



# Operating Instructions

Issue no.

4

Sheets

35



## Automatic Creasing, Perforating and Punching Machine GPM 450 SPEED

### Warnings

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Valid from serial number

17123999

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## 1. INTRODUCTION

We are presenting you with Operating Instructions that contain machine technical data and instructions necessary for correct setting, machine start-up, operation and maintenance.

Instructions are intended for machine operation as well as for service engineers. People manipulating, installing and operating the machine should familiarise themselves with the instructions before they start. We would like to emphasize that service operations can be executed only by an authorized person with proper qualification. This person should be thoroughly familiar with control and all functions of the machine. Any repair done without authorization can lead to a breach of the warranty. We are referring to section 2.2 – Work Safety and Health Protection providing basic information about safety during work with the machine and an operator's health protection. Please pay due attention to this section. Be aware that the final responsibility lies with the individuals working with the machine.

The machine construction complies with the Directive 98/37/EC of the European Parliament and of the Council. If all the instructions in this document are respected, you will be satisfied with precision and performance of the machine.

We can assure you the machine received maximum care. Thoroughness of control ensures machine precision within the scope of the acceptance standards applicable for this machine. We believe these Operating Instructions will be a valuable guide for you.

## 2. SAFETY RISKS

### 2.1 Safety Warning

When using GPM 450 SPEED, all safety rules and procedures as well as all warnings regarding work safety and health protection listed in this document must be observed. Or otherwise, considering the bellow listed factors, a serious injury or death of a person, damage or destruction of the machine, its parts or accessories could occur.

#### Factors increasing risk:

- Rotating pulleys and moving belts
- Voltage
- Noise made during processing
- Moving parts of the machine and equipment
- Sharp edges created during processing
- Dust created during processing

### 2.2 General Work Safety and Health Protection

This section provides the user with basic information about work safety and health protection of an operator and all other people who come into contact with the machine.

If the GPM 450 SPEED is used correctly, it is a very safe machine. However, if used incorrectly, it can be dangerous. When operating the machine, the operator is responsible for their own personal safety. The manufacturer is not responsible for any injury to a person or damage to the machine caused by use or operation that is not in compliance with the Operating Instructions. The owner of the machine is responsible for the machine being operated, maintained and serviced only by qualified people.

The machine design is in compliance with international standards and regulations for construction of machine tools. For the machines exported to the European Economic Area (EEA), the customer will obtain "**Declaration of Conformity**" together with the accompanying technical documentation for the machine - Operating Instructions. The machine also has the CE marking.

The CE marking on the machinery signifies that the product complies with the technical requirements specified in all the legal regulations that apply to the machinery and that require or allow this marking. This marking also signifies that a specified procedure was followed during the assessment of the stated conformity.

With the document "Declaration of Conformity" the manufacturer certifies that the given machinery complies with the requirements of the Directive 98/37/ES of the European Parliament and of the Council and the harmonised technical standards. Directive 98/37/ES of the European Parliament and of the Council is a document defining the generally applicable basic requirements of the health protection and safety for the machinery operated by a user in the EEA.

The Directive 98/37/ES of the European Parliament and of the Council does not apply to the machinery exported to the countries outside the EEA.

The customer will receive the accompanying technical documentation for the machine – Operating Instructions. The manufacturer hereby asks the user to ensure comprehensive safety as directed by the relevant legal proceedings, standards and regulations, the Operating Instructions and other, by training the workers consistently.

The machine is intended for work in automatic cycles.

The machine operator monitors the process and the operating mode of the machine. Also replaces material with the new one and checks the measurements. Operator's position by the machine is not defined.

### **3. WARNINGS**

Only sheets of the size listed in the parameters can be creased and perforated in the creasing and perforating machine.

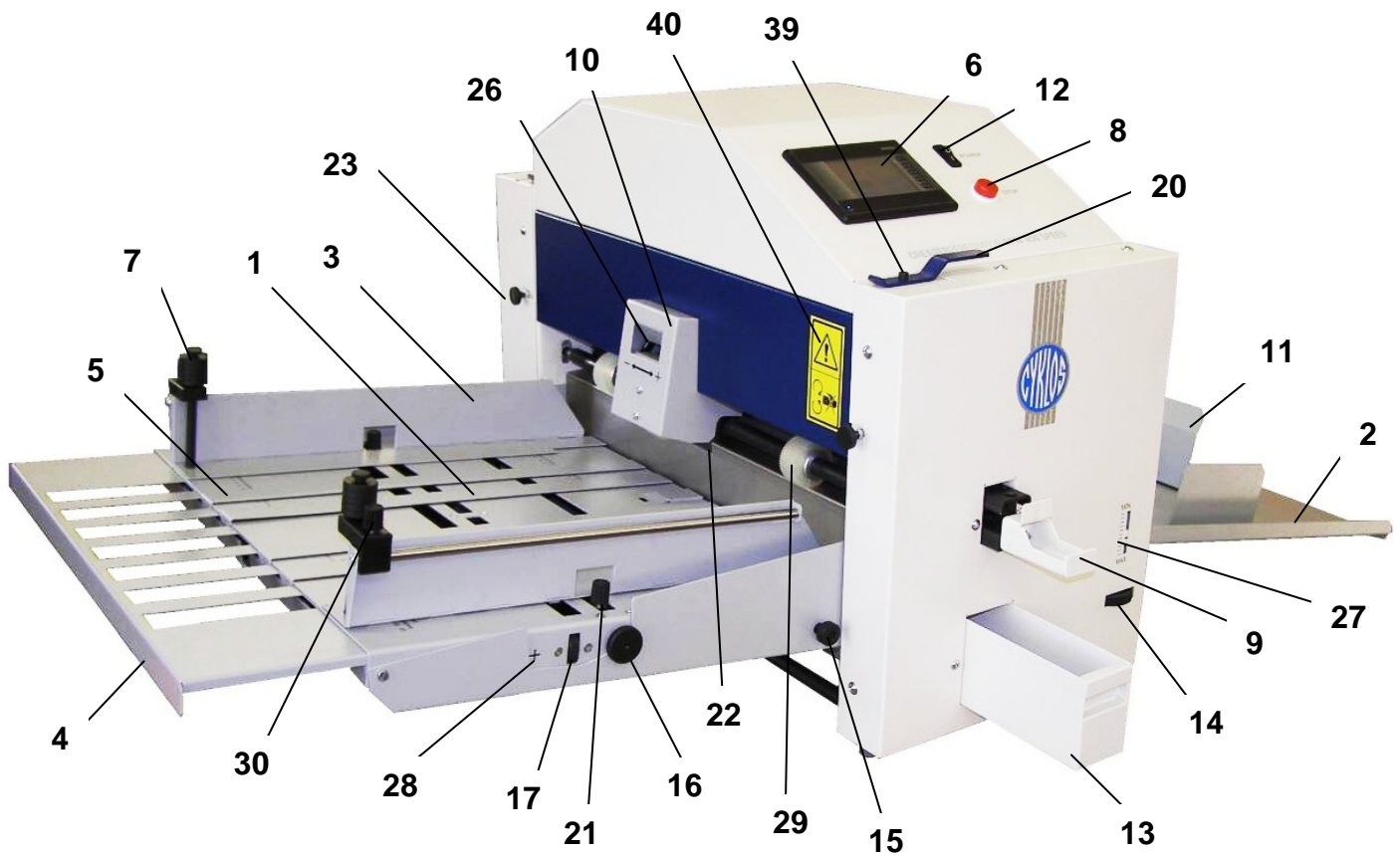
- a) It is forbidden to crease and perforate foils, sheet metal or other similar materials.
- b) The machine can be only used in enclosed spaces (e.g. offices, shops).
- c) It is forbidden to use the machine outdoors.
- d) It is forbidden to use the machine when the electric cord is damaged.
- e) It is forbidden to use the machine if it makes strange sounds.
- f) It is forbidden to plug the machine into other voltage than indicated on producer's identification plate.
- g) Read all instructions before using the machine.
- h) It is not suitable for children to be near the machine.
- i) It is forbidden to put fingers or hands into the machine when the electric cord is plugged in.
- j) When the machine is jammed, it is necessary to unplug the machine first and then troubleshoot.
- k) When replacing a faulty electrical component, it is forbidden to use a different type of component or different capacity component. When replacing a component, the electric cord must be unplugged.
- l) Covers can be only dismantled by a trained technician when the machine is unplugged.
- m) The operator or the person appointed for operation cannot use the machine unless they have been trained.
- n) The operator must pay special attention during manipulation with rotary parts of the machine – see yellow Warning Sign (Pos. 40, page 8).

## 4. TECHNICAL PARAMETERS

a) Max. working width	450 mm
b) Recommended paper grammage - creasing	80 - 400 g/m <sup>2</sup>
Recommended paper grammage - perforation	80 - 250 g/m <sup>2</sup>
Recommended paper grammage - punching	80 - 400 g/m <sup>2</sup>
c) Creasing width*	<b>CITO 1,0 mm</b> - paper thickness < 0,4 mm (mostly 80 - 200 gsm) <b>iron channel</b> - paper thickness 0,4 - 0,5 mm (mostly 200 - 400 g/m <sup>2</sup> )
d) Max. number of creases per sheet	15
e) Number of Programmes	9
f) Min. distance of creases	1 mm
g) Min. distance of crease from edge of the sheet	0 >
h) Speed	2.500 A4 sheets/ hr (with one crease)
i) Machine dimensions	1250 x 675 x 520 mm
j) Machine weight	net 120 kg, gross 157 kg (weight includes mobile table)
k) Voltage / frequency	230 V / 50-60 Hz
l) Power input, electric current	400 W, 1,0 A
m) Fuse	T3,15 A / 250V
n) Noise Level	79,2 dB

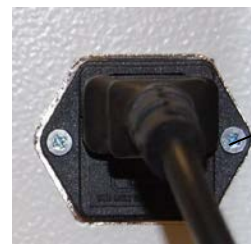
\* Note: It is necessary to respect recommended width of creasing channel for different paper thickness. If we use inappropriate width of crease (usually narrow creasing channel for thick paper) inaccuracies in position of crease may appear, crease will be placed in different distance than what we set on display. If we use thick paper in combination with narrow crease, the result is that the paper is pressed into the creasing channel, the rollers start to slip trying to release the paper. Use wider crease in such case.

## 5. MACHINE DESCRIPTION



- 1 – Front table
- 2 – Delivery table
- 3 – Front side guide
- 4 – Telescopic table
- 5 – Magnetic strip
- 6 – Display unit
- 7 – Paper brake + weight
- 8 – STOP button
- 9 – Disengaging tool
- 10 – Auxiliary feeding head
- 11 – Back stop
- 12 – Electric switch
- 13 – Waste drawer
- 14 – Table thrust regulation screw
- 15 – Table release

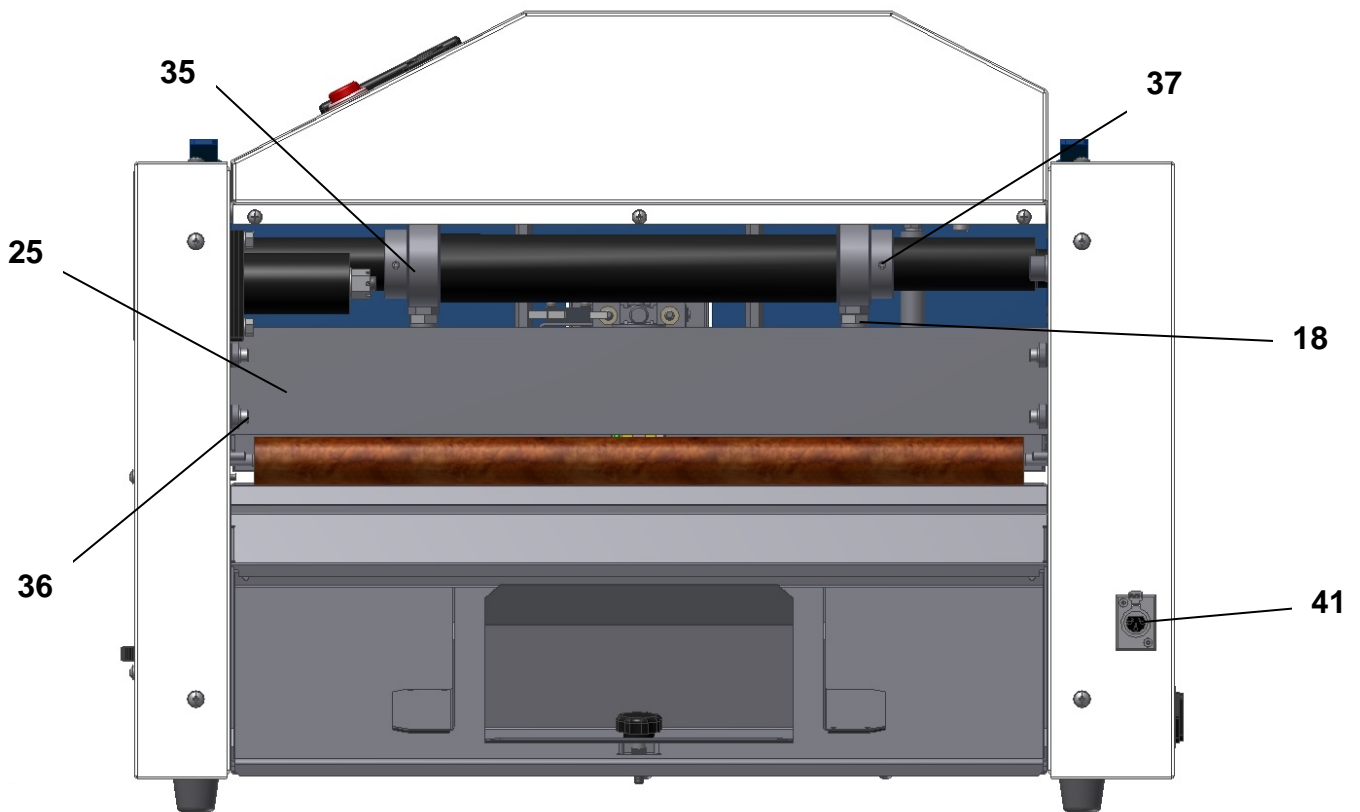
- 16 – Position regulation screw



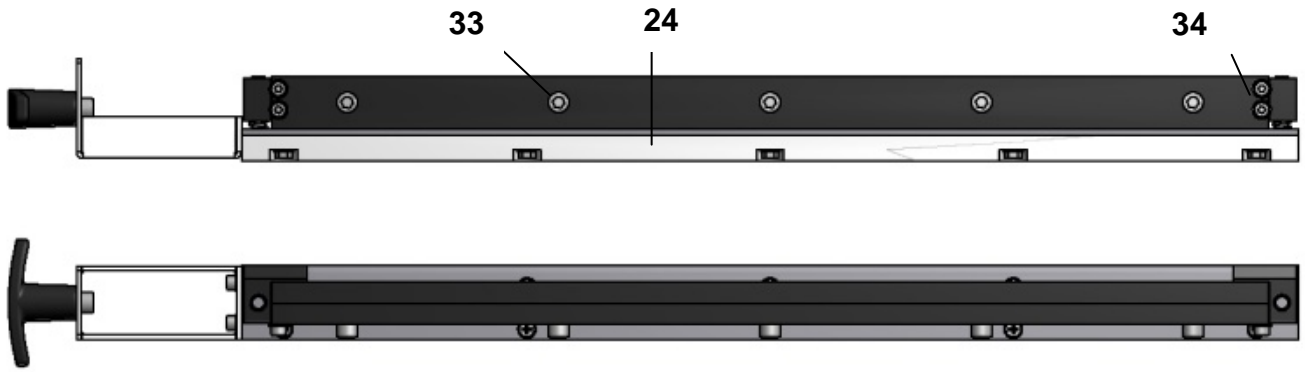
- 17 – Angle regulation screw
- 18 – Tool thrust regulation bolt 1)
- 19 – Plug socket
- 20 – Calliper
- 21 – Locking bolt of the side guide
- 22 – Separator
- 23 – Calliper locking
- 24 – Tool base (fig. 2)



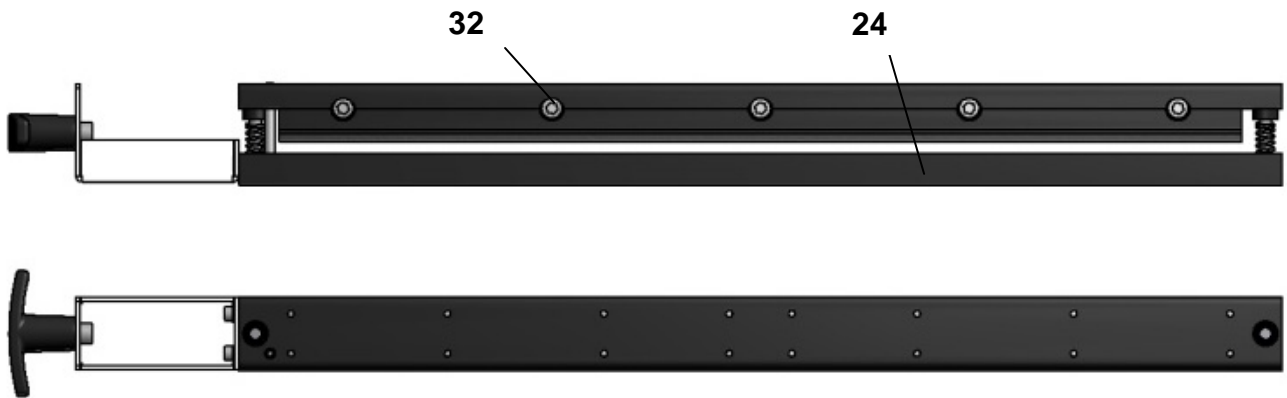
- 25 – Top bar (fig. 1)
- 26 – Head thrust regulator
- 27 – Front table thrust scale
- 28 – Skew indicator of the front side guide
- 29 – Auxiliary feeding wheel
- 30 – Locking bolt of the brakes
- 31 – Bolts for locking the machine on the table (fig. 5)
- 32 – Creasing tool screw M6x14 (fig. 3)
- 33 – Perforating tool screw M6x20 (fig. 2)
- 34 – Perforating tool screw M4x25 (fig. 2)
- 35 – Needle bearings of eccentric axis (fig. 1)
- 36 – Top bar bearings (fig. 1)
- 37 – Safety ring (fig. 1)
- 38 – Tool screw M4x5 (fig. 4)
- 39 – Fixing screw of calliper
- 40 – Warning Sign
- 41 – Connector plug for TriFold 360



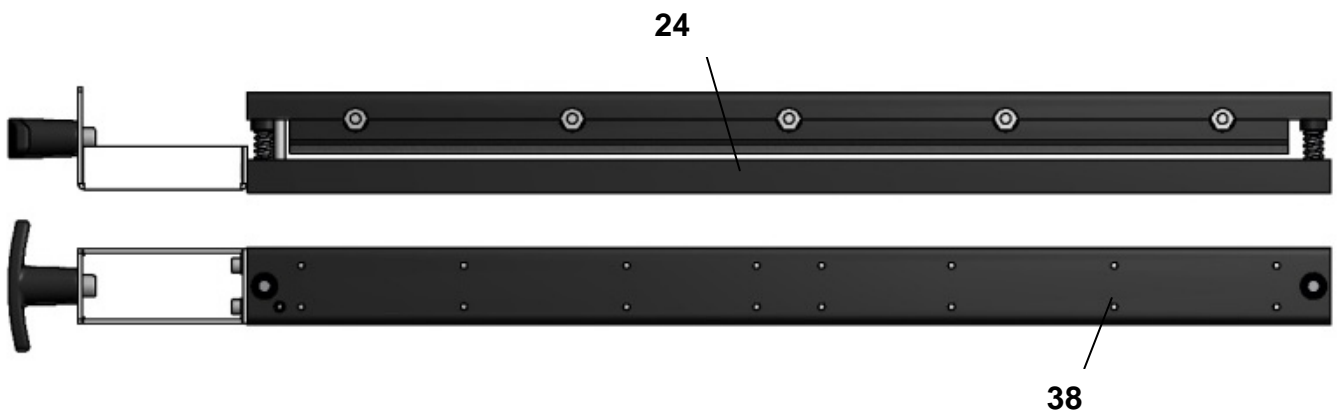
**Fig. 1:** Dismounted back cover



**Fig. 2:** Perforating tool 2:1- 9 TPI (571 40 465a) – standard equipment. Microperforating tool (571 40 464) as optional accessory.



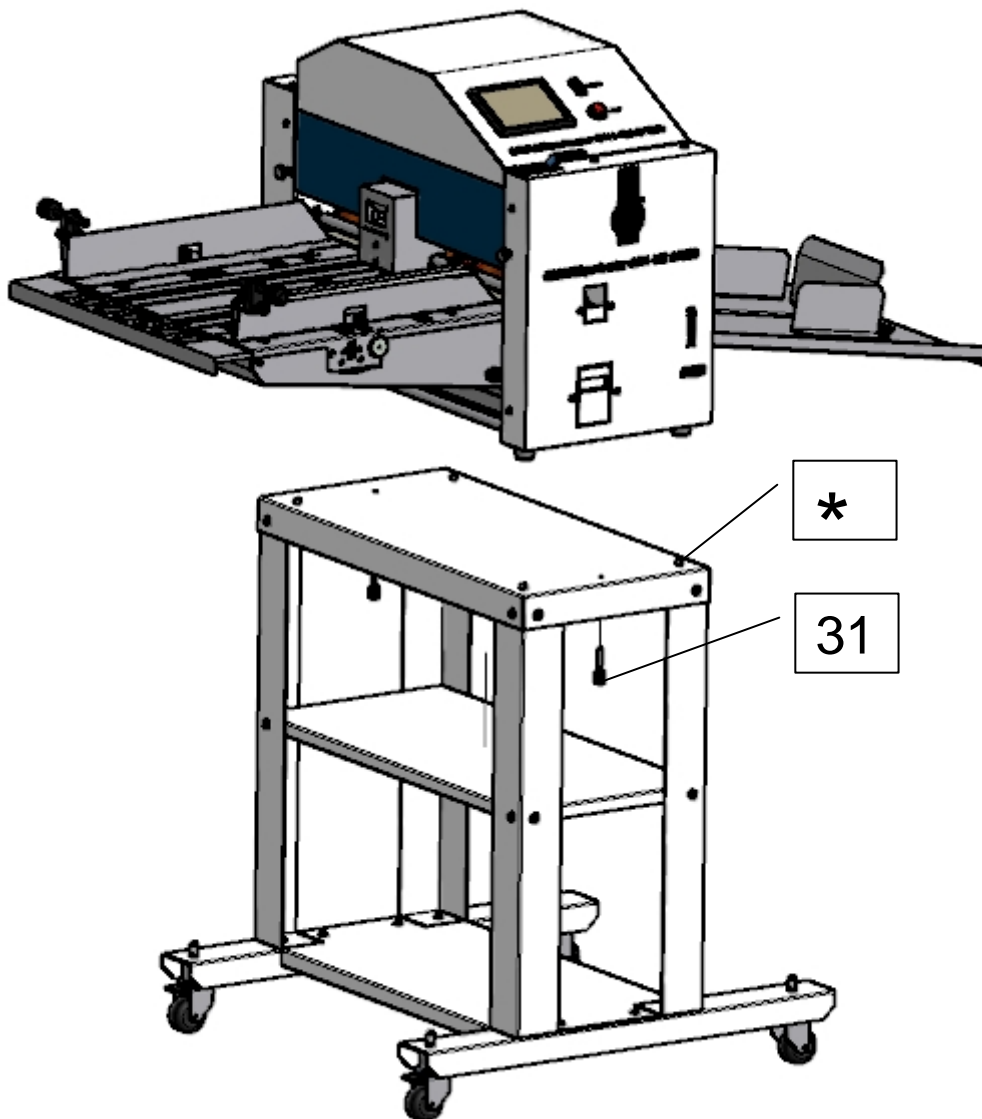
**Fig. 3:** Creasing tool CITO 1,0 mm (571 40 467) – standard equipment. Creasing tool CITO 1,4 mm (571 40 468) as optional accessory.



**Fig. 4:** Creasing tool – iron channel for higher grammage (570 40 466)

## 6. MACHINE INSTALLATION

When unpacked, place the machine on the table (See the Instructions for Table Assembly in Appendix 2). Place the machine on the table, so that the heads of the table bolts (\*) fit into the rubber legs of the machine. Lock the machine to the table with the bolts (31). The delivery table (2) can be fitted when the machine is locked. When plugged in, the machine is ready to operate. When the electric switch (12) is switched on, the display unit (6) will light up. Setting the machine using the touch screen is described in detail in Section 8.



*Fig. 5: Machine installation on the table*

## 7. ADJUSTMENT OF MACHINE AND FEEDING TABLE

### 7.1 Introduction

Electric automatic creasing and perforating machine serves for final processing of graphic material of the width up to 450 mm. Creasing allows easy folding of the paper and that's why it is convenient to use the machine in combination with a folding module. No-waste perforation enables you to tear the paper easily. The default setting has been done for all types of tools. To change the function of the machine it is necessary to exchange the tool (placed by the manufacturer into the waste drawer – 13). Unplug the machine, take out the tool (9) and replace with the required tool. To replace the cutters in the tools loosen the tool screws (32, 33, 34, 38). Replace the cutter and fit the tool back. Tighten the tool screws (32, 33) lightly. Then place the tool into the machine and perform a trial stroke to ensure the cutter and the tool base (24) are parallel. Other settings are done through the display unit – *Section 8.8*

### 7.2 Adjustment of Table

Place the angle regulation screw (17) in to the initial position, so that the front side guides (3) are perpendicular to the tool. The initial position of the angle regulation screw (17) can be checked on the skew indicator of the front side guide (30) – the back movable part of the indicator must be vertical and aligned with the cross mark. Set the table thrust regulation screw (14) to minimum thrust. Ready the table into the lower locked position. Lock the table by pressing the right and left edge of the table simultaneously with your palms (fig. 6).



**Fig. 6:** Pressing the table before paper is loaded

The table automatically locks in the lower position. Tilt the paper brakes (7) outward. Loosen the locking bolts of the side guides (21). Set the front side guides (3) approximately for the paper format size, so that the position of the sheet is symmetrical with the centre of the feeding table. Rulers on the feeding table serve for exact adjustment of the side guides (3). Place the magnetic strips (5) on the feeding table between the front side guides (3) – two or four strips (5) according to the paper format. The magnetic strips (5) prevent the paper on the feeding table from corrugating and improve the feeding function (fig. 7).



**Fig. 7:** Correctly prepared table – even placement of the magnetic strips (position 5).



**Fig. 8:** Incorrectly prepared table – absence of the magnetic strips (position 5) leads to the paper deformation.

Place 2 – 3 sheets to be processed on the feeding table. Push the sheets to the stainless steel plate, so that they are collinear (fig. 9). This ensures the sheets are perpendicular to the tool. Push the side guides (3) towards each other, so that there is a minimum gap between them and the sheets. Caution! This adjustment has a great impact on correct paper feeding into the machine. If the processed paper is not perfectly perpendicular, correct this inaccuracy by skewing the side guides (3) using the angle regulation screw (17). Lock the adjusted position with the locking bolts of the side guides (21). Correct and incorrect procedure is shown in figures 9 and 10.



**Fig. 9:** Correctly prepared table – the sheet has been pushed to the stainless steel plate



**Fig. 10:** Incorrectly prepared table – the sheet has not been pushed to the stainless steel plate along its whole length

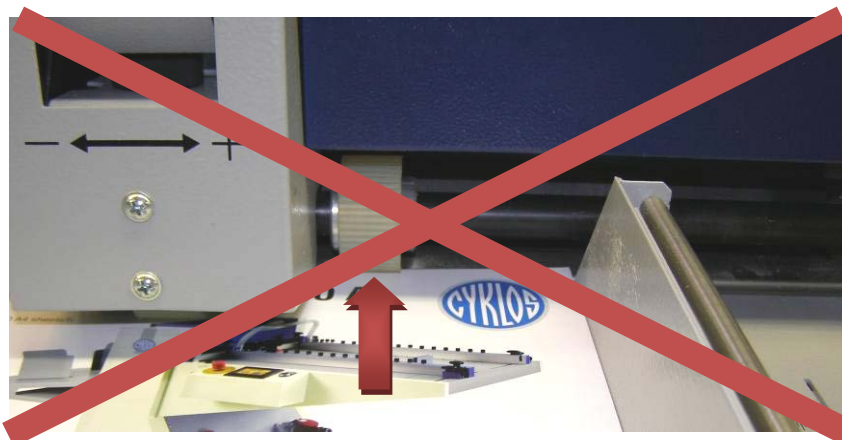
Adjust the auxiliary feeding wheels (29) to the edge of the sheet and secure with the setscrew. For adjustment use the Allen “T” key size 2. When the wheels are adjusted, tighten the setscrews, so that the wheels do not spin on the axle. Correct and incorrect procedure is shown in figures 11 to 14. Incorrect adjustment of the auxiliary feeding wheels (figures 13, 14) can affect precision of paper feeding.



**Fig. 11:** Adjusting the feeding wheels (position 29) with the Allen “T” key



**Fig. 12:** Correct adjustment of the feeding wheels



**Fig. 13:** Incorrect adjustment of the feeding wheels – they are placed too far from the side guide








**Fig. 14:** Incorrect adjustment of the feeding wheels – they are placed behind the side guide

### 7.2.1 Adjustment of Feeding Table Thrust

Release the feeding table by pressing the table release button (15) and set the table thrust regulation screw (14) to minimum thrust. In "SETTING" Screen (Fig. 20) hold **MOVE ROLLERS** key with one hand and at the same time use your second hand to gradually increase the feeding table thrust with the table thrust regulation screw (14) until the feeding wheels has fed the sheet into the machine. The minimum feeding table thrust is now set. Do not increase the feeding table thrust when not necessary, to eliminate possible tracks on paper caused by the feeding wheel. The table thrust scale (27) helps you to adjust the thrust precisely. Especially for the lower paper grammage, it is better to use less thrust, so as not to deform paper.

### 7.2.2 Correct Placement of Paper Pile

When the table thrust is correctly adjusted, the feeding table can be loaded with a pile of paper up to the maximum capacity of the feeding table. The pile of paper to be processed must be leafed through properly before it is placed on to the table to minimize the possibility of feeding several sheets at once. The sheets must be fed into the machine individually. Ideally, there is approx. a 2 mm gap between the sheets. The sheets cannot overlap when fed into the machine. If the sheets overlap, tilt the paper brakes (7) down onto the end of the sheet – approx. 1 to 2 cm from the end of the sheet. First tilt the paper brakes (7) without weight, then increase it gradually until the sheets are fed into the machine individually with approx. a 2 mm gap. Do not increase the weight on the paper brakes to eliminate possible tracks on the paper caused by the feeding wheel and by the wheel of the auxiliary feeding head. After adjustment lock the paper brakes (7) with the locking bolt of the brakes (32). Now press the **START** . Ideally, if the feeding table is adjusted correctly, the auxiliary feeding head (10) is not working and the sheets are fed into the machine only by the friction system.

If the machine feeds two or more sheets at once, the machine must be stopped immediately by pressing „STOP" (8). The sheets that have been fed into the machine must be taken out using the "MANUAL CONTROL" Screen () and icons   by **MOVE ROLLERS** (Section 8.8). If the cycle was interrupted when the tool stopped in the lower position, it is necessary to return the tool into the top position using the **UPPER TOOL** icon  from the "MANUAL CONTROL" Screen.





**Fig. 15:** Example of correct placement of paper pile



**Fig. 16:** Example of incorrect setting of table thrust – too much thrust for the low paper grammage

### 7.2.3 Function of Auxiliary Feeding Head

Paper feeding is influenced by many external factors. They are humidity, static electricity, type of print, etc. If for any reason the middle feeding wheel does not feed paper into the machine, the sensor inside the machine immediately activates the auxiliary feeding head that will slide the sheet under the feeding wheels. Set the thrust of the auxiliary head (10) to minimum with the head thrust regulator (28). Do not increase the feeding wheel thrust when not necessary, to eliminate possible tracks on paper caused by the feeding wheel.

### 7.2.4 Adjustment of Callipers

Always place a piece of paper that you are going to process under the callipers (20). Placement of correct paper grammage will define an optimum gap between the wheel of auxiliary feeding head (10) and the separator (22). This decreases wear of the friction feed system and also eliminates possible tracks on paper caused by the feeding wheels. Place the paper cutting under the callipers by pulling the calliper lever. The calliper automatically locks in the upper position. Place the paper cutting under the callipers and unlock the calliper locking (23) by pulling. The gap between the auxiliary head wheel and the separator is now defined.



**Fig. 17:** Pulling callipers to the upper position



**Fig. 18:** Defining the gap of the friction feed system by placing paper under the callipers

If the machine has been adjusted correctly, but the friction feed system is not able to feed paper into the machine correctly, or the feeding wheels are damaging the print (there is a distinct track from the feeding wheel on the sheet), you can disable the friction feed, change the automatic mode to the semi-automatic and feed paper into the machine manually.

### **Semi-automatic Mode**

Lift the callipers (20) until the calliper locker (23) is activated and the callipers remain locked in the upper position. The change of position of the callipers disables friction feed system, which enables us to manually feed the sheet directly between the feeding rollers. Then the automatic feed must be turned off (*Section 8.8.2 Turning Off Automatic Feed*). The machine is now in the semi-automatic mode.

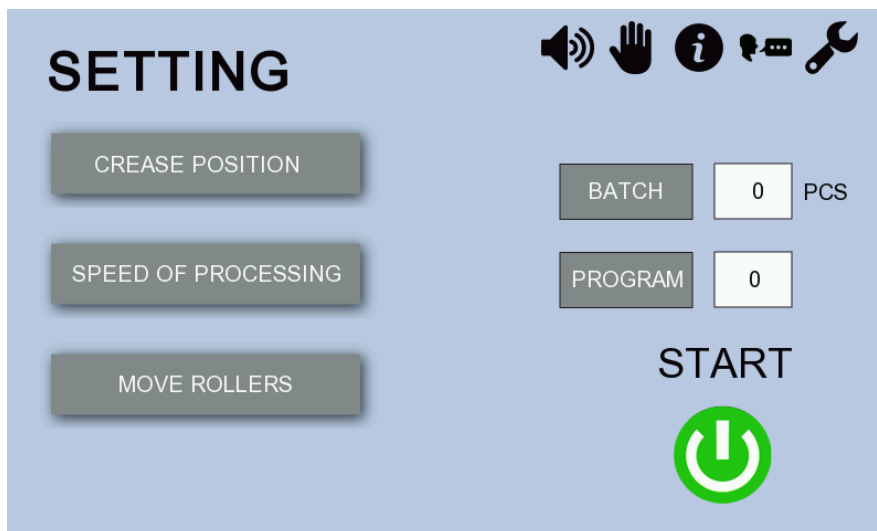
## 8. SETTING MACHINE USING TOUCH SCREEN

### 8.1 Display Unit Preview and "SETTING" Screen



**Fig. 19:** Start-up Screen



When the electric switch (4) is turned on, the Start-up Screen (Fig. 13) displays on the touch screen showing the machine's name and picture. After a few seconds this screen automatically changes to the "SETTING" screen.



**Fig. 20:** "SETTING" Screen

### 8.2 Overview of Touch Screen Function Icons


#### 8.2.1 Sound On/Off

Press  to turn on/off the sound signal for key pressing. If the sound is on, there will be a beep when the active areas on the touch screen are pressed. If the sound is off,  appears.

### 8.2.2 Manual Control

Press  to display the "MANUAL CONTROL" screen, see Section 8.8

### 8.2.3 Info

Press  to display the information screen. The data are approximate. Press **OK** to go back to the "SETTING" screen.

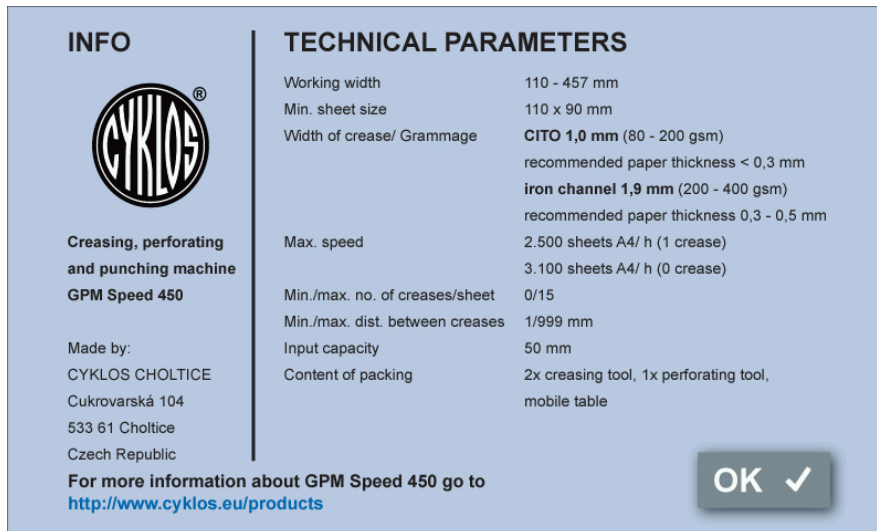


Fig. 21: "INFO" Screen



### 8.2.4 Language Selection

Press  to display the language selection screen and choose the language.

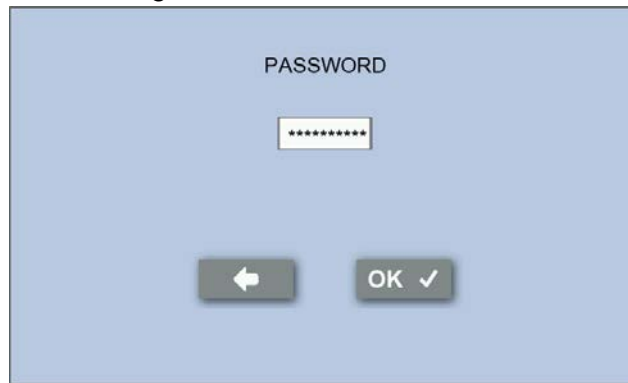


Fig. 22: "LANGUAGES" Screen

### 8.2.5 Service Menu

Press  to display the "SERVICE MENU" screen. This menu is password-protected and accessible only to the manufacturer's (distributor's) service engineers. If you do not know the password, press  to return to

the “SETTING” screen (Fig. 17a). Entering the correct password and confirming by **OK** displays the “SERVICE MENU” screen. Press **OK** to go back to the “SETTING” screen.



**Fig. 23a:** “SERVICE MENU” Screen – Password

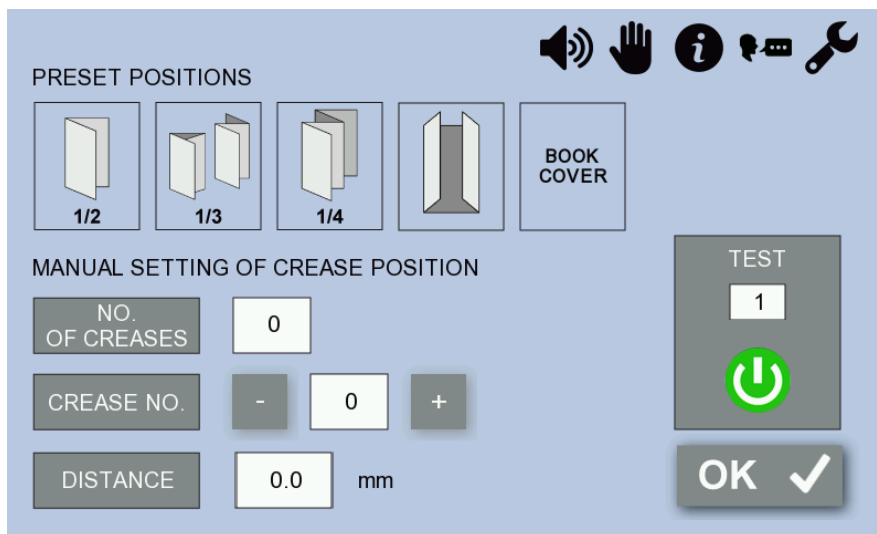


**Fig. 23b:** “SERVICE MENU” Screen

*Note: Description of service screen is not part of this document because this screen is not accessible to end user.*

### 8.3 Setting Number and Position of Creases/Perforations

Press **CREASE POSITION** on the “SETTING” screen (Fig. 20) to display the following menu.



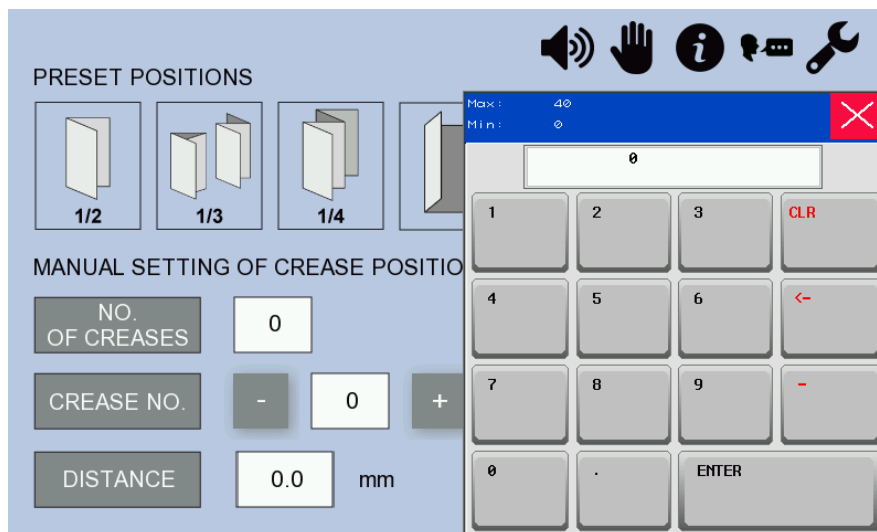
**Fig. 24:** “CREASE POSITION” Screen

### 8.3.1 Most Common Folds

The most commonly used folds are created by placing the crease at exactly defined relative distances of  $1/2$ ,  $1/3$  or  $1/4$  of the paper. The most common creases are easily set by pressing the corresponding button. First, place the required sheet of paper to be creased on the feeding table. Then press **1/2** (proceed similarly for other types of fold). A single sheet is run through the machine without creasing; the machine measures the sheet and saves the sheet length in the memory. Values are displayed in their respective fields when the sheet has passed through. Then start the test by pressing . Use the field over to enter the number of test sheets if required; the default value is 1. During the test the screen shows the sheets yet to be processed in the test. Once the test is completed, it is recommended to check the measured length before processing the rest of the batch. If the crease is not precisely at the required distance, correct the distance manually. Then press **OK** to return to the “SETTING” screen (Fig. 20) and press **START** to run the working process.

### 8.3.2 Setting the Number of Segments

Press the numeric icon next to the **NO. OF CREASES** field on the touch screen to display the numeric keypad (Fig. 25). By pressing the relevant digit, the number of crease/perforation/punch lines (segments) is set. You can set as many as 0 – 15 segments. Setting 0 makes the paper just pass through the machine. Selection of the number of segments is ended by pressing the **ENTER** key. The number of segments is now set.



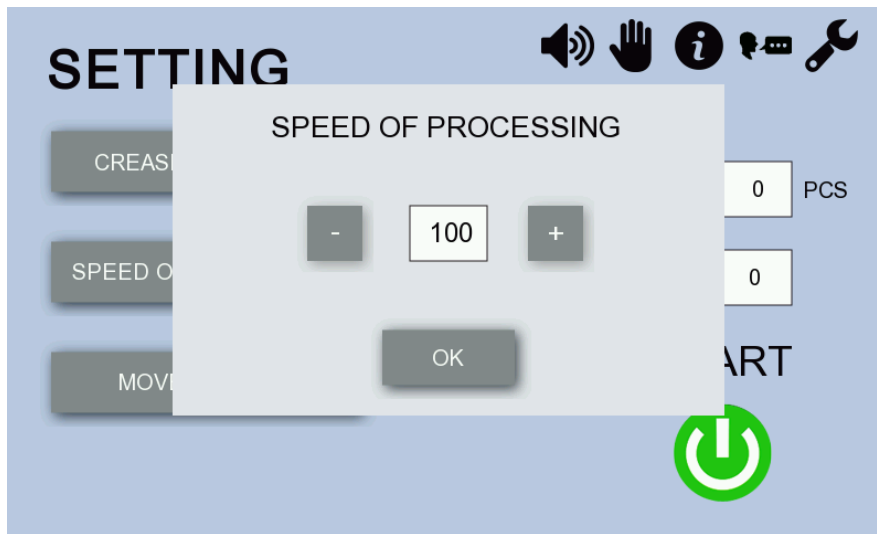
**Fig. 25:** Numeric Keypad Screen

### 8.3.3 Setting the Position of Segments

The position of the first segment is set as the distance from the edge of the sheet. The position of each following segment is defined as its distance from the previous segment. Use the **+** and **-** keys to choose the required segment. Select 1 in the numeric field next to **CREASE NO.** and this activates the **DISTANCE** numeric icon. A numeric keypad is now 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. Using the **+** key choose segment number 2 and then press the numeric icon under **DISTANCE** again. Use the numeric keypad to set the distance from the first segment and press **ENTER**. The second segment is set. Set all the remaining segments in the same way. Press to run a test after you have set all segments.

## 8.4 Setting the Speed of Processing

Press **SPEED OF PROCESSING** on the “SETTING” screen (Fig. 20) to display the following menu.






**Fig. 26:** “SPEED OF PROCESSING” Screen

Change speed by using the **+** and **-** keys. Minimum and maximum values: 50 and 100, respectively. The default value is 100, which means 100% speed of the machine (2,500 A4 sheets per hour). The maximum speed can be reduced by half. Low speeds are suitable for processing papers complicated to feed or using multiple rotary tools on the shaft. When you have finished the setting, press **OK** to confirm.

## 8.5 Setting Batch

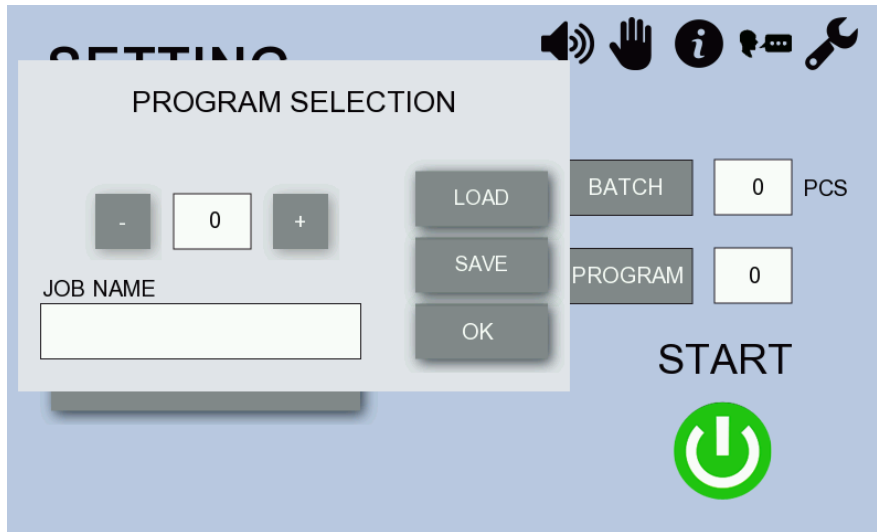
Press the numeric icon next to the field **BATCH** on the “SETTING” screen (Fig. 20) to display numeric keypad. Use the numeric keypad to set the batch (= the number of sheets to be processed by the machine in a single cycle) and press **ENTER** to confirm. Enter **0** if you wish to switch the batch off. Batch processing may be interrupted in three ways:

1. The machine is stopped by pressing the **STOP**  on the touch screen. The touch screen shows both the total batch and the number of sheets already processed. When you restart the machine by pressing the **START** , the machine goes on to process the remaining sheets in the batch.
2. Press **STOP** (8) to stop the machine. The touch screen shows only the total batch and the value showing the number sheets already processed in the batch is reset to zero. If you press the **START**  to restart the machine, the machine processes the batch from the beginning.
3. The machine is switched off using the electric switch (12), or by disconnecting the power supply. When the machine is switched on again, the batch is not displayed and must be entered anew.

It is also possible to change the batch straight in the Working Screen (Section 8.7, Fig. 29).

## 8.6 Program Saving and Loading

The software allows saving 9 different programs. The values set on the “CREASE POSITION” Screen are saved under a program number. Once the feeding and crease position values are set following the instructions in Sections 8.3, you can go on to save the program. Press the numeric icon next to the field **PROGRAM** on the “SETTING” screen (Fig. 20). The program saving and loading menu (Fig. 27) is displayed. Use the **+** and **-** keys to list values between **0** and **9**. You can save your jobs under **1 – 9**; value **0** indicates no program is saved in the memory.





**Fig. 27:** “PROGRAM SAVING AND LOADING” Screen

Press **SAVE** if you have your job ready and wish to save it. In the **JOB NAME** field you may enter up to 24 characters to name the program you wish to save. The field changes along with the program number. Press **OK** to go back to the “SETTING” screen. The program is saved and displayed on the “SETTING” screen.

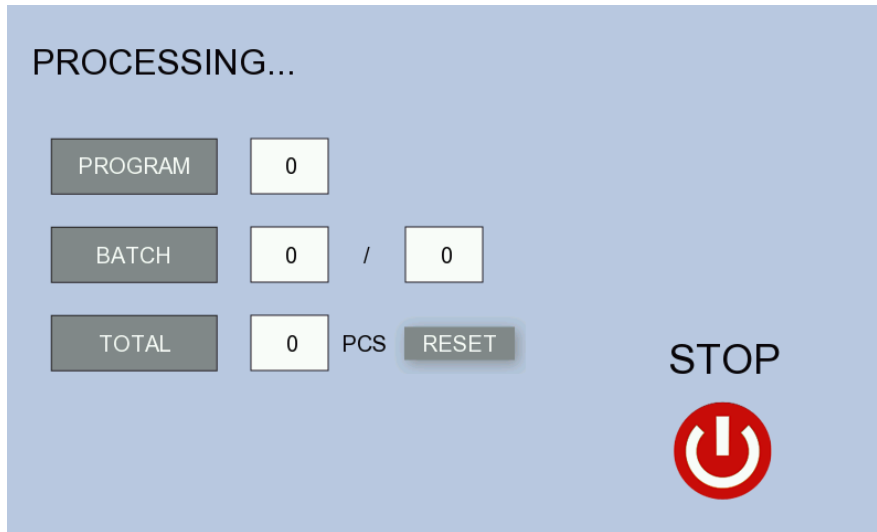
Load the program in a similar manner. Use **+** and **-** to choose a saved program you wish to load. Press **LOAD**. Press **OK** to go back to the “SETTING” screen. The number of the loaded program is displayed next to the **PROGRAM** field. The machine is ready to operate according to this program.

**Warning:** The touch screen displays the number of the last program saved or loaded. For the sake of effectiveness, the operator can change this program by a different program without saving it. In such 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 and then turned on again by the electric switch, the machine operates according to the program displayed on the touch screen. The last unsaved setting is deleted.


## 8.7 Starting Working Cycle

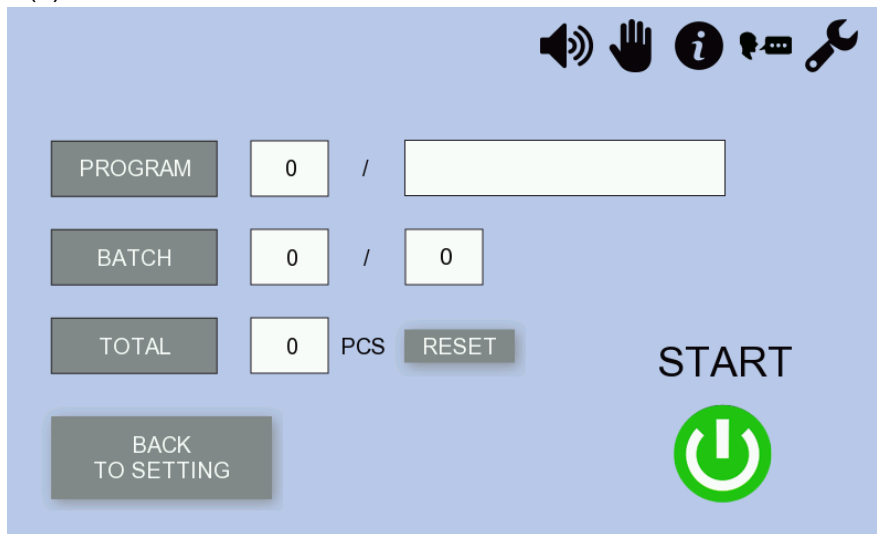
Adjust the feeding table (1) according to the instructions in Section 7.2. There must be minimum gap between the side guides and the pile of paper. The machine is constructed for pile of paper 50 mm high. Press the table release (15). Paper is pushed into the feeding head (10). Lower the paper brake (7) onto the end of paper. Adjust the distance of the back stop (11) on the delivery table (2) according to the size of the sheet. Press **START**  on the touch screen (Fig. 20). The machine starts running and the touch screen switches to the “WORKING CYCLE” screen (Fig. 28). The **STOP** icon  and information about the program, the batch and the number of processed sheets are displayed on the touch screen.






**Fig. 28:** “WORKING CYCLE” Screen








The feeding wheels (29) start feeding sheets of paper into the machine. Do not load another pile of paper onto the feeding table until the machine has processed the last paper, which automatically ends the working cycle and the “WORKING CYCLE” Screen is displayed (Fig. 29). The working cycle can be interrupted manually by pressing **STOP** . In case of emergency the machine can be switched off with the big red **STOP** button (8).

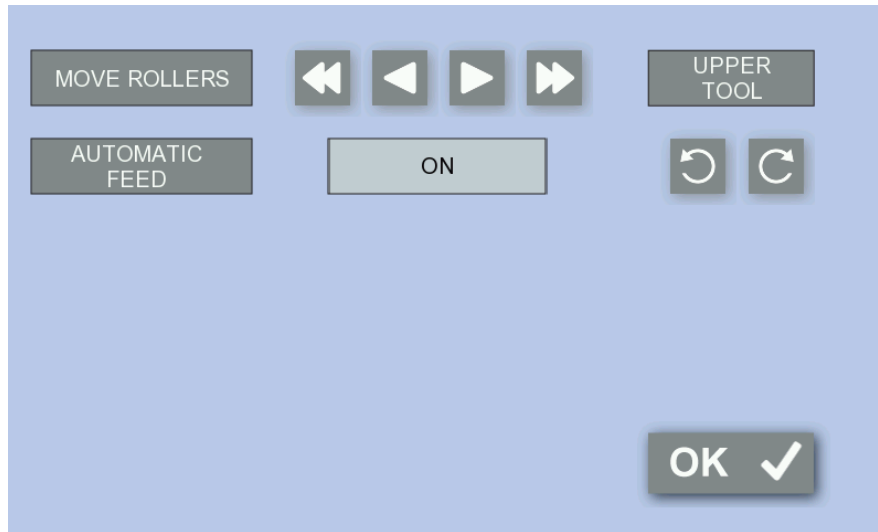


**Fig. 29:** Working Screen

If the processing runs as you wish and you want to continue the job, replenish paper on the front table and press **START** . If you need to correct the job, press **BACK TO SETTING**.

### 8.8 Manual Control

Manual control is mostly used when replacing the tools or when loosening jammed paper from the machine. Press  (manual control) on the “SETTING” Screen (Fig. 20) and the following menu is displayed (Fig. 30). Press the move forward/backward icons ,  next to the **MOVE ROLLERS** field to set the machine’s rollers running. Icons  and  define the continuity of the run of the rollers.  – rollers are turning only if the arrow is held.  – rollers start running and rotate until the icon is pressed again.



**Fig. 30:** “MANUAL CONTROL” Screen

Use ↶ (tool backwards) under the **UPPER TOOL** field if the perforation/creasing force gets too high and the top bar (25) remains in the lower position. Press ↷ to unlock the tool and adjust the thrust by using the tool thrust regulation screws (18). Activate ↶ (tool forwards) to make a trial stroke. Refer to Section 8.8.1 for how to use the icons of the **UPPER TOOL** field. Press **OK** to go back to the “SETTING” screen.

*Note: We recommend lifting the callipers to the upper position when releasing the paper.*

### 8.8.1 Adjustment of Top Bar Stroke

In case the depth of a crease is not the same on both sides of the sheet or the sheet is not torn away evenly after perforation, the top bar (25) can be adjusted down using the regulation bolts (18). The bolts should be loosened anti-clockwise gradually by 1/12 (30°) of the revolution (the bar moves downwards) and then secure them with nuts. Try the quality of perforation after each turning of the bolt by 30° and if it is good, do not turn the bolts more. When adjustment of perforation is finished, the machine is also adjusted for creasing. If the perforation/creasing thrust is overdone, the engine power is exceeded and the top bar (25) remains in the lower position. The machine must be switched off and then switched on again after approx. 20 s. Press 🖐 (manual control) on the “SETTING” Screen and then icon ↶ and ↷ in the end. The tool is now unlocked and the thrust can be adjusted by the regulation bolts (18).

### 8.8.2 Turning Off Automatic Feed

Automatic feed is on by default. The automatic feed is turned off by pressing the **ON** icon placed under the **AUTOMATIC FEED** key. After pressing **ON**, the warning “**Caution! Adjust callipers**” is displayed (Fig. 31). The warning appears in order to lift and lock the callipers (20) in the upper position (Section 7.2.4). This will change the machine from automatic to semi-automatic. This way of setting is to be used in case paper is not fed into the machine correctly. When the machine is in this setting, feeds paper manually sheet by sheet (similarly with the GPM 450 SA machine).



**Fig. 31:** "CALLIPERS" Screen

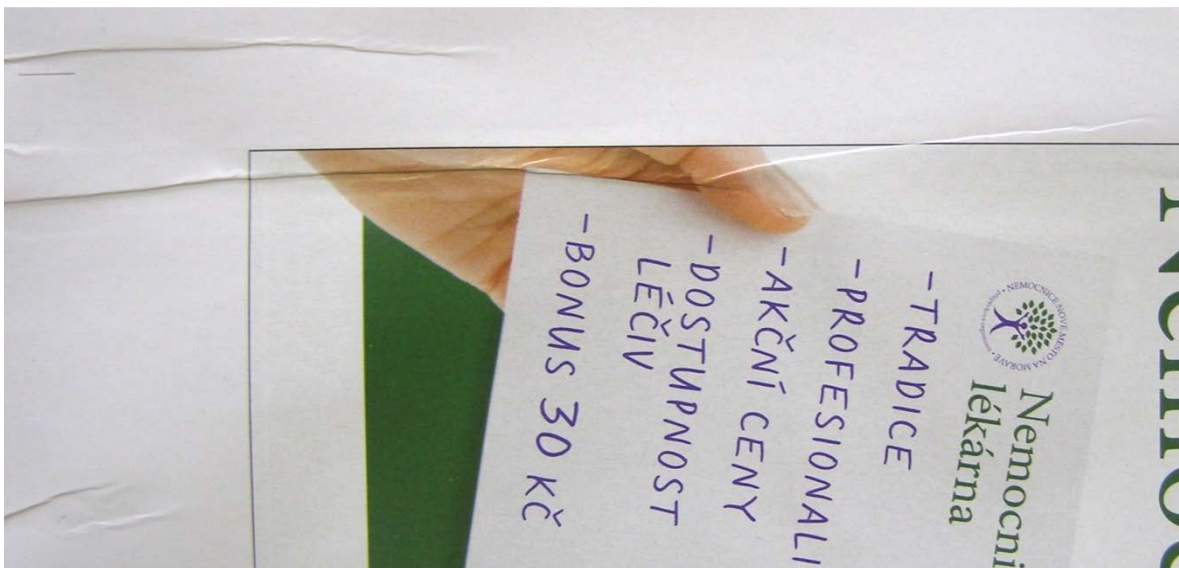
## 9. THE MOST COMMON FAULTS (TROUBLESHOOTING)

### 1) Crinkled paper

- The paper gets crinkled, especially paper of lower paper grammage, because there is too much thrust of the feeding system on paper during feeding into the machine fig. 32 and fig. 33.

Troubleshoot in following steps:

- Insert processed paper under the callipers.
- Decrease the feeding table thrust using the table thrust regulation screw (14).



**Fig. 32:** Example of crinkled paper 1



Fig. 33: Example of crinkled paper 2

## 2) The "start" key cannot be pressed

- There is no paper on the feeding table or the paper is not pushed close to the stainless steel plate and the feeding table sensor cannot sense paper.

## 3) The auxiliary feeding head is not working

- The automatic feed is off (Section 8.8.2).

## 4) Paper jammed inside the machine

- Paper can be released entering the "MANUAL CONTROL" Screen (🖱️), using MOVE ROLLERS icons (◀ ▶) – Section 8.8
- If this does not help, take out the tool and try to release paper again using the "Forward" and "Backward" functions.
- If paper is stuck behind the rollers, open the front and back blue covers and release paper manually.

## 5) Uneven perforation (creasing)

- See the section 8.8.1 Adjustment of top bar stroke.

## 6) The feeding wheel leaves distinct track on paper

- Adjust the feeding table thrust, see Section 7.2.1.
- Reduce the weight on the paper brakes, see Section 7.2.2.
- Adjust the thrust of the auxiliary feeding head, see Section 7.2.3.

## 7) The feeding wheels are rotating but paper is not being fed


- Ensure the callipers are unlocked.
- Ensure the paper cutting under the calliper is the same as paper on the feeding table.
- Regulate the feeding table thrust, see Section 7.2.1.
- Loosen the side guides, the paper pile is pressed too tightly.

## 8) The keys on the display unit are not working

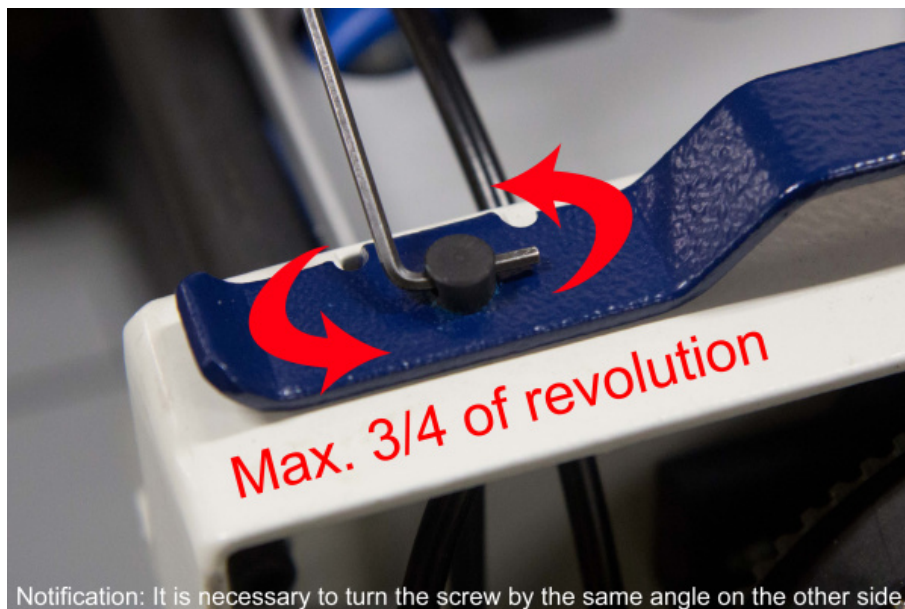
- Reset the machine (turn it off and then on again).

**9) Paper is folded askew**

- Check the position of the side guides on the feeding table. If necessary, adjust the side guides using the angle regulation screw, see Section 7.2.
- Paper on the feeding table is bent. Use the magnetic strips to straighten paper, see Section 7.2.1.
- The gap between the side guides and the paper pile is too big, see Section 7.2.1.
- The auxiliary feeding wheels are not in the correct position, see Section 7.2.1.

**10)** If **START**  doesn't react and nothing happens while processing black or dark paper very likely sensor on feeding table struggles to detect the paper. It is necessary to place on the top of the pile one sheet of white or light paper.

**11)** After several months of use feeding wheels may wear down. If this happens the machine tends to feed doubles because the gap between middle feeding wheel and separator (22) gets wider. The machine feeds properly if the gap is between 0,05 and 0,1 mm. It is possible to prolong the lifespan of feeding wheels by moving the shaft with the wheels downward. To do so we need to turn the fixing screw of calliper (39) counter clockwise. Maximum turn is 3/4 of revolution. It is necessary to turn both screws on both sides of the machine equally!



**Fig. 34:** Turn the fixing screw of calliper and move the shaft with feeding wheel downward. This will reduce the gap between main feeding wheel and separator.



**Fig. 35:** The gap between feeding wheel and separator must be 0,05 – 0,1 mm wide.

## **10. RECOMMENDED MACHINE MAINTENANCE**

Clean the machine from dust particles after each job using for example pressured air.

Lubricate the top bar (position 25) bearings (position 36) with a suitable bearing lubricant once a year.

## **11. MACHINE DISPOSAL**

When the lifetime period is over, it is forbidden to dispose of the machine into the common waste. The machine must be disassembled and metallic, non-metallic, plastic, rubber and electronic parts sorted.

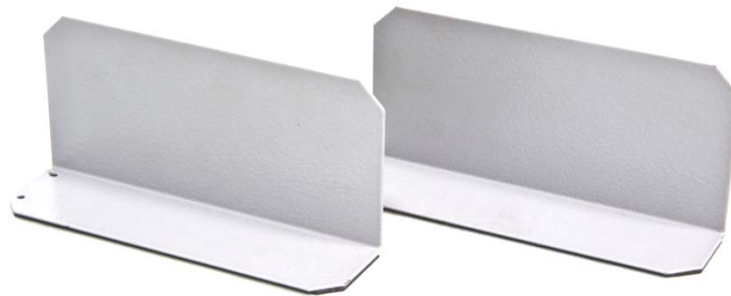
These parts are disposed of in the relevant points of recycling. Some parts of the machine can contain dangerous substances that are harmful to the environment and health.

## APPENDIX 1: ACCESSORIES

571 40 467	Creasing tool (CITO channel 1.0 mm)	1 pc
571 40 466	Creasing tool (iron channel)	1 pc
571 40 465a	Perforating tool 2:1	1 pc



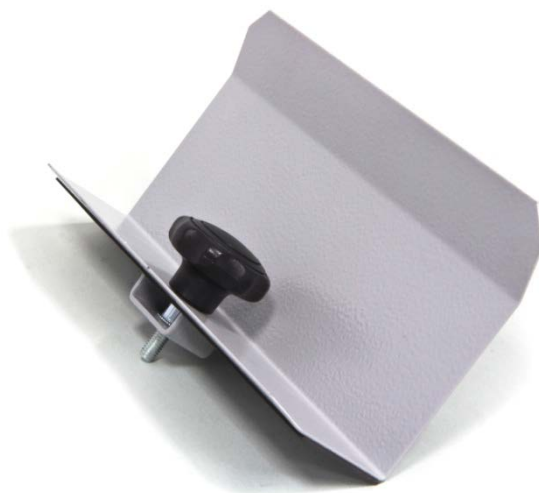
571 49 884	Back side stop	2 pcs
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571 49 737	Magnetic strip	4 pcs
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571 49 885	Back side guide	1 pc
571 49 886	Side guide fastening	1 pc
321 00 020/0	Bolt VZJ40 M6x30	1 pc



571 46 262	Delivery table	1 pc
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580 49 240	Safety bolt	2 pcs
309 10 381/2	Bolt M6x14 VS	24 pcs
309 10 278/2	Bolt M6x12 VS	4 pcs



**2 x**

**24 x**

**4 x**

413 00 007/0	Allen key size 2	1 pc
413 00 012/0	Allen key size 3	1 pc
413 00 002/0	Allen key size 4	1 pc
413 00 008/0	Allen key size 5	1 pc

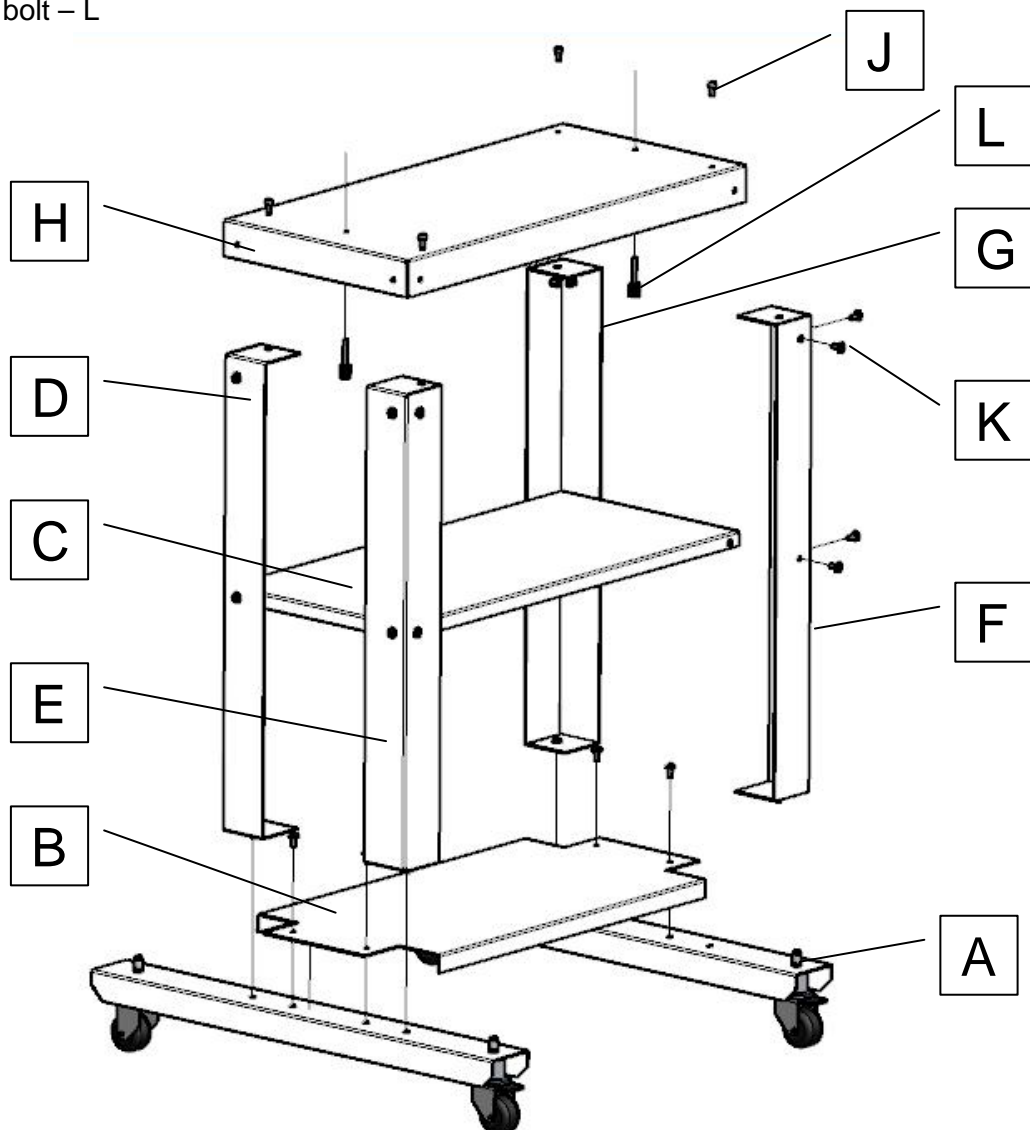


345 00 226/0	Power cable	1 pc
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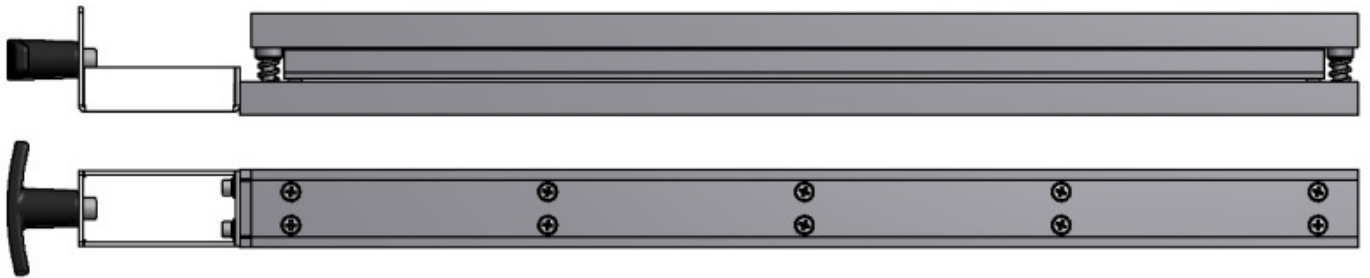


## APPENDIX 2: INSTRUCTIONS FOR TABLE ASSEMBLY

- Base + wheels – A
- Bottom – B
- Shelf – C
- Leg 1 – D
- Leg 2 – E
- Leg 3 – F
- Leg 4 – G
- Top – H
- Bolt M6x12 – J
- Bolt M6x14 – K
- Machine locking bolt – L



## APPENDIX 3: OPTIONAL ACCESSORY



1. *Punching tool for wire binding – square 4 x 4, 3:1 (571 40 462)*



2. *Punching tool for wire binding – square 4 x 4, 2:1 (571 40 508)*



3. *Punching tool for wire binding – round, 3:1 (571 40 475)*



4. *Punching tool for wire binding with calendar semi-circle – square 4 x 4, 3:1 (571 40 463)*



5. *Punching tool for wire binding with calendar semi-circle – round, 3:1 (571 40 476)*



6. *Microperforating tool 30 TPI (571 40 464)*

