



DI350 OfficeRight™
Inserting System

Operator Guide

NOTE: This equipment has been tested and found to comply with the limits for a Class A 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, at their own expense, will be required to correct the interference.

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

ABOUT THIS GUIDE

This guide explains how to setup and use the DI350 OfficeRight™ Inserting System . Please spend a few moments reading through it. Understanding what the inserter does, and how it does it, will keep problems to a minimum and help you get the best performance possible.

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1. INTRODUCTION

To the Operator

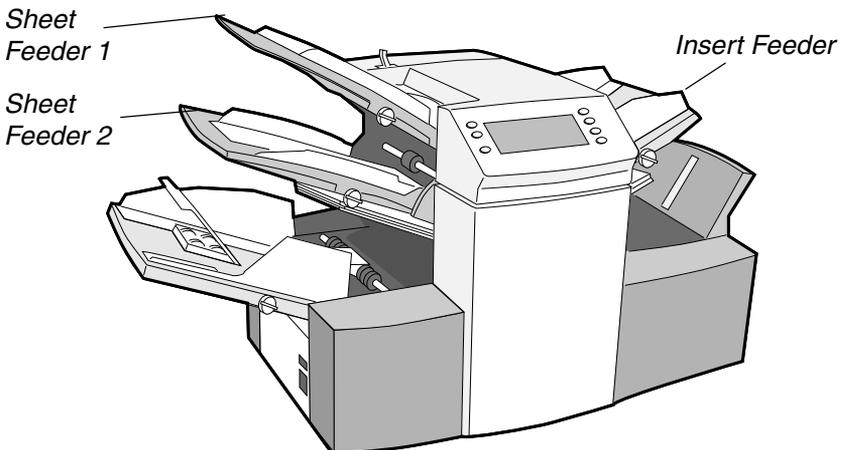
Your Pitney Bowes DI350 Inserting System is a compact, desk top unit, which is simple to set up and run while offering the following features:

- Envelope seal/no seal option
- Semi-automatic single insert operation (not on single station model)
- Fully automatic material separation on sheet feeder(s)
- Fully automatic settings on fold plates
- Fully automatic envelope separation
- Fully automatic double document detection when selected
- Fold only option (fold without insertion)
- Semi-automatic insertion of single and multiple sheet Inserts
- Option of single fold, letter (C) fold, accordion (Z) fold or double fold
- Job recall, operator programmable (up to 20, depending on model)
- Switchable feeding
- Optical Mark Recognition (OMR) scanning for greater collation integrity and additional feeding flexibility (**3-station model only**)

This guide covers all three models of the DI350 inserter system.

Three-Station Model

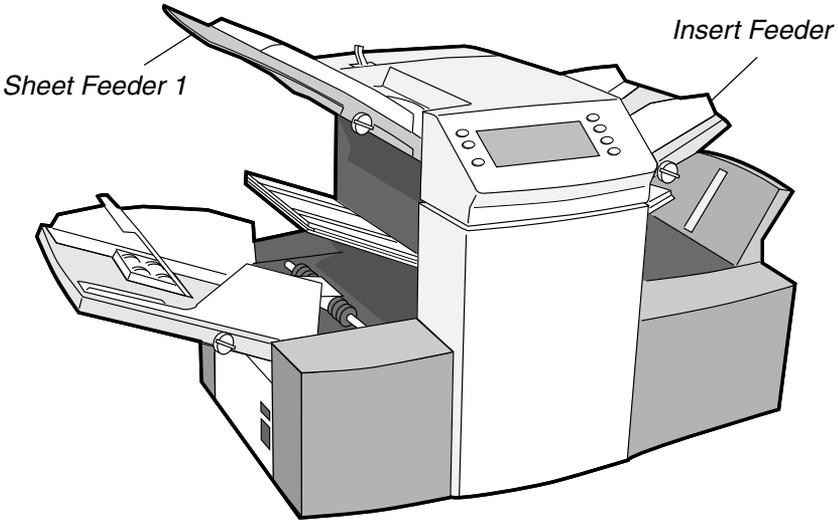
This model incorporates two sheet feeders and an insert feeder. **It is the only model that has OMR** and has the most setup options. For this reason, all illustrations in this guide show this model.



Introduction

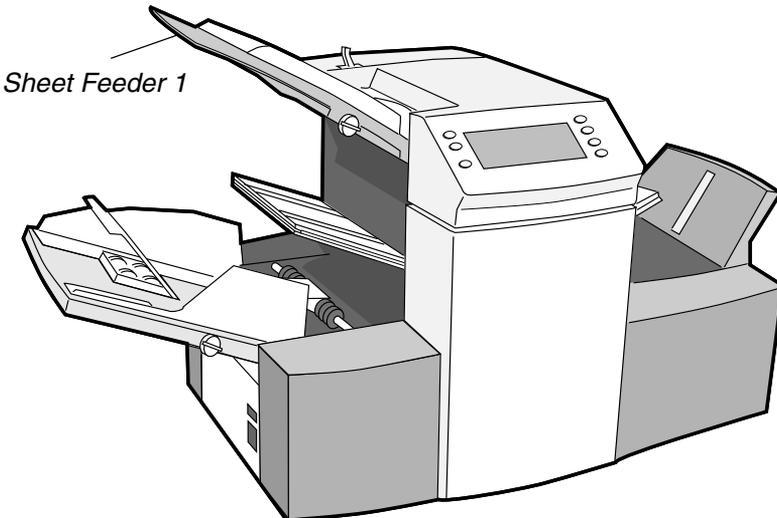
Two-Station Model

This model incorporates a single sheet feeder and an insert feeder.



One-Station Model

This model incorporates a single sheet feeder.



All models are set up and operated in a very similar way. Procedures in this guide cover all models. If a function is model dependent, the accompanying text will explain this.

Safety

Safety Precautions:

When using this machine, follow the normal safety precautions for all office equipment:

Keep loose clothing, jewelry and long hair away from all moving parts.

Avoid touching moving parts or materials while the machine is in use.

Before clearing a jam, be sure machine mechanisms come to a stop.

When removing jammed material, avoid using too much force to protect against minor personal injury and damaging equipment.

Use the power cord supplied with the machine and plug it into a properly grounded wall outlet located near the machine and easily accessible. Failure to properly ground the machine can result in severe personal injury and/or fire.

The power cord wall plug is the primary means of disconnecting the machine from 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.

Avoid using wall outlets that are controlled by wall switches, or shared with other equipment.

DO NOT route the power cord over sharp edges or trapped between furniture.

Insure there is no strain on the power cord where it becomes jammed between the equipment, walls or furniture.

Be certain the area in front of the wall receptacle into which the machine is plugged is free from obstruction.

Do not remove covers. Covers enclose hazardous parts that should only be accessed by Pitney Bowes Customer Service. Report any damage of covers to a Pitney Bowes Customer Service Representative.

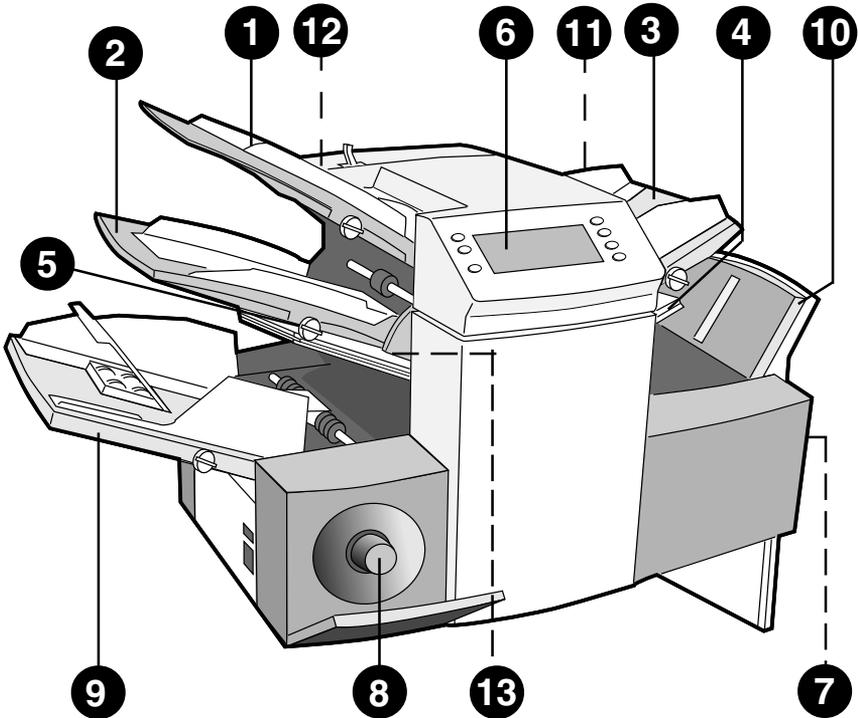
To prevent overheating, do not cover the vent openings.

Read all instructions before attempting to operate the equipment.

Use this equipment only for its intended purpose.

In addition, follow any specific occupational safety and health standards for your workplace or area.

Machine Identification



1 Sheet Feeder 1

This feeder is intended for feeding material that requires folding. If you are running addressed documents for insertion into window envelopes, feed them from this feeder.

In addition, sheet feeder 1 can be set to 'manual feed'. In this mode, stapled sets of up to 5 sheets may be run. The machine waits for each set to be manually fed into sheet feeder 1 before folding and inserting the set automatically. See the specifications section of Chapter 6 (Reference) for full details of the sets possible.

2 Sheet Feeder 2 (*three-station machine only*)

For feeding material that requires folding. Its functions are similar to sheet feeder 1 but 'manual feed' is NOT available from this feeder.

- 3 Insert Feeder** *(two and three-station machines only)*
Use this feeder to add additional inserts to your envelope. Material fed from this feeder cannot be folded by the inserter. However, this feeder is especially suited to feeding pre-folded or thicker inserts.

- 4 Fold Plate 2**
5 Fold Plate 1
These units are used to create the desired fold in material fed from the sheet feeder(s). The fold plates are automatically set from the control panel.

- 6 Display/Control Panel**
This is where you enter commands and where the machine informs you of its status with the use of symbols and icons. Full details of each button function are given on the following page.

- 7 Stacker and Measuring Scale**
Located at the right end, is the fold-down stacker. This unit can be latched against the right side of the machine when not in use to save space.

A scale is located along the front edge of the stacker to aid measurement of material and envelopes.

- 8 Hand Crank**
The hand crank is located behind a drop down cover at the left front. It can be used to manually turn the machine mechanisms to free a material stoppage.

- 9 Envelope Feeder**
This feeder feeds envelopes into the inserting area where they are filled with the sheets requested from the other feeders.

- 10 Envelope Inverter Unit**
This unit exits the envelope into the stacker face up.

Introduction

11 Sealer Water Bottle

The sealer water bottle is located behind a drop down cover at the right rear of the machine. It provides water or EZ Seal® solution to the envelope sealer unit.

12 Upper OMR Scanner *(three-station machine only)*

Scanner used to read OMR marks on sheet feeder 1 from above the sheet.

13 Lower OMR Scanner *(three-station machine only)*

Scanner used to read OMR marks on sheet feeder 2 from under sheet.

Control Panel



Control Panel Buttons

Default

Press this button to return the system to its 'standard' settings. These settings come pre-configured from the factory but can be modified to suit your needs by a Pitney Bowes Customer Service Representative.

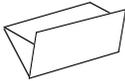
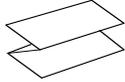
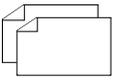
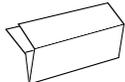
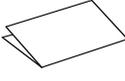
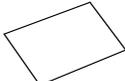
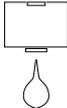
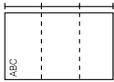
Job

Press to step through the jobs you have programmed into the machine's memory. Up to twenty (20) jobs can be held, depending on model (see page 2-9). See Chapters 3 or 5 for details on programming jobs.

Reset Counter	Press this button to reset the item counter.
Clear Deck	Pressing this button will jog material through and out of the machine. It can be used to clear the machine ready for automatic operation after a stoppage has occurred etc.
Trial Piece	This button is used to run a single test piece so that you can check machine setup. A trial piece must be run before automatic operation can be commenced using the Start button. If double detection is in use, the machine sets itself automatically as it runs the trial piece. This envelope will be unsealed and counted as one item.
Start	Starts automatic operation.
Stop	Stops automatic operation at the end of the next cycle.
Delete	Used in setup mode to delete a programmed job from memory.
Setup	When pressed, the machine enters setup mode. This mode allows you to program jobs into memory for instant recall using the Job button.
Change + -	In setup mode, used to select options or set values of machine settings.
Prev. ◀	In setup mode, used to step backwards/forwards through the various machine settings.
Next ▶	

Introduction

Display Symbols

	Used on sheet feeders to signify that the feeder is on without double detection.		Indicates that the sealer unit is on (automatic envelope sealing).
	Used on sheet feeders to signify that the feeder is on with double detection.		Indicates a 'C' - Letter fold is selected.
	Used on insert feeder to signify that the feeder is on without double detection.		Indicates a 'Z' - Accordion fold is selected.
	Used on insert feeder to signify that the feeder is on with double detection.		Indicates a double fold is selected.
	Used on sheet feeder 1 to signify that the feeder is set for manual feed.		Indicates a single fold is selected.
	Used on envelope feeder to signify that the feeder is on.		Indicates a no-fold insert operation.
	Indicates the setting (from 1 to 5) of the envelope stop.		Indicates a material stoppage. The position of this symbol in the display indicates where the stoppage has occurred.
	Indicates that the sealer water bottle needs refilling.		Call Pitney Bowes Service.
	Indicates the envelope depth.		Indicates the paper size, address orientation and fold(s) set for sheet feeder.
	Used on any feeder to indicate feeder is not in use.		

2. OPERATION

This section explains operation of the DI350 inserter, assuming the job to be run is already programmed into the machine.

If the job has not been programmed, refer to “Create Non-OMR Job” on page 3-1 or “Create OMR Job” on page 5-1.

Connecting Power



Read the safety information on page 1-3 before connecting the machine.

Connect the power cord to the socket on the left side of the machine. Plug the power cord into a suitable power outlet. Make sure the power outlet is near the machine and is easily accessible. Turn the machine power switch ON.

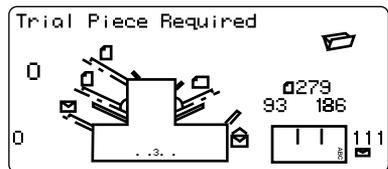


Selecting and Running a Job

Select the Job

When the machine is turned ON, the display will show the last job run and ‘Trial Piece Required’.

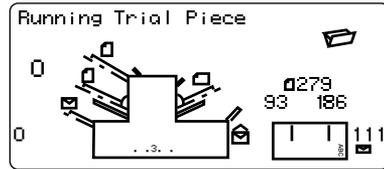
Press the **Job** button until the job you require is displayed, or press **Default** if you want to run the machine with your ‘standard’ settings.



Note: The default job can be altered only by a Pitney Bowes Customer Service Representative.

Operation

If you have material loaded, press **Trial Piece**. The machine will set itself and run a test piece for you to check.



If you don't have material loaded, do this now, then return to this section. Loading feeders etc. is covered on the following pages.

Note:

You may have selected a 'manual feed' job where sheet feeder 1 is set for manual feed of collated sets. If this is the case, the sheet feeder should not be loaded, as the collated sets are fed one at a time as required by the machine. However, the



lever shown in the illustration should be pulled back to open the feed mechanism to ready the manual feed operation. Remember to return this lever to its normal position when you use the feeder for automatic operation.

Run a Trial Piece

Once material is in place, press **Trial Piece** so you can check that the setup is correct.

Note: In switchable mode both sheet feeders must be loaded. A trial piece will be run for both feeders.

Minor changes to the job settings can be made at this stage if the trial piece needs 'fine tuning'. Press **Setup**, then use the **Prev** (◀), **Next** (▶) and **Change** (+/-) buttons as required to modify job settings. When you have made the necessary changes, press **Setup** again to return to run mode. The job will be saved with the new settings.

Start Machine Operation

Press **Start** to begin automatic operation. The machine will operate until either material runs out or the **Stop** button is pressed.

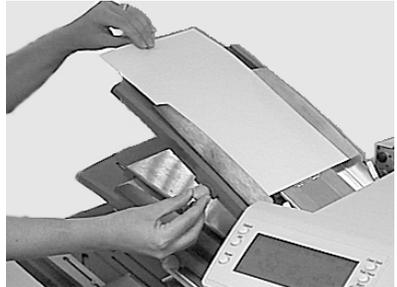
Note: If the three station machine is set for switchable feeding, the display will show:

Ready: 1 > 2 > 1

This confirms that feeding will automatically switch between sheet feeders. See page 3-8 or 5-7 for more details.

Setting the Sheet Feeders

1. Adjust the side guides to the width of the material being fed, then back-off a quarter turn on the side guide control. This will set the correct clearance between the guides and the material.

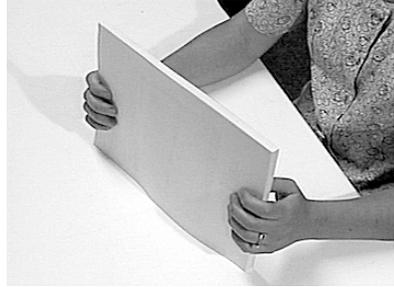


2. Take the stack of paper and aerate it to ensure the individual sheets are not stuck together.

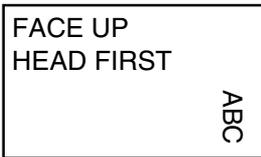


Operation

3. Jog the stack back into alignment. The sheet feeders take the paper stack aligned in a similar way to a photocopier paper cassette.



4. The three possible choices for loading your documents with addresses are listed below. NOTE: The display will indicate the correct orientation of the paper in the first two cases only.



5. Place the paper stack onto the feed deck. Allow the deck to move down and the top of the paper stack to slide under the feed roller.

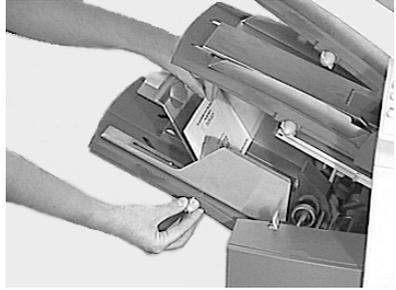


Note: When using both sheet feeders with **accordian** fold, sheet feeder 2 must be used for the prime (address bearing) document.

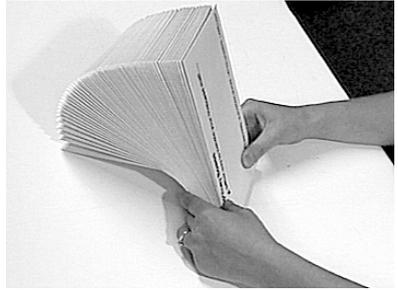
6. You can pull out the sliding supports from the end of the deck to help support long material.

Setting the Envelope Feeder

1. Adjust the side guides to the width of the envelopes being fed, then back-off half a turn on the side guide control. This will set the correct clearance between the guides and the envelopes.



2. Aerate the stack of envelopes to be run.



3. Place them on the feed deck with the flaps up and trailing. **The lead edge of the first envelope should be under the front feed roller.**



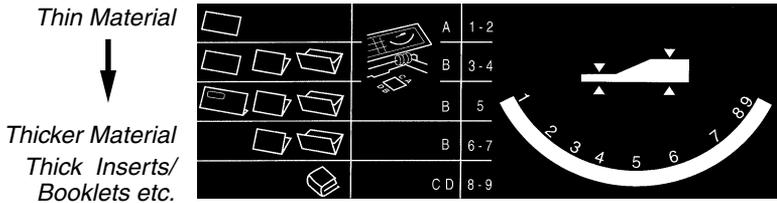
Let the 'wedge' slide down behind the stack so that the envelopes are supported.

Setting the Insert Feeder

1. Adjust the side guides to the width of the material being fed, then back-off a quarter turn on the side guide control. This will set the correct clearance between the guides and the material.



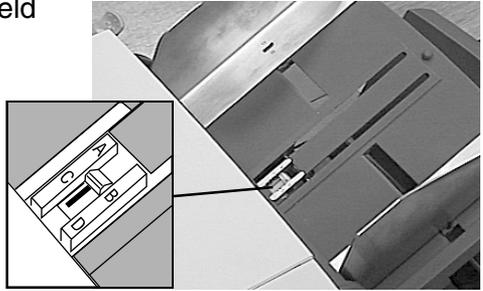
2. Refer to the 'label' located on the insert feeder. Compare your insert with the diagram. Read off the settings for the insert feeder blue lever (numbers 1 to 9) and the separator shield (letters A to D).



3. Set the blue lever to the number required.



4. Set the separator shield to the letter required.



5. Fan the inserts to be run and place them onto the feed deck face up with their bottom edge feeding first.

Let the 'wedge' slide down behind the stack so that the inserts are supported.



Operation

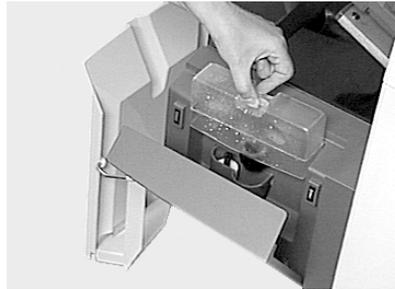
Filling the Sealer

When the sealer unit needs refilling, the **Add Fluid** symbol will flash in the display.



Add Pitney Bowes EZ Seal® solution or water in the following way:

Note: EZ Seal® solution is recommended to minimize growth of algae and scale build-up.



Hinge open the Water Bottle Cover located at the rear right hand side of the machine. Remove the bottle

Fill the bottle up to the level indicated.

Replace the water bottle and close the cover.

If the sealer unit has been allowed to completely empty, you should allow time for water to soak through the sealer mechanism.

Programming Options By Model

The DI350 has the ability to be programmed by the operator with up to 20 jobs (depending on model) which can be recalled at the touch of a button. The following table shows which functions are available on a machine by the number of stations it has (✓ = present on machine):

Function	# of Stations			Possible Settings
	1	2	3	
Sheet Feeder 1	✓	✓	✓	On (with double detect), On (without double detect), Off, or Manual Feed
			✓	In addition to above: Select Feed (with double detect), or Select Feed (without double detect)
Insert Feeder		✓	✓	On (with double detect), On (without double detect), Off
			✓	In addition to above: Select Feed (with double detect), or Select Feed (without double detect)
Sheet Feeder 2			✓	On (with double detect), On (without double detect), Off, Select Feed (with double detect), or Select Feed (without double detect)
Accumul Mode	✓	✓	✓	Off or On (with 2, 3,4, or 5 pages)
OMR Mode			✓	Off, On, OMR + Sequence, OMR + Select Feed and Sequence, OMR + Select Feed
Mode	✓	✓	✓	Insertion Mode, Fold Only Mode
Number of Jobs	10	10	20	Each job can be programmed by operator
Fold Type	✓	✓	✓	C - Letter, Z - Accordion, Double or Single
Paper Length	✓	✓	✓	any within machine specification limits
Fold A	✓	✓	✓	any within machine/fold specification limits
Fold B	✓	✓	✓	any within machine/fold specification limits
Envelope Depth	✓	✓	✓	any within machine specification limits
Envelope Stop	✓	✓	✓	1 to 5
Batch Mode	✓	✓	✓	Off or On (from 50 to 99)

3. CREATE NON-OMR JOB

This section takes you step-by-step through the process of setting up a new (non-OMR) job and saving it in the memory.

Programming is carried out in the 'Setup Mode'...

Entering the Setup Mode

Open the hinged cover to the right of the display. This will expose the setup buttons.

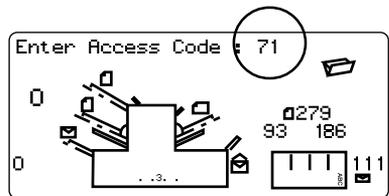
Press **Setup**. The indicator will light and the machine will ask for an access code. This code prevents the machine's settings being changed by unauthorized personnel.

The **Prev** (◀) and **Next** (▶) buttons are used to step forward or backwards through the settings available. Once the item is displayed, the **Change** (+/-) buttons are used to select the option or value you want.



Use the **Change** (+/-) buttons to select the access code **71**.

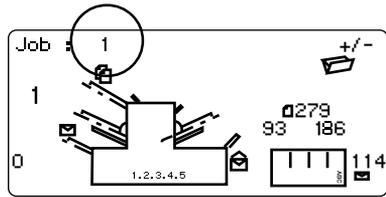
Press **Next** (▶) to advance to the next setting....



Create Non-OMR Job

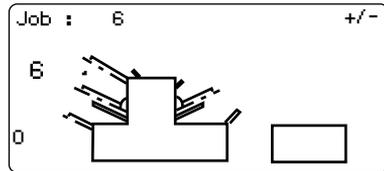
Choosing the new job number

The machine will ask for the job number you wish the new settings to be stored under (the default job number is 1). Use the Change (+/-) buttons to display the job number you want.



Notes:

- If you use an existing job number, the old settings will be overwritten by the new settings you are about to make.
- If you want to find a currently unused job number, press **Change (+/-)** until you see a job where the display shows no symbols alongside the feeders or in the fold setup area. This means the job is currently empty.



Press **Next (▶)** to advance to the next setting...

Selecting Non-OMR Option

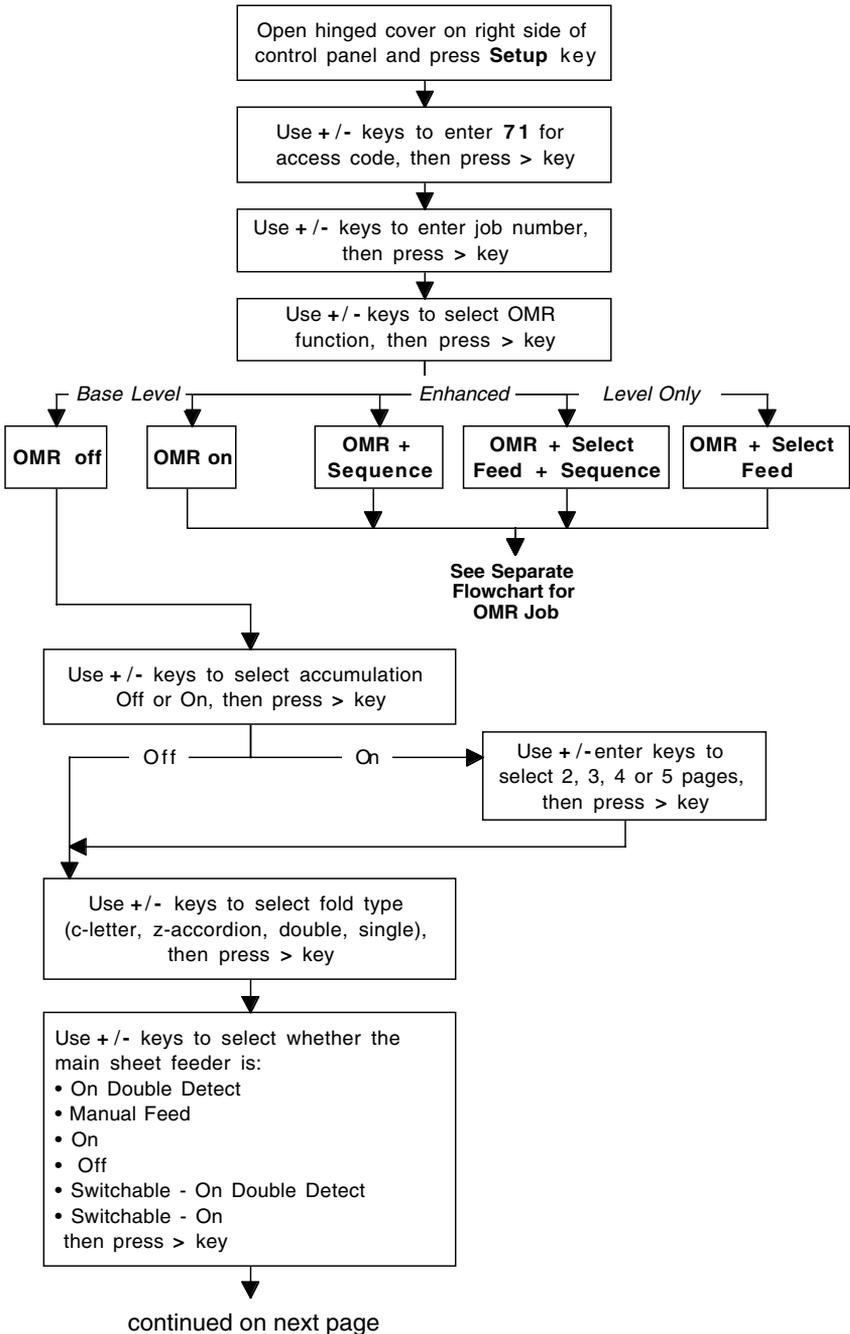
Press **Change (+/-)** until you see this option:

OMR off OMR is turned off for this job.

Press **Next (▶)** to advance to the next setting... (see page 3-5)

The flowchart on the following pages describe the setup for a non-OMR job.

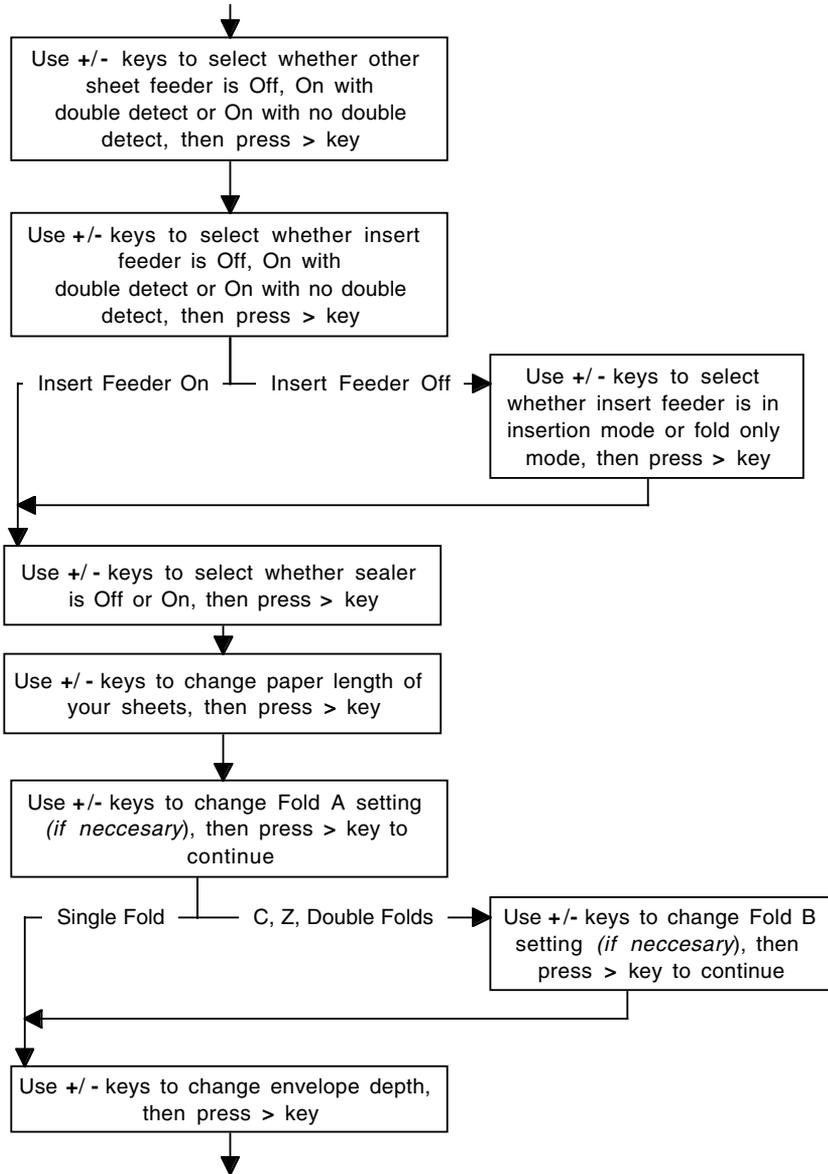
Flowchart for Non-OMR Job Setup



Create Non-OMR Job

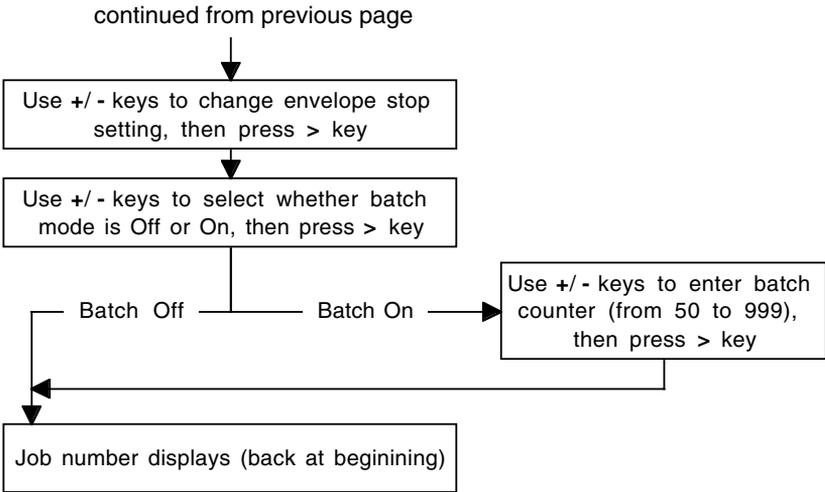
Flowchart for Non-OMR Job Setup

continued from previous page



continued on next page

Flowchart for Non-OMR Job Setup



Setting the Accumulation Function

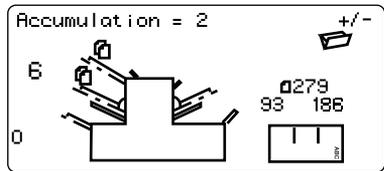
Press **Change (+/-)** until you see the option you want:

Accumulation: OFF

Accumulation is turned off for this job.

Accumulation: ON

Accumulation is turned on for this job.



Accumulation = 2/3/4/5 Select how many pages you want to feed into each envelope. Either 2, 3, 4 or 5 pages can be selected.

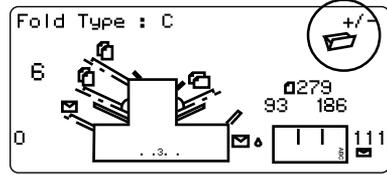
Press **Next (▶)** to advance to the next setting...

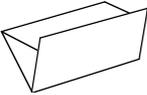
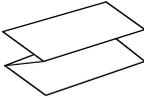
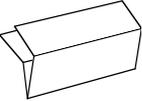
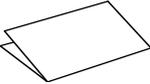
Create Non-OMR Job

Fold Type

Select the type of fold.

Press **Change (+/-)** until you see the option you want:



<p>C - Letter</p> 	<p>Folds your sheet into a standard 'C' or letter fold.</p>
<p>Z - Accordion</p> 	<p>Folds your sheet into a 'Z' or accordion fold.</p>
<p>Double</p> 	<p>Folds your sheet in half and then in half again.</p>
<p>Single</p> 	<p>Folds your sheet once.</p>

When the fold type is set as required, press **Next (▶)** to advance to the next setting...

Setting Sheet Feeder 1 (Upper Feeder)

Select whether you want to use sheet feeder 1 and, if so, how it will be used.

Press **Change (+/-)** until you see the option you want:



On Double Detect

Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultaneously feeds from the feeder).



On

Feeder on without the double detector.



Manual Feed

Allows you to manually feed collated sets (see notes below).

Off

Feeder turned off for this job.



Switchable: On

Switchable: On Dble Detect

These functions are available only on the three-station machine. Feed will initially be from Sheet Feeder 1. When the feeder is empty, the machine will automatically switch to feeding from sheet feeder 2.

When a trial piece is requested, both feeders must be loaded as a trial piece will be fed from each feeder

Notes About Manual Feed:

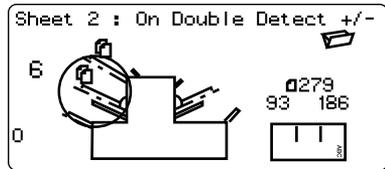
1. The manual feed setting allows stapled sets of up to 5 sheets of 20/24 lb (to a maximum of 120 lbs per set) to be run. The maximum compressed thickness of the set *after folding* must not exceed 2mm. The machine will wait for manual insertion of each set into sheet feeder 1 after which it will fold and insert the set automatically.
2. When running manual feed mode, sheet feeder 2 becomes inoperable

Create Non-OMR Job

When sheet feeder 1 is set as required, press **Next** (▶) to advance to the next setting...

Setting Sheet Feeder 2 (Lower Feeder)

Select whether you want to use the sheet feeder 2. This function is available only on the three-station model.



Press **Change** (+/-) until you see the option you want:



On Double Detect

Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultaneously feeds from the feeder).



On

Feeder on without the double detector.

Off

Feeder turned off for this job.

When sheet feeder 2 is set as required, press **Next** (▶) to advance to the next setting...

Setting Insert Feeder

Select whether you want to use the insert feeder and, if so, how it will be used. This function is available only on the two and three-station models.

Press **Change (+/-)** until you see the option you want:



On Double Detect

Feeder on with the double detector operating. (The double detector stops the machine if more than one insert simultaneously feeds from the feeder).



On

Feeder on without the double detector.

Off

Feeder turned off for this job.

When the insert feeder is set as required, press **Next (▶)** to advance to the next setting...

Mode

This option only appears if you have the insert feeder turned off. In this case, the machine needs to know if the job requires inserting into an envelope or if it is a fold only job.

If the insert feeder has been set to 'on', the machine automatically sets itself to Insertion Mode and advances to the Sealer option on the next page.

If 'Insertion Mode' appears on the display, you must choose the machine's mode of operation. Press **Change (+/-)** to switch between the options:

Insertion Mode

Activates the Envelope Feeder for a normal inserting job.

Fold Only Mode

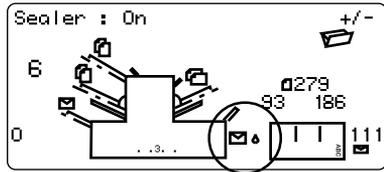
Turns the Envelope Feeder off and makes the machine act as a folding machine.

When the mode is set as required, press **Next (▶)** to advance to the next setting...

Create Non-OMR Job

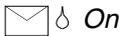
Sealer

This setting only appears if an insertion mode has been selected.



Select whether you want to seal envelopes or not.

Press **Change (+/-)** to switch the option on or off:



On

Turns the sealer unit on for automatic sealing of envelopes. Make sure the sealer water bottle is full of EZ Seal® or water (see page 2-8).



Off

Turns the sealer unit off. Envelopes will be ejected unsealed.

When the sealer is set as required, press **Next (▶)** to advance to the next setting...

If you have selected either of the sheet feeders, the next setting offered will be fold type. However, if you are using the insert feeder only, folding is not possible and the machine will advance directly to the envelope depth setting (page 3-12).

Paper Length

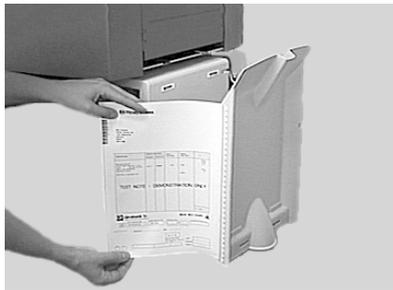
Select the paper length.

Use the scale on the edge of the stacker.

Quick reference:

US Letter length 11" (279mm)

A4 paper length 297mm



Press **Change (+/-)** until the length of your paper (in millimeters) is displayed.

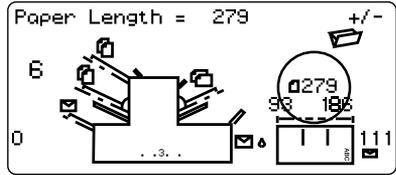
When the paper length is correct, press **Next (▶)** to advance to the next setting...

Fold A

Select the size of the first fold required.

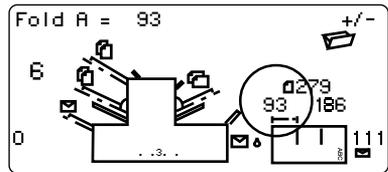
Depending on the settings previously made for fold type and paper length, the machine will be suggesting the correct dimension for the first fold. Most times, therefore, this setting will not require alteration.

If you want to change the 'standard' setting, press **Change (+/-)** until the length of fold required is displayed. The symbol | — | shows the fold panel you are adjusting.



The machine will automatically limit your choices to what is physically possible within the machine specifications. (As you change the length of fold A, you will see the dimension of fold B automatically changing to keep within paper length and machine specifications.)

When the setting is correct, press **Next (▶)** to advance to the next setting...



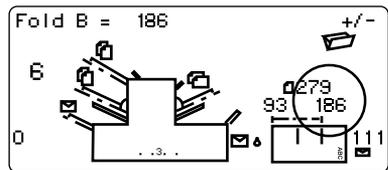
Fold B

Select the size of the second fold required.

In a similar way to fold A, the machine will be suggesting the correct dimension for the fold.

If you want to change the 'standard' setting, press **Change (+/-)** until the length of fold required is displayed. The symbol | — | shows the fold panel you are adjusting.

When the setting is correct, press **Next (▶)** to advance to the next setting...



Create Non-OMR Job

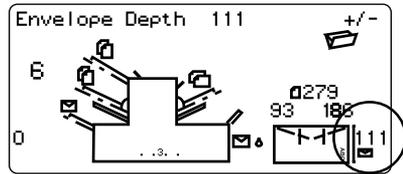
If you are programming an inserting job the setting Envelope Depth will now appear. If you are programming a fold only job, the display will jump straight to the 'Confirming the Job Setup' section on the next page.

Envelope Depth

Select the depth of your envelopes (in millimeters).

Again, you can use the scale on the stacker to measure the depth of your envelopes. Press **Change (+/-)** until the correct dimension is displayed.

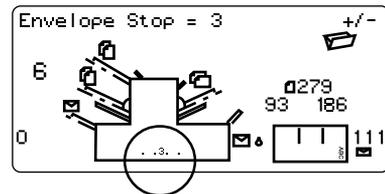
When the envelope depth is set as required, press **Next (▶)** to advance to the next setting...



Envelope Stop

Select the position of the machine's envelope stop.

The stop has five positions numbered 1 to 5. Setting 3 is the 'standard' setting for normal weight paper with standard folds. A thinner/lighter envelope will require a lower setting and thicker/heavier envelope a higher setting.



Press **Change (+/-)** until the setting you want is displayed.

When the envelope stop is set as required, press **Next (▶)** to advance to the next setting...

Batch Mode

The batch mode allows you to automatically process pre-defined batches of finished mailpieces. The system “counts down” from the number programmed for that job. When the batch is complete (has reached “0”), the machine will stop, allowing you to empty the stacker. Pressing **Start** will commence processing of the next batch.

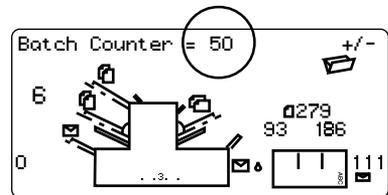
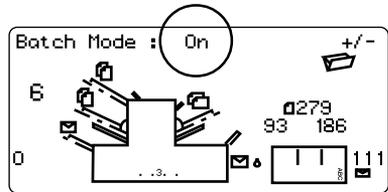
If batch mode is not selected, the display counter will simply count the number of items processed until reset by pressing **Reset Counter**.

Press **Change (+/-)** to switch batch mode On or Off.

When the setting is correct, press **Next (▶)**.

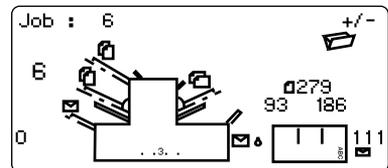
If batch mode is turned On, the machine will now request the batch quantity. The default quantity is 50, but you may select any value up to 999 using the **Change (+/-)** buttons.

When the setting is correct, press **Next (▶)**.



Confirming the Job Setup

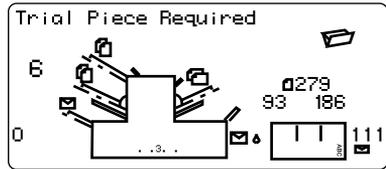
Job setup is now complete. The display will show the complete job setup for you to confirm. If you see a setting that is incorrect, use the **Prev (◀)** button to backtrack to the setting and correct it.



When you are satisfied with the program, press the **Setup** button. The machine will save the job into its memory and reset to the new job.

Create Non-OMR Job

When this is complete, the display will show the new job with the message 'Trial Piece Required'.



Job settings will be retained by the machine *even with power disconnected* until they are changed or deleted as described on the following page.

Testing the Job

Load material and press **Trial Piece** so that you can check that the setup is correct.

Minor changes to the job settings can be made at this stage if the trial piece needs 'fine tuning'. Press **Setup**, then use the **Prev** (◀), **Next** (▶) and **Change** (+/-) buttons as required to modify job settings. A chart is provided below to help 'fine tune' your fold settings.

FOLD TYPE	ADDRESS TOO LOW	ADDRESS TOO HIGH
"C" - Letter Fold	Decrease Fold A	Increase Fold A and increase Fold B by the same amount
"Z" - Accordion Fold	Increase Fold A	Decrease Fold A and increase Fold B by the same amount
Single Fold	Increase Fold A	Decrease Fold A
Double Fold	Decrease Fold A	Increase Fold A

It is recommended that the folds are changed by 5mm each time and a new trial piece run to test the settings. When you have made the necessary changes, press **Setup** again to return to run mode. The job will be saved with the new settings.

Changing an existing job

To change an existing job...

1. Enter the setup mode as described on page 3-1.
2. Use the **Change (+/-)** buttons to display the job you wish to edit.
3. Use the **Prev (◀)** and **Next (▶)** buttons to display the setting(s) you wish to change.
4. Use the **Change (+/-)** buttons to change the options/dimensions you wish to amend.
5. Press the **Setup** button to leave setup mode and save the changes.

Deleting a job

To erase an existing job from memory, follow the steps below:

1. Enter the setup mode as described on page 3-1.
2. Use the **Change (+/-)** buttons to display the job you wish to delete.
3. Press the **Delete** button. The display reads "Press again to confirm". Press **Delete** again. The display will briefly read 'Deleting Job' as the job is erased.
4. Press the **Setup** button to leave setup mode.

Create Non-OMR Job

4. WHAT IS OMR?

DI350 inserters that are 3-station models have an Optical Mark Recognition (OMR) scanner installed on the upper and lower sheet feeders. This section describes what OMR is and how it can be used to enhance your use of the machine for your inserting needs. Once you understand the OMR concepts (and you have printed your documents with the proper OMR marks), go to Chapter 5 for instructions on setting up an OMR job and adjusting the OMR scanners.

What is OMR (Optical Mark Recognition)?

OMR (Optical Mark Recognition) is a system whereby marks are pre-printed on all pages that make up a document, statement, advertisement, etc. These pages are fed into the machine and their OMR marks “read” by the system, whose job is to interpret the marks and do the prescribed tasks associated with those marks (such as feeding sheets or verifying the end of a document).

The tracking of these OMR marks by the system assures that sheets of a document which belong together (a collated set) actually stays together throughout the inserting process. This is known as *collation set integrity*. The more OMR marks that are printed and read, the better the collated set integrity. However, more space and programming is required to print additional marks on a document, so you will need to weigh the trade-off between more integrity and the space you have available on your document.

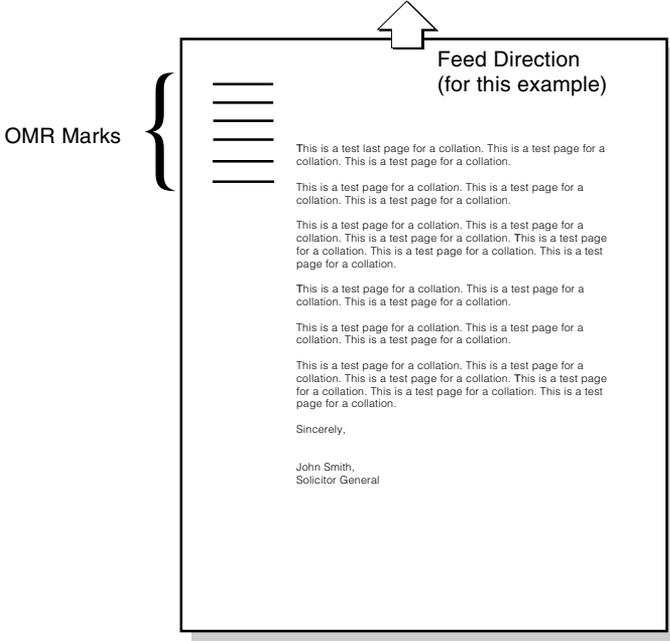
The OMR mark itself is normally a dark solid line on a sheet of light-colored paper (usually white) that is horizontally positioned so it matches the direction of travel of the paper. This line must be printed to certain specifications in width, length, and separation to be read by the OMR scanner on the system. Normally, there are several of these OMR marks printed in a group in one area on the paper (away from any text, pictures, or other lines) where the OMR scanner “reads” or scans them.

What is OMR?

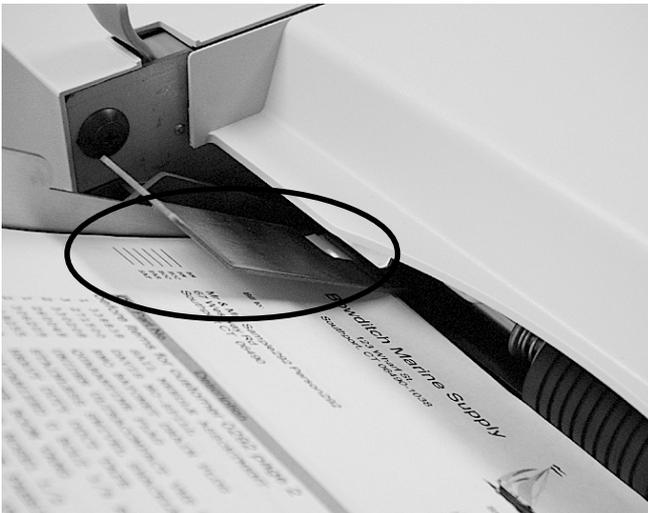
What Do OMR Marks Look Like on Paper?

The example below shows OMR marks that may be typically used on a document for the DI350:

Example of OMR Marks on a Document (not drawn to scale)



OMR Marks Being Read by a DI350 Scanner

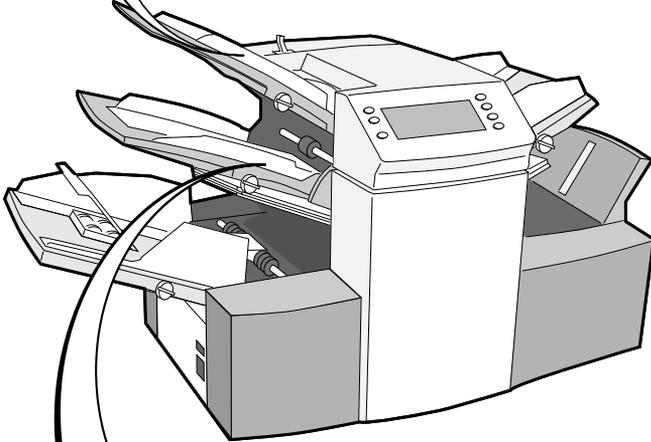


What is OMR?

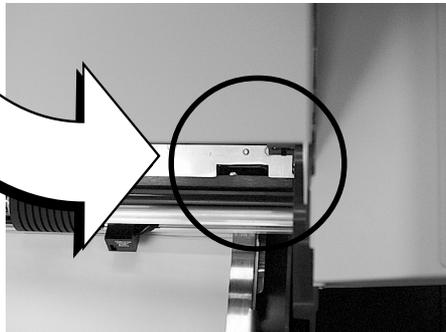
How are OMR Marks Read on the DI350?

There are two OMR scanners (the devices that “read” the OMR marks) on the DI350 inserter. One is top-mounted on sheet feeder 1 and the other is bottom-mounted on the sheet feeder 2 (see figures below).

**Top-Mounted
OMR Scanner on
Sheet Feeder 1
(upper)**



**Bottom-
Mounted OMR
Scanner on
Sheet Feeder 2
(lower)**



What is OMR?

The top-mounted scanner reads the marks from on top of the sheet, while the bottom-mounted scanner reads the marks from underneath the sheet of paper. This configuration allows you the maximum flexibility for your document folding needs when processed through the system. Specifically:

- the top-mounted scanner supports C-fold and double fold documents so the address can be visible in window envelopes
- that bottom-mounted scanner supports Z and half-fold documents so the address can be visible in window envelopes

How are OMR Marks Generated?

There are several ways to print the special OMR marks on a document. Pitney Bowes offers a PC-based product called PB FIRST™ that enables you to add the OMR marks to your documents so they can be read by the DI350 inserter (it also allows you to setup OMR marks for the DI400 and DI800 inserters). What's nice is that once you've setup PB FIRST™ correctly to generate the marks, the marks are printed to the proper specifications – no “experimentation” is necessary.

If you have a computer/IT department in your organization, you may be able to use them also as a resource to create and print the OMR marks for you, based on the DI350 OMR specifications given in this chapter (see pages 4-25 and 4-26).

Additional information on implementing OMR marks can be found in Pitney Bowes publication SV40193 and the OMR template that are included with your DI350 inserter.

IMPORTANT: Unless you (or your organization) has had previous experience working with OMR marks or PB FIRST™, we recommend that you have a Pitney Bowes Consultant setup your OMR marks for you (at a cost to be estimated). **Pitney Bowes does not cover the implementation of OMR marks on your documents under the standard support agreements for the DI350 inserter.**

What OMR Marks are Used on the DI350?

The DI350 has two feature levels of OMR – the feature level you have depends on the level installed on your machine.

Basic Level OMR– provides basic collation set integrity and the ability to have variable-sized collation sets (a different number sheets may be fed for each document based on what the marks on those sheets indicate to the system). It consists of these marks, known as Group 1:

Group 1 (“OMR”)

- Benchmark
- Safety
- Not EOC (end-of-collation)
- Not BOC (beginning-of-collation)
- Parity [even]
- Retime Mark

Enhanced Level OMR – allows more flexibility in variable-size collation sets as well as greater collation set integrity. The Enhanced OMR Level allows for two additional groups of marks, which consist of:

Group 2 (“Select Feed”)

- SF1 (feed from the other sheet feeder)
- SF2 (feed from the insert feeder)
- Auto-Batch
- Retime Mark

Group 3 (“Sequence”)

- WAS3 (wrap-around sequence)
- WAS2 (wrap-around sequence)
- WAS1 (wrap-around sequence)
- Retime Mark

NOTE: Each group of OMR marks must be treated as one unit when programming and printing the marks for your documents (that is, space must be allocated for every mark within each group, whether the mark is used or not). Also, Basic OMR (Group 1) is always used; Group 2 and 3 marks are optional.

What is OMR?

Overview of Group 1 OMR Marks

Group 1 (Mandatory)	Description	How it Works	When You Would Use Mark
<i>Benchmark (BM)</i>	Identifies the start of the OMR marks on a sheet	Mark always appears at beginning of OMR marks	Mandatory for OMR on DI350
<i>Safety</i>	Determines the line spacing of the OMR marks.	The measurement of the space between the BM and the Safety marks becomes the standard of what the system should expect in the space between all the subsequent OMR marks on that document. Mark always appears.	Mandatory for OMR on DI350
<i>Not EOC (End-of-Collation)</i>	Identifies the last sheet (as fed into the system) of a collated set	When mark appears on a sheet, indicates to system the end of a collated set	Mandatory for OMR on DI350
<i>Not BOC (Beginning-of-Collation)</i>	Identifies the first sheet (as fed into the system) of a collated set	When mark appears on a sheet, indicates to system the start of a new collated set	Mandatory for OMR on DI350
<i>Parity</i>	Helps in the detection of misread OMR marks on a sheet	Verifies that the number of OMR marks is even.	Mandatory for OMR on DI350
<i>Retime</i>	Indicates the end of OMR marks for Group 1	Mark always appears. Helps the systems avoid "losing its place" when tracking the marks	Mandatory for OMR on DI350

OMR Group 1 Marks (Basic)

Feed Direction
(for this example)



- BM
- Safety
- Not EOC
- Not BOC
- Parity
- Retime



Group 1 Marks - Mandatory

What is OMR?

Overview of Group 2 OMR Marks

Group 2 (Optional)	Description	How it Works	When You Would Use Mark
<i>Select Feed 1 (SF1)</i>	Dynamically turns on and off the other sheet feeder as necessary for each collated set.	Presence of a mark indicates that the other sheet feeder feeds one sheet. The absence of the mark indicates that other feeder will operate in pass-through mode for the indicated collated set.	For feeding additional full-page sheets from the other sheet feeder as necessary to add to collated sets
<i>Select Feed 2 (SF2)</i>	Dynamically turns on and off the insert feeder as necessary for each collated set.	Presence of a mark indicates that the insert feeder feeds one sheet. The absence of the mark indicates that the insert feeder will operate in pass-through mode for the indicated collated set.	For feeding inserts from the insert feeder as necessary to add to collated sets
<i>Auto-Batch</i>	Instructs the system to stop (but not end) the job when it encounters a collated set which contains this mark	Presence of a mark indicates that system should stop after this collated set. This mark must be on all pages within the collated set.	For separating collated sets that may need special handling (like a mail tray) within the same job run
<i>Retime</i>	Indicates the end of OMR marks for Group 2	Mark always appears. Helps the systems avoid "losing its place" when tracking the marks	Mandatory when using this OMR Group on DI350

OMR Group 1 and 2 Marks (Enhanced Level)

Feed Direction
(for this example)



_____ BM
 _____ Safety
 _____ Not EOC
 _____ Not BOC
 _____ Parity
 _____ Retime



Group 1 Marks - Mandatory

_____ SF1
 _____ SF2
 _____ Auto-Batch
 _____ Retime



Group 2 Marks ("Select Feed") - Optional

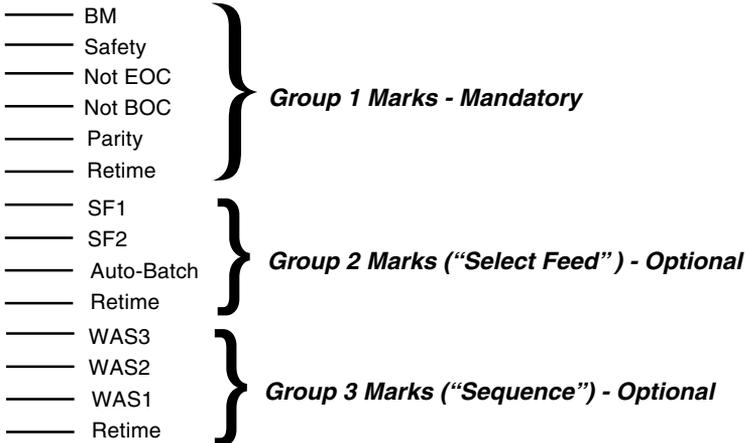
What is OMR?

Overview of Group 3 OMR Marks

Group 3 (Optional)	Description	How it Works	When You Would Use Mark
<i>Wrap-Around Sequence (WAS3)</i>	Allows the system to track each sheet from the feeder by a number sequence. The numbers repeat, or "wrap-around", when they come to the end of the sequence, with the sequence repeating as more sheets are fed. The system reads the marks in ascending order (as in 0, 1, 2, 3, 4, 5, 6, 7, 0, 1, 2, 3, 4...).	The sequence of numbers (from 0-7) is based on the combinations that can be created in binary format from three OMR marks (see chart). With the proper sequence printed on all mailpieces, the system easily detects when a sheet is not fed in the proper order. Mark appears as necessary to create binary number sequence.	For greater collated set integrity, such as in high-sensitivity jobs.
<i>Wrap-Around Sequence (WAS2)</i>	Part of above	Mark appears as necessary to create binary number sequence	Part of above
<i>Wrap-Around Sequence (WAS1)</i>	Part of above	Mark appears as necessary to create binary number sequence	Part of above
<i>Retime</i>	Indicates the end of OMR marks for Group 3	Mark always appears. Helps the systems avoid "losing its place" when tracking the marks.	Mandatory when using this OMR Group on DI350

OMR Group 1, 2, and 3 Marks (Enhanced Level)

Feed Direction
(for this example)

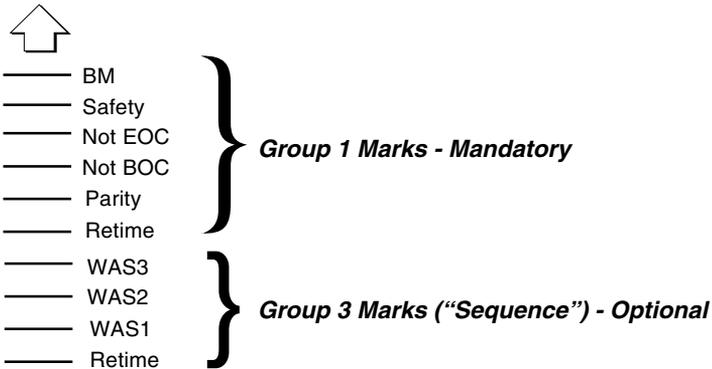


OMR Group Combinations

Under Enhanced Level OMR, you have the option of adding Group 2 marks, Group 3 marks, both groups, or no groups to Basic OMR (Group 1). Groups must be contiguous, that is, if you are not using Group 2, Group 3 marks must immediately follow Group 1 (see figure below). In every case, you must always select Basic Level OMR before choosing the optional Group 2 and/or Group 3 marks.

OMR Group 1 and 3 Marks (Enhanced Level)

Feed Direction
(for this example)



The table below lists the combination of OMR groups that may be used together.

OMR Group Combinations Table

<i>Basic OMR</i>	<i>Enhanced OMR</i>	
Group 1 Marks	Group 2 Marks	Group 3 Marks
✓		
✓	✓	
✓	✓	✓
✓		✓

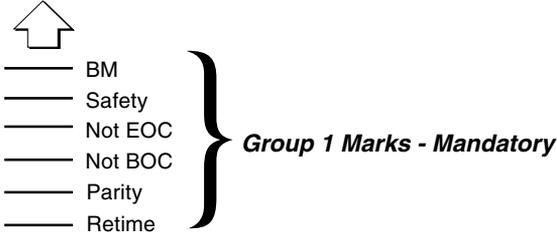
What is OMR?

Details of Basic Level OMR

Basic Level OMR consists of six OMR marks, which make up Group 1. Space must be allocated for every mark in the group, whether the mark is used or not. In the OMR job setup on the system control panel, Group 1 is referred as simply “OMR”.

OMR Group 1 Marks (Basic)

Feed Direction
(for this example)



Group 1 Marks (“OMR”)

• Benchmark (BM)

The Benchmark (BM) is the first OMR mark scanned and must be on every page in a collated set. This mark indicates to the system the start of the OMR marks on a page.

• Safety

The Safety mark is the second OMR mark scanned and must be on every page in a collated set. It used to determine the line spacing of the OMR marks. Specifically, the measurement of the space between the BM and the Safety marks becomes the standard of what the system should expect in the space between all the subsequent OMR marks on that document.

• Not End-Of-Collation (EOC)

The Not End-Of-Collation (EOC) mark is the third OMR mark scanned and must be on every page in a collated set, except the last page fed into the system (which is the first printed page of a document). When the system reads a Not EOC mark on a sheet, it knows that this is the not the last page of a collated set. However, when it doesn't see a Not EOC mark, it knows this is the last page of a collated set. This feature allows different size collated sets to be processed on the DI350 inserter.

While the feeders within the system have double detection sensors, a combination of paper slippage and other variables could result in two full collated sets being mailed as one. The Not EOC configuration adds the benefit in that it avoids putting two documents into a single envelope if the Not EOC mark is ever missed by the scanner.

- **Not Beginning-Of-Collation (BOC)**

The Not Beginning-Of-Collation (BOC) mark is the fourth OMR mark scanned and must be on every page in a collated set, except the first page fed into the system (which is the last printed page of a document). When the system reads a Not BOC mark on a sheet, it knows that this is the not the first page of a collated set. However, when it doesn't see a Not BOC mark, it knows this is the first page of a collated set. This provides additional verification that a collated set is not being split or combined with another collated set into one package.

- **Parity (even)**

The Parity mark is the fifth OMR mark scanned, but because of how it is used, it may or may not be printed on every page in a collated set. The Parity mark is used to ensure that the total number of OMR marks read by the scanner on one piece of paper is always an even number. This provides an internal check on the scan set of marks on a single sheet and helps detect sensitivity problems associated with the scanner or excessive paper skew. Because the system checks for an even number of marks, it is known as “even” parity (if the system checked for an odd number, it would be called “odd” parity).

What is OMR?

For example, for a one-page document, the marks printed on the page are:

BM 1 mark
Safety 1 mark
Not EOC 0 mark (not printed, as it is the end of document)
Not BOC 0 mark (not printed, as it is the start of document)
Retime 1 mark (see description below)

Total = 3 marks (odd number; needs Parity mark)

Parity + 1 mark

New total= 4 marks (even number; all OK)

In this example, the Parity mark is printed on this page to make the number of marks go from odd (3) to even (4).

As another example, for the last page fed of a two-page collated set, the marks printed on the page are:

BM 1 mark
Safety 1 mark
Not EOC 0 mark (not printed, as it is the end of collated set)
Not BOC 1 mark
Retime 1 mark

Total = 4 marks (even number; all OK, no Parity mark)

Parity + 0 mark (not printed, as it is not needed)

New total= 4 marks (even number; all OK)

In this example, the Parity mark is not printed on this page because the total number of marks is even (4) to begin with.

- **Retime**

The Retime mark is the last OMR mark scanned and must be on every page in a collated set. This mark indicates to the system the end of OMR marks for Group 1 and helps the systems avoid “losing its place” when tracking the marks.

What is OMR?

Details of Enhanced Level OMR

Enhanced Level OMR adds the availability of two additional groups of marks, Groups 2 and 3. Like Group 1 marks, space must be allocated for every mark within each group, whether the mark is used or not.

Under Enhanced Level OMR, you have the option of adding Group 2 marks, Group 3 marks, both groups, or no groups to Basic OMR (Group 1). Groups must be contiguous, that is, if you are not using Group 2, Group 3 marks must immediately follow Group 1. In every case, you must always select Basic Level OMR before choosing the optional Group 2 and/or Group 3 marks. The table below lists the combination of OMR groups that may be used together.

OMR Group Combinations

<i>Basic OMR</i>	<i>Enhanced OMR</i>	
Group 1 Marks	Group 2 Marks	Group 3 Marks
✓		
✓	✓	
✓	✓	✓
✓		✓

Group 2 Marks (“Select Feed”)

In the OMR job setup on the system control panel, Group 2 marks are referred to as “Select Feed”.

OMR Group 2 Marks (“Select Feed”) - Optional

Feed Direction
(for this example)



- SF1
- SF2
- Auto-Batch
- Retime

- **Selective Feed 1 (SF1)**

Selective Feed marks in general are used in applications where some pages are not fed as part of the initial collated set for certain mailpieces (e.g., perhaps confidential or restricted information should not be sent to each individual in a mailing). The Select Feed 1 mark specifically allows you to dynamically turn on and off the other sheet feeder for each collated set. For example, if you are feeding your control (also known as the main or prime) document from the upper sheet feeder, SF1 would allow you to feed from the lower sheet feeder as necessary.

Presence of a mark indicates that the other sheet feeder feeds one sheet. The absence of the mark indicates that other feeder will operate in pass-through mode for the indicated collated set. NOTE: The same selective feed mark pattern must be on all sheets within a collated set.

- **Selective Feed 2 (SF2)**

You can use also dynamically turn on and off the insert feeder as necessary for each collated set using the Selective Feed 2 mark on the control document. Presence of a mark indicates that the insert feeder feeds one sheet. The absence of the mark indicates that the insert feeder will operate in pass-through mode for the indicated collated set. NOTE: The same selective feed mark pattern must be on all sheets within a collated set.

- **Auto-Batch**

An Auto-batch mark instructs the system to stop (but not end) the job after it processes a collated set which contains the Auto-batch mark. This allows you to separate collated sets that may need special handling (like a mail tray) within the same job run. NOTE: The same Auto-batch marks must be on all sheets within a collated set.

- **Retime**

This Retime mark must be on every page within a collated set. It indicates to the system the end of this group of OMR marks on a page and helps the systems avoid “losing its place” when tracking the marks.

Group 3 Marks (“Sequence”)

In the OMR job setup on the system control panel, Group 3 marks are referred to as “Sequence”.

OMR Group 3 Marks (“Sequence”) - Optional

Feed Direction
(for this example)



— WAS3
— WAS2
— WAS1
— Retime

• Wrap-Around Sequence (WAS) - 3 mark positions

Wrap-Around Sequence (WAS) marks add to mailpiece integrity by allowing the system to track each sheet from the feeder by a number sequence. The numbers repeat, or "wrap-around", when they come to the end of the sequence, with the sequence repeating as more sheets are fed. The system reads the marks in ascending order (as in 0, 1, 2, 3, 4, 5, 6, 7, 0, 1, 2, 3, 4...).

With the proper sequence printed on all mailpieces, the system easily detects when a sheet is not fed in the proper order. After an out-of-sequence feeding or an OMR scan error is detected and cleared, the system will begin fresh with the sequence number of the next document that is fed.

This sequence of numbers (from 0-7) is based on the combinations that can be created in binary format from three OMR marks. The figure on the next page shows how the number combinations are created by the three marks within the space allocated to WAS.

• Retime

This Retime mark must be on every page within a collated set. It indicates to the system the end of this group of OMR marks on a page and helps the systems avoid “losing its place” when tracking the marks.

What is OMR?

Sequence Creation Using Wrap-Around Sequence (WAS) Marks

Feed Direction
(for this example)



— — WAS3 }
— — WAS2 } **Sequence #0**
— — WAS1 }

— — mark not printed
(position left blank)

— — WAS3 }
— — WAS2 } **Sequence #1**
—— WAS1 }

— — WAS3 }
—— WAS2 } **Sequence #2**
— — WAS1 }

— — WAS3 }
—— WAS2 } **Sequence #3**
—— WAS1 }

—— WAS3 }
— — WAS2 } **Sequence #4**
— — WAS1 }

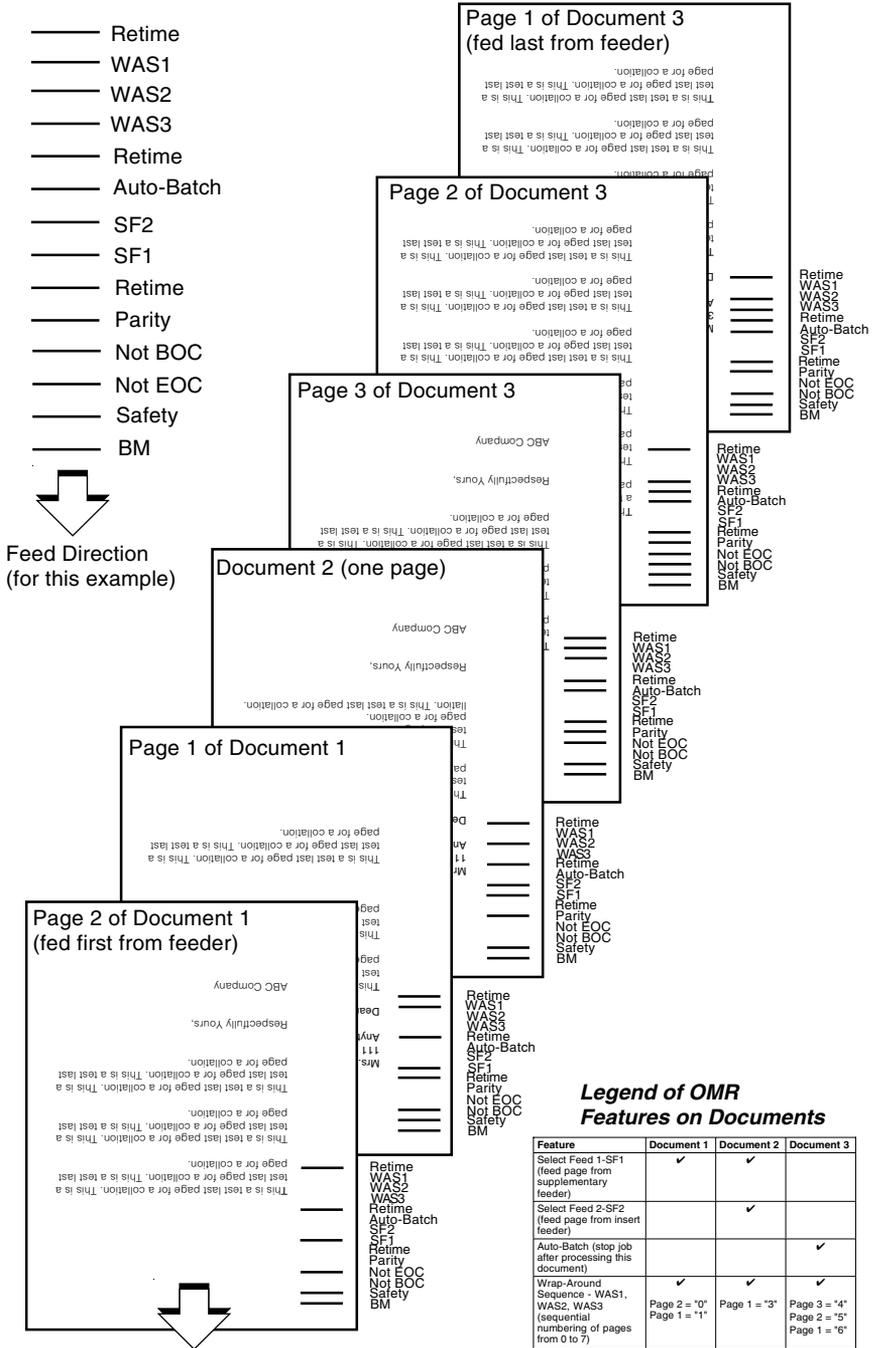
—— WAS3 }
— — WAS2 } **Sequence #5**
—— WAS1 }

—— WAS3 }
—— WAS2 } **Sequence #6**
— — WAS1 }

—— WAS3 }
—— WAS2 } **Sequence #7**
—— WAS1 }

What is OMR?

Example of Group 1, 2, and 3 Marks Printed on Documents for Feeding from Sheet Feeder 1



- _____ Retime
- _____ WAS1
- _____ WAS2
- _____ WAS3
- _____ Retime
- _____ Auto-Batch
- _____ SF2
- _____ SF1
- _____ Retime
- _____ Parity
- _____ Not BOC
- _____ Not EOC
- _____ Safety
- _____ BM

Feed Direction
(for this example)



Feed Direction



Page 1 of Document 3
(fed last from feeder)

Page 2 of Document 3

Page 3 of Document 3

Document 2 (one page)

Page 1 of Document 1

Page 2 of Document 1
(fed first from feeder)

Legend of OMR Features on Documents

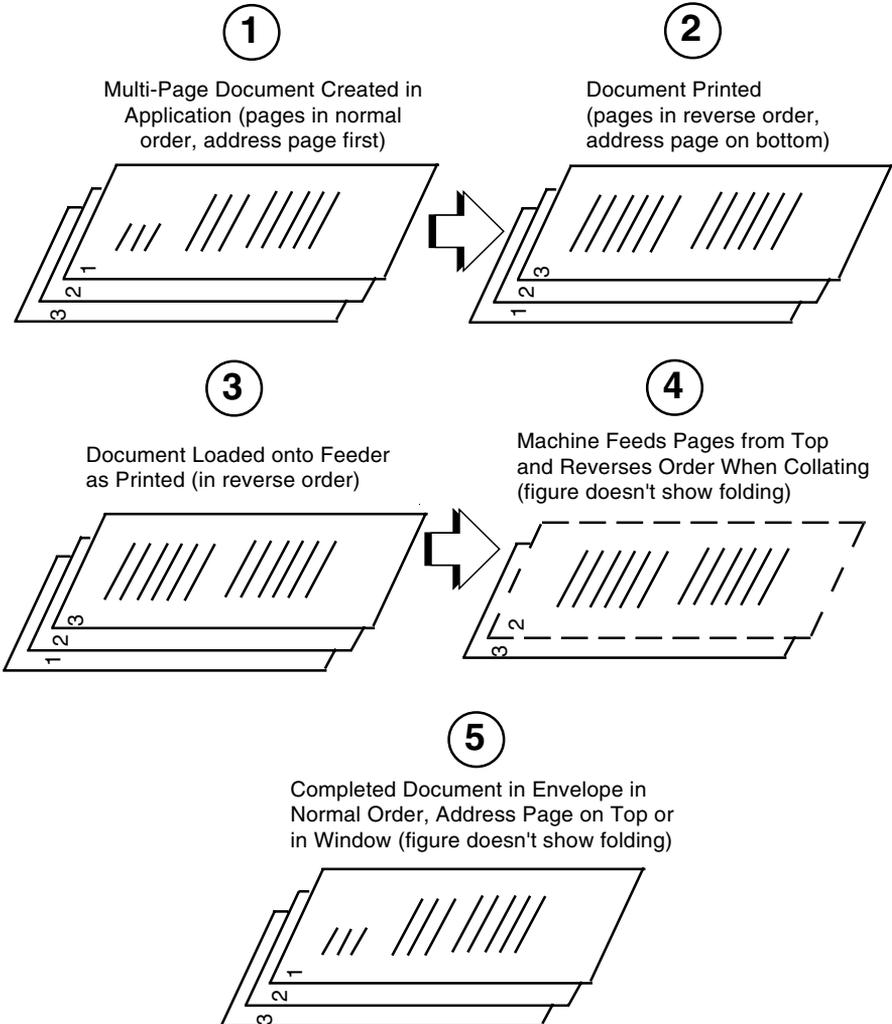
Feature	Document 1	Document 2	Document 3
Select Feed 1-SF1 (feed page from supplementary feeder)	✓	✓	
Select Feed 2-SF2 (feed page from insert feeder)		✓	
Auto-Batch (stop job after processing this document)			✓
Wrap-Around Sequence - WAS1, WAS2, WAS3 (sequential numbering of pages from 0 to 7)	✓ Page 2 = "0" Page 1 = "1"	✓ Page 1 = "3"	✓ Page 3 = "4" Page 2 = "5" Page 1 = "6"

What is OMR?

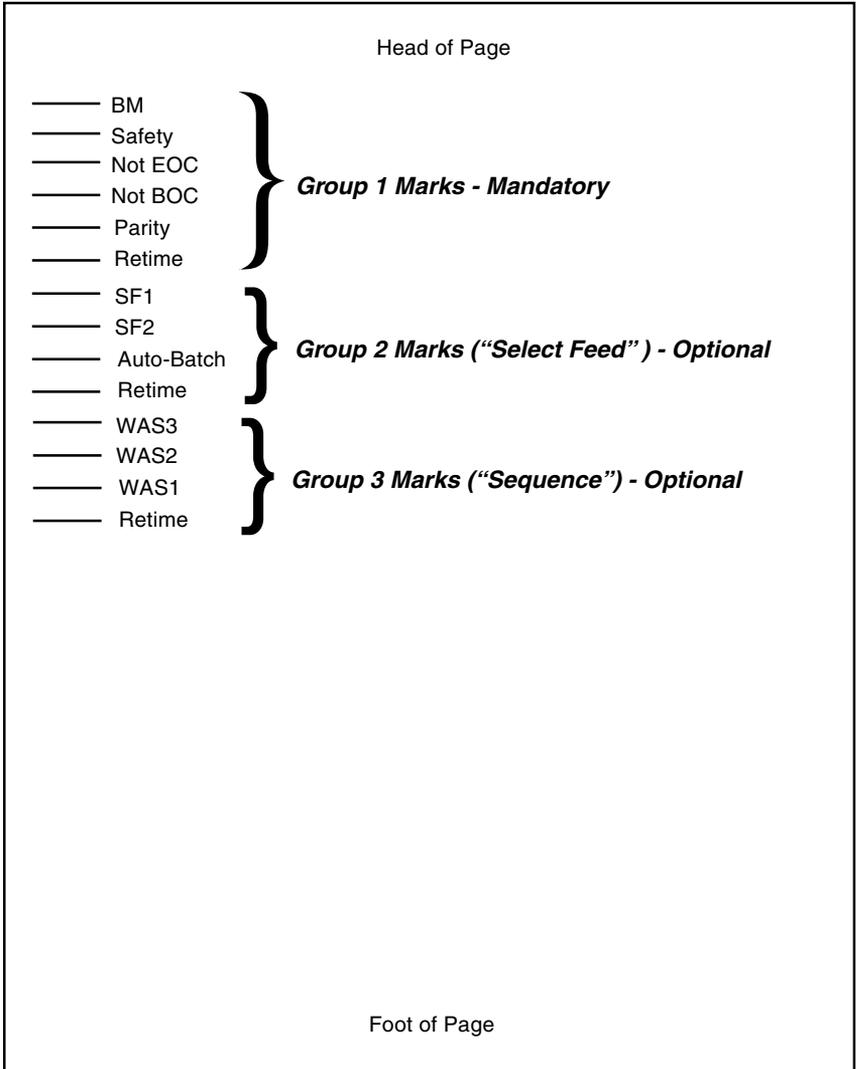
Considerations When Implementing OMR

Before implementing any of the DI350 OMR marks, you must consider various aspects of document preparation, OMR mark combinations, and system feeding. By being aware of the mechanical and electronic interaction of the system with OMR scanning, you can select the OMR features that work best with your applications.

Document Page Order from Creation to Final Output from DI350

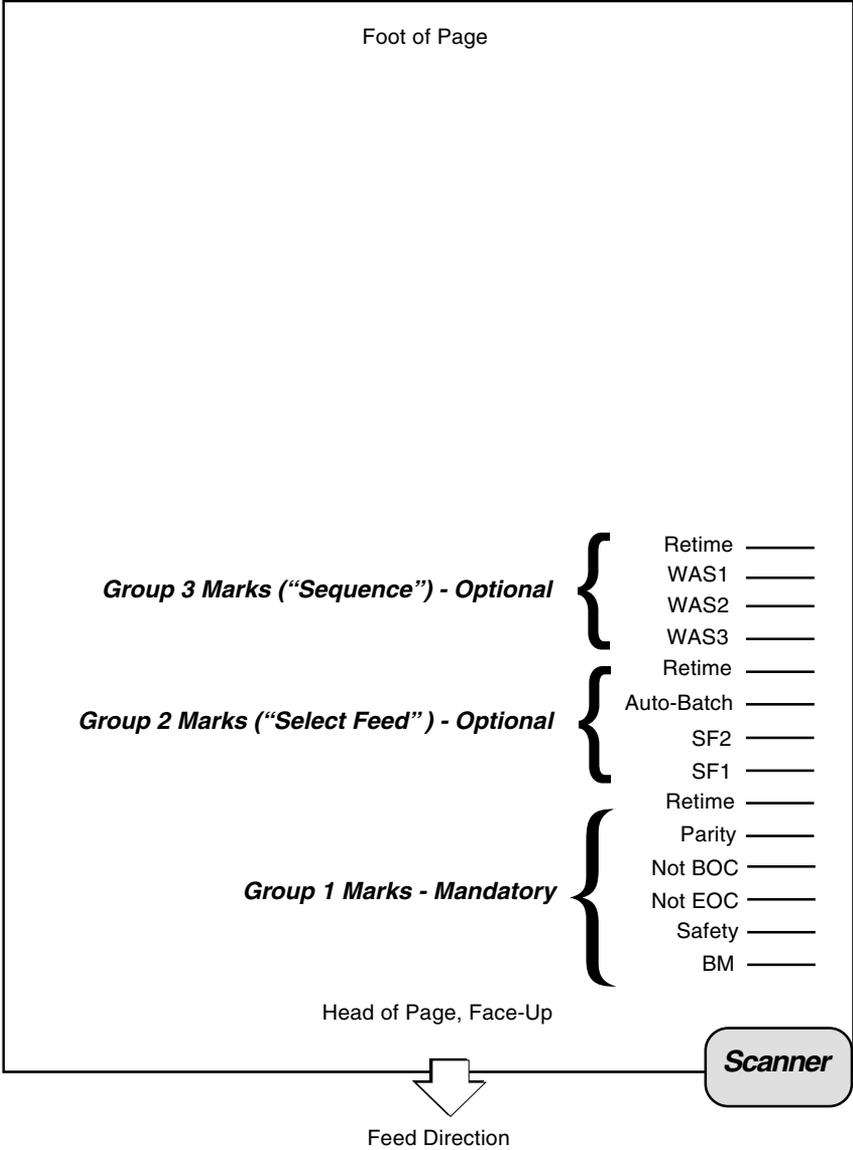


View of Mark Order and Position on Page as Printed for Sheet Feeder 1



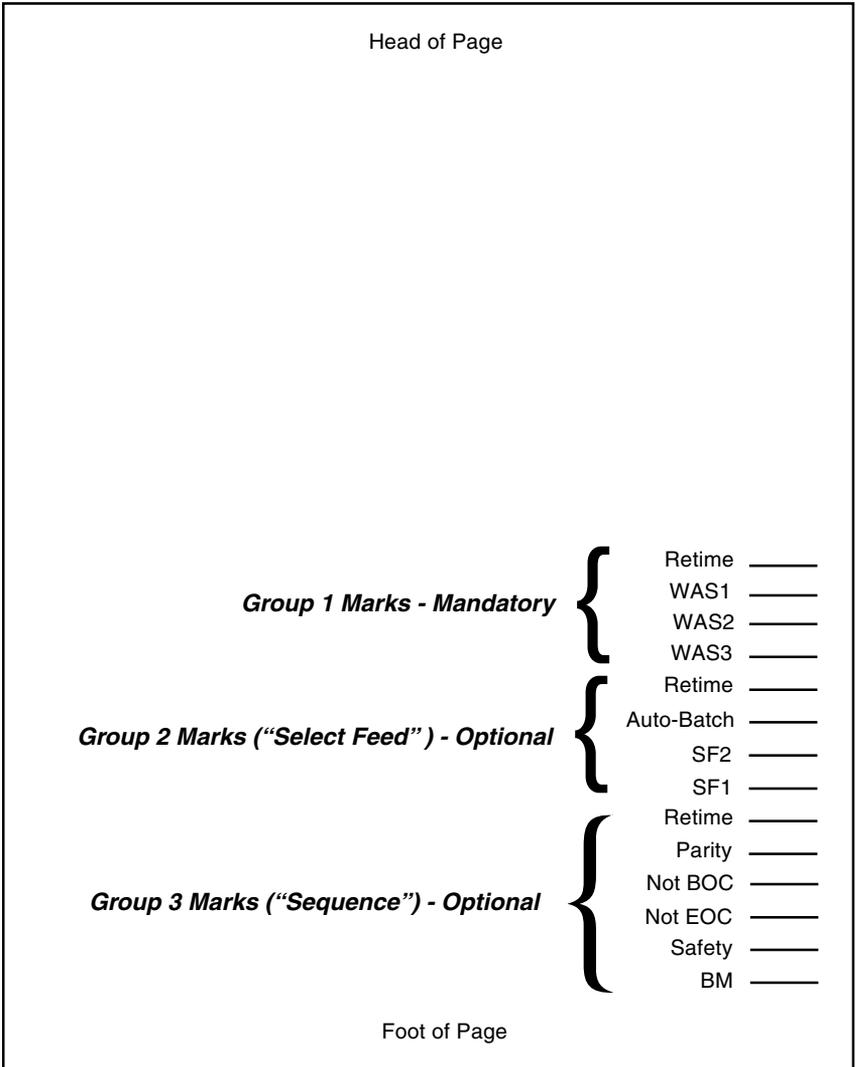
What is OMR?

***View of Mark Order and Position on Page as Loaded
for Sheet Feeder 1 (Face-Up, Head-First)***



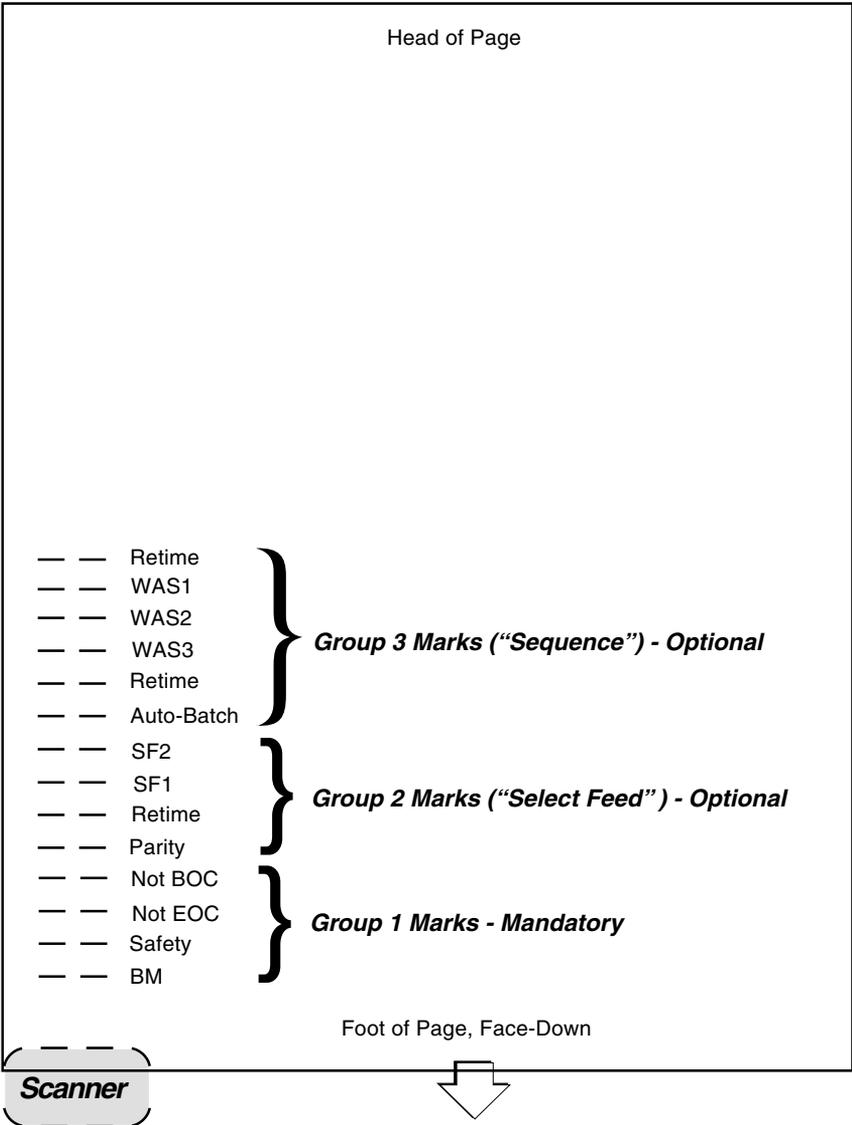
What is OMR?

View of OMR Mark Order and Position on Page as Printed for Sheet Feeder 2



What is OMR?

View of Mark Order and Position on Page as Loaded for Sheet Feeder 2 (Face-Down, Feet-First)



— — denotes mark is on
other side of paper

What is OMR?

OMR Printing/Feeding Considerations Based on Fold Type

Fold Type	Area Required on Paper for Printing OMR Marks and Leaving Space Around Them	Where OMR Marks are Printed on Paper	Order of Pages When Printing and Presenting to Feeder	Loading of Documents on to System
C-Fold	4.5 inches (115mm) long and 3/4" (14 mm) wide column	Upper left side of the paper	Reverse (address page is last page printed and last page fed for each document set)	Sheet Feeder 1 (face up, head first)
Double Fold	4.5 inches (115mm) long and 3/4" (14 mm) wide column	Upper left side of the paper	Reverse	Sheet Feeder 1 (face up, head first)
Z-Fold	4 inches (100mm) long and 3/4" (14 mm) wide column	Lower right side of the paper	Reverse	Sheet Feeder 2 (face down, feet first)
Single Fold (Half Fold)	4 inches (100mm) long and 3/4" (14 mm) wide column	Lower right side of the paper	Reverse	Sheet Feeder 2 (face down, feet first)

Maximum Sheets Per Collation Set

Sheets Fed from Control Document Feeder	Sheets Fed from Supplementary Feeder	Sheets Fed from Insert Feeder	Total Sheets Permissible in Collation Set (Envelope)
1 to 5	1	1	up to 7

What is OMR?

OMR Printing Specifications Template (see SV40193-TM for full-size version of this template)

DI350/DI400 Inserting Systems Scanning Template

54mm min

96mm max

115mm min

Vertically Center Group within Bracket

2mm White Space (on both sides of mark)

DI350/DI400 OMR INFORMATION

- **IMPORTANT:** Unless you (or your organization) has had previous experience working with OMR marks or PB FIRST software, we recommend that you have a Pitney Bowes consultant set up your OMR marks for you (at a cost to be estimated). Pitney Bowes does not cover the implementation of OMR marks on your documents under the standard support agreements for the DI350/DI400 systems.
- Before using template, read the accompanying guidelines.
- OMR is available on the three station machines ONLY.
- The minimum scan line requirement is all of Group 1.

DI350/DI400 SCAN MARK POSITIONING

CANNOT DO PART OF A GROUP - ALL OR NOTHING

- Group 1 { Benchmark
- Safety
- NOT-End of Collation (NOT-EOC)
- NOT-Beginning of Collation (NOT-BOC)
- Parity (even)
- Re-time mark
- Group 2 { Select Feed 1 (SF1)
- Select Feed 2 (SF2)
- Auto-batch
- Re-time mark (Fixed if this group is in use)
- Group 3 { Wrap Around Sequence 3 (WAS3)
- Wrap Around Sequence 2 (WAS2)
- Wrap Around Sequence 1 (WAS1)
- Re-time mark (Fixed if this group is in use)

MARK SPECIFICATIONS

- A clear area of 115mm is required from the top left corner of the form (top scan) and 100mm from the bottom right corner of the form (bottom scan).
- **Color** - black ink on a white background
- **Length** - 10mm min
- **Thickness** - 1 pt min / 2 pt max
- **Spacing** - 3mm min between marks
- **Clearance** - 2mm min on either side

100mm min

69mm max

27mm min

Vertically Center Group within Bracket

2mm White Space (on both sides of mark)

SV40193-TM Rev. A 9/02

5. CREATE OMR JOB

This section takes you step-by-step through the process of setting up a new OMR job and saving it in the memory. The OMR function is available only on the three-station model. This model can be programmed with up to 20 jobs.

What is OMR (Optical Mark Recognition)?

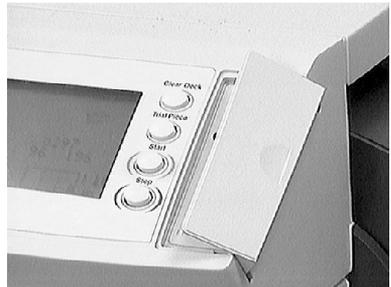
An OMR mark is normally a dark solid line on a sheet of light colored paper that is horizontally printed so it matches the direction of travel of the paper. This line must be sufficiently thick and dense to trigger the OMR scanner on the system.

The OMR scanner, working with the OMR system software, checks for one or more different OMR marks on a document while it is fed through the system. The tracking of these OMR marks by the system increases the chance that a set of sheets which belong together (a collation set) actually stays together throughout the inserting process. See Chapter 3, “What is OMR?” for more information.

Programming is carried out in the ‘Setup Mode’...

Entering the Setup Mode

Open the hinged cover to the right of the display. This will expose the setup buttons. Press **Setup**. The indicator will light and the machine will ask for an access code. This code prevents the machine’s settings being changed by unauthorized personnel.

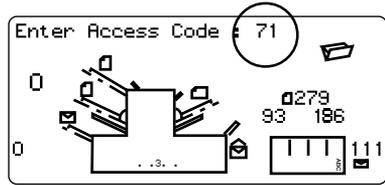


The **Prev** (◀) and **Next** (▶) buttons are used to step forward or backwards through the settings available. Once the item is displayed, the **Change (+/-)** buttons are used to select the option you want.

Create OMR Job

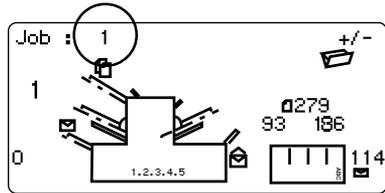
Use the **Change (+/-)** buttons to select the access code **71**.

Press **Next (▶)** to advance to the next setting...



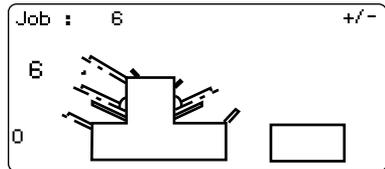
Choosing the New Job Number

The machine will ask for the job number you wish the new settings to be stored under (the default job number is 1). Use the **Change (+/-)** buttons to display the job number you want.



Notes:

- If you use an existing job number, the old settings will be overwritten by the new settings you are about to make.
- If you want to find a currently unused job number, press **Change (+/-)** until you see a job where the display shows no symbols alongside the feeders or in the fold setup area. This means the job is currently empty.



Press **Next (▶)** to advance to the next setting...

Selecting the OMR Functions

Press **Change (+/-)** until you see the option you want:

OMR off – OMR is turned off for this job.

OMR on – OMR (OMR Group 1 marks) is turned on for this job.

If your machine has the Enhanced level of OMR, these options will also display:

OMR + Sequence – Basic scanning + page sequence scanning for this job (OMR Groups 1 and 3).

OMR + Select feed + Sequence – Basic scanning + Select Feed/Auto-Batch + Page sequence scanning for this job (OMR Groups 1, 2, and 3).

OMR + Select feed – Basic scanning + Select Feed/Auto-Batch scanning for this job (OMR Groups 1 and 2).

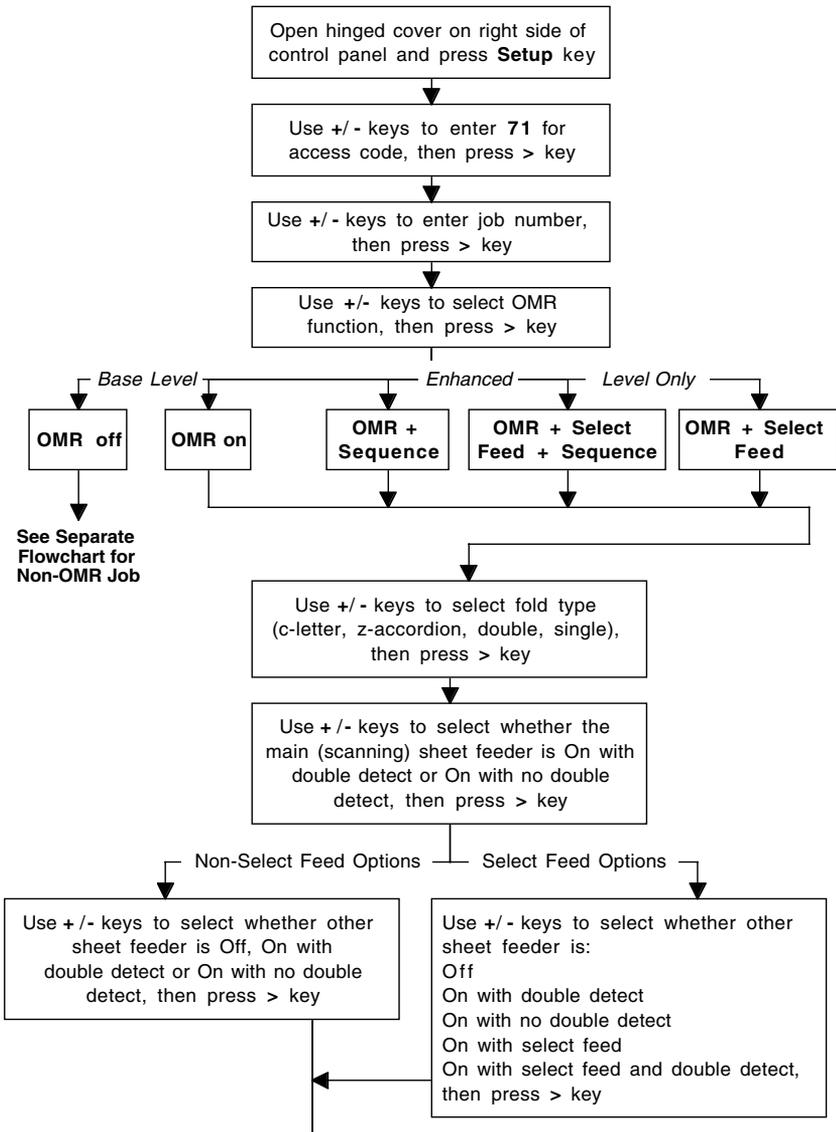
See Chapter 3, “What is OMR?” for more information on the OMR marks and groups and what they mean.

NOTE: A maximum of FIVE pages per set can be fed from either sheet feeder 1 or 2 when using the OMR function.

Press **Next (▶)** to advance to the next setting...(see page 5-6)

The flowchart on the following pages describe the setup for the various OMR functions.

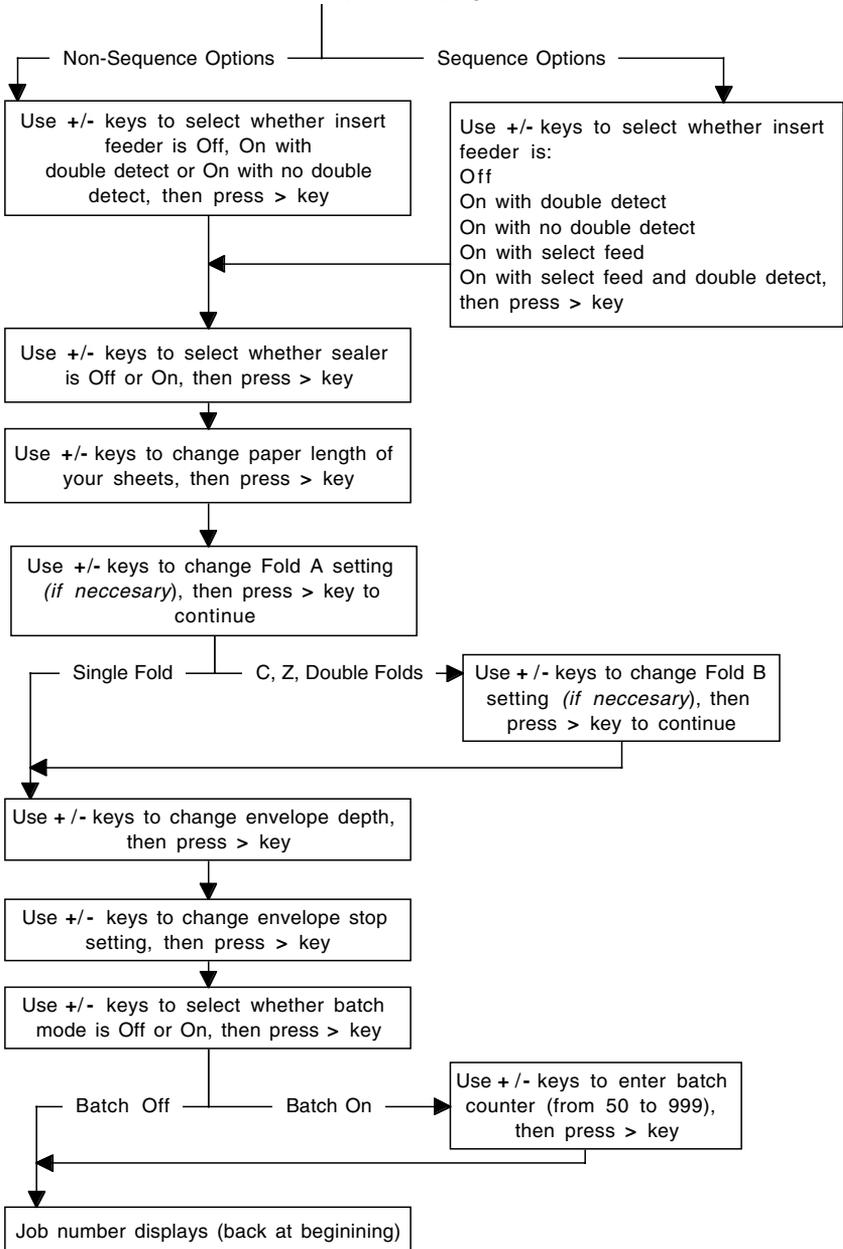
Flowchart for OMR Job Setup (Both Levels)



continued on next page

Flowchart for OMR Job Setup (Both Levels)

continued from previous page

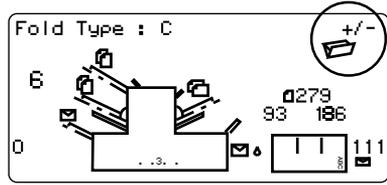


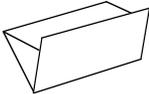
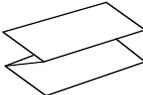
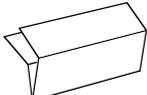
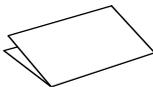
Create OMR Job

Fold Type

Select the type of fold.

Press **Change (+/-)** until you see the option you want:



<p>C - Letter</p> 	<p>Folds your sheet into a standard 'C' or letter fold.</p>
<p>Z - Accordion</p> 	<p>Folds your sheet into a 'Z' or accordion fold.</p>
<p>Double</p> 	<p>Folds your sheet in half and then in half again.</p>
<p>Single</p> 	<p>Folds your sheet once.</p>

When you select either C-Letter fold or a double fold, the machine will automatically select the **TOP Sheet Feeder 1** as the scanning feeder. If you select either a Z-Accordion Fold or a single fold, the machine will automatically select the **BOTTOM Sheet Feeder 2** as the scanning feeder.

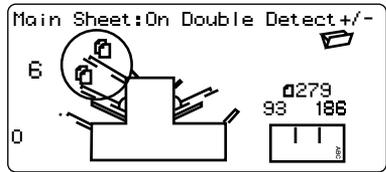
When the fold type is set as required, press **Next (▶)** to advance to the next setting...

Setting the Main (Scanning) Sheet Feeder

Press **Change (+/-)** until you see the option you want:



On Double Detect Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultaneously feeds from the feeder).

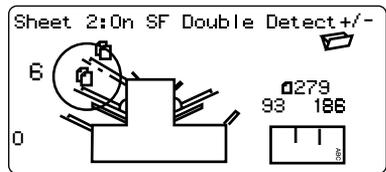


On Feeder on without the double detector.

When the Sheet Feeder is set as required, press **Next (▶)** to advance to the next setting...

Setting Other Sheet Feeder

Select whether you want to use the other sheet feeder (it may be feeder 1 or 2, depending on what feeder was chosen as the main sheet feeder based on fold type in the previous step). This function is available only on the three-station model.



Press **Change (+/-)** until you see the option you want.

If you had chosen OMR or OMR + Sequence as your OMR option earlier, the following choices are available:



On Double Detect Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultaneously feeds from the feeder).



On Feeder on without the double detector

Off select feeder turned off for this job.

Create OMR Job

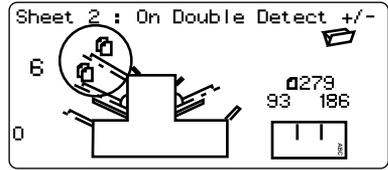
If you had chosen OMR + Select Feed or OMR + Select Feed + Sequence as your OMR option earlier, the following choices are available:

-  *On Double Detect* Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultan-efully feeds from the feeder).
-  *On* Feeder on without the double detector.
Off select feeder turned off for this job.
-  *On SF Double Detect* Select feeder is on with the double detector operating. (The double detector stops the machine if more than one insert simultaneously feeds from the feeder).
-  *On SF* Select feeder on without the double detector.

When the feeder is set as required, press **Next** (▶) to advance to the next setting...

Setting Insert Feeder

Select whether you want to use the insert feeder. This function is available only on the two and three-station models.



Press **Change (+/-)** until you see the option you want.

If you had chosen OMR or OMR + Select Feed as your OMR option earlier, the following choices are available:

 *On Double Detect* Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultaneously feeds from the feeder).

 *On* Feeder on without the double detector.

Off select feeder turned off for this job.

If you had chosen OMR + Sequence or OMR + Select Feed + Sequence as your OMR option earlier, the following choices are available:

 *On Double Detect* Feeder on with the double detector operating. (The double detector stops the machine if more than one sheet simultaneously feeds from the feeder).

 *On* Feeder on without the double detector.

Off select feeder turned off for this job

 *On SF Double Detect* Select feeder is on with the double detector operating. (The double detector stops the machine if more than one insert simultaneously feeds from the feeder).

 *On SF* Select feeder on without the double detector.

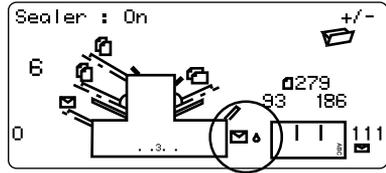
When the other feeder is set as required, press **Next (▶)** to advance to the next setting...

Create OMR Job

Sealer

Select whether you want to seal envelopes or not.

Press **Change (+/-)** to switch the option on or off:



On

Turns the sealer unit on for automatic sealing of envelopes. Make sure the sealer water bottle is full of EZ Seal® or water (see page 2-8).



Off

Turns the sealer unit off. Envelopes will be ejected unsealed.

When the sealer is set as required, press **Next (▶)** to advance to the next setting...

If you have selected either of the Sheet Feeders, the next setting offered will be Fold Type. However, if you are using the Insert Feeder only, folding is not possible and the machine will advance directly to the Envelope Depth setting (page 5-12).

Paper Length

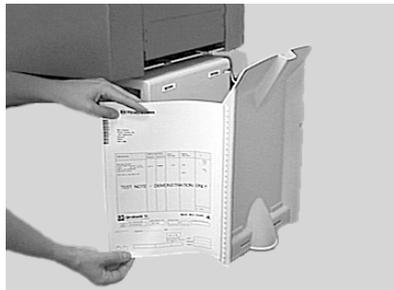
Select the paper length.

Use the scale on the edge of the stacker.

Quick reference:

US Letter length 11" (279mm)

A4 paper length 297mm



Press **Change (+/-)** until the length of your paper (in millimeters) is displayed.

When the paper length is correct, press **Next (▶)** to advance to the next setting...

Fold A

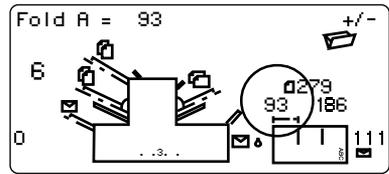
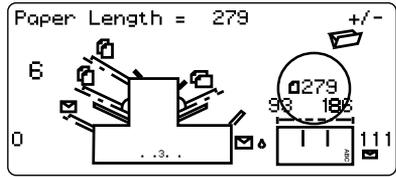
Select the size of the first fold required.

Depending on the settings previously made for fold type and paper length, the machine will be suggesting the correct dimension for the first fold. Most times, therefore, this setting will not require alteration.

If you want to change the 'standard' setting, press **Change (+/-)** until the length of fold required is displayed. The symbol | ——— | shows the fold panel you are adjusting.

The machine will automatically limit your choices to what is physically possible within the machine specifications. (As you change the length of Fold A, you will see the dimension of Fold B automatically changing to keep within paper length and machine specifications.)

When the setting is correct, press **Next (▶)** to advance to the next setting...



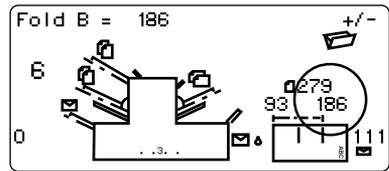
Fold B

NOTE: This setting does not display when Single fold has been chosen. Select the size of the second fold required.

In a similar way to fold A, the machine will be suggesting the correct dimension for the fold.

If you want to change the 'standard' setting, press **Change (+/-)** until the length of fold required is displayed. The symbol | ——— | shows the fold panel you are adjusting.

When the setting is correct, press **Next (▶)** to advance to the next setting...

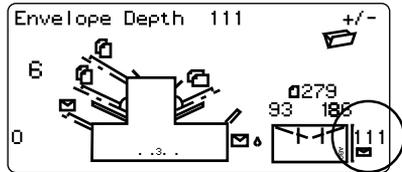


Envelope Depth

Select the depth of your envelopes (in millimeters).

Again, you can use the scale on the stacker to measure the depth of your envelopes.

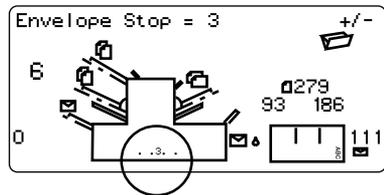
Press **Change (+/-)** until the correct dimension is displayed. When the envelope depth is set as required, press **Next (▶)** to advance to the next setting...



Envelope Stop

Select the position of the machine's envelope stop.

The stop has five positions numbered 1 to 5. Setting 3 is the 'standard' setting for normal weight paper with standard folds. A thinner/lighter envelope will require a lower setting and thicker/heavier envelope a higher setting.



Press **Change (+/-)** until the setting you want is displayed.

When the envelope stop is set as required, press **Next (▶)** to advance to the next setting...

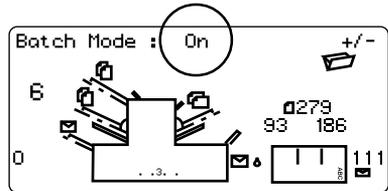
Batch Mode

The Batch Mode allows you to automatically process pre-defined batches of finished mailpieces. The system “counts down” from the number programmed for that job. When the batch is complete (has reached “0”), the machine will stop, allowing you to empty the stacker. Pressing **Start** will commence processing of the next batch.

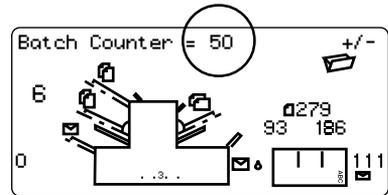
If Batch Mode is **not** selected, the display counter will simply count the number of items processed until reset by pressing **Reset Counter**.

Press **Change (+/-)** to switch Batch Mode On or Off.

When the setting is correct, press **Next (▶)**.



If Batch Mode is turned On, the machine will now request the batch quantity. The default quantity is 50, but you may select any value up to 999 using the **Change (+/-)** buttons.

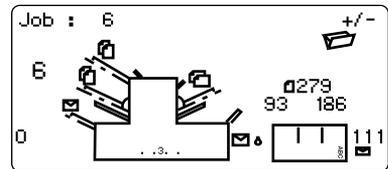


When the setting is correct, press **Next (▶)**.

Confirming the Job Setup

Job setup is now complete.

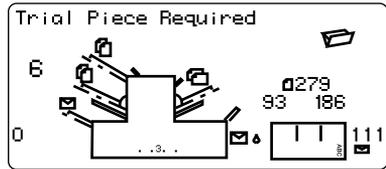
The display will show the complete job setup for you to confirm. If you see a setting that is incorrect, use the **Prev (◀)** button to backtrack to the setting and correct it.



When you are satisfied with the program, press the **Setup** button. The machine will save the job into its memory and reset to the new job.

Create OMR Job

When this is complete, the display will show the new job with the message 'Trial Piece Required'.



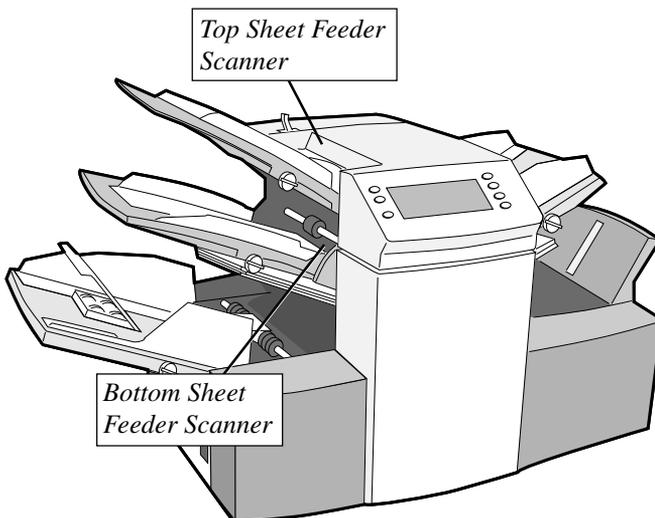
Job settings will be retained by the system *even with power disconnected* until they are changed or deleted as described on page 5-18.

Adjustment of OMR Scanner (for first-time use or if a change in OMR has been made)

In order for the OMR scanning to function correctly, it is important to ensure that the scanning heads are positioned in line with the scan dash marks printed on the material.

In order to locate the scanning head for the top sheet feeder 1, open the top cover. The scanning head can be found at the rear of the machine.

In order to locate the scanning head for the bottom sheet feeder 2, remove both sheet feeder 2 and the fold plate situated below sheet feeder 2. The scanning head can be found mounted to the front of the machine.

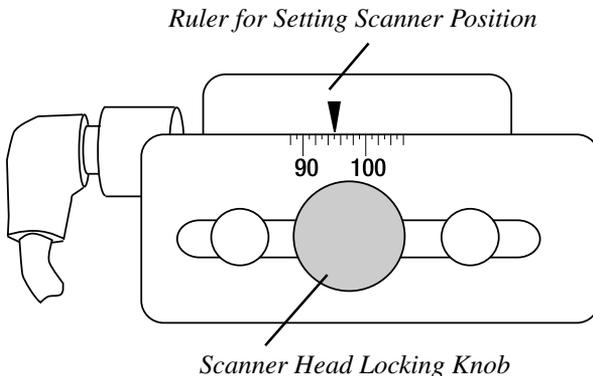


Fold a sheet of material **in half** and measure the distance from the side of the form to the middle (for an 8-1/2" x 11" form, this measurement is 4-1/4").

Now measure the distance from the edge of the form to the middle of the scan dash marks (see figure on next page), and subtract this measurement from the half fold measurement. Use the table (also on the next page) to convert this measurement into the setting for the scanning head.

For example, on an 8-1/2" x 11" form, the half fold measurement is 4-1/4". If the distance from the edge of the form to the middle of the scan dash marks is 3/8", the scanning head distance is 3-7/8" (4-1/4 - 3/8). For 3-7/8", this translates to a setting of **98** on the scan head.

Loosen the knurled locking knob and set the appropriate scanning head to the correct setting. If the machine is turned on, you will notice a blue color emanating from the scanner. For the top scanner, the blue light shines on top of the paper; while on the bottom scanner, the light shines from beneath the paper. This is normal and will help you determine the correct position of the scanner.

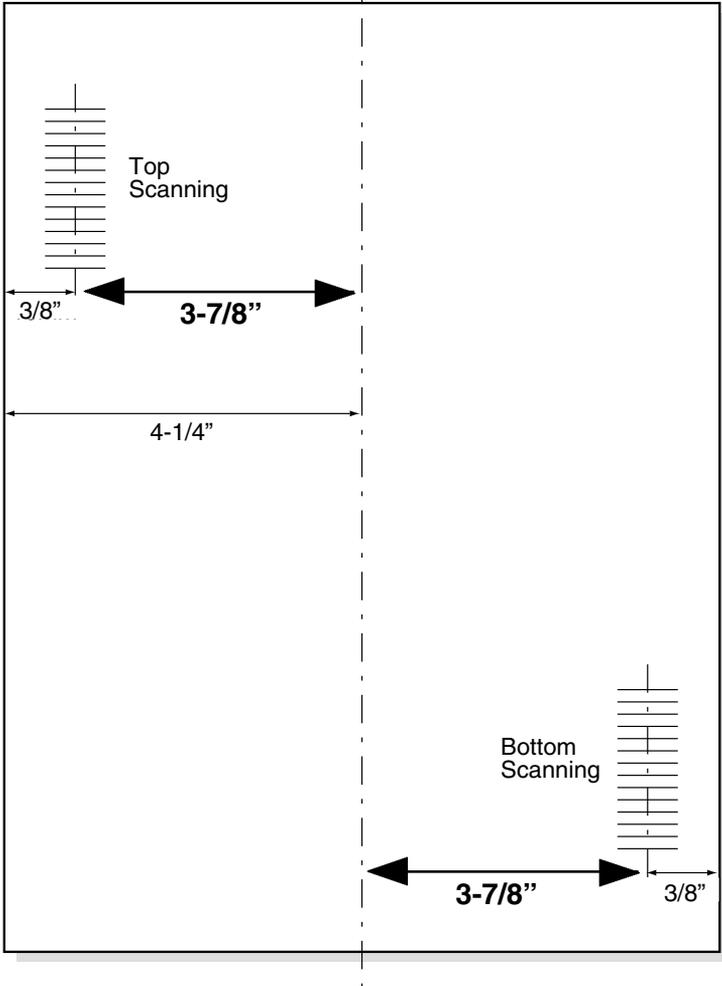


When finished, retighten the locking knob.

If you have adjusted the bottom sheet feeder scanner, refit both sheet feeder 2 and the fold plate situated below sheet feeder 2.

Create OMR Job

Example of Measuring Distance of OMR Marks on 8-1/2" x 11" Paper for Proper Setting of Scan Head



Distance between center of OMR marks and center of page (in inches)	Scanner Head Setting
3-1/2"	89
3-5/8"	92
3-3/4"	95
3-7/8"	98
4"	102

Loading the Material

Material for all OMR jobs are loaded in reverse order to which they are printed. This allows the address page for the document set to be the last page fed but the first page showing on top of the set after it has been collated and folded. See the table below.

Fold Type	Order of Pages When Presented to Feeder	Loading of Documents on to System
C-Fold	Reverse (address page is last page printed and last page fed for each document set)	Sheet Feeder 1 - upper (face up, head first)
Double Fold	Reverse	Sheet Feeder 1- upper (face up, head first)
Z-Fold	Reverse	Sheet Feeder 2 - lower (face down, feet first)
Single Fold (Half Fold)	Reverse	Sheet Feeder 2 - lower (face down, feet first)

When preparing material for use in the lower feeder (for OMR jobs using a single fold or Z-fold), it is suggested that you place the sheets from the printer face down on a table and then take from the top of this inverted stack to load the machine. When the OMR feeder becomes empty in mid-job, you can just take another batch from the top of the stack, put it into the feeder and press **Start**, even if the last set is incomplete because part of it is in the stack rather than in the machine.

If you load from a face-up stack, the machine will not run unless the stack is split at exactly a set boundary. Also if sequence checking is active and the feeder becomes empty, you cannot just re-load and press **Start** because the machine will likely fail due to sequence error. Neither of these problems occurs if you load the machine from a face-down stack.

Testing the Job

Load material and press **Trial Piece** so that you can check that the setup is correct.

Minor changes to the job settings can be made at this stage if the trial piece needs 'fine tuning'. Press **Setup**, then use the **Prev** (◀), **Next** (▶) and **Change** (+/-) buttons as required to modify job settings. A chart is provided below to help 'fine tune' your fold settings.

FOLD TYPE	ADDRESS TOO LOW	ADDRESS TOO HIGH
"C" - Letter Fold	Decrease Fold A	Increase Fold A and increase Fold B by the same amount
"Z" - Accordion Fold	Increase Fold A	Decrease Fold A and increase Fold B by the same amount
Single Fold	Increase Fold A	Decrease Fold A
Double Fold	Decrease Fold A	Increase Fold A

It is recommended that the folds are changed by 5mm each time and a new trial piece run to test the settings. When you have made the necessary changes, press **Setup** again to return to run mode. The job will be saved with the new settings.

Changing an existing job

To change an existing job, follow the steps below:

1. Enter the setup mode as described on page 5-1.
2. Use the **Change (+/-)** buttons to display the job you wish to edit.
3. Use the **Prev (◀)** and **Next (▶)** buttons to display the setting(s) you wish to change.
4. Use the **Change (+/-)** buttons to change the options/dimensions you wish to amend.
5. Press the **Setup** button to leave setup mode and save the changes.

Deleting a job

To erase an existing job from memory, follow the steps below:

1. Enter the setup mode as described on page 5-1.
2. Use the **Change (+/-)** buttons to display the job you wish to delete.
3. Press the **Delete** button. The display reads “Press again to confirm”. Press **Delete** again. The display will briefly read ‘Deleting Job’ as the job is erased.
4. Press the **Setup** button to leave setup mode.

Create OMR Job

6. REFERENCE

Changing the Display Language

To change the language of the display...

1. Enter the setup mode as described on page 3-1 or 5-1.
2. Use the **Change (+/-)** buttons to select the access code **99**.
3. Press **Next (▶)** to select the languages option.
4. Use the **Change (+/-)** buttons to scroll through the languages. When your required language is displayed, press the **Setup** button to select the language and leave setup mode

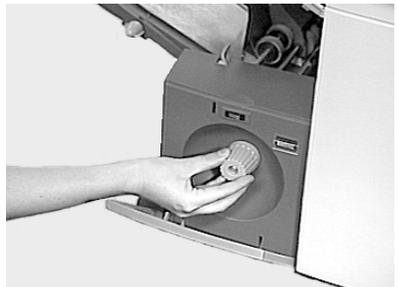
Clearing Material

Note: All the following illustrations show the three-station machine, although all models are similar.

The inserter has been designed to assure maximum performance. In the event of a material stoppage, the display will flash the symbol $\text{⊗} \downarrow$ indicating where the stoppage has occurred. First press **Clear Deck** to attempt to feed the material through the machine. If not successful, the sections below tell you how to remove the trays and plates to gain access to the material.

The Hand Crank

Having located the material, you may need to use the hand crank to manually feed paper out of the grip of rollers etc.



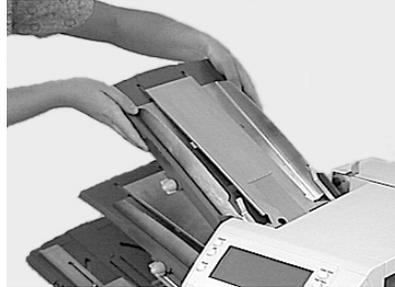
The hand crank is located behind the drop down cover at the left front of the machine.

Removal & Replacement of the Sheet Feeder and Envelope Trays

To remove...

Lift the rear of the tray slightly and pull it straight outwards from the machine.

Note: If the tray is loaded, gently hold the material in place to prevent it sliding forward as the tray is removed.



To replace...

Place the tray into its location guides in the side frames. Lift the rear of the tray slightly and push it into the machine. The tray will automatically drop into its correct location.

Removal & Replacement of the Fold Plates

To remove...

Pull the two catches on the underside of the plate outwards to release them. Pull the plate straight out from the machine.

To replace...

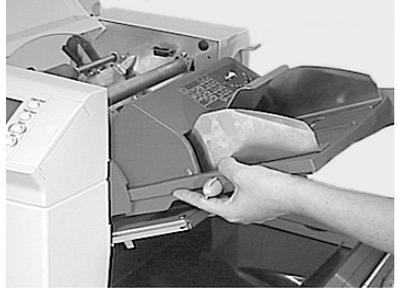
Pull the two catches on the underside of the plate outwards to release them. Slide the plate into its location guides and release the catches to lock the plate in position.



Removal & Replacement of the Insert Tray

To remove...

Open the top cover. Pull the insert tray straight outwards from the machine.

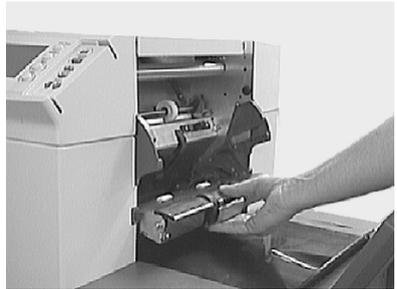


To replace...

Slide the tray into its location guides and push until it 'clicks' into place.

Access to Carriage Assembly

The carriage assembly can be pulled outwards to gain access. The insert feeder and Fold Plate 2 must be removed first.



Access to Envelope Feeder Area

To gain access...

Pull the release lever in the direction of the arrow.

Lift the envelope area feed rollers to gain access.

To relatch feed rollers...

Release the envelope area feed rollers and let them rest in position.



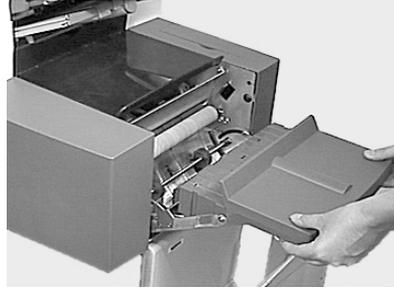
Push the rollers firmly down until they latch into position.

Note: Access to this area can be improved by removing Fold Plate 1 and sheet feeder 2.

Access to the Envelope Exit Area

Pull down the access door as shown to gain access to jammed material.

When closing the access door, make sure it is firmly latched into position.



Access to the Envelope Inserting Area

Access can also be gained to the insertion area by lifting the tinted plastic cover.



Access to the Sheet Feed Area

To gain access...

Open the top cover.

Squeeze the two blue handles together and pivot the guide assembly to the right to gain access.

To relatch...

Squeeze the two blue handles together and pivot the guide assembly back to its closed position. Release the two blue handles making sure the assembly is securely latched into position.

Close the top cover.



Troubleshooting

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF.
MACHINE			
Blank Screen No Display	a) No Power	a) Check power cord is firmly connected at each end, and the wall socket is switched ON.	2-1
	b) Machine not switched on	b) Switch machine on. Switch located on left side of machine.	2-1
Machine will not operate	a) Cover open	a) Check that <u>all</u> covers are closed - check display for cover location.	6-2
	b) Feed trays/fold trays not in correctly	b) Remove and relocate all feeder and fold trays firmly.	6-2
ENVELOPES			
Envelopes fail to feed	a) Envelope side guides too tight	a) Adjust width of envelope side guides. Adjust the side guides up to envelopes then back-off setting knob half a turn.	2-5
	b) Poor envelope quality	b) Check envelopes are not curled. If excessive try a new batch/box. Make sure the	2-5

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF.
ENVELOPES			
(Continued)			
Envelopes fail to feed (cont.)	c) Envelope guides too loose	<p>envelopes have been fanned and aerated before loading.</p> <p>Adjust width of envelope side guides. Adjust the side guides up to envelopes then back-off setting knob half a turn.</p>	2-5
	d) Wedge set incorrectly	d) Position wedge to support envelope stack.	2-5
	e) Envelopes incorrectly loaded.	e) The lead edge of the first envelope should be under the front feed rollers.	2-5
More than one envelope feeds	a) Poor envelope quality	a) Check envelopes are not curled, if excessive try a new box/batch. Make sure the envelopes have been fanned and aerated before loading.	2-5
	b) Envelopes incorrectly loaded.	b) The lead edge of the first envelope should be under the front feed rollers.	2-5
Envelope failed to open	a) Envelopes incorrectly loaded	a) Load envelopes on feed deck with flaps up and trailing.	2-5

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF.
ENVELOPES			
(Continued)			
		Make sure the envelopes are loaded in feeder squarely.	
Envelope failed to open (continued)	b) Poor envelope quality	b) Check envelopes are not stuck due to being damp. If excessive try a new batch/box.	2-5
	c) Envelope feed unit not latched down correctly	c) Check envelope jam access area, is latched down firmly, located at the envelope feeding area.	6-3
Envelopes not sealing	a) No water	a) Remove water bottle and fill up to indicated level, replace bottle. Bottle is located on right side of machine at rear.	2-8
	b) Seal mode not selected	b) Check job set up. Activate seal mode.	25
SHEET FEEDER			
Sheets fail to feed	a) Feeder not selected to feed	a) Check job set up	5-7, 5-9
	b) Side guides too tight	b) Adjust width of material side guides. Adjust the side guides up to material then back-off setting knob a quarter turn.	2-3

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF.
SHEET FEEDER			
(Continued)			
	c) Paper not loaded correctly	c) Aerate the stack of paper, making sure that individual sheets are not stuck together.	2-3
More than one sheet is fed	a) Daily mail (manual feed mode) is selected	a) Check job set up and manual feed lever.	2-2
	b) Paper not loaded correctly	b) Aerate the stack of paper, making sure that they are not stuck together.	2-3
INSERT FEEDER			
Inserts fail to feed	a) Insert guides too tight	a) Adjust width of material side guides. Adjust the side guides up to material then back-off setting knob a quarter turn.	2-6
	b) Feeder not selected to feed	b) Check job set up.	5-7, 5-9
	c) Poor separation	c) Check Lever setting is correct. Check stone shield is in correct position.	5-9
	d) Side guides too loose	d) Adjust side guides.	2-4
	e) Wedge set incorrectly	e) Rest wedge behind material to support it.	2-5

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF.
INSERT FEEDER			
(Continued)			
More than one insert is fed	a) Poor separation	a) Check Lever setting is correct. Check stone shield is in correct position. Reduce lever setting by 1.	2-6
Failure to insert	a) Wrong envelope	a) Check that you are using the correct envelope for the job selected. If problems still occur change envelope stop position.	5-12
	b) Side guides set up	b) Check ALL feeder side guides, are not set too wide.	2-3 to 2-8
	c) Poor fold	c) Check the fold selected, in job set up is the correct one for the material length you are using.	5-6
	d) Poor quality envelope	d) Check window of envelopes are not stuck down due to excessive glue. Try a new batch/ box.	

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF.
Error Recovery for Empty Feeders			
If feeder runs out of material and stops	a) Ran out of material	a) Press Stop (and then Clear Deck if material is in transit), re-fill empty tray, and press Start to continue.	1-7
Error Recovery for Normal Job (non-OMR)			
If the machine stops during an accumulation of a job (non-OMR)	a) Too many sheets or a jam	a) Press the Clear Deck key. The envelope at the insertion area will eject into the stacker. MANUALLY remove the remaining pages of the set from the appropriate feeder and fold/insert into the envelope. Once the cause of the stoppage has been determined, press Start to continue.	1-7
Error Recovery for OMR Job			
If the machine stops during an OMR Job	a) OMR Error message (as listed on page 6-15)	a) Press the Clear Deck key. The envelope at the insertion area will eject into the stacker. The remaining pages of the current set will feed/fold and eject into the stacker, and can be manually inserted into the envelope. The FIRST page of the NEXT set will prefeed into the feed rollers and stop. Press Start to continue.	1-7

Error Messages - Paper Handling

MESSAGE	ACTION
CALL SERVICE	Power machine off and on. If message is still displayed Call service.
CHECK /CLEAR FEEDER	Feeder indicated has failed to feed material. Remove material from the feed tray, reload and restart machine.
CHECK FEEDER	Feeder indicated is not located correctly. Remove tray and relocate.
CHECK FOLD PLATE	Fold plate indicated is not located correctly. Remove Fold Plate and relocate.
CHECK INVERTER	Envelope inverter unit has not set to it's correct position. Open inverter cover and check for any material. Close cover and restart.
CHECK LAST MAIL PIECE	Envelope has failed to open. Check envelopes are loaded correctly. Reload envelopes and restart machine.
CLEAR FOLD PLATE	Material has been detected inside the Fold Plate indicated on the display. Remove Fold Plate and check for any material. Replace Fold Plate.
CLEAR INSERTION AREA	Material has been detected in the inserting area. Open tinted plastic cover on right hand side of machine and remove any material. Close cover and restart.

MESSAGE	ACTION
CLEAR MOISTENER	Material has been detected in the sealer brush area. Open tinted plastic cover on right hand side of machine and remove any material. Close cover and restart.
CLEAR SEALER	Material has been detected in the sealer brush area. Open tinted plastic cover on right hand side of machine and remove any material. Close cover and restart.
CLOSE COVER	Cover indicated is not fully closed. Close indicated cover and restart.
CLOSE HAND CRANK DOOR	The hand crank door not fully closed. Close cover located at front left of machine.
DEFLECTOR ERROR	The function of half fold is not possible due to a fault. Remove Fold Plates and check for any material.
DOUBLE FEED	A double feed has been detected being fed from the feed tray indicated. Remove the material from the machine and restart. If double feeds persist, request another trial piece.
DOUBLE FEED CHECK STACKER	A double feed has been detected being fed from the feed tray indicated. Remove the double feed from the stacker. Restart machine.

MESSAGE	ACTION
FOLD PLATES NOT SET	The Fold Plates has not set to the correct position. Remove Fold Plates and check for any material. Replace Fold Plates and restart.
MANUAL FEED TIMEOUT	Material has not been detected being fed from the feeder. In manual feed mode, the material must be fed by a set time. Restart the machine by pressing Start .
PAPER SHORT	The material being used has been detected to be too short in length. Check material length being used matches the length displayed. If correct, request another trial piece.
PAPER SHORT CHECK STACKER	The material being used has been detected to be too short in length. Check material length being used matches the length displayed. If correct, request another trial piece.
SET LEVER	Manual feed lever in the incorrect position for the mode of running. Move the manual feed lever to the correct position. (Left position:manual, Right:auto).
STREAM FEED	The machine has detected two sheets being fed together from the feed tray indicated. Remove material from the machine, reload and restart machine.

Reference

MESSAGE	ACTION
STREAM FEED CHECK STACKER	The machine has detected two sheets being fed together from the feed tray indicated. Remove the stream feed from the stacker. Reload machine and restart.
SYSTEM ERROR POWER DOWN	A fault has been detected in the main software. Switch machine off and on and retry. If problem persists, call service.
TRAY EMPTY	Tray indicated has no material. Reload tray and press Start .

Error Messages - OMR

MESSAGE	ACTION
BAD OMR MARKS SPACING	Two marks detected that are closer together than half the expected distance.
NO OMR MARKS	No marks on paper. Sensor not centered over marks on paper. Paper not face-up, top-first for C/double fold, or not face-down, bottom first for Z/single fold.
BAD OMR CODE LENGTH	Code misread by sensor. Code type on paper does not match OMR menu in user setup (e.g. paper has selective feed and sequence marks but setup does not specify OMR + Sequence + Sel-Insert.
BAD OMR CODE FORMAT	Code misread by sensor. Code does not have the fixed marks in the right places (benchmark, safety and re-timing).
EXPECTED 1ST SHEET OF SET	Code misread by sensor. A new envelope is required but the sheet is not the last of a set (i.e. the Not-BOC mark at code position 4 is present).
NOT A NEW ENVELOPE,	Code misread by sensor. An envelope is at the Q-station but the sheet is the first of a set (i.e. the Not-BOC mark at code position 4 is absent).
OMR:PARITY ERROR	Code misread by sensor. The code does not have an even number of marks
OMR:WAS ERROR	Code misread by sensor. The sequence number is not sequential to that of the previous sheet.

MESSAGE	ACTION
OMR:SF MARKS INCONSISTENT	Code misread by sensor. The selective feed and autobatch marks at code positions 7 to 9 are different to those on the previous sheet for this set.
OMR:SF NOT IN USE	Code misread by sensor. A selective feed mark at code positions 7 to 8 is present but the job setup does not define the feeder as SF.
OMR:COLLATION TOO LARGE	Code misread by sensor. The set contains more than 5 sheets from the main feeder.
OMR:END OF BATCH	This is not normally an error. The AutoBatch mark is present on this set, causing the machine to stop.

Suggestions for Repeated OMR Errors

The following suggestions may help you lead to a solution for repeated OMR errors:

1. Have you cleaned off the OMR scanner of accumulated dust?

Lightly dust off the scanners with a non-abrasive cloth. See page 4-3 for location of scanners.

2. Is the OMR scanner aligned over the OMR marks on your documents?

Refer to pages 5-14 to 5-16 for proper positioning of the scanner.

3. Do the OMR marks on your documents meet the proper specifications for spacing, size, and location?

Refer to pages 4-25 and 4-26 or the OMR Template/Guidelines supplement (SV40193) to verify that you have printed the OMR marks correctly.

If none of these suggestions help, please call Pitney Bowes Service.

Material Specifications

Sheet Feeders

Min sheet size:	5" (127mm) Width	5" (127mm) Length
Max sheet size:	9" (229mm) Width	16" (406mm) Length
Paper weights:	16 lb (60g/m ²) Min	32 lb (120g/m ²) Max

Fold configurations : **Material length limits before folding**

Single fold:	5" - 12 ² / ₅ "	(127mm - 315mm)
"C" - Letter fold:	5 ⁹ / ₁₀ " - 14"	(150mm - 356mm)
"Z" - Accordion fold:	7 ⁹ / ₁₀ " - 14"	(201mm - 356mm)
Double fold:	12" - 16"	(305mm - 406mm)
Double Document Detector Material range:	16 lb (60g/m ²) Min	(32 lb (120g/m ²) Max

Feed tray capacity: Up to a max of 100 sheets of 20 lb (80g/m²)

Daily Mail (Hand feed) mode: Stapled sets up to 5 sheets of 20 lb (80g/m²) to a maximum total weight of 120 lb (400g/m²) per set can be processed in the Daily Mail mode. **Only Sheet Feeder 1 (plus the Insert Feeder if required), can be used for Daily Mail applications.** The maximum compressed thickness after folding should not exceed 0.078" (2mm). Glossy/coated sheets are not recommended.

Insert Feeder

Min Insert size:	5" (127mm) Width	3 1/4" (82mm) Length
Max Insert size:	9" (230mm) Width	6" (152mm) Length
Paper Weights:	20 lb (75g/m ²) Min	48 lb (180g/m ²) Max
	(Non folded cut sheet)	(Single Sheet)
	16 lb (60g/m ²) Min	
	(Folded Material)	

And Inserts of up to a maximum compressed thickness of 0.078" (2mm).

Pre-folded or single panel inserts should be fed from Insert Feeder.

Double Document Detector Material range: 16 lb (60g/m²) Min
32 lb (120g/m²) Max

Feed tray capacity: Up to a maximum of 100 Inserts

Reference

Sealer The machine can seal up to a maximum of 1200 envelopes between refills.

Stacker The envelope stacker can accommodate up to 150 filled envelopes. (Dependent on size and contents of the envelope.)

Envelope Feeder



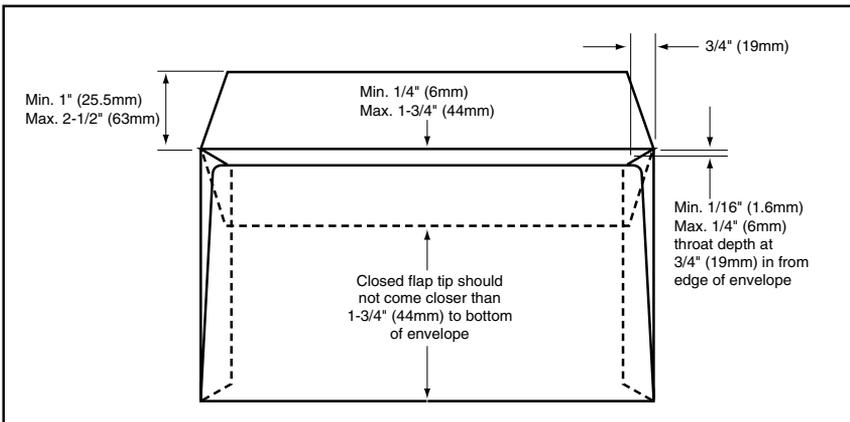
Min envelope size:	3 1/2" (88mm) Depth	8 3/4" (220mm) Width
Max envelope size:	6 3/8" (164mm) Depth	9 1/2" (242mm) Width
Envelope weights:	17 lb (65g/m ²) Min	26 lb (100g/m ²) Max

Envelope tray capacity: Up to a maximum of 100 envelopes

End Clearance: End clearance between the Insert and envelope is a minimum of 1/4" (6mm) at each side i.e. a minimum of 1/2" (12mm) overall. This measurement should be taken with all documents placed into the envelope.

Depth Clearance: The Insert must allow a minimum clearance of 1/8" (3mm) for unfolded documents, and 1/4" (6mm) for folded documents, below the flap crease after it is fully inserted into the envelope.

Envelope flap and throat requirements: See illustration below.



Material Requirements

For best performance, use only materials approved by Pitney Bowes.

Materials should be good quality and properly stored.

Recommended storage conditions: 65°F (18°C) to 77°F (25°C)
40% to 60% relative humidity

ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION AND ARE SUBJECT TO TEST

OMR Specifications (General)

Mark Dimensions (see also OMR Template SV40193-TM)

Width:	min. 10mm
Thickness (height):	0.35mm - 0.70mm (1-2 point size)
Space between marks:	min. 3mm
Space on sides of marks:	min. 2mm white space

Scanners

Upper Scanner on Sheet Feeder 1 - supports:

- C-Fold documents
- Double Fold documents

Lower Scanner on Sheet Feeder 2 - supports:

- Z-Fold documents
- Single (half) Fold documents

OMR Levels (see also Chapter 4 -What Is OMR?)

Basic Level Features (OMR Group 1):

- EOC (end-of-collation)
- BOC (beginning-of-collation)

Enhanced Level Features (OMR Groups 1, 2, and 3):

- EOC (end-of-collation)
- BOC (beginning-of-collation)
- SF1 (feed from other sheet feeder)
- SF2 (feed from insert feeder 2)
- Auto-Batch (stop job after processing this document set)
- WAS (wrap-around sequence, for numeric tracking of each sheet)

Machine Specifications

Physical Dimensions:

Length	36" (915mm)
Depth	20" (510mm)
Height	24" (610mm)
Weight	121 lbs (55kg)

Noise Level

Running	< 74dBA
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Electrical

U.S.A.:	110V, 60Hz, 6A
Europe:	230V, 50Hz, 3A

Speed:

Up to a maximum of 2500 cycles per hour (depending on fold type and material quality)

Fold Modes

- Single fold
- "C" - Letter fold
- "Z" - Accordion fold
- Double fold

Compliance

- UL Listed

Usage

Pitney Bowes has tested this machine under many different conditions and recommends that you do not exceed the usage levels specified below.

DI350 Model

Monthly 20,000 cycles maximum

Yearly 240,000 cycles maximum

Usage beyond these recommended cycles is not covered under your Equipment Maintenance Agreement.

Machine Life

Five Years

ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION AND ARE SUBJECT TO TEST

Service

Should you have questions about your DI350 inserter, or require service or assistance with your particular application, please call your Pitney Bowes district office. The phone number will be on a sticker on your machine. A Pitney Bowes Equipment Maintenance Agreement is available to keep your machine in top condition at nominal cost.

Appendix A –Training Checklist

Use the enclosed checklist when learning how to use your DI350 inserter.

Introduction (Chapter 1)

1. ____ Features of the machine pg. 1-5, 1- 6
2. ____ Safety pg. 1-7
3. ____ Machine identification pg. 1-8, 1-9
4. ____ Control panel pg. 1-10 to 1-12

Operation (Chapter 2)

1. ____ Connecting power pg. 2-1
2. ____ Selecting and running a job pg. 2-1
3. ____ Running a trial piece pg. 2-2
4. ____ Starting the machine operation pg. 2-3
5. ____ Setup of the sheet feeders pg. 2-3
6. ____ Setup of the envelope feeder pg. 2-4
7. ____ Setup of the insert feeder pg. 2-5
8. ____ Filling the sealer pg. 2-6
9. ____ Programming options by model pg. 2-7

Create (Program) Non-OMR Job (Chapter 3)

1. ____ Creating a new non-OMR job pg. 3-1 to 3-14
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Appendix A – Training Checklist

What Is OMR? (Chapter 4)

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2. ____ What do OMR marks look like? pg. 4-2
3. ____ How are OMR marks read? pg. 4-3
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