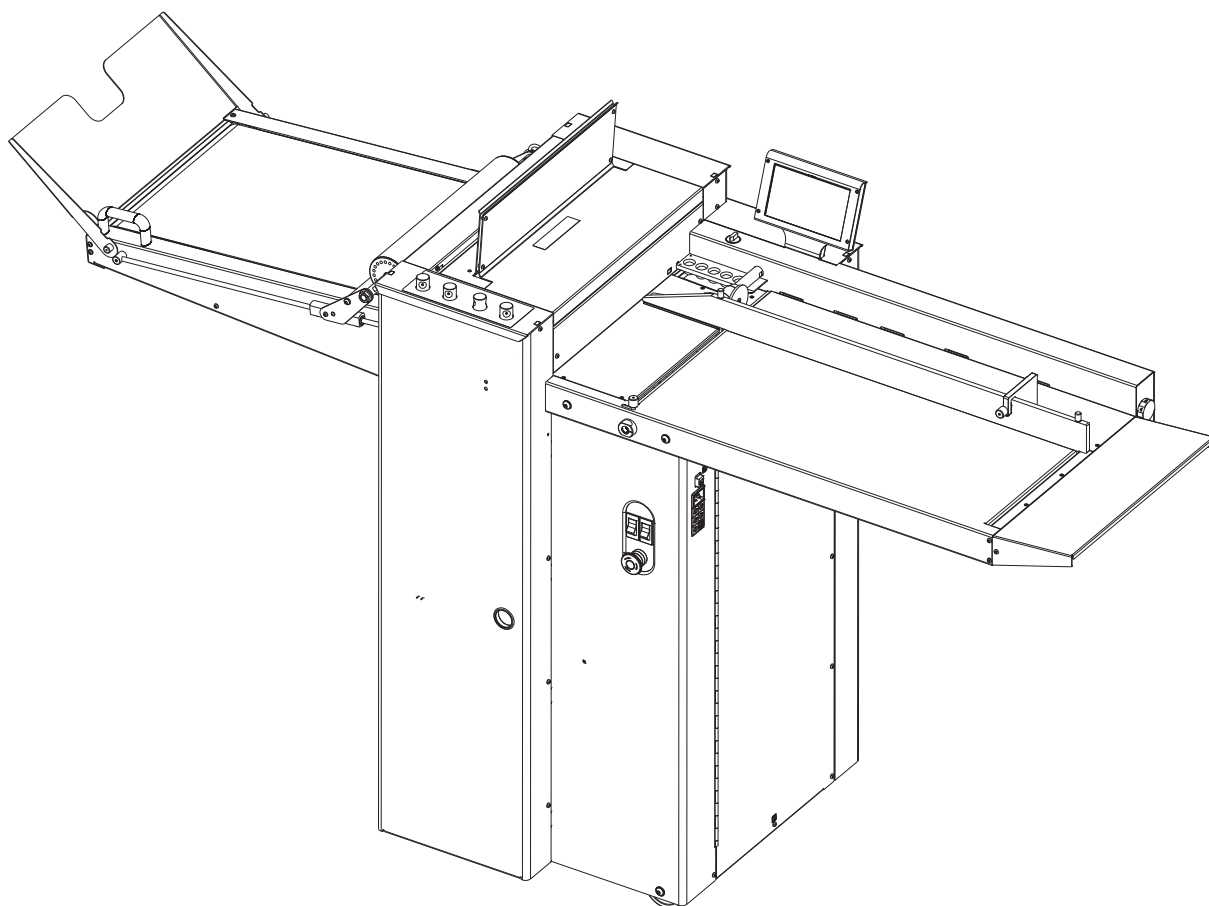




DigiFold Pro



DOCUMENT FOLDING MACHINE *OPERATORS MANUAL*

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morgana**DigiFold Pro****INTRODUCTION AND SPECIFICATION**

Digifold Pro 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 0.11mm, up to 0.4mm thick. The **DigiFold Pro** reduces the possibility of scratching, marking or cracking appearing on the substrate, as is often associated with conventional folding machine methods.

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	0.40mm (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	Unlimited
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 in half).....	6000 sheets

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

Dimensions	L: 2020mm H: 1265mm W: 680mm L: (79.5") H: (49.8") W: (26.8")
Weight	190Kgs (+50Kgs packing)
Power Requirement	1 phase 220 / 240v

*As part of our continued product improvement plan, specifications and information published in this manual are subject to change without notice.

All specifications are dependant on application, type of stock, temperature, RH and print engine used.

Specifications quoted were measured on uncoated and unprinted stock.

E & OE.

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.

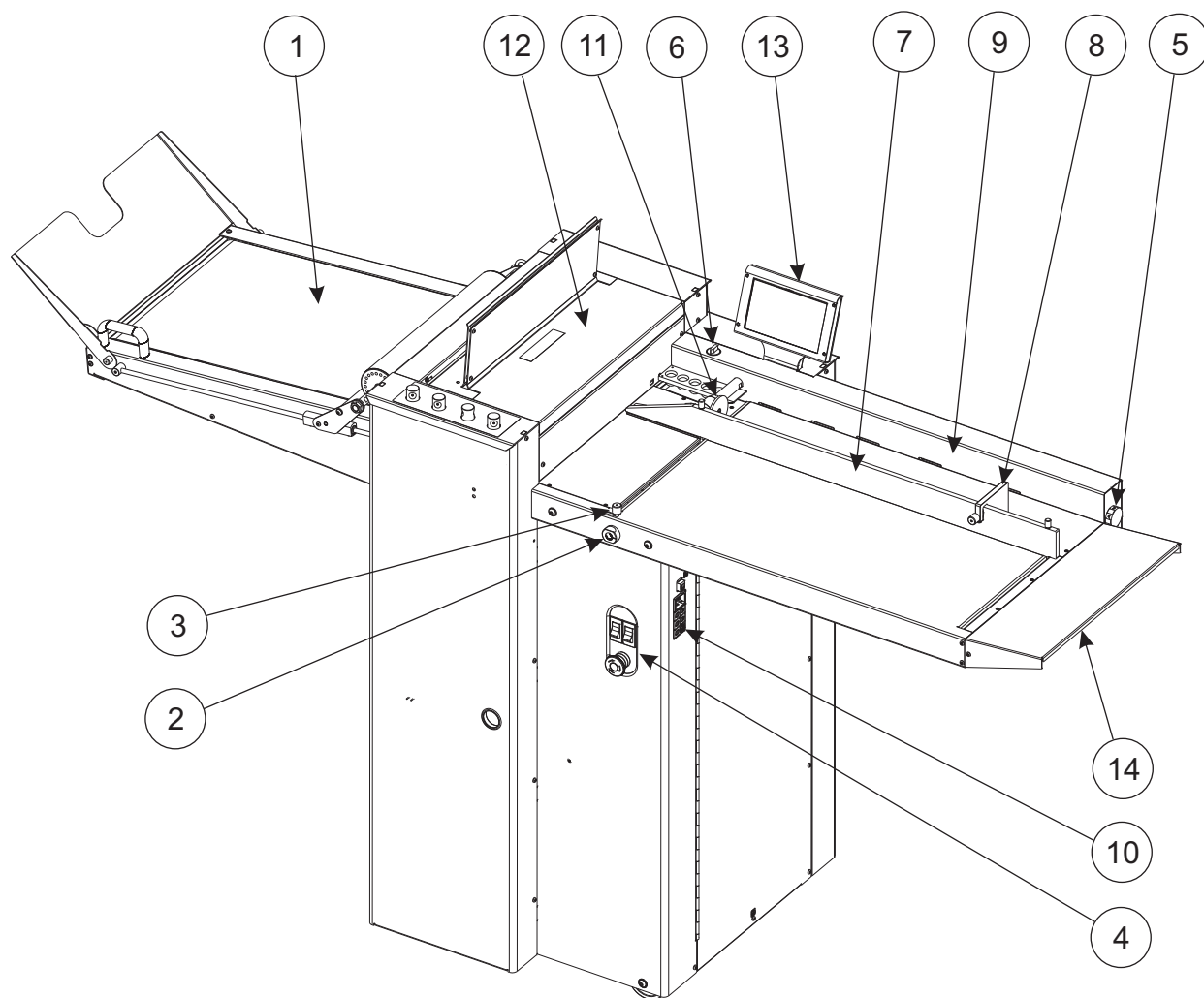
Do - be aware of rotating rollers.
Attention aux rouleaux en fonctionnement

Do - be aware of low current anti-static shock.
Attention aux faibles chocs d'électricité statique

morgana **DigiFold Pro** **DOCUMENT FOLDING MACHINE**

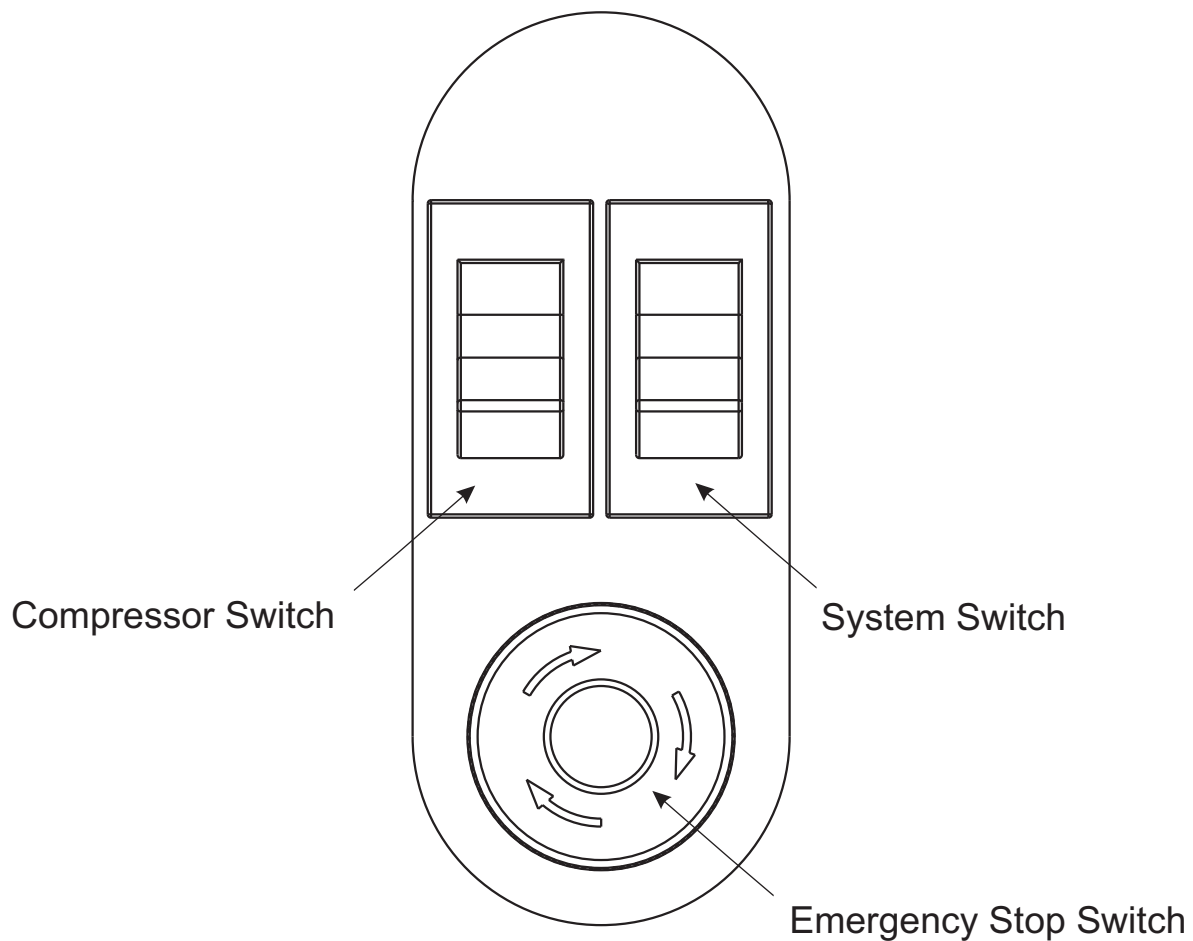
Key to photograph below

- | | | | | | |
|---|-----------------------|----|---------------------|----|--------------------------|
| 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 | Touchscreen |
| 4 | Switch panel | 9 | Fixed side lay | 14 | Optional Extension Table |
| 5 | Air distribution knob | 10 | Fuses | | |



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

THE SWITCH PANEL



Features on the Switch Panel

System switch

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

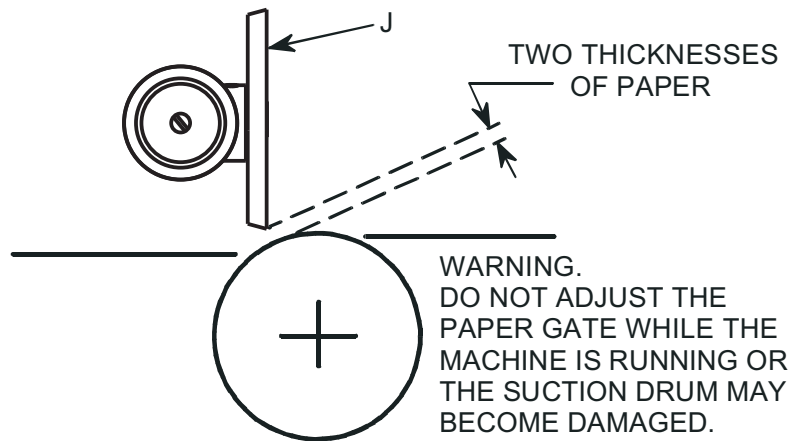
Compressor switch

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 disc j. An excessive gap is a most likely cause of double sheet feeding.

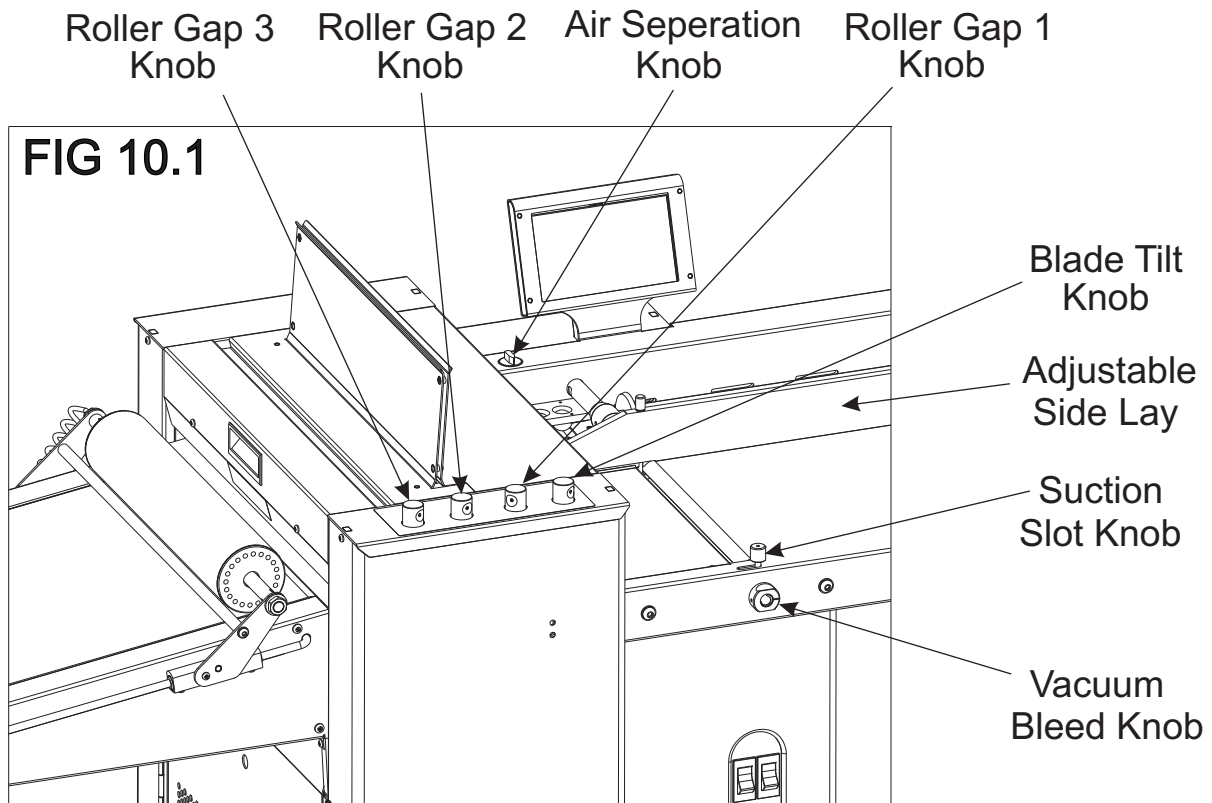
This setting is only intended as a guide, for instance, sheets with an upward curl will require this setting to be increased.



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.

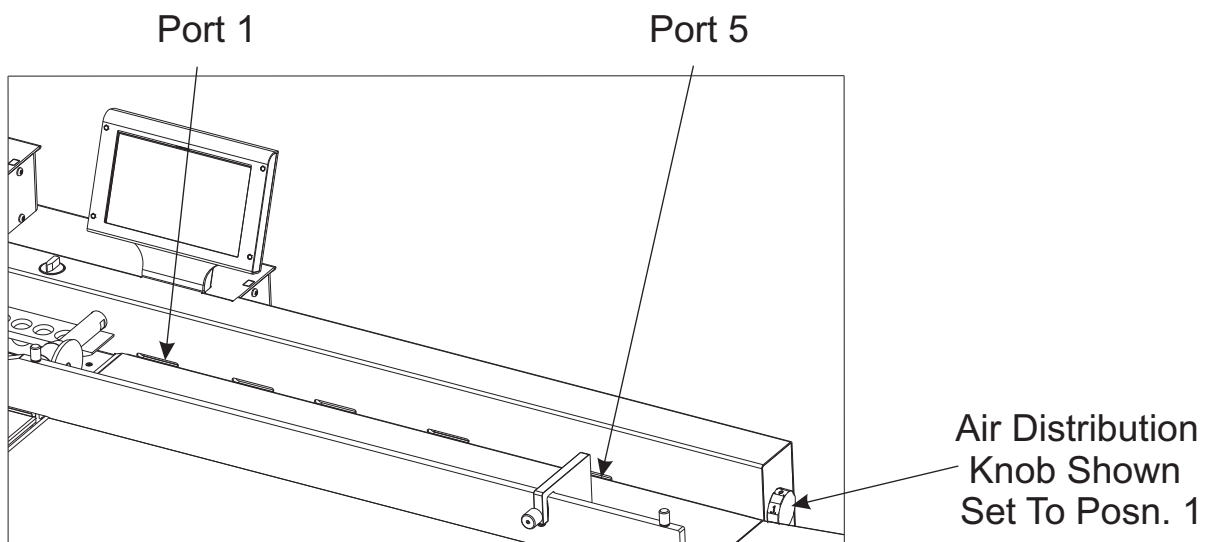
Setting the Back Stop

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

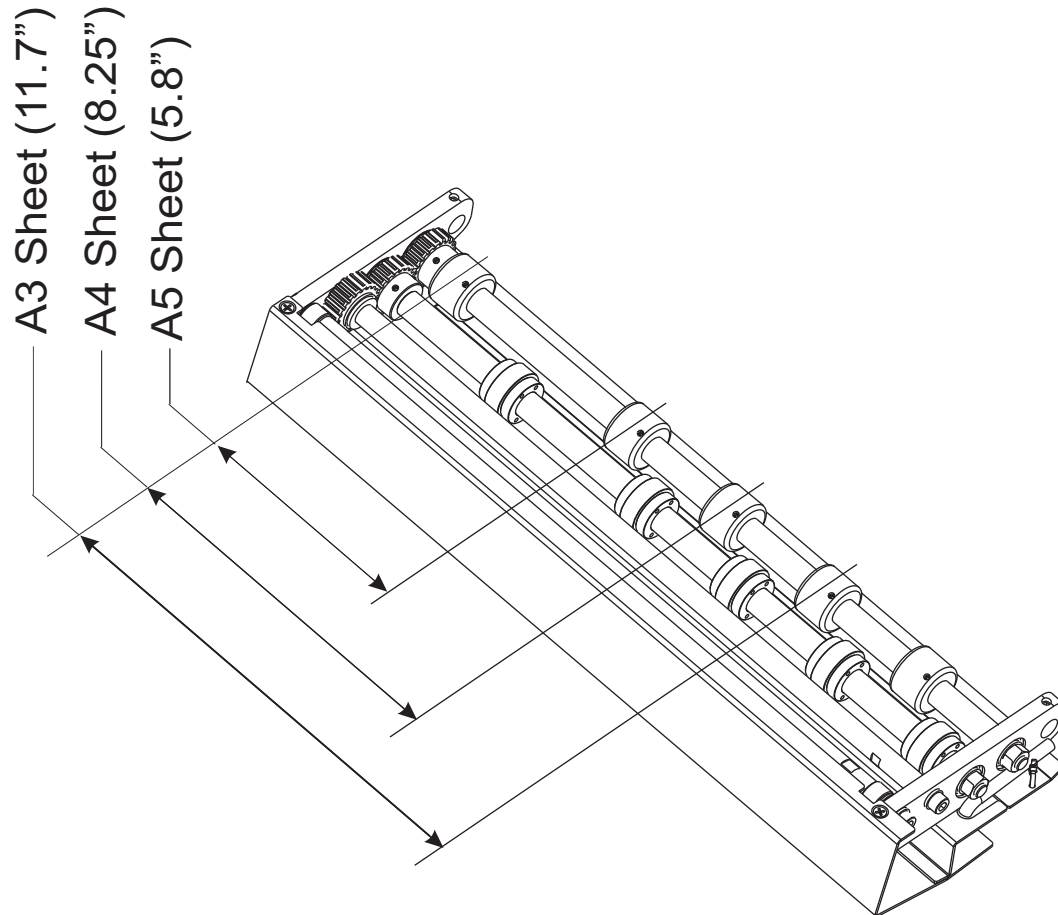
To control the amount of air supplied to the ports, the air separation knob can be rotated clockwise to decrease the pressure or anti-clockwise to increase the pressure.

Setting the 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 perfin**, is different, and is shown on page 44 (see FIG 38.1).

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

FIG 15.1

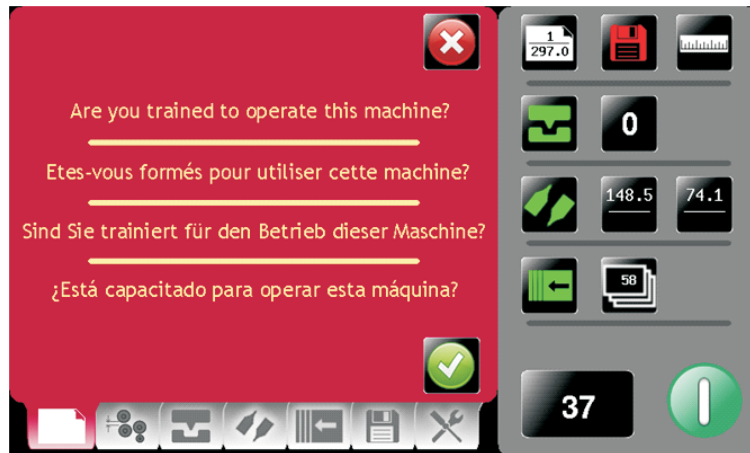


WHEEL & HUB ARRANGEMENT, (WHEN FOLDING)

BLANK
PAGE

TOUCHSCREEN OPERATION

1. Turn the Emergency Stop button clockwise to switch the power on. After the system start up procedure the touch screen will be displayed as shown below.



IMPORTANT.

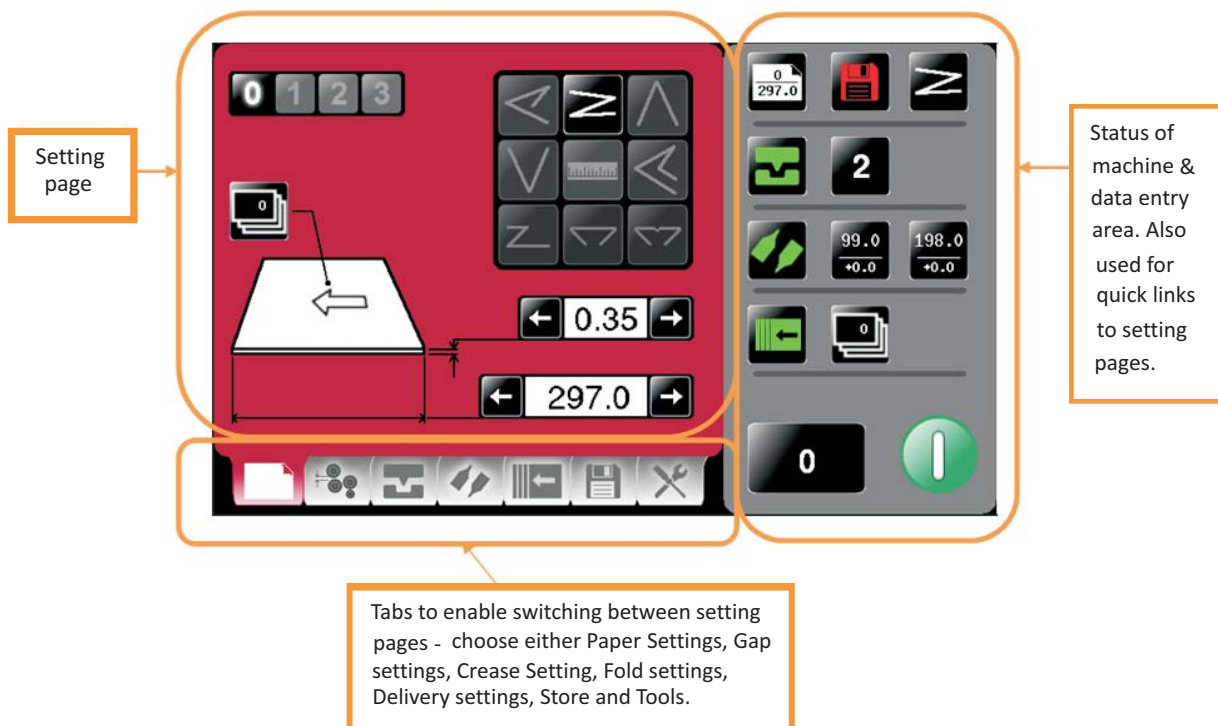
If you have not been trained to operate this machine, we strongly advise that you select the red cross icon.

We recommend that you either seek training or ask a trained operator to run the machine for you.

Select the green tick icon only if you have been trained to operate this machine.

If you have not been trained to operate this machine and you select the green tick icon, Morgana Systems Ltd accept no responsibility for personal injury, damage to the machine or damage to materials being processed by the machine.

The touch screen is laid out into 3 main areas as shown below:



Setting Pages.

Paper settings Page

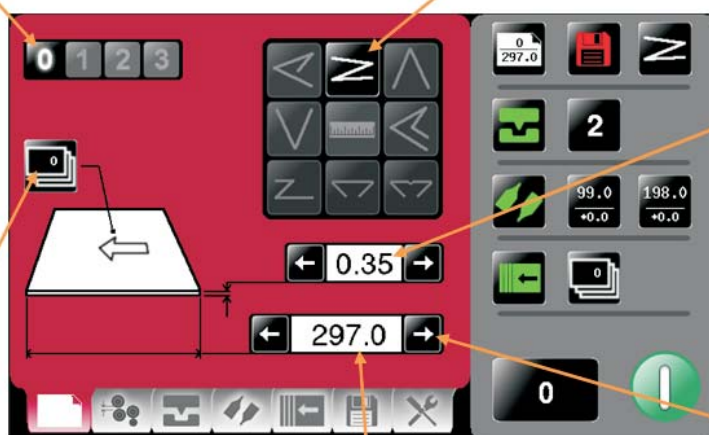
Paper Type - As a guide choose as follows:

- 0 - approx 0.1 thk
- 1 - approx 0.2 thk
- 2 - approx 0.3 thk
- 3 - approx 0.3+ thk

Fold Selection - For quick setting of crease positions on standard size sheets

Highlighted fold is type currently selected, other folds may be selected
Currently selected fold is shown in the status area.

Batch Button - Image is identical to that shown in the status area. On selection the status area is replaced with a calculator for inputting new values. Batch sizes of 1 to 998 may be set.

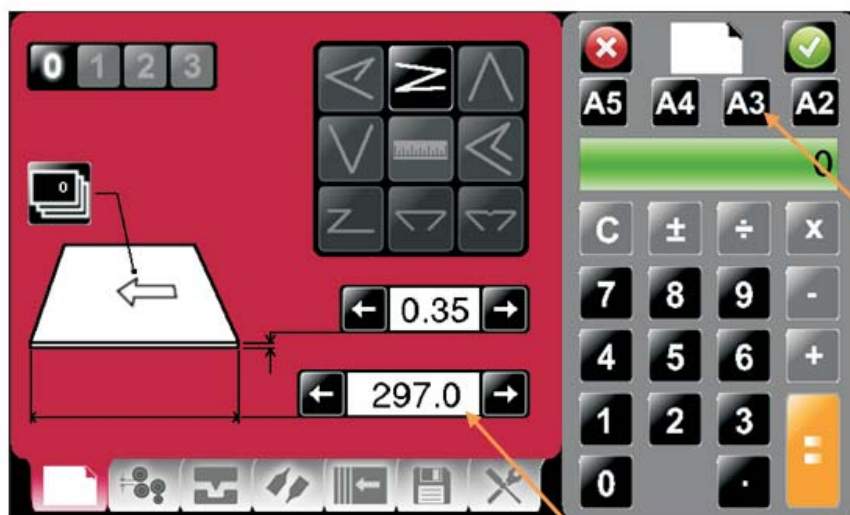


Page Thickness - On selection of status area is replaced with a calculator for inputting new values
Range = 0.1 to 0.4mm
Increments of 0.01mm

Arrows may be selected to increase or decrease the page size in 0.1mm increments

Paper Length - On selection the status area is replaced with a calculator for inputting new values. Length range = 190mm - 900mm

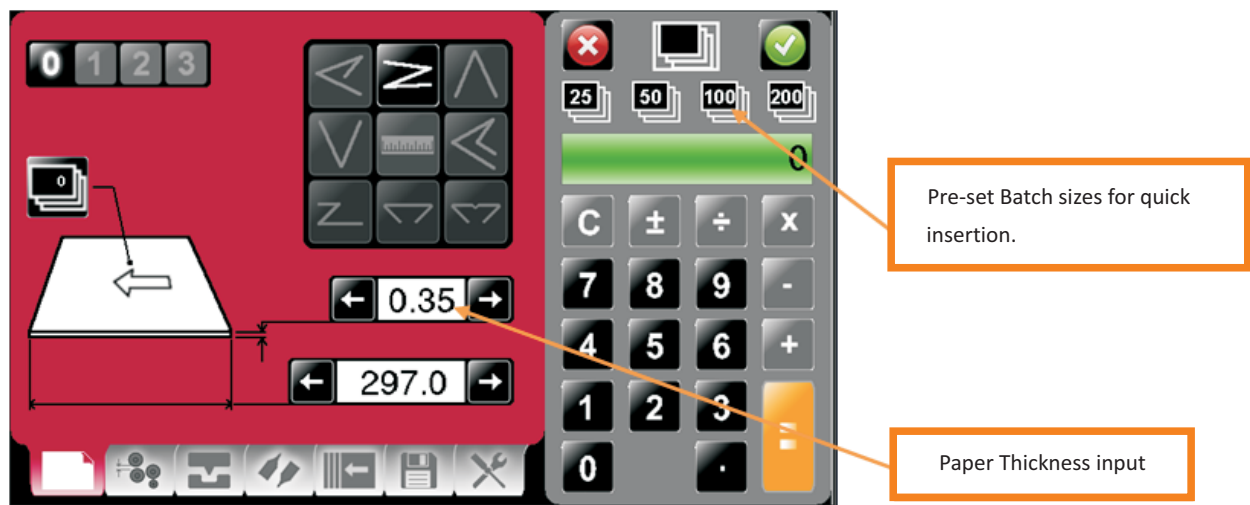
Paper size Selection.



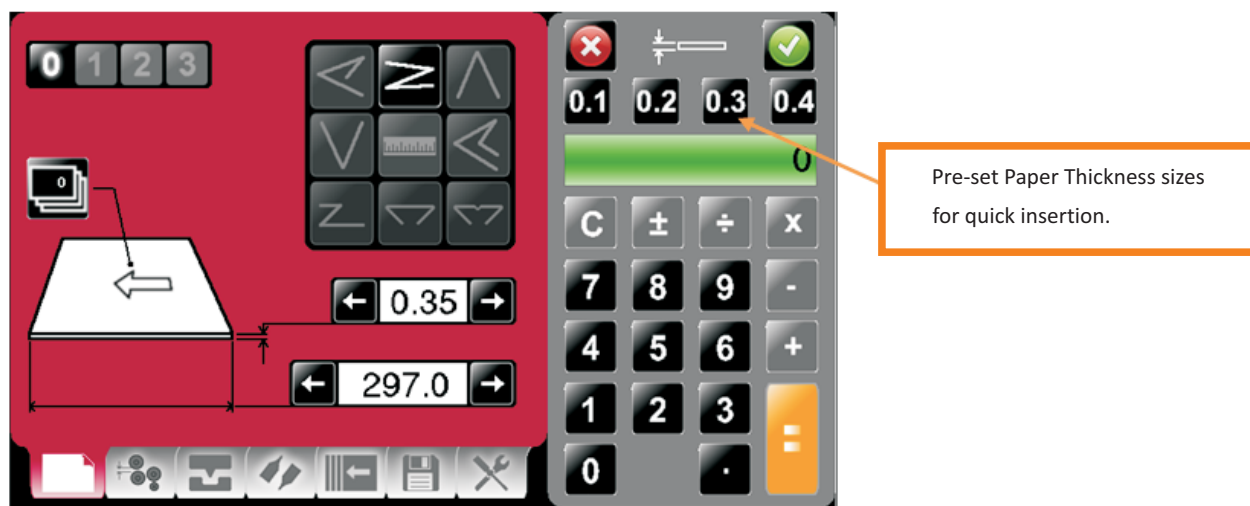
Pre-set Paper sizes for quick insertion - Standard sizes for country origin would be shown.

Paper input

Batch size Selection.



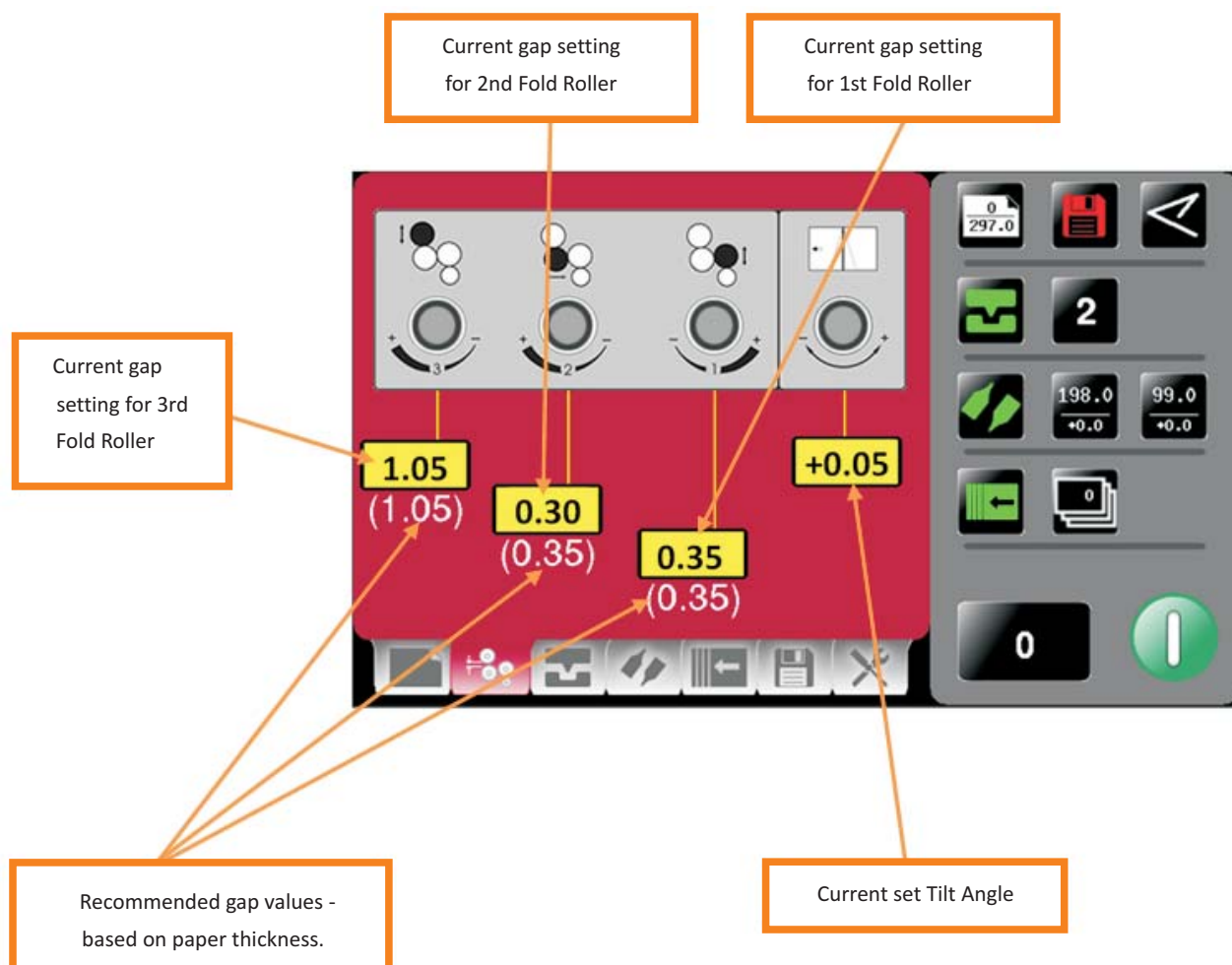
Paper Thickness Selection.



Roller Gap Set & Tilt Mechanism Page.

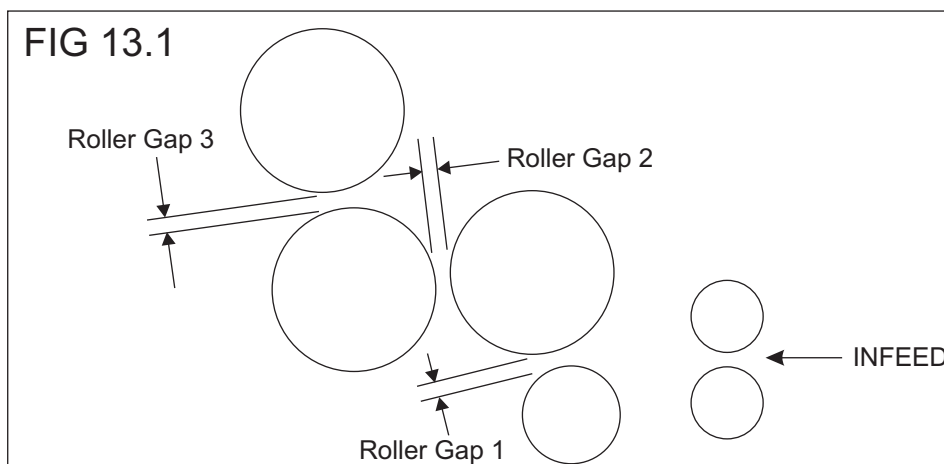
To get to the roller gap setting page click the lower tab 

Roller gaps may be in the range of 0.05mm to 1.5mm, with increments of 0.05mm



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 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).

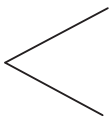
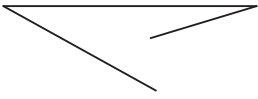
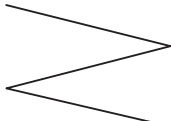
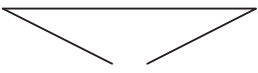
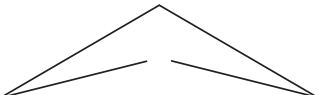
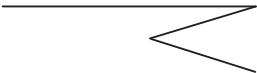
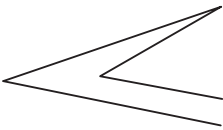
PROCEDURE.

- (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 shown below.

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 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 by rotating the Blade Tilt Knob (see FIG10.1 on page 10).

Crease Settings Pages.

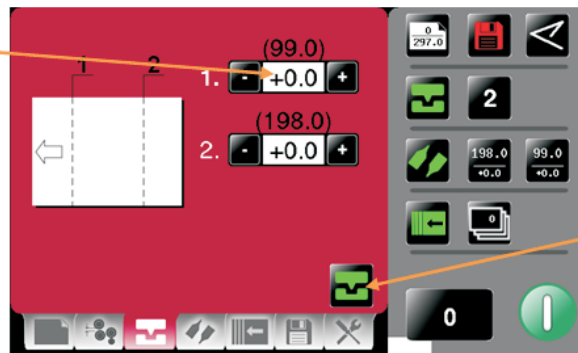
To get to the crease setting page click the lower tab  or  from the status area.

If you have selected a predefined standard Fold Type from the paper settings page the crease positions will be set for you. These positions can be fine tuned by $\pm 0.1\text{mm}$

increments by pressing the arrow buttons   for each crease.

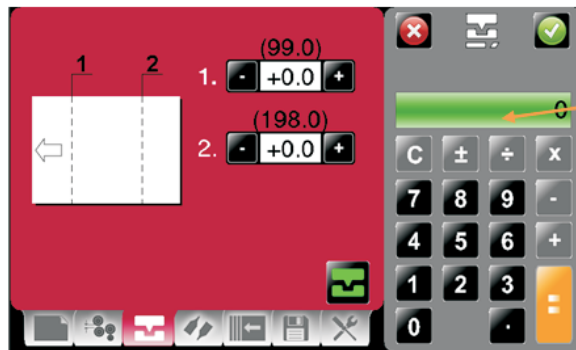
Creases in 'Set By Fold' mode.

Crease trim - On selection the status area is replaced with a calculator for inputting new values.



Crease on/off selector green is on & red is off. This is also indicated in the status area.

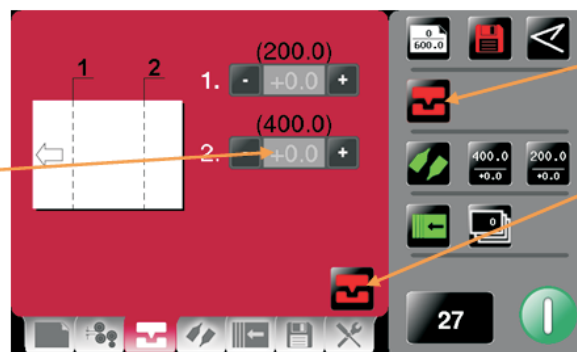
Trimming creases in 'Set By Fold' mode.



Creases may be trimmed by 0.1mm increments within the range of 5.0mm to +5.0mm.

Turn creasing off.

Greyed out area indicates the trim is not selectable



Status shows creasing off icon

This button toggles creasing on & off.

Creases in 'Set By Position' mode.

Arrows may be selected to increase or decrease the page size in 0.1mm increments

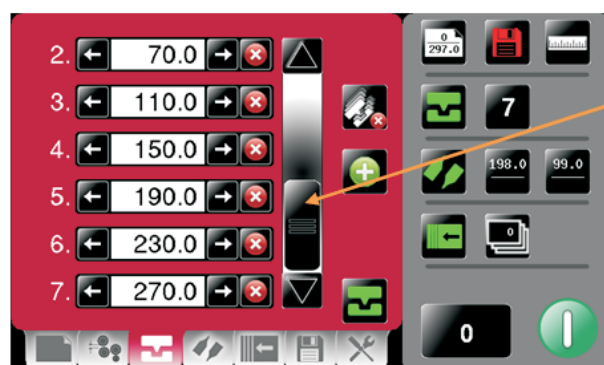
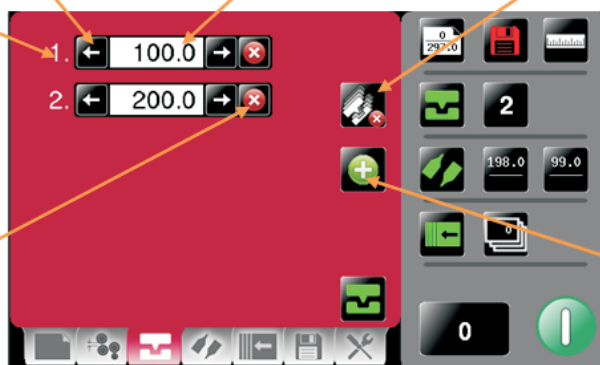
Number of creases - if more than 6 creases are added a scroll bar will appear for to enable viewing of all creases. Also shown in status area.

Cross box for deletion of crease. On deletion of crease following creases will move up by one place. You will be asked to confirm deletion of the crease.

Crease position - On selection the status area is replaced with a calculator for inputting new values, a maximum of 9 creases can be added.

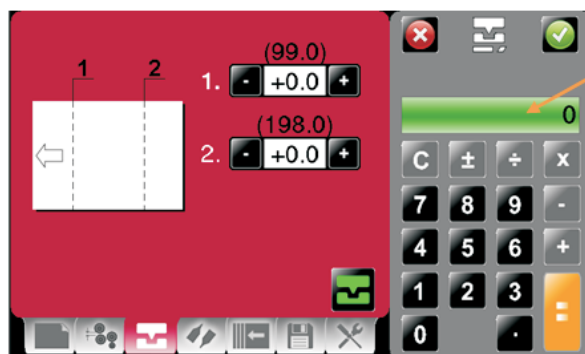
Press to remove all creases - you will be asked to confirm deletion.

Plus box for inserting additional creases. On selection following creases will move down by one place a maximum number of 6 creases can be seen at any one time further creases can be accessed by use of the scroll bar.



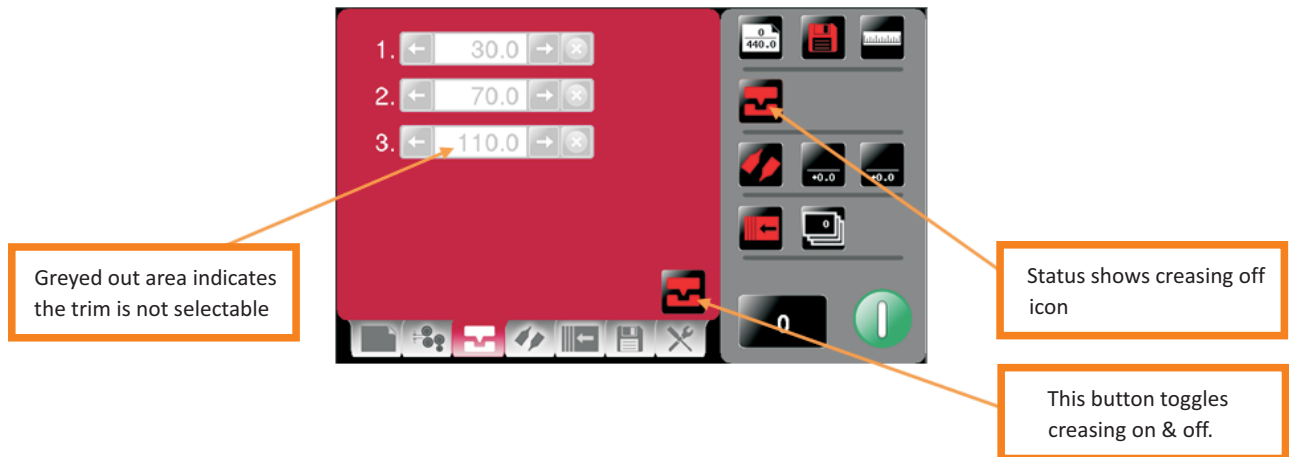
Additional creases added - scroll bar appears for more than six creases.

Trimming creases in 'Set By Position' mode.

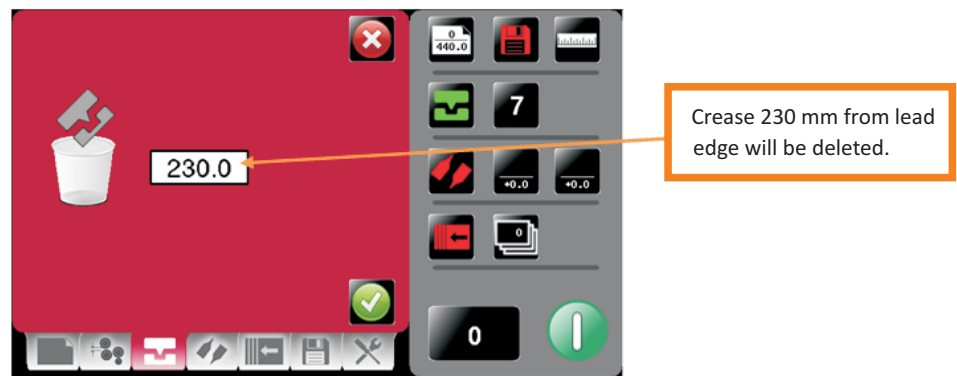


Creases may be trimmed by 0.1mm increments within the range of 5.0mm to +5.0mm.

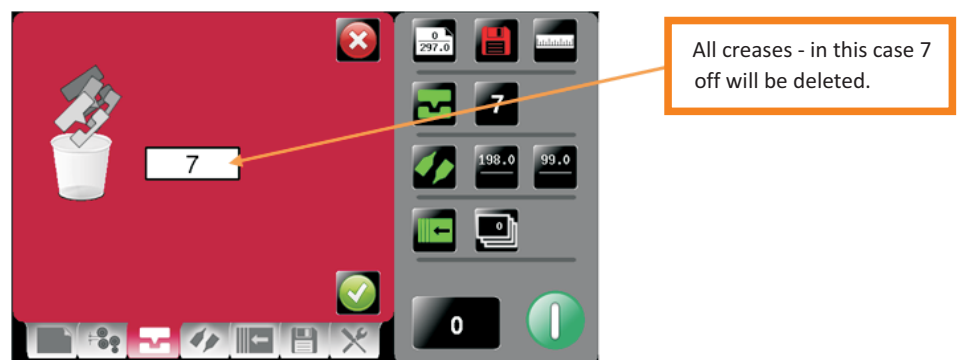
Turn crease on/off.





Individual deletion of crease confirmation screen.





Remove all creases confirmation screen.



Fold Settings Pages.

To get to the Fold setting page click the lower tab  or  from the status area.

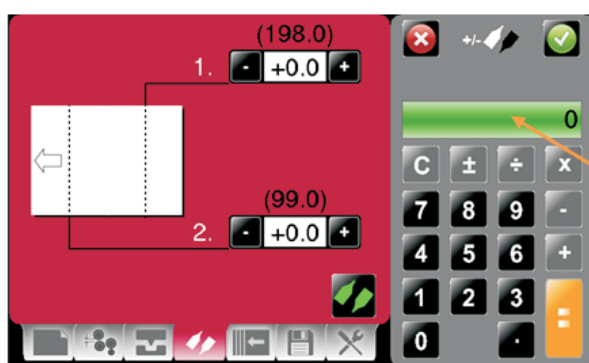
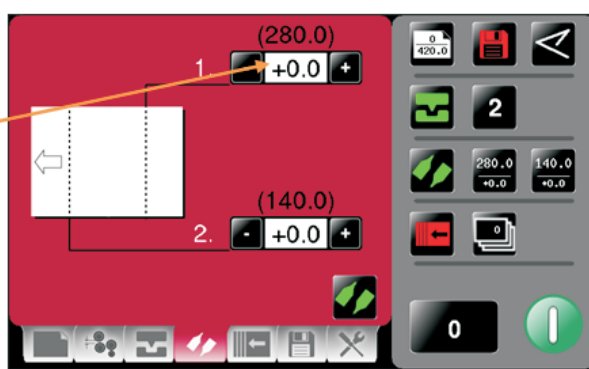
If you have selected a predefined standard Fold Type from the paper settings page the crease positions will be set for you. These positions can be fine tuned by $\pm 0.1\text{mm}$

increments by pressing the arrow buttons   for each crease.

Folds in 'Set By Fold' mode.

K1 Fold trim - On selection the status area is replaced with a calculator for inputting new values.

Trim range is -5.0 to +5.0 with increments of 0.1mm

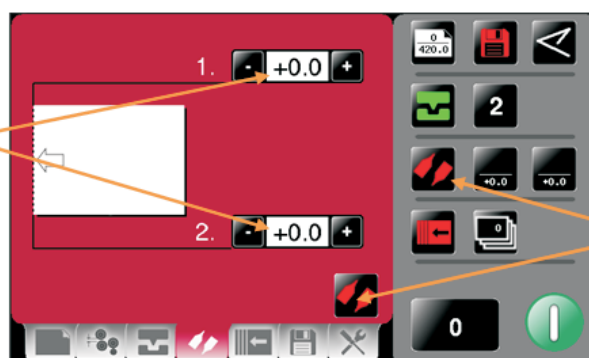


Folding can be trimmed for fine adjustments.

Trim range is -5.0 to +5.0 with increments of 0.1mm

With Folding turned off the defect positioned can be trimmed.

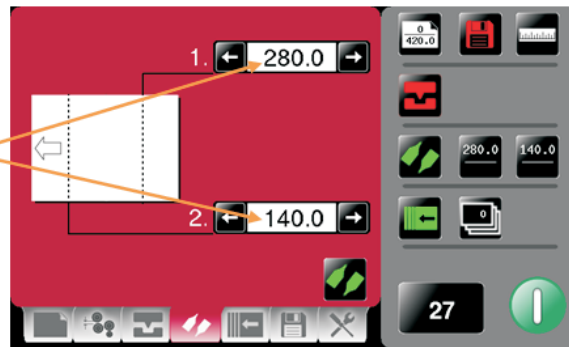
Trim range is -5.0 to +5.0 with increments of 0.1mm



Folding on/off selector green is on & red is off. This is also indicated in the status area.

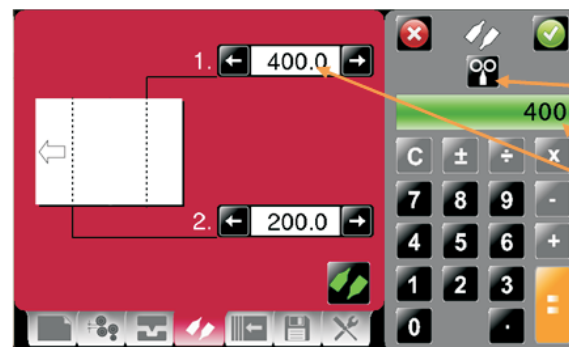
Folds in 'Set By Position' mode.

Fold distance from lead edge for knives (K1 & K2) increments of 0.1mm



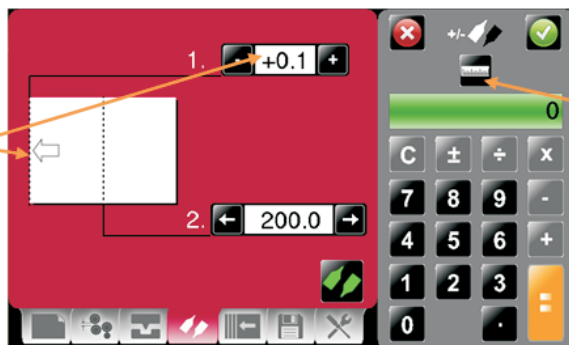
K1 deflect button

K1 micro adjust selected

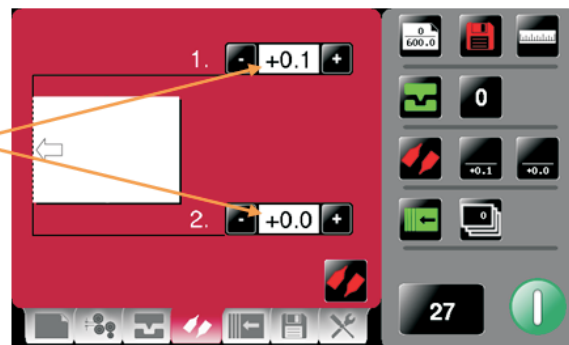


K1 in deflect position.
This can be micro adjusted.
Trim range is -5.0 +5.0
with increments of 0.1mm

Clicking this icon switches deflect off & K1 returns to its original position.



K1 & K2 in deflect position.
This can be micro adjusted.
Trim range is -5.0 +5.0
with increments of 0.1mm



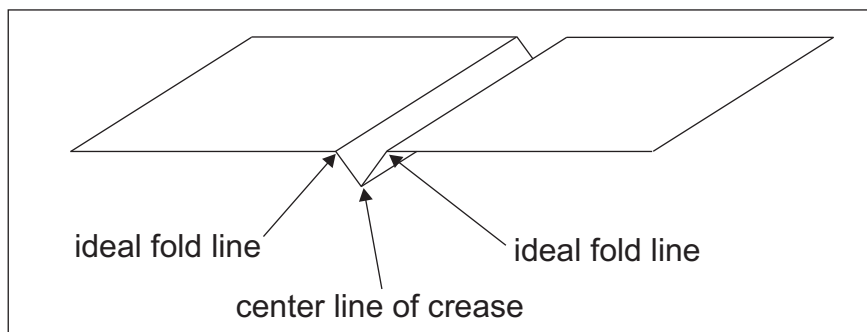
SET BY POSITION

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.

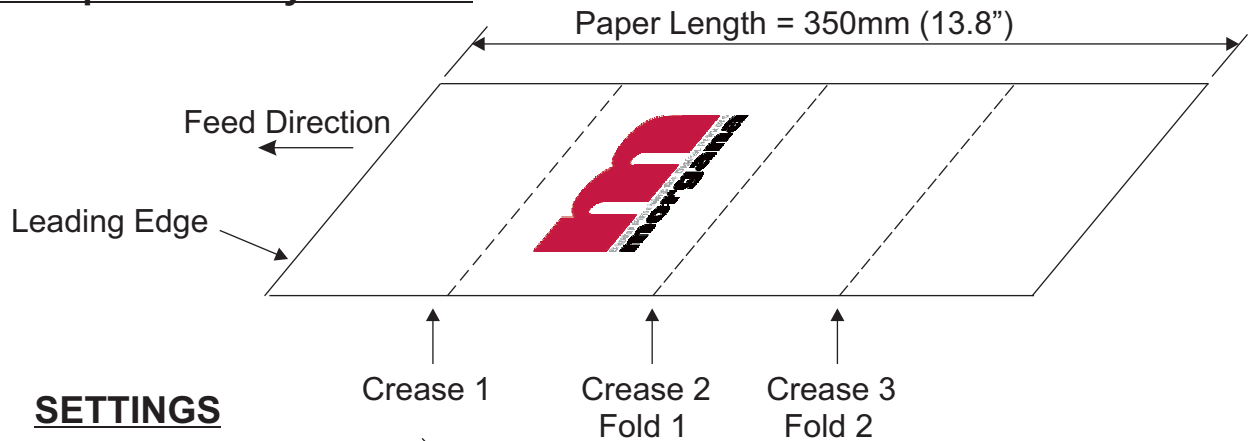
The best fold squareness is achieved when the fold is not on the center line of the crease, it should be to one side of the crease center line as shown below.

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 26.

Example of Set by Position.



SETTINGS

Crease 1 = 97.0mm (3.8")

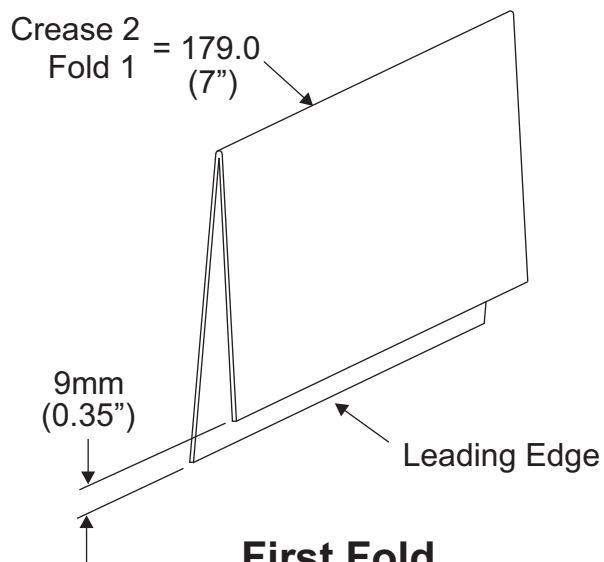
Crease 2 = 179.0mm (7")

Crease 3 = 260.0mm (10.2")

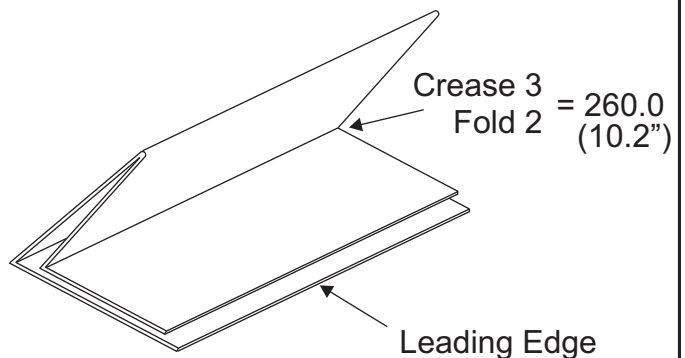
Fold 1 = 179.0mm (7")

Fold 2 = 260mm (10.2")

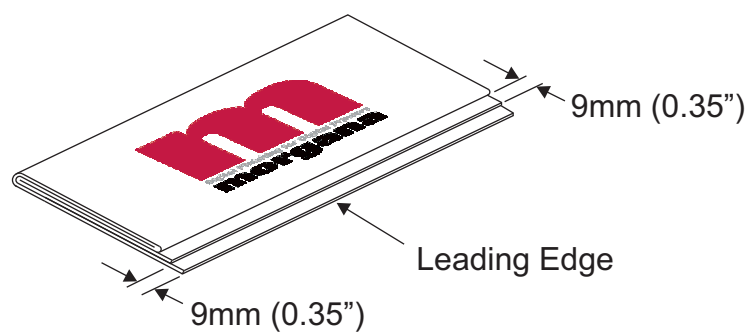
All dimensions are from the leading edge of the paper



First Fold



Second Fold



Finished Document

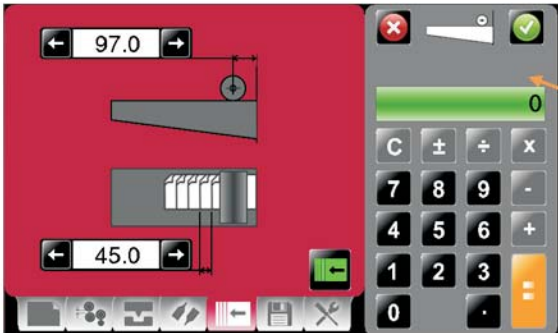
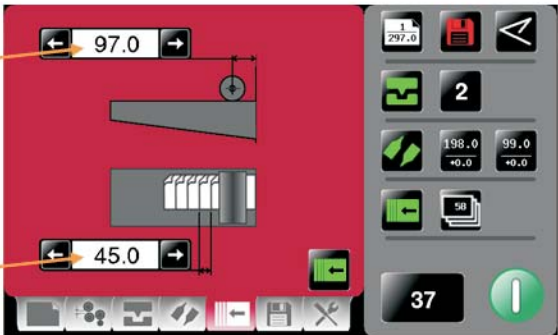
Delivery Settings Page.

To get to the Delivery setting page click the lower

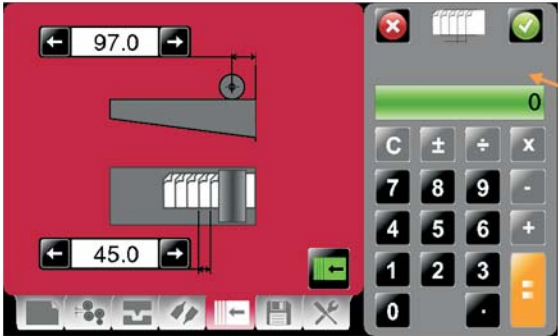


Roller position may be micro adjusted by clicking here.

Shingle may be micro adjusted by clicking here.

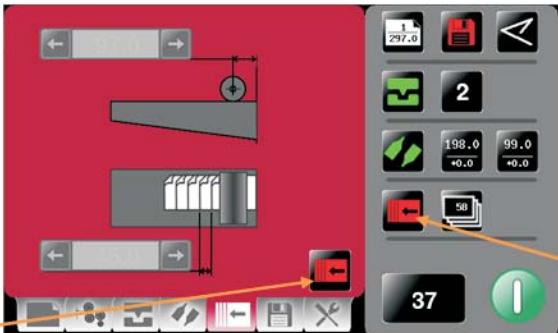


Roller adjustment calculator.



Shingle adjustment calculator.

The Delivery can be toggled On or Off by clicking here.



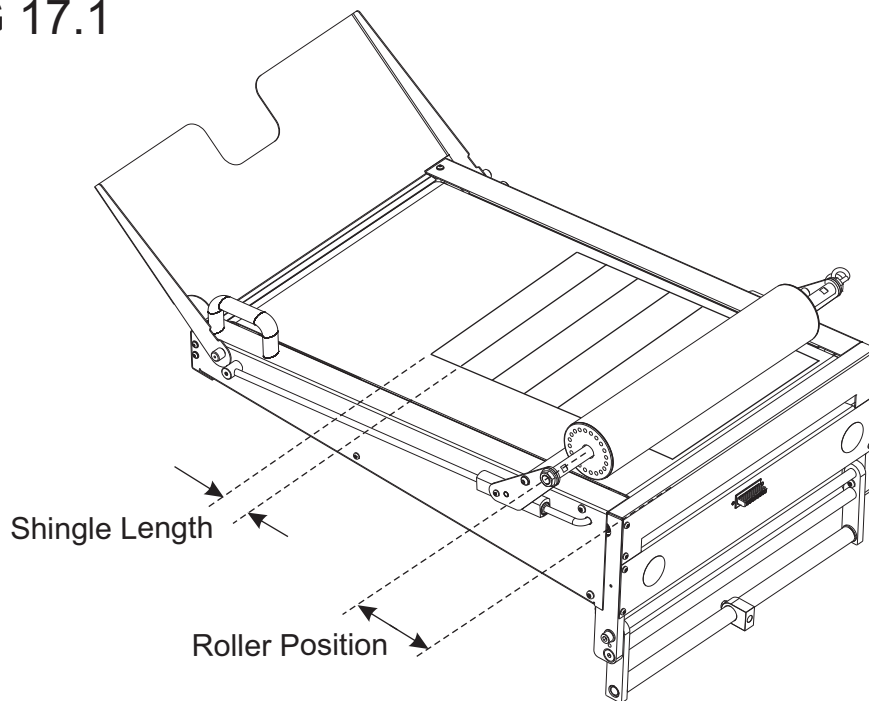
Delivery on/off status
red is off green is on.

Setting the Delivery Conveyor System.

WARNINGS:-

1. The Machine will not start if the delivery unit is not in its up position.
2. 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.
3. 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.
4. When using the 'Set by Position' mode of operation; the Roller Position and Shingle Length must be adjusted manually to suit the job. (See FIG 17.1 below).
5. When the optimum settings for the roller position and shingle length are achieved they can be stored with the job.

FIG 17.1



Status Screen.

Green icon indicates settings are saved - a red icon would show that settings have changed but the job has not been saved.

Clicking in this area will take you to the store page

Clicking in this area will take you to the paper setting page.

Paper length & Paper Type - input from the paper setting screen.

Number of creases - this may alter automatically if a pre-defined fold is selected. Adjustments may be made in the crease setting screen.

Indicator for status of knives.

- K1 & K2 On.
- K1 Off & K2 On
- K1 On & K2 Off
- K1 & K2 Off

Clicking in this area will take you to the delivery setting page.

Currently selected fold type - can be one of the following.

Clicking in this area will take you to the crease setting page.

Fold Positions & Trim settings

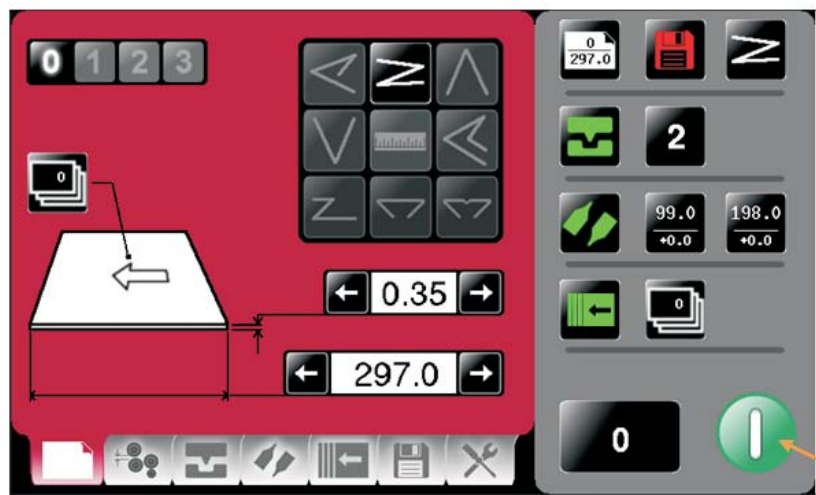
Clicking in this area will take you to the Fold setting page.

Batch quantity - this is input from the batch calculator on the paper setting screen - max. 999

Current job count - click to zero

Click to start machine with settings currently shown - you will receive a notification if system switch is not on. Press again to stop Job

Run Job.



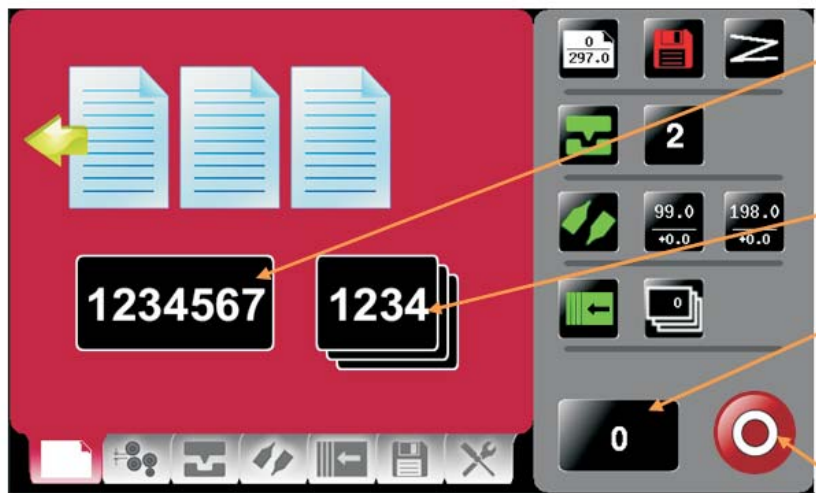
Click to run machine.

System Switch Not On.



Click to confirm System switch is on & then click run button again

The machine running screen will appear.



Run count

Batch Count

Job Count


Click to stop machine.

Setting the machine to operate in manual sheet feed mode

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

The machine can be programmed and set up in exactly the same way as explained when operating the machine automatically. However, 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 activate the Compressor switch.**

Select the  icon on the touch screen and begin to slide the sheets individually through the paper gate until they are driven by the drive belts.

To stop feeding the sheets, select the  icon on the touch screen and switch the System Switch off.

NOTE.

If the delay between feeding sheets is excessive, the system will time out.

Store Pages.

To get to the Store setting page click the lower tab



or



from the status area.

New Jobs.

Having set up your job you can give the job a name and save it to a store. You can also retrieve previously saved jobs, modify them or delete jobs you no longer require.

To create a new job name click in text area & keyboard will open to input job name.

Load existing job from store




Clicking to search currently stored jobs

Clicking to delete currently stored jobs

Clicking to save job shown.

Keyboard for entering job name.




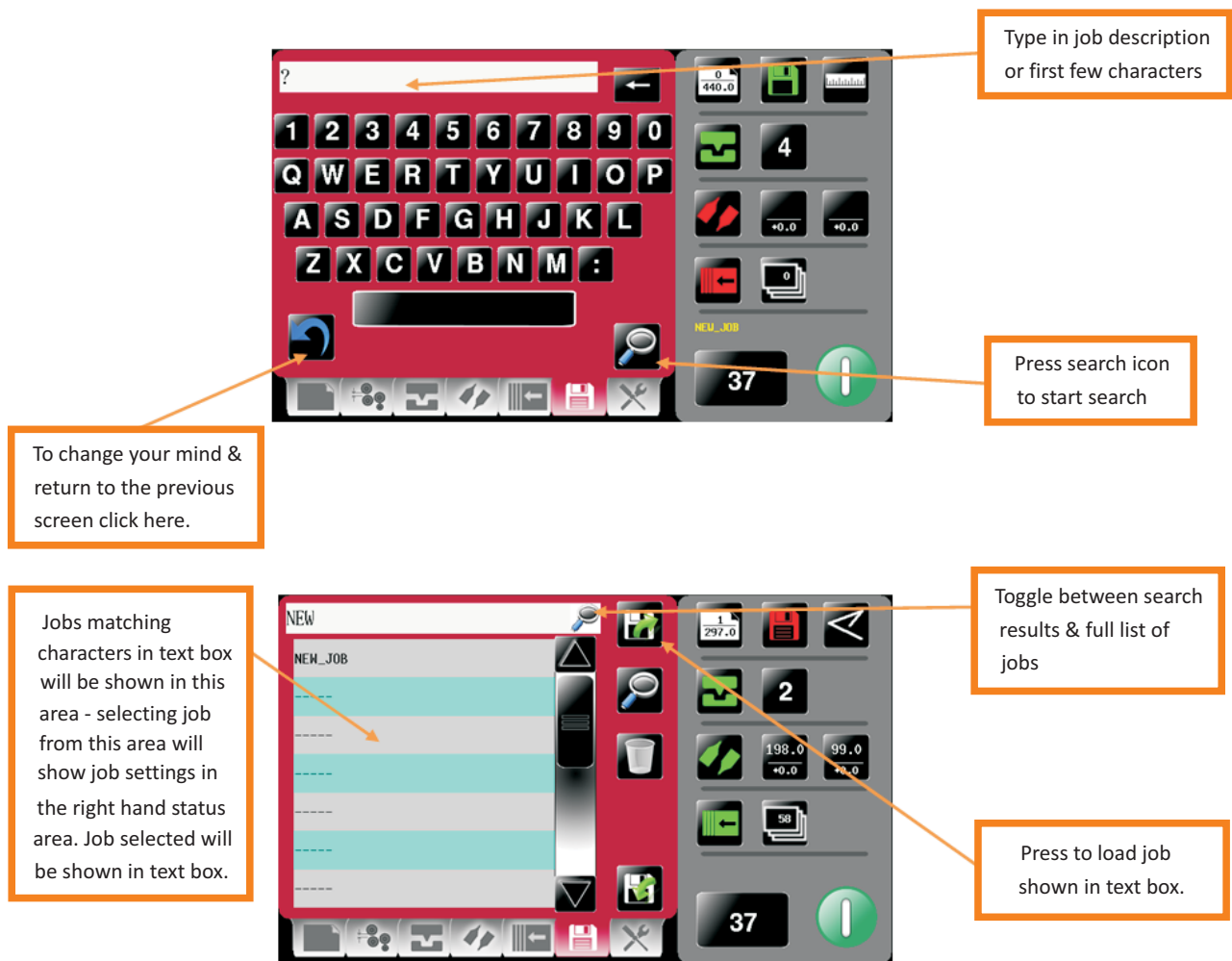
Return to Store Menu & click save icon  to save job to store

Save confirmation screen.

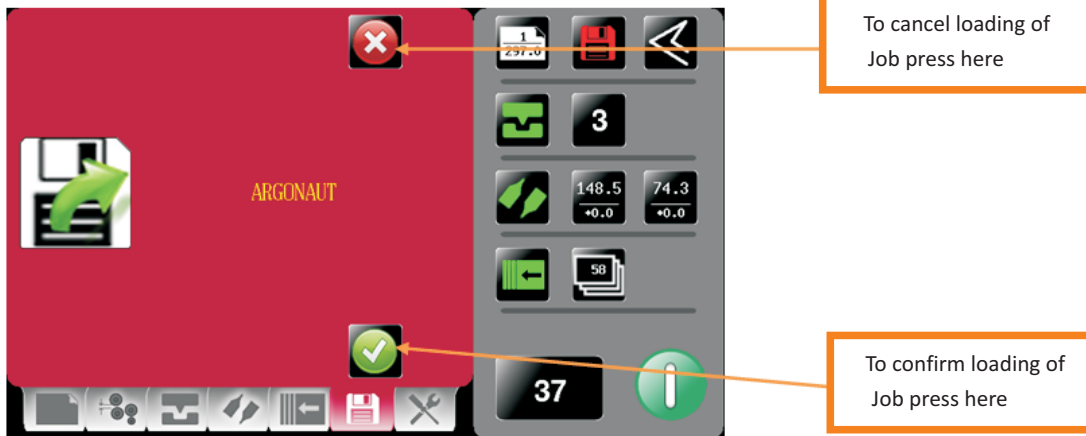


Search for current jobs to load or modify.

You can search for jobs by clicking the search icon  , this will bring up the search keyboard for text input.

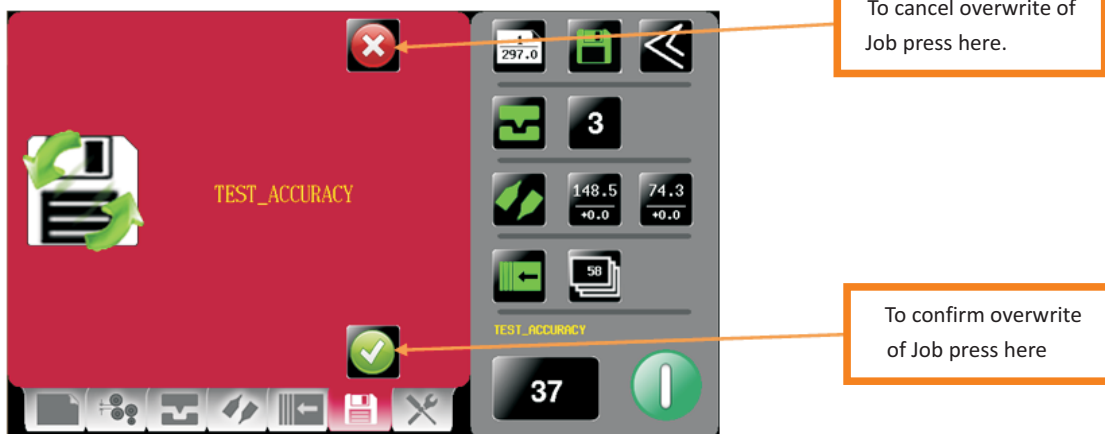


Loading job confirmation screen.

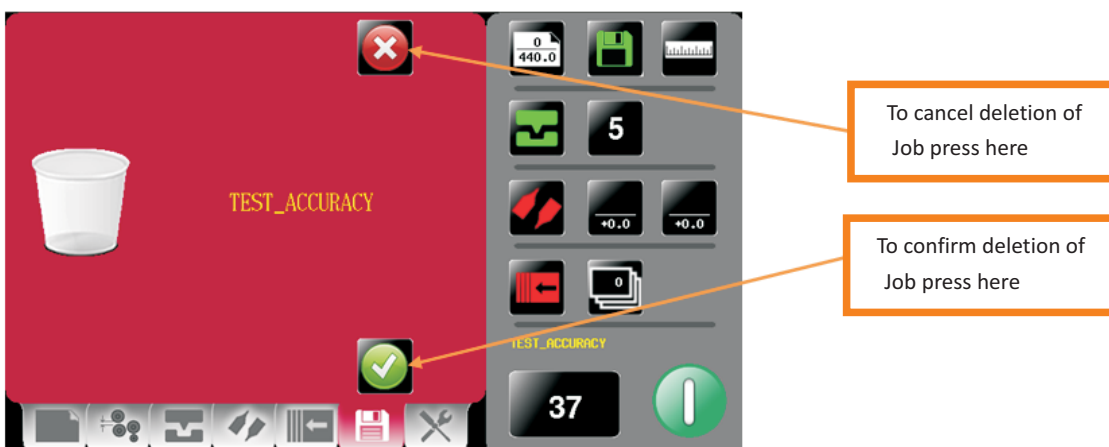


Loaded job may be modified and then re-saved as the same job name.


Overwrite job confirmation screen.



Delete job confirmation screen.



Tools Menu.

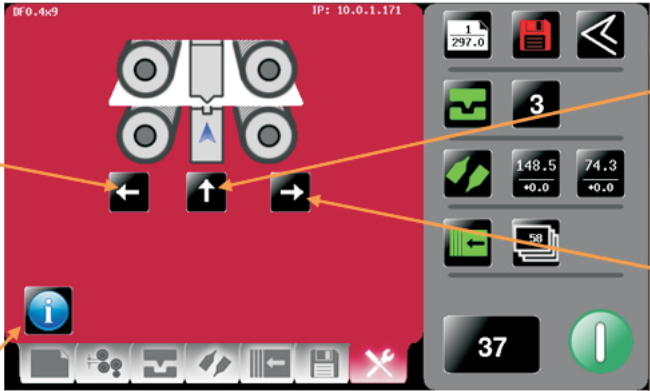
To get to the Tools page click the lower tab 

Inch paper in direction of arrow to clear jams

Clicking this icon will show Machine programme revision & Touch Screen software revision.


Machine main board software revision

Touch screen software revision




Machine main board software revision

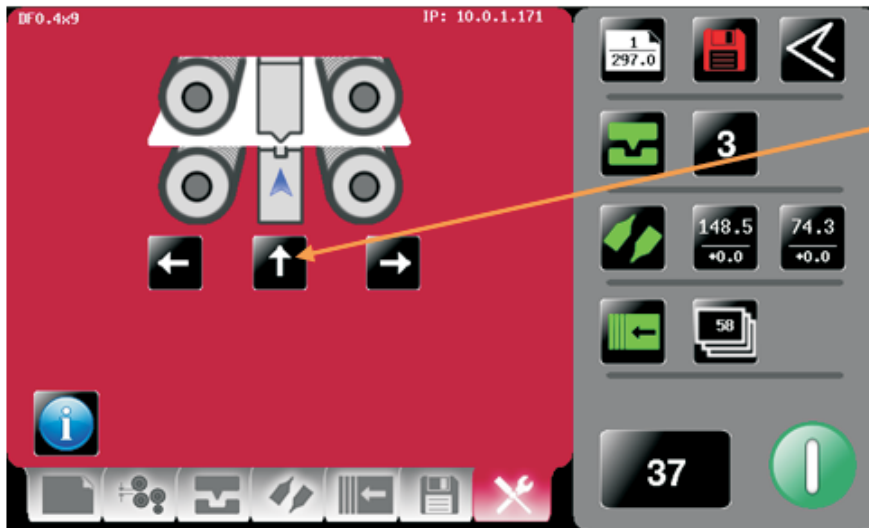
Touch screen software revision



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PAGE

Adjusting the blade pressure (no paper required)

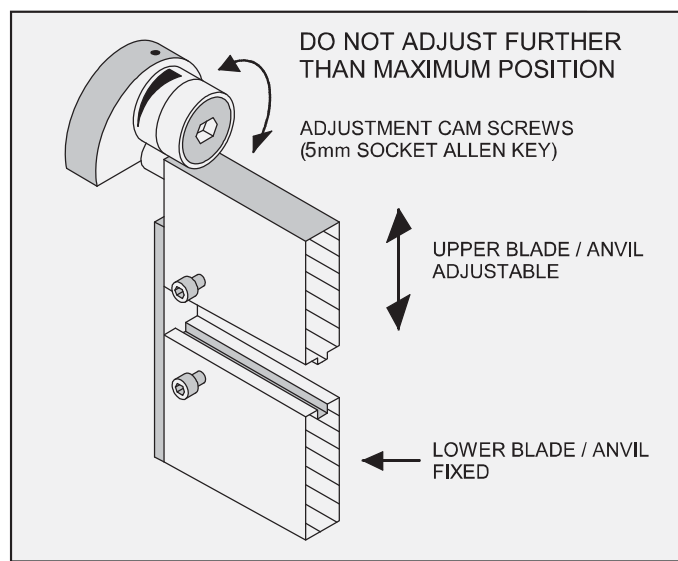
1. (i) Switch the power 'on' by turning the Emergency stop button clockwise to release the safety latch.
(ii) Select the Tools tab  at the bottom of the touch screen, the display will change to that shown below.
(iii) Select the up arrow to move the blade to the Top Dead Centre position.



Click on Up Arrow to put Anvil into Top Dead Centre position (TDC)

2. Raise the exit guard
3. Using a 5mm allen key, unlock the socket head screws positioned at each end of the creasing blade.
4. 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 the blade pressure



1. Before removing the blade assembly, ensure that the lower blade / anvil is at 'Top Dead Centre', see page 37.
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.

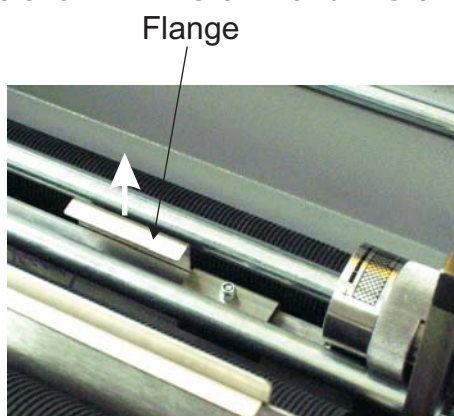


FIG 32.2

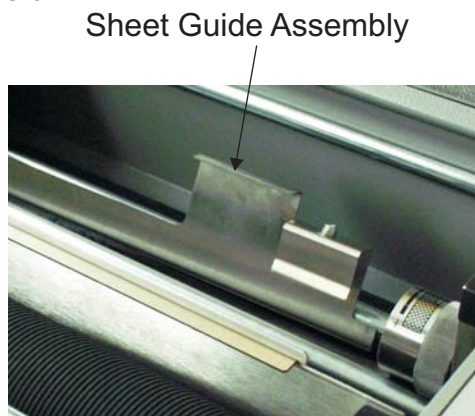


FIG 32.3

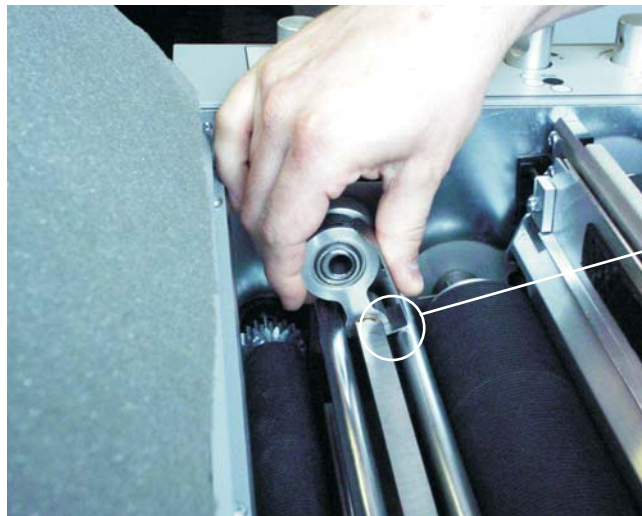
5. The Blade Set can now be removed from the machine using the Blade Extractor Tools shown in FIG 32.4 below.



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.

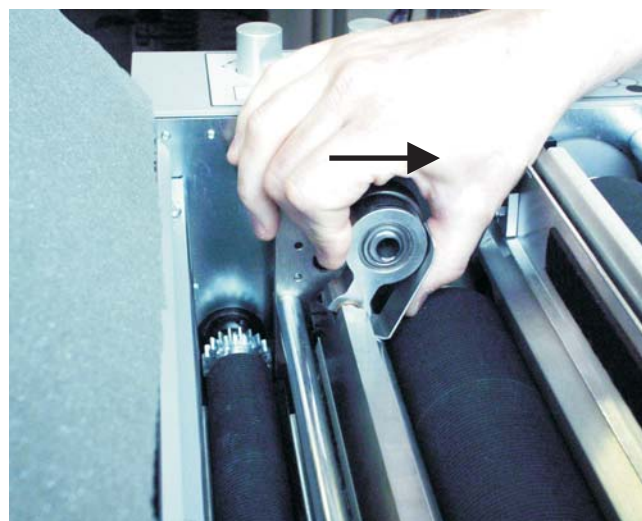
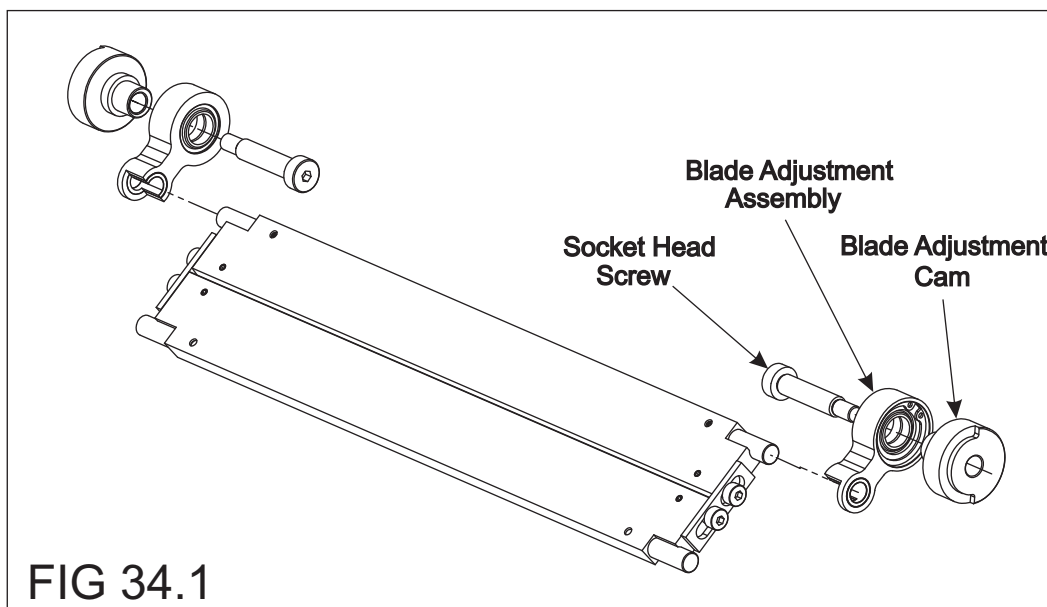
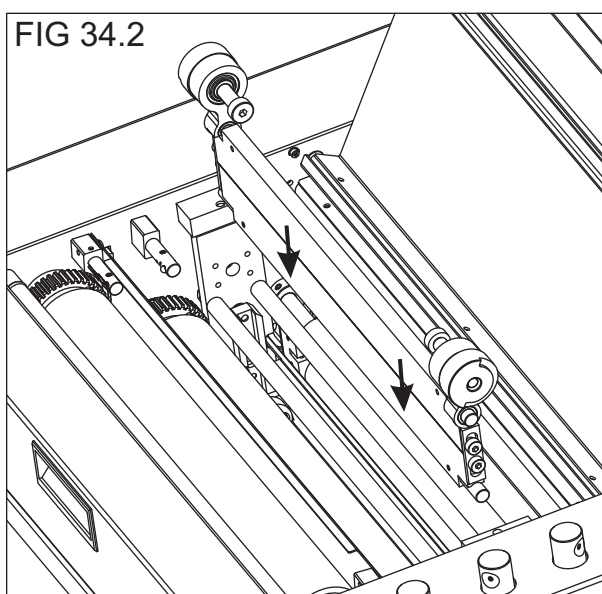


FIG 33.2

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.



13. Refit the Sheet Guide Assembly

14. Close the top cover

15. Switch the machine on and test the crease for form.

The following Blade sets are supplied with the Digifold 5000P as standard.

Standard Blade set

Part number 176-213-02

Consisting of a standard blade and anvil, pre-set for your machine.

Narrow Blade set

Part number 176-213-01

Consisting of a standard blade and a narrow anvil, pre-set for your machine.

NOTE.

Blade sets are individually set for each machine at the point of manufacture. Replacement Blade sets will therefore need to be set up by a factory trained service engineer.

Do not attempt to use a Blade set from another Digifold Pro.

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		

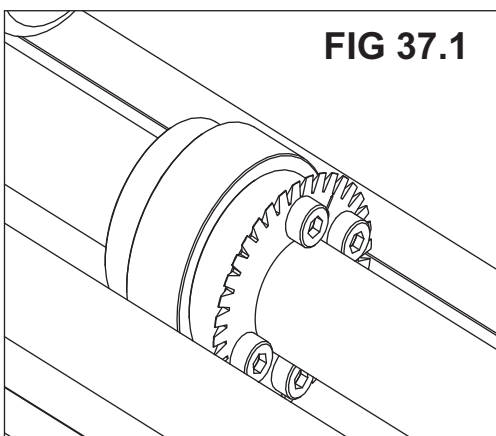
All of the blades and anvils are supplied with fixings.

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

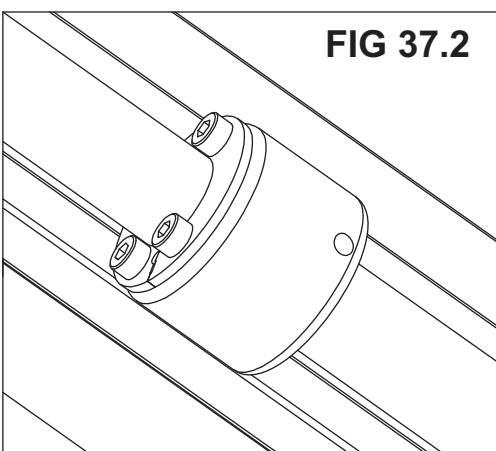
*It is recommended that for multiple perforations, a separate perforator stripper is used for every perforating blade set fitted in the creasing unit.

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.

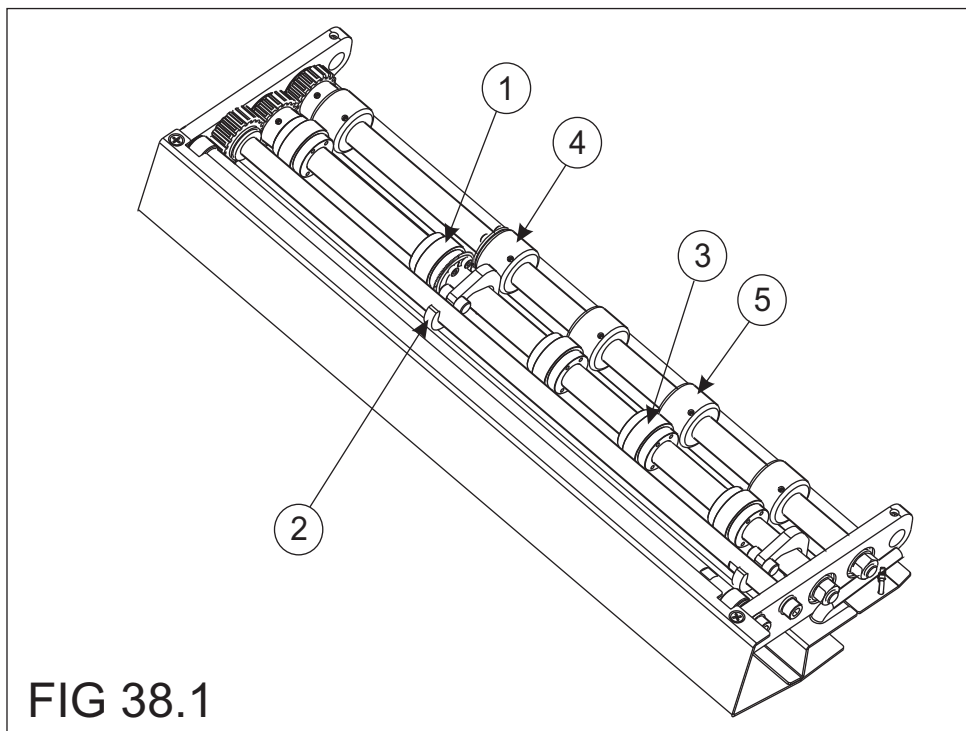


Fig 38.1 Demonstrates a typical set-up for perforating sheets.

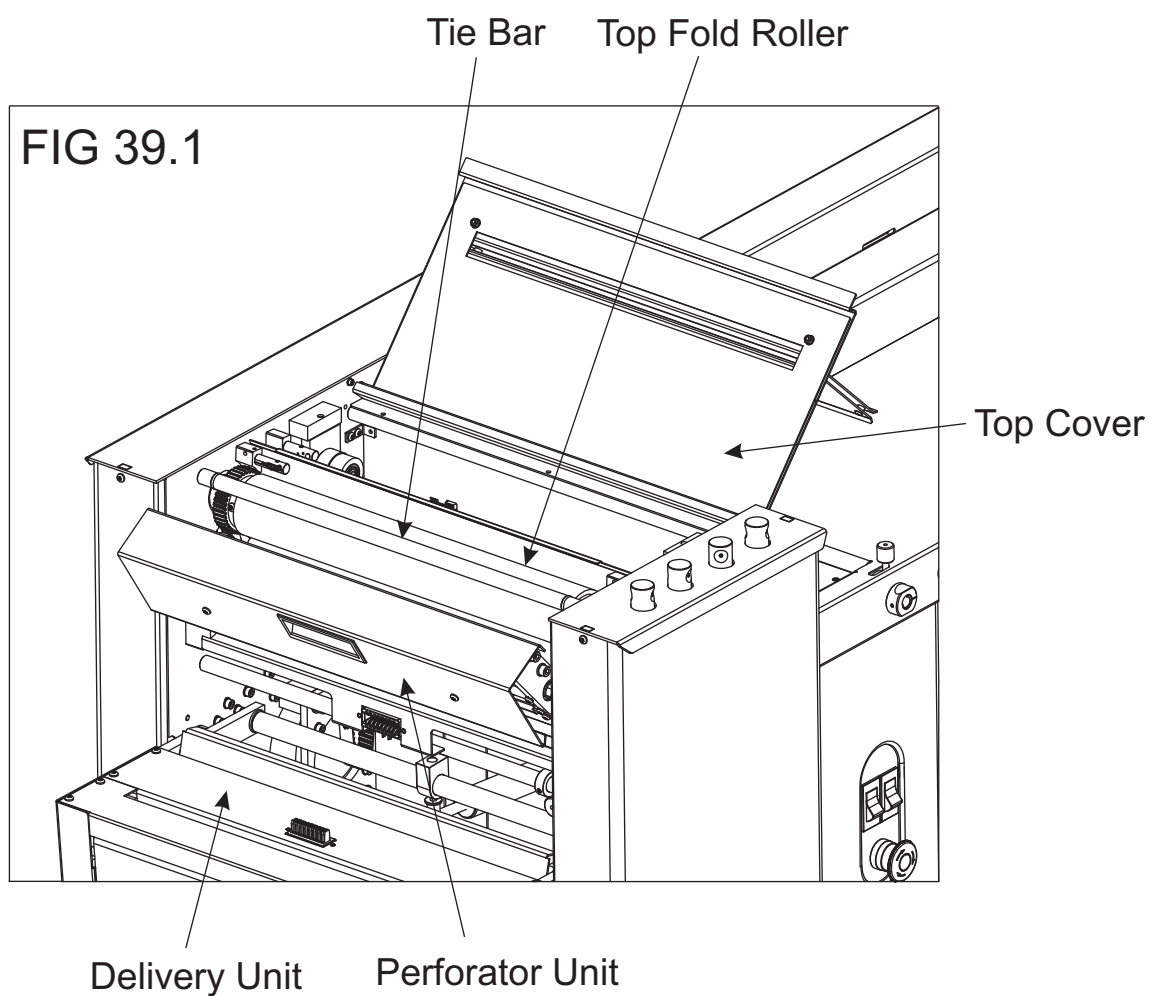
- | | |
|---|-----------------------------------|
| 1 - Perforating drive wheel with mounted blades | 4 - Drive hub with mounted anvils |
| 2 - Perforator stripper | 5 - Standard drive hub |
| 3 - Standard drive wheel | |

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.



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PAGE

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 12 & 44).

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 31.

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 Screens

- **Sheet did not arrive.**

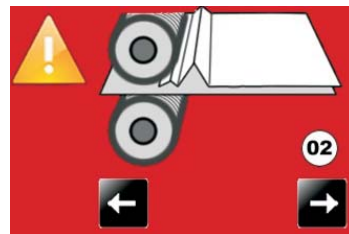
If the machine stops and error message 01 is displayed on the touch screen, this indicates that the paper did not arrive at the end of the suck process; so the machine timed out. Press the green tick button and then press the start button.



- **Paper Crunch**

If the machine stops and error message 02 is displayed on the touch screen, this indicates that a paper jam has been detected.

Press the system switch down and then select the right or left arrows, to inch the paper forwards or backwards. See page 39 that describes how to remove paper jams. Press the green tick button and then press the start button.



- **Double Sheet Feed**

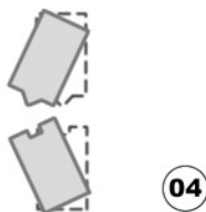
If the machine stops and error message 03 is displayed on the touch screen, this indicates that a double sheet feed has been detected. Check that the paper gate has been set correctly. Press the green tick button and then press the start button.



- **Blade Not Home**

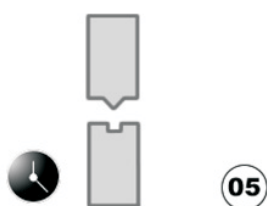
If the machine stops and error message 04 is displayed on the touch screen, this indicates that the lower blade / anvil has not made contact with the HOME switch. i.e. blade still in top position. Switch the machine off and remove the blade set and ensure that the area is free from obstructions. Return the blade set to the creasing unit and switch the machine on. Operate the machine in the normal sequence, if the display continues to read error message 04 it is advised to contact a Service Engineer immediately.

Error Screens (Continued)



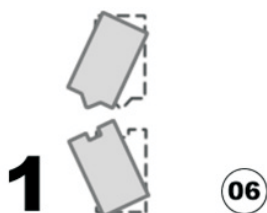
● Blade Busy

If the machine stops and error message 05 is displayed on the touch screen, this indicates that the blade is busy. Try to operate the machine again, If this fails it is advised to contact a Service Engineer.



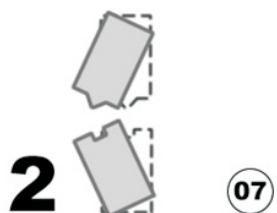
● Blade Home Failure 1

If the machine stops and error message 06 is displayed on the touch screen, 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).



● Blade Home Failure 2

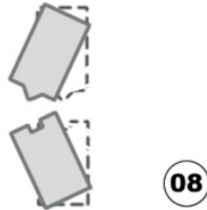
If the machine stops and error message 07 is displayed on the touch screen, this indicates that the crease blade did not get back to its home position correctly or at the correct time. Causes, can be excessive blade pressure (suspect a double), or Some kind of jam which caused more than one sheet thickness to be creased.



Error Screens (Continued)

● Flying Home Failure

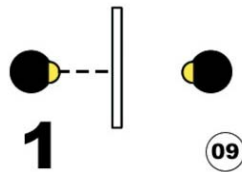
If the machine stops and error message 08 is displayed on the touch screen, this indicates that the home signal was missed during creasing. Check that the blade pressure is not too high.



● Clip 1 NOT clear (Back Sensor)

If the machine stops and error message 09 is displayed on the touch screen, 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.

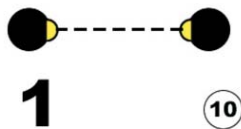
To correct - check if paper is present and check that the paper path is clear before restarting. See page 39 that describes how to remove paper jams.



● Clip 1 NOT Blocked (Back Sensor)

If the machine stops and error message 10 is displayed on the touch screen, 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 page 39 that describes how to remove paper jams.

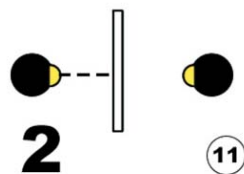


● Clip 2 NOT clear (Top Sensor)

If the machine stops and error message 11 is displayed on the touch screen, 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 page 39 that describes how to remove paper jams.

Error Screens (Continued)



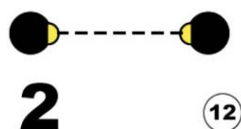
● **Clip 2 NOT Blocked (Top Sensor)**

If the machine stops and error message 12 is displayed on the touch screen, 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 page 39 that describes how to remove paper jams.



● **Overlap**

If the machine stops and error message 13 is displayed on the touch screen, 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). Check that the paper gate has been set correctly.



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	174-025	1	OPERATORS MANUAL - DigiFold Pro
2	90-018	1	ROLLER CLEANING KIT
3	650-040	1	POWER CORD C19 UK 16A 2.5m
4	170-009-01	2	BLADE REMOVAL TOOL
5	601-167	1	DIGITAL THICKNESS GAUGE
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	1-99-35	1	SLITTING ANVIL SET
16	1-99-12	1	SLITTER PERF BLADE 28T
17	613-229	1	WRITE-ON SERIAL NO. LABEL
18	65-104	1	SPECIFICATION LABEL MSL/CE

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
125-21-02	Dual Stepper Driver Board
125-25-01	Small Stepper Driver - High Power
174-06-01	Small Stepper Driver - Low Power
174-01-02	Controller PCB Assembly + Chip
174-19-01	RS232 Adaptor PCB Assy.
75-472-01	Mini ITX Motherboard (Configured)
126-059-02	Link - Paper Guide
128-026-03	Delivery Belt
145-093-02	Knife Driver Pin - M8
76-261	Lead - Delivery Input Connector
173-57-01	Lead - Blade Position Sensor
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
173-06-01	Power Supply - 48V
173-06-02	Power Supply - 24V
76-272	PSU Assembly - ATX12V - 300W
173-49-01	Stepper Motor - Dynacore
76-240	Stepper Motor - Drive
76-257	Stepper Motor - Fold Knives
175-31-01	Input roller Assembly - Lower
175-31-04	Input Roller Assembly - Upper
175-042-01	Feed Belt
175-10-01	Edge Sensor Assembly
75-06-01	Touch Screen Assembly - 7"
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
175-125-01	Connecting Link Assembly - Drive
175-125-02	Connecting Link Assembly - Knife Hubs
175-29-01	Fold Roller - 1st
175-29-02	Fold Roller - 2nd
175-29-03	Fold Roller - 3rd
175-29-04	Fold Roller - Fixed

PART NO.	DESCRIPTION
172-05-01	Paper Gate Assembly
175-21-01	Vacuum Roller Assembly
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 - Standard
177-01-01	Perforator Assembly
602-160	Plain Bush - Dynacrease 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
607-183	Timing Belt - 190XL 062
613-023	Fuse - 3.15A - 20 x 5mm - Fast Blow Ceramic
681-011	Fuse - 315mA - 20 x 5mm Anti-surge - Ceramic
681-019	Fuse - 6.3A - 20 x 5mm - Anti-surge Ceramic
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
652-043	Switch Thermal O/Load 20A Black
75-258	Anti - Static Transformer
175-28-01	Butterfly Valve - Stepper
76-262	Stepper Motor - Roller Drive
76-258	Stepper Motor - Belt Drive
76-259	Stepper Motor - Roller Position
76-266	Lead - Fold Knives Sensor
124-01-27	Lead - Delivery Roller Pot
175-072-01	Lead - Jam Detector - Emitter
175-072-02	Lead - Jam Detector - Receiver

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:-

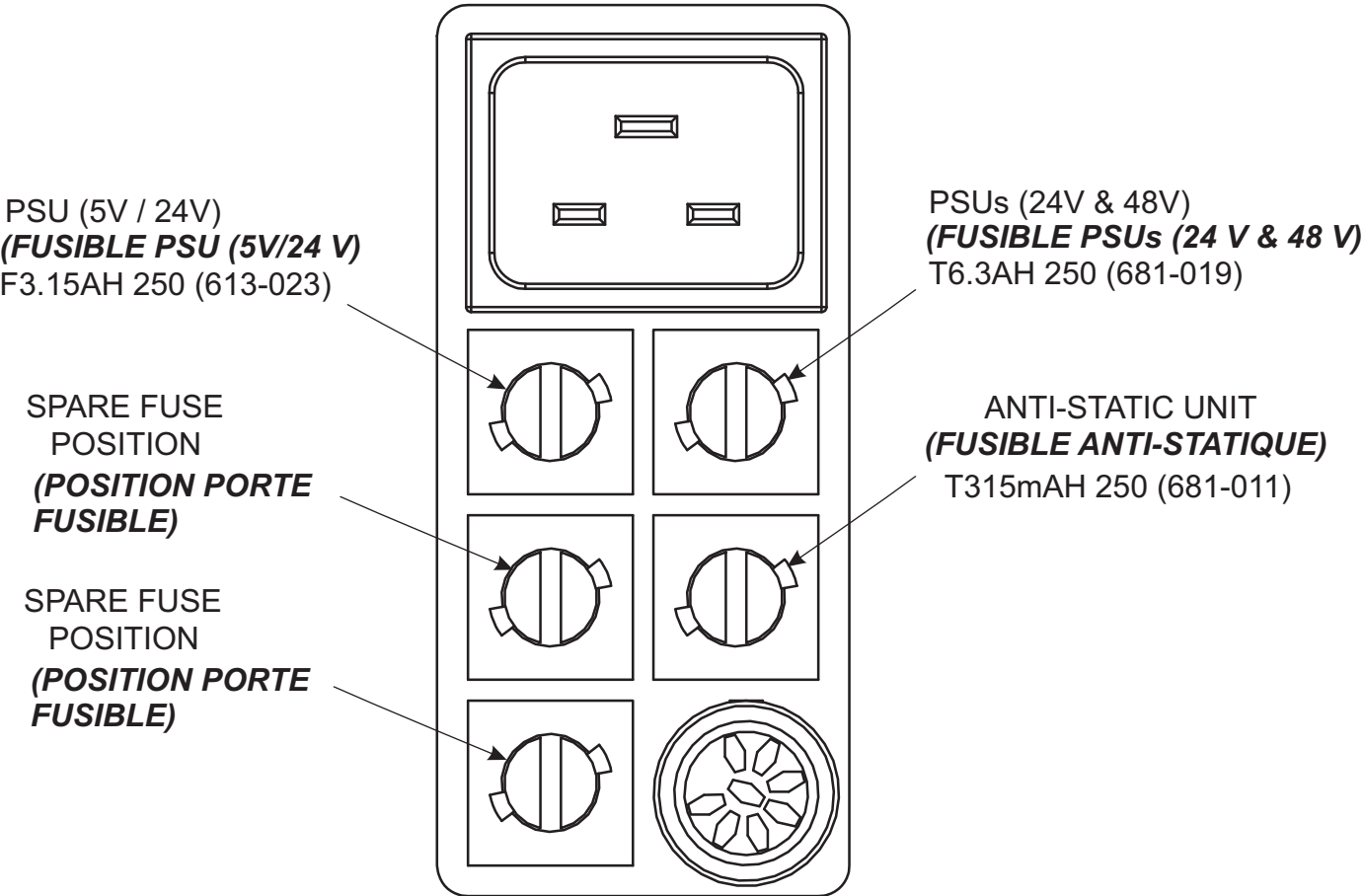
Date:-					
Total Count:-					
Vac Suck Trim					
Vac Park Trim					
Stretch					
Lead Edge Trim					
Follow Stretch					
Del. Roller Trim					
Knife 1 Trim					
Knife 2 Trim					
K1 Deflect Trim					
K2 Deflect Trim					
K1 Travel					
K2 Travel					

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					

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Vac Suck Trim					
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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					

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.

