FORMAX®

FD 230
Semi-Automatic Creaser / Perforator

OPERATOR MANUAL
FIRST EDITION

4/2015

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SPECIFICATIONS

Speed:	Up to 1,500 sheets per hour (one crease)
Paper width:	4” (100mm) - 18” (457mm)
Recommended paper weight:	80 - 400gsm (creasing) 80 - 250gsm (perforating)
Creases per sheet:	Up to 15
Pre-set crease locations:	1/2 fold, 1/3 fold, 1/4 fold, gate fold, book cover
Programmable jobs:	Up to 5
Creasing bars:	2 x CITO technology, 1 x iron channel
Crease width:	CITO 1mm, paper thickness < .2mm (80 - 150gsm) CITO 1.4mm, paper thickness .2 - .4mm (160 - 250gsm) Iron channel, paper thickness .4 - .5 (250 - 400gsm)
Min / Max distance of creases:	0.079” (2mm) / 39.37” (1,000mm)
Languages:	English, French, Spanish, German, Italian, Russian, Greek, Czech
Dimensions with catch tray:	16” H x 48” W x 28” D (406 H x 1200 W x 711 D mm)
Weight:	125 lbs. (56kg)
Power:	110V, 60Hz

* Note: It is necessary to use the recommended creasing width channel for different paper thickness. If the inappropriate crease width is used (usually narrow creasing channel for thick paper) inaccuracies in the position of the crease may appear, the crease will be placed at different distances than what is set on the display. If the narrow crease channel is used with thick paper the paper will be pressed into the creasing channel, the rollers will start to slip trying to release the paper, in this case the wider crease channel should be used.

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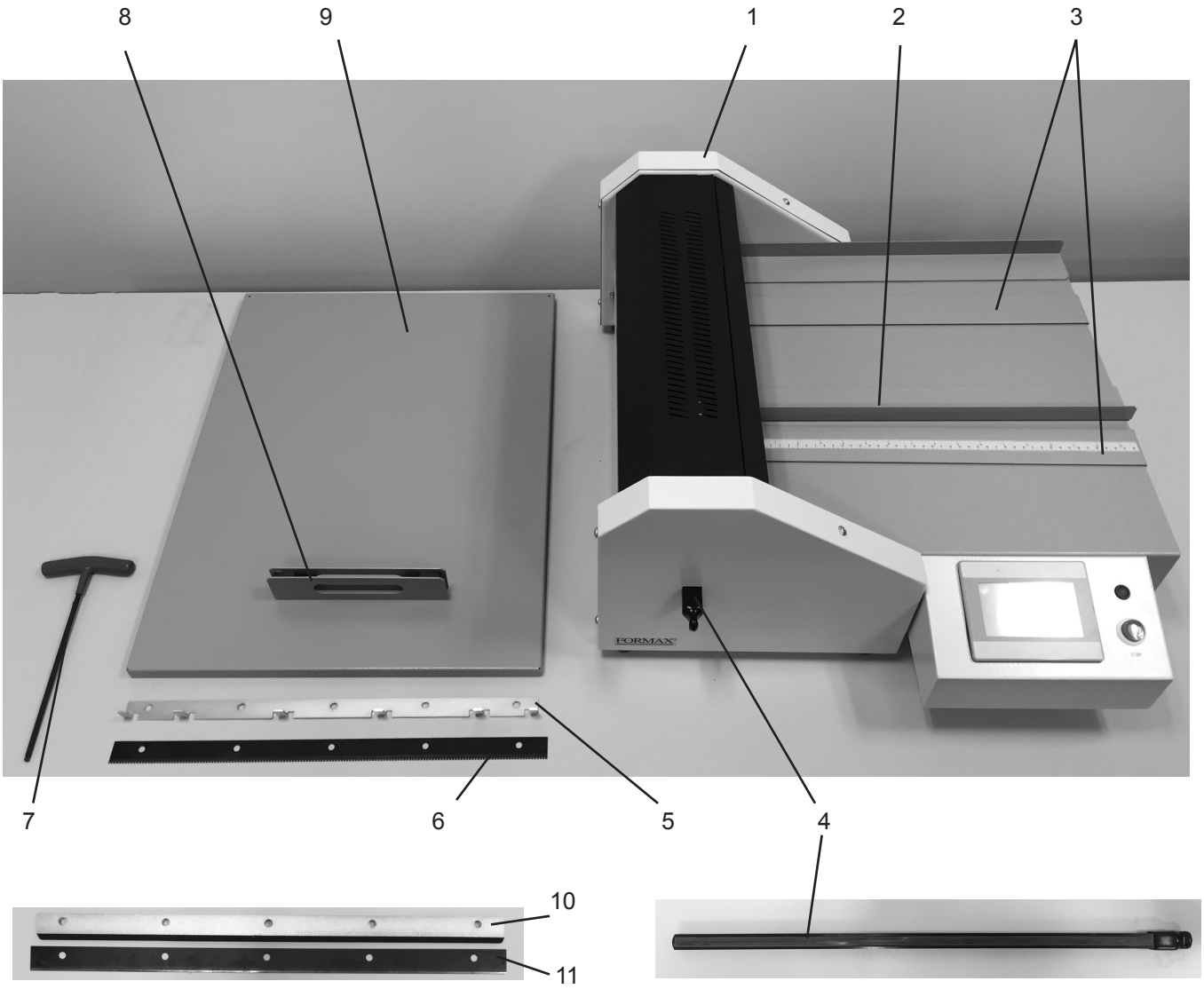
2 Magnetic side guide
3 Magnetic strip (2)
4 Lower creasing/perforating tool
5 Stripper
6 Perforating knife
7 Hexagonal key
8 Magnetic stop
9 Delivery table
10 Clamp (fitted on the machine)
11 Creasing knife (fitted on the machine)

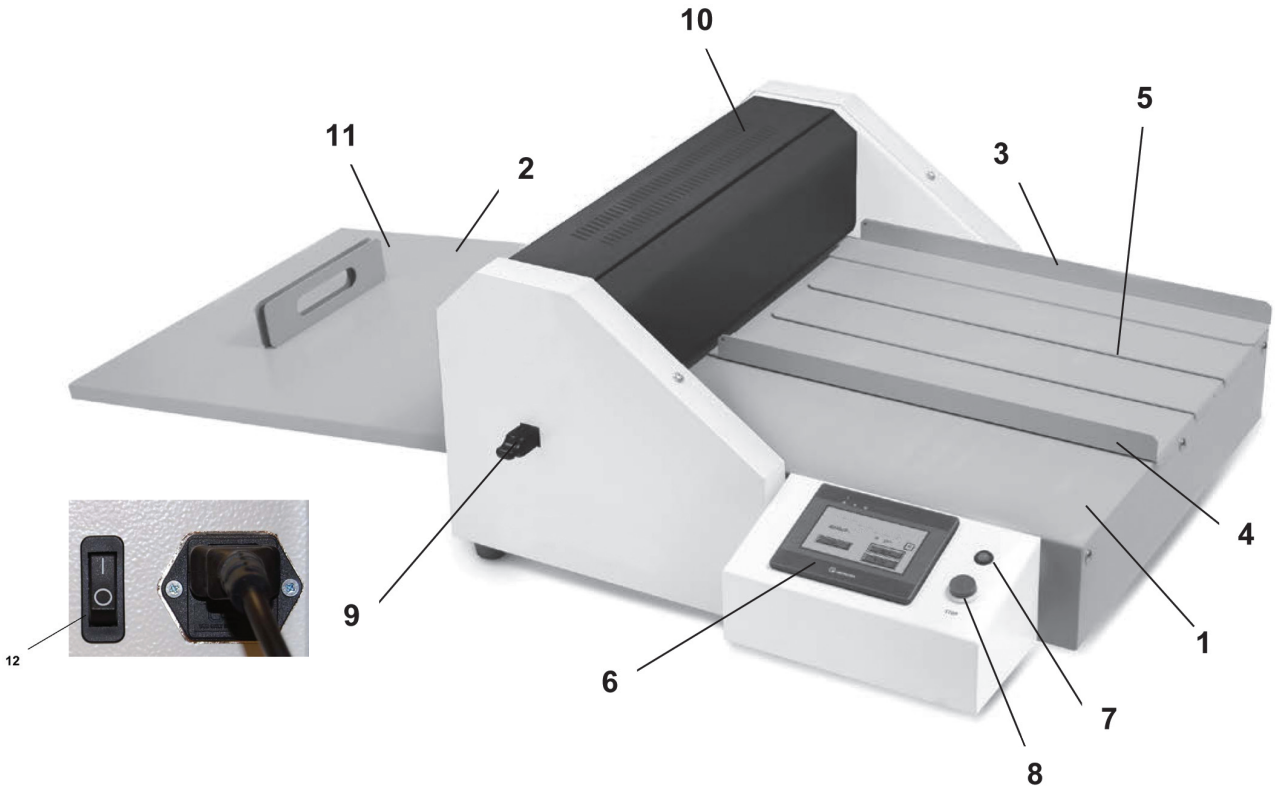


Stripper (5)
The stripper is used in situations when creases are close to the front edge of the sheet. In such case the paper may bend upwards after creasing, hit the cover lid near the exit of the machine and jam inside. The stripper is necessary to guide the paper past the rollers to pass through the machine easily. To install the stripper refer to the CHANGING BETWEEN THE CREASING AND PERFORATING KNIVES on page 4. The stripper replaces the clamp.

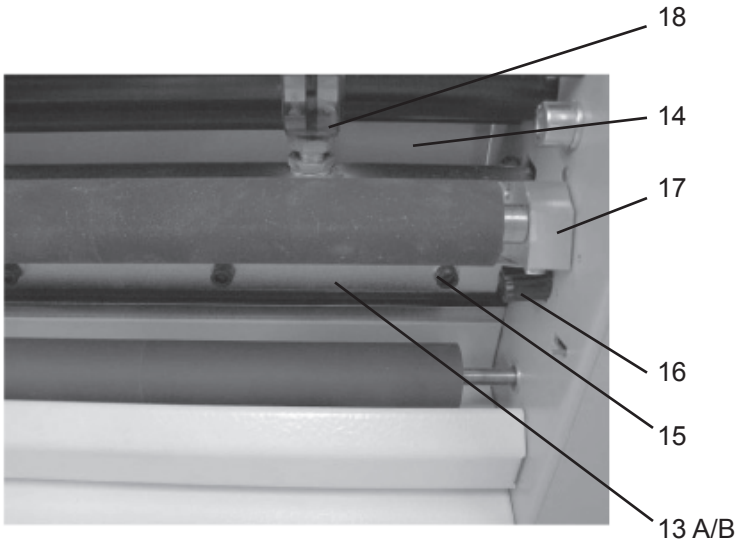
Warning: Never fit the stripper on the clamp! If the stripper is fitted on the clamp it can touch the upper rubber roller and destroy it.

DESCRIPTION

The FD 230 Semi-Automatic Electric Creasing - Perforator is suited for final processing of graphic materials up to 450 mm width. Creasing enables easy folding of paper and reduced cracking of digital prints. A simple knife change and turning of the lower creasing/perforating tool enables the FD 230 to make perforations that allow for easy separation of paper.



1. Feeding table
2. Delivery table
3. Fixed T-square
4. Left side guide
5. Magnetic strip
6. Display
7. Control light
8. STOP button
9. Lower creasing/perforating tool
10. Upper cover
11. Magnetic stop
12. Power supply switch
13. Clamp A/B
14. Ram
15. 6 mm hexagonal screw
16. Locking screw
17. Pressing mechanism
18. Adjusting screw



INSTALLATION AND OPERATION

After unpacking the machine place it on a solid surface and attach the delivery table. Plug the machine into the power outlet. It is now ready to operate and the display is illuminated. Select the correct size crease channel for the paper weight by removing the lower creasing/perforating bar, rotate it to the correct size channel and reinsert (fig. 1a). When the upper cover is lifted up the machine is automatically turned off and the control light turns red.

CHANGING BETWEEN CREASING AND PERFORATING KNIVES

The FD 230 is set up for creasing by the manufacturer. To switch to perforating, it is necessary to change the knife (in the packaging included).

1. Unplug the machine from the wall outlet.

2. Remove the lower creasing / perforating tool and rotate it so the perforating side is facing up then reinsert (the perforating side of the tool has dashed lines on it). (fig 1a)

3. Lift the upper cover and remove the 2 locking screws located on the joist of the hinged pressing mechanism (fig 1b).

4. Lift the hinged mechanism and fix it in the upper position by inserting the locking screws into the sideboard. Then remove the 5 hexagonal screws and the clamp with the tool provided (fig 1c).

5. Replace the creasing blade with the perfing knife.

IMPORTANT! Hand tighten the screws into position, do not completely tighten them until performing a control upstroke to set the knife in the correct position. CAUTION! If this procedure is not followed the machine will not feed properly.

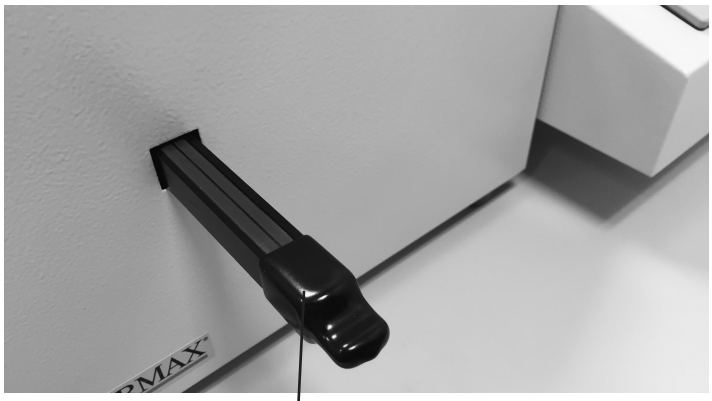


Fig. 1a

Lower creasing/perforating tool

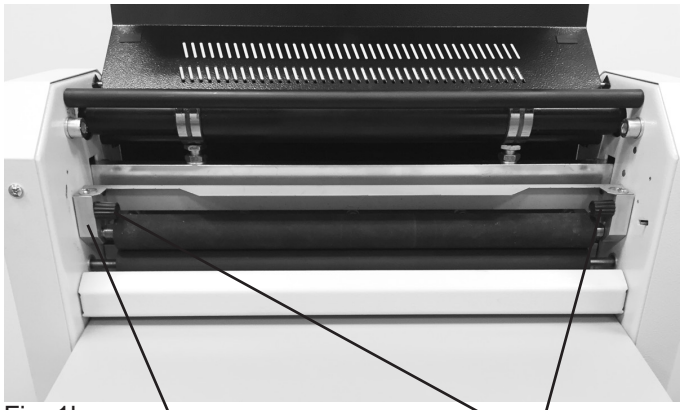


Fig. 1b

Hinged pressing mechanism

Locking screws

Fig. 1c

Clamp

Hexagonal screws

6. To perform a control upstroke, close the upper cover and power on the machine.

7. Press the “Move” icon on the Main screen (fig 2) and the following menu comes up – “Manual Control” (fig 3).

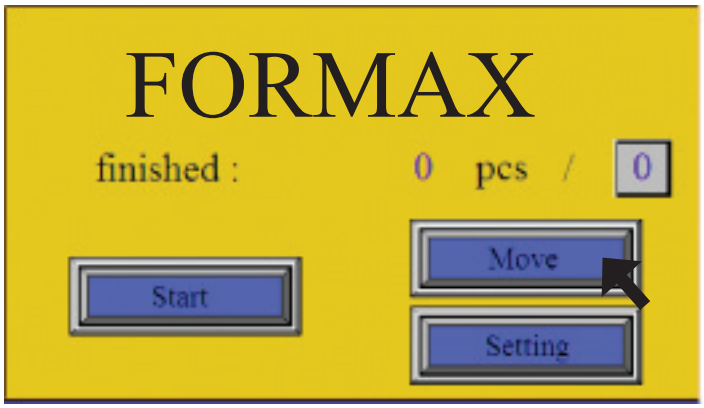


Fig. 2: Main Screen

8. From the “Manual control” screen press the “1 turn“ icon (fig 3) and the control upstroke will be carried out.

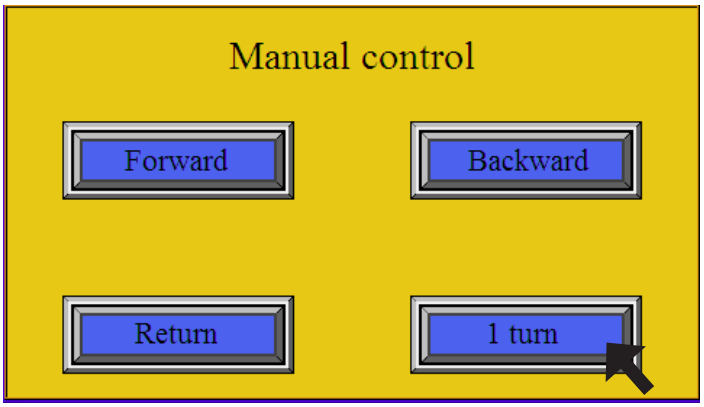


Fig. 3: Manual control

9. With the control upstroke completed, power off the machine and unplug it. Then completely tighten the hexagonal screws with the tool provided to secure the blade in position.

6. Finally, lower the pressing mechanism to its original position and replace the locking screws.

SETTING MACHINE USING TOUCH SCREEN

Language selection

1. After the power supply switch has been turned on, the display shows the main screen (fig. 4)

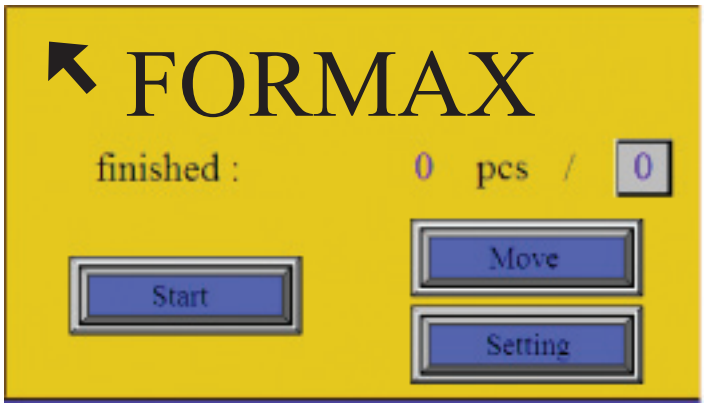


Fig. 4: The Main screen

2. There is a hidden icon in the left upper corner of the main screen. If you press this space a language menu appears (fig. 5).

   Press the icon for the required language. The display will now show the basic menu in the chosen language.

Fig. 5: Language selection

Counter Reset

1. To reset the counter, press the blue number to the left of the “pcs” icon on the main screen (fig. 6), which is the number of pieces of paper that have been processed. A keypad will appear. Key in the number “0” and confirm it by pressing “ENTER”. The Main screen menu will now read “0”.

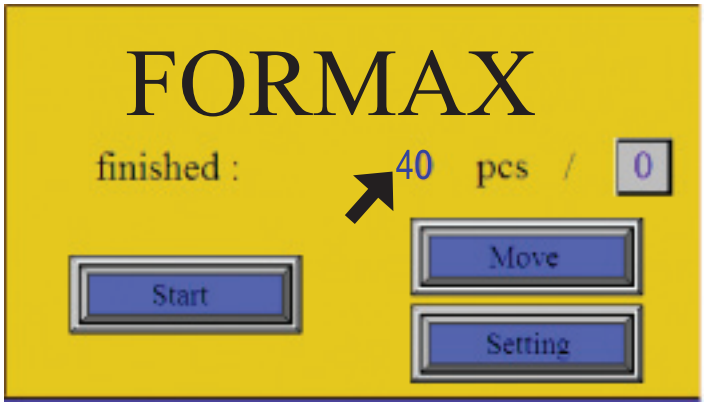


Fig. 6: Counter Reset

Setting the Number of Creases / Perforations

1. Pressing the numeric icon under “Number of creases” will display the numeric keypad. Key in the number of creases/perforations needed. The program allows up to 15 creases/perforations to be set. Confirm the number of segments by pressing the “Enter” key. The number of creases/perforations is now set (fig. 7).

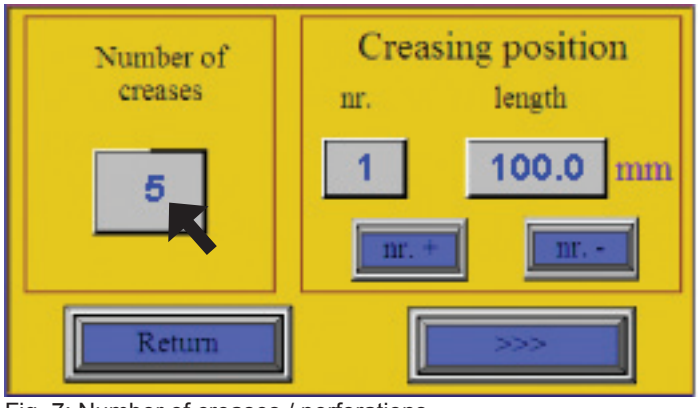


Fig. 7: Number of creases / perforations

Setting Position of Creases / Perforations

1. The position of the first crease/perforation is set as the distance from the leading edge of the sheet. The position of each following crease/perforation is defined as its distance from the previous crease/perforation. The “nr. +” and “nr. -” are used to select the next segment. Choose the segment number 1 then press the numeric icon under the word “length”. A numeric keypad will be displayed. Use the numeric keypad to set the distance from the edge of the sheet and press “Enter”. The position of the first segment is set. Choose the crease/perforation number 2 using the “nr. +” key then press the numeric icon under the word “length” again. Use the numeric keypad to set the distance from the first crease/perforation and press “Enter”. The second crease/perforation is set. Set all the remaining creases/perforations the same way. When all the creases/perforations are set, press the “Return” icon to go back to the main menu. The machine is now ready to process the task.

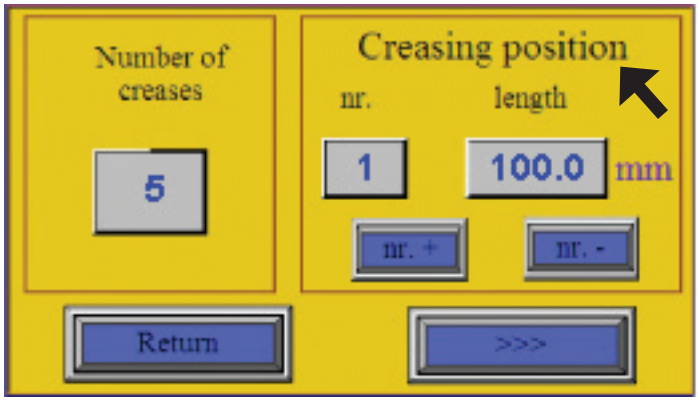


Fig. 8: Crease / perforation position

For example, figure 8 shows 5 creases, with crease # 1 at 100mm.

Special Types of Folds

1. Press the “Setting” button on the Main Menu to access the fold types. Press the “>>>” icon on the Setting screen to enter the screen where the common fold types are displayed (fig. 9). To utilize the most common folds it is necessary to crease in distances of 1/2, 1/3 or 1/4 of the paper. Press the appropriate icon to select one of the common fold types. For example, press the “1/2” icon, followed by “<<<”, “Return” and “Start” icons. The selected fold type icon will appear on the main screen (i.e. 1/2). Pass one sheet through the machine, its length is measured and 1/2 of the length is calculated. The screen changes to the Setting screen (fig. 9). The calculated length of the 1/2 is displayed in the “length” box. Then return to the main screen and press the “Start” icon. It is recommended to process only one sheet and check the position of the crease/perforation, and check whether the distance was measured correctly. If the crease is not precisely set to the required distance, return to the Setting screen and correct the distance manually. All other folds work the same way.

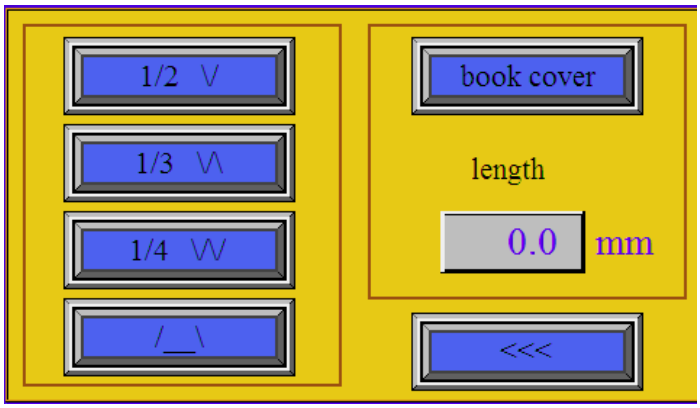


Fig. 9: Setting screen - most common fold types

Book Cover Setting

1. Among the fold types is a special function called book cover (fig. 9). The FD 230 is ideal for making professional book and brochure covers. Book cover is defined by 4 creases made in the middle of the sheet with fixed distances 6 mm between the first and second crease and third and fourth crease. The distance between the second and third crease is optional depending on the book thickness. This dimension is defined by the “length” icon below the book cover icon.

Saving and Loading Programs

1. The software allows up to 5 different jobs to be saved. The number and position of the segments is set according to the procedure described on page 7 “Setting the Number of Creases/Perforations”. After setting the required number of segments and their position the program can be saved. On the main screen press the number in the right side of the screen showing the program number (fig. 10a). The menu for saving and loading of a program (fig. 10b) appears.

   To **SAVE** a program, choose the number for the program using the keys “prg +” and “prg -” and press the “Save” icon. Press the “Return” key to go back to the main screen. The program is now saved.

   To **LOAD** a saved program, press the number in the right side of the screen showing the program number. Then choose the program number you want to load using the keys “prg +” and “prg -” and press the “Load” icon. Press the “Return” key to go back to the main screen. The machine is ready to operate according to the loaded program.

   Note: The screen displays the number of the last program saved or loaded. For more effective work the program can be changed without saving it. In this case, the number of the last program saved or loaded is still displayed, but the machine operates according to the operator’s last setting, even though this setting has not been saved. If the machine is turned off then turned on again, the machine operates according to the program displayed on the screen. The last unsaved setting is deleted.

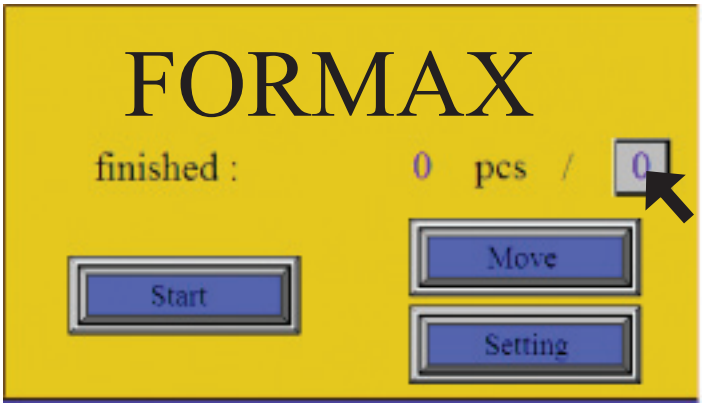


Fig. 10a: Saving and loading program

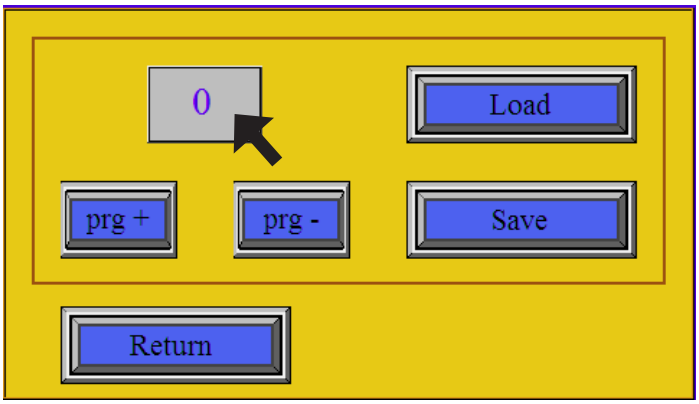


Fig. 10b: Saving and loading a program

Working Cycle

1. Choose a preset program or create a setting. First adjust the movable left side guide on the feeding table according to the paper size. Remove or add magnetic strips between the side guides which prevent paper from deflection. Then set the distance of the magnetic stop on the delivery table according to the paper size. Press the “Start” icon on the screen. The machine starts and the working cycle screen is displayed (fig. 11). A “Stop” icon and information about the number of processed sheets are displayed on the screen.

Fig. 11: Working cycle screen

2. Paper can now be fed into the machine. It is very important to do this accurately. When the machine is creasing or perforating the red diode on the main panel is on. More paper can be loaded in the machine after the red light changes to green again. The machine can be turned off by pressing the “Stop” button on the display. In case of an emergency press the red “STOP” button on the main panel.

Manual Control

1. When changing the tools it is necessary to carry out a testing upstroke (turn) to make sure that both tools are parallel, and also to make sure that either creasing or perforating tool is leaned against the slide. To do this press the “Move“ icon and the following menu comes up – “Manual control” (fig. 12).

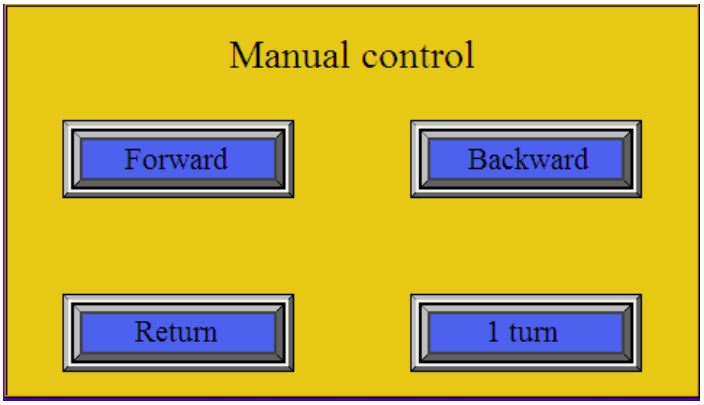


Fig. 12: Manual control

2. After activating the “1 turn” icon, the control upstroke is carried out. If the crease depth is not the same on both sides of the paper or the perforation does not result in direct separation of the paper, the ram can be adjusted with a perforation knife (fig. 13). This is done by using the adjusting screws . It is necessary to loosen the screws gradually by 1/6 of a turn (60°) to the left (slide goes down), then secure it with a nut. You should check the quality of perforation after each turn (60°). Continue until the desired quality is achieved. After the machine is adjusted for perforation, it is adjusted for creasing as well.

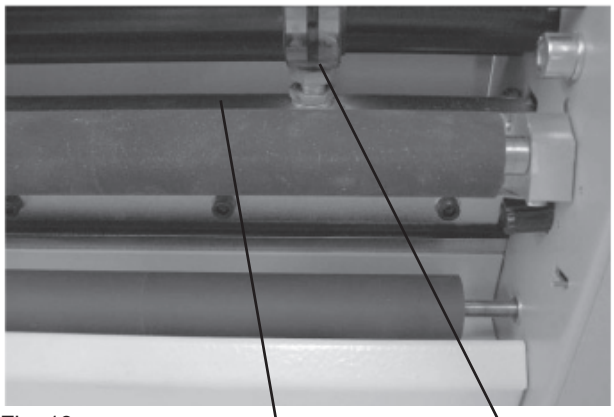


Fig. 13

Service menu

1. A hidden icon is located in the upper right corner of the main screen. This icon is there for a trained service technician. To access this icon you need to enter a password (fig. 14).

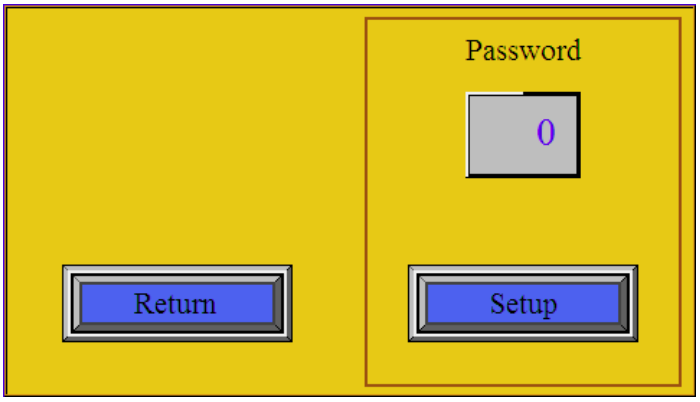


Fig. 14: Service Screen

TROUBLESHOOTING

a) Upstroke stoppage: If this problem occurs during adjusting and checking the upstroke of the ram it is necessary to turn the adjusting screws to the right by two turns (the ram goes up). When the upstroke cycle is finished, the red diode is on. Turn the machine off and back on. After the machine is turned back on the upstroke process should finish. It is necessary to readjust the ram.

b) Paper jam: If the paper gets jammed or damaged, it is necessary to stop the machine immediately (press the STOP button). After the machine has been stopped tap on the MOVE icon. Before the paper is removed it is necessary to carry out an upstroke (1 turn icon). Then press the Backward or Forward button depending on situation.

c) Crease is in incorrect position compared to values set on display
It is necessary to use the recommended creasing width channel for different paper thickness. If the inappropriate crease width is used (usually narrow creasing channel for thick paper) inaccuracies in the position of the crease may appear, the crease will be placed at different distances than what is set on the display. If the narrow crease channel is used with thick paper the paper will be pressed into the creasing channel, the rollers will start to slip trying to release the paper, in this case the wider crease channel should be used.