



*Morgana*

**UFO**

**FOLDING SYSTEM**

**OPERATORS GUIDE**

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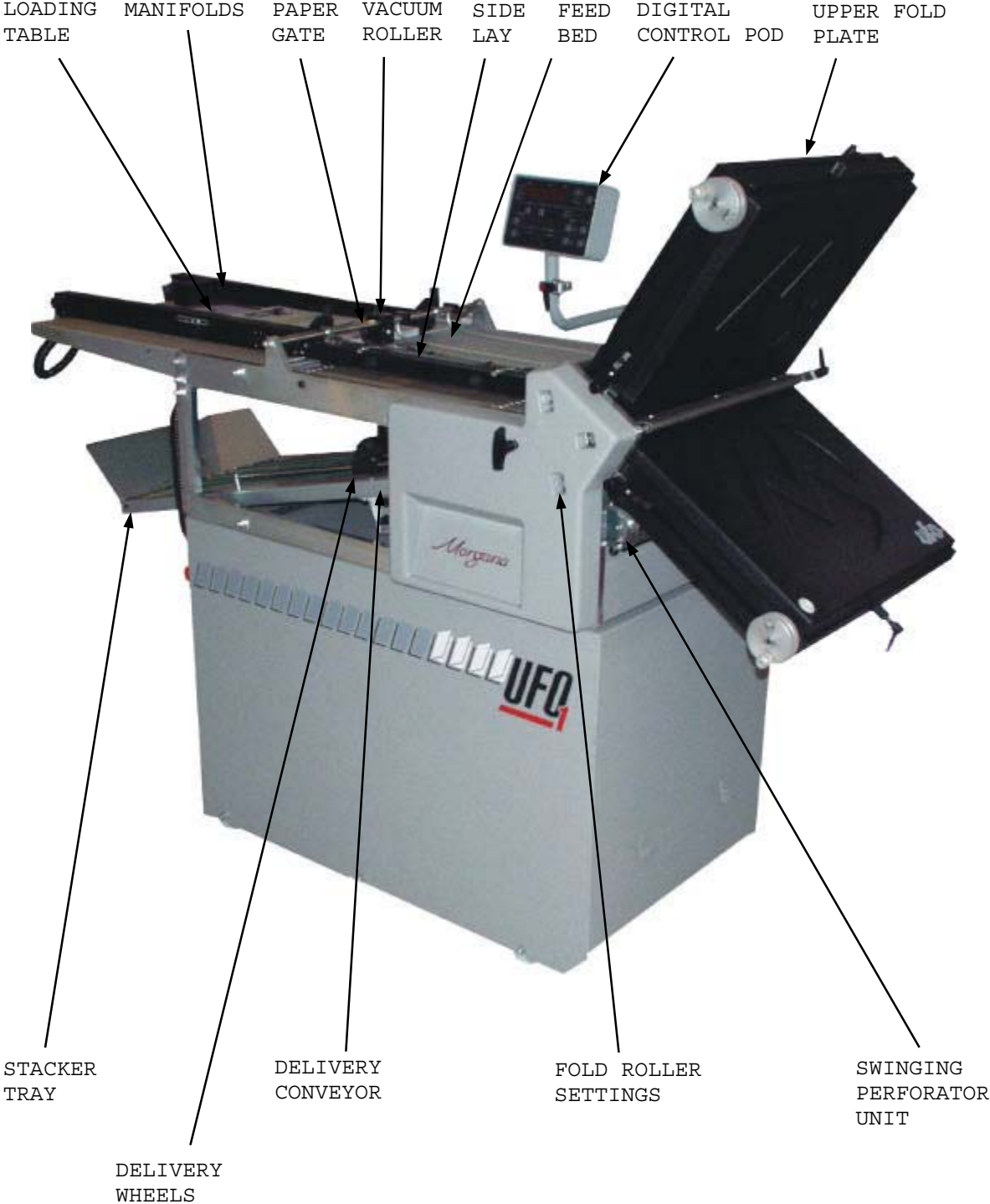
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**SECTION 1: SPECIFICATIONS**

| <b>MACHINE</b>                                |        | <b>UFO 1 &amp; 2</b>  |              | <b>UFO 5 &amp; 6</b>  |                    |
|---|--------|-----------------------|--------------|-----------------------|--------------------|
| <b>MAINS SUPPLY</b>                           |        | 220v-240v 50HZ        |              | From UFO 1 OR 2       |                    |
| <b>CURRENT (Running)</b>                      |        | 9.5A                  |              | 1.5A                  |                    |
| <b>GUARDS</b>                                 |        | 12VDC                 |              | 12VDC                 |                    |
| <b>FEED MOTOR</b>                             |        | 1/10 HP DC Shunt      |              | -                     |                    |
| <b>ROLLER MOTOR</b>                           |        | 375W Permanent Magnet |              | 375W Permanent Magnet |                    |
| <b>MAXIMUM SPEED -<br/>(A4 Sheets / Hour)</b> |        | 30,000                |              | 16,000                |                    |
| <b>MACHINE</b>                                |        | <b>UFO 1</b>          | <b>UFO 2</b> | <b>UFO 2B</b>         | <b>UFO 5&amp;6</b> |
| <b>MINIMUM SHEET LENGTH</b>                   | MM     | 150                   | 150          | 150                   | 100                |
|   | INCHES | 6                     | 6            | 6                     | 4                  |
| <b>MINIMUM SHEET WIDTH</b>                    | MM     | 100                   | 100          | 100                   | 100                |
|   | INCHES | 4                     | 4            | 4                     | 4                  |
| <b>MAXIMUM SHEET LENGTH</b>                   | MM     | 700                   | 700          | 485                   | 380                |
|   | INCHES | 27.5                  | 27.5         | 19                    | 15                 |
| <b>MAXIMUM SHEET WIDTH</b>                    | MM     | 460                   | 380          | 380                   | 350                |
|   | INCHES | 18                    | 15           | 15                    | 14                 |
| <b>OVERALL LENGTH</b>                         | MM     | 1960                  | 1960         | 1745                  | 1550<br>(EX.DEL)   |
|   | INCHES | 77                    | 77           | 69                    | 61<br>(EX.DEL)     |
| <b>OVERALL WIDTH</b>                          | MM     | 785                   | 710          | 710                   | 710                |
|   | INCHES | 31                    | 28           | 28                    | 28                 |
| <b>WEIGHT:</b>                                | Kg     | 177                   | 152          | 151                   | 110                |
|   | lbs    | 390                   | 334          | 332                   | 242                |



### SECTION 3: SETTING UP

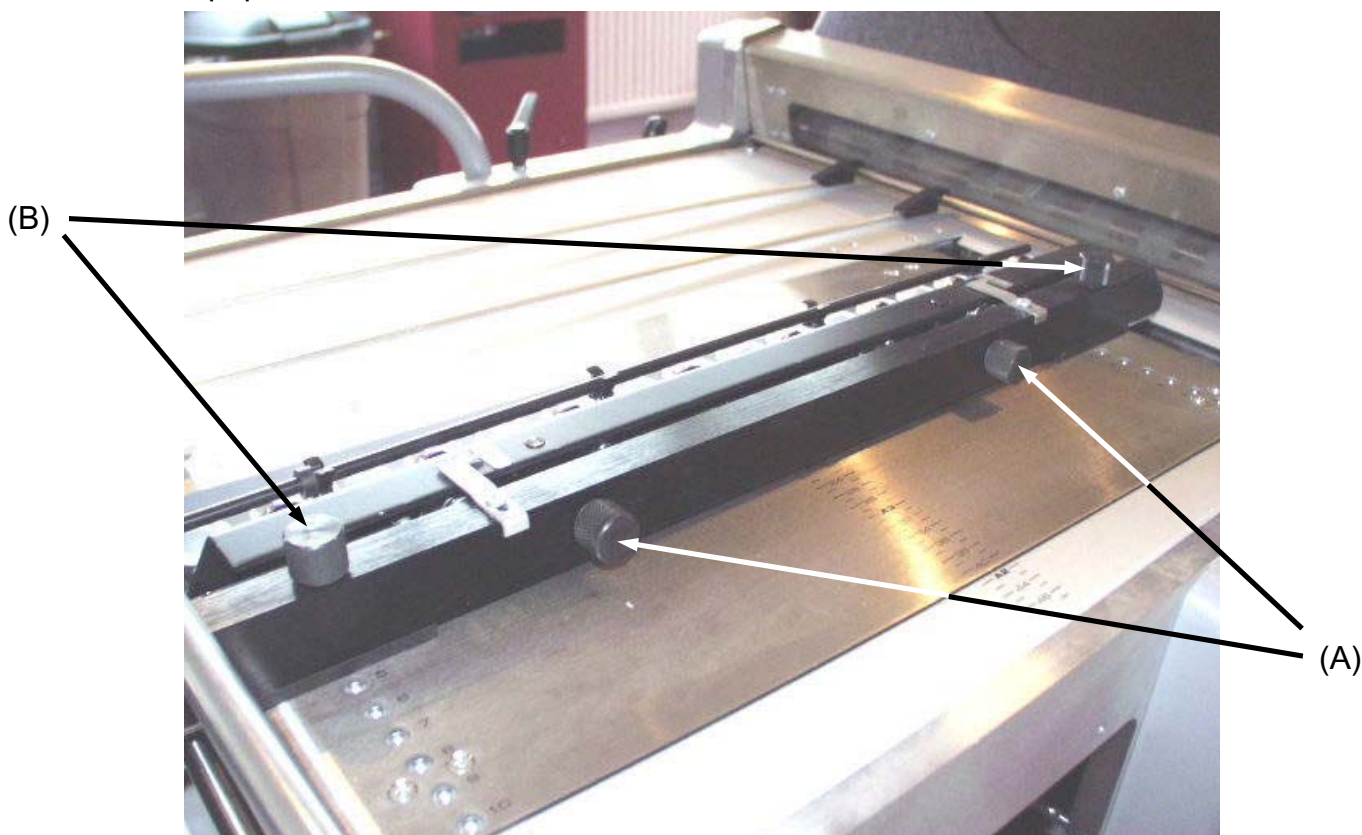
- 3.1. In setting the machine for a job, it is advisable to start by positioning the side lay to a suitable position (see below). This is achieved by unscrewing the knobs (B).
- 3.2 Lift the knobs out of their holes, and at the same time, move the side lay assembly to the desired position. Re-tighten screws, ensuring that the side lay is parallel to the side of the machine.

The side lay is normally set so that the paper is running approximately along the centre of the machine.

The machine is supplied with a mixture of steel and glass balls:

Lightweight paper stocks may require the steel balls to be removed to minimise creasing.

Heavy stocks, and when running a job landscape (i.e. long edge leading) may require the glass balls to be replaced by steel balls to give increased drive on the paper.

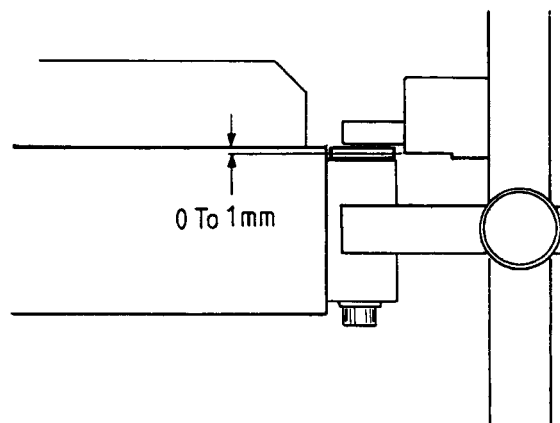


The side lay may be tilted, for folding out of square, by adjusting knobs (A). By turning knobs (A) equally, the side lay may be used for obtaining final sideways setting for perforating, etc. Position one sheet smoother at the free edge of the sheet and the others as required.

- 3.3 With the side lay now set in position, move the operator side manifold by loosening knobs (C) and (D).



- 3.4 The manifold should be aligned to the side lay as shown in the diagram below and also aligned equally to the scales on the loading table. Re-tighten screws (C) and (D).



- 3.5 Place a stack of paper on the loading table and set the far side manifold to the paper size:

not too tight - this will restrict the feeding

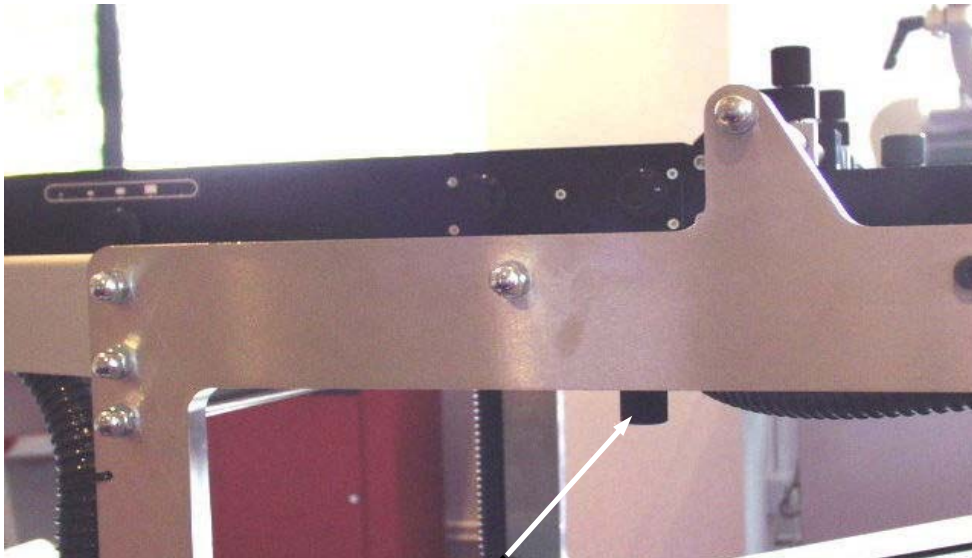
not too loose - thus wasting air, giving low pile heights.

- 3.6 Set the air control knobs (E) on both manifolds to the desired positions:

white dot at 12 o'clock for fully on  
3 o'clock or 9 o'clock for fully off.

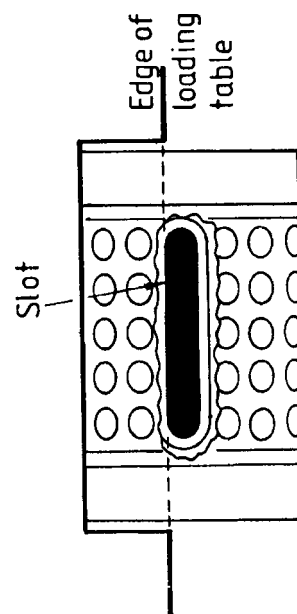
These are normally set in the fully on position, unless running lightweight stocks, carbonless sets, or landscape jobs.

- 3.7 Slide the shuttle valve knobs (F) to the desired position on each manifold according to paper size. The settings A2, A3 and A4 are only a guide. Obviously a very lightweight sheet of A4 will not require the same setting as, for example, a two sheet thickness of A4. Therefore, air can be expelled and lost by setting to A2 and losing the extra air out of these slots.
- 3.8 Position the paper stop block to the rear of paper stack.
- 3.9 Move the suction opening by loosening knob (G) and re-setting to the desired position.



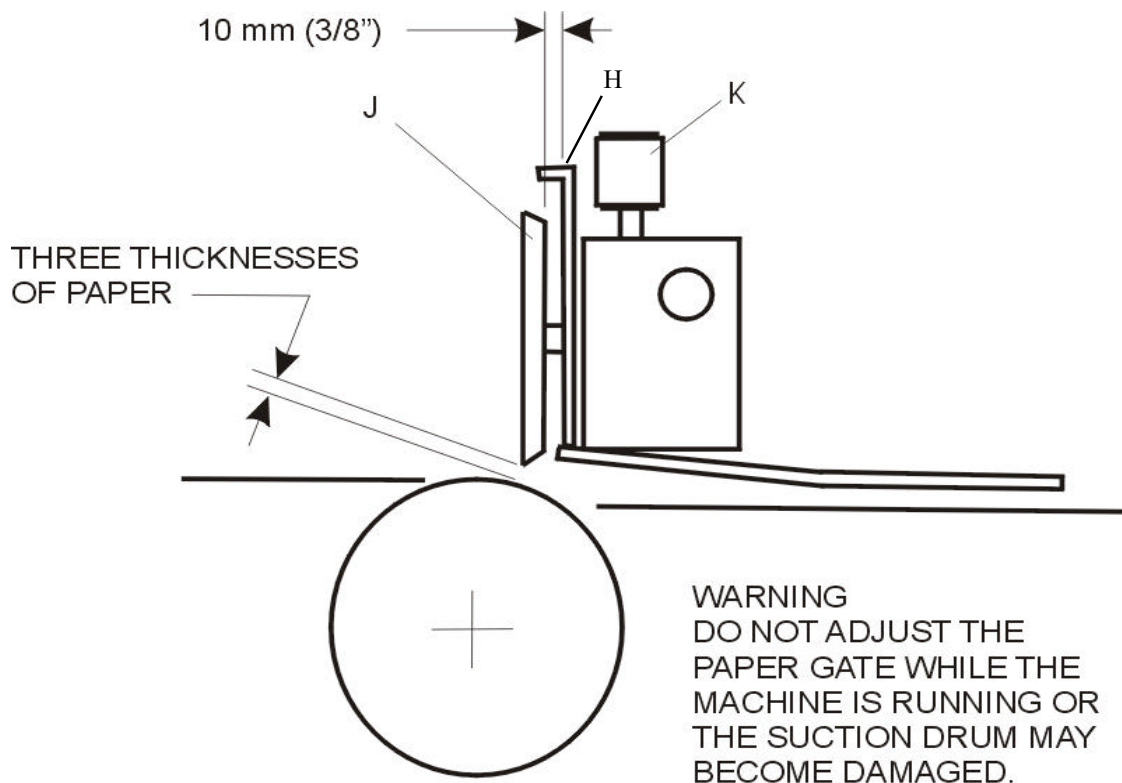
(G)

The standard setting for the suction opening is with the back of the slot inside the drum, in line with the edge of the loading table, but may be varied according to the type of paper being run.





- 3.10 Set the Paper Gate to the correct position. The standard setting for horizontal adjustment of the Paper Gate is 10mm (3/8") away from the mounting block. Turn disc J to make this adjustment. This setting is only intended as a guide, for instance, sheets with an upward curl will require this setting to be increased.
- 3.11 Set the height of the Paper Gate to approximately three thicknesses of paper, by releasing knob (K) and adjusting lever (H). Moving the lever (H) away from the operator, will reduce the gap. An excessive gap is a most likely cause of double-sheet feeding.



3.12 Removal of fold plates.

The fold plates are removed by unscrewing the locking lever on each side of the machine. (Be sure to support the second plate before unlocking, or it may fall out). The fold plates may then be slid out of their mounting guides.

3.13 Replacement of fold plates

When replacing a fold plate, ensure that it is fully home against its mounting guide before attempting to tighten the locking knob.

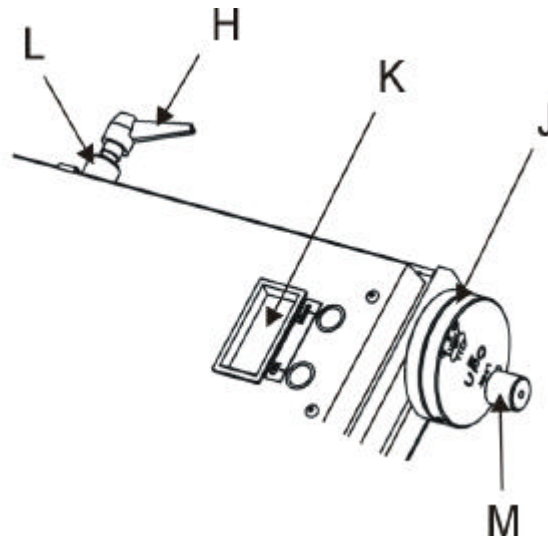
### 3.14 Setting of fold plates.

Set the fold length by releasing the lock knob (H) and rotating the dial (J). Press the 'ON' button on the fold plate, the fold length can then be read off the display (K). More precise movements can be made by pressing the 'Micro' button, which will display increments of one tenth of a millimetre or one hundredth of an inch for imperial machines. To preserve battery life, the display will switch off after 30 seconds.

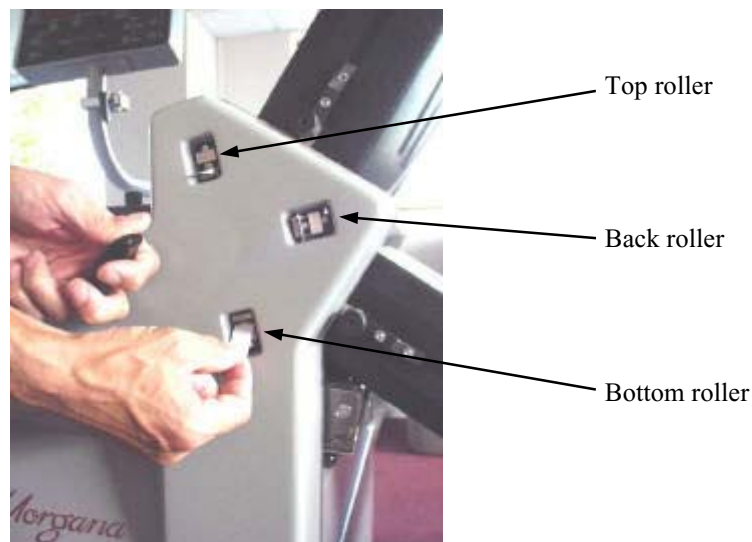
To set the fold plate as a reflector first set the tilt to zero, by releasing knob (M) turning dial (J) and re-locking knob (M). Release the lock knob (H) and rotate the dial (J) to minimum length until it stops. Tighten the lock knob (H), the display (K) will show a series of dashes.

The fold length can be tilted by twisting the two discs of dial (J) after unlocking knob (M).

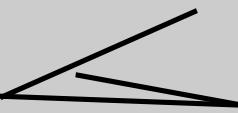

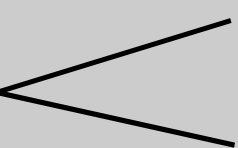
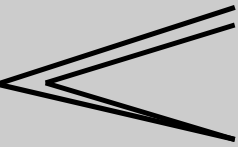


The scale on dial (J) relates to the length of the fold on the operator side, i.e. setting the pointer towards the + (plus) mark will lengthen the fold on the operator side, whilst setting towards the - (minus) will shorten it.



3.15 Set the fold roller pressures by inserting thicknesses of paper by rotating the tee handle on each side of the machine. The different folds and roller pressure settings are set out in the chart on the following page.



# *Morgana* UFO FOLDER QUICK START CHART

| FOLD TYPE  | PLATE POSN  | PAPER SIZE   |             |             |  | ROLLER SETTING        |      |        |
|--|-------------|--|-------------|-------------|--|-----------------------|------|--------|
|  |             | A5   | A4          | A3          | A2   | TOP                   | BACK | BOTTOM |
| <br>LETTER  | TOP         | 70   | 98          | 139         | 199  | 1                     | 1    | 3      |
|  | BOTTOM      | 70   | 99          | 139         | 199  |                       |      |        |
| <br>CONCERTINA  | TOP         | 140  | 198         | 280         | N/A  | 1                     | 1    | 3      |
|  | BOTTOM      | 70   | 99          | 139         | N/A  |                       |      |        |
| <br>HALF  | TOP         | 105  | 148         | 209         | 299  | 1                     | 2    | 2      |
|  | BOTTOM      | D  | D           | D           | D  |                       |      |        |
| <br>DOUBLE PARALLEL  | TOP         | 105  | 148         | 209         | 299  | 1                     | 2    | 4      |
|  | BOTTOM      | 53   | 74          | 105         | 150  |                       |      |        |
| <br>GATE  | TOP         | 53   | 74          | 105         | 149  | 1                     | 1    | 5      |
|  | BOTTOM      | 104  | 149         | 210         | 299  |                       |      |        |
| <br>ENGINEERING   | TOP         | 157  | 224         | 315         | N/A  | 1                     | 1    | 3      |
|  | BOTTOM      | 52   | 74          | 105         | N/A  |                       |      |        |
|  | SIZE SWITCH | A5<br>1 / 2  | A4<br>2/3/4 | A3<br>4/5/6 | A2<br>6/7/8  | SRA2 & ABOVE<br>8 / 9 |      |        |
|  | AUTO SWITCH | I  | I or II     | II          | II   | II                    |      |        |
| SWITCH   |             | SET MODE SWITCH TO STREAM TO DISABLE SHEET SPACING |             |             |  |                       |      |        |
| <b>Fold Plate Setting Figures Relate to Nearest Scale Position and are for Guidance Only. Final Adjustment is Likely to be Required in Either Direction.</b> |             |  |             |             | <b>Roller Setting Figures Relate to the Number of Thicknesses of Stock which need to be Inserted into the Callipers at each End of the Appropriate Roller.</b> |                       |      |        |

## THE CONTROL POD DISPLAY

THE DIAGRAM BELOW SHOWS THE UFO DIGITAL DISPLAY. WITH THE MOTORS, FEEDER AND AIR OFF, OPERATE THE **MODE** SWITCH UNTIL THE SPACING LAMP IS **ON**. THE INFORMATION IN THE DISPLAY NOW REPRESENTS:

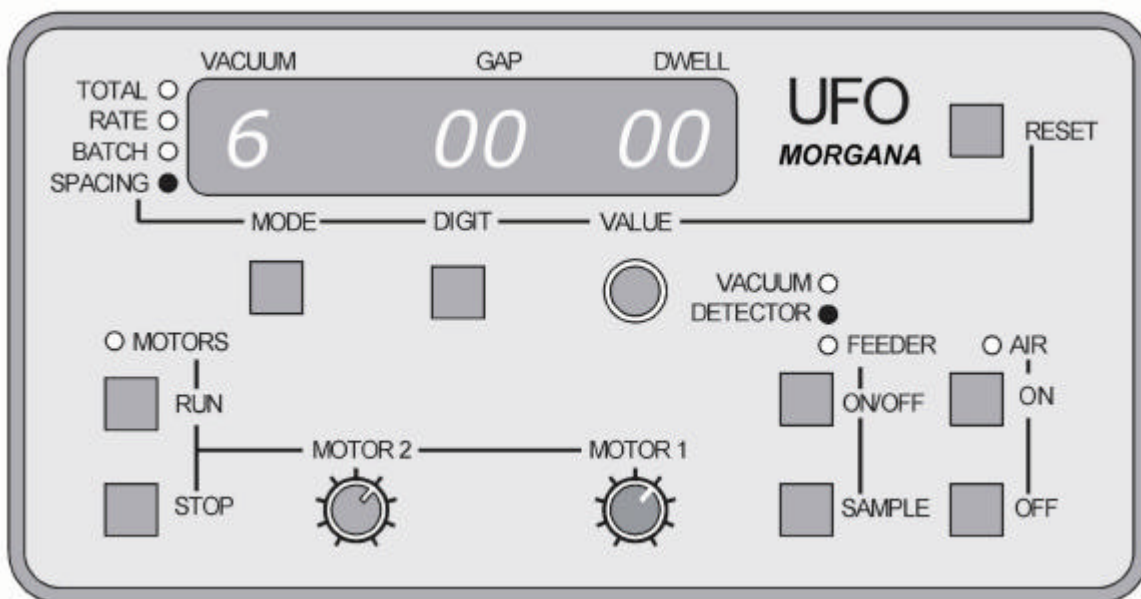
**VACUUM** - THE VACUUM 'ON' TIME. VARIABLE BETWEEN 25% (1/4) AND 80% (13/16) OF THE SHEET LENGTH IN 12.5% (1/8) INCREMENTS.

**GAP** - THE GAP BETWEEN SHEETS IS ADJUSTABLE, RANGING FROM 1 TO 99.

**DWELL** - THE BATCH DWELL IS IN 50% (1/2) SHEET INCREMENTS FROM 50% (1/2) TO 450% (4 1/2).

TO SET A GAP BETWEEN THE SHEETS, ROTATE THE **VALUE** DIAL UPTO A VALUE OF 99. A GAP OF 64 WILL CREATE A GAP OF 1 SHEET.

SETTING THE SHEET SPACING,



SETTING THE VACUUM ON THE SHEETS (IN **SPACING** MODE)

THE VACUUM 'ON' TIME CAN BE VARIED ACCORDING TO THE WEIGHT OF THE STOCK BEING DRIVEN IN TO THE REGISTER TABLE. A VALUE OF '0' REPRESENTS A SUCTION TIME OF 25% (1/4) SHEET LENGTH, WHERE EACH INCREMENT IS EQUAL TO 6% (1/16) OF THE SHEET. THE MAXIMUM DISPLAY IS '9'. OPERATE THE DIGIT SWITCH UNTIL THE NUMBERS THAT REPRESENT THE VACUUM ARE FLASHING. USE THE VALUE DIAL TO ADJUST THE VACUUM TIME.

SETTING THE DWELL TIME (IN **SPACING** MODE)

THE DWELL CAN BE VARIED TO ADJUST THE FEEDER INTERRUPTION TIME WHEN BATCHING. A VALUE OF 1 IN THE **DWELL** DISPLAY PRODUCES A PAUSE EQUIVALENT TO 50% (HALF) SHEET LENGTH. A VALUE OF '9' PRODUCES A PAUSE EQUIVALENT TO 450% (4 1/2) SHEET LENGTH. OPERATE THE DIGIT SWITCH UNTIL THE NUMBERS THAT REPRESENT THE DWELL ARE FLASHING. USE THE VALUE DIAL TO ADJUST THE DWELL TIME.

**SETTING THE BATCH QUANTITY**

PRESS THE **MODE** SWITCH UNTIL THE **BATCH** LAMP IS ON. ROTATE THE VALUE DIAL TO DETERMINE THE BATCH SIZE.

**RUNNING THE MACHIHE**

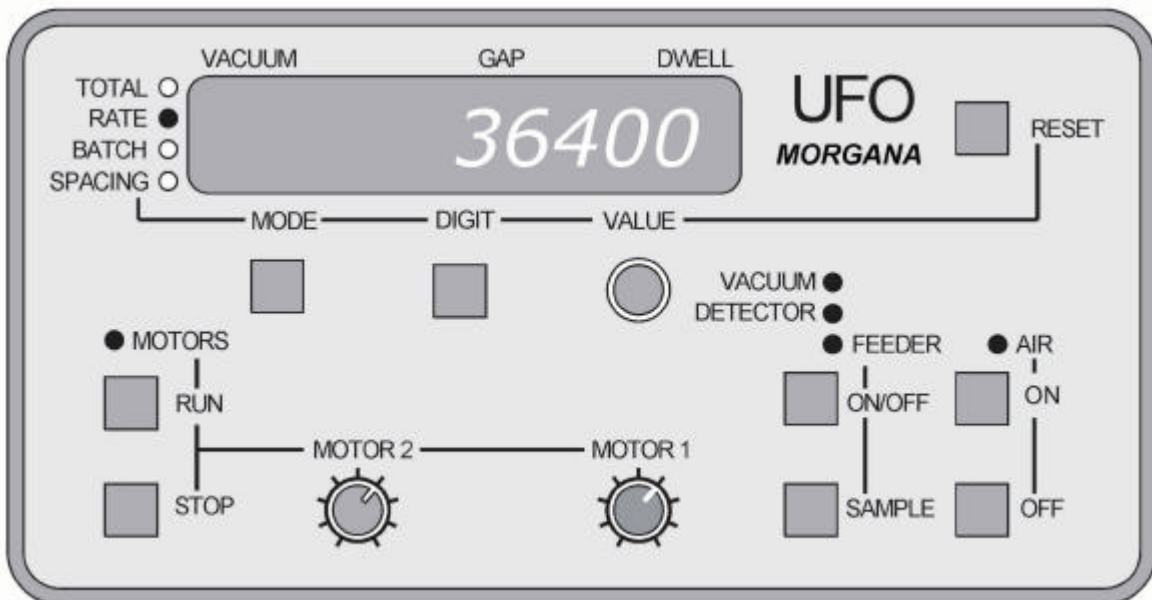
ONCE ALL OF THE PREVIOUS SETTINGS HAVE BEEN ADJUSTED THE MACHINE IS READY TO START FOLDING. WHILST THE MACHINE IS IN OPERATION, THE DISPLAY CAN EITHER SHOW THE **RATE** AT WHICH THE SHEETS ARE BEING FOLDED (SHEETS PER HOUR) OR SHOW THE **TOTAL** AMOUNT OF FOLDED DOCUMENTS. THE DIAGRAM BELOW SHOWS THE DISPLAY WITH THE MACHINE OPERATING IN THE **RATE** MODE. TO CHANGE BETWEEN MODES, OPERATE THE MODE SWITCH UNTIL EITHER THE TOTAL OR RATE LAMP IN ON.

PRESS THE **RUN** SWITCH, THIS WILL START BOTH DRIVE MOTORS. THE SPEEDS OF BOTH MOTORS CAN BE ADJUSTED INDEPENDENTLY AT ANYTIME DURING THE MACHINES OPERATION. NOTICE THE **MOTORS** LAMP WILL NOW COME ON.

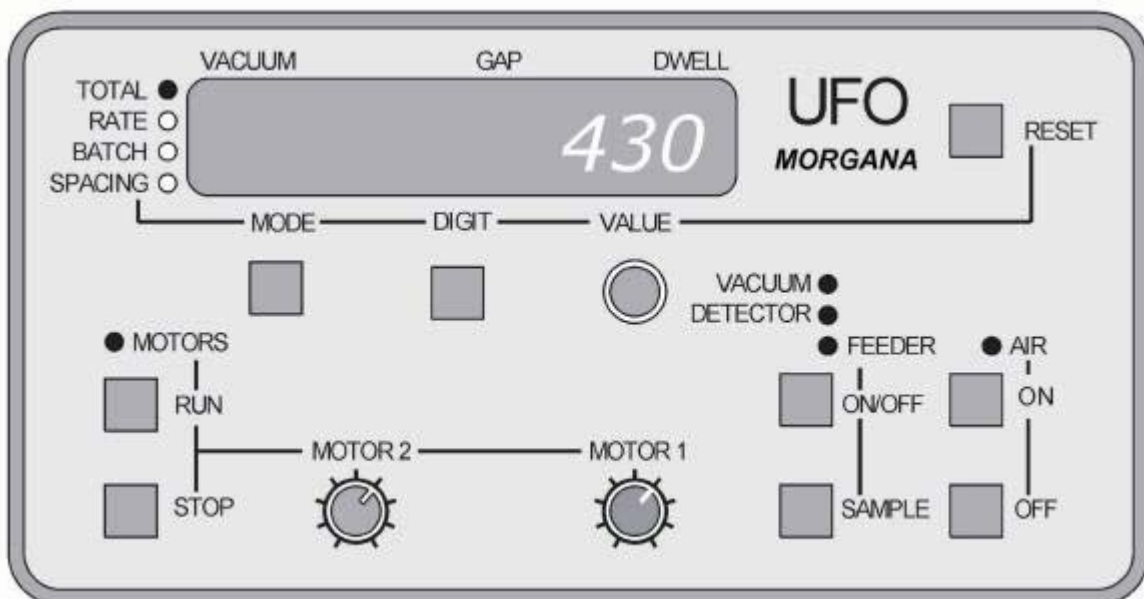
PRESS THE **AIR** BUTTON TO **ON**, THIS WILL START THE COMPRESSOR. NOTICE THE **VACUUM** LAMP WILL NOW COME ON.

PRESS THE SAMPLE SWITCH TO FEED A SINGLE SHEET IN ORDER TO EXAMINE THE FOLD. IF THE OPERATOR IS SATISFIED WITH THE RESULT, THE **FEED** SWITCH CAN THEN BE OPERATED.

THE DISPLAY IN **RATE** MODE,

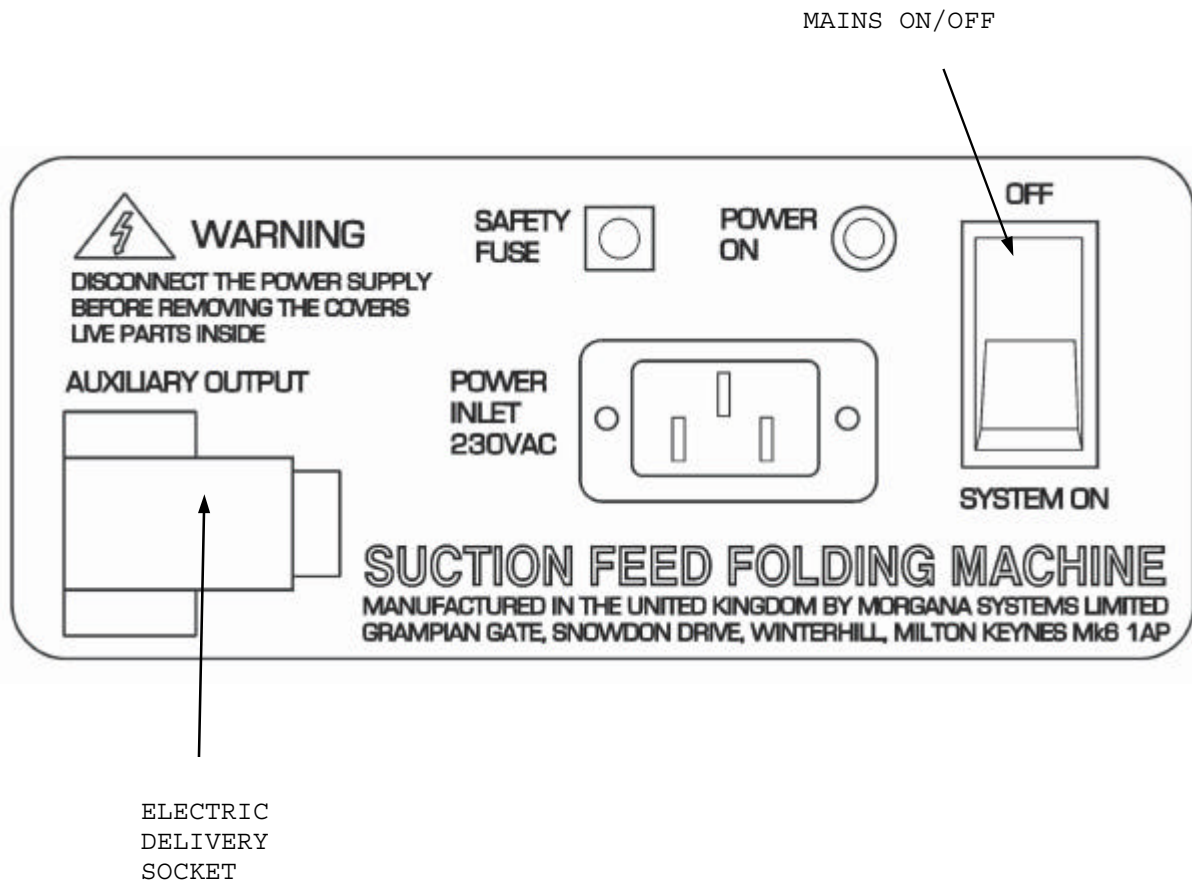


THE DISPLAY IN **TOTAL** COUNT MODE



SECTION 5: MAINS INPUT PANEL

THIS IS SITUATED ON THE OPPOSITE SIDE TO THE CONTROL PANEL. IT CONSISTS OF THE MAINS INPUT SWITCH, THE RATING PLATE AND THE CROSS-FOLD AUXILIARY SWITCH WHICH SHOULD REMAIN IN THE UP POSITION WHEN THE CROSS-FOLD IS NOT BEING USED.



SECTION 6: DELIVERY PANEL

SET THE DELIVERY ROLLER BY RELEASING KNOB 'N' TO A DISTANCE FROM THE UPPER CONVEYOR ROLLER APPROX. 50mm (2 INCHES) LONGER THAN THE FINISHED SHEET LENGTH.

THE GUIDE RODS SHOULD BE IN POSITION TO CATCH THE WORK AS IT COMES OFF THE UPPER CONVEYOR. KNOB 'P' LOCKS THE GUIDE RODS AND ALSO ALLOWS ADJUSTMENT FOR WIDTH.

POSITION EXTENSION FINGERS T WHEN FOLDING LARGER SIZES.

THE DELIVERY CONVEYOR HAS ITS OWN SPEED CONTROLLER WITH ON/OFF SWITCH, SPEED CONTROL KNOB AND FUSE (SEE PAGE 20 FOR INFORMATION). ENSURE THAT THE SWITCH IS IN ITS DOWNWARD 'ON' POSITION.

NOTE: THE DELIVERY CONVEYOR ONLY RUNS WHEN THE MACHINE IS RUNNING

THE POWER LEAD FOR CONTROLLER PLUGS INTO THE SOCKET LOCATED ON THE REAR PANEL OF THE UFO.

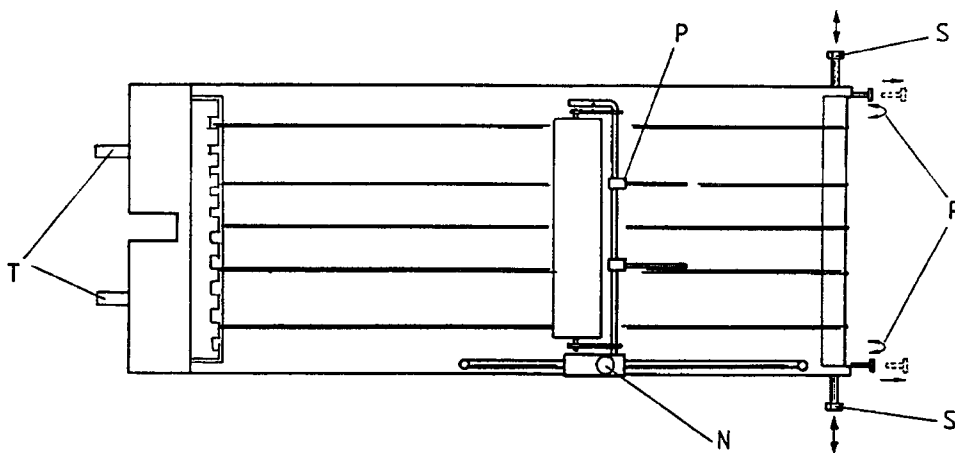
THE DELIVERY CONVEYOR MAYBE REMOVED FROM THE UFO AFTER FIRST DISCONNECTING THE POWER SUPPLY CABLE FROM THE SOCKET AND RAISING THE KNOBS 'R'. TAKE THE WEIGHT OF THE CONVEYOR AND CAREFULLY SLIDE OUT OF THE MACHINE.

Once out of the machine, the delivery conveyor may be adjusted to fit a wider or narrower machine, for example, when changing from a UFO1 to a crossfold unit. This is achieved by removing-knobs (R) and sliding the spindles (S) in or out as desired, finally replacing knobs (R) tightly.

The delivery is designed to fit at either end of the machine, depending on whether the work is required to be delivered (as normal) underneath (a), or alternatively, out of the swing up perforating unit to position (b).

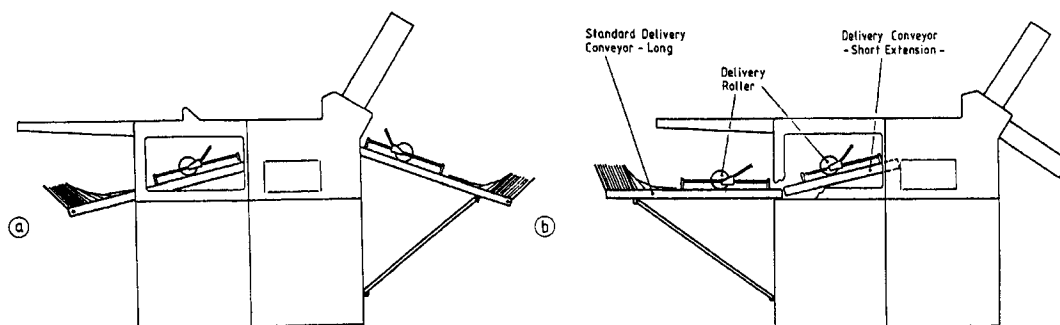
Position (b) is used for perforating, scoring and when folding heavy stocks that would otherwise be curled when delivering to position (a).

When used in position (b), the support hoop is used to support the delivery, and only the first plate is used.



A short extension delivery (part no. L59) is available and may be used in any position.

When used beneath the UFO, the standard delivery can be used to extend the delivery point to beyond the UFO loading table.



## SECTION 7: SWINGING PERFORATOR UNIT

7.1 To use the unit, first remove the second fold plate, see page 7.

### 7.2 To set up for perforating, scoring, slitting

Fit the appropriate blade, blades or scorers onto the shafts in the approximate sideways position as described in sections 7.3, 4, 5 and 6.

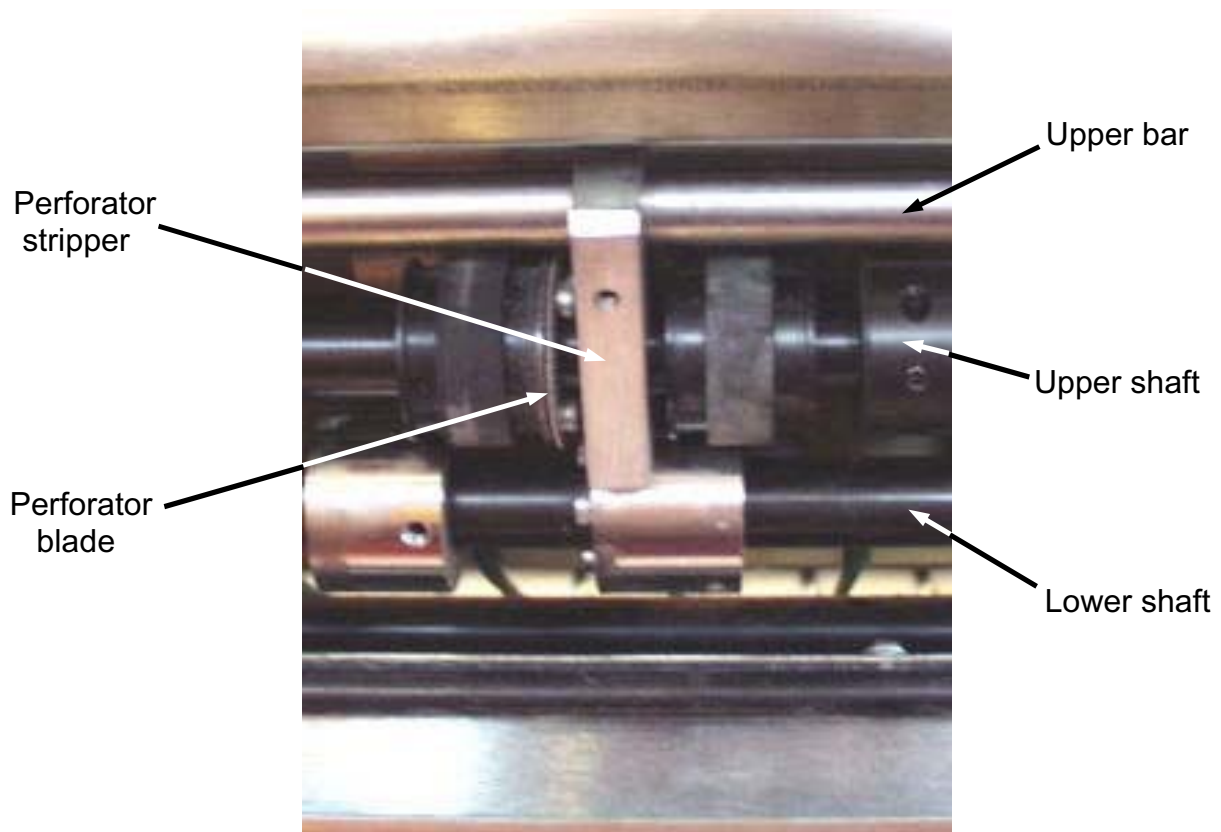
For easier access to the shafts, it is necessary to first remove the two thumb screws at each end of the swing up cover, and remove the central knob.

The exit guard may then be lowered and used to support the swing up unit by positioning the guard on the black motor cover below.

Set up the folding machine as described previously. Wind a single sheet of the job to be perforated, scored, etc., through the machine by using the handwheel, located on the far side beneath the feed table, in line with the paper gate. When the paper stops at the rollers, continue to wind the sheet by using the handwheel on the far side of the machine.

When the sheet emerges through the back roller, final setting of the perforator, scorer, slitter may be made by lining up the desired position with the blade etc.

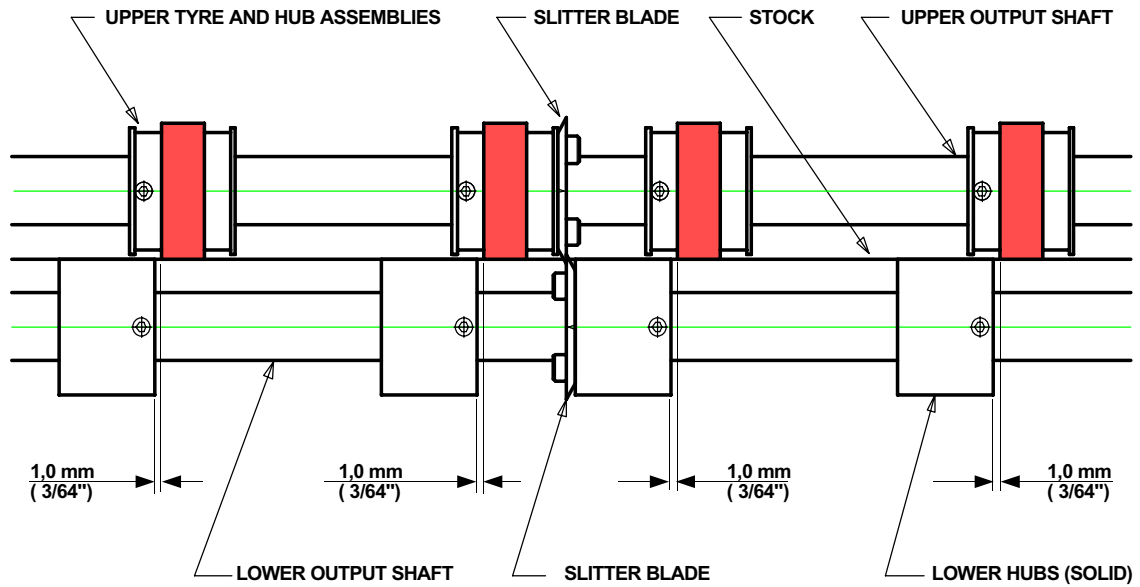
### 7.3 Perforating





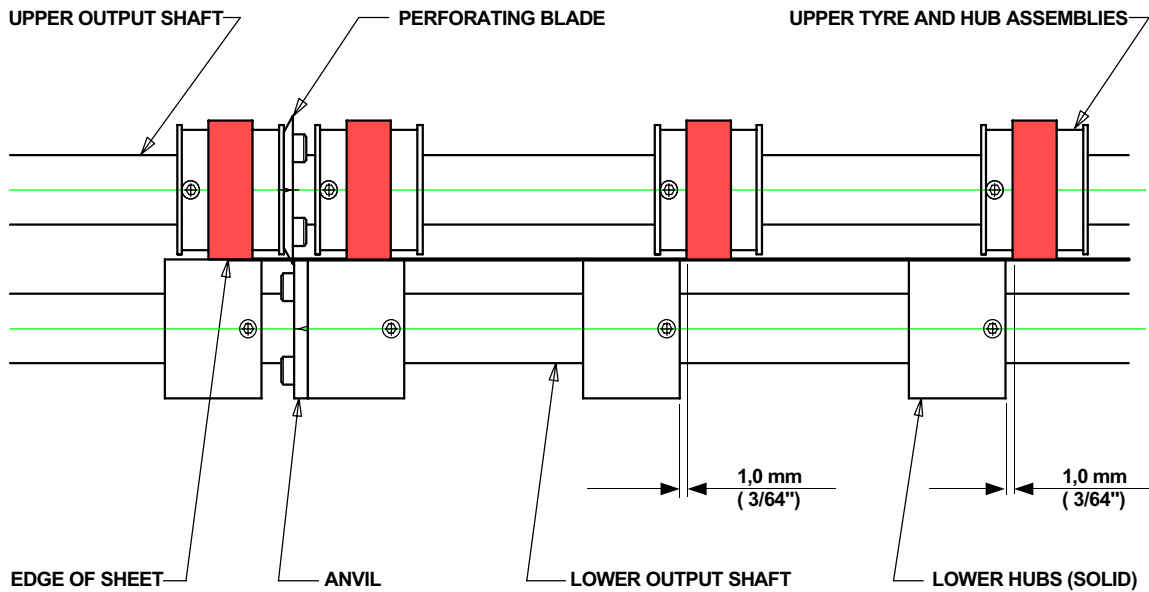
## 7.4 Slitting

The slitting set (part number 1-99-13P) consists of two blades which have been split in half. Before fitting, ensure that the side faces of the hubs are clean. Using the screws provided, mount them to the hubs as shown, and line the blades up to the job as described on page 14.



## 7.5 Slitting Perforator

Slitting Perforators are installed onto the shafts in the same way as the Slitters, but use an anvil on the bottom shaft instead of another blade.

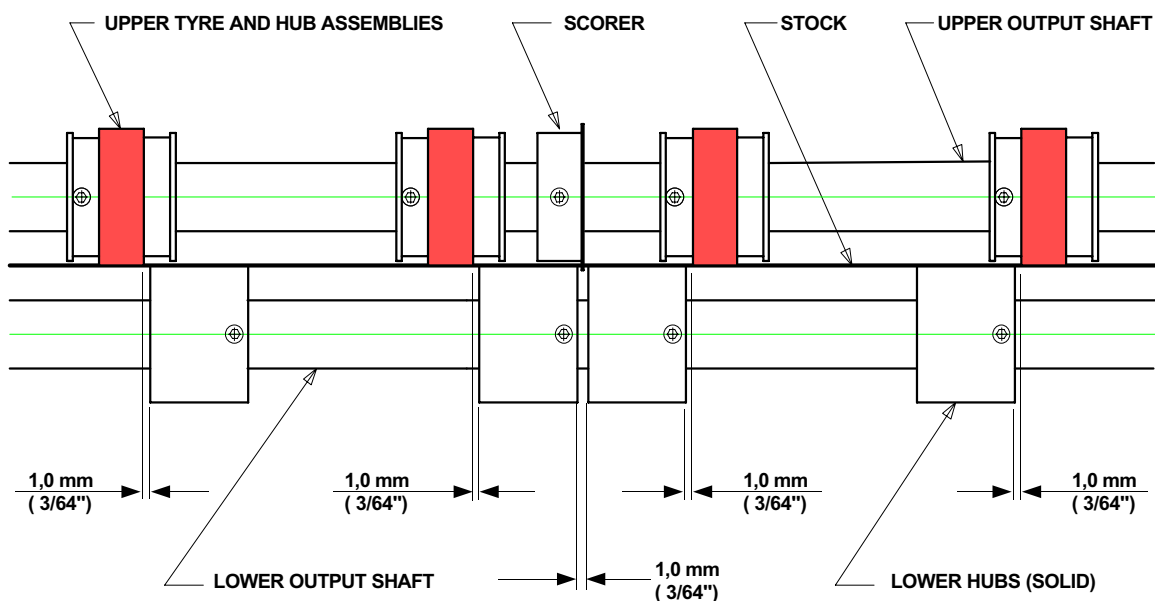


## 7.6 Scoring

The special scorers can be fitted at any time, as they are split into two halves which are simply positioned over the top shaft and bolted together.

Correct positioning is achieved using the same method as the perforators. The scorer blade is set to run between two standard hubs on the lower shaft as shown below.

Accurate positioning of the lower hubs is important to ensure successful scoring, and the descriptions on the following page will assist in the choice and correct set-up of the scorers.



Type A  
Part No.6-99-05P  
Standard

A square section scorer which will produce a light score on most card.  
It should be set centrally between the faces of two perforator hubs set approximately 1mm or 3/64 inch apart.

Type B  
Part No.6-99-06P  
Heavy Duty

A square section scorer which is suitable for use on heavy card.  
It should be set centrally between the faces of two perforator hubs set approximately 2.5mm or 3/32 inch apart.

Type C  
Part No.6-99-07P  
Special

This is for scoring particularly hard materials, or if shaft deflection causes a problem when producing more than one score line simultaneously.  
It is a square section scorer, only available to special order and should be set centrally between the faces of two perforator hubs set approximately 3mm or 1/8 inch apart.

Type D  
Part No.6-99-08P  
Pencil

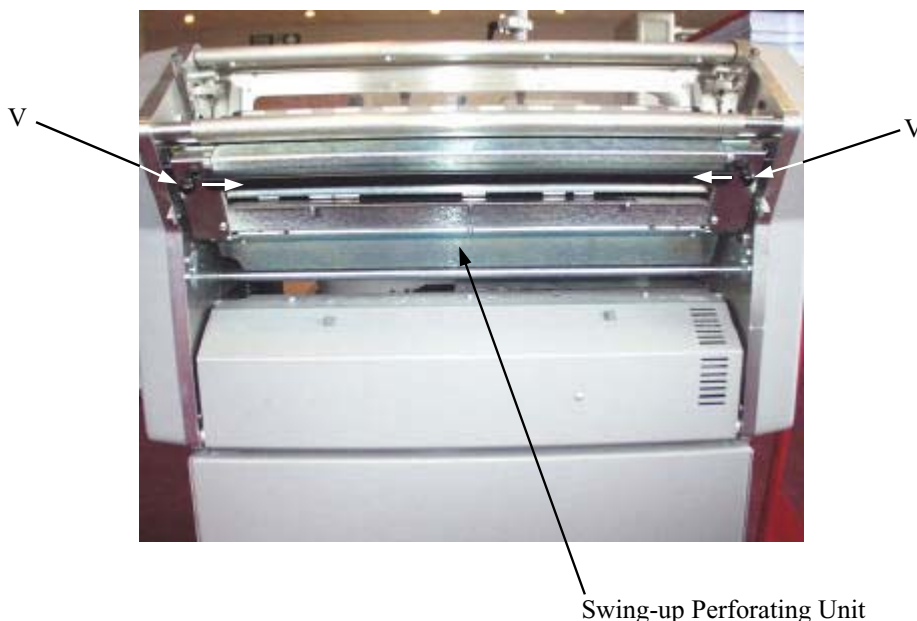
A pencil scorer ideally suited to provide a pre-folding score on paper and is set centrally between the faces of two perforator hubs set approximately 2mm or 1/16 inch apart.

The settings described above are for guidance only and are generally intended as a starting point. The exact positions should be found during makeready to give optimum results with the stock being used.

## 7.7 Operating

Having first set up the perforating, scoring wheels (if required) the 'Swing-up Perforating Unit' may be raised into its operating position (as shown below).

To release the 'Swing-up Perforating Unit', back into the folding position, push the two black knobs (V) inwards (as shown); and lower the unit carefully to the horizontal position.



## 7.8 Perforating, Scoring and Slitting on Main Perforator Shafts

To gain access to the main perforator shafts, lift up the feed bed (which is only held in place by a magnetic catch), and also the top cover.

The standard hubs, which are factory fitted only, allow for a single perforator, scorer or slitter at this position.

Procedure as page 14 for setting perforator and slitting blade.

Note: the perforator blade must be fitted to top shaft (W).



The stripping on the main perforator is done by the tail of the bale arm, which can be moved close to the perforator hub.

For slitting, the conveyor belts can be repositioned to support the paper if required.

For scoring, see page 16.

## SECTION 8: FOLD PLATE ADJUSTMENTS

Heavy paper or card: if heavy paper or card stops in the fold plate, the bottom blades can be adjusted to allow easier entry into the fold rollers. Generally, heavy stock will require the lower rail adjusted away from the rollers.

### Adjustments on Fold Plates

The lower rail on each fold plate may be adjusted in two ways.

1. Closer or further away from the rollers.

## Adjustments 1 and 2

With the fold plate removed from the machine, slide out the lower cover. Release the locking screw (X) with a 3mm allen key.

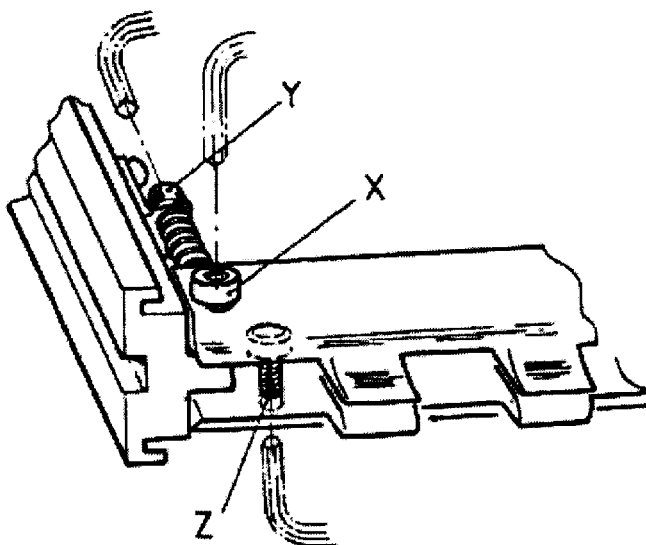
### Adjustment 1 continued

The adjusting screws (Y), one each side, located through a spring, may now be turned using a 4mm allen key until the lower rail is at the desired position. Generally for heavier stock this is further away from the rollers.

### Adjustment 2 continued

The adjusting pad screw (Z) can be found in the upper rail by turning the fold plate over (the upper cover need not be removed). Using a 2.5mm allen key, adjust the pad until the desired adjustment is obtained.

You must tighten the locking screws (X) each time to give an accurate measurement.



## CAUTION

DO NOT OPERATE THE MACHINE WITH THE LOCKING SCREWS (X) LOOSE.

MAXIMUM GAP BETWEEN THE RAILS (ADJUSTMENT 2) IS 2.5 MM AT THE CENTRE POINT. (CHECK WITH 2.5 MM ALLEN KEY). SERIOUS DAMAGE CAN OCCUR IF THE MACHINE IS OPERATED WITH THE FOLD PLATES SET AT A GAP IN EXCESS OF 2.5 MM.

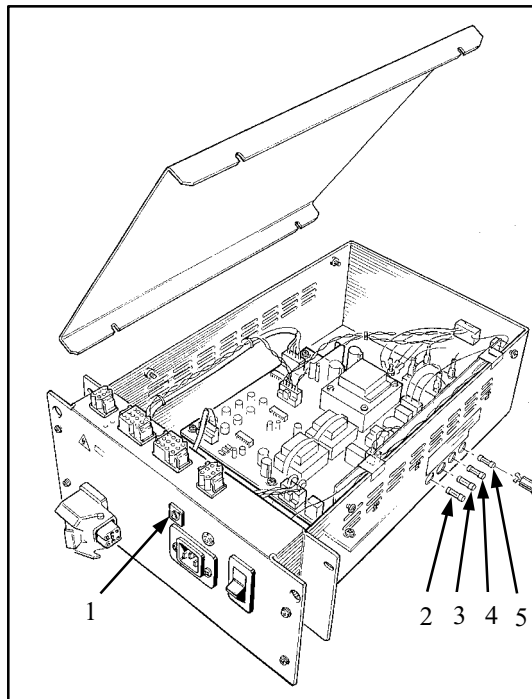
## SECTION 9: PROBLEMS AND SOLUTIONS

It must be remembered that many problems occur due to incorrect or badly adjusted settings and that the instructions found in this book will help resolve them.

### 9.1 Fuses

If any malfunction occurs, always check the fuses before taking any other action. If fuses blow repeatedly call the engineer.  
Always switch off the main power supply before changing fuses.

- |  |   |
|--|---|
| 1. Safety Fuse<br>Anti-surge 100mA Part No. 613-344    | 4. Motor 1<br>Fast Blow 3.15A Part No. 681-005      |
| 2. Auxiliary Output<br>Fast Blow 2.0A Part No. 681-004 | 5. Control Board<br>Time Lag 160mA Part No. 613-397 |
| 3. Motor 2<br>Fast Blow 2.0A Part No. 681-004          |   |



### 9.2 Electric Delivery Fuse

The electric delivery fuse is located in its speed controller. The speed controller must be removed from the electric delivery to gain access to the fuse.

This is done as follows:

Remove the electric delivery conveyor from the machine.

Slacken the two thumb screws.

Remove the pozi head screw located at the right hand side of the controller.

The fuse may now be withdrawn from the black, rectangular holder.

## SECTION 10: CROSSFOLD UNITS

### 10.1 General - UFO Crossfold Units

Crossfold units can be added to the existing UFO1 and UFO2 at any time, to give paginations of up to 16 pages.

The units available are:

UFO 5/2 two plate crossfold  
UFO 5/1 one plate crossfold  
UFO 6 16 page crossfold.

#### Installation

The crossfold's simply plugs into the auxiliary output socket in the rear panel of the UFO, with no other connections. The electric delivery, when fitted to a crossfold unit, is plugged into the auxiliary socket on the crossfold's rear panel.

#### Running

The whole system can be shut down from the control panel of any one unit simultaneously.

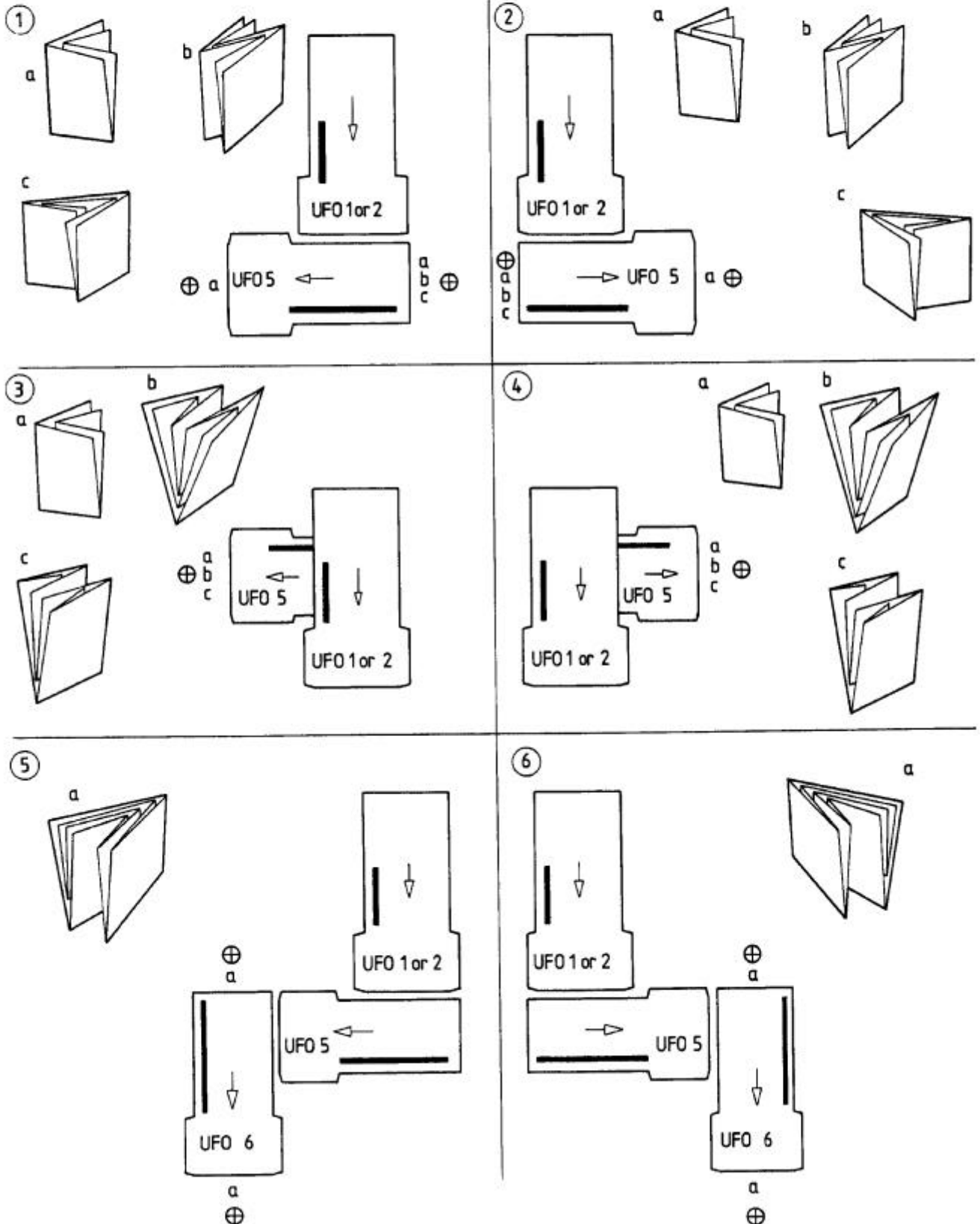
### 10.2 Description of Configuration and Folds

The design of the standard units above offers a vast range of configurations by changing the side lay (see 10.3) plus the ability to convey the work underneath the machine onto the crossfold, (e.g. figure 3 overleaf).

SOME CONFIGURATIONS OBTAINABLE WITH STANDARD CROSSFOLD UNITS

SOME CONFIGURATIONS OBTAINABLE WITH STANDARD CROSSFOLD UNITS

⊕ Denotes optional delivery point      — Denotes side lay



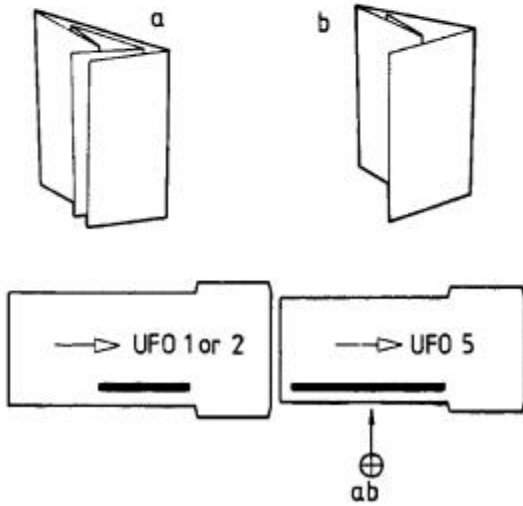


10.2 cont..

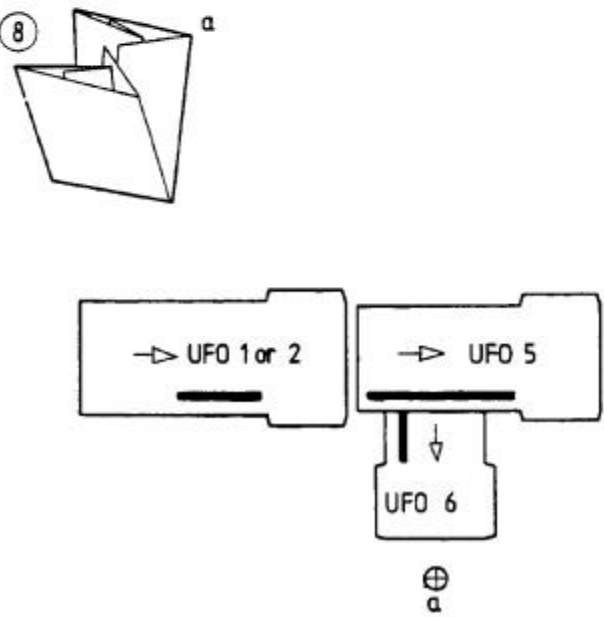
⊕ Denotes optional delivery point

— Denotes side lay

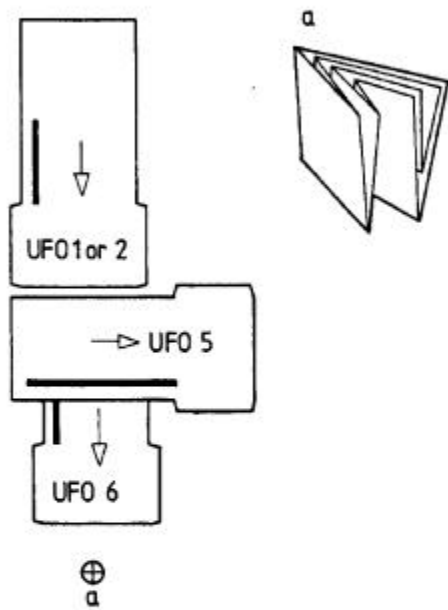
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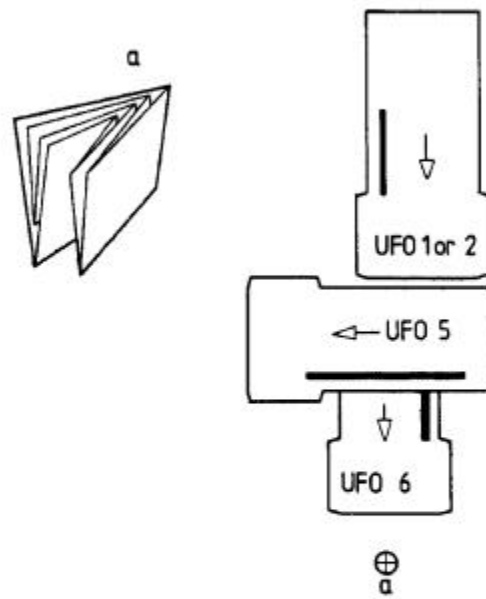
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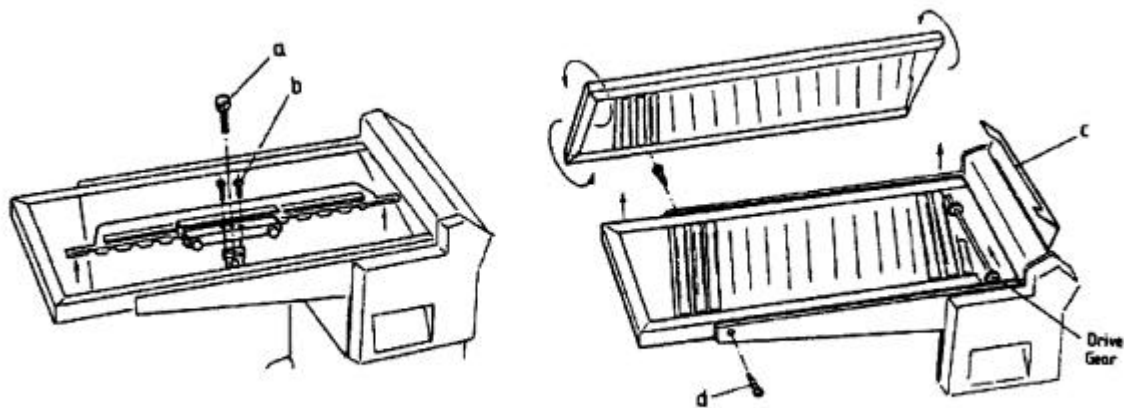


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### 10.3 Changing the Lay Side on the Crossfold

1. Remove locking knob (a) and M5 cap screws (2 off ) (b) with 4mm allen key provided and lift side lay away.
2. Raise guard (c), lift the roller bed at the front and support it on its prop. Slide the drive gear along shaft (using a 2mm allen key) and re-locate screw into the groove on the other side. It may be necessary to remove bale arms to achieve this.

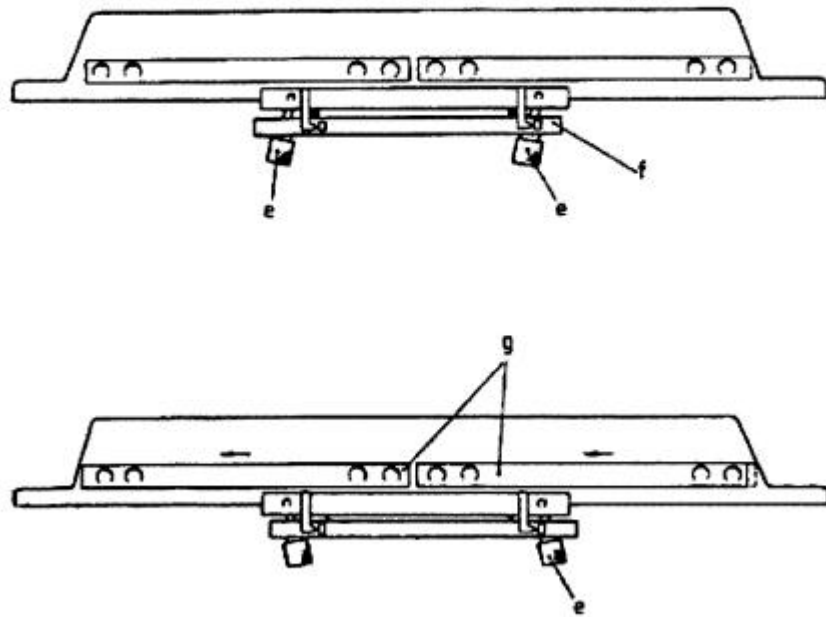


3. Drop the roller bed off its prop and remove the shoulder screws (d). Lift bed, turn it over and replace shoulder screw. Check that the drive gear is aligned.
4. Replace side lay. Check that it is parallel to the side frames before tightening M5 cap screws firmly.
5. Remove completely the two adjusting screws (e). Turn the fixed side lay (f) end over end.

Replace the adjusting screw (e) into the slotted carrier first, while locating the springs.

Replace the second adjusting screw (e) and set the lay to '0' (zero) on the scale.

Slide the ball retainers (g) to the opposite end.

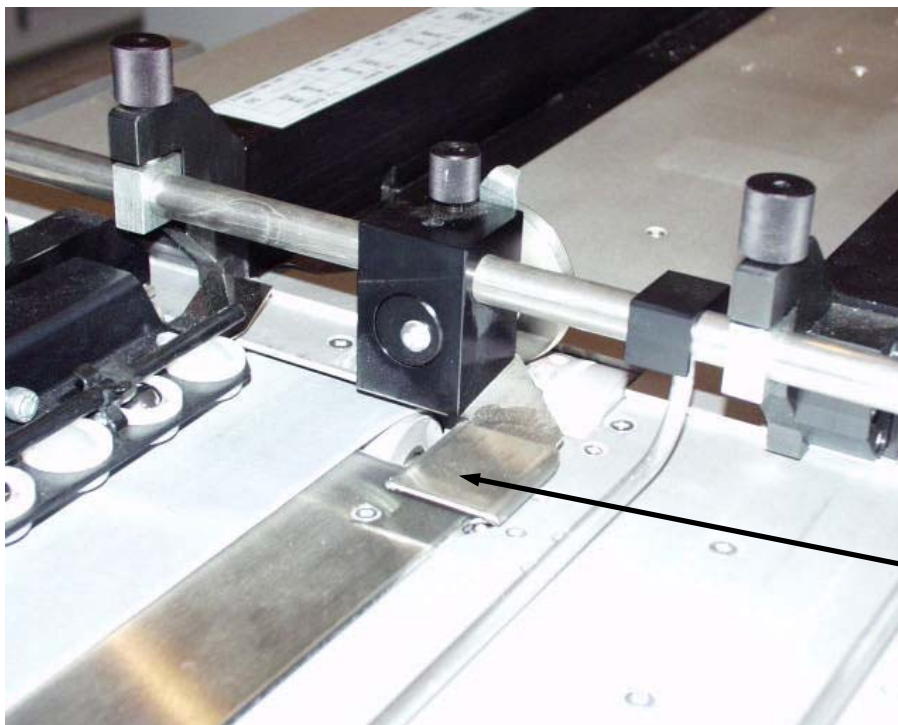


## SECTION 11: MAINTENANCE

### 11.1 Sheet Detector

This detector is the sensor for the batch and total counter, and is as shown.

Some machines have their reflector plate fixed to the papergate.



Reflector plate

The sensor operates from an infra-red beam reflected off the reflector plate.  
The position of this reflector is factory set and must not be disturbed.

The sensor lenses and the underside of the reflector should be dusted regularly, especially if set-off spray powder is used on the stock.

A thorough cleaning of the sensor lenses is best achieved by raising the feed bed and then using a soft brush to clear away all dust.

## 11.2 Regular Maintenance

The UFO Folding Machine has been designed for minimum maintenance; however, the following items will need attention.

Weekly - The two roller shafts on the feed bed should be cleaned and sparingly oiled (see page 37, items 50 and 60 of the spare parts manual).

The counter sensor lenses and reflector must be dusted regularly to ensure reliable counter operation (see page 25 of this book).

This will also affect the feed if dirty.

Monthly - The air filter, mounted on the compressor, must be removed and cleaned. Access to the compressor is made by loosening the two screws at the top surface of the base access door (fold plate end). (See page 25 of the parts manual).

3 monthly - Lubricate the two idler gears on the swinging perforating unit using a light machine oil.

6 monthly - The drive motors have carbon brushes with an average life of 1000 hours. These brushes should be inspected periodically, call our Service Department for advice. (See pages 21 and 35 of the parts manual).

## SECTION 12: FAULTS

| <u>Problem</u>                            | <u>Cause</u>   |
|---|--|
| Machine dead and no lights on front panel | Not switched on.<br>Fuse blown in plug or external power supply.<br>Large connector on rear of control box loose.<br>Logic fuse blown (see page 20). |
| Compressor runs but both motors do not    | Feed bed raised.<br>Guard up.<br>Crossfold not plugged in.   |
| One of the drive motors fails to work     | Check individual motor connections.<br>Check individual motor fuse (see page 20).<br>Check individual motor brushes (contact agent for advice).      |
| Not counting                              | Sensor lenses dusty (see page 25).<br>Machine running in 'stream'.<br>Connector loose in rear of control box.  |

|  |   |
|--|---|
| Not feeding efficiently                              | <p>Size control at wrong setting (see page 11).<br/> Paper gate in wrong Position (see page 7).<br/> Slot in vacuum drum in wrong position (see page 6).<br/> Manifold set incorrectly (see page 5).<br/> Manifold settings incorrect (see page 5).</p> |
| Sheets creasing                                      | <p>Side lay balls too heavy.<br/> Side lay tilted too far.<br/> Motor speeds set incorrectly.<br/> Roller pressures too tight.</p>  |
| Heavy stock sticks in top fold plate                 | <p>Lower rail of top fold plate too far forward (see page 18).<br/> Insufficient drive from top roller – decrease caliper setting for top roller.</p>   |
| Letter fold or zigzag fold jams in second fold plate | <p>Lower rail of second fold plate too far forward (see page 18).<br/> Bottom roller set too tight on second fold – increase caliper settings from 3 to 4 or 5.</p>   |
| Inside edge of letter fold turning back              | <p>Inside fold too tight to second fold – adjust fold lengths.</p>  |
| Fold length varying                                  | <p>Original stock varying in length.<br/> Original stock having different grain direction.<br/> Motor speeds not set to same settings.<br/> Dirt build up on rollers.<br/> Roller caliper settings incorrect.<br/> Fold plate deflector not locked.</p> |
| False fold on gate fold                              | <p>Insert extra thicknesses to bottom caliper.</p>  |