Allow 1/16 inch (2 mm) clearance on both sides of the document. |
| | Feed roller is dirty or not properly adjusted. | Clean and adjust the feed roller. |
| **Documents Not Stacking Properly** | The exit hopper end stop is not properly adjusted. | Adjust the exit hopper end stop to appropriate document length. |
| **Clear Streak on Scanned Documents** | There is a foreign object in the optical path. | Check and clean the imaging guides and the transport area. |
| **Uneven Image Quality** | There is dirt, dust or fingerprints on the imaging guides. | Clean the imaging guides. |
| | The scanner needs to be calibrated | Calibrate the scanner. |
| | There are various causes. An error message is displayed. | Perform the action required based upon the error message that is displayed. |
| **Repeated Paper Jams** | The transport system plates are not firmly closed. | Go through the transport system as if clearing a jam. Make certain that all operator-accessible areas are closed. |
| | The documents are skewed during feeding. | Adjust guides and feed roller. |
| **Calibration Failure** | The lamps need attention. | Check the lamps for proper installation. |
| | There is a document in the transport system. | Clear the document path. |
| **Repeated Low Lamp Error Messages** | The lamp(s) might not be securely seated in the lamp housing(s). | Make sure that the lamps are securely seated in the lamp socket holders. |

## Clearing the Document Path

If a document becomes lodged in the scanner's transport system, the system will stop running and an error message will appear in the Status Display on the Control Panel.

A document can lodge in the transport system when:

- Documents are not fed straight (skewed) and hit the sides of the transport system.
- Documents are torn, badly folded, or wrinkled.
- Imaging guides are not seated properly or are not installed.
- Staples and paper clips were not removed from documents.
- Transport System plates are not firmly closed.

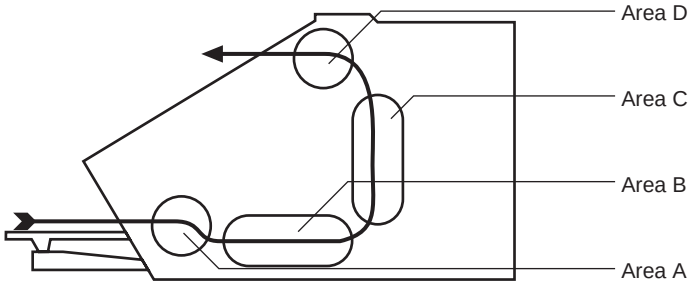
The Document Path can be cleared easily because:

- No tools are needed.
- Three access doors let you quickly locate and clear documents.

NOTE: It is only necessary to remove the jammed and damaged document(s) obstructing the transport system; non-jammed and non-damaged documents located in the transport system at the time of the jam can be removed via the Jog key after the jam is cleared.

### Document Path

There are four areas in the scanner transport system where documents can lodge and need to be removed.




Document Path–Transport System

A: Feeder Area

B: Horizontal Transport Plate, Lower Belt Module, and Lower Turn Roller Areas

C: Vertical Transport Plate and Imaging Guide Areas

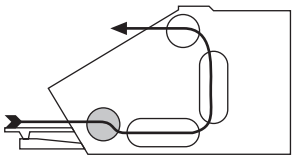
D: Document Exit and Upper Turn Roller Areas

## Removing Documents

1. Check the transport system for documents lodged in the document path.
2. Remove the jammed document(s) by using the procedures listed below.
3. Press the **Jog** key to clear any remaining non-jammed documents.

NOTE: Green colored handles and labels designate operator accessible areas for maintenance and clearing the document path.

## Clearing a Jam in Area A

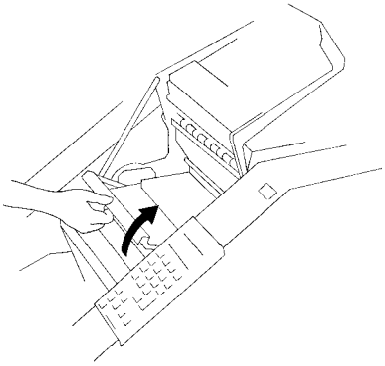


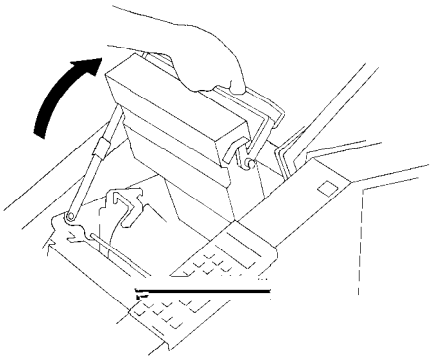
Complete the following steps to clear the document path in Area A. This area is comprised of the Feeder area.

1. Turn off the Power Switch.
2. Lift up the Lower Access Door.

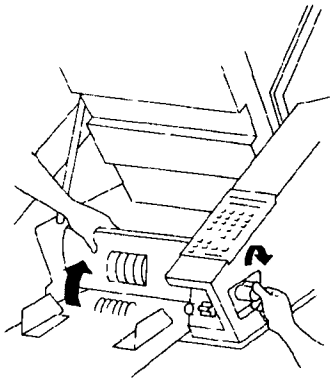
**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

3. Raise the underlying Front Scan Module by lifting the release bar.



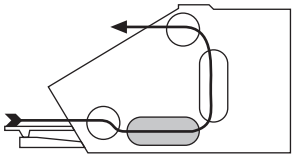


4. Rotate the Feed Roller Cover Release Lever downward while rotating the Feed Roller Cover up to expose the Feed Roller and Separator Roller.



5. Press and hold the Gap Release Lever and remove all jammed documents.
6. Rotate the Feed Roller Cover to its original position.
7. Lower and latch the Front Scan Module by lowering the release bar.
8. Close the Lower Access Door.

## Clearing a Jam in Area B

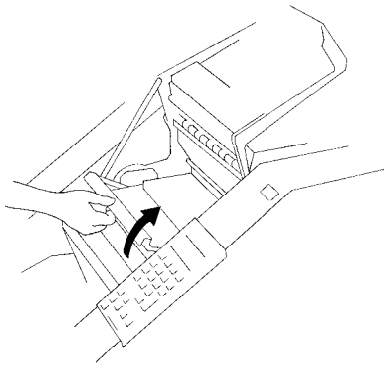


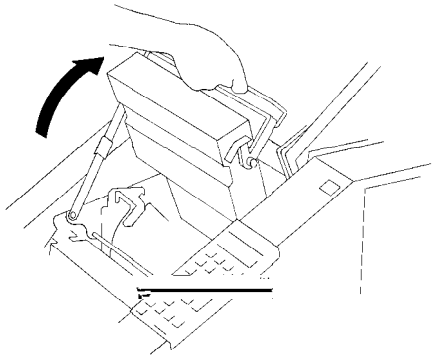
Complete the following steps to clear the document path in Area B. This area is comprised of the Horizontal Transport Plate, the Lower Belt Module and the Lower Turn Roller areas.

1. Turn the power off.
2. Lift up the Lower Access Door.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

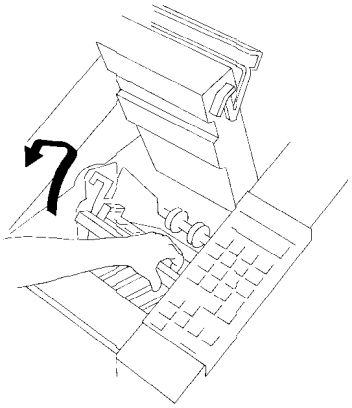
3. Raise the underlying Front Scan Module by lifting the release bar.





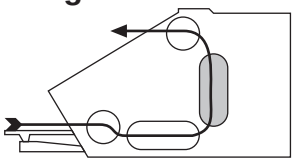
4. Lift up and latch the Horizontal Transport Plate into its open position.

NOTE: If the Patch Reader Accessory is installed, the Patch Reader must be removed from the mounting plate in order to lift up the Upper Horizontal Transport Plate.



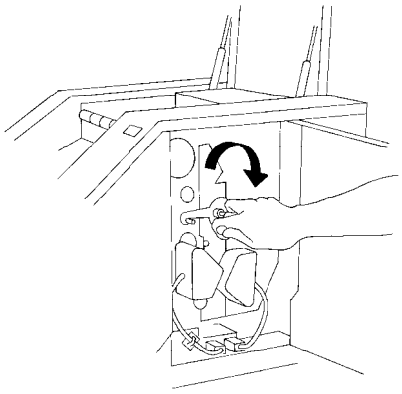
5. Remove all jammed documents.
6. Release and lower the Transport Plate back to its original position.
7. Lower and latch the Front Scan Module.
8. Close the Lower Access Door.

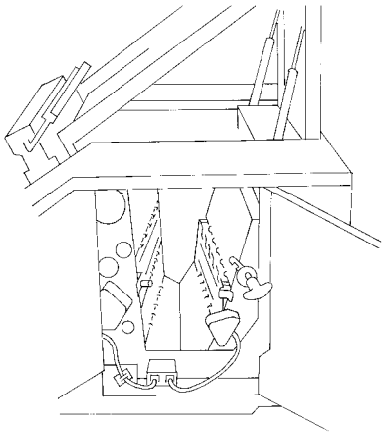
## Clearing a Jam in Area C



Complete the following steps to clear the document path in Area C. This area is comprised of the Vertical Transport Plate and the Imaging Guide areas.

1. Turn the power off.
2. Open the Side Access Door.
3. Release and swing open the Vertical Transport Plate by rotating the Release Handle 180° clockwise.

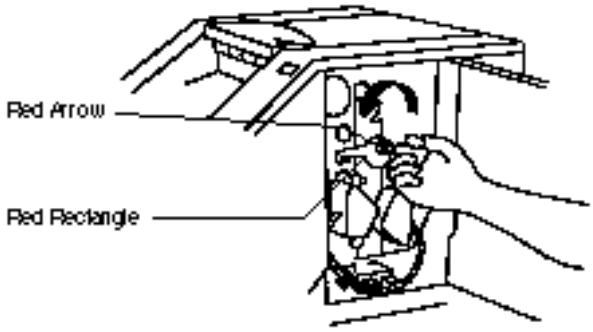




4. Remove all jammed documents.

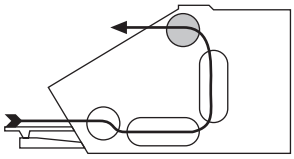
5. Swing the Vertical Transport Plate closed and rotate the Release Handle 180° counterclockwise (so the red arrow head aligns with the red rectangle) to latch the plate.

NOTE: If the Vertical Transport Plate is not completely closed, documents can lodge in the transport system.



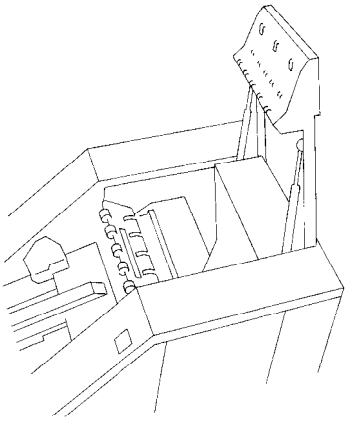

6. Close the Side Access Door.

## Clearing a Jam in Area D



Complete the following steps to clear the document path in Area D. This area is comprised of the Document Exit and Upper Turn Roller areas.

1. Turn the power off.



2. Lift up and open the Upper Access Door.
3. Remove all jammed and damaged documents.

**CAUTION: Be careful not to damage the antistatic brush when removing the documents.**

4. Close the Upper Access Door.

## Removing Non-Jammed Documents

After clearing the document path, complete the following steps to remove all non-jammed documents.

1. Check the transport system for documents lodged in the document path; green handles and labels indicate operator accessible areas.
2. Make sure the Horizontal Transport Plate, the Vertical Transport Plate and the three access doors are securely closed.
3. Turn the power on.
4. Press and hold the Jog key to clear any remaining documents in the transport system. Repeat this step until all documents are placed in the exit hopper.
5. Reset the image level, image address, and application mode, if necessary.
6. Re-scan documents in their original order.

# Appendix A *Kodak Imagelink* Footswitch 500

The Footswitch 500 Accessory is designed to provide a hands-off method of changing the Document Image Levels. An operator can change the Image Level by simply pressing or releasing the footswitch.

At installation, application modes are programmed for specific applications. If the Footswitch 500 Accessory has been installed, the application modes can be individually programmed to perform one of the following Image Level changes:

| | |
|---|---|
| Undefined: | No change |
| Level 0: | Assigns Level 0 to the next document |
| Level 1: | Assigns Level 1 to the next document |
| Level 2: | Assigns Level 2 to the next document |
| Level 3: | Assigns Level 3 to the next document |
| Increment: | Assigns the next higher level to the next document (for pressed action only) |

## Function Codes

The following function code is available if the Footswitch 500 Accessory has been installed and the current application mode allows use of the Footswitch 500 Accessory.

F75 Footswitch Confirmation Tone On/Off

**Follow these steps to turn the Footswitch Confirmation Tone On/Off:**

1. Press the F key.
2. Press the numeric key(s) which correspond to the Function Code.
3. Press Enter.

NOTE: If the associated accessory is not installed, an Error Message will be displayed.

4. Press the numeric key 1 to turn the function ON; or press the numeric key 0 to turn the function OFF.
5. Press Enter. (Press C to cancel the function.)

The table below can be filled in to indicated which application modes allow use of the Footswitch 500 Accessory and what Image Level changes are performed by pressing and/or releasing the footswitch.

| Application Mode Number | Document Image Level change performed when the footswitch is: | |
|---|---|---|
| | Pressed | Released |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |

# Appendix B *Kodak Imagelink* Patch Reader 500

A patch is a pattern of alternating black bars and white spaces that is printed or placed on a document. The *Kodak Imagelink* Patch Reader 500 Accessory recognizes patch documents and automatically assigns a level 3, 2, or 1 to the document Image Address of the patch document or next document. This method of controlling document levels eliminates the need for an operator to manually press a level key on the Control Panel or to change document Image Levels using the footswitch.

## Available Patches

The patch reader is capable of reading and interpreting three different patch codes.

3–Patch

Assigns to a Level 3 to the patch document.

2–Patch

Assigns to a Level 2 to the patch document.

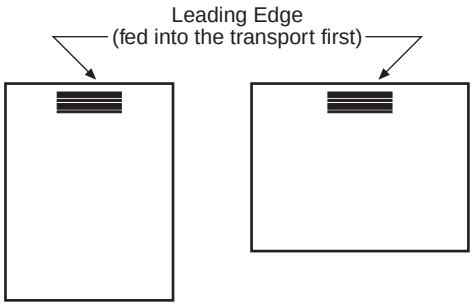
T–Patch
Transfer Patch

Assigns a level 3, 2, or 1 (depending on the Transfer Patch Definition) to the next document.

At installation, application modes are defined for use with specific applications. If the patch reader has been installed, the Transfer Patch can be defined to assign a level 3, 2, or 1 to the next document and a level 0 to the patch document, or defined to assign a level 3, 2, or 1 to the patch document.

## Patch Location on Documents

Patches must appear parallel to the leading edge of the document (as shown).




In addition, the following must be true:

- The top of the patch must be less than 0.80 inches (20 mm) and greater than 0.20 inches (5 mm) from the leading edge of the document.
- The bottom of the patch must be no more than 1.6 inches (40 mm) from the leading edge of the document.
- There must be at least 0.20 inches (5 mm) of clear space surrounding the patch on all sides.

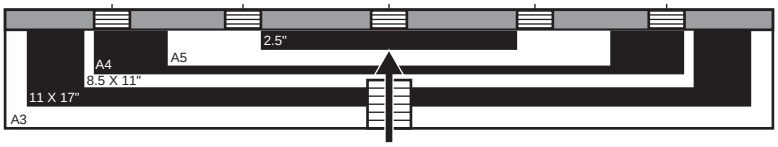
## Printing Patches

Patches can be printed on a document or placed on a document using preprinted patch labels. A patch can be placed directly on customer documents or on blank documents which are interleaved throughout customer documents.

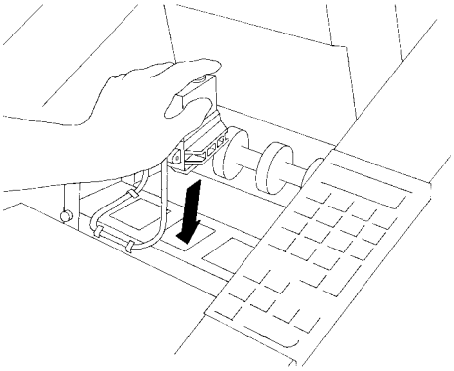
## Changing the Horizontal Read Position

The Horizontal Read Position is manually set by placing the reader in one of the five reader positions on the mounting plate.

NOTE: The five patch reader positions are also indicated with a patch mark on the label on the Feed Tray.




The Patch Reader is attached to the mounting plate by magnets. To change the position of the Patch Reader, lift the reader off the mounting plate and place it in one of the other four available positions.



Perform the patch test function to make sure the patches printed on the documents are aligned with the new reader position.

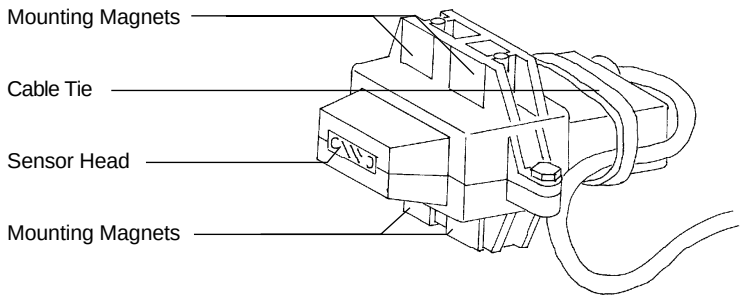
NOTE: The Patch Reader must be removed from the mounting plate when raising the Horizontal Transport plate during vacuuming or clearing document jams.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

## Cleaning the Patch Reader

The Patch Reader requires very little maintenance. Periodically wipe the sensor head with a dry lint-free cloth.

IMPORTANT: *Do not remove the Cable Tie from the Patch Reader.*




## Function Codes

The following function codes are available if the Patch Reader 500 Accessory has been installed and the current application mode allows use of the Patch Reader 500 Accessory.

F50 Patch Reader On/Off.

F53 Patch Reader Confirmation Tone On/Off.

F54 Omit Patch Reading on Next Document On/Off.
Used to disable patch reading for the next document only. This will disable the Patch Reader if it has been previously enabled.

F55 Patch Test (future function).
Refer to *Performing a Patch Test.*

**Follow these steps to use On/Off functions:**

1. Press the F key.
2. Press the numeric key(s) which correspond to the Function Code.
3. Press Enter.

NOTE: If the associated accessory is not installed, an Error Message will be displayed.

4. Press the numeric key 1 to turn the function ON; or press the numeric key 0 to turn the function OFF.
5. Press Enter. (Press C to cancel the function.)

## Performing the Patch Test Function (Future Function)

Function Code F55 can be used to verify the operation and position of the patch reader. No other accessories (document printers, etc.) will be enabled during the test. In addition, no imaging, Image Address changes, level counting, etc. will occur during this test.

**To perform a patch test:**

1. Press the F Key.
2. Press the numeric key 5 twice.
3. Press Enter. A message will appear in the Status Display which indicates that the patch test is being performed: Patch Test or Feed Patch.
4. Feed a document to verify the operation and position of the patch reader.
5. A message will appear in the Status Display indicating: T-Patch, 2-Patch, 3-Patch, or Patch Not Read.

# Appendix C *Kodak Imagelink* Bar Code Reader 500

The bar code reader is used to read and decode information encoded in a bar code format. A bar code is a pattern of parallel, alternating black bars and white spaces which are used to represent letters, numerals and special characters.

Application modes can be individually programmed at installation or upon request to employ the Bar Code Reader 500 Accessory.

## Use of Bar Code Information

When a document is fed into a Scanner 500 with Bar Code Reader 500 Accessory, the bar code image(s) are decoded and converted to a data string of ASCII characters. This data string is placed in the Image Header which is sent to the host computer with the document image.

## Bar Code Types

The bar code reader is capable of reading and interpreting three different types of bar code:

### Code 3 of 9

Code 3 of 9 is also known as Code 39. Code 3 of 9 provides a large number of available characters (43). Available characters include alphanumeric, space, and the following six special characters: **- . $ / + %**. The asterisk (*) is used as both the start and stop character. A character is represented by a group of nine elements. Three of these elements are wide.

### Interleaved 2 of 5 (ITF)

Interleaved 2 of 5, or I 2 of 5, provides high code density by using the bars and spaces to encode two characters simultaneously. This system provides the smallest available character set (only 10 characters—digits 0–9). I 2 of 5 uses separate, unique start and stop characters. Each character is represented by five elements. Two of these elements are wide.

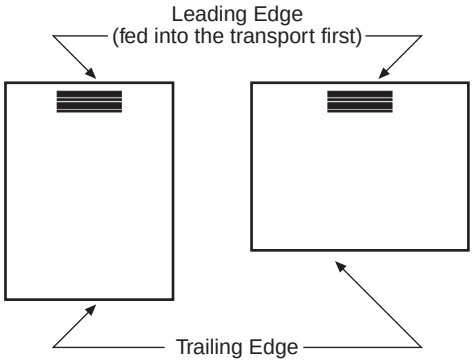
### Codabar (NW7)

Codabar provides a limited character set, with twelve available characters (including digits 0–9 and two special characters: **- $**). The character (a) is used as the start character, and there are four interchangeable stop characters (a–d). Unlike Code 3 of 9, the start and stop characters do not have to be the same. Each character is represented by seven elements. Either two or three of these elements are wide.

## Printing Bar Codes on Documents

Bar codes can be printed directly on documents or placed on documents using preprinted bar code labels.

Bar codes must appear with the bars perpendicular to the leading edge of the document during scanning (as shown).




In addition, the following must be true:

- The bar code must be at least 0.25 inches (6.3 mm) from the leading edge of the document.
- The bar code must be at least 0.25 inches (6.3 mm) from the trailing edge of the document.
- There must be at least 0.25 inches (6.3 mm) of blank space preceding the start character and following the stop character.
- The bar code can not exceed 11 inches (275 mm) in length.
- The bar code height must be at least 0.38 inches (9.5 mm) or 25% of the bar code length, whichever is greater.

More detailed specifications are provided in the *Bar Code Specifications* section, as well as in the document entitled *Bar Code Made Easy* (A-61099).

NOTE: Significant reductions in bar code read rates can be expected if these specifications are not adhered to closely.

## Function Codes

The following function codes are available if the bar code reader has been installed and the current application mode allows bar code reading:

F60 Bar Code Reader On/Off.

F63 Bar Code Reader Confirmation Tone On/Off.

F64 Omit Bar Code Read on Next Document On/Off.

F65 Bar Code Test.

Refer to *Performing a Bar Code Test.*

**Follow these steps to use the On/Off functions:**

1. Press the F Key.
2. Press the numeric key(s) which correspond to the Function Code.
3. Press Enter.

   NOTE: If the associated accessory is not installed, an Error Message will be displayed.
4. Press the numeric key 1 to turn the function ON; or press the numeric key 0 to turn the function OFF.
5. Press Enter. (Press C to cancel the function.)

## Performing a Bar Code Test

Function Code F65 is used to initiate a bar code test. No other accessories (patch reader, document printers, etc.) will be enabled during the test. In addition, no document processing, Image Address changes or level counting, etc. will occur during the test.

**Option 1—Evaluate**

This is a performance monitoring tool which provides a measure of the overall quality of the bar codes being used by evaluating specific bar code characteristics. This test is performed whenever a new batch of preprinted bar code documents or labels are received, or when there is a change in the printing method (i.e., a new printer), media (i.e., new paper type ) or bar code characteristics (i.e., new bar code size).

**Option 2—Display**

This is a test which displays the decoded value of an individual bar code as it is fed into the transport. This test is performed whenever there is a need to verify that bar code is decoded properly. The bar code is read and decoded, no capturing of images or any other system function is performed when the test is run.

**Option 3—Read Rate**

This is a benchmark test which provides a measure of equipment performance and/or a measure of the print quality of the bar codes by determining the read rate (percentage of bar codes read properly) of documents. When the Kodak Bar Code Standard Documents are used, this test provides a measure of equipment performance. When the actual customer application documents are used, this test provides a measure of the print quality of the bar codes.

NOTE: Function 65 works *only when the bar code reader is installed and enabled.*

The Function Code 65 options can also be used if there appears to be a decline in bar code readability (read rate) during normal document processing. If this occurs, the following steps will assist you in diagnosing the problem.

1. **Always perform CALIBRATION first!!**
   To ensure consistent measurements, calibration is always needed before Function 65 is initiated.

2. Perform test Option 3—Read Rate using *Kodak Bar Code Standard Test Documents.*

   This test will determine whether or not the reduction in readability is caused by a deficiency in the equipment.

   - If the resulting read rate is significantly lower than the benchmark given, contact service.
   - If the resulting read rate is equal to or greater than the benchmark given, proceed to step 3.

3. Perform test Option 3—Read Rate using *customer application documents.*

   This test will determine whether or not the reduction in readability is caused by a deficiency in the bar codes being used.

   - If the resulting read rate is below an acceptable level, proceed to step 4.

4. Perform test Option 1—Evaluate

   This test will evaluate the bar codes being used in terms of dimensional and print clarity. Deficiencies in any one or more of these criteria could result in a reduction in the overall read rate.

   To perform a bar code test:

   - Press F key.
   - Press the numeric keys 6 and then 5.
   - Press the Enter key.

The following message (Function 65 menu) will appear in the Status Display:

```
BC TYPE = CODE39
1:Ev 2:Dp 3:Rr
```

where the abbreviations are:

Ev : Evaluate
Dp: Display
Rr: Read Rate

- Press the numeric key which corresponds to the type of bar code test you wish to perform (detailed explanations of the test options are described in the sections below):
  - Press the numeric key 1 for Evaluate
  - Press the numeric key 2 for Display
  - Press the numeric key 3 for Read Rate
- Press the Enter key.

NOTE: Press the Stop or End key without pressing a numeric key to return to the normal operation display.

## Bar Code Test Option 1 – Evaluate

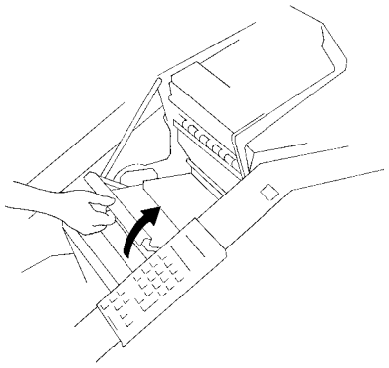
This option evaluates the quality and readability of a bar code. The following message will appear in the Status Display:

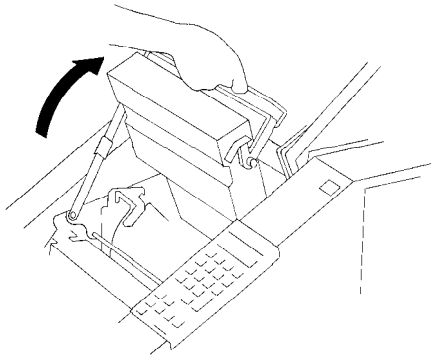
```
Put BC Doc Close
Door, Press Enter
```

1. Open the Upper Access Door.
2. Lift open the Lower Access Door.

**CAUTION: For safety reasons, the movement of the Lower Access Door is intentionally slowed with a two-way rotary door slowly.**

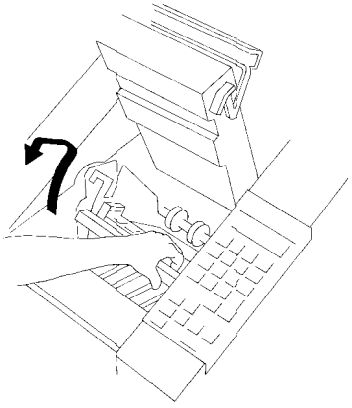
3. Lift the release bar to raise the underlying Front Scan Module.





4. Lift up and latch the Horizontal Transport Plate into its open position.

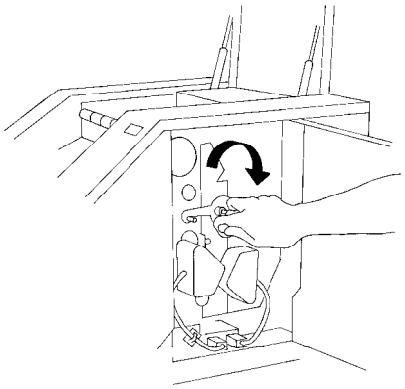
   NOTE: If the Patch Reader Accessory is installed, the Patch Reader must be removed from the mounting plate in order to lift up the Horizontal Transport Plate.

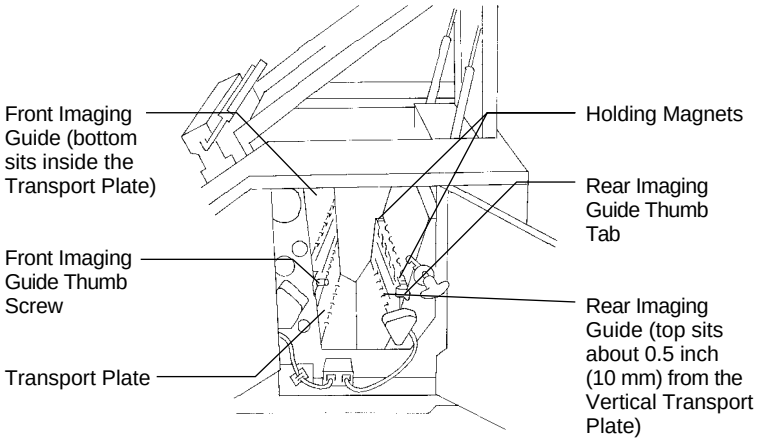


5. Open the Side Access Door.

   NOTE: Do not leave the Side Access Door open more than 5 minutes.

6. Release and open the Vertical Transport Plate by rotating the release handle 180° clockwise.



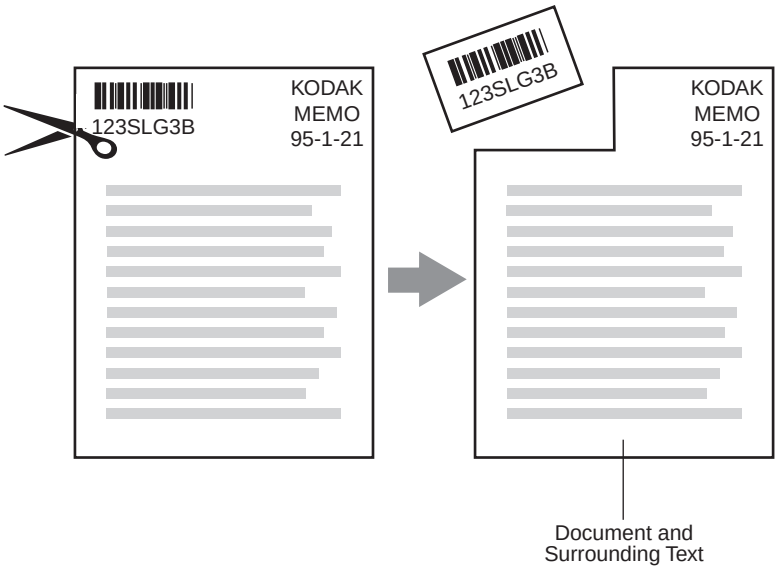



7. If the Bar Code Reader is set to read data through the Front Scan Module, remove the Front Imaging Guide; if the Bar Code Reader is set to read data through the Rear Scan Module, remove the Rear Imaging Guide.

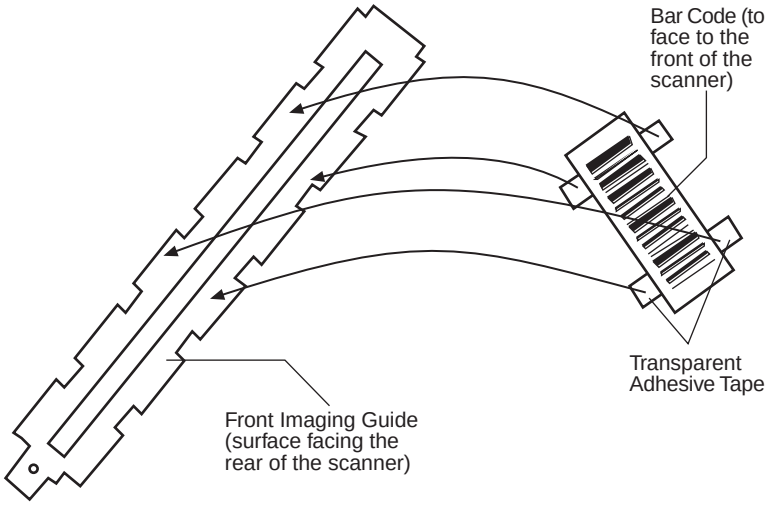
   NOTE: Refer to *Section 5, Scanner Maintenance* (Cleaning Imaging Guides) for details on how to remove the Imaging Guides.

8. Prepare the bar code to be evaluated by cutting around the bar code so that only the vertical black and white bars remain; cut away all text and surrounding marks or illustrations.

   NOTE: The bar code used must be of the type indicated in the first line of the Status Display of the first page.

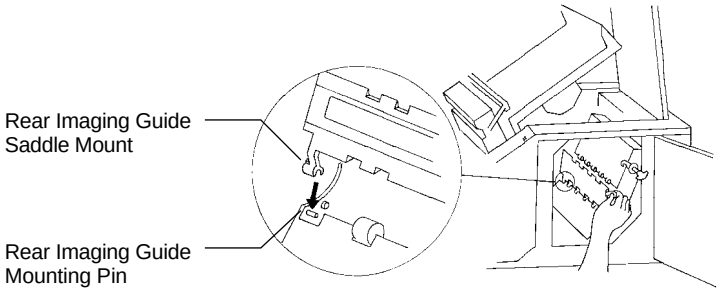


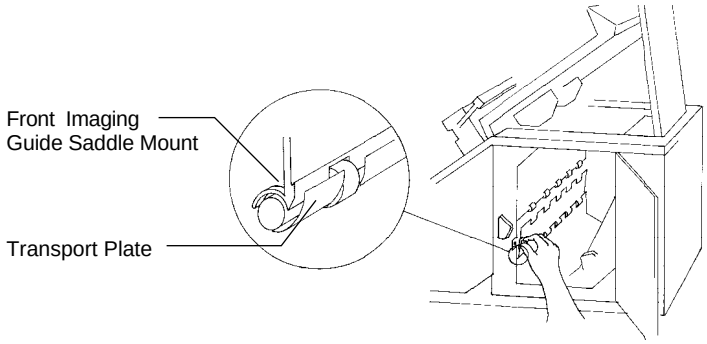

9. Use transparent adhesive tape to adhere the bar code to the appropriate Imaging Guide in the proper direction. If the Bar Code Reader is set to read data through the Front Scan Module, adhere the bar code to the Front Imaging Guide and ensure that the bar code is facing the Front Scan Module; if the Bar Code Reader is set to read data through the Rear Scan Module, adhere the bar code to the Rear Imaging Guide and ensure that the bar code is facing the Rear Scan Module.



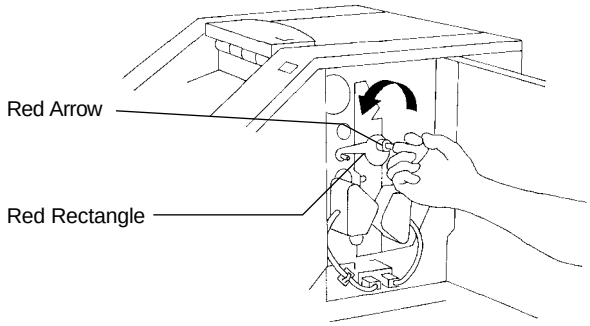
10. Replace the Imaging Guide with the bar code adhered to it.

    NOTE: Refer to the illustrations below and to *Section 5, Scanner Maintenance* (Cleaning Imaging Guides) for details on how to remove the Imaging Guides.




11. Swing the Vertical Transport Plate closed and rotate the release handle 180° counterclockwise (so that the red arrow aligns with the red rectangle) to latch the plate.




12. Close the Side Access Door.

13. Release and lower the Horizontal Transport Plate back into its original position.

14. Lower the release bar and latch the Front Scan Module into its original position.

15. Close the Lower Access Door.

16. Close the Upper Access Door.

17. Press the Enter key.

The following message will appear in the Status Display:

```
BC TYPE = CODE39
Please Wait
```

Up to 10 seconds is required for warming the lamps and processing the data. Within 10 seconds, one of the following messages will appear in the Status Display:

(A)
```
BC TYPE = CODE39
<NOT FOUND>
```

This display indicates that the bar code was not read for one of the following reasons:

- The type of bar code placed on the imaging guide is not the type indicated in the Status Display; or
- The bar code is not positioned properly or faces in the wrong direction on the imaging guide; or
- The bar code quality is poor.

The following action(s) should be taken:

- Verify the type of bar code placed on the imaging guide.
- Verify the position of the bar code placed on the imaging guide.
- Clean the Imaging Guides if required.

NOTE: Press the Stop or End key to return to the Function 65 menu.

(B)
```
BC TYPE = CODE39
<PARTIAL>
```

This display indicates that a start character was probably recognized, but some of the remainder of the bar code was unreadable.

The bar code was not read for one of the following reasons:

- The bar code is not positioned properly; or
- The bar code quality is poor.

The following action(s) should be taken:

- Verify the position of the bar code placed on the Imaging Guide.
- Clean the Imaging Guides if required.

NOTE: Press the Stop or End key to return to the Function 65 menu.

(C) – (1 )

```
W/N = XX.  XX  :  1
NEW = . XXXX
```

This display gives the first page of the results of the bar code evaluation. The results consists of three pages. Each item will be described later on.

18. Press the Enter key to proceed to the next page of the results.

(C) – (2)

```
R M I N = X X X %
C o n t r a s t = X X X %
```

This display gives the second page of the results.

19. Press the Enter key to proceed to the next page of the results.

(C) – (3)

```
M O D = X X X %
D E F = X X X % G r a d e = X
```

This display gives the third (final) page of the results. The last item displayed is an overall grade which is based upon all six field values. The fields which appeared in the three pages are of two types: dimensional fields and reflectance fields. Each of the reflectance field values are converted to a letter grade (where A is the highest and F is the lowest). The lowest letter grade assigned to any one of the reflectance fields is the overall grade assigned to the bar code.

20. Upon completion of the test or from any of the displays mentioned above, press the Stop key in order to return to the menu page of Function 65; the following message will be displayed to remind the operator to remove the bar code from the Imaging Guide:

```
R e m o v e  D o c ,  C l o s e
D o o r ,  P r e s s  E n t e r
```

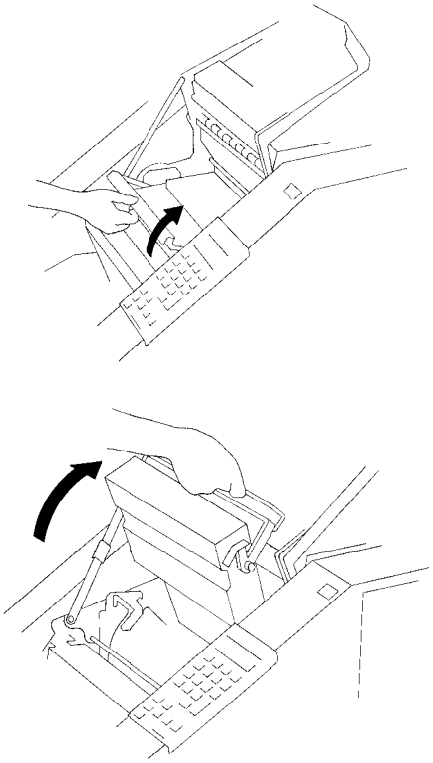
NOTE: One of the access doors must be opened and closed and then the Enter key pressed to return to the Function 65 menu, or one of the access doors opened and closed and then the Stop key pressed to exit the function.

21. Open the Upper Access Door.

22. Lift open the Lower Access Door.

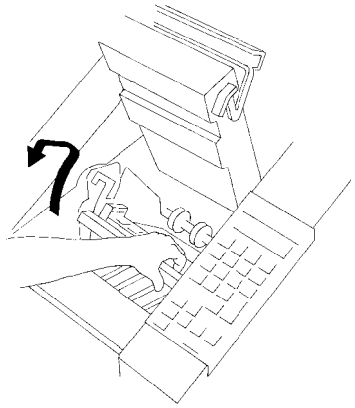
**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

23. Lift the release bar to raise the underlying Front Scan Module.



24. Lift up and latch the Horizontal Transport Plate into its open position.

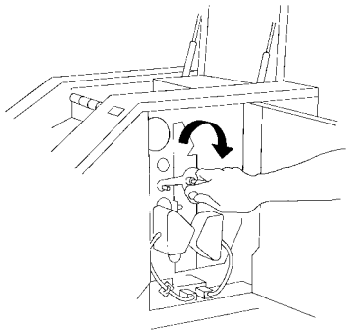
    NOTE: If the Patch Reader Accessory is installed, the Patch Reader must be removed from the mounting plate in order to lift up the Horizontal Transport Plate.



25. Open the Side Access Door.

    NOTE: Do not leave the Side Access Door open more than 5 minutes.

26. Release and open the Vertical Transport Plate by rotating the release handle 180° clockwise.



27. Remove the appropriate Imaging Guide.

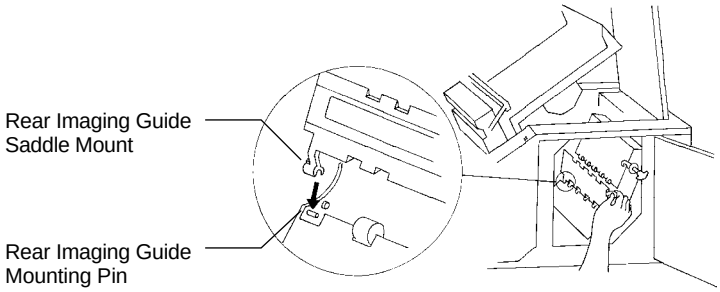
    NOTE: Refer to *Section 5, Scanner Maintenance* (Cleaning Imaging Guides) for details on how to remove the Imaging Guides.

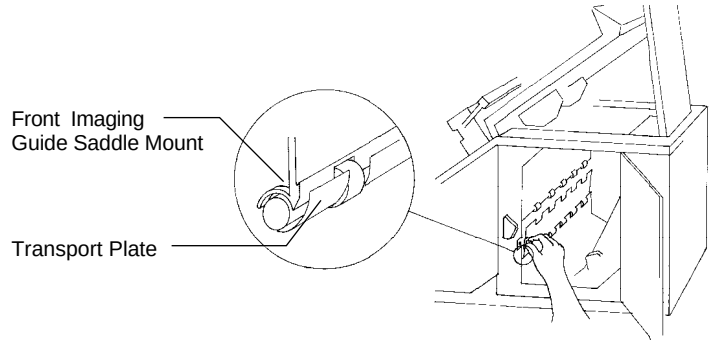
28. Remove the bar code from the Imaging Guide.

    NOTE: Ensure that all of the transparent adhesive tape is cleanly removed and the Imaging Guides are free of finger prints and other marks.

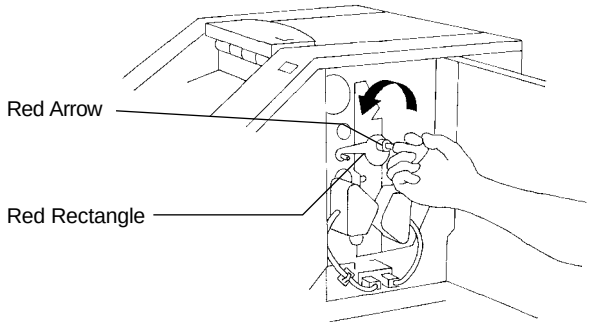
29. Replace the Imaging Guide.

    NOTE: Refer to *Section 5, Scanner Maintenance* (Cleaning Imaging Guides) for details on how to remove the Imaging Guides.




30. Swing the Vertical Transport Plate closed and rotate the release handle 180° counterclockwise (so that the red arrow aligns with the red rectangle) to latch the plate.




31. Close the Side A

32. Release and lower the Horizontal Transport Plate back into its original position.

33. Lower the release bar and latch the Front Scan Module into its original position.

34. Close the Lower Access Door.

35. Close the Upper Access Door.

36. Press the Enter key to return to the Function 65 menu.

## Fields Displayed

The following table defines the fields displayed (for additional information refer to *Bar Code Specifications*):

| Field Type | Field | Description |
|---|---|---|
| Dimensional | W/N | Wide to narrow ratio. The average ratio of wide element widths to narrow element widths within a bar code. The wide to narrow average ratio is calculated for both wide and narrow bars and wide and narrow spaces; the smallest of the two ratios is displayed. |
| | NEW | Minimum Narrow-Element Width A measure of the smallest narrow-element width. |
| Reflectance | Contrast | Symbol contrast. A comparison of the darkest element and the lightest element of the bar code. |
| | MOD | Modulation. A measure of the consistency of the overall bar code print clarity (all elements), specifically, the sharpness of the bar edge contrast. |
| | DEF | Defect Ratio. A measure of the consistency of the individual element clarity, specifically the occurrence of spots (in spaces) and voids (in bars). |
| | RMIN | Minimum Reflectance. A measure of the lightest element of a bar code. |

## Dimensional Field Values

The following table illustrates how the dimensional field values are converted to a pass/fail status and the print clarity field values are converted to letter grades:

| Field | Grade A (Pass) | Grade B | Grade C | Grade D | Grade F (Fail) |
|---|---|---|---|---|---|
| W/N | 3:1 - 2:1*<br>3:1 - 2.2:1** | n/a | n/a | n/a | 2:1 - 1:1*<br>2.2:1 - 1:1** |
| NEW | 0.0800 - 0.0100 | n/a | n/a | n/a | 0.0099 - 0.0000 |
| Contrast | 100 - 70 | 69-55 | 54-40 | 39-20 | 19-0 |
| MOD | 100 - 70 | 69-60 | 59-50 | 49-40 | 39-0 |
| DEF | 0-15 | 16-20 | 21-25 | 26-30 | 31-100 |
| RMIN | 0-49 | n/a | n/a | n/a | 50-100 |

* If NEW ≥ 0.020

** If NEW < 0.020

## Low Bar Code Ratings

The following table identifies the most common causes of the low bar code ratings/grades:

| Field | Problem Type | Cause |
|---|---|---|
| W/N NEW | Dimensional | Bar codes not printed according to specifications (refer to *Bar Code Specifications* ). |
| | | Inaccurate measurements due to:<br>• Ink smearing (improper curing)<br>• Ink spreading (use of super-absorbent paper)<br>• Use of dot matrix printers (ragged edges) |
| CONTRAST RMIN | | Reflectance  Bar elements are too light. Causes:<br>• Use of old ink ribbon<br>• Print hammer pressure too light<br>• Defective/dirty print head |
| | | Space elements are too dark. Causes:<br>• Dark colored paper background<br>• Stain on paper |
| MOD | Reflectance | Bar code element edges are ragged rather than straight. Often caused by use of a dot matrix printer. |
| DEFECT | Reflectance | Bar elements contain voids (white spots). Causes:<br>• Use of old ink ribbon<br>• Print hammer pressure too light<br>• Defective/dirty print head |
| | | Space elements contain dark spots. Causes:<br>• Paper which contains flecks<br>• Ink smearing (improper curing)<br>• Ink spreading (use of super-absorbent paper)<br>• Defective/dirty print head<br>• Toner contamination (if using a laser printer) |

## Bar Code Test Option 2 – Display

This option displays the decoded value of the bar code being read.

1. Feed the bar code document into the transport. One of the following messages will appear in the Status Display:

(A)

```
BC TYPE = CODE39
?
```

This display indicates the bar code was not read for one of the following reasons:

- The type of bar code fed into the scanner was not the type indicated in the Status Display; or
- The bar code faced the wrong direction; or
- The bar code was fed upside down; or
- The bar code quality is poor.

The following action(s) should be taken:

- Verify the type of bar code fed into the scanner.
- Verify the direction of the bar code fed into the scanner.
- Verify that the bar code fed into the scanner is the right way up.
- Clean the Imaging Guides if required.

NOTE: Press the Stop key to stop the transport. Then press the Stop key (again) or the End key to return to the Function 65 menu.

(B)—case 1: decoded character length (including the * representing the start character) is equal to or less than 15.

```
BC TYPE = CODE39
*XXXXXXXXXXXXXX
```

This display gives the decoded value of the bar code read.

(B)—case 2: decoded character length is longer than 15.

```
BC TYPE = CODE39
*XXXXXXXXXXXXXX▯
```

This display gives the first 15 characters (including the * representing the start character) of the decoded values. Press the Stop key, wait approximately 2 seconds, then press the Enter key to proceed to the next page of the decoded values. The format of the display is the same until the remaining number of characters becomes equal to or less than 15.

```
BC TYPE = CODE39
XXXXXXXX
```

This display gives the final page of the decoded values. In order to return to the first page of the decoded values, press the Enter key. This will allow you to circle through the data.

NOTE: For multiple bar codes on a single document, the asterisk (*) denotes the start of each bar code data, but the asterisk can also be displayed within the data if for some reason a character cannot be read.

2. Upon completion of the test, press the Stop or End key to return to the menu page of Function 65. Press the Stop key one more time to return to normal operation.

## Bar Code Test Option 3–Read Rate

This option provides the read rate (percentage of bar codes properly read).

1. Feed 100 test documents into the transport system. Until the number of the fed documents is equal to 100, the following message will appear on the Status Display, where XXX is the present number of documents fed:

```
BC TYPE = CODE39
Doc Count = XXX
```

2. When 100 documents have been fed or when the Stop key has been pressed, the following message will appear in the Status Display, where "@ YYY" denotes the number of documents that have been fed:

```
BC TYPE = CODE39
Rate = XXX% (@YYY)
```

The percentage indicates the read rate of the documents just processed.

When using Kodak Bar Code Standard Test Documents which are provided by Parts Services, if the read rate is significantly lower than that in the past, this indicates that any reduction in the overall read rate can be caused by a deficiency in the equipment. Perform required maintenance and rerun the test. If the results of the second test are similar to the first, contact service.

When using actual customer-application documents, if the read rate is significantly lower than that in the past, this indicates that a reduction in the overall read rate can be caused by a deficiency of the bar codes being used. Perform Option 1–Evaluate to determine the cause of the test results.

3. Upon completion of the test, press the Stop key to return to the menu page of Function 65. Press the Stop key again to return to normal operation.

   NOTE: If an error is detected during Bar Code Test Options 1, 2, or 3, the Error Message will appear in the Status Display. Upon clearing the error, the scanner will returns to the normal operation display. If further execution of Function 65 is required, reenter Function 65 from the keyboard.

## Bar Code Specifications

The following specifications must be followed when printing bar codes on documents or printing bar code labels. The specifications apply to all bar code types, except where noted.

**A—Code Length**

- The maximum bar code length is 11 inches (275 mm).
- There is no fixed minimum bar code length. The minimum length allowed is a function of the type of bar code used and the minimum number of characters allowed. The minimum number of characters per bar code is three or greater for both Code 3 of 9 and Codabar and four or greater for Interleaved 2 of 5. The minimum number of characters does not include the start and stop characters.

**B—Code Height**

- The minimum bar code height is 0.375 (3/8) inches (9.5 mm) or 25% of the bar code length, whichever is greater.
- The maximum bar code height is 3.0 inches (75 mm).

**C—Element Width(s)**

- Narrow-Element Width
  - The minimum narrow-element width is 0.010 inches (0.25 mm).
  - The maximum narrow-element width is 0.080 inches (2 mm).
- Wide-Element Width
  - The minimum wide-element width is 0.022 inches (0.55 mm).
  - The maximum wide-element width is 0.200 inches (5 mm).

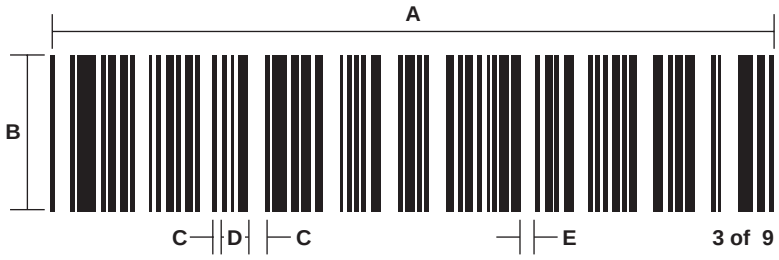
**D—Wide-to-Narrow Ratio**

- The minimum wide-to-narrow ratio is 2:1 if the minimum narrow element width is greater than 0.020 inches (0.51 mm).
- The minimum wide-to-narrow ratio is 2.2:1 if the minimum narrow- element width is less than or equal to 0.020 inches (0.51 mm).

NOTE: Two ratios are calculated: the average wide bar to average narrow bar ratio; and the average wide space to average narrow space ratio. The smallest of these two ratios is used to evaluate the bar code.

**E—Intercharacter Gap**

- The intercharacter gap must be 1 to 3 times the minimum narrow-element width. There is no intercharacter gap in Interleaved 2 of 5 bar codes.




**F—Top Edge**

- The minimum distance from the top edge of the page to the top edge of the bar code is 0.25 inches (6.35 mm).

**G—Quiet Zone**

- A blank area of a minimum of 0.25 inches (6.35 mm) is recommended before the start character and after the stop character of each bar code. For Interleaved 2 of 5, a quiet zone of 0.25 inches (6.35 mm) must follow the stop character.

**H—Stacked Codes**

- If a page contains multiple bar codes, the vertical distance between two bar codes must be greater than the maximum bar code height of either bar code.

**I—Multiple Codes**

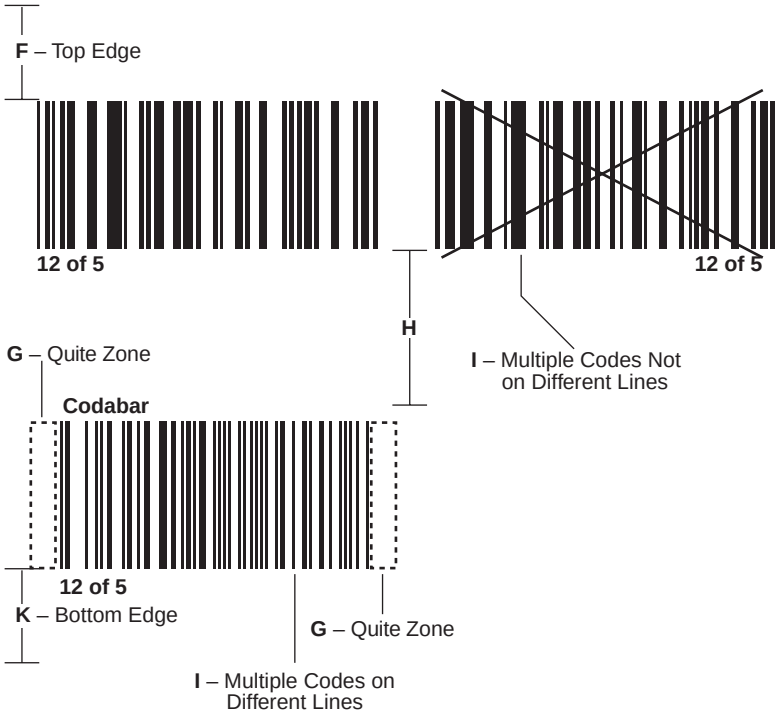
- If a page contains multiple bar codes, only one code can be positioned in each line.

**Encoded Characters Per Page**

- The maximum number of encoded characters per 11-inch page is 80.

### K—Bottom Edge

- The minimum distance from the bottom edge of the page to the bottom edge of the bar code is 0.25 inches (6.35 mm).



# Appendix D *Kodak Imagelink* Document Printer 500

The Document Printer 500 Accessory is capable of printing customer-specified information on customer documents. Front and/or rear printers are available.

## Information Printed

The following information can be printed by the Document Printer 500 Accessory:

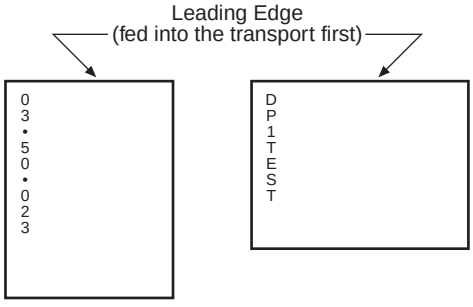
- Document Image Address
- Day of the Week
- Date
- Time
- Total Document Count
- Messages 1–9

NOTE: Any combination of the above items can be printed, provided that the total line length does not exceed 38 characters. The information printed is defined at installation or by request.

## Appearance of Printed Information

The Document Printer 500 Accessory is capable of printing one line-per-document.

The information printed by the Document Printer 500 will appear in a single column perpendicular to the leading edge of the document(s), as shown:



### Font Size

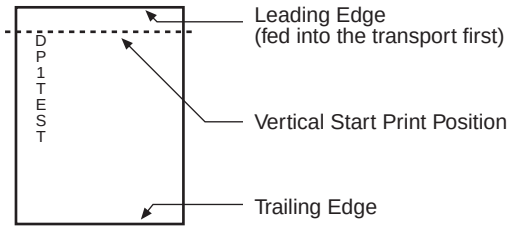
The Document Printer 500 prints each character in a large 12 x 9 dot matrix, or in a small 8 x 9 dot matrix.

### Character Orientation

The orientation of the printed characters is defined for each application mode at installation, or by request. There are four character orientations: Cine, Cine 180, Comic, and Comic 180. Each character orientation is shown below.


### Vertical Start Print Position

The vertical start print position is defined at installation and determines how far the printed information will appear from the leading edge of the document.




NOTE: Printing will automatically stop 0.25 inches (6.3 mm) from the trailing edge of the document, even if the information has not been completely printed.

### Changing the Vertical Start Print Position

Function Code F46 can be used to change the vertical start print position of the Front Document Printer. Function Code F47 can be used to change the Vertical Start Print Position of the Rear Document Printer.

To change the vertical start print position:

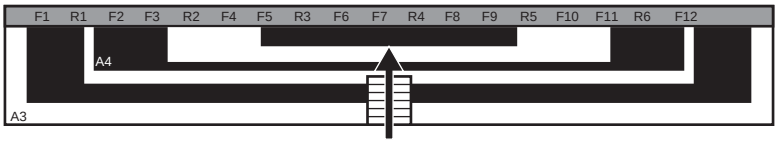
1. Press the F key.
2. Press the numeric keys that correspond to these functions (4 and then 6, or 4 and then 7).
3. Press Enter.
4. Press the numeric keys that correspond to a value between 0.125 inches (3 mm) and 30 inches (760 mm) in increments of 0.125 inches (3 mm).

   NOTE: The value should not exceed the document length.
5. Press Enter.

### Changing the Horizontal Print Position

The horizontal print position of the Front Document Printer is manually set in one of twelve positions on the Front Document Printer Mounting Plate. The horizontal print position of the Rear Document Printer is manually set in one of six positions on the Rear Document Printer Mounting Plate.

NOTE: The twelve front print positions are indicated with F1–F12, and the six rear print positions are indicated with R1–R6 on the label on the Feed Tray.



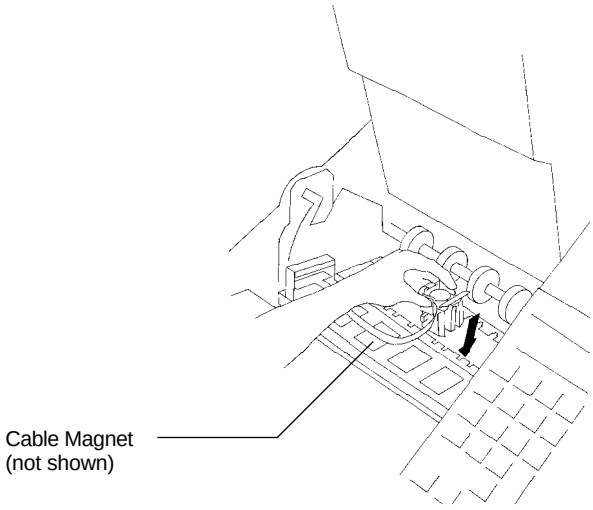

To change the horizontal print position:

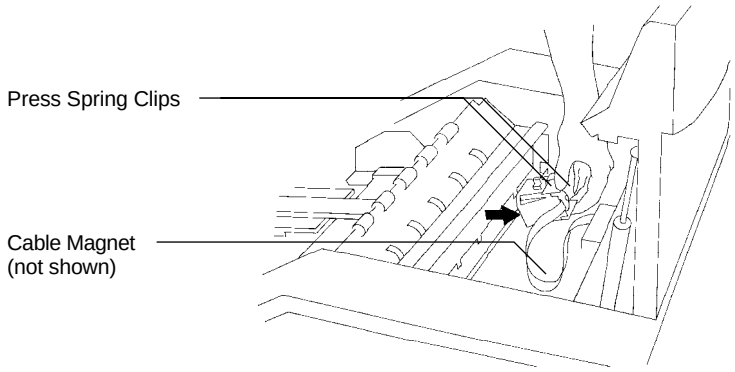
1. Set the printer into one of the twelve printer positions so that the notched tab fits into the notched gap on the Document Printer Mounting Plate.

   NOTE: The Front Document Printer is secured to the mounting plate by magnets. The Rear Document Printer is secured to the mounting plate with the same magnets and two spring clips. To remove the Rear Document Printer, compress the two spring clips and lift the printer out of the Rear Document Printer Mounting Plate.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

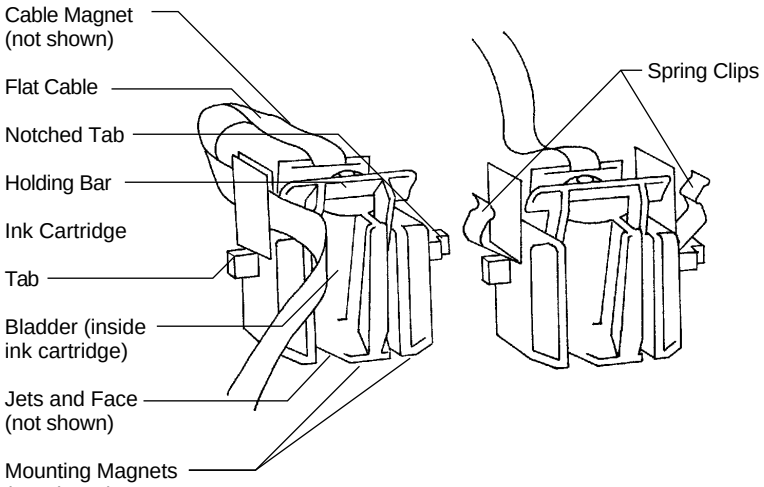
IMPORTANT: *When repositioning the Front Document Printer, ensure that the Cable Magnet is secured to the Front Document Printer Mounting Plate (not on the Patch Reader Mounting Plate) so that the Printer Flat Cable does not interfere with the optical path between the Front Imaging Guide and the Front Scan Module. When repositioning the Rear Document Printer, ensure that the Cable Magnet is secure to the rear wall inside the scanner so that the Printer Flat Cable does not interfere with the optical path between the Rear Imaging Guide and the Rear Scan Module.*



## Hardware

The following illustrations show a Front Document Printer 500 carriage and a Rear Document Printer 500 carriage.

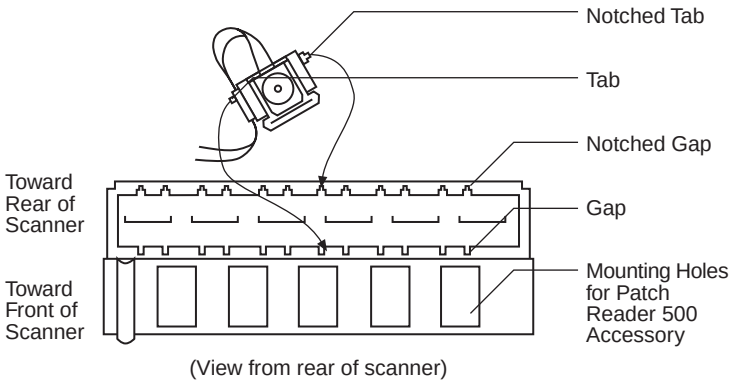



**Front Document Printer Carriage**

**Rear Document Printer Carriage**

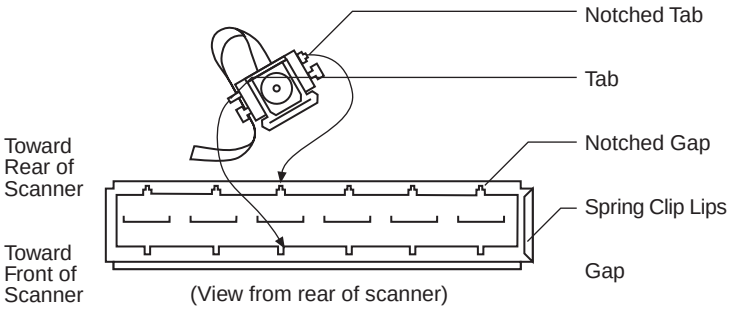
The following illustrations show the Front and Rear Document Printer Mounting Plates, into which the Document Printer 500 carriages are inserted

**Front Document Printer Mounting Plate**




(View from rear of scanner)

**Rear Document Printer Mounting Plate**




(View from rear of scanner)

## Function Codes

The following function codes are available if the Document Printer 500 Accessory has been installed and the current application mode allows use of the Document Printer 500 Accessory.

F40 Front and Rear Document Printers On/Off

F41 Front Document Printer On/Off

F42 Rear Document Printer On/Off

F44 Omit Printing on Next Document On/Off
Inhibits printing on the next document entering the Feeder.
This applies to both the Front and Rear Document Printers.

F45 Print Test
Refer to, Performing the Print Test Function.

F46 Front Document Printer Vertical Start Print Position
Allows the operator to change the vertical start print position of the Front Document Printer.

F47 Rear Document Printer Vertical Start Print Position
Allows the operator to change the vertical start print position of the Rear Document Printer.

Follow these steps to use the On/Off functions:

1. Press the F Key.
2. Press the numeric key(s) that correspond to the desired function code.
3. Press Enter.

   NOTE: If the associated accessory is not installed, an error message will be displayed.
4. Press the numeric key 1 to turn the function ON; or press the numeric key 0 to turn the function OFF.
5. Press Enter. (Press C to cancel the function.)

## Performing the Print Test Function

Function Code F45 can be used to verify the operation, vertical start print position, and print quality of the Front and Rear Document Printers. No other accessories (Bar Code Reader 500, Patch Reader 500, etc.) can be enabled during the test. In addition, scanning, Image Address increments, document counting, etc. will not occur during this test.

To perform the print test function:

1. Press the F Key.
2. Press the numeric keys 4 and then 5.
3. Press Enter. A message will be displayed in the Status Display indicating that the print test function is being performed: Either Print Test or Feed Document(s).
4. Feed as many documents as needed to verify the operation, position, and print quality of the information printed.
5. Press Stop.

## Cleaning and Priming the Ink Cartridge

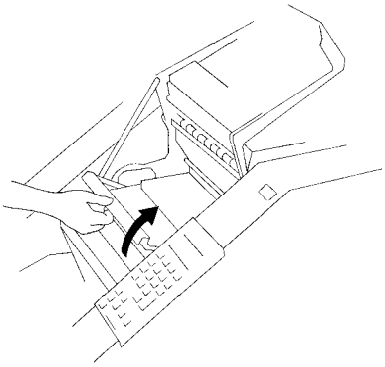
Cleaning and priming the ink cartridge will ensure that the print quality is maintained.

IMPORTANT: *Ink deposits or spills can occur if you are not careful during the priming procedure.*

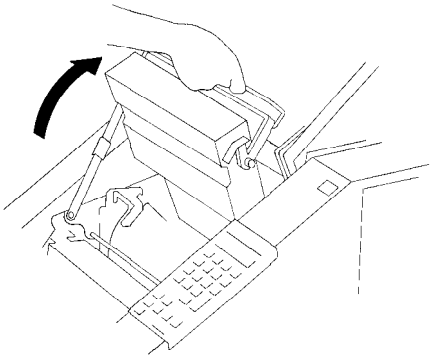
### Front Document Printer

1. Turn the power Off.
2. Open the Lower Access Door.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

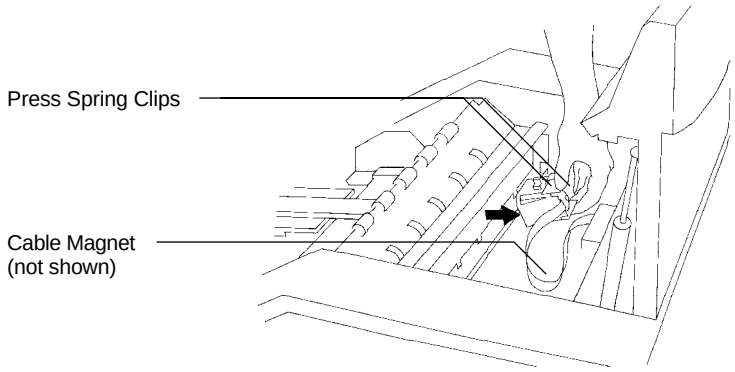


3. Release the Front Scan Module Release Bar.

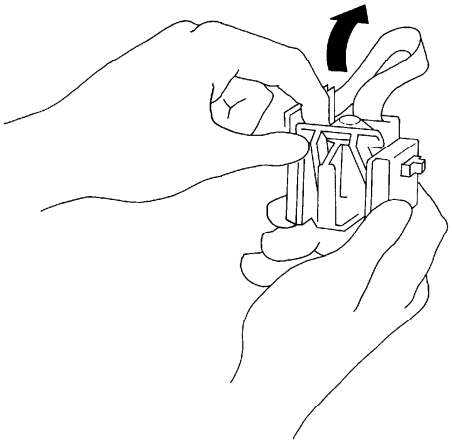


4. Lift up the underlying Front Scan Module.
5. Note the current position of the Front Document Printer.

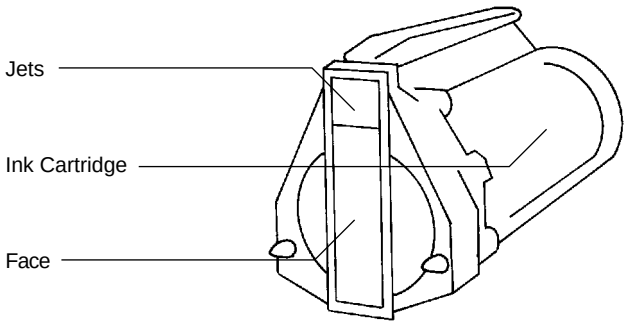
6. Lift and remove the Front Document Printer Carriage from the Front Document Printer Mounting Plate.



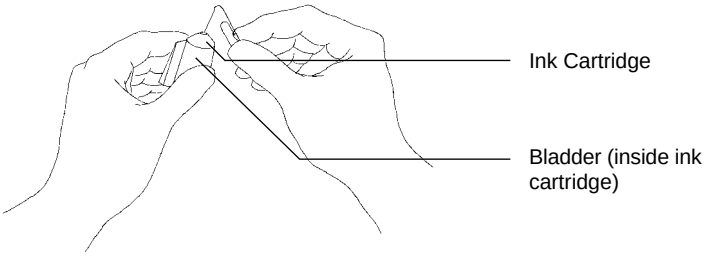

7. Raise the holding bar up from the ink cartridge and carriage.



8. Slide the ink cartridge out of the carriage.
9. Examine the ink cartridge for a deflated bladder. If the bladder appears deflated (out of ink), discard the cartridge, obtain a new cartridge, and proceed with step 15.
10. Check for any accumulation of ink on the jets or face of the ink cartridge. Wipe any ink from the jets and face with a clean, dampened, lint-free cloth.



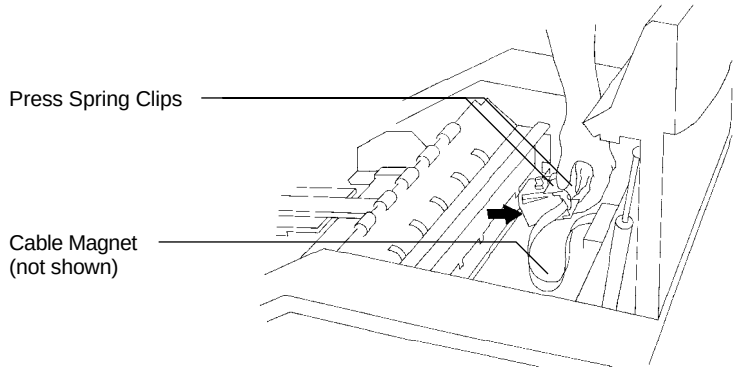
11. Prime the ink cartridge by carefully inserting the end of a paper clip into the hole at the end of the ink cartridge and gently pushing in on the bladder. Allow a small amount of ink to escape through the jets.



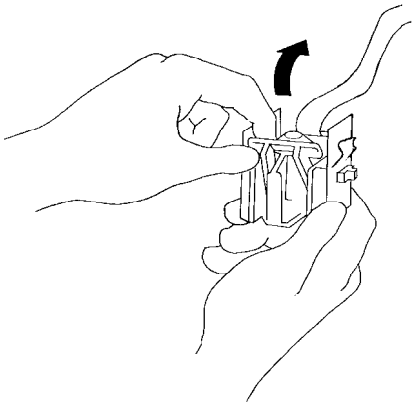

12. Remove the paper clip and observe the ink flow back into the bladder through the jets.
13. Use a dry, lint-free cloth to wipe the face and jets of the ink cartridge.
14. Slide the ink cartridge back into the carriage.
15. Lower the holding bar back down to its original position.
16. If necessary, wipe the carriage clean with a dry, lint-free cloth.
17. Wipe the Front Document Printer Mounting Plate clean of any ink deposits.
18. Place the Front Document Printer Carriage into the Front Document Printer Mounting Plate.
19. Lower the Front Scan Module.
20. Latch the Front Scan Module by lowering the Front Scan Module Release Bar.
21. Close the Lower Access Door.
22. Perform the Print Test Function.

## Rear Document Printer

1. Turn the power Off.
2. Open the Upper Access Door.
3. Note the current position of the Rear Document Printer.
4. Press the carriage spring clips together to remove the Rear Document Printer Carriage from the Rear Document Printer Mounting Plate.

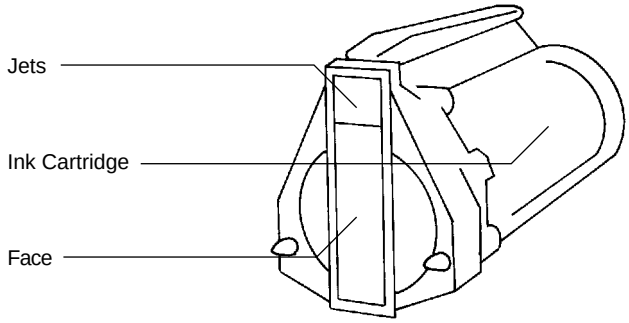



5. Raise the holding bar up from the ink cartridge and carriage.

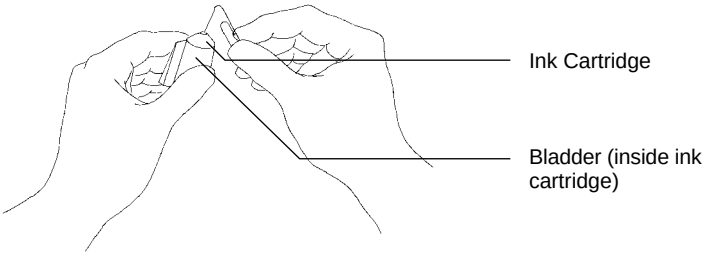


6. Slide the ink cartridge out of the carriage.
7. Examine the ink cartridge for a deflated bladder. If the bladder appears deflated (out of ink), discard the cartridge, obtain a new cartridge, and proceed with step 12.

8. Check for any accumulation of ink on the jets or face of the ink cartridge. Wipe any ink from the jets and face with a clean, dampened, lint-free cloth.




9. Prime the ink cartridge by carefully inserting the end of a paper clip into the hole at the end of the ink cartridge and gently pushing in on the bladder. Allow a small amount of ink to escape through the jets.




10. Remove the paper clip and observe the ink flow back into the bladder through the jets.
11. Use a dry, lint-free cloth to wipe the face and jets of the ink cartridge.
12. Slide the ink cartridge back into the carriage.
13. Lower the holding bar back down to its original position.
14. If necessary, wipe the carriage clean with a dry, lint-free cloth.
15. Wipe the Rear Document Printer Mounting Plate clean of any ink deposits.
16. Press the carriage spring clips together to place the Rear Document Printer Carriage into the Rear Document Printer Mounting Plate.
17. Close the Upper Access Door.
18. Perform the Print Test Function.

## Replacing the Ink Cartridge

Replace the ink cartridge when any of the following conditions occur:

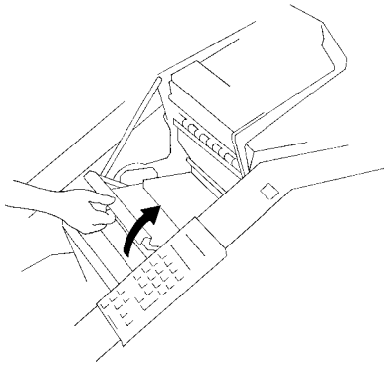
- The ink bladder appears shrunken or deflated.
- The printed characters appear light or uneven.
- Missing characters are evident.
- The print test function reveals inconsistent character quality.
- The cleaning and priming procedure has not improved the overall print quality.

To replace the Front Document Printer ink cartridge:

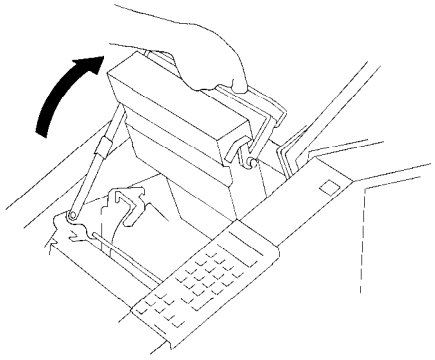
1. Turn the power Off.
2. Open the Lower Access Door.

**CAUTION: For safety reasons the movement of the Lower Access Door is intentionally slowed with a two-way rotary damper. Open and close the door slowly.**

3. Release the Front Scan Module Release Bar.

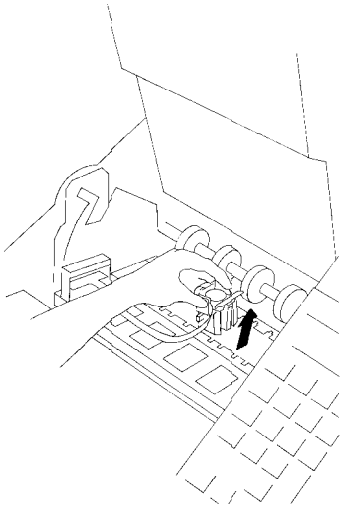


4. Lift up the underlying Front Scan Module.

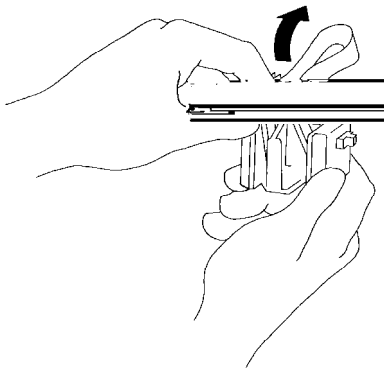


5. Note the current position of the Front Document Printer.

6. Lift and remove the Front Document Printer Carriage from the Front Document Printer Mounting Plate.



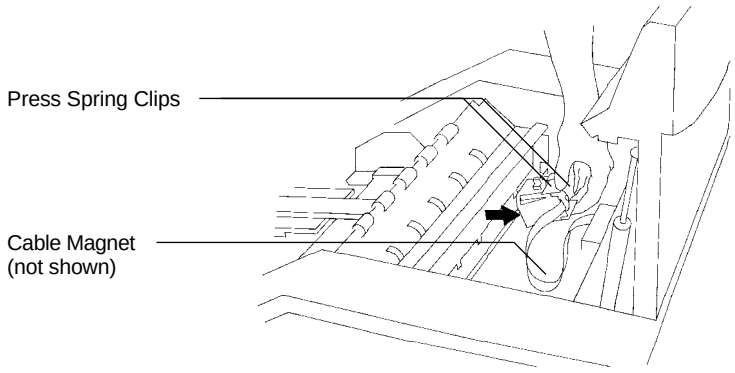
7. Raise the holding bar.



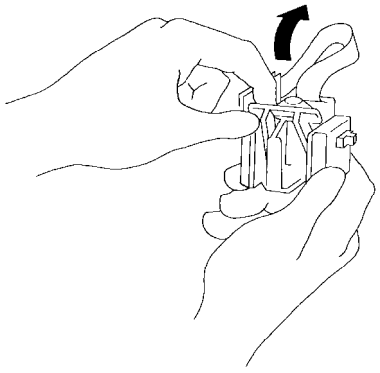
8. Slide the ink cartridge out of the carriage.
9. Discard the cartridge and obtain a new cartridge.
10. Slide the new ink cartridge into the carriage.
11. Lower the holding bar back down to its original position.
12. If necessary, wipe the carriage clean with a dry, lint-free cloth.
13. Wipe the Front Document Printer Mounting Plate clean of any ink deposits.
14. Place the Front Document Printer Carriage into the Front Document Printer Mounting Plate.
15. Lower the Front Scan Module.
16. Latch the Front Scan Module by lowering the Front Scan Module Release Bar.
17. Close the Lower Access Door.
18. Perform the Print Test Function.

To replace the Rear Document Printer ink cartridge:

1. Turn the power Off.
2. Open the Upper Access Door.
3. Note the current position of the Rear Document Printer.
4. Press the carriage spring clips together to remove the Rear Document Printer Carriage from the Rear Document Printer Mounting Plate.




5. Raise the holding bar up from the ink cartridge and carriage.



6. Slide the ink cartridge out of the carriage.
7. Discard the cartridge and obtain a new cartridge.
8. Slide the ink cartridge back into the carriage.
9. Lower the holding bar back down to its original position.
10. If necessary, wipe the carriage clean with a dry, lint-free cloth.
11. Wipe the Rear Document Printer Mounting Plate clean of any ink deposits.
12. Press the carriage spring clips together to place the Rear Document Printer Carriage into the Rear Document Printer Mounting Plate.
13. Close the Upper Access Door.
14. Perform the Print Test Function.

# Glossary

| | |
|---|---|
| **Batch** | A group of documents to be scanned together or to be grouped together in a series, such as a chapter within a book, or pages within a chapter. |
| **Calibration** | A process used during scanner preparation. The process is performed in order to allow the scanner to check and/or adjust the illumination level. |
| **Error Recovery** | A process or procedure used to recover from equipment malfunctions or document jams. Messages are displayed to assist the operator in identifying and recovering from an error. |
| **Image Address** | An Image Address (IA) is a numeric sequence of numbers which may consist of as many as four separate fields. The Image Address is used to identify each individual document image. |
| **Image Address Field** | An Image Address Field is a subset of the Image Address. Each field may consist of up to 9 characters. Each field corresponds to a Level (1, 2 or 3) or a fixed value, such as the date. |
| **Image Header** | A file which is created by the scanner as documents are processed. This file contains information about the document scanned, such as the Image Address, Image Level, size of the document, etc. |
| **Image Levels** | An Image Level is assigned to each document image, indicating its relative position in the group of documents scanned. For example, if you were to scan a book, Level 3 might be assigned to the book cover, Level 2 might be assigned to each chapter cover, and Level 1 might be assigned to each page within a chapter. |
| **Matte** | A type of paper which has a dull finish (i.e., not glossy or shiny). |
| **Mode** | A predefined scanner setup used to define elements unique to each application, such as the Image Address format, accessories, etc. |
| **Patch** | A patch is a preprinted code on a document that is sensed by the patch reader (optional accessory) and used to automatically change the level of the document on which the code appears or the next document, depending upon the type of patch used. Three patch code types are used: 3-Patch, 2-Patch, and T-Patch or “Transfer” patch. |
| **Orientation** | Refers to the direction in which documents are fed into the scanner. |
| **SCSI** | Small Computer System Interface. SCSI is a type of interface designed to connect peripherals to a host computer system. |

**Sequential ID Number**

A value set by the host computer, starting with a value defined by the customer. The value is incriminated (increased) by a value of 1 for each document side scanned. This value differs from the Image Address, as it is not affected by Image Level changes, etc.

**Skew**

Skew is an indication that a document is not transported straight through the transport system (i.e., the document may have been fed at an angle).

Business Imaging Systems
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