pitney bowes

AddressRight™ DA Series Printer
DA80F

Operator Guide

International English Version

NOTICE

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SV61722 Rev. E 01/24

We have made every reasonable effort to assure the accuracy and usefulness of this manual, however we can not assume responsibility for errors or omissions or liability for the misuse or misapplication of our products.

Conforms to the following:

FCC Rules

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.

For USB interface to a computer, use only a shielded USB cable.

CAUTION: Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE It is certified that the Addressing System complies with all applicable Directives of the European Union.

Use only shielded USB cables for connecting to other devices.

Use only a shielded mains cable for AC connection.

For a formal Declaration of Conformity please contact Compliance Engineering.

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Table of Contents

Contact Information list

USA Contacts

Product Name - DA80F

- For frequently asked questions, visit *www.pb.com* and click **Support**.
- To place requests for service or training, visit *www.pb.com* and click **Sign In**.
- To order supplies and accessories, visit *www.pb.com* and click **Buy Supplies**.
- To view and pay invoices online, visit *www.pb.com* and click **Sign In**.
- To view material safety data sheets, visit *www.pb.com* and click **Buy Supplies**.

Canada Contacts

Product Name - DA80F

- For frequently asked questions or to order supplies, go to: *www.pitneybowes.com/ca/en*

Other Country Contacts

Contact information is given in a separate publication supplied with the product.

1 • Introduction

The DA80F is a versatile, easy-to-use, high speed desktop printer designed for addressing applications. This chapter explains what's in this guide, and tells you how to order supplies and where to get more information about using your DA80F.

Welcome to the DA80F Printer

The DA80F ink jet printer is a high speed desktop printer used to print addresses, graphics and other information, on a wide range of material of various sizes, construction and composition. You can define the font, placement, barcode characteristics, and print quality for your addresses.

Using This Guide

Refer to this guide for information about printer setup, operation and troubleshooting. It is divided into the following chapters:

Chapter 1, Introduction - Contains an overview of the Operator Guide, help resources, safety information, as well as printer parts and locations.

Chapter 2, Printer Basics - Explains how to set up your printer to run a job.

Chapter 3, Printer Maintenance - Describes how to keep the printer clean and functioning properly.

Chapter 4, Troubleshooting - Contains a list of possible problems and their solutions.

Appendix A, Specifications - Provides hardware and material specifications. Your printer will run at it's best when your material conforms to our specifications.

Appendix B, Glossary - Explains the meanings of common terms used with address printing equipment.

Index - Provides a quick guide to finding topics in this book.

System Requirements

In order to operate the printer with your computer, your system must meet the following requirements:

CPU: Pentium III 500 MHZ or greater,

Memory: 500 MB minimum

Operating System: Windows 2000/XP or Windows Server 2003

Printer Cable: USB or on a LAN with Ethernet patch cable.

Getting Help

As you use your printer, there may be times when you need help to solve a specific application problem, or you may want additional information about printer operation.

Refer to the *Contact Information List* at the front of this guide for more information or in the separate contact sheet supplied with your printer.

Online Help

The Print Driver for your printer has a built-in help system. To get to the help system for the printer driver, click on **properties** from within the print dialog box. To get a description of any of the items in that dialog box right-click on the item to access the What's This? help button. Click the What's This? help button to view an explanation of the item in question.

If you're using programs such as Envelope Designer™ or SmartMailer™, press the **F1** key while you're using the program to display information about the open screen. Select the **Help** menu to display a list of topics or search for a term. Refer to the documentation supplied with these programs for more information.

Printer Options

There are several options available for your addressing printer, such as ink drying equipment which may reduce smudging on glossy stock, stackers, and envelope designing software.

NOTE: The availability of software varies by country. Refer to your printer supplier for details of software available to you.

Important Safety Notes

Follow the normal safety precautions for all office equipment:

- Use only Pitney Bowes approved supplies, in particular aerosol dusters. Improper storage and use of aerosol dusters or flammable aerosol dusters, can cause an explosive-like condition that could result in a personal injury and/or property damage. Never use aerosol dusters labeled flammable and always read instructions and safety precautions on the duster container label.
- To obtain supplies, please contact our Supply Line™ to place orders. Material Safety Data Sheets can be obtained on the web or from our Supply Line™. Refer to the *Contact Information List* for more information.
- Use the power cord supplied with the printer and plug it into a properly grounded wall outlet located near the printer and easily accessible. Failure to properly ground the printer can result in severe personal injury and/or fire
- Avoid touching moving parts or materials while the printer is in use. Keep hands, loose clothing, jewelry and long hair away from all moving parts.
- Do not remove covers or defeat safety interlock switches. Covers enclose hazardous parts that should only be accessed by properly trained service personnel. Immediately report to service any damaged or non-functioning components that renders the unit unsafe.
- Place the unit in an accessible location to allow for proper venting of the equipment and to facilitate servicing.
- The power cord wall plug is the primary means of disconnecting the printer from the AC supply.
- Do not use an adapter plug on the line cord or wall outlet.
- Do not remove the ground pin from the line cord.
- Do not route the power cord over sharp edges or trap between furniture.
- Ensure there is no strain on the power cord and that it does not become jammed between the equipment, walls or furniture.
- Be certain the area in front of the wall receptacle into which the

printer is plugged is free from obstruction.

- Before clearing a jam, be sure printer mechanisms come to a stop.
- When removing jammed material, avoid using too much force to protect against minor personal injury and damaging equipment.
- To prevent overheating, do not cover the vent openings.
- Operation of this equipment without periodic maintenance will inhibit optimum operating performance and could cause the equipment to malfunction. Contact your printer supplier for required service schedule.
- Read all instructions before attempting to operate the equipment.
- Use this equipment only for its intended purpose.

Other Informational Cautions

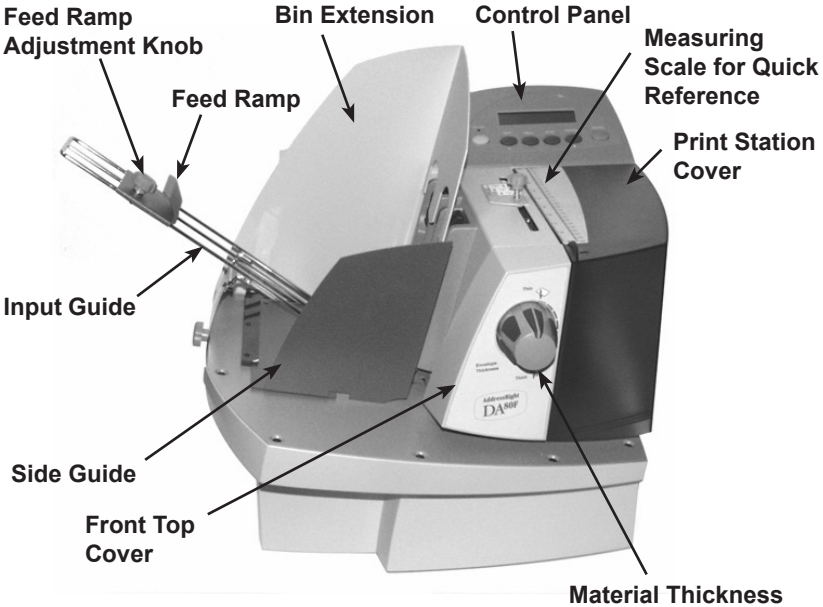
NOTES:

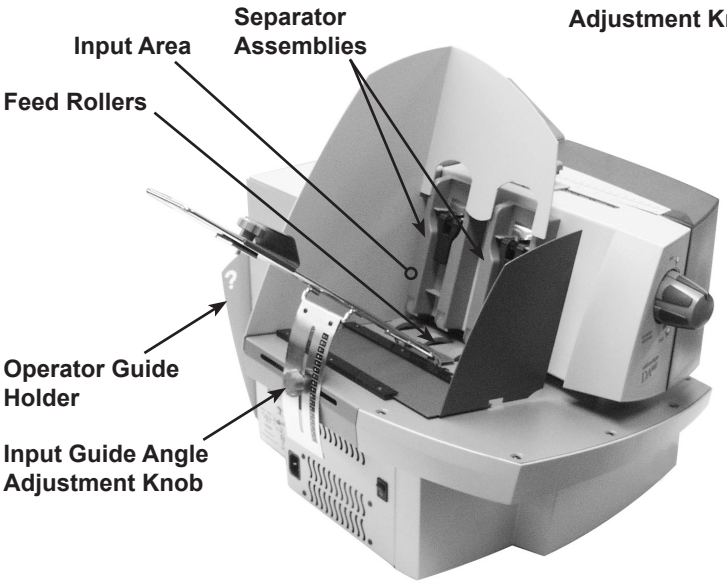
- In case of an ink spill, leaking ink, or excessive ink accumulation, immediately disconnect the power cord plug from the wall outlet and call your printer supplier for a cleaning.
- Always follow the specific occupational safety and health standards for your workplace.
- Avoid using wall outlets that are controlled by wall switches, or shared with other equipment. If a wall outlet controlled by a wall switch is used, mail could be interrupted if the printer is plugged in when the wall switch is used to turn power off.

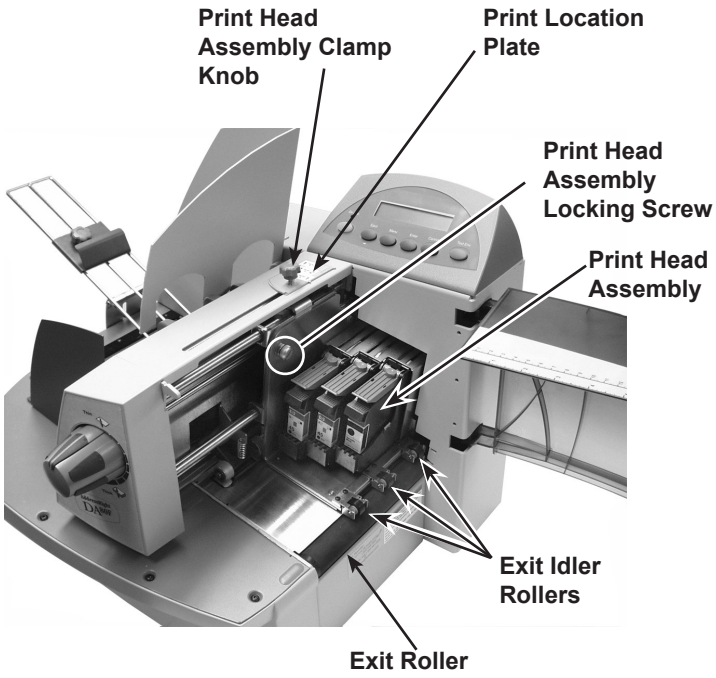
WARNING! THIS EQUIPMENT MUST BE EARTHED. The socket outlet should be near to the equipment and should be easily accessible.

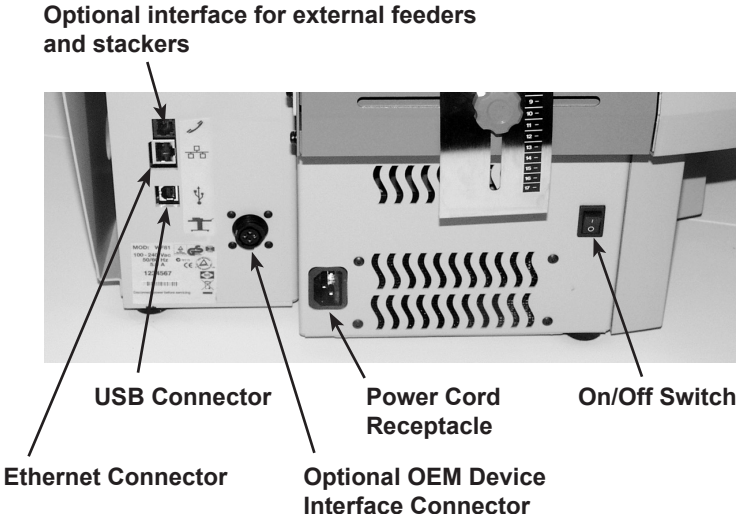
Printer Parts and Locations

The figures below calls out key machine components, each of which is briefly described in the text that follows. Refer to the figure below for component location.






Print Head Assembly Clamp Knob
Print Location Plate
Print Head Assembly Locking Screw
Print Head Assembly
Exit Idler Rollers
Exit Roller


Optional interface for external feeders and stackers
USB Connector
Power Cord Receptacle
On/Off Switch
Ethernet Connector
Optional OEM Device Interface Connector

Bin Extension - Extends the height of the stacking area.

Control Panel - Use the control panel buttons to access printer menus, define print options, run the print job, and turn the printer on and off line. If you have the print driver loaded on your computer, you can easily perform these functions from within your application.

Ethernet Connector - Used to connect the printer to a PC.

Exit Idler Rollers - Guide the material out of the printer.

Exit Roller - Drives the printed material as it exits the printer.

Feed Ramp - The feed ramp adds a gentle slope to the material stack to help feeding.

Feed Ramp Adjustment Knob - Adjust the position of the feed ramp to the input guide using this knob.

Feed Rollers - When you switch from one material type to another, you need to set the gap between the separator assemblies and the feed rollers before printing begins.

Front Top cover - External cover for the feed input area.

clarity of the printing.

Input Area - Where you stack material for printing. You'll make most setup adjustments in this general area.

Input Guide - Supports the material stack. Adjust the feed angle to accomodate the weight of the material you're running.

Input Guide Angle Adjustment Knob - Locks the input guide in position.

Measuring Scale for Quick Reference - Use this scale to assist you in aligning your print image to your material.

Material Thickness Adjustment Knob - The material thickness knob sets the distance between the print heads and the material. Use it to compensate for different material thicknesses and to increase clarity of the printing.

On/Off Switch - Powers the printer on and off.

Operator Guide Holder - Store your operator guide here for easy access.

Optional OEM Device Interface Connector - Used to connect the printer to an optional OEM device.

Optional Interface for Feeders and Stackers - Used to connect external feeders or stackers to the printer.

Power Cord Receptacle - Attach the power cord adaptor provided with your printer here.

Print Station Cover - External cover encasing the material exit and print head areas.

Print Head Assembly Locking Screw - Use to unlock the print head assembly so that it pivots for cleaning.

Print Head Assembly - The part of the printer that holds the ink cartridges and prints on the material.

Print Head Assembly Clamp Knob - Use this knob to move and lock the print head assembly into position for printing.

Side Guide - Helps confine the stack. Adjust to the width of your material plus 1/16" (2mm) clearance.

USB Connector - Used to connect the printer to a PC.

2 • Printer Basics

This chapter lists some printer specifications and describes step by step instructions for running mail.

Printer Features Overview

This chapter provides a brief overview of the printer features. Refer to *Appendix A, Specifications*, for detailed specifications for the printer, including specific requirements for using each type of material.

Speed (pieces per hour)

Printer speed refers to the number of pieces of mail that can be processed in an hour. The printer can process up to 22,000 #10 or DL envelopes per hour, depending on print quality setting and material being used.

Print Quality Settings

Super Draft (SDft): horizontal print density is at 150 dpi

Draft (Dft): horizontal print density is at 200 dpi

Letter (Ltr): horizontal print density is at 300 dpi

Executive (Exec): horizontal print density is at 600 dpi

Light Mode "On", vertical print density is at 300 dpi

Light Mode "Off", vertical print density is at 600 dpi

Internal Fonts

14 (15 including Code 3 of 9 Barcode). See *Specifications Chapter* for more detailed information.

Font Size

Font size refers to the size of each typeface. The printer uses from 4 to 144 point size for internal or downloaded fonts.

Effective Print Area

The printer can print an area 1.5" (38.1mm) high across the width of the material.

Media Size

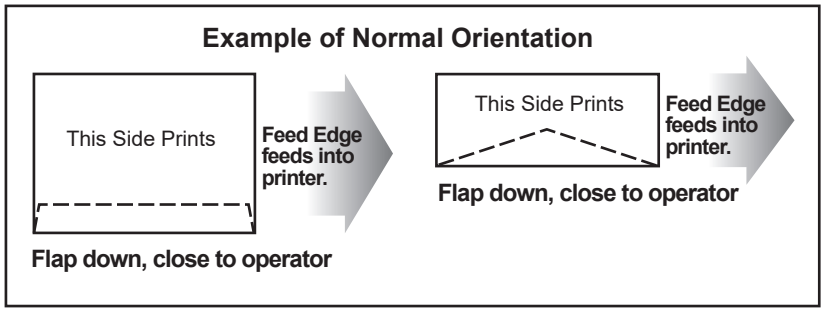
The printer can print on the following range of material sizes.

	Width	Height	Thickness
Minimum	5.78" (147 mm)	3.9" (99 mm)	.003" (.076 mm)
Maximum	14" (355.6 mm)	15.5" (393.7 mm)	.25" (6.3 mm)

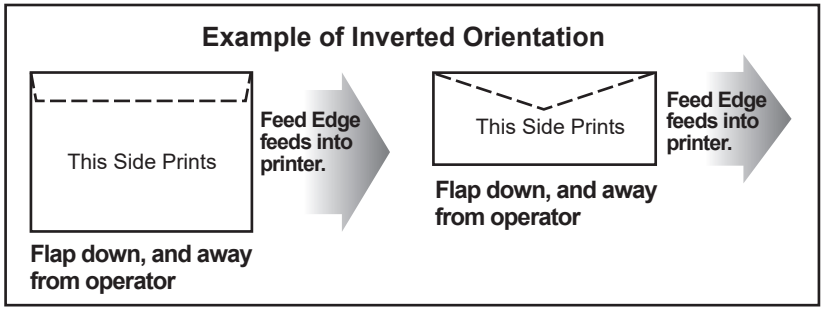
Approved Media Types

The printer can be used with booklets, catalog envelopes, postcards, self mailers, catalogs, paper and envelopes (All envelopes must be without windows and unsealed). Any folded material needs to be tabbed. See *Specifications Chapter* for more detailed information.

All envelopes should be loaded so the side to be printed faces up, flap faces down, stacked to feed with the left or right edge first. See example that follows.



If running an inverted job (image prints upside down on media) your envelopes will load like the example below.



Setting Up A Job

Setting up a print job means adjusting the printer to accommodate the width, height, thickness and weight of your material.

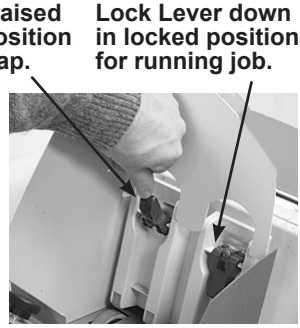
There are two things that determine how reliably your printer feeds: the setup adjustments and the quality of your material. A good setup minimizes misfeeds and jams. And your printer will perform at it's best when you run material that falls within our published specifications. See Appendix A for complete material specifications.

IMPORTANT NOTE: Following all of the setup steps in this chapter will help ensure quality print results.

1. Setting the Separator Feed Gap

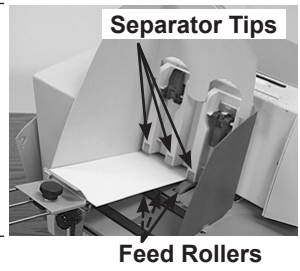
Whenever you switch from one material type to another, you need to set the gap between the separator assemblies and the feed rollers before printing begins.

A. Unlatch and lift the lock levers to their highest position. This raises the separator assemblies and locks them in place.

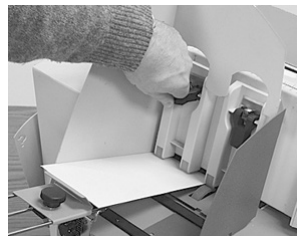


B. Place a sample piece of material between the separator tips (the lower section of the separator assemblies) and the feed rollers.

NOTE: In this example only one separator assembly is needed because of the width of the media being used. For better performance raise the unused separator assembly and lock in place.



C. Move the lock lever to the central position so that the separator assembly drops onto the material, then push the lever down to lock the separator assembly in place.



Tips for Setting the Proper Separator Feed Gap

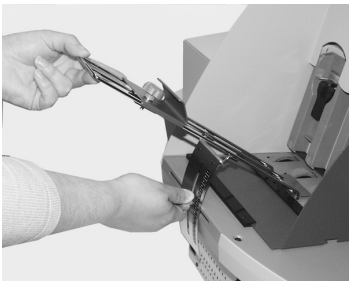
A. Postcards - Try setting a slightly larger gap by adding one sheet of standard paper to one of the postcards then setting the gap.

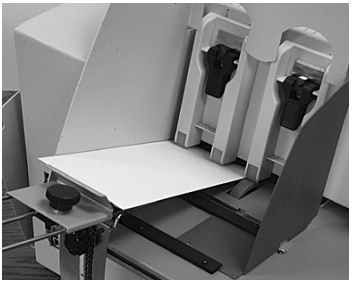
2. Centering the Input Guide Under the Material

A. Loosen the input guide angle adjustment knob.

B. Place a sample piece of material in the feed area, up against the rear wall. Center the input guide under your sample piece of material.

C. Tighten the knob to lock the guide in place.

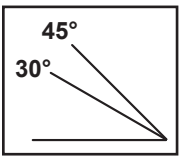




3. Setting the Feed Angle

The feed angle of the input guide stacker depends on the material you're running:

- Light material, flexible material or empty envelopes: adjust to a high angle, approximately 45 degrees.
- Heavy material, stiff material or filled envelopes: adjust to a low angle, approximately 30 degrees.

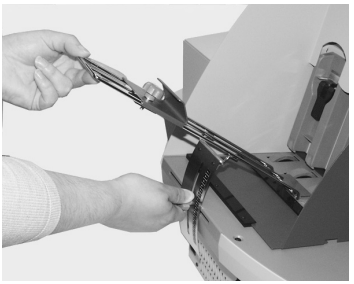


To make the adjustment:

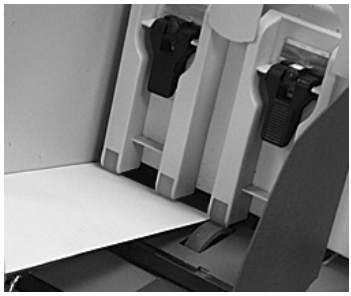
A. Make sure the input guide angle adjustment knob is loosened.

B. Move the input guide up or down as required.

C. Tighten the knob to secure the input guide.



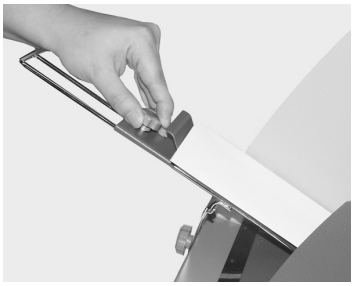
4. Setting the Feed Ramp



A. Make sure the ramp is at the top of the Input Guide.

B. Place a piece of material onto the Input guide as shown in the first photo.

C. Adjust the ramp downwards until the material is resting half way down the angle of the ramp surface.



D. Tighten the ramp securing knob.

5. Positioning the Side Guide

A. Place a sample piece or trial stack of material in the input area.

B. Slide the Side Guide until it almost touches the stack of material. Check that there's about 1/16 inch (1.5mm) clearance between the Side Guide and the stack.

NOTE: Proper clearance is important. If you push the Side Guide tight up against the stack, it could retard feeding and cause jams. If the clearance is too great, pieces could skew as they feed into the printer

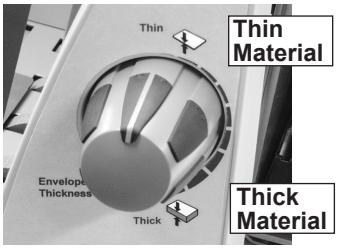
6. Adjusting the Media Thickness Knob

The media thickness knob sets the distance between the print heads and the material you are running. Use it to compensate for different material thicknesses and to increase clarity of the printing.

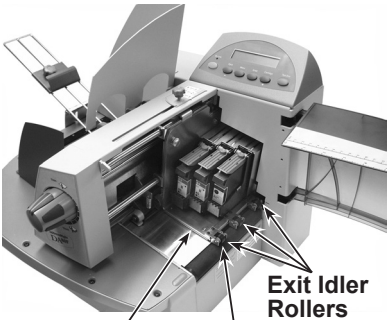
NOTE: All material in a run must be the same thickness.

1. Adjust the media thickness knob to the thickest setting, (fully clockwise). This raises the exit idler rollers off the printer deck.

2. Place a piece of the material you are running on the printer floor between the exit idler rollers and the exit roller.



Media Thickness Knob



3. Lower the exit idler rollers by turning the media thickness knob counterclockwise until the exit idler rollers are just touching the material.

4. Check that the material passes freely under the print head assembly and the printer floor. If not, adjust accordingly until it does.

IMPORTANT:
- Adjusting the media thickness knob too far counterclockwise for your media type (tighter gap) may cause smearing or jamming.
- Adjusting the media thickness knob too far clockwise for your media type (wider gap) may cause poor print quality.

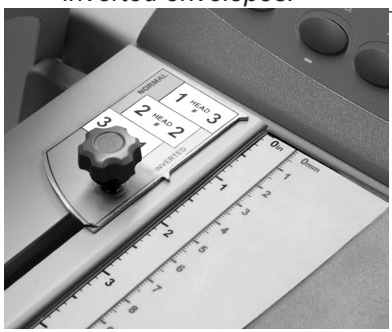
7. Setting the Print Head Assembly Position

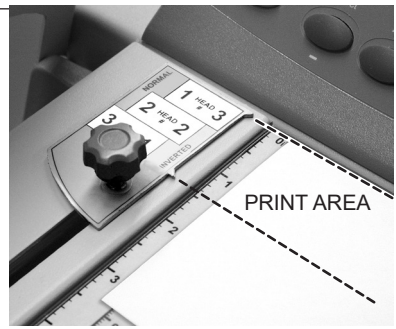
It is necessary to position the print head assembly correctly over the path of the material so that your images and text will print where you want them to. The printer can print an area 1.5 in. (38 mm) high across the width of the material.

A. Loosen the print head assembly clamp knob located on top of the printer (loosen no more than two full turns). This knob secures the print head assembly in place.

B. Slide the knob along the slot in the top of the printer to move the print head assembly. Locate the assembly over the area you wish to print on the material.

TIP: Place a piece of material along the measuring scale on the top of the printer and slide the clamp knob up or down until it is located at the position that you want your image to print. You can use the red numbers as guides for normal envelopes, and the blue numbers for inverted envelopes. *Refer to the help system or documentation provided with your software application for more information on normal and inverted envelopes.*





C. Tighten the knob to secure the assembly in place.

D. Put material in the printer and then press the test envelope button to print a test address. Check that this is the location required for printing on the material. Redo the above steps to make further adjustments to the location, if necessary.

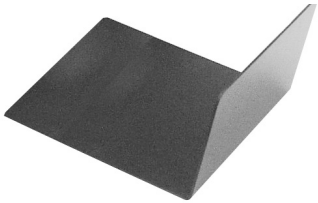
When you're satisfied with your setup adjustments, you are ready to run the job. The following pages explain how to use the printer with your computer.

8. Positioning the Output Stacker

The stacker holds up to 5" (127mm) of material before it becomes necessary to remove the stack from the bin.

1. Position the stacker at the exit end of the printer.

NOTE: As the stacker becomes full, there is a potential for stacking error (pieces not neatly stacked one on top of the other). This can cause envelopes to stack out of sequence.



Output Stacker

Optional Power Stacker

An optional high capacity power stacker is available for your printer. Contact Pitney Bowes for more information.

Optional Power Stacker

9. Printing a Test Piece

Last, you'll run some test pieces through the printer to check your setup.

1. Print one or more test pieces from the job that you are about to run to ensure the setup is correct.

2. If the material is feeding properly and your printed image quality is acceptable then you are ready to run the job! Follow the steps for *Loading Material* on the next page.

3. If the material is misfeeding or the printed image quality is unacceptable then review the three bullet points below.
   - If the printed image quality is not acceptable adjust the media thickness knob. See *Adjusting the Media Thickness Knob* in this chapter.
   - If the image is not aligned properly on the material, adjust the positions of one or both of the print heads. See *Setting the Print Head Position* in this chapter.
   - If the material is not feeding properly review and or repeat steps 1 through 7.

A NOTE ABOUT PRINT QUALITY: The printer is designed to feed and print on a range of materials with various finishes and coatings. However, the sharpness of the print may vary with different materials, depending on how absorbent the surface is, as well as other qualities.

You'll get best results using white wove bonded stock.

Printing is less sharp on Tyvek and recycled and glossy material. It is possible that ink may not dry thoroughly on certain glossy materials. Always test high gloss materials for their drying qualities before you buy them in quantity and attempt to run a print job.

See *Print Quality Problems* in the Troubleshooting chapter of this guide.

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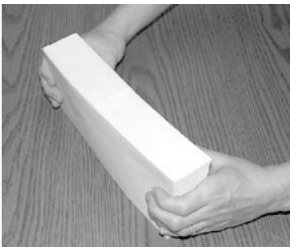
10. Loading Material

Once your printer is set up, you can load material and make a test print. Avoid misfeeds by following these precautions:

A. Make sure the input area is free of dust and other matter.

B. Take a manageable amount of material and while holding it as shown, fan all sides of the material to separate each piece. This step helps keep misfeeds to a minimum.



C. Tamp the lead edge of the material on a flat surface, making sure that the stack is square. Tamping materials toward feed edge (shorter edge of the material) will improve feed performance. This also helps insure that any inserts are close to the feed edge which also improves feeding.

D. Shingle the stack as you load it into the input area. Begin with just a few envelopes, then add several more pieces. Then add the remainder.

NOTES:

- Material should be fed into printer short edge first.
- Envelope feeding is generally more reliable if there are more than just a couple of envelopes in the input bin.

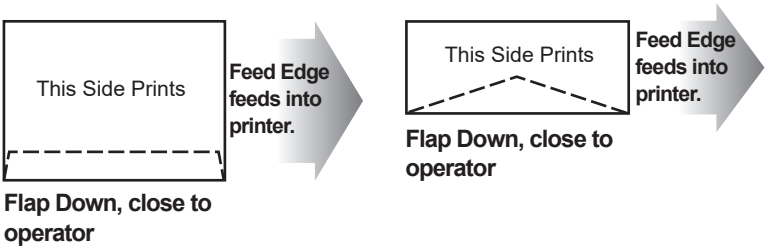
Envelopes: should be loaded so the side to be printed faces up, they should be stacked to feed with the short edge first. See example that follows.

Booklets: should be stacked to feed with the sealed edge leading or stacked with the sealed edge to feed first.

Catalogues: should be stacked to feed with the sealed edge leading or stacked with the sealed edge to feed first. Stiff material may not feed well. All material should be compliant with the material specifications. See *Appendix A Specifications,* in the back of this guide.

Postcards: must be at least 3.5"(89mm) x 5"(127mm) or larger.

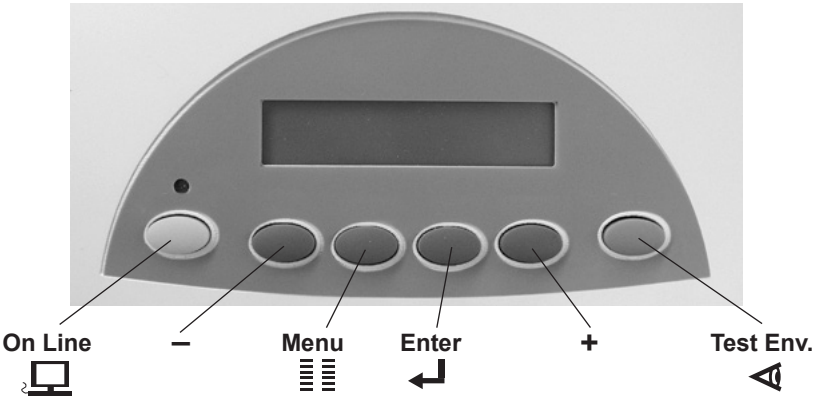
Self Mailers: may be folded in half, or "C" folded, or "Z" folded. The media must be tabbed.



Using the Control Panel

Use the buttons on the control panel to get to the printer menus, define the print options, run a print job, and turn the printer ON LINE and OFF LINE. You'll normally perform these actions from within the application you're using to set up your envelope layout.

NOTE: You also have a PC control panel which allows you similar functionality to the LCD menus. The control panel also has online help.



The buttons on the control panel perform the following functions:

This Button...	Does This...
ON LINE 	• Toggles (switches) between ON LINE (communicates with host PC) and OFF LINE (no communications with host PC). • Exits the menu system.
– (minus)	• Decrements a value. • Moves backwards through a choice list. • Negative response to query.
Menu 	• Enters the menu system when OFF LINE. • Exits a submenu.
Enter 	• Selects and/or saves the displayed value. • Causes system to perform described action. • Advances to next screen.
+ (plus)	• Increments a value. • Moves forward through a choice list. • Affirmative response to a query.
Test Env 	• Prints a test piece when OFF LINE. • Prints a report for specific menu items.

Using the Menus

The printer has three menus which are laid out in tables on the following pages. All can be accessed through the control panel on your printer.

- Use the **main menu** to control how your printed material looks.
- Use the **setup menu** to configure your printer so it will function correctly with your computer.
- Use the **service menu** to run tests and do calibration on the printer.

NOTE: To restore the factory default settings press and hold down the ON LINE button while turning on the power to the printer.

Using the Main Menu

1. Press the ON LINE button until the LCD message displays OFF LINE.
2. To access the main menu, press the menu button.
3. Press the + or – buttons to move through the list of menu options.
4. When the appropriate menu option appears, press the enter button to display the choices associated with that option.
5. Press + or – to scroll through the choices. Press enter to select a new option.
   When an option has an asterisk (*) in front of it, it means that option is presently selected. (Upon receipt from the factory, the asterisk is typically the default setting.)
6. Press the menu button several times to back out of the menu system until the printer displays OFF LINE. Then press the ON LINE button to print.

NOTE:
• The settings you define in your printing application or layout designer application on your PC will override any settings you choose in the printer menus.
• To print a list of all of the menu settings, press the test button while in the ROM revision screen.

Main Menu

MAIN MENU	MENU OPTIONS
1. ADDRESS LAYOUT	A. DISTANCE TO RIGHT B. DISTANCE TO BOTTOM C. LINE SPACING D. INVERTED PRINTING E. ORIENTATION F. ORIENTATION CONTROL
2. PRINT QUALITY	A. QUALITY B. LIGHT MODE
3. FONT	A. NAME B. SIZE C. BOLD D. ITALIC
4. BARCODE (U.S. Only)	A. LOCATION B. 9 DIGIT ON/OFF C. BAR WIDTH
5. ADDRESS RECOVERY	A. GET ADDRESS (BATCH) B. GET ADDRESS (INTER) C. CLEAR MEMORY
6. CLEAR COUNTER	A. CLEAR ADDRESS (PCS) COUNTER
7. JOB SETTINGS	A. LOAD A. SAVE
8. IMAGE OVERLAY	A. CAPTURE OVERLAY B. CLEAR OVERLAY C. PRINT OVERLAY
9. PURGE PRINT HEAD	A. PURGE PRINT HEAD
10. INK COUNT	A. INK COUNT

Using the Setup Menu

1. Press the ON LINE button until the LCD message displays OFF LINE.
2. To access the setup menu, press the menu button.
3. Press the + or – buttons to move through the list of menu options.
4. When the appropriate menu option appears, press the enter button to display the choices associated with that option.
5. Press + or – to scroll through the choices. Press enter to select a new option.
   An asterisk (*) will appear before the selected option. When an option has an asterisk (*) in front of it, it means that option is presently selected. (Upon receipt from the factory, the asterisk is typically the default setting.)
6. Press the menu button several times to back out of the menu system until the printer displays OFF LINE. Then press the ON LINE button to print.

NOTE:
• The settings you define in your printing application or layout designer application on your PC will override any settings you choose in the printer menus.
• To print a list of all of the menu settings, press the test button while in the ROM revision screen.

Setup Menu

SETUP MENU	MENU OPTIONS
1. STOP ON FEED ERROR	A. ON B. OFF
2. FEEDER SETUP	A. FEEDER TYPE B. ACTIVATE POLARITY C. PULSE TIME
3. CONVEYOR SETUP	A. USE CONVEYOR B. CONVEYOR TYPE C. (IF CONVEYOR TYPE IS OTHER) ACTIVATE POLARITY D. (IF CONVEYOR TYPE IS OTHER) PULSE TIME
4. COMMUNICATIONS	A. TCP/IP B. LINE TERMINATION C. CLEAR MEMORY
5. LANGUAGE	A. SYMBOL SET B. INCH / MILLIMETER C. MENU LANGUAGE
6. TRANSPORT SPEED	A. 50 TO 100 % (INCREMENTS OF 5%)
7. FEED GAP	A. FEED GAP TYPE B. FEED GAP DISTANCE
8. INK CARTRIDGE VOLUME	A. NORMAL CAPACITY B. EXTENDED CAPACITY
9. PRE-PURGE Print Head MAINTENANCE	A. PURGE AT START B. PERIODIC PURGE C. PURGE INTERVAL D. NOZZLE KEEP ALIVE
10. BUNDLE BREAK	A. ENABLE / DISABLE B. BREAK CHARACTER C. BREAK CHARACTER COUNT D. CHARACTER ORIENTATION E. BREAK LOCATION F. PRINT BREAK CHARACTER G. BREAK PAUSE TIME
11. TRAY BREAK	A. ENABLE / DISABLE B. BREAK CHARACTER C. BREAK CHARACTER COUNT D. CHARACTER ORIENTATION E. BREAK LOCATION F. PRINT BREAK CHARACTER G. BREAK PAUSE TIME
12. LOW INK WARNING	A. DISPLAY WARNING B. WARNING THRESHOLD C. STOP WHEN EMPTY
13. LOGGING SETTINGS	A. ENABLE LOGGING B. LOGGING LEVEL
14. HEX DUMP MODE	A. ON / OFF
15. ROM REVISION	A. ROM REVISION / MAIN COUNT

Using the Service Menu

1. Press the ON LINE button until the LCD message displays OFF LINE.
2. To access the service menu, press and hold the menu and (–) buttons simultaneously for two seconds.
3. Press the + or – buttons to move through the list of menu options.
4. When the appropriate menu option appears, press the enter button to display the choices associated with that option.
5. Press + or – to scroll through the choices. Press enter to select a new option.
   When an option has an asterisk (*) in front of it, it means that option is presently selected. (Upon receipt from the factory, the asterisk is typically the default setting.)
6. Press the menu button several times to back out of the menu system until the printer displays OFF LINE. Then press the ON LINE button to print.

Service Menu

SERVICE MENU	MENU OPTIONS
1. ADJUST PRINTING SUBMENU	A. PRINT HEAD ADJUST
2. CALIBRATE SENSORS	A. PAPER SENSOR B. EXIT SENSOR C. FEEDER SENSOR

Printer Driver Software

Before you can use your printer with your computer, you must install a printer driver. The driver gives your computer information about the printer you're using, and tells the printer about the settings you want to use in your print job.

If you have not previously installed the printer driver on your computer, refer to the installation instructions furnished with it.

The printer drivers are contained on a CD that comes with your printer. To set up, follow the instructions as shown in the installer.

Selecting Printer Properties

This chapter describes printer properties and use of the Windows® operating system for selecting the available options. To access the main properties window, follow these steps:

1. Click the start button in the task bar of your Windows® desktop, then select Settings.

2. Click printers. The printer window displays.

3. Right click the Pitney Bowes printer icon, then left click the properties option.

The *properties* window opens and displays seven tabs, each of which allows access to different printer options. An explanation of the items on each tab is available by doing the following:

- Right click an item to display the "What's This" button.
- Right or left click this button to display the information about the selected item.

Options may differ depending on which software drivers are used.

3 • Printer Maintenance

This chapter describes the procedures you should perform to keep your printer running trouble-free.

In this Chapter:

Replacing the Ink Cartridge(s)

WARNING! The ink in the cartridge may be harmful if swallowed. Keep new and used cartridges out of reach of children. Discard empty cartridges immediately.

When the control panel flashes a Low Ink warning or displays the Low Ink warning and stops printing, it is time to replace the ink cartridge indicated in the warning message. Use the following steps to remove used or damaged ink cartridges.

INK LOW - HD 3

Low Ink warning message indicating that print head 3 needs replacing.

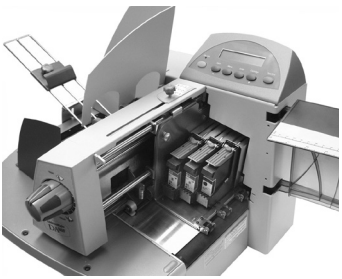
Removing Old Ink Cartridge(s)

1. Make sure the printer is OFF LINE. To do this, press the **on line** key until the indicator light above the key goes out.

2. Open the print station cover.

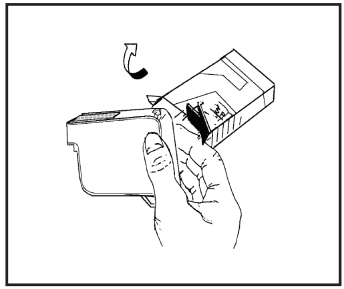
3. Grasp the blue ink cartridge latch and lift it up.

4. Hold the handle of the ink cartridge and pivot the cartridge towards you then lift up and out of the cradle.



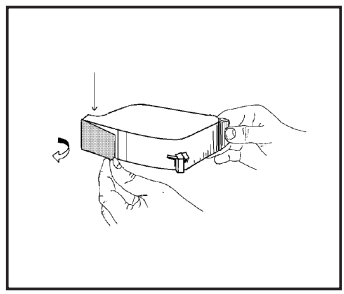
Installing New Ink Cartridge(s)

1. Remove the cartridge from the shipping container by peeling the top cover off. Be careful not to touch the copper ribbon.



2. Gently remove both pieces of tape covering the ink nozzles on the ink cartridge. Be careful not to touch the copper nozzles.

3. Raise the latch all the way up on the print head assembly if it is not already. Hold the cartridge by the handle on top. Gently insert the cartridge down at approximately a 45 degree angle into the cradle.

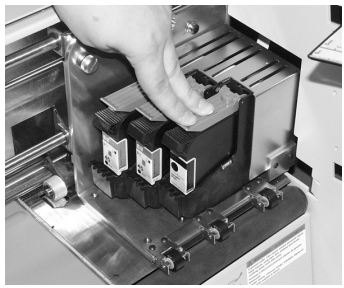


4. Push down on the cartridge until it is seated on the bottom of the print head assembly.

5. Press the blue latch down to lock the cartridge in place.

6. Repeat this process if necessary for the remaining ink cartridges.

7. Next you'll need to run the print head alignment procedure for the ink cartridge(s) that you have replaced. See *Performing A Print Head Alignment* in this chapter.

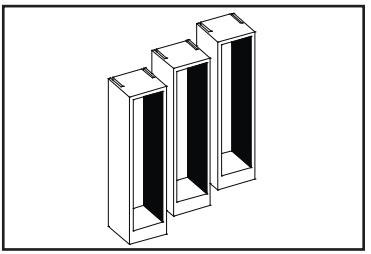


WARNING!

- Reset the Ink Count through the Main Menu>Ink Count after replacing an ink Cartridge. See *Using the Main Menu* in Chapter 2.
- Make a test print after replacing an ink Cartridge.

Prolonging the Life of Ink Cartridges

Included in the accessories are cartridge capping assemblies. These are designed to enclose the ink cartridge nozzles when not in use for an extended period of time. Proper use of the cartridge capping assemblies helps to maintain good print quality and prevents ink from drying and clogging the ink cartridge nozzles.

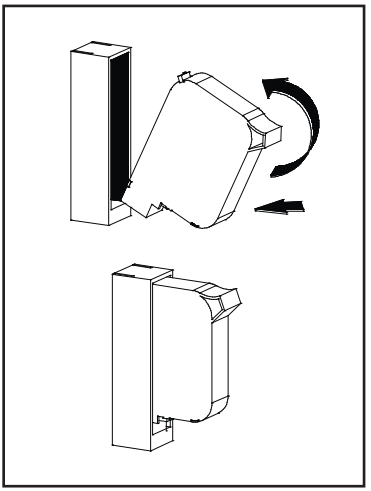


Use the cartridge capping assemblies when the printer is left to idle or shut down for more than a few minutes.

1. Remove the ink cartridge from the print head assembly. See *Replacing the Ink Cartridges* in this chapter.

   NOTE: Keep the ink cartridges in order or numbered so that you can place them back into the same stall they were removed from. Otherwise the counter for the percentage of ink remaining in each ink cartridge will give false information.

2. Remove any excess ink on the nozzles. See *Print Quality Problems* in this chapter. Clean any ink buildup on the rubber seal of the cartridge capping assembly to prevent it from obstructing the nozzles.



4. Install the ink cartridge nozzle first into the cartridge capping assembly, then press the top section completely in.

5. Remove the ink cartridge from the cartridge capping assembly in reverse order.

   TIP: Check the print head alignment and perform a purge of the ink cartridges before operating the printer.

Preventive Maintenance

The printer is designed for trouble-free service with a minimal amount of care. You should schedule regular cleaning of the feed and exit rollers.

CAUTION:

- Clean exterior covers with soft cloth and water.
- Clean print heads with soft cloth and water only. Use of cleaning solvents on print heads other than water will void all warranties.
- Clean all rubber rollers and belts, with a soft cloth dampened with isopropyl, denatured or rubbing alcohol only. Use of any other cleaning solvents may cause damage.
- Keep petroleum based cleaning solvents away from rubber or plastic parts.
- Clean printer deck and wipers with isopropyl, denatured or rubbing alcohol only.

Print Quality Problems

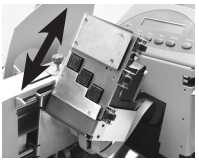
The print head performs a self cleaning cycle periodically. If print quality is unacceptable, try the following:

1. Adjust the Material Thickness Lever:
   Adjust the material thickness lever to see if print quality improves.

2. Clean the Print Heads:
   A. Open the print station cover.

   B. Rotate the print head assembly locking screw until the print head assembly is free.

   C. Rotate the print head assembly up and back to expose the print nozzles.



   D. Dampen a soft cotton cloth with water and wipe the nozzles clean in the direction shown.


CAUTION: clean print heads with a soft cloth and plain water only. Abrasive materials may damage print heads.

   E. Return the print head assembly back to it's home position. Take care not to "pinch" or bend the print head cables.

3. Purge the Print Heads:
   From the setup menu, select *3. Purge print head*. The purging process clears any clogged ink on the print nozzle. Often this returns the print quality to a normal level. See *Purging the Print Head* in this chapter for more information.

4. Install New Ink Cartridges:
   See *Replacing the Ink Cartridge(s)* in this chapter.

Purging the Print Heads

1. Be sure there is some material (paper, envelope, etc.) loaded in the printer before you go to step 2.

2. To access the setup menu, press and hold the **menu** button for four (4) seconds.

3. Press the **+** or **-** buttons to scroll through the setup menu options until *3. Purge Print Head* appears on the LCD panel.

4. Press the **enter** button to select this option.

5. To select Purge Print Head cycle, press **enter** when the *Purge Print Head?* message displays.

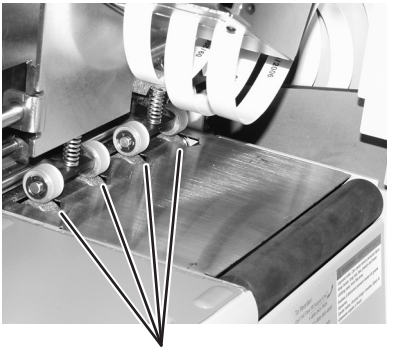
6. Press the **+** button (YES) to enable this option. The printer will display *Please wait...print head being purged*.

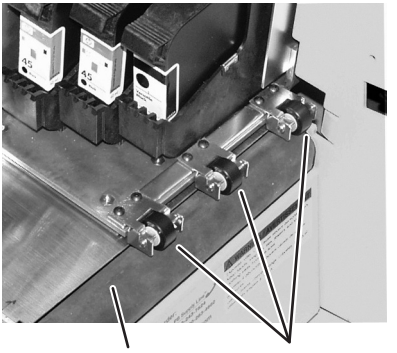
7. Press the **menu** button to back out of the menu until printer displays "OFF LINE". Then press the **on line** button to enable the printer.

Cleaning the Exit and Entry Idler Rollers

From normal operations of the printer the exit idler rollers and entry idler rollers can accumulate a buildup of ink, wax, etc. which will require removal or the idlers will leave marks on the material.

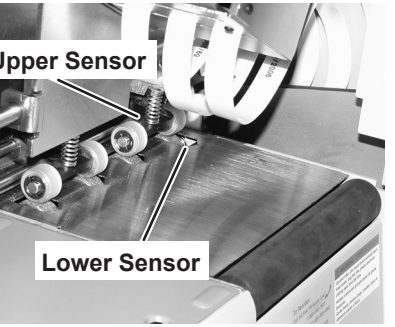
Use alcohol on a soft cloth to remove any ink, wax etc. from the rollers. You can swivel the print head assembly out of the way for better access.





Cleaning the Sensors

With use, a film and/or dust builds up on the eye of the sensors causing misfeeds of material. Periodically use compressed air to blow dust from the sensors. For caked on dust use a cotton swab to remove the dust from the eye of the sensor.



NOTE: The lower half of the Sensor is seen through the holes in the floor for the entry roller closest to the rear wall of the printer.

Cleaning the Wipers

The wipers beneath the module of ink cartridges will, over time, pick up ink, wax, clay and other material. Once enough of this material accumulates on the wipers, it will leave marks or smears on the material.

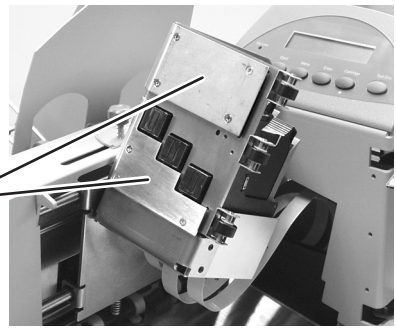
1. Open the print station cover.

2. Loosen the print head assembly locking screw.

3. Rotate the print head assembly up and back to expose the wipers. You may need to move the print head assembly to the front or rear to gain clearance to swivel the assembly fully back.

4. Use alcohol on a soft cloth to remove any ink, wax, etc. to keep the wipers clean.

Locking Screw



Wipers

Cleaning the Printer Floor

Ink will get sprayed on the printer floor from all the purging, setting up and printing records, etc. Eventually enough ink will accumulate on the floor that it will transfer onto the back of any material that comes in contact with the ink. The ink will also move to other printer components that have come in contact with the ink on the material.

1. Open the print station cover.
2. Swivel the ink cartridge assembly out of the way. See *Cleaning the Wipers* in this chapter.
3. Use alcohol on a soft cotton cloth and remove the ink from the printer floor.

Printer Floor

Performing A Print Head Alignment

You'll want to perform a print head alignment every time you replace an ink cartridge. Follow these step by step instructions.

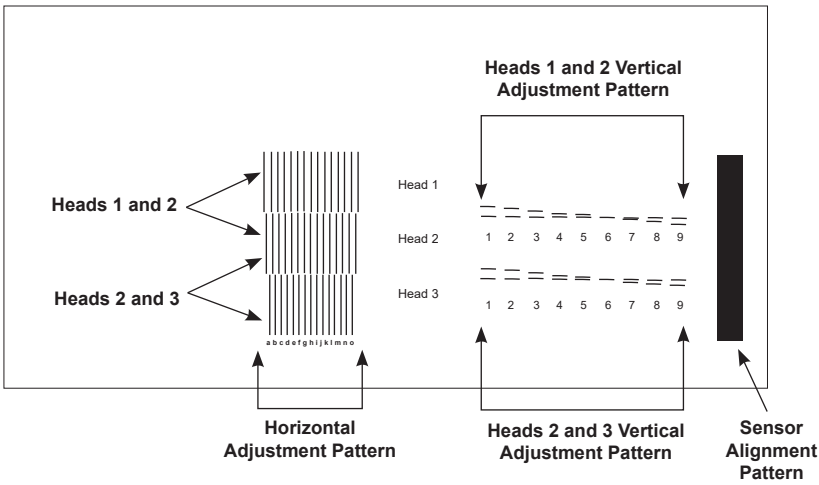
1. Make sure the printer is OFF LINE. To do this, press the **on line** key until the indicator light above the key goes out.

2. Access the service menu by holding down the **menu** and (**-**) keys simultaneously for two seconds. The *Adjust Printing* screen will display.

3. Press **enter**. The *A. Print Head Adjust* screen will display.

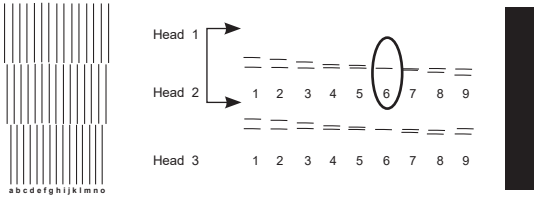
4. Press **enter**. A test pattern will print from the printer. Use this pattern to make the necessary adjustments in the steps that follow. See sample test pattern below.

Sample of test pattern printed on envelope



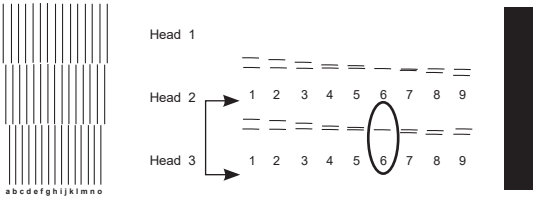
5. Press the **plus** (**+**) key to scroll through the menu to the ADJUST PRINTING screen.
6. Press **Enter**. The *PRINT HEAD ADJUST* screen displays.
7. Press **Enter**. The *VERTICAL ADJUST 1 - 2* screen displays.
8. On the test pattern, locate the horizontal line pattern that corresponds to print heads 1 and 2 (*see* example below).
9. Select the pair of horizontal lines from that pattern which most closely form a straight line. In the example below the selected value would be " 6 ".
10. Press the **plus** (**+**) and **minus** (**-**) keys to scroll to the numeric value determined in step 9 and press **enter** to save the value.

Vertical Adjust Heads 1 and 2



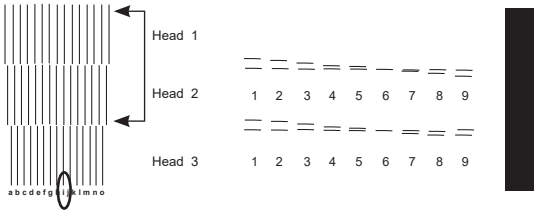
11. Press **Menu** to go back to the previous screen. Press the **plus** (**+**) key to scroll to the next adjustment. *PRINT HEAD ADJUST* screen displays.
12. Press **Enter**. The *VERTICAL ADJUST 2 - 3* screen displays.
13. On the test pattern, locate the horizontal line pattern that corresponds to print heads 2 and 3 (*see* example below).
14. Select the pair of horizontal lines from that pattern which most closely form a straight line. In the example below the selected value would be " 6 ".
15. Press the **plus** (**+**) and **minus** (**-**) keys to scroll to the numeric value determined in step 14 and press **enter** to save the value.

Vertical Adjust Heads 2 and 3



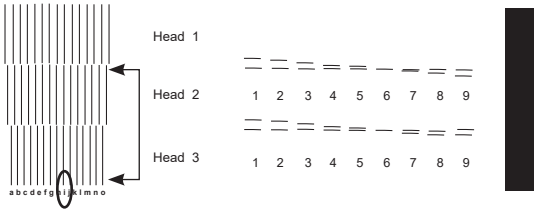
16. Press **Menu** to go back to the previous screen. Use the **plus** (**+**) key to scroll to the next adjustment. *PRINT HEAD ADJUST* screen displays.
17. Press **Enter**. The *HORIZ ADJ: HDS 1 - 2* screen displays.
18. On the test pattern, locate the vertical line pattern that corresponds to print heads 1 and 2 (*see* example below).
19. Select the pair of vertical lines from that pattern which most closely form a straight line. In the example below the selected value would be " i ".
20. Press the **plus** (**+**) and **minus** (**-**) keys to scroll to the numeric value determined in step 19 and press **enter** to save the value.

Horizontal Adjust Heads 1 and 2



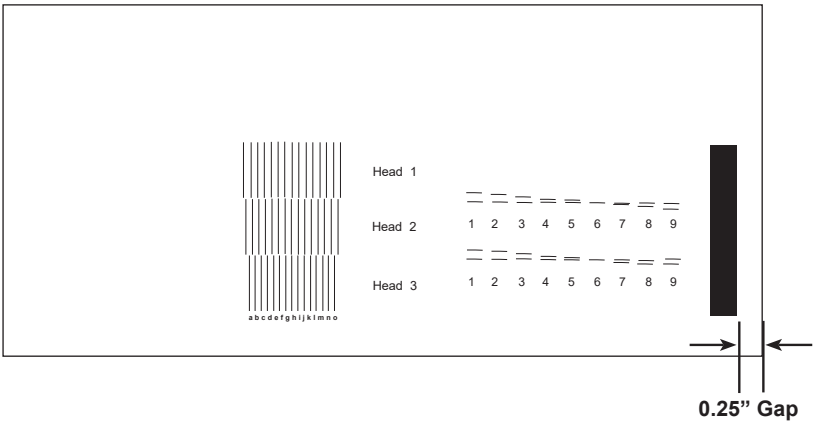
21. Press **Menu** to go back to the previous screen. Use the **plus** (**+**) key to scroll to the next adjustment. *PRINT HEAD ADJUST* screen displays.
22. Press **Enter**. The *HORIZ ADJ: HDS 2 - 3* screen displays.
23. On the test pattern, locate the vertical line pattern that corresponds to print heads 2 and 3 (*see* example below).
24. Select the pair of vertical lines from that pattern which most closely form a straight line. In the example below the selected value would be " i ".
25. Press the **plus** (**+**) and **minus** (**-**) keys to scroll to the numeric value determined in step 24 and press **enter** to save the value.

Horizontal Adjust Heads 2 and 3



26. Press **Menu** to go back to the previous screen. Use the (**+**) key to scroll to the next adjustment. The *MODULE DISTANCE to Sensor* screen displays.
27. Press **Enter**. The *MOD TO SENSOR* screen displays.
28. On the test pattern that you printed, there is a solid vertical bar at the far right edge of the pattern. Carefully measure the distance from the right edge of the bar to the edge of the media that the test pattern sample printed on.
    - If the gap measures *exactly* .25 in (6.35 mm), then no adjustment is necessary. **Skip to** step 31.
    - If the gap *is not exactly* .25 in (6.35 mm), **go to** step 29.

Sensor Gap Measurement



29. You will need to align the print heads to the sensor if the gap between the solid vertical bar and the right edge of the material it's printed on does not measure .25 in (6.35 mm). The number on the *MOD TO SENSOR* screen represents the actual distance from the sensor to the print head you are aligning. You will need to increase or decrease that distance. You will use the gap measurement that you got from the test print to determine how much to increase or decrease this number by.

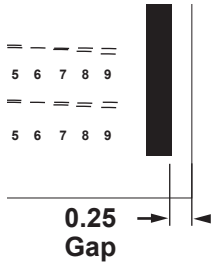
    Use the 3 samples on the following page to help you determine the value you should enter.

Example 1

The gap is EQUAL to .25 in (6.35 mm)

No adjustment is needed.

MOD TO SENSOR +LEFT
*01.600 inches -RGHT



Example 2

The gap is LESS than .25 in (6.35 mm)

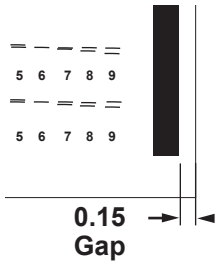
a. Subtract the measurement on the test pattern from .25in (6.35mm)

b. Decrease the number on the display by the answer from step a.

.25 - .15 = .1

In this example, you would decrease the number on the display by .1 from 1.6 to 1.5

MOD TO SENSOR +LEFT
*01.500 inches -RGHT



Example 3

The gap is GREATER than .25 in (6.35 mm)

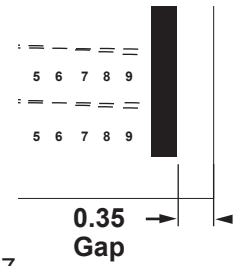
a. Subtract .25in (6.35mm) from the measurement on the test pattern.

b. Increase the number on the display by the answer from step a.

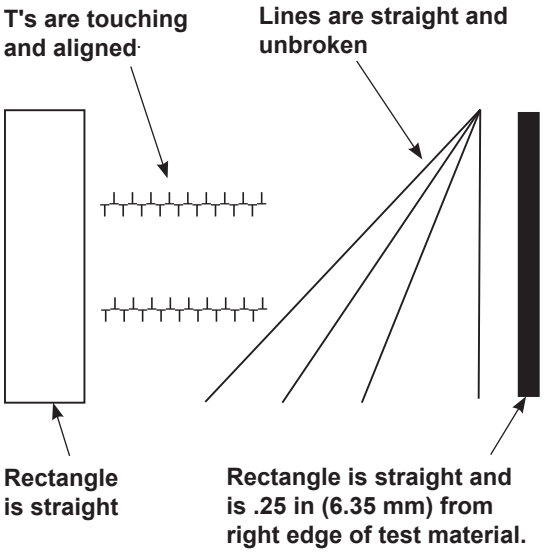
.35 - .25 = .1

In this example, you would increase the number on the display by .1 from 1.6 to 1.7

MOD TO SENSOR +LEFT
*01.700 inches -RGHT



30. Scroll using the **plus** (**+**) and **minus** (**-**) keys to change the number on the display. Press **Enter**. You have completed the Print Head Sensor Alignment. **Go to** step 31 to print a test pattern.
31. Ensure material (paper or an envelope) is loaded in the printer. Press the **Test Env** key. A test pattern will print. Verify that your test pattern looks like the example provided.



- If your test pattern matches the example then you have completed the print head alignment procedure.

- If your test pattern does not match the example, repeat the print head alignment procedure (steps 1-31).

4 • Troubleshooting

This chapter lists some common printer problems and offers suggestions on how to fix them.

Important Note About Error Codes

When any paper handling error begins to occur frequently, the following are several maintenance actions for the operator to perform. There is a high likelyhood that performing these procedures will correct the error. If these procedures do not correct the problem then refer to the trouble shooting chart on the following pages for further actions.

- Adjust the ‘H’ blocks
- Clean the paper path and sensors
- Calibrate the sensors
- Check Sensor Operation
- Check the thickness adjustment on the print heads
- In the WF96 check the tension on the feeder exit nip

Error Codes

Ink Empty - HD 3	Replace ink cartridge. In this example it is ink cartridge #3 (HD 3)
Ink Low - HD 3	Replace ink cartridge. In this example it is ink cartridge #3 (HD 3)
B, F, P, Encoder Error Call Service	Call for Service
Paper Out	Add material to be printed and retry
Out of Memory	Restart the printer
EEPROM failure	Put the printer back online. If the problem does not correct itself call Service.
Sensor Dirt	Sensor is dirty. See *Cleaning the Sensors* in the Maintenance chapter.
Sensor Blocked	Sensor is dirty or material is blocking the sensor. Clear material from printer or clean the sensor. Refer to *Cleaning the Sensors* in the Maintenance chapter.
Paper Sensor Failure	Clean the sensor. See *Cleaning the Sensors* in the Maintenance chapter.
Address to High	Load a larger material size or adjust the position of the print heads. Refer to *Setting the Print Head Positions* in the Printer Basics chapter.
System Error NNN	Restart the printer. Contact Service if error continues.
Paper Too Short	Paper shorter than specifications allow for. Refer to *Material Specifications* in the Appendix chapter.
Paper Too Long	Paper longer than specifications allow for. Refer to *Material Specifications* in the Appendix chapter.
Early Feed Error	Print job not ready when material reaches print heads. Try slowing transport speed by 5% increments. See *Setup Menu* in the Printer Basics chapter.
Jam at FS, SOP or EXS or Jam to FS, SOP or EXS	Material jammed under indicated sensor FS(Feed Sensor), SOP(Start of Print Sensor) or EXS(Exit Sensor). Clear material from printer or clean the sensor. Refer to *Cleaning the Sensors* in the Maintenance chapter.

Problems and Solutions

Before calling for service, look for your problem below. If you can solve the problem yourself, you will be able to resume printing sooner.

Feed Problems

Problem	Reason	Solution
Intermittent feed	Feed ramp not adjusted properly.	The feed ramp adds a gentle slope to the stack and helps feeding. Readjust the ramp position. Also make sure the feed ramp is centered under the material.
	Separator assembly gap incorrect.	Check the separator assembly gap for proper separation. See *Chapter 2, Printer Basics* for more information.
	Dirty feed rollers.	Clean the feed roller with a soft cloth dampened with alcohol. DO NOT use any other solvents or detergents. They could damage the feed rollers.
	Paper dust present (yellow or white residue), blocking feed sensor.	Clean sensor with compressed air. See *Chapter 3, Printer Maintenance* for more information.
	Material in feeder too heavy. Weight of stack must be 5.5 lbs(2.49 kg) or less	Remove some material from stack.
	Material out of specification.	Refer to *Appendix A-Specifications.*
	Material sticking together	Fan material before loading.
	Stuffed envelopes not feeding properly.	Try running envelopes unstuffed.

Misfeed (feeds double) or skewing	Separator Assembly not set correctly.	Adjust separator assembly to thickness of material. See *Chapter 2, Printer Basics.*
	Side guide set incorrectly.	Check Side Guide position. See *Chapter 2, Printer Basics.*
	Material thickness knob set too thick.	Reduce setting. See *Chapter 2, Printer Basics.*
	Material out of specification.	Refer to *Appendix A-Specifications.*
	Material sticking together	Fan material before loading
	Stuffed envelopes not feeding properly.	Try running envelopes unstuffed.

Print Quality Problems

Problem	Reason	Solution
No print	Ink cartridge problem	Purge ink cartridge. *See Chapter 3, Print Quality Problems.* Clean cartridge jets with soft cotton cloth and water in the direction shown.  **Correct** **Incorrect**
Light or grey print	Ink supply is too low. Material thickness knob is set too high.	Check adjustment of the material thickness knob. *See Chapter 2, Printer Basics.* If this fails to correct the problem, replace ink cartridge. *See Chapter 3, Printer Maintenance*.
Address printing is not sharp	Incorrect material thickness knob setting. Unsuitable material.	Check whether material thickness knob is adjusted too high. *Chapter 2, Printer Basics.* Print quality is less sharp when using Tyvek, recycled or glossy material. Try using less glossy material or running the job in light mode or setting print quality mode lower. You can also try increasing the feed gap slightly.

Address smudging	Incorrect material thickness knob setting.	Check whether material thickness knob is adjusted too low. See *Chapter 2, Printer Basics.*
	Ink may not dry on very high gloss material.	Try using less glossy material or running the job in light mode or setting print quality mode lower. You can also try increasing the feed gap slightly.
	Dirty exit rollers	Clean with soft cloth dampened with alcohol.
	Material rubbing across previous mail piece in stacker	Slow printer down or add a dryer to the system.
Skewed print	Side guide set incorrectly.	Side guide should control material without restricting feed.
	Roller or wiper is running along the edge of the material.	Move the print head module to a slightly different position over the material.
Unwanted bolding	Escape sequence turning on bold, or bold selection in printer's menu options is set to bold.	Turn off bolding in software and/or turn bold selection in printer menu OFF. *See Chapter 2, Printer Basics.* If problem still exists, call for service.
Misaligned test print	After replacing ink cartridge and performing the Print Head Alignment procedure test print is stepped or misaligned.	Contact service.
Address walking	Incorrect Address Setup	Count cartridge returns and line feeds and adjust lines per address to the same number.
	Address Termination should be Form Feed.	Set address setup for 8 lines. Check Line Termination: Typical: CR=CR; LF=LF. other choices (CR=CR+LF;LF+LF) (CR=CR;LF=CR+LF) (CR=CR+LF; LF=CR+LF)

Address shifting	Sensor dirty	Clean Sensors. *See Chapter 2, Printer Maintenance.*

Interface Problems

Problem	Reason	Solution
No communications; printer does not respond	Interrupted communications	Cycle power (turn printer off, then on).
	Incorrect printer driver	Use DA80F printer driver.
	Cables not connected properly	Make sure cable connections are tight.
	Bad ethernet or USB cable,	Replace ethernet, USB cable.
		Clear memory. *Refer to Chapter 2, Printer Basics>Using the Menu Setup>Address Recovery> Clear Memory.*
	Bad printer controller board.	If the problem still persists, call for service.

Motor Problems

Problem	Reason	Solution
Motor turning but no Feed roller movement	Feed gap set incorrectly for material thickness.	Readjust Feed Gap. *See Chapter 2, Printer Basics.*
	Transport speed too slow	Set Transport Speed to 100%. *See Chapter 2, Printer Basics, Setup Menu.*
	Mechanical problem.	Call Service.

Memory Problems

Problem	Reason	Solution
Out of Memory	The printer can run out of memory when downloading fonts or graphics.	This generally means you're trying to use a graphic (artwork) that's too big or you have too many fonts or too large a font size. If the out-of-memory message appears, try reducing the size of your art and limiting the number and size of your fonts. Then turn the printer OFF, then ON and retry.

Paper Out/Paper Jam Problems

Problem	Reason	Solution
Paper Out or Paper Jam	Input area is empty.	Refill the input area.
	Paper jam obstructing paper path.	Clear obstructed path.
	Paper jam in exit roller area.	Make sure exit rollers are rotating freely.
	Dirty paper feed sensor.	Clean sensor with compressed air or dry cotton swab. See *Chapter 3, Printer Maintenance*.
	Stuffed envelopes not feeding properly.	Try running job with envelopes unstuffed.
	Separator assembly not adjusted correctly.	Adjust the separator assembly to the thickness of the material you're running. See *Chapter 2, Printer Basics*.
	Thickness setting too tight.	Adjust the material thickness knob clockwise to widen the gap.

Appendix A
Specifications

This Appendix contains detailed hardware and material specifications for the DA80F printer.

In this Chapter:

Equipment Specifications

Physical Dimensions
17.9 in.(455mm) high; 18.5 in.(470mm) wide; 17.7 in.(450mm) deep

Weight
53 lbs. (24 kg), including print cartridges and output stacker

Electrical

100-240 VAC, 50/60 Hz, 5.0 A

Interface
USB 2 Type B, Ethernet RJ45

Control Language
PCL5

Driver Compatibility
Windows 2000 SP4, XP SP2, Server 2003

Address Recovery
Memory buffer holds a maximum of 99 addresses

Print Modes (Print Resolution)
The printer has four print resolutions. These resolutions are Executive (600 DPI), Letter (300 DPI), Draft (200 DPI), and Super Draft (150 DPI) which represent the horizontal density.

Additionally, there are two Light Mode settings (ON and OFF), which represent the vertical density. When Light Mode is "ON", the vertical density setting is 300 DPI; when Light Mode is "OFF" the vertical density setting is 600 DPI. Refer to the table on the next page for the print mode options.

Equipment Specifications (continued)

Print Quality:	With Light Mode set to "ON":	With Light Mode set to "OFF":
Executive	600 x 300 DPI	600 x 600 DPI
Letter	300 x 300 DPI	300 x 600 DPI
Draft	200 x 300 DPI	200 x 600 DPI
Super Draft	150 x 300 DPI	150 x 600 DPI

Resident Fonts
Arial, Comic Sans MS, Courier New, Georgia, Impact, Kino, MSLogo, Symbol, Tahoma, Times New Roman, Trebuchet MS, Verdana, Webdings, Wingdings, plus there must be included one OCR and one Code 39 font. (All fonts are scalable from 4 to 144 pt size.)

Resident Font Enhancements
- Bold
- Underline
- Italic

Downloadable Fonts
Supports TrueType and Bitmapped fonts.

Downloadable Graphics
Supports Bitmap and PCL Raster images. There is approx. 2M memory

User-Definable Parameters
- Font Characteristics
- Address Placement
- Print Quality
- Barcode Characteristics

Throughput
Maximum 22,000 pieces per hour, depending on print mode, material size, number of address lines, and barcode imprinting. Throughput may vary depending on machine condition and operator skill.

Effective Print Area
The printable width of print line is 13.5" (239mm). The maximum printable height is 1.5" (38.1mm).

Equipment Specifications (continued)

Print head/Ink Cartridges
User replaceable black and color ink jet cartridges. The cartridge used for printing 3 line addresses will provide approximately 30,000 pieces in executive mode, 60,000 letter, 90,000 draft and 120,000 super draft depending printer settings, materials and image density.

Environmental Limits
Operating and Storage Temperature: 50° to 104°F (10 to 40°C)

Humidity: 5 to 95%

Noise Level
Idle Mode: 68.00 dBa

Operating Mode: 75.00 dBa

Operator position: no more than 66 dBa maximum level.

Recommended Usage

This machine has been tested under many different conditions, and it is recommend that you do not exceed the usage levels specified below:

- Typical monthly volume is 176,000
- Maximum monthly volume is 240,000

  NOTE: Usage beyond the maximum volume is not covered under your Equipment Maintenance Agreement.
- Product life is 14,400,000 cycles.

Material Specifications

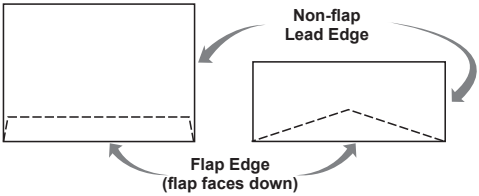
Material Size

The printer can print on the following range of material sizes.

	Width	Height	Thickness
Minimum	5" (127 mm)	3.5" (88.9 mm)	.003" (.076 mm)
Maximum	14" (355.6 mm)	15.5" (393.7 mm)	.25" (6.3 mm)

Material Notes

Envelopes must have a flap along the long edge and are processed by the printer non-flap edge first (see illustration).



Envelopes may have either a diagonal or straight edge along the envelope flap. Stuffing materials must be machine folded (C, Z, or 1/2 folded) or cut sheets.

Booklets are defined as material having physical dimensions 6" (152mm) x 9" (229mm) or larger. Booklets have an opening along their long edge which is covered by a flap with an adhesive seal.

Catalogues have an opening along their short edge which is closed by a flap with an adhesive seal. A catalogue may consist of multiple pages bound by adhesive or tabs on the feed edge or at 90 degrees with respect to the feed edge. Material that is too stiff will cause feed problems.

Postcards have no folds or bends. The printable side may have a higher surface roughness than the non-printable side.

Self-mailers may be of "C," "Z," or 1/2-folded construction. They may not exceed the maximum allowable thickness as specified on the previous page and must be tabbed per postal regulations. 1/2 and tri-folds must be machine produced.

Sheet Stock may consist of 60 to 105 g/m2 bond as well as 227 to 302 g/m2 coated stock. The size and thickness constraints specified above apply.

Surface Coefficient must be within the PB min. and max. requirements. Test methodology provided upon request.

Approved Material

The paper types listed below are approved for use with the printer. Please note that the dimensional limits above apply in all cases, and that all material (flats, envelopes, postcards, catalog envelopes, etc.) must be without windows and unsealed. Note: Material with different coatings on opposite sides can cause operational difficulties.

- White Wove
- Card stock
- Coated paper
- Bond paper
- Brown kraft
- Recycled paper
- Manilla
- Perforated

Supported Envelope/Paper Sizes

Paper Name	Displayed in List	Size (Width)	Size (Height)
US/Canada Envelope/Paper Sizes			
ENV_9	Envelope #9	8⅞"	3⅞"
ENV_10	Envelope #10	9½"	4⅛"
ENV_11	Envelope #11	10⅜"	4½"
ENV_12	Envelope #12	11"	4¾"
PPR_Booklet_9_12	Booklet 9 x 12	12"	9"
ENV_MONARCH	Envelope Monarch	7½"	3⅞"
PPR_Card_4_6	Card 6 x 4	6"	4"
PPR_Card_5_7	Card 7 x 5	7"	5"
LETTER	Letter	8½"	11"
LEGAL	Legal	8½"	14"
EXECUTIVE	Executive	7¼"	10½ "
European Envelope/Paper Sizes			
ENV_B4	Envelope B4	353mm	250mm
ENV_B5	Envelope B5	250mm	176mm
ENV_B6	Envelope B6	176mm	125mm
ENV_C4	Envelope C4	324mm	229mm
ENV_C5	Envelope C5	229mm	162mm
ENV_C6	Envelope C6	162mm	114mm
ENV_C65	Envelope C65	229mm	114mm
PG_ENV_C76	Envelope C76	162mm	81mm
PG_ENV_C7	Envelope C7	114mm	81mm
ENV_DL	Envelope DL	220mm	110mm
ENV_DLX	Envelope DLX	235mm	120mm
ENV_DLE	Envelope DLE	225mm	114mm
A4	A4	210mm	297mm
A5	A5	148mm	210mm
Asian Envelope/Paper Sizes			
	Envelope 12JE	140mm	265mm
	Envelope 9JE	190mm	265mm
	Envelope 6JE	215mm	305mm
	Envelope ZL-China	230mm	120mm
	Chou #3 Yoko	120mm	235mm

Paper Name	Displayed in List	Size (Width)	Size (Height)
Asian Envelope/Paper Sizes			
	Chou #4 Tate	90mm	205mm
	Hagaki	100mm	148mm
	Postcard #3	165mm	102mm
	Postcard #4	183mm	100mm
Maximum Paper Size		14" (356mm)	15.5" (394mm)

Approved Ink Cartridges

HP Versatile Black C8842A
HP 45 Spot Color Cartridges

Appendix B
Delivery Point Bar Coding

This Appendix contains an explanation of the benefits of using the Delivery Point Bar Code function (US mail markets only) and it also describes the various Delivery Point Bar Code formats that are available.

In this Chapter:

Delivery Point Bar Coding (US mail markets only)

This printer is equipped and certified by NAIC for printing the United States Postal Service, Delivery Point Bar Code. Using Delivery Point Bar Coding (DPBC) enables the user to receive DPBC rates. The printer uses the destination data sent down on the last line from your software to print the Delivery Point Bar Code.

Examples of Delivery Point Bar Codes:

ZIP+4: 98765-1234

ZIP+4+2: 98765-123412

ZIP+4+3: 98765-1234123

ZIP+4+2 (11 digit bar code)

If you are using a ZIP+4+2 ZIP code you must insert a tilde(**~**) character between the **ZIP +4** and **2** digits for the barcode to be considered valid and printed. Example input: 98765-1234~12. A valid 11 digit bar code will print, however, the last 2 characters will not be printed in the address block (98765-1234). The USPS only permits ZIP+4, and ZIP+4+3 to be printed in the address block.

ZIP+4+3 (12 digit bar code)

If you are using a ZIP+4+3 ZIP code. Two options for how the ZIP code appears in the address block are available.

- The first is to print the entire 12 digit ZIP code (ZIP+4+3) in the address block (98765-1234123). Do this by entering your 12 ZIP digits into the last line of your software.
- The second is to print only the 9 digit ZIP code (ZIP+4) in the address block (98765-1234). Do this by inserting a tilde(~) character between the **ZIP+4** and **3** digits. Example input: 98765-1234~123.

In both cases the full 12 digit bar code will still be printed on your mailpiece.

Address Formats Table

Address ZIP Codes	Data Entered	Bar Code Printed	Actual Print in Address Block
ZIP + 4 + 2	98765-123412	No DPBC Printed *Not Valid*	98765-1234
ZIP + 4 + 2	98765-1234~12	DPBC Printed	98765-1234
ZIP + 4 + 3	98765-1234123	DPBC Printed	98765-1234123
ZIP + 4 + 3	98765-1234~123	DPBC Printed	98765-1234

A

B

C

D

E

F

O

P

Q

R

S

T

U

W

Z

pitney bowes

3001 Summer Street
Stamford, Connecticut 06926

For Service or Supplies

PB Form SV61722 Rev. E 01/24

SV61722REVE