

Morgana Digifold 5000P



DOCUMENT CREASING / FOLDING MACHINE *OPERATORS MANUAL*

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Morgana
Digifold 5000P

INTRODUCTION AND SPECIFICATION

DigiFold 5000P is a registered trade mark of Morgana Systems Ltd. The unique patented creasing and folding system, makes it possible to fold most delicate stocks from 100gsm, up to 400gsm. The **DigiFold 5000P** reduces the possibility of scratching, marking or cracking appearing on the substrate, as is often associated with conventional folding machine methods. A maximum paper weight cannot be specified, as this can be governed by the hardness of the substrate or the type of fold required to be produced.

It is **IMPORTANT** to note that to prevent cracking, when using dry ink or toner based print engines, the material **must** be fully acclimatised for at least 48 hours before putting an image onto the paper.

IMPORTANT the operating environment should be controlled to a temperature between 16° C and 27° C Maximum.

Specification

Feeding System	Bottom suction feed
Max. Sheet Size	700mm x 385mm (27.5" x 15") [900mm x 385mm (35.4" x 15") with Optional extension table].
Min. Sheet Size	210mm x 140mm (8.3" x 5.5") (dependant on stiffness of paper and type of fold).
Max. Paper Thickness	0.4mm (varies according to hardness, type of fold, and substrate).
Min. Paper Thickness	0.11mm (varies according to hardness, type of fold, and substrate).
Max. No. Creases per Sheet	9
Max. No. Folds per Sheet.....	2
Max. No. Stored Programmes	9
Min. Repeat Crease Distance	40mm (1.6")
Min. Repeat Fold Distance	70mm (2.75") (depending on paper weight)
Min. Crease Distance from Leading Edge	50mm (1.96")
Min. Fold Distance from Leading Edge	50mm (1.96") (depending on paper weight)
Min. Crease Distance from Tail Edge	50mm (1.96")
Min. Fold Distance from Tail Edge	50mm (1.96") (depending on paper weight)
Min. Fold Length	70mm (2.75")
Speed per Hour (A4 Material).....	5000 sheets

Note: The production speed varies according to the material size and the fold type.

Dimensions	L: 1980mm H: 1265mm W: 655mm L: (78") H: (49.8") W: (25.8")
Weight	190Kgs (+50Kgs packing)
Power Requirement	1 phase 220 / 240v

Safety Do's & Don'ts

REGLES DE SECURITE : « A FAIRE » ET « A NE PAS FAIRE »

- Do - read this operator manual fully before operating the machine.**
Lire ce mode d'emploi avant d'utiliser la machine.
- Do - operate with the designated AC current only. Use an exclusive outlet, as overloading may cause fire or an electric shock.**
Respecter l'alimentation électrique indiquée. Brancher sur une prise séparée car une surcharge peut entraîner un incendie ou un choc électrique.
- Do - install the power cord out of the way to avoid a tripping hazard.**
Installer le cordon d'alimentation de manière à ne pas pouvoir trébucher par dessus.
- Do - make sure that the mains inlet connector is always easily accessible.**
Ménager un accès libre à la prise de courant.
- Do not - install the machine in an unstable place such that it tilts or shakes.**
Ne pas installer la machine sur une surface non plane, afin d'éviter qu'elle ne penche ou ne vibre.
- Do not - unplug the plug or unplug the power cord from the outlet with a wet hand, this can cause an electric shock.**
Ne pas installer la machine sur une surface non plane, afin d'éviter qu'elle ne penche ou ne vibre.
- Do not - unscrew and remove any covers from the machine, as it can cause an electric shock or injury.**
Ne démonter et enlever aucun carter de la machine, par crainte de décharge électrique ou de blessure.
- Do not - place receptacles containing liquids on any surface.**
Ne pas placer de récipient contenant un liquide sur la machine.
- Do not - adjust any part of the machine whilst rollers are running**
N'effectuer aucun réglage pendant que les rouleaux fonctionnent.
- Do not - operate the machine with loose or trailing clothing or loose hair.**
Ne pas porter de vêtements flottants et rassembler les cheveux longs lors de l'utilisation de la machine.
- Do not - under any circumstances adjust the paper gate when the machine is switched on.**
En aucune circonstance, régler le séparateur de papier lorsque la machine est branchée.

Warning Labels



Do - be aware of any finger traps and rotating parts when operating the machine.

Attention au risque de se coincer les doigts, et aux pièces en mouvement lors du fonctionnement de la machine.

Do - read this operator manual fully before operating the machine.

Lire ce mode d'emploi avant d'utiliser la machine.

Do not - operate the machine with loose or trailing clothing.

Ne pas porter de vêtements flottants lors de l'utilisation de la machine

Do not - operate the machine with loose hair.

Rassembler les cheveux longs lors de l'utilisation de la machine.



Do - be aware of any finger traps and rotating parts when operating the machine.

Attention au risque de se coincer les doigts, et aux pièces en mouvement lors du fonctionnement de la machine.

Do - be aware of sharp points and blades.

Attention aux éléments tranchants et aux couteaux.

Do - be aware of rotating rollers.

Attention aux rouleaux en fonctionnement

Do - be aware of low current anti-static shock.

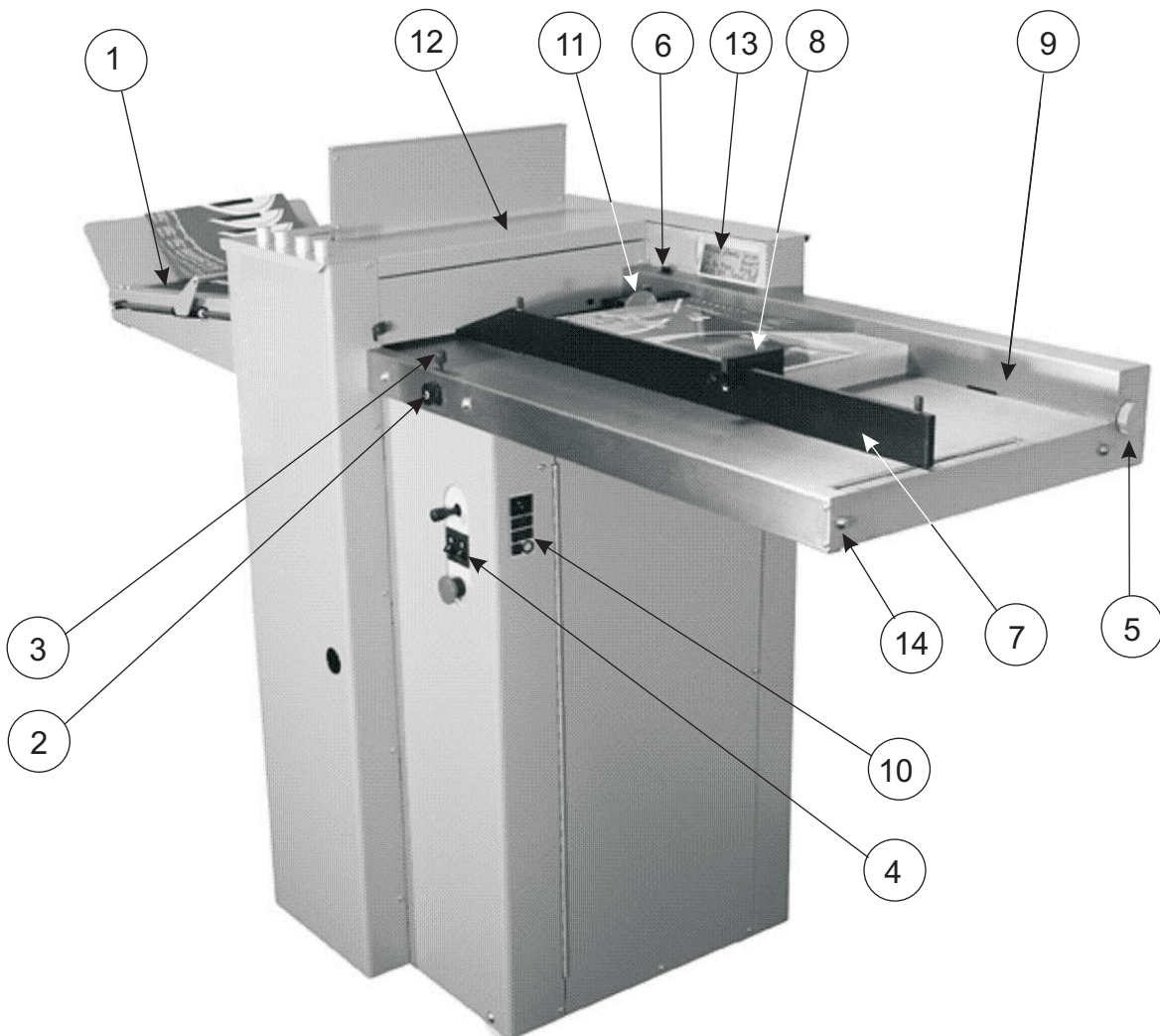
Attention aux faibles chocs d'électricité statique

Morgana Digifold 5000P

DOCUMENT CREASING / FOLDING MACHINE

Key to photograph below

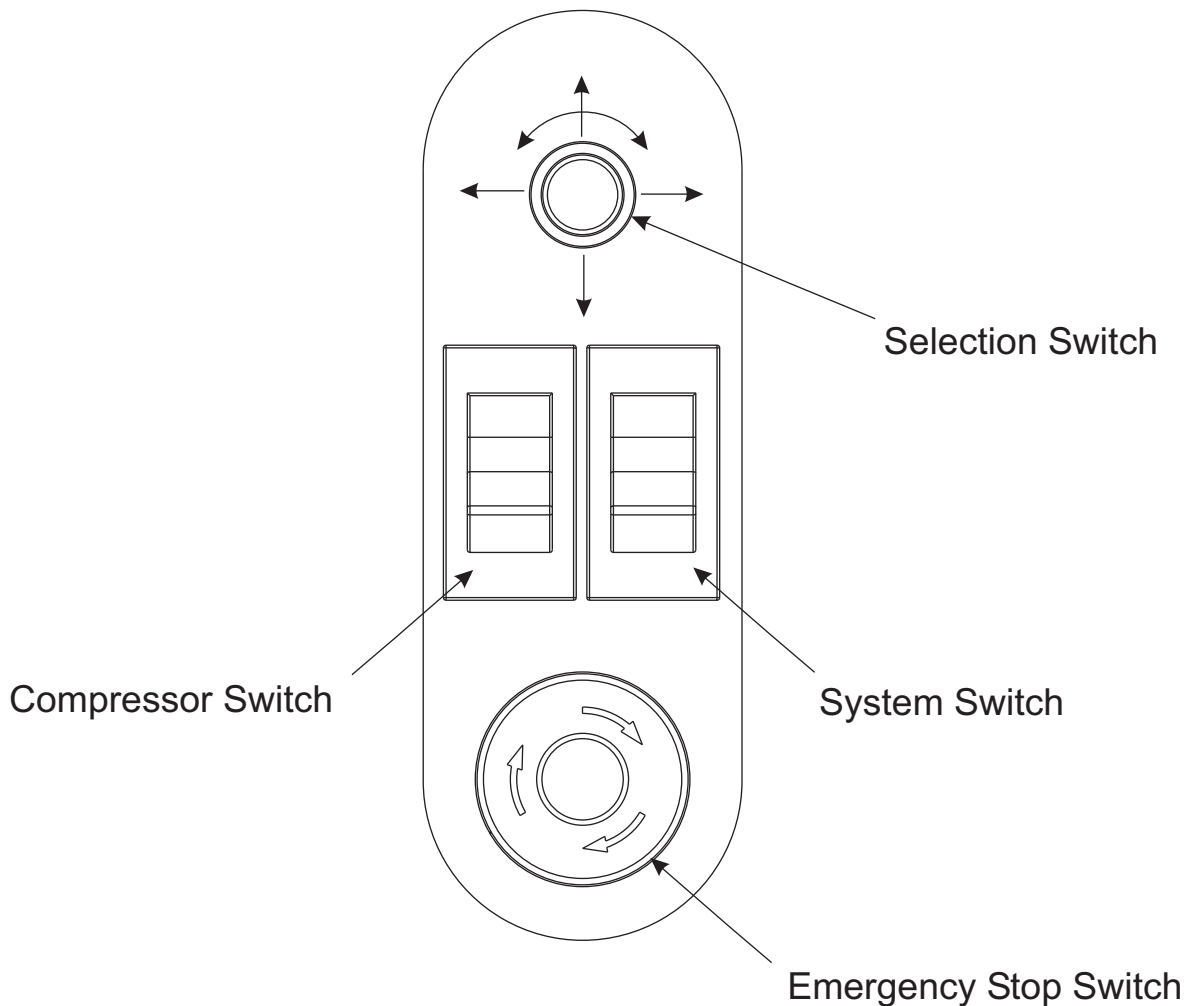
- | | | | | | |
|---|-----------------------|----|---------------------|----|-------------------------------|
| 1 | Delivery assembly | 6 | Air separation knob | 11 | Paper Gate |
| 2 | Vacuum bleed knob | 7 | Adjustable side lay | 12 | Top Cover |
| 3 | Suction slot knob | 8 | Back stop | 13 | Display |
| 4 | Control panel | 9 | Fixed side lay | 14 | Extension table fixing screws |
| 5 | Air distribution knob | 10 | Fuses | | |



The Display Unit and the Switches on the Control Panel allow the operator to read, edit, create and initiate numerous creasing and folding programs within the memory.

The Control Panel houses the Selection Switch, Compressor switch, System switch, and an industry standard Emergency Stop switch which will stop all power going to the machine when activated.

THE CONTROL PANEL



Features on the Control Panel

Selection Switch

Allows the operator to scroll through stored addresses and programs, increase or decrease the batch quantity and set crease and fold positions.

System switch

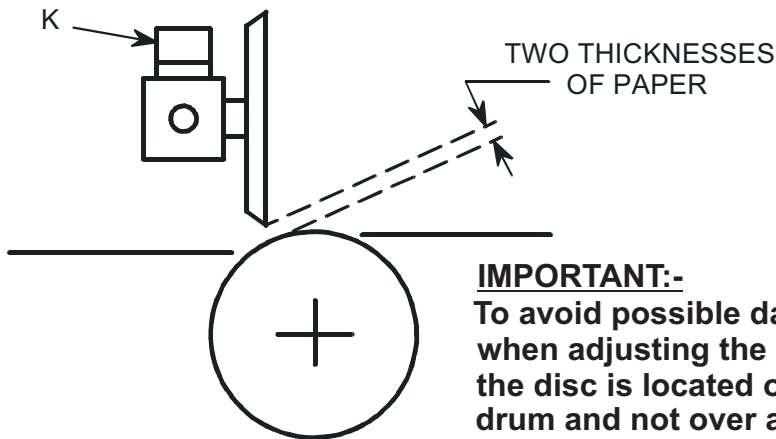
When activated the system switch will operate the motors in order to begin the creasing sequence.

Compressor switch

Allows the operator to switch off the compressor unit in order to utilise the machine to manually feed sheets.

Adjusting the Paper Gate

Set the height of the Paper Gate to approximately two thicknesses of paper, by turning the knob K. An excessive gap is a most likely cause of double sheet feeding.



IMPORTANT:-

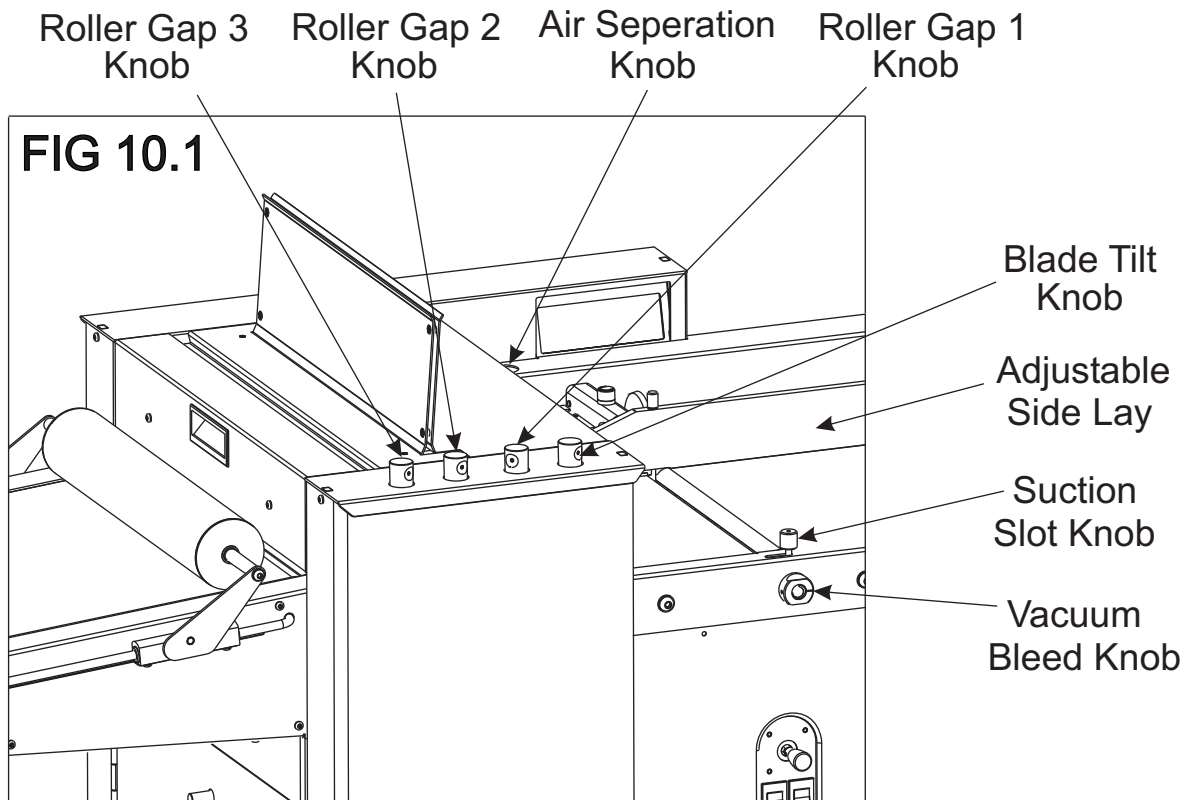
To avoid possible damage to the suction drum, when adjusting the paper gate height, ensure that the disc is located over a solid section of the suction drum and not over a slot in the drum.

Do not adjust the paper gate while the machine is running.

Setting the Suction Slot

The suction slot is located inside the vacuum roller and can be adjusted by releasing and moving the suction knob horizontally in either direction to the required position.

For light stocks set the knob to the left and for heavier stocks set the knob to the right.



Setting the Vacuum Bleed

Situated on the front of the feed table, the Vacuum Bleed Knob is used to allow more control of the suction on the vacuum drum.

When light weight paper is being fed through the machine turn the knob clockwise to reduce the possibility of marking, or damage to the leading edge of the paper.

Setting the Adjustable Side Lay

Place the paper stack on to the loading table and slide up to the fixed side lay and paper Gate. Release the clamps located at each end of the side lay and slide up towards the paper stack as demonstrated in fig 10.1. Allow a gap of approximately 0.5mm (1/64 inch) between the paper and the side lay.

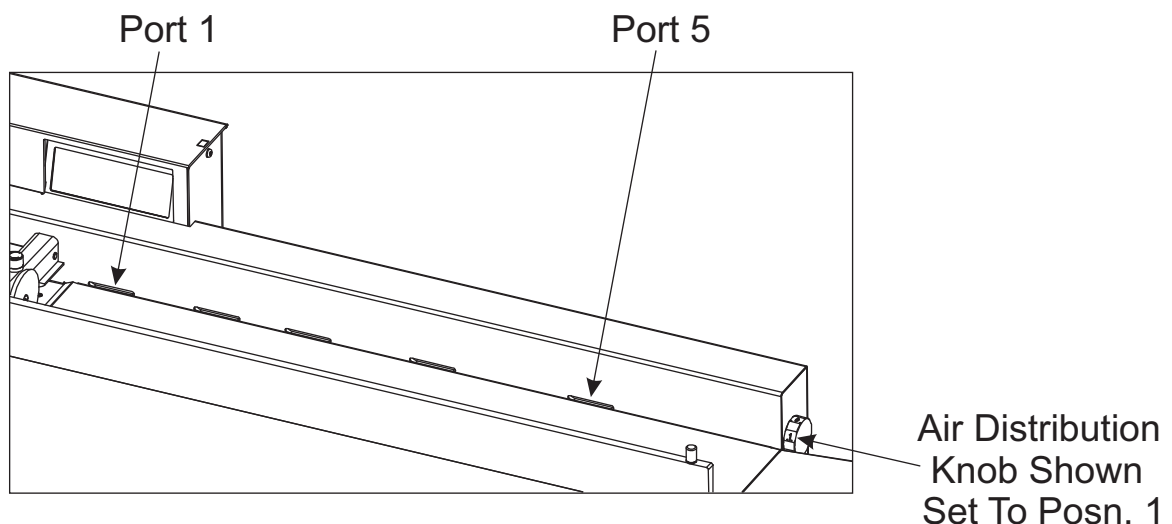
Setting the Back Stop

Position the backstop and slide up towards the paper stack allowing a gap (as specified in the above step).

Setting the Air Distribution

Depending on the length of the sheet to be creased, the air distribution knob can be rotated to various positions in order to supply air to different ports. Position 2 is recommended for most sheet sizes. However, a better result may be obtained by using the settings below or by experimentation.

- Position 1** - For sheets longer than A3 (17") in order to supply air to the centre of the stack, ports 2, 3 and 4 open.
- 2** - For A5 sheets or 8 inches long, ports 1 and 2 open.
- 3** - For A4 sheets or 11 inches long, ports 1 and 3 open.
- 4** - For A3 sheets or 17 inches long, ports 1 and 4 open.
- 5** - For sheets longer than A3 (17") in order to supply air to the ends of the stack, ports 1 and 5 open.
- 0** - For sheets longer than A3 (17") in order to supply air evenly along the stack, ports 1, 3 and 5 open.



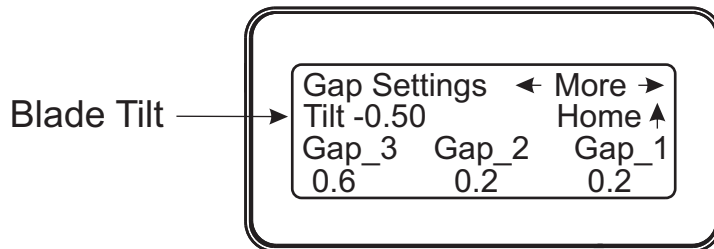
Setting the Air Separation Pressure

To control the amount of air supplied to the ports, the air separation knob can be rotated clockwise to decrease the pressure or anti-clockwise to increase the pressure.

Setting the Blade Tilt Mechanism

The blade tilt mechanism has been designed to compensate for when the creasing position on the sheet is not square. This could be due to an inaccuracy in the media or if the blade tilt mechanism has been incorrectly set. The mechanism will be set to zero (square) when the machine is supplied. The Blade Tilt Mechanism can be adjusted if necessary as follows:-

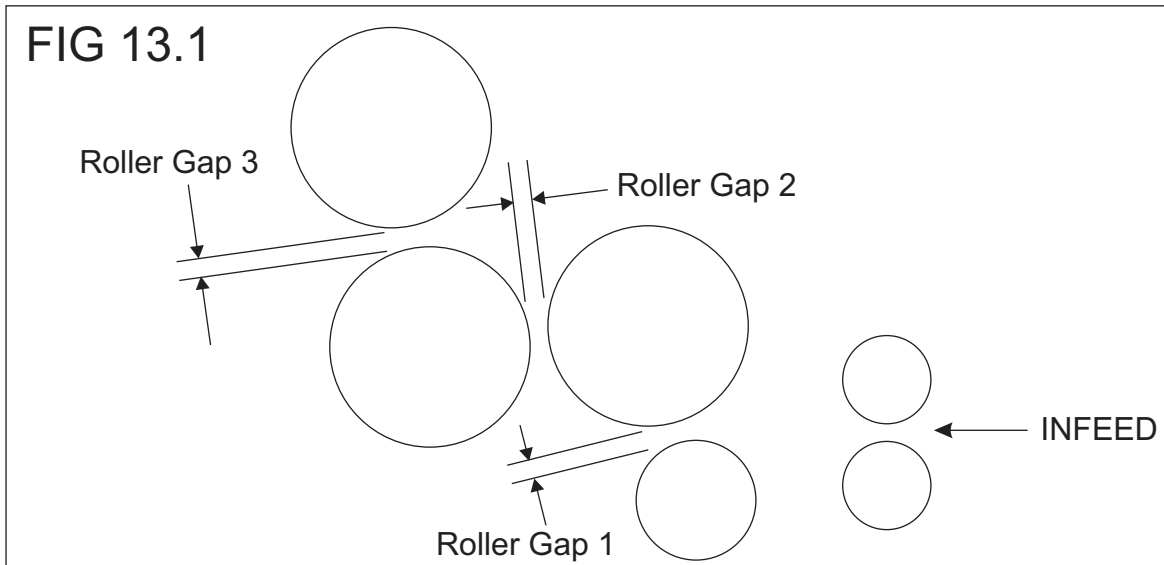
With the machine switched **ON** (see page 18), move the Selection Switch to the right to select **Setup**.



The blade tilt can then be adjusted by rotating the Blade Tilt Knob (see FIG10.1 on page 10).

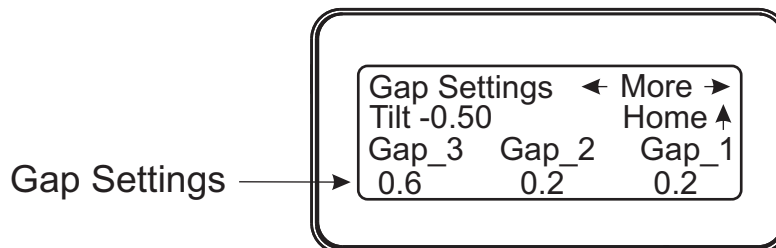
Setting the Roller Gaps (Gap 1, Gap 2 & Gap 3)

The roller gaps can be adjusted to suit the thickness of the material being creased or folded; and the type of fold being produced. The roller gaps may also require adjustment if cracking of the print is noticeable. (see Fig 13.1 below).



The roller gaps can be adjusted as follows:-

With the machine switched **ON** (see page 18), move the Selection Switch to the right to select **Setup**.



The gap settings (Gap_1, Gap_2 & Gap_3) can then be adjusted by rotating the Roller Gap Set Knobs (see FIG 10.1 on page 10).

IMPORTANT.

When setting roller gaps, you **must** first adjust the gap to a value greater than that required and then decrease the value to the required setting. (Do not set the gap, from a value lower than that required).

PROCEDURE.

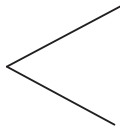
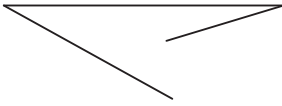
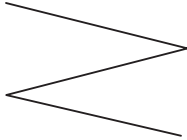
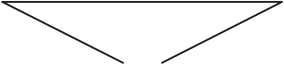
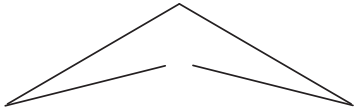
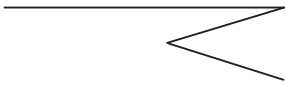
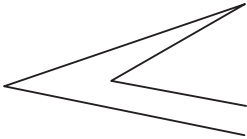
- (i) Measure the thickness of the sheet using a Digital Vernier Calliper.
- (ii) Set roller GAP 1 to the vernier reading.
- (iii) Set roller GAP 2 and roller GAP 3, (for the type of fold being produced), using the GAP SET GUIDE table on the next page.

The table below shows the recommended roller gap settings for the different types of folds.

GAP SET GUIDE				
	FOLD TYPE	GAP 3	GAP 2	GAP 1
Half Fold on Knife 1 →	Half K1	2X	2X	X
Half Fold on Knife 2 →	Half K2	2X	X	X
	Letter	3X	X	X
	Concertina	3X	X	X
	Gate	3X	X	X
	Closed Gate	3X	X	X
	Engineering	3X	X	X
	Double	4X	2X	X

Example 1:- When producing a **Half K1** fold, if GAP 1 is 0.2 (X) then set GAP 2 to 0.4 (2 x X) and set GAP 3 to 0.4 (2 x X).

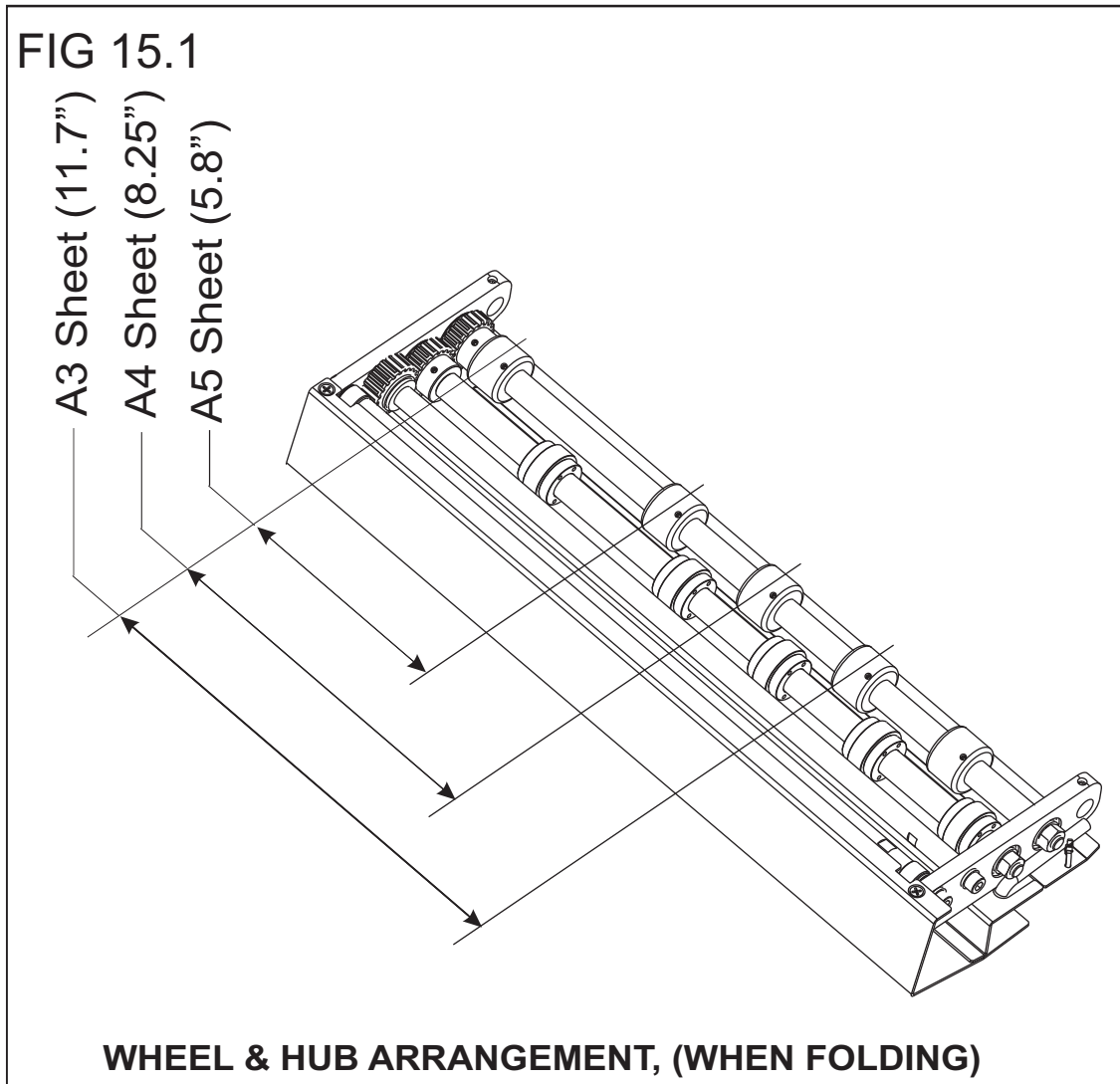
Example 2:- When producing a **Gate** fold, if GAP 1 is 0.3 (X) then set GAP 2 to 0.3 (X) and set GAP 3 to 0.9 (3 x X).

FOLD TYPES		
 HALF	 LETTER	 CONCERTINA
 GATE	 CLOSED GATE	 ENGINEERING
 DOUBLE		

Setting the positions of drive wheels and hubs

It is important that the drive wheels and drive hubs, on the roller shafts, are arranged across the width of the media being creased; this is done to ensure that the media is accurately driven and supported through the rollers. A suggested layout, **when Folding**, is shown below (see FIG 15.1). The suggested layout, **when perfining**, is different, and is shown on page 38 (see FIG 38.1).

The drive wheels and hubs are fixed to the rollers by grub screws.



Setting the Delivery Conveyor System.

WARNINGS:-

1. The Machine will not start if the delivery unit is not in its up position.

Turning the delivery system 'ON' or 'OFF'.

1. With the machine switched **ON** (see page 18), move the Selection Switch to the left (one click at a time) until the display contains the words **Select Tools**.
2. Move the Selection Switch down to **Delivery is ON** or **Delivery is OFF**.
3. Move the Selection Switch to the right to toggle between **Delivery is ON** or **Delivery is OFF**.

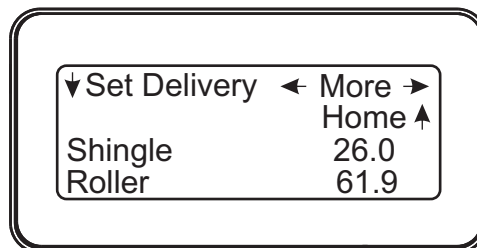
If the delivery is turned off the roller will feed to the far end of the belt conveyor and park there until turned on again.

If the delivery is turned on when using the 'Set by Fold' mode of operation; the Roller Position and Shingle Length are automatically set, relative to the paper length and type of fold selected.

When using the 'Set by Position' mode of operation; the Roller Position and Shingle Length must be adjusted manually to suit the job, as described below.

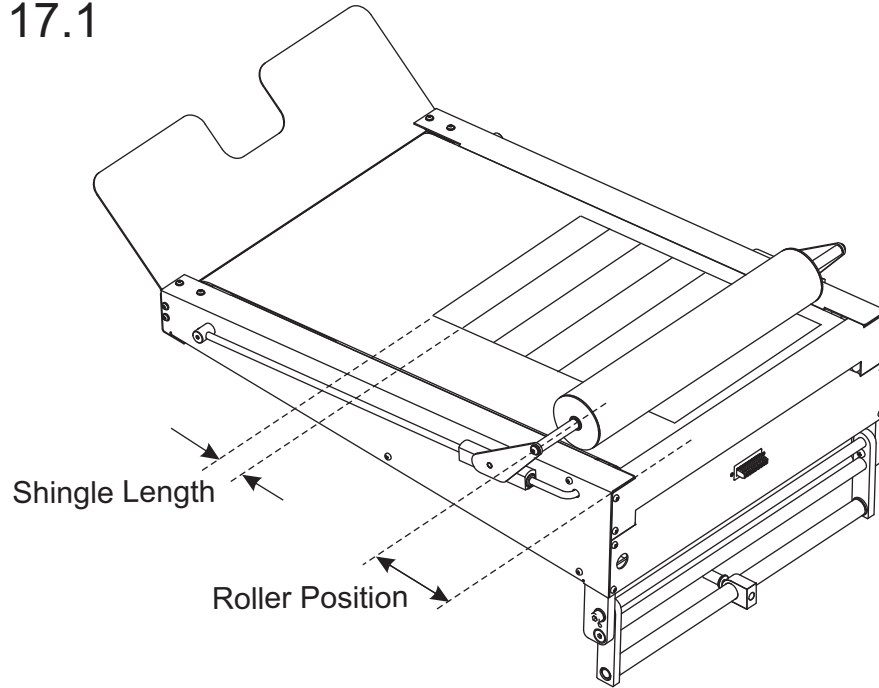
Adjusting the Roller Position and Shingle Length. (See FIG 17.1)

1. With the machine switched **ON** (see page 18), move the Selection Switch to the left (one click at a time) until the display contains the words **Set Delivery**, as shown below.



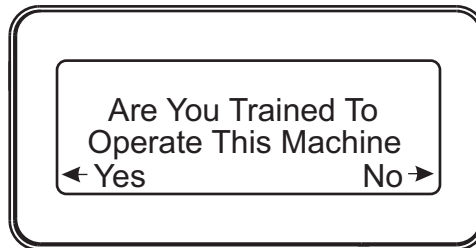
2. Move the Selection Switch down to **Shingle** or **Roller** and then rotate the Selection Switch to adjust its value.
3. When the optimum settings for the roller position and shingle length are achieved they can be stored with the job (see **Storing the Program** on page 20).

FIG 17.1



SET BY FOLD

- Switch the power 'on' by turning the Emergency stop button clockwise to release the safety latch. The display is now switched on and will be as shown below.

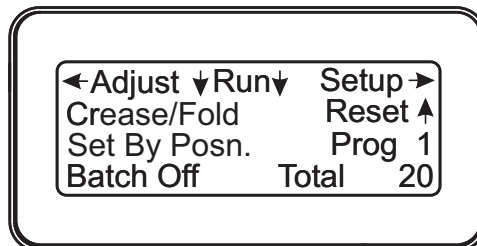


IMPORTANT.

If you have not been trained to operate this machine, we strongly advise that you move the Selection Switch to the right to select **No**. We recommend that you either seek training or ask a trained operator to run the machine for you.

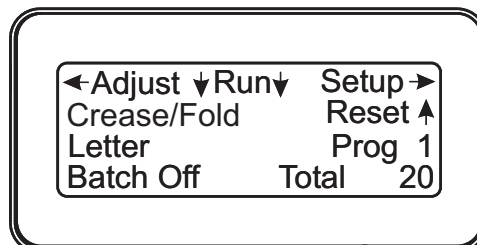
Move the Selection Switch to the left to select **Yes** only if you have been trained to operate this machine. If you have not been trained to operate this machine and you select **Yes**, Morgana Systems Ltd accept no responsibility for personal injury, damage to the machine or damage to materials being processed by the machine.

If the display contains the words **Set By Posn**, as shown below, change to **Set By Fold** as follows.



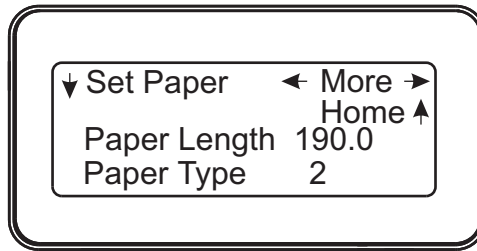
- (i) Move the Selection Switch up to select **Reset**, and hold momentarily.
- (ii) Move the Selection Switch down, one click at a time, to select **Set by Fold**.
- (iii) Move the Selection Switch to the right.

A typical, (SET BY FOLD), display menu is shown below.

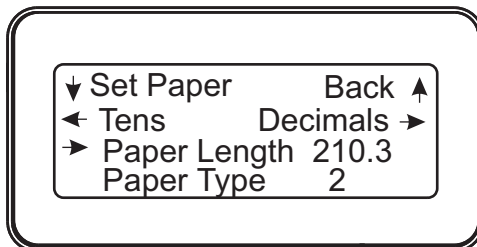


Setting the Paper Length

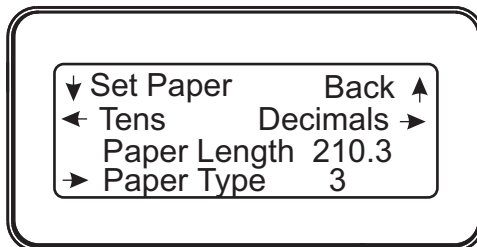
- Following the arrows on the display unit; move the Selection Switch to the right (one click at a time) until the display contains the words **Set Paper**.



- Move the Selection Switch down to select **Paper Length**.
- The paper length can now be set by moving the Selection Switch to the left to select **Tens** or to the right to select **Decimals**. The **Tens** or **Decimals** (whichever has been selected) can then be adjusted by rotating the Selection Switch, (clockwise to increase or anti-clockwise to decrease).

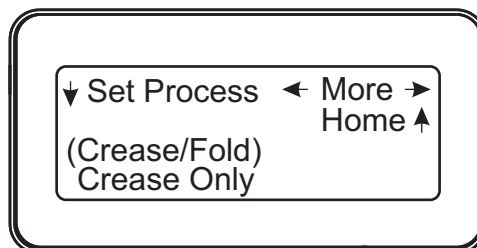


- Move the Selection Switch down to select **Paper Type**.
- The Paper Type can now be set to 0, 1, 2 or 3 by rotating the Selection Switch.



- Move the Selection Switch up two clicks to the top level display menu.
- Move the Selection Switch to the right to select **More**.

Setting the Process (Crease & Fold, Crease Only, Fold Only or No Crease or Fold).

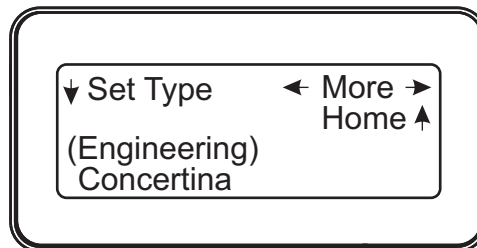


7. Move the Selection Switch down to select **Set Process**, the required crease or fold option can now be set by moving the Selection Switch down to the required setting and then moving the Selection Switch to the right. The options are **Crease/Fold, Crease Only, Fold Only** or **Perf only**).

8. Move the Selection Switch to the right to select **More**.

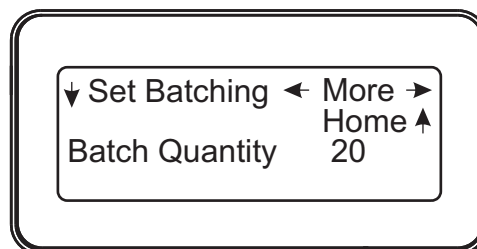
Setting the Fold Type.

9. The **Set Type** can now be set by moving the Selection Switch down to the required type and then moving the Selection Switch to the right. The fold options are **Letter, Concertina, Half on K1, Half on K2, Double, Engineer, Gate** or **Closed Gate**).



Setting the Batch Quantity.

10. Move the Selection Switch to the right to select **More**.
The batch quantity can now be set by moving the Selection Switch down and then rotating the Selection Switch clockwise or anti-clockwise to adjust the **Batch Quantity**



NOTE.

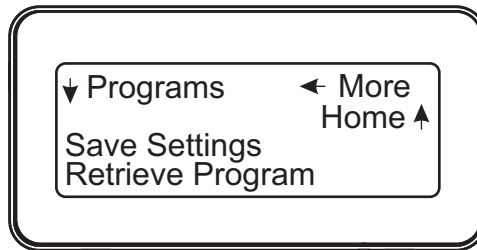
The Batch Counter controls the feed of the machine.

If for example the Batch Count is set to 10; the machine will feed 10 sheets of paper, pause for approximately 5 seconds, the conveyor belt will feed the 10 sheets forward (to allow the removal of the sheets from the conveyor) and then feed the next 10 sheets of paper.

Storing the Program.

11. Move the Selection Switch up to select **Back**.

12. Move the Selection Switch to the right to select **More**.



13. The program can now be saved, if required, by moving the Selection Switch down to **Save Settings**. Rotate the Selection Switch to select the program number (1 - 9) and then move the Selection Switch to the right to store the program.

NOTE.

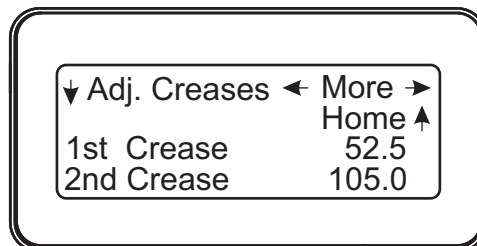
Any programs already stored can be accessed by selecting **Retrieve Program**.

14. Run a sample sheet through the machine, by switching the System and Compressor switches on and then moving the Selection Switch down to feed the sheet.

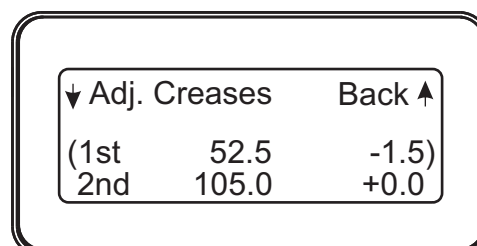
15. View the results, any adjustments to the fold or crease positions can be adjusted as follows:-

Adjusting the Crease Positions.

(i) From the start up menu move the Selection Switch to the left to select **Adjust**.



(ii) Move the Selection Switch down to select the crease that needs to be adjusted.



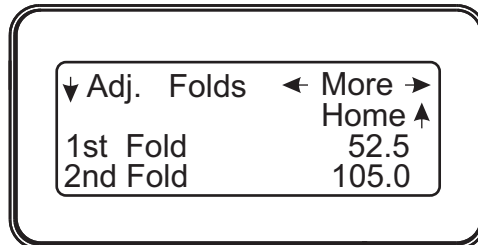
(iii) The crease position can then be adjusted by rotating the Selection Switch (range of adjustment -5.0 to +5.0)

(iv) Move the Selection Switch up (one click at a time) selecting **Back** until the top level display menu is shown.

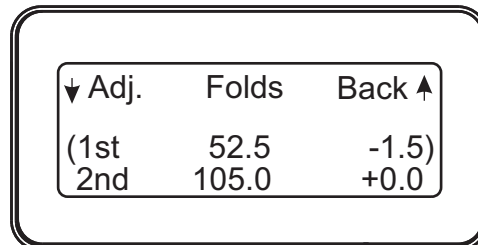
Adjusting the Fold Positions.

16. The fold positions can also be adjusted as follows:-

- (i) From the start up menu move the Selection Switch to the left to select **Adjust**.
- (ii) Move the Selection Switch to the left (one click at a time), selecting **More**, until the display contains the words **Adj. Folds** as shown below.



- (iii) Move the Selection Switch down to select the fold that needs to be adjusted.



- (iv) The fold position can then be adjusted by rotating the Selection Switch (range of adjustment -5.0 to +5.0)
- (v) Move the Selection Switch up (one click at a time) selecting **Back** until the top level display menu is shown.

NOTES:-

If a crease position is adjusted, the fold will move with it.

If a fold position is adjusted, then only the fold will move.

Adjust a fold only if the fold appears to be giving an out of square result or cracking appears.

The fold is probably too close to the centre of the crease and will be trying to fold from one side of the crease to the opposite side of the crease (see page 23 for explanation).

Adjust the 'Paper Type' (item 5 on page 19) to compensate for variations in paper thickness and consistency.

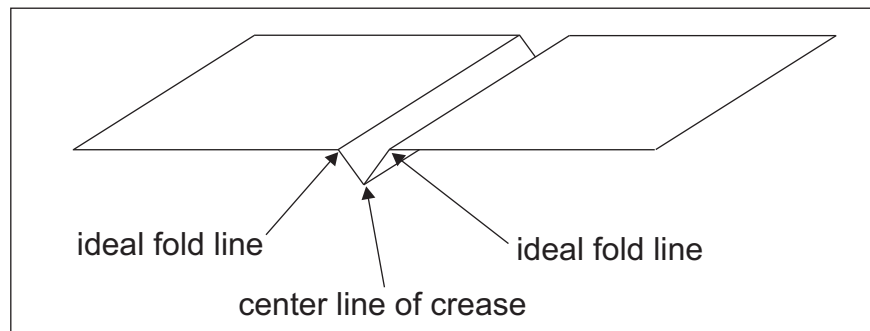
SET BY POSITION

IMPORTANT NOTES.

1. If the fold is too near, or on the center line of the crease; the fold will try to fold diagonally across the crease profile and pull the fold out of square to the paper.

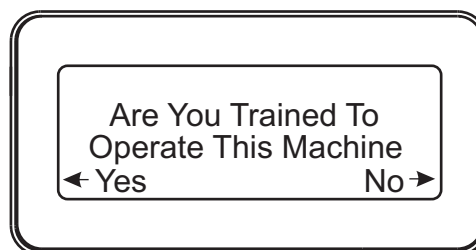
The best fold squareness is achieved when the fold is not on the center line of the crease, it should be to one side of the crease center line as shown below.

Thus for a crease setting of 100 for example, the fold should be set to a figure slightly smaller or greater than 100.



2. When using **Set By Position**, all dimensions are from the leading edge of the paper as shown in the example on page 27.

1. Switch the power 'on' by turning the Emergency stop button clockwise to release the safety latch. The display is now switched on and will be as shown below.

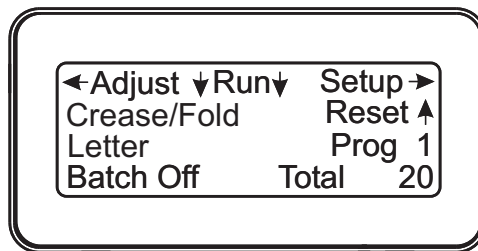


IMPORTANT.

If you have not been trained to operate this machine, we strongly advise that you move the Selection Switch to the right to select **No**. We recommend that you either seek training or ask a trained operator to run the machine for you.

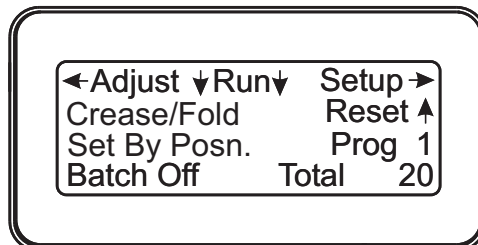
Move the Selection Switch to the left to select **Yes** only if you have been trained to operate this machine. If you have not been trained to operate this machine and you select **Yes**, Morgana Systems Ltd accept no responsibility for personal injury, damage to the machine or damage to materials being processed by the machine.

If the display contains any of the following words the machine is in the **Set By Fold** mode of operation (**Letter, Concertina, Half on K1, Half on K2, Double, Engineer, Gate** or **Closed Gate**). Change to the **Set By Posn.** mode of operation as follows.

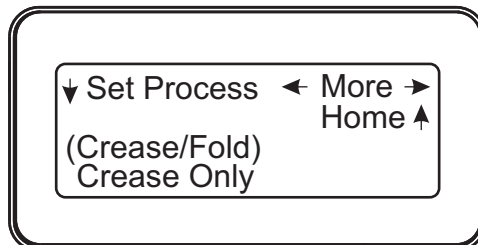


- (i) Move the Selection Switch up to select **Reset**, and hold momentarily.
- (ii) Move the Selection Switch down, one click at a time, to select **Set by Posn.**
- (iii) Move the Selection Switch to the right.

A typical, (SET BY POSN.), display menu is shown below.



- 2. Following the arrows on the display unit; move the Selection Switch to the right (one click at a time) until the display contains the words **Set Process**.

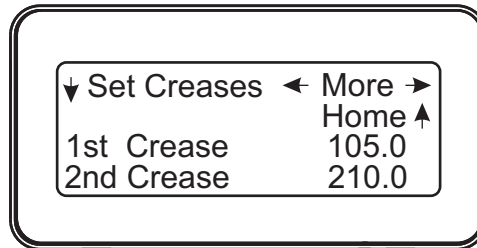


Setting the Process (Crease & Fold, Crease Only, Fold Only or Perf only).

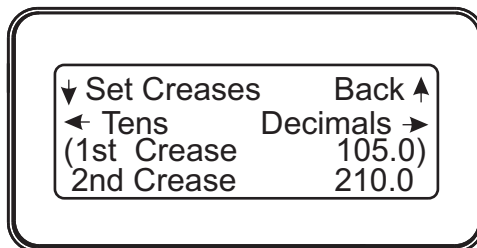
- 3. Move the Selection Switch down to select **Set Process**, the required crease or fold option can now be set by moving the Selection Switch down to the required setting and then moving the Selection Switch to the right. The options are **Crease & Fold, Crease Only, Fold Only** or **Perf only**).

Setting the Crease Positions.

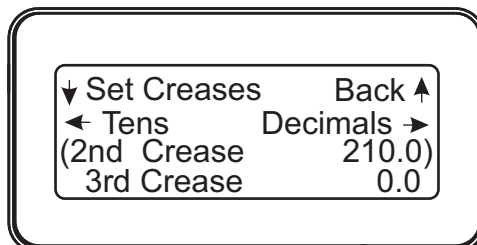
4. Move the Selection Switch to the left (one click at a time) selecting **Adjust** until the display shows the words **Set Creases.** as shown below.



5. Move the Selection Switch down to select the 1st Crease.



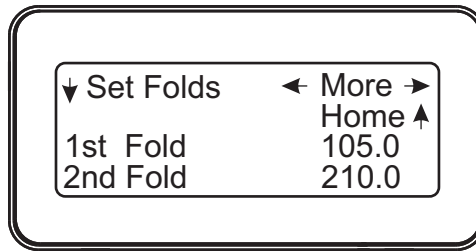
6. The 1st Crease position can then be adjusted by moving the Selection Switch to the left to select **Tens** or to the right to select **Decimals**. The **Tens** or **Decimals** (whichever has been selected) can then be adjusted by rotating the Selection Switch, (clockwise to increase or anti-clockwise to decrease).
7. Move the Selection down to select the 2nd Crease position.



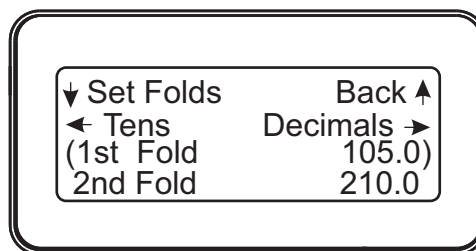
8. The 2nd Crease position can then be adjusted by moving the Selection Switch to the left to select **Tens** or to the right to select **Decimals**. The **Tens** or **Decimals** (whichever has been selected) can then be adjusted by rotating the Selection Switch, (clockwise to increase or anti-clockwise to decrease).
9. Further creases can be set in this way, up to a maximum of nine creases.
10. Move the Selection Switch up (one click at a time) until the display shows the word **Adjust**.

Setting the Fold Positions.

11. Move the Selection Switch to the left (one click at a time) selecting **Adjust** until the display shows the words **Set Folds** as shown below.

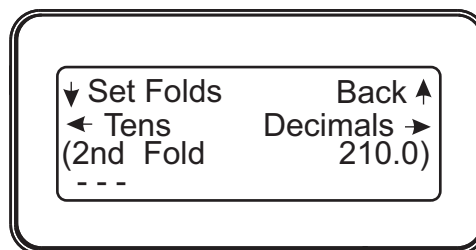


12. Move the Selection Switch down to select the 1st Fold.



13. The 1st Fold position can then be adjusted by moving the Selection Switch to the left to select **Tens** or to the right to select **Decimals**. The **Tens** or **Decimals** (whichever has been selected) can then be adjusted by rotating the Selection Switch, (clockwise to increase or anti-clockwise to decrease).

14. Move the Selection down to select the 2nd Fold position.

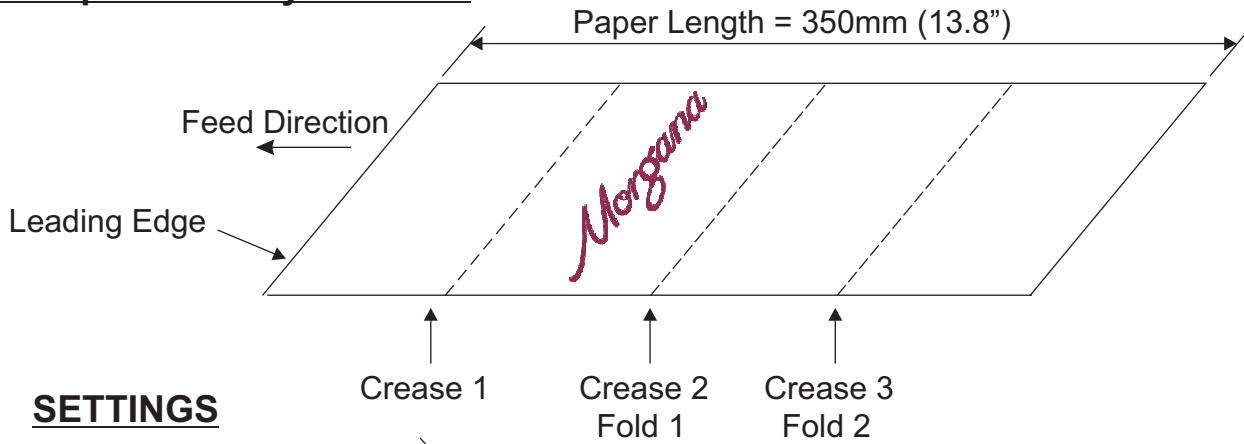


15. The 2nd Fold position can then be adjusted by moving the Selection Switch to the left to select **Tens** or to the right to select **Decimals**. The **Tens** or **Decimals** (whichever has been selected) can then be adjusted by rotating the Selection Switch, (clockwise to increase or anti-clockwise to decrease).

NOTES.

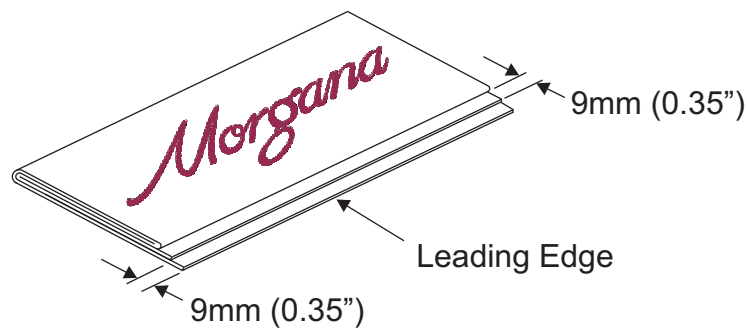
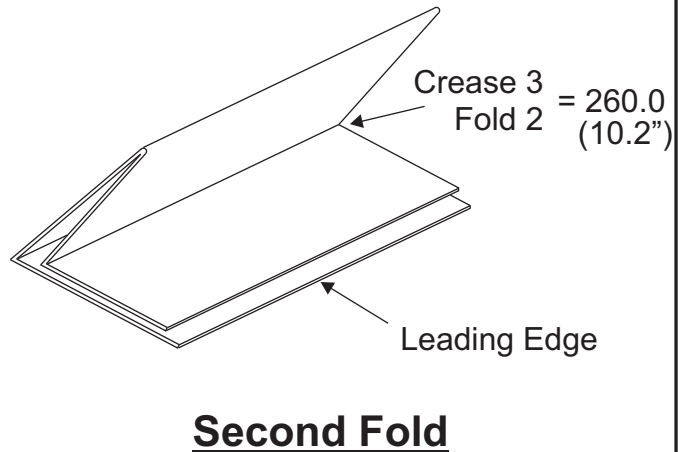
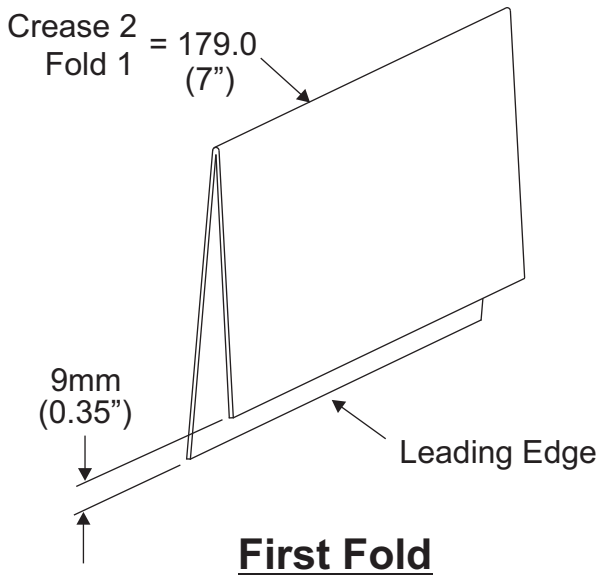
1. The maximum number of folds per sheet = 2.
2. The Batch Quantity can be set, and the Program can be stored; as described on pages 18 and 19.

Example of Set by Position.



SETTINGS

- Crease 1 = 97.0mm (3.8")
 - Crease 2 = 179.0mm (7")
 - Crease 3 = 260.0mm (10.2")
 - Fold 1 = 179.0mm (7")
 - Fold 2 = 260mm (10.2")
- } All dimensions are from the leading edge of the paper



Feeding Sheets Manually

In order to feed heavy stock, very small or very large sheets, embossed or even irregular shaped sheets, it may be required to operate the machine manually.

The machine can be programmed and set up in exactly the same way as explained when operating the machine automatically. However, when setting up the machine the paper gate must be raised to its highest position for the sheets to be fed freely.

The machine can now be started by activating the System switch to ON. **Do not switch the Compressor switch on.** Move the Selection Switch down to select **Run**.

Wait until the suction drum rotates, before hand feeding the first sheet; (this allows the machine time for the pre-feed checks to be processed). Subsequent sheets may be hand fed as soon as the tail edge of the preceding sheet is no longer visible.

To stop feeding the sheets, move the Selection Switch up and then the System switch Up.

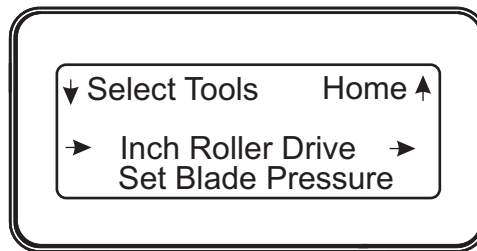
NOTE.

IF the delay between feeding sheets is excessive, the system will time out and the display will read '**Paper Didn't Arrive**'.

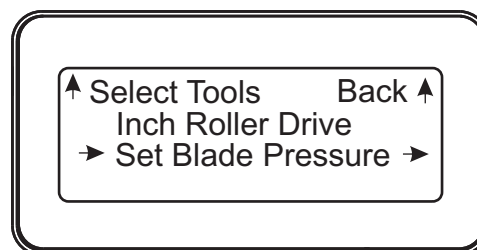
If a sheet is fed after the time out it can be retrieved by lowering the delivery.

Adjusting the blade pressure (no paper required)

1. With the machine switched **ON** (see page 18), move the Selection Switch to the left (one click at a time) until the display contains the words **Select Tools** as shown below.

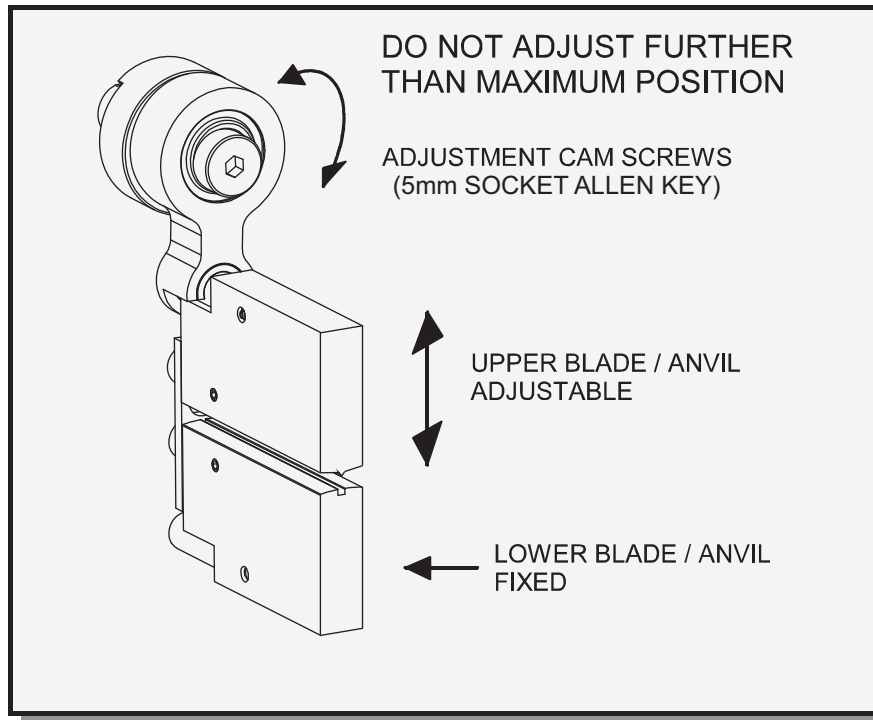


2. Move the Selection Switch down to **Set Blade Pressure**.



3. Press the System Switch down.
4. Move the Selection Switch to the right, the machine will activate and the blade will move to top dead centre. The display will momentarily read **Blade is moving to TOP DEAD CENTRE** and then change to read **Blade Pressure May Now Be Adjusted See Operators Manual**.
5. Using a 5mm allen key, unlock the socket head screws positioned at each end of the creasing blade.
6. Rotate the blade adjustment cams until they are just tight, and then back off slightly before tightening the socket head screws.

The diagram below demonstrates the adjustment of blade pressure.



BLANK
PAGE

1. Before removing the blade assembly, ensure that the lower blade / anvil is at 'Top Dead Centre', see page 29.
2. Lift the top cover.
3. Using a 5mm allen key, remove the two socket head screws, one each end of the Blade Set, as shown in FIG 32.1 below.



FIG 32.1

4. Remove the Sheet Guide Assembly, by pulling upwards on the two flanges, one each end, as shown in FIG 32.2 and FIG 32.3 below.

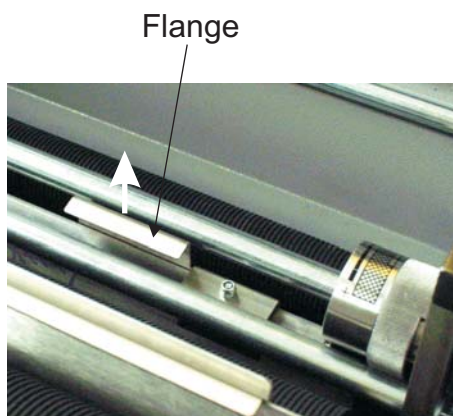


FIG 32.2



FIG 32.3

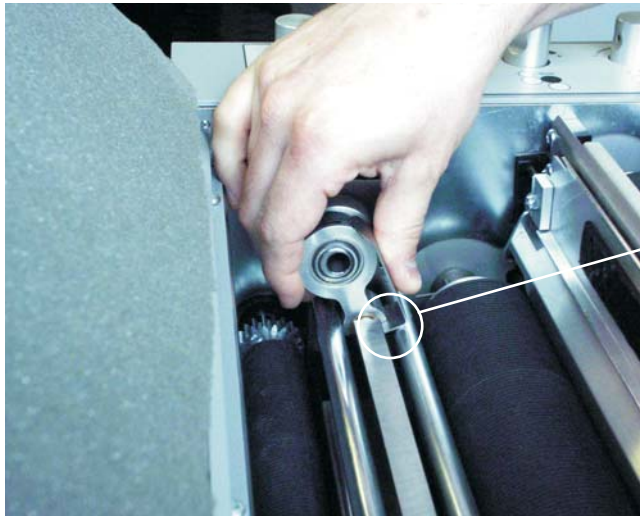
5. The Blade Set can now be removed from the machine using the Blade Extractor Tools shown in FIG 32.4 below.



Blade Extractor Tools

FIG 32.4

6. Insert the Blade Extractor Tools, one at each end of the Blade Set, as shown in FIG 33.1 below.



Note The Position of The Blade Extractor Tool Under The Lip of The Blade Adjuster Assembly

FIG 33.1

7. Lever the Blade Assembly in the direction shown in FIG 33.2 to unclip and release the Blade Set.

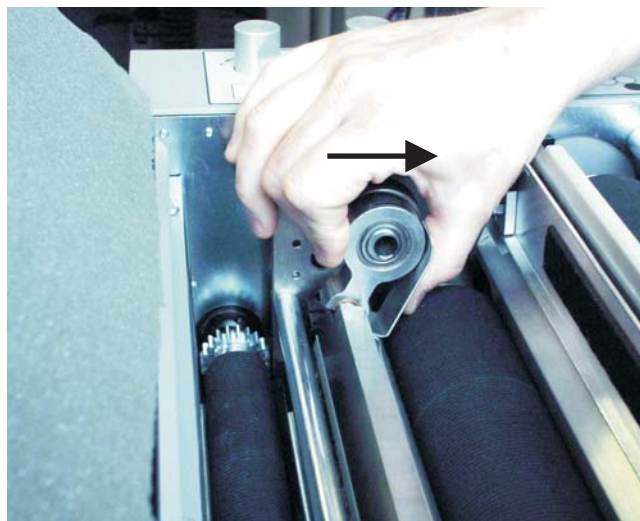
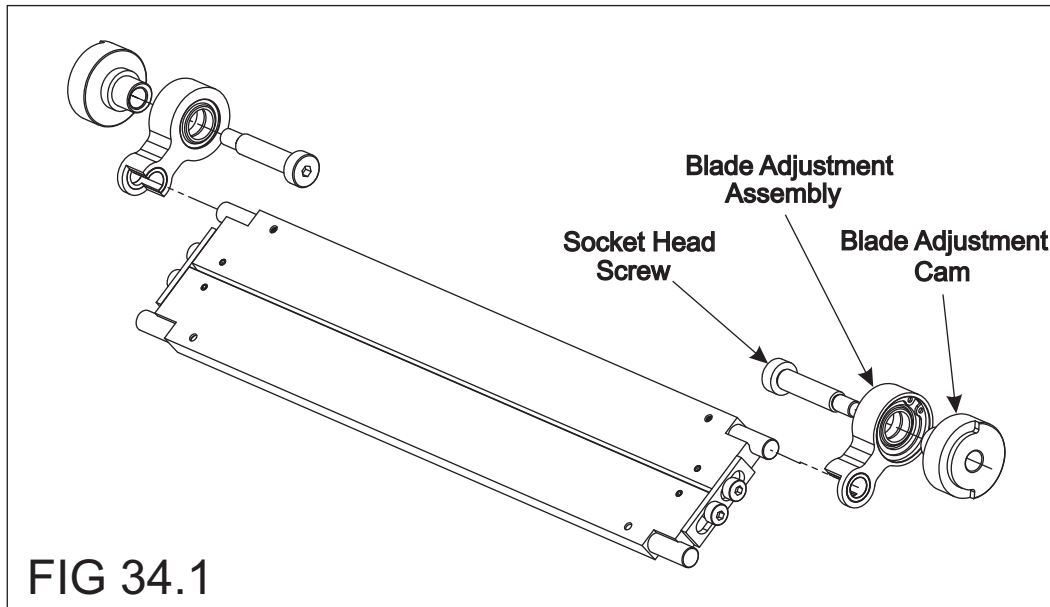
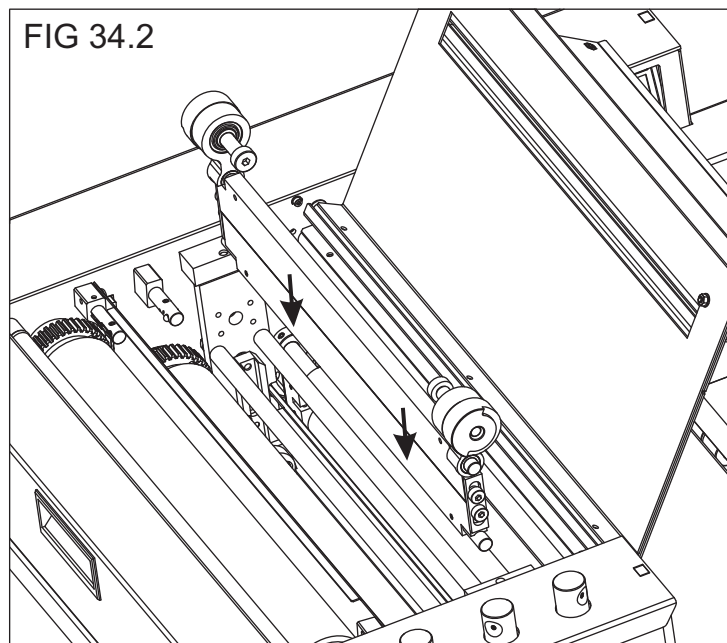


FIG 33.2

8. Slide the blade assembly out of the creasing unit and lay it on a flat surface.
9. Slide the blade adjustment cams and the blade adjustment assemblies away from the dowels located in the ends of the blades / anvils as shown in FIG 34.1 below.



10. Slide the blade adjustment assemblies and the blade adjustment cams onto the dowels of the new blade set.
11. Slide the new blade set into the slots of the creasing unit as shown in FIG. 34.2.
12. Rotate the blade adjustment cams until they are just tight, and then back off slightly. Reset blade to 'Top Dead Centre' and make final adjustments.



Once the machine is set-up, the Machine can be used to perforate or crease.

Notes

1. **Perforating and creasing can be carried out simultaneously. However, if any adjustment is made to the roller tilt mechanism in order to compensate for the perforation line being 'out of square', this may effect the accuracy of the crease. If this occurs creasing and perforating must be carried out as separate operations.**
2. **By adjusting the outfeed drive tyres relative to the drive hubs it is possible to steer the sheet, (i.e. By placing the tyre on top of the hub one side of the paper will steer faster on that side).**

The components and tools required to install the perforator are contained in the despatch kit supplied with the machine, they are listed below.

- 1 off Set of standard perforation '56 tooth' blades.
- 1 off Set of standard hardened anvils.
- 1 off Perforator stripper.
- 1 off Scoring wheel
- 1 off 3mm bondhus wrench / allen key
- 1 off 2mm bondhus wrench / allen key



The perforator blades are split into two matching halves and are fitted to the drive wheels as shown in the photograph using the four screws supplied.

A hardened anvil is fitted to the drive hub as shown in the photograph also using the four screws supplied. Again the anvils are made from matching halves.

Important: The perforator blades are very sharp and care must be taken whilst handling. Do not mix the matching pairs of blades or anvils.

Perforating 'Spares' kits

For perforating and other types of paper, various spares kits are available which can be assembled to the machine in the same fashion. They are listed below along with a range of scoring wheels,

Perforating blades	56 teeth	Part Number	1-99-41	- Standard stock / fine perforations.
	28 teeth	Part Number	1-99-12	- Medium stock / Medium perforations.
	20 teeth	Part Number	1-99-10	- Heavy stock / coarse perforations.
Anvils		Standard Part Number	1-99-35	- For all blade types

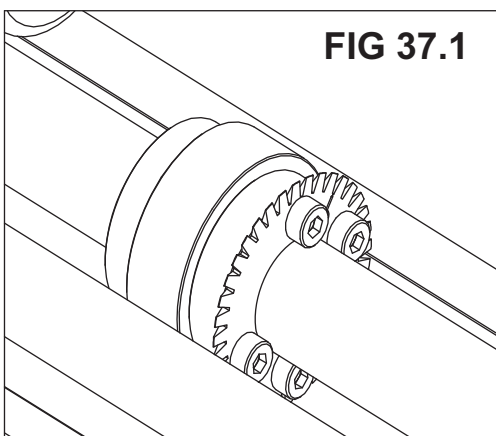
All of the blades and anvils are supplied with fixings.

***Perforator stripper** Standard Part Number **177-05-01**

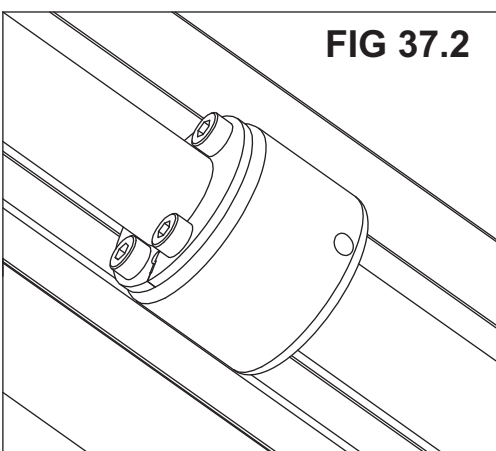
*It is recommended that for multiple perforations, a separate perforator stripper is used for every perforating blade set fitted in the creasing unit.

Setting the machine

1. Turn the mains supply to the machine 'off'.
2. Open the perforator assembly to get access to the drive wheels and hubs.
3. Locate and remove the blades / anvils from the despatch kit supplied with the machine.
4. Using the 2mm allen key (supplied), loosen the drive wheel that is to accommodate the blades.
5. Slide the drive wheel away from any obstructing drive wheels or hubs in order to mount the blades.



6. Using the 2.5mm allen key (supplied), take one half of the matching pair of blades and mount on to the drive wheel. Do not secure the blade.
7. Mount the other half of the blade to the drive wheel as shown (FIG 37.1). Secure the blades to the wheel ensuring not to over tighten grub screw.
8. Mark on a single sheet the desired perforating position. Feed the sheet through the machine manually until the mark can be seen. Use this mark to assist in fixing the position of the perforating drive wheel to the roller drive shaft.



9. Using the 2mm allen key, loosen the drive hub nearest the perforating drive. Slide the drive hub away from any obstructing drive wheels or hubs in order to mount the anvils.
10. Using the 2.5mm allen key, take one half of the matching pair of anvils and mount to the drive hub. Do not secure the anvil.
11. Mount the other half of the anvil to the drive hub as shown (FIG 37.2). Secure the anvils to the drive hub ensuring not to over tighten the grub screws.

12. Slide the drive hub towards the perforating drive wheel until there is a clearance of 0.5mm (0.020”).
13. To prevent damage to the blades or the anvils, do not force the drive wheel against the hub.
14. Fix the perforator stripper adjacent to the drive wheel and blade as shown.
15. Operate the machine and test the perforations for form.

It is important that the drive hubs are arranged evenly across the width of the paper in order to reduce the risk of jamming.

For multiple perforations repeat the above procedure.

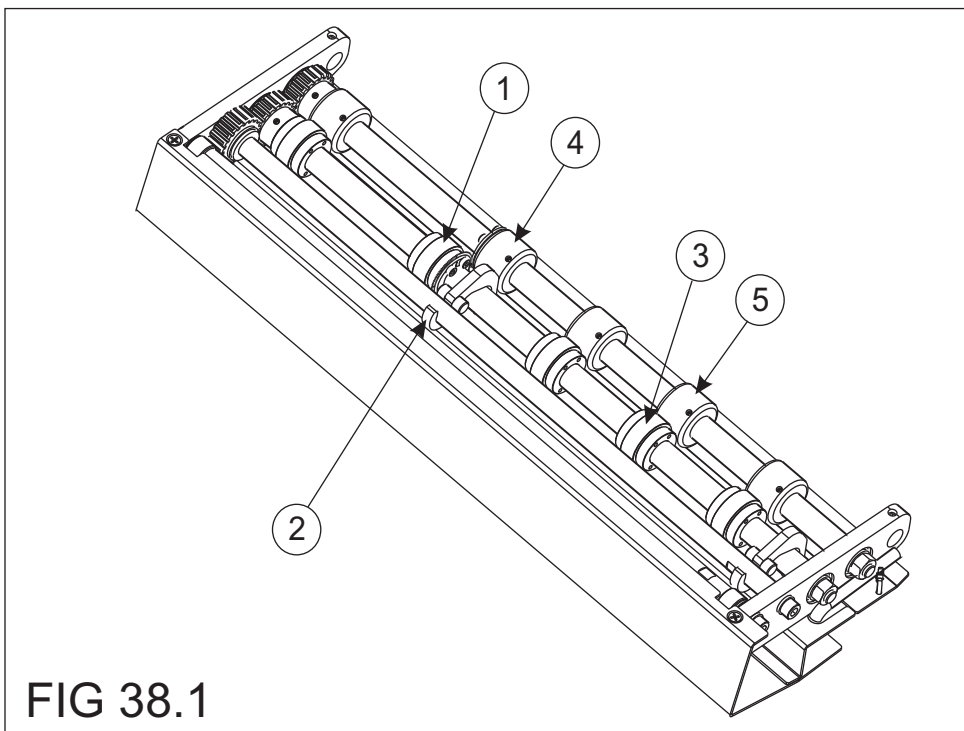


FIG 38.1

Fig 38.1 Demonstrates a typical set-up for perforating sheets.

- | | |
|---|-----------------------------------|
| 1 - Perforating drive wheel with mounted blades | 4 - Drive hub with mounted anvils |
| 2 - Perforator stripper | 5 - Standard drive hub |
| 3 - Standard drive wheel | |

Always remove blades and anvils once the perforating operation has been completed to avoid marking on digital or delicate media.

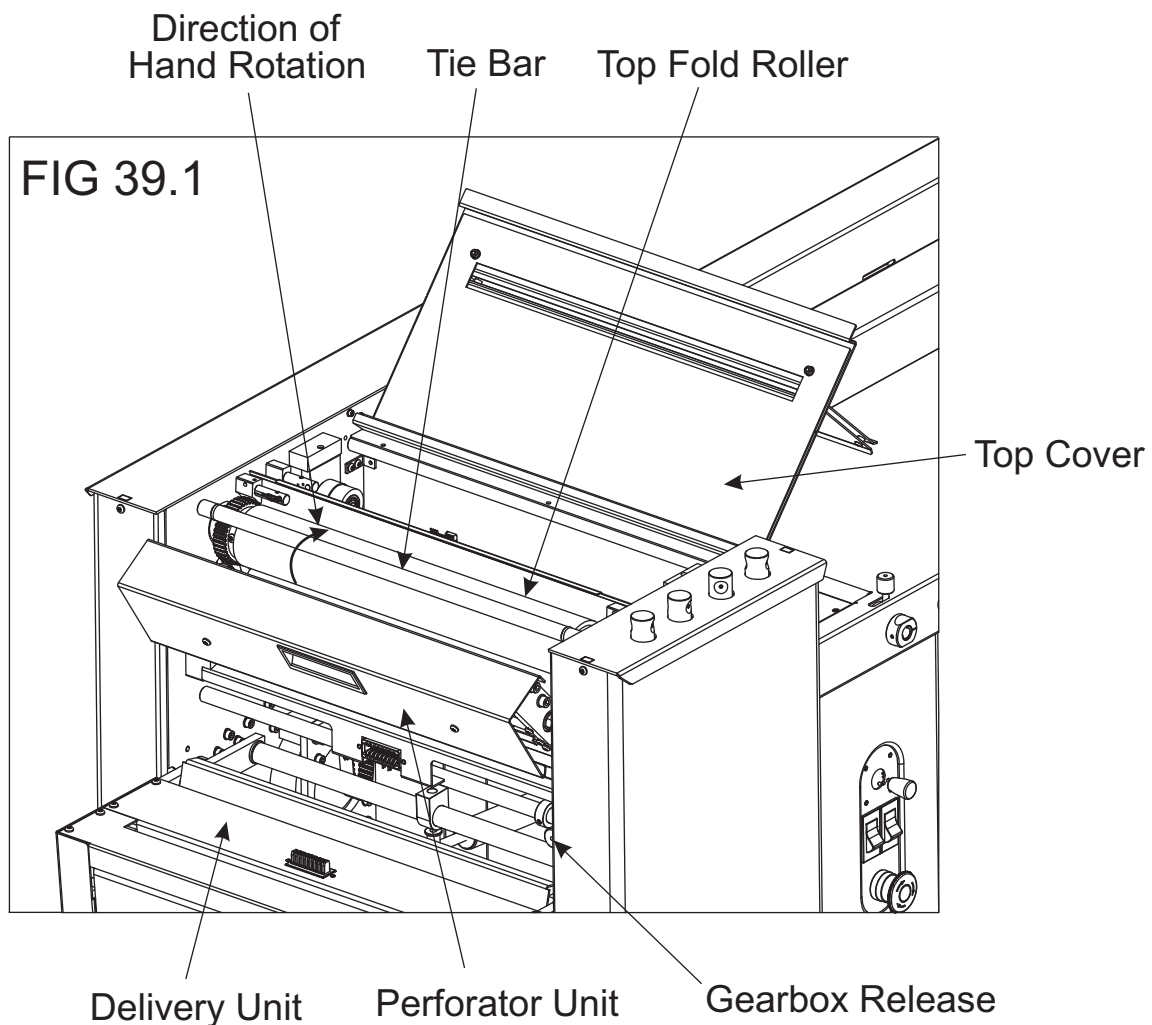
Removing Paper Jams

In the event of a paper jam occurring, whilst running the machine, follow the steps described below to allow access to remove the jammed paper.

1. Unlock and lower the delivery unit, open the top cover and the perforator unit; see FIG 39.1 below.
2. If the paper is jammed in the fold rollers; try to rotate the top fold roller, using both hands. Position the thumbs under the tie bar and spread the fingers out above the tie bar.

NOTE.

The top fold roller can only be rotated in one direction by hand. To rotate the top fold roller in the other direction the drive gear must be released as described on page 40.



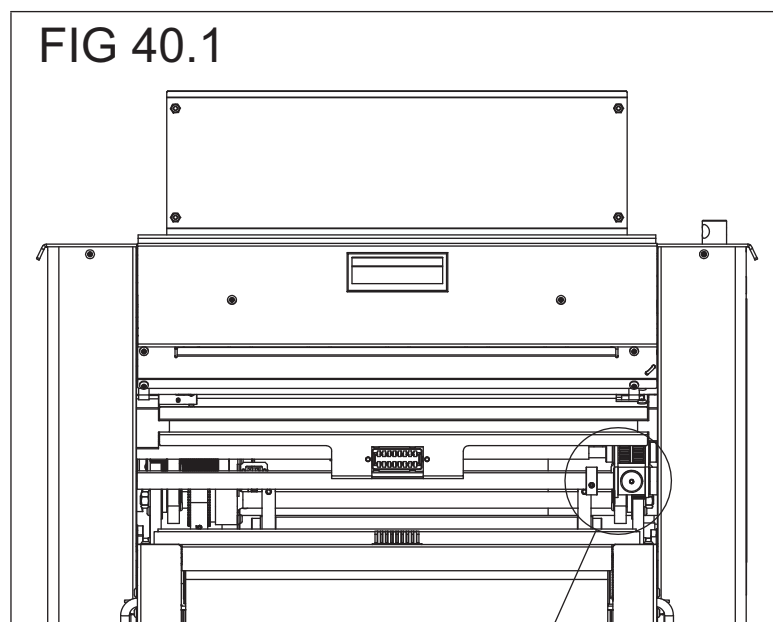
Releasing The Drive Gear

The fold rollers can be rotated in the opposite direction, to that described on page 39, by releasing the drive gear. To release the drive gear unscrew the release knob and then slide it to the left as far as it will go to dis-engage the gears (see FIG 40.1 below). If the release knob cannot be moved freely to the left, rotate the top fold roller with one hand whilst moving the release knob to the left with the other hand.

The fold rollers can then be rotated, by hand, in both directions.

IMPORTANT.

When the jammed paper has been cleared from the machine, the drive gear must be returned to its engaged position or the machine will not run.



Release Knob
(unscrew and move to the left)

Paper crease out of square

- Check that the sheets are all square and exactly the same size before loading the stack on to the table.
- Check that the adjustable side lay has been correctly positioned ie. No further than 0.5mm (0.020") from the paper stack.
- Check that the blade tilt mechanism is correctly set.

Crease Position Inaccuracy

- Check that the crease profile has not been set too deep.
- Check that the correct Blade Set is fitted. (Standard Blade Set for material thickness of 0.25mm (0.010") and above, Narrow Blade Set for material thickness of 0.25mm (0.010") and below).

Paper fold out of square

Note:- the best fold squareness is achieved when the fold is not on the center of the crease, but to one side or the other.

- Check that the fold is to one side of the crease center line.
- Check that the roller gaps are not too tight and squashing the crease.
- Check that the roller gaps are not too large and allowing the paper to slide (especially so on glossy paper).

Paper jamming

- Check that the leading edge of the paper is not being damaged by the paper gate. If this is occurring, check that the suction slot and the paper gate have been correctly set.
- Check that the first crease / fold position is not too close to the leading edge of the paper. A minimum distance of 50mm (1.96") is recommended.
- If jamming is occurring in the Perforator - adjust the Hubs (see Pages 15 & 38).

Machine will not start

- Check the power supply to the machine.
- Check that the emergency stop button has been released.
- Check that the top cover is down.
- Check that the perforator assembly is in its closed position.
- Check that the delivery unit is in the up position, and located correctly, (the machine will not start if the delivery unit is not in its up position).
- Check that the Gearbox Release Knob is fully to the right against the Operator side frame.

Paper not feeding

- Check that the paper stack is not too high or too heavy for the feeder. The height of the paper stack should be defined by the weight and the size of the stock being creased.
- Ensure that the adjustable side lay is not pressed against the paper stack. However, if the clearance between the adjustable side lay and the paper stack is too great, the air supply will escape instead of blowing through the paper thus making it difficult to feed.
- Check that the clearance between the paper gate and the suction roller is not set too low.
- On digital media, the feeding performance may be improved if the leading edge of the stack is trimmed before loading onto the Digifold.
- Check that the air distribution has been correctly set.
- Check that the air separation has been set high enough to feed the sheets.
- For heavy stocks, very small or very large sheets, embossed or even irregular stock, it may be necessary to feed the sheets manually - see page 28.

Cracking of the Printed Material along the Crease.

Cracking of the material along the crease may be caused by the following:-

- Pressure too heavy on the top blade - reduce pressure.
- Cracking on one edge caused by misalignment of the anvil and blade.
- **When using dry ink or toner based print engines, the material must be fully acclimatised for at least 48 hours before putting an image onto the paper.**

Using the Correct Blade Set.

- Two Blade sets are supplied with the machine.
The Standard Blade set is suitable for material thicknesses of 0.25mm (0.010") and greater.
The Narrow Blade set is suitable for material thicknesses of 0.25mm (0.010") and smaller.
- If the Standard Blade Set is used to crease and fold materials less than 0.25mm (0.010") inaccurate results can be produced.
- If the Narrow Blade Set is used to crease and fold materials greater than 0.25mm (0.010") cracking can occur. More importantly this could cause the main motor to temporarily stall. This probably won't be that noticeable until you look at the results, whereby the crease position will vary.

Error Messages (Display Window Reads)

- **'Clip 1 was not clear'** (Back Sensor)
If the machine stops and the display window reads **Clip 1 was not clear** this indicates that the sensor is or was blocked when it should have been clear.
i.e. A jam in the paper path or the wrong length of paper has passed through the sensor.
To correct - check if paper is present and check that the paper path is clear before restarting. See pages 39 and 40 that describe how to remove paper jams.
- **'Clip 1 wasnt Blocked'** (Back Sensor)
If the machine stops and the display window reads **Clip 1 wasnt Blocked** this indicates that the sensor did not see the paper at the correct time.
i.e. A jam in the paper path.
To correct - Check if paper has jammed in the machine prior to the sensor.
See pages 39 and 40 that describe how to remove paper jams.
- **'Clip 2 was not clear'** (Top Sensor)
If the machine stops and the display window reads **Clip 2 was not clear** this indicates that the sensor is or was blocked when it should have been clear.
i.e. A jam in the paper path or the wrong length of paper has passed through the sensor.
To correct - check if paper is present and check that the paper path is clear before restarting. See pages 39 and 40 that describe how to remove paper jams.
- **'Clip 2 wasnt Blocked'** (Top Sensor)
If the machine stops and the display window reads **Clip 2 wasnt Blocked** this indicates that the sensor did not see the paper at the correct time.
i.e. A jam in the paper path.
To correct - Check if paper has jammed in the machine prior to the sensor.
See pages 39 and 40 that describe how to remove paper jams.
- **'Paper Jam' 'Inch Motor Drive'**
In the event of a paper jam occurring whilst the machine is operating the display window will read **Paper Jam**.
See pages 39 and 40 that describe how to remove the paper causing the Jam.
- **'Check edge sensor'**
If the machine stops and the display window reads **Check edge sensor** this indicates that there is something blocking the edge sensor. Try cleaning before suspecting a total re-calibration of the 'Lead Edge Sensor'. The machine will not operate until it can be sure nothing is already in the machine.
- **'Blade error. Run stopped, Please check settings'**
This indicates that the machine run program has found that the settings are not capable of being run. (This should never happen).

Error Messages (Continued)

- **‘Last crease is too close to the end of the sheet’**
This indicates that the sheet has ended too close to the last crease position. This can be caused by the sheet being too short (mistakenly), the sensor 'seeing' through the sheet towards the end of the sheet (damaged sheet) or some sort of sensor error (Calibration too close).
- **‘Double sheet detected’**
This indicates that the double detector, (If installed), has picked up a double sheet.
- **‘Overlap - Probable cause, double sheet’**
This indicates that the ‘Lead Edge Sensor’ has seen a sheet subsequent to the first one as being longer. Again this could actually be a longer sheet, OR it could be a sensor problem (if it is a recurring problem).
- **‘Blade Home Failure 2’**
This indicates that the crease blade did not get back to its home position correctly or at the correct time. Causes, can be excessive blade pressure (suspect a double), or Some kind of jam which caused more than one sheet thickness to be creased.
- **‘Warning Blade pressure may be too high’**
This indicates that there may be some creasing errors, and that the creasing pressure should be checked, (also check for a double that may have got through, causing this error).
- **‘NV checksum error’**
This error may appear when the machine is first turned on. It indicates that the checksum in the stored data (tool settings) does not match the one expected. (i.e. The software installed in the machine has been corrupted). This problem can only be rectified by a factory trained Service Engineer.

Recommended weekly operator maintenance

- Clean all sensors.
- Clean in feed rollers and output drive hubs using the cleaning kit supplied (cleaning kit part number 90-018).
- Remove and clean the blade assembly.

Technician Maintenance

It is recommended that your Machine is fully serviced at least once every six months by a factory trained Service Engineer.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	174-011	1	OPERATORS MANUAL - DIGIFOLD 5000P
2	90-018	1	ROLLER CLEANING KIT
3	650-040	1	POWER CORD C19 UK 16A 2.5m
4			
5			
6	403-01-030-006	12	SCREW - SOCKET CAP HEAD - M3 x 6 LG
7	409-01-040-004	1	SCREW - SKT. SET FLAT PT. - M4 x 4 LG
8	620-007	1	HEXAGON BALL DRIVER 2mm
9	620-020	1	HEXAGON BALL DRIVER 2.5mm
10	620-026	1	BONDUS L WRENCH 4mm
11	620-027	1	BONDUS L WRENCH 5mm
12	624-025	1	STATIONERY TUBE 330MM X 50MM
13	170-002-01	1	QUICK START CHART
14	624-018	1	DISPATCH BOX
15	08-041-02	1	SLITTING ANVIL - UNDERSIZE.
16	08-066	1	SLITTER PERF BLADE 28T
17	624-017	3	SLITTER/SCORER PK - STYLE 0212/40X40X20

ITEM	PART NUMBER	DESCRIPTION
1	172-022-01	LOADING TABLE EXTENSION
2	1-99-10	PERFORATING BLADE SET 20T (Card)
3	1-99-12	PERFORATING BLADE SET 28T (Single Sheets)
4	1-99-41	PERFORATING BLADE SET 56T (Fine Perforations)
5	1-99-35	ANVIL SET USED WITH ABOVE BLADE SETS
6	172-03-01	DOUBLE SHEET DETECTOR KIT
7	172-04-01	NARROW SHEET KIT
8	173-169-01	ETHERNET KIT

ACCESSORIES....

....May be obtained from your dealer and fitted to your machine using the instructions supplied, or by reading your operators manual.

OPTIONS....

....May also be obtained and fitted by your dealer. You should not attempt to fit options as specialist tools and knowledge are required.

PART NO.	DESCRIPTION
173-62-01	Vacuum Drum Motor Assembly
125-21-02	Dual Stepper Driver Board
174-06-01	Small Stepper Driver PCB Assembly
126-059-02	Link - Paper Guide
128-026-03	Delivery Belt
144-04-01	Joystick - Multifunction
144-143	Lead - Delivery Roller Position
144-141	Lead - Blade Position Sensor
145-093-02	Knife Driver Pin - M8
171-014-01	Vacuum Blow Hose
171-015-01	Vacuum Suck Hose
171-016-01	Manifold Exhaust Hose
171-017-01	Manifold Blow Hose
171-018-01	Full Suction Hose
173-06-01	Power Supply - 48V
173-06-02	Power Supply - 24V
173-45-01	Lead - Tilt Pot
173-46-01	Lead - Gap Set 3 Pot
173-47-01	Lead - Gap Set 2 Pot
173-48-01	Lead - Gap Set 1 Pot
173-49-01	Stepper Motor - Dynacreeze
174-01-01	Controller PCB Assembly + Chip
174-04-01	Knife Driver PCB Assembly
175-31-01	Input roller Assembly - Lower
175-31-02	Input Roller Assembly - Upper
175-042-01	Feed Belt
175-064-01	Connecting Link Assembly - Solenoid
175-31-01	Main Roller Assembly
175-10-01	Edge Sensor Assembly
175-109-01	Display Unit - 4 Line - Mk3 - Integrated
175-11-01	Sensor Bar Assembly
175-11-02	Sensor Bar Assembly - Clip
175-11-03	Sensor Bar Assembly
175-12-01	1st Blade Assembly
175-12-02	2nd Blade Assembly

PART NO.	DESCRIPTION
175-125-01	Connecting Link Assembly - Drive
175-125-02	Connecting Link Assembly - Knife Hubs
175-13-01	Paper Guide Assembly
175-20-01	Paper Gate Assembly
175-21-01	Vacuum Roller
176-02-01	Blade Adjuster Assembly
176-081-01	Worm Wheel - Gap Set
176-213-01	Dynamic Blade Set - Narrow
176-213-02	Dynamic Blade Set - Wide
177-01-01	Perforator Assembly
602-160	Plain Bush - Dynacreeze Guide Block
604-100	Gas Spring - Perf. Unit
604-103	Gas Spring - Delivery
607-005	Belt - Vacuum Roller
607-045	Multi Beam Coupler
607-171	Timing Belt - Drive
607-175	Belt - Drive
610-030	Solenoid - Knife
613-023	Fuse - 3.15A - 20 x 5mm - Fast Blow Ceramic
613-255	Solenoid - Valve
613-351	Micro Switch - Guard
613-365	Emergency Stop Switch - Double Pole
626-007	Anti-Static Sensor Bar
652-011	Switch - Low Current Coil - Black
652-040	Switch Thermal O/Load 12A Black
655-011	Power Supply Unit - Switched Mode - 24V
681-011	Fuse - 315mA - 20 x 5mm Anti-surge - Ceramic
681-019	Fuse - 6.3A - 20 x 5mm - Anti-surge Ceramic
75-258	Anti - Static Transformer
76-156	Lead - Blade position Sensor
76-240	Stepper Motor - Drive

NOTE.....

The items listed above represent parts which are subject to wear, loss, or accidental damage, and is included for your guidance only.

Replacement of parts fitted to your machine require specialist knowledge and should therefore be entrusted to your dealer.

MACHINE CALIBRATION HISTORY

Serial Number:-

Date:-					
Total Count:-					
Vac Suck Trim					
Vac Park Trim					
Stretch					
Lead Edge Trim					
Follow Stretch					
Del. Roller Trim					
Knife 1 Trim					
Knife 2 Trim					
K1 Deflect Trim					
K2 Deflect Trim					
K1 Travel					
K2 Travel					

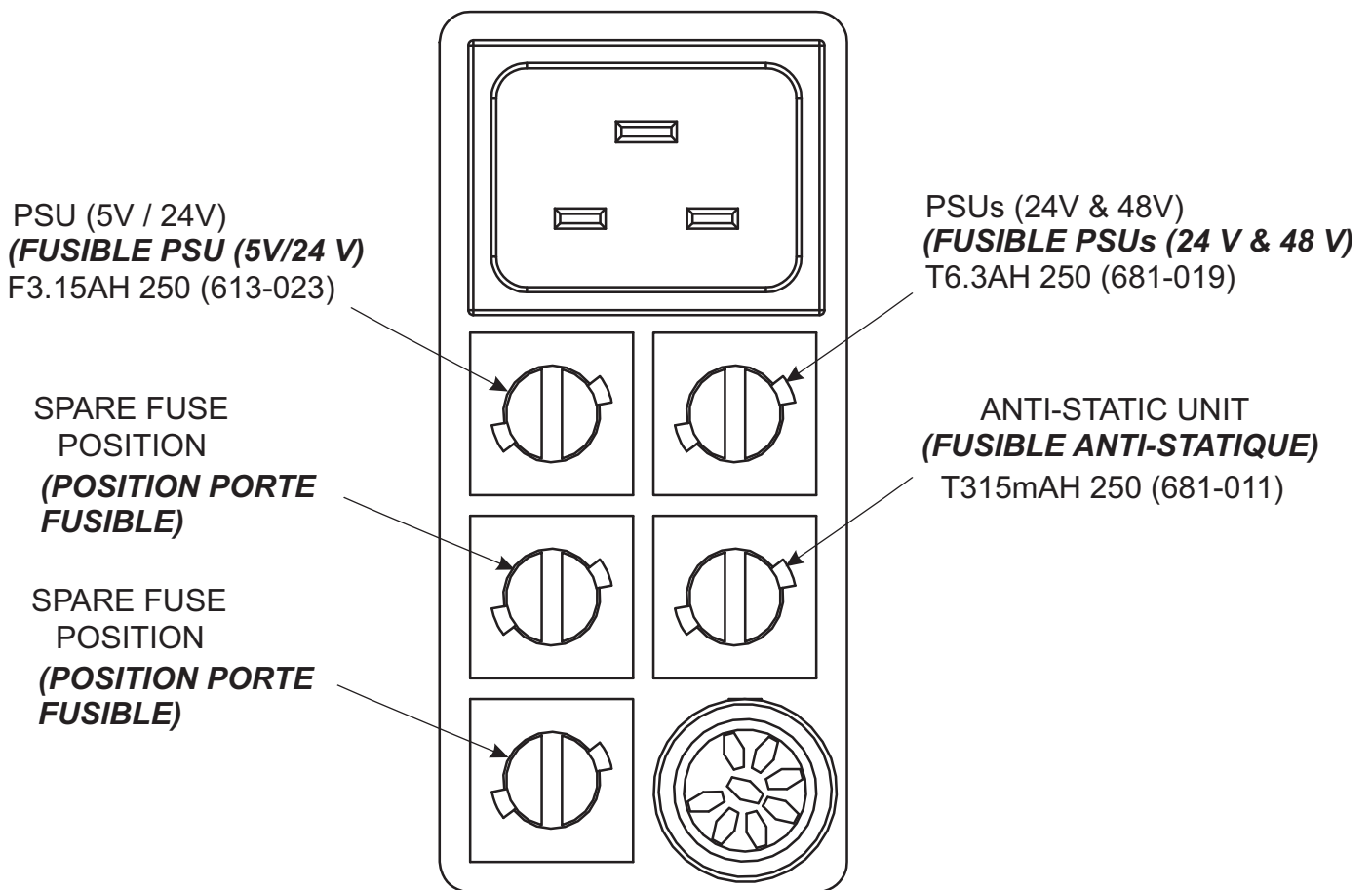
Date:-					
Total Count:-					
Vac Suck Trim					
Vac Park Trim					
Stretch					
Lead Edge Trim					
Follow Stretch					
Del. Roller Trim					
Knife 1 Trim					
Knife 2 Trim					
K1 Deflect Trim					
K2 Deflect Trim					
K1 Travel					
K2 Travel					

Date:-					
Total Count:-					
Vac Suck Trim					
Vac Park Trim					
Stretch					
Lead Edge Trim					
Follow Stretch					
Del. Roller Trim					
Knife 1 Trim					
Knife 2 Trim					
K1 Deflect Trim					
K2 Deflect Trim					
K1 Travel					
K2 Travel					

Digifold 5000P

FUSE POSITIONS & RATINGS

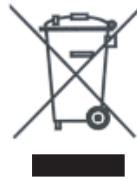
(POSITION ET CLASSIFICATION DES FUSIBLES)



PRODUCT RECYCLING & DISPOSAL

European Union

Disposal Information for Commercial Users



Application of this symbol on your equipment is confirmation that you must dispose of this equipment in compliance with agreed national Procedures.

In accordance with European legislation end of life electrical and electronic equipment subject to disposal must be managed within agreed procedures.

Prior to disposal please contact your local dealer or representative for end of life take back information.

Disposal Information for Domestic Users



Application of this symbol on your equipment is confirmation that you should not dispose of the equipment in the normal household waste stream.

In accordance with European legislation, end of life electrical and electronic equipment subject to disposal must be segregated from household waste.

Private households within EU Member States may return used electrical and electronic equipment to designated collection facilities free of charge. Please contact your local disposal authority for information.

In some Member States when you purchase new equipment your local retailer may be required to take back your old equipment free of charge. Please ask your retailer for information.

Other Countries

Please contact your local waste authorities and request disposal information.

