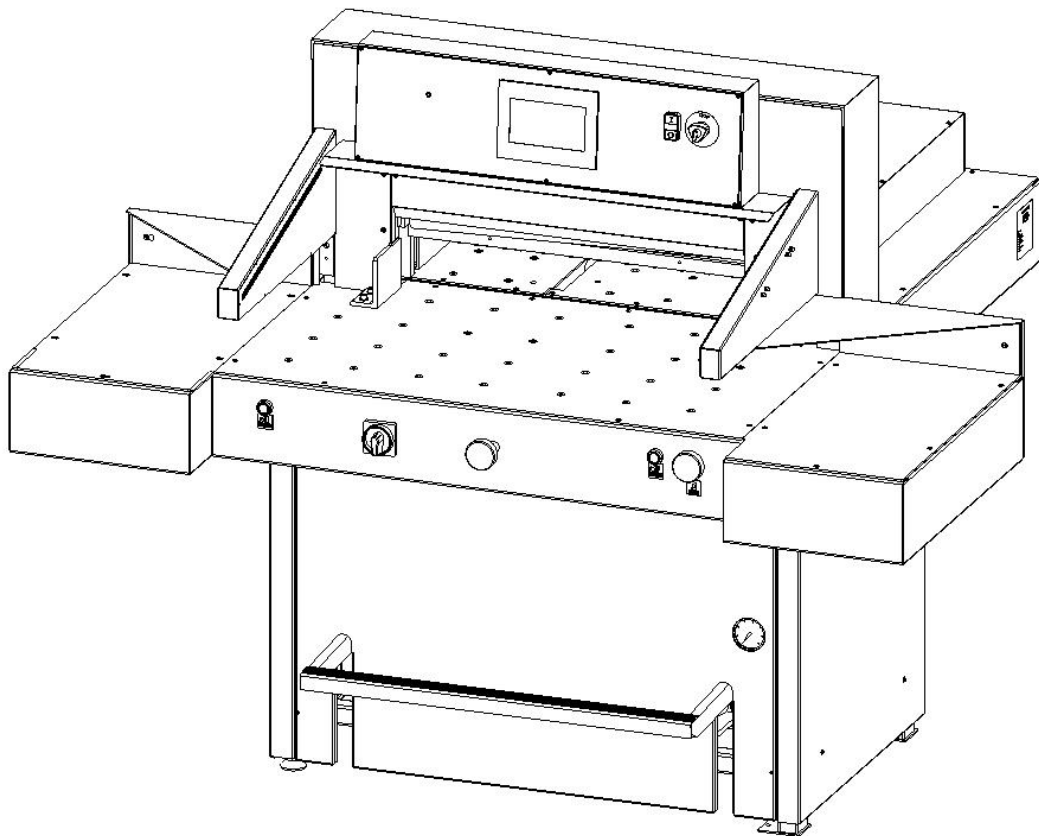




**7310 EPSHP**

# **Single Knife Paper Cutter Operation Manual**



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## IDENTIFICATION

Machine type: Single knife paper cutter

Item: INT-GU-07310EPSHP

# EC-Conformity Declaration

## Konformitätserklärung

Certificate of Conformity  
Attestation de Conformité  
Certificado de Conformidad



|   |   |
|---|---|
| Bezeichnung der Maschine:   | <b>Papierschneider</b>  |
| Type of machine:  | Guillotine  |
| Description de la machine:  | Guillotine  |
| Descripción de la máquina:  | Guillotina  |
| Modell / Model / Modèle / Modelo  | <b>intimus 7310 EPSH Powercut</b>   |
| Artikel-Nr. / item number /<br>numéro d'article / número de la pieza:       | INT-GU-07310EPSHP   |
| Baujahr / year of manufacture /<br>année de production / año de producción: | siehe Typenschild / see name plate / voir plaque<br>d'identification / mirar la placa de identificación |

Hiermit wird bestätigt, dass vorgenanntes Produkt den Anforderungen **Maschinen-Richtlinie 2006/42/EG**, der **Niederspannungs-Richtlinie 2014/35/EG** sowie der **EMV-Richtlinie 2014/30/EG** einschließlich allen bis heute veröffentlichten Änderungen bzw. Nachträgen entspricht. Das vorgenannte Produkt entspricht folgenden harmonisierten bzw. nationalen Normen:

We do hereby certify that the above mentioned product meets the requirements set forth in **EEC-Guidelines 2006/42**, in **EEC-Low-Voltage-Directive 2014/35** and **EMC 2014/30/EEC** including all changes and addendums to date thereto. The above mentioned product meets the following harmonized and national standards:

Nous vous confirmons que le produit cité ci-dessus correspond aux **exigences des directives 2006/42/CEE**, aux directives de basse tension **2014/35/CEE** ainsi qu'à la directive **CEM 2014/30/CEE**, ci-inclus toutes les modifications ainsi que tous les suppléments publiés jusqu'à ce jour. Le produit mentionné correspond aux normes citées ci-après:

Confirmamos que los productos arriba citados cumplen las exigencias de las **directivas 2006/42/CEE** y de las directivas de baja tensión **2014/35/CEE** y **CEM 2014/30/CEE**, incluidas todas las modificaciones publicadas hasta la fecha. Los productos citados corresponden con las siguientes normas:

**Harmonisierte Normen / harmonized standards**  
**normes harmonisées / normas armonizadas**


|            |                |
|------------|----------------|
| EN 1010-1  | EN 61496-1     |
| EN 1010-3  | EN 61496-3     |
| EN 60204-1 | EN ISO 12100-1 |
| EN 55014-1 | EN ISO 12100-2 |
| EN 55014-2 |                |

CE-Bevollmächtigter / authorized person of CE / personne autorisée de la CE / persona autorizada por CE:  
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2021/04

  
**Ulrich Niedermeier**  
 CTO  
 (Chief Technical Officer)

# 1. GENERAL INFORMATION

- This operator manual introduces the machine for the user and shows what for the machine was designed for to enable safe and comfortable work on the machine
- Inside the manual there are listed special safety requirements necessary to use the product
- The manual should be stored near the machine and secured from lost or damage
- The operator should read the manual before using the machine with special focus on chapter "Safety rules"
- The manual should be accessible by operator at any time and read carefully by all the machine operators

It refers to:

I. Operation and first installation

II. Troubleshooting of workflow

III. Maintenance (service, repairs) and transportation

- In addition to the manual operator should keep general safety norms and local, national health and safety requirements. The employer is also obliged to train the staff properly to operate the machine in harmony to the manual.

## 1.1 Identification

The Single knife paper cutter is marked with nameplate sticker located on the right side of the guillotine 1 (figure. 1)

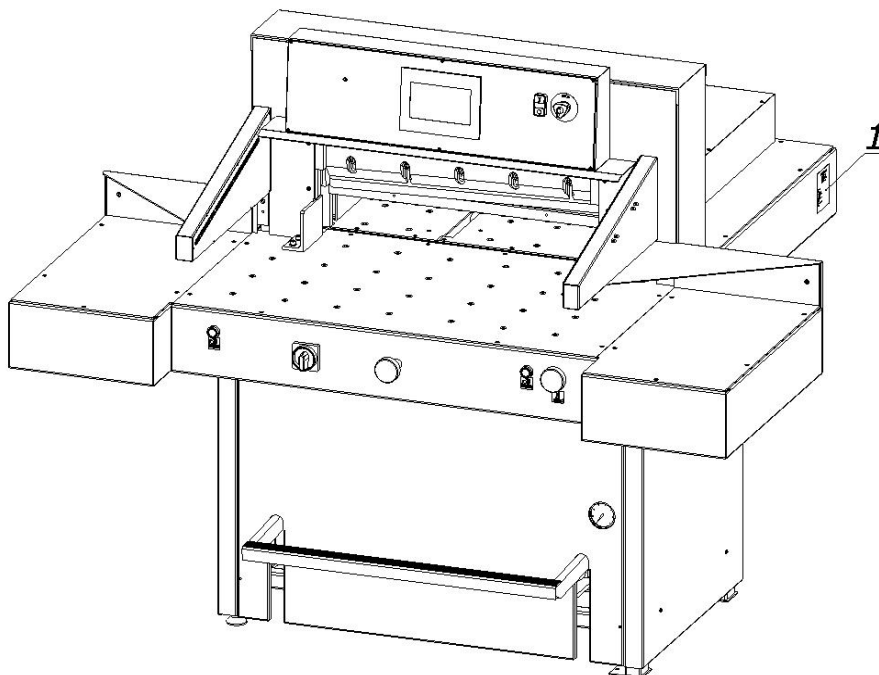


Figure 1

After the machine purchase in is suggested to check the serial numbers of machine nameplate with purchase documents.

## 1.2 Purpose of use

This Single knife cutter is designed for cutting to requested dimension reams of paper, cardboard and other materials like pvc, plastics, fiber, foils, lamination and rubber etc. It is mainly used by printing houses, print finishing specialists, copy shops and offices. In case of some materials (like ex. plastics) it is recommended to use smaller ream than maximum designed (to be consulted with manufacturer). The machine must be used according to the rules given in operator manual and conditions as assemble, disassemble, reassemble, installation, controlling and maintenance should be respected.

### **Danger of damage in case of wrong usage!**

- **operator is fully responsible for any damages caused by incorrect using of the machine!**
- **the machine is designed only for purposes given in this manual by the manufacturer!**

## 1.3 Documentation

- This instruction manual is part of the product.
- The operation manual is not the service manual.
- Only use original spare parts.
- The illustrations in the operating instructions may differ from the actual state of the machine
- The types of auxiliaries indicated in the operating instructions, such as oils, lubricants, etc. refer to the means available on the market at the time of the instruction.
- Always keep the complete technical documentation close to the machine.
- We recommend that you carefully read this user manual before using the cutter.

## 1.4 Introduction

The manual contains special information about the machine's safety devices. Keep the operating instructions close to the workplace and secure them against loss or damage. In addition to the instructions, you must also follow the generally accepted standards and applicable national regulations for occupational safety and accident prevention. The employer is also obliged to adequately train service staff in accordance with the instructions. Each operator must confirm the receipt of the operating instructions and undertake in writing to comply with them. This requirement is necessary for the operator to start operating the machine.

## 2. SAFETY OF USE

The mechanical, electrical and electronic cutter assemblies were made according to state-of-the-art solutions and generally accepted technical rules that ensure safety in the event of a failure. Appropriate safeguards provide the operator with the highest level of security.

The use of accessories or accessories that have not been mounted, delivered or manufactured by the cutter manufacturer requires a special permission from the manufacturer. Otherwise, the warranty becomes void and the manufacturer is not responsible for any damage or injury.

This requirement also applies to spare parts used during the necessary repairs!

Repairs may only be carried out by employees who have been appropriately trained by the cutter's manufacturer. In the event of repairs carried out by unauthorized personnel, the warranty granted to the device expires and exempts the manufacturer from any liability for injuries or damage.

- **The machine warranty expires if the machine is modified by the user.**
- **Modification of the device by the user releases the supplier and the manufacturer from any liability**

Despite the measures taken, operating the machine by insufficiently trained staff or trained in the wrong way can pose a danger.

Every person involved in the assembly, commissioning, operation, maintenance and servicing of the machine must read the operating instructions, in particular the chapter "Safety of use".

**Despite the obligation to read and understand the safety rules at the time of installation of the new slicer, knowledge of these rules should be repeated periodically!**








**Possible consequences of improper handling:**

- **Danger to life**
- **Danger of injury**
- **Danger of damage to the machine**
- **Deterioration of the technical condition of the machine causing production stoppages**



## 2.1 Symbols: meaning and application

Table 1: Symbols meaning

|   |  |
|---|--|
|    | <ul style="list-style-type: none"> <li>• Read operator manual</li> <li>• Respect operator manual</li> <li>• INFORMATION</li> </ul>   |
|    | <ul style="list-style-type: none"> <li>• WARNING!</li> <li>• Risk of machine damage</li> <li>• Risk of deterioration of technical condition of machine</li> </ul>          |
|    | <ul style="list-style-type: none"> <li>• CAUTION! DANGER!</li> <li>• Danger to life</li> <li>• Danger of body damage</li> </ul>  |
|   | <ul style="list-style-type: none"> <li>• Dangerous electrical voltage!</li> </ul>  |
|    | <ul style="list-style-type: none"> <li>• Children must not operate the device!</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Do not put hands underneath the knife!</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>• Do not leave knives unattended</li> <li>• Do not remove or transport knives without covers!</li> <li>• Risk of injury!</li> </ul> |
|  | <ul style="list-style-type: none"> <li>• Do not cut hard materials or materials, which may be splattered</li> </ul>  |

## 2.2 Employee qualifications

- The guillotine can only be operated by qualified employees who have been properly trained by the cutter manufacturer. With regard to safety rules, in the contents of this instruction, by a qualified employee should be understood as a person authorized to set machines, circuits and electrical circuits in accordance with the standards of security technology.
- The guillotine should only be operated by employees trained and authorized for this purpose by the employer. Such employees must be of legal age.
- An operator who does not use the language of the available version of the user manual in speaking or writing, should be fully instructed in verbal instructions and complete comprehensive and practical training to familiarize with the content of the document.

This requirement is especially important for chapter "Safety of use". The manufacturer recommends that the operator be given the translation of "Safety of use" in his mother language with confirmation of receipt of such a document.

**Info**

**Before operating the cutter the operator must read the operating instructions.**

- Every employee delegated to work during assembly, disassembly, reassembly, commissioning, servicing and maintenance (technical inspection, servicing, repairs) of the cutter must read the entire operating manual, in particular the chapter "Safety of use".  
The manufacturer recommends that the buyer of the machine, transferring it for use, obtained a written confirmation of the contents of the instructions.
- Every employee authorized to perform assembly, start-up, operation and maintenance and repair of the cutter must read the entire operating manual, in particular the chapter "Safety rules".

## 2.3 Requirements for the operator's workplace.

**The user is obliged to create working conditions at the cutter workplace that preclude the operator from slipping, slipping or falling due to poor ground conditions, the way of routing the wires or the lack of convenient access!**

### 2.3.1 Personal protection equipment

If necessary or if it results from the regulations in force, use the following personal protective equipment:

- Wear safety shoes
- Wear safety goggles, e.g. when cutting fragile material
- Use hearing protection, e.g. when cutting hard material

### 2.3.2 Permissible environmental and operational conditions

- Operation of the machine is permitted in closed rooms
- Humidity: 35% - 95% (non-condensed)
- Ambient air temperature: + 5 °C - + 30 °C

## 2.4 Expected risks when operating the cutter

Using the single cutter as intended, you can predict some of the risks to your life and health.

To avoid existing hazards, the rules of using and operating the cutter must be explained in detail. Special attention should be paid to the cutter units and situations posing a threat to the operator and third parties:

**DANGER!**

**The operator can operate the machine in good technical condition.**

At the beginning of each work shift and after each knife replacement, check the operation of the safety devices. Interference in security or bypassing them (eg safety light curtains, two-handed controls) creates a danger to life or injury!

**At the moment, the cutter can only support one operator!**

The operator himself must also make sure that the machine is not operated by unauthorized persons!

**Table 2: List of threats occurring while operating the cutter**

| Lp.        | Factor/notification                                    | Type of threat  |
|------------|--|---|
| <b>I</b>   | <b>Mechanical hazards</b>                              |   |
| 1          | Motor, belt transmission of the mechanism of backguage | Catching, crushing  |
| 2          | The lever system of the knife drive mechanism          | Catching, crushing  |
| 3          | The lever system of the knife drive mechanism          | Crushing  |
| 4          | The approaching movement of the backguage              | Crushing  |
| 5          | Cutting zone   | Cut off, cut  |
| 6          | Manipulation with a knife during change                | Cut off, cut  |
| 7          | The edges and corners of the cutter elements           | Cut   |
| 8          | Surfaces   | Abrasion  |
|            |  |   |
| <b>II</b>  | <b>Hydraulics hazards</b>                              |   |
| 1          | Hydraulic system                                       | Danger of chemical burns, burns represent hot oil with a temperature of approx. 80 °C |
|            |  |   |
| <b>III</b> | <b>Electrical hazards</b>                              |   |
| 1          | Direct touching  | Electric shock  |

## 2.5 Description and evaluation of residual risk

intimus International GmbH takes responsibility for the construction of the guillotine in order to eliminate the danger, although some risk elements during the cutting machine operation are possible. Residual risk resulting from incorrect behavior of the cutter operator.

- Failure to follow the safety rules described in the operating instructions
- Using the machine for other purposes than those described in the user's manual
- Staying unauthorized persons, especially children, when cutting on the machine
- Unauthorized making any alterations
- Cleaning and lubrication of the cutter during operation
- Work with dismantled or defective covers
- Manipulation within the drive units and moving parts of the cutter during operation
- Checking the cutter's technical condition and performing servicing or repairs with the cutting machine
- Checking transmission gears during operation

**When presenting the residual risk, the cutter is treated as a device that was designed and manufactured according to the state of the art in the year of its manufacture.**

### Residual risk assessment

When following such recommendations as:

- Comply with the safety rules described in the operating instructions
- Careful reading of the operating instructions
- It is forbidden to put your hands in dangerous and forbidden places
- It is forbidden to make any alterations on your own
- Prohibition of the machine in the presence of unauthorized persons, especially children
- No modification of the software of programmable control systems
- Maintenance and repair of the cutter only by suitably trained persons
- Operating the cutter by persons who have been previously trained and read the operating instructions
- Cutter protection against access of children residual threats can be eliminated.

## 2.6 Safety systems used in the cutter

- **Two-handed protective device** - the cut is released by the two-handed cut start system
- **Non-contact protection device** - an optoelectronic device that creates a safety curtain
- **Control system** - position control at the upper turning point of the knife and the pressure beam.

### 2.7 Ways to prevent threats

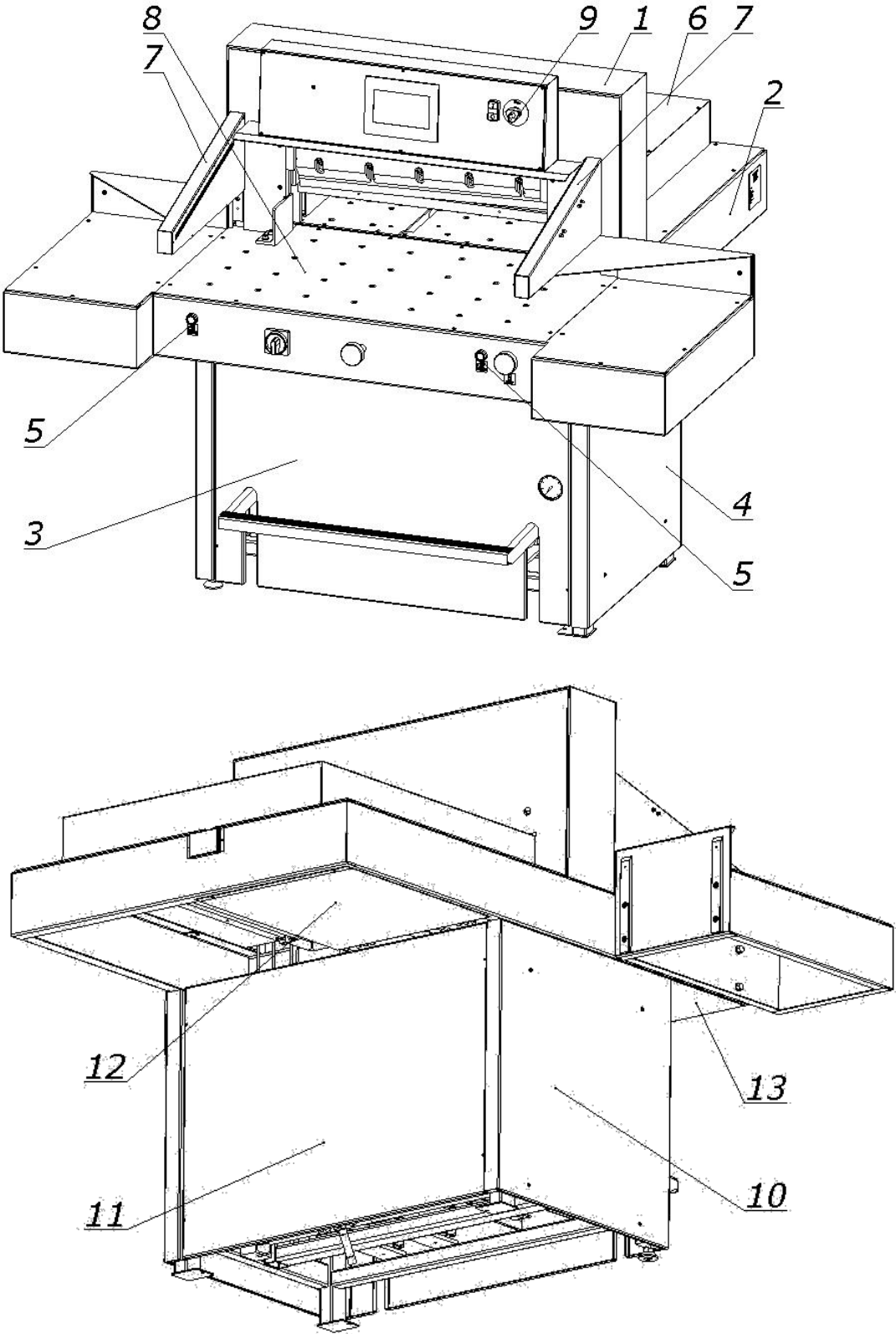


Figure 3 Arrangement of covers and protective elements

**Table 3: Safety measures used to eliminate hazards (according to Figure 3)**

|           | <b>Factors and / or dangerous places</b>                     | <b>Security measures</b>  | <b>Identification</b>             |
|-----------|--|---|-----------------------------------|
| <b>I</b>  | <b>MECHANICAL</b>  |   |                                   |
| 1.        | The lever assembly mechanism of the pressure beam drive      | Fixed cover<br>Machine body<br>Emergency stop   | 1, 3, 4, 10, 11<br>2<br>9         |
| 2.        | Hydraulic system   | Machine body<br>Fixed cover<br>Front table<br>Emergency stop  | 2<br>3, 4, 10, 11<br>8<br>9       |
| 3.        | The belt drive for the drive mechanism of the backgauge beam | Machine body<br>Front table<br>Emergency stop   | 2<br>8<br>9                       |
| 4.        | The screw mechanism of the backgauge drive                   | Cutter body<br>Fixed cover  | 2<br>6, 12                        |
| 5.        | Motor, lever mechanism of the knife drive mechanism          | Fixed cover<br>Machine body<br>Front table<br>Emergency stop  | 1, 3, 4, 10, 11<br>1, 2<br>8<br>9 |
| 6.        | Approach move of the knife beam                              | Fixed cover<br>Safety curtain<br>Two-handed device<br>Emergency stop                                      | 1<br>7<br>5<br>9                  |
| 7.        | Approach move of clamp beam                                  | Fixed cover<br>Safety curtain<br>Two-handed device<br>Emergency stop                                      | 1<br>7<br>5<br>9                  |
| 8.        | Approach move of backgauge                                   | Fixed cover<br>Emergency stop   | 1, 6<br>9                         |
| 9.        | Manipulation with a knife during its replacement             | Transport handles<br>Special protective packaging   |                                   |
| 10.       | Sharp edges and corners of the cutter elements               | Refraction, dullness, rounding  |                                   |
| 11.       | Uneven or rough surfaces                                     | Precise workpiece machining<br>Paint coatings   |                                   |
| <b>II</b> | <b>ELECTRICAL</b>  |   |                                   |
| 1.        | Direct contact of active elements                            | Closed housing<br>Partially reduced voltage supply to the control system up to 24V AC/DC                  | 2, 13                             |
| 2.        | Indirect touch   | Protection against indirect contact according to PN-EN 60204-1.<br>Continuity of the protective conductor |                                   |

## 2.8 Safe working rules

### 1. Training of the operator:

- aware of the potential hazards that may occur when operating the machine
- clearly defining activities which, under the conditions of a given plant, are or are not the responsibility of the cutter operator and are reserved for designated authorized persons, in particular as regards the removal of defects and repairs - including electrical installations.

### 2. Prohibition to use the machine if:

- the machine is used contrary to its intended use and/or the machine parameters specified in the operating instructions would be exceeded
- the cutter is visibly inefficient
- any covers of moving parts have been removed from the cutter

### 3. Order:


- Checking the correctness of the protection devices:  
two-handed control (each time before starting work)  
contactless protective device (each time before starting work)
- order to carry out maintenance and repairs with disconnected electrical power

**The above-mentioned requirements should be the subject of training and the content of the station instructions!**

## 2.9 Safety control

**Periodic security check should be carried out in accordance with the law. These provisions concern:**

- accident prevention
- guarantee of efficient work and precision of operation
- eliminating production stoppages.

|   |   |
|---|---|
|  | <p><b>INFO</b></p> <p><b>At the latest after 5 years of use, at least control of the following functions should be carried out and the results <u>should be documented</u>.</b></p> |
|---|---|

- operation of the control function
- check the correct position of the knife
- control of the power supply of the machine linear indicator
- operation of the safety curtain
- operation of the two-hand control function
- protection against continuous knife movement.

**The above mentioned service should be ordered by the machine manufacturer's technical service.**

## 3. TRANSPORT AND STORAGE

### 3.1 Packaging

#### 3.1.1 Characteristics of the packaging

The transport packaging used is a disposable packaging.

The transport platform is made of wood and the outer packaging is made of cardboard.

Inside the box the cutter and accessories are packed in anti-corrosion covers made of plastic and oiled paper.

#### 3.1.2 Removing the packaging

Used packaging should be removed in accordance with legal regulations applicable in the country of the user.

### 3.2 Transport

The box with the machine should be transported in accordance with the markings on it (fig.4).

When using a forklift (Fig. 5a), make sure that the fork length is suitable so that you can grasp the entire depth of the box.

Transport of the cutter without a transport platform with a pallet truck is possible after unscrewing the covers 1, 2 (Fig.5c)

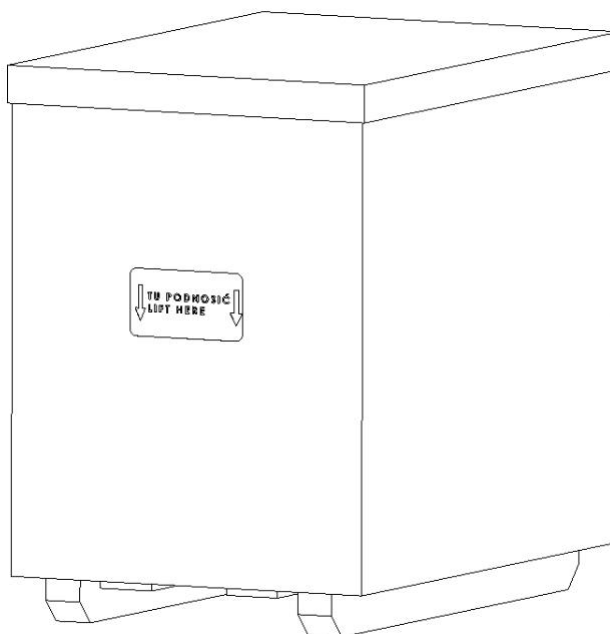


Figure 4 Cutter in a transport crate.





Figure 5a Transporting the cutter in the crate using a forklift.

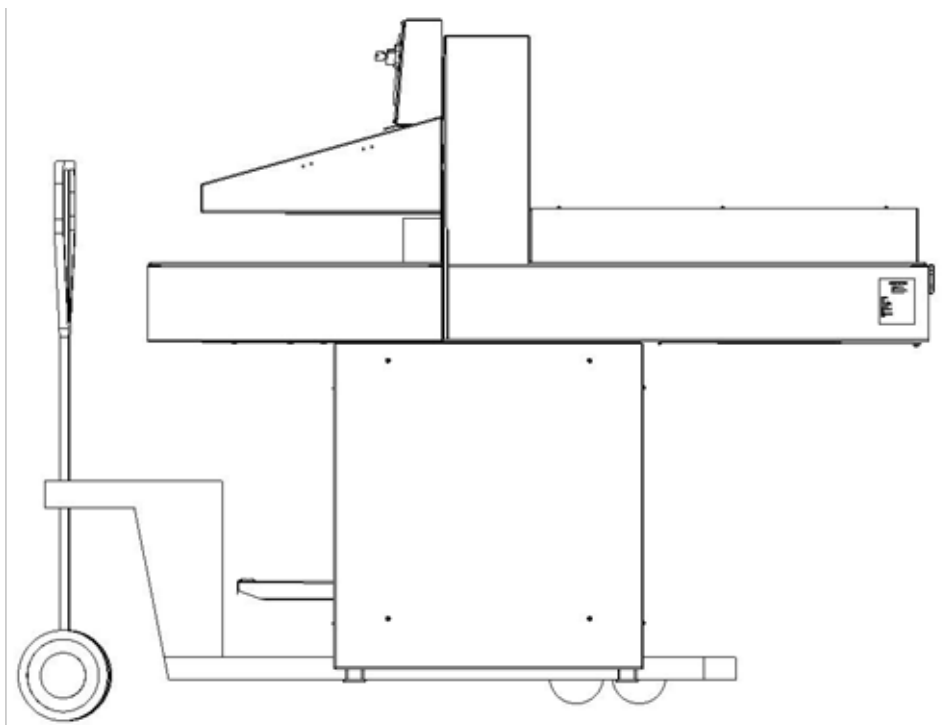


Figure 5b Transporting cutters with a pallet truck

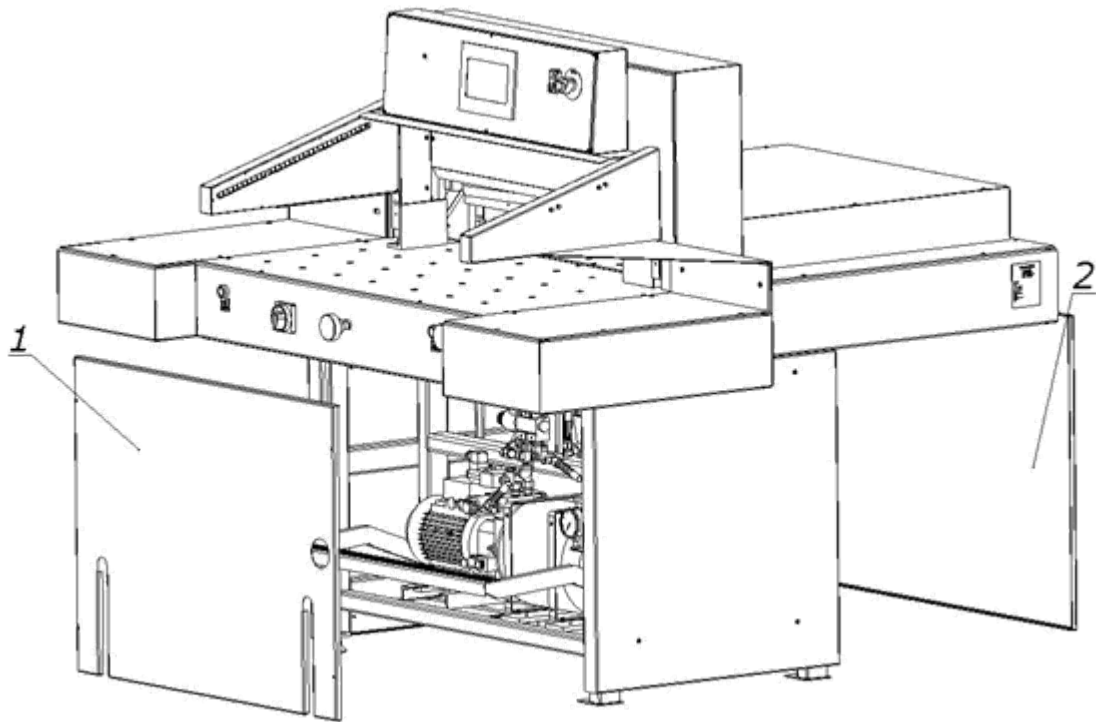


Figure 5c Removing covers

### 3.3 Delivery status

The cutter is supplied by the manufacturer with the disassembled side tables (assembly of the tables according to Figure 6)

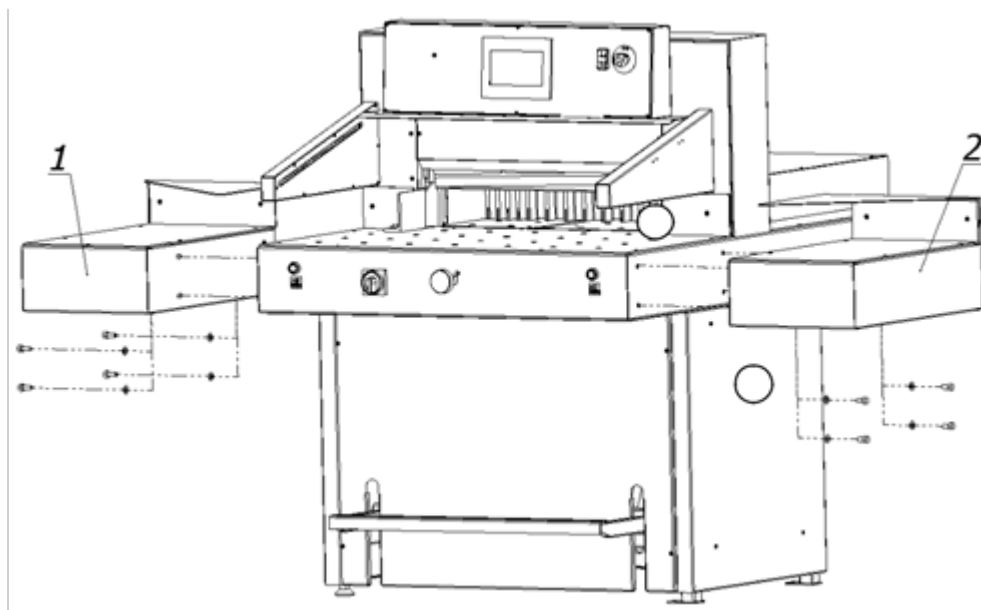


Fig 6. Tightening of side tables

1. Left side table + screw M10x20 (4 pcs) + washer 8 (4 pcs.)
2. Right side table + screw M10x20 (4 pcs) + washer 8 (4 pcs)

**DANGER!**

Protect the power cables from sharp tools, high temperature and oil.

### 3.4 Setting the cutter

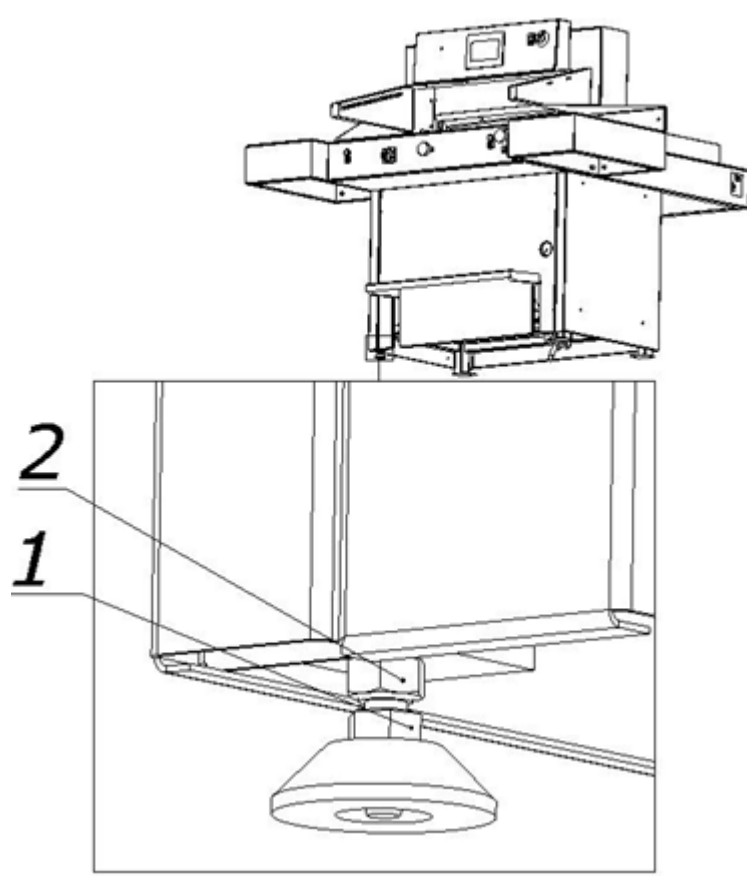


Figure 7 Adjusting the cutter setting.

The cutter does not need to be attached to the ground. The correct and safe setting of the machine is achieved by turning the adjusting foot 1, and locking its position with the nut 2, as shown in Figure 7.

### 3.5 Work area

In order to easily access the cutter's mechanisms during adjustment, maintenance or servicing activities, it is recommended to keep a free space of about 0.5 m around the device. (Fig.8)

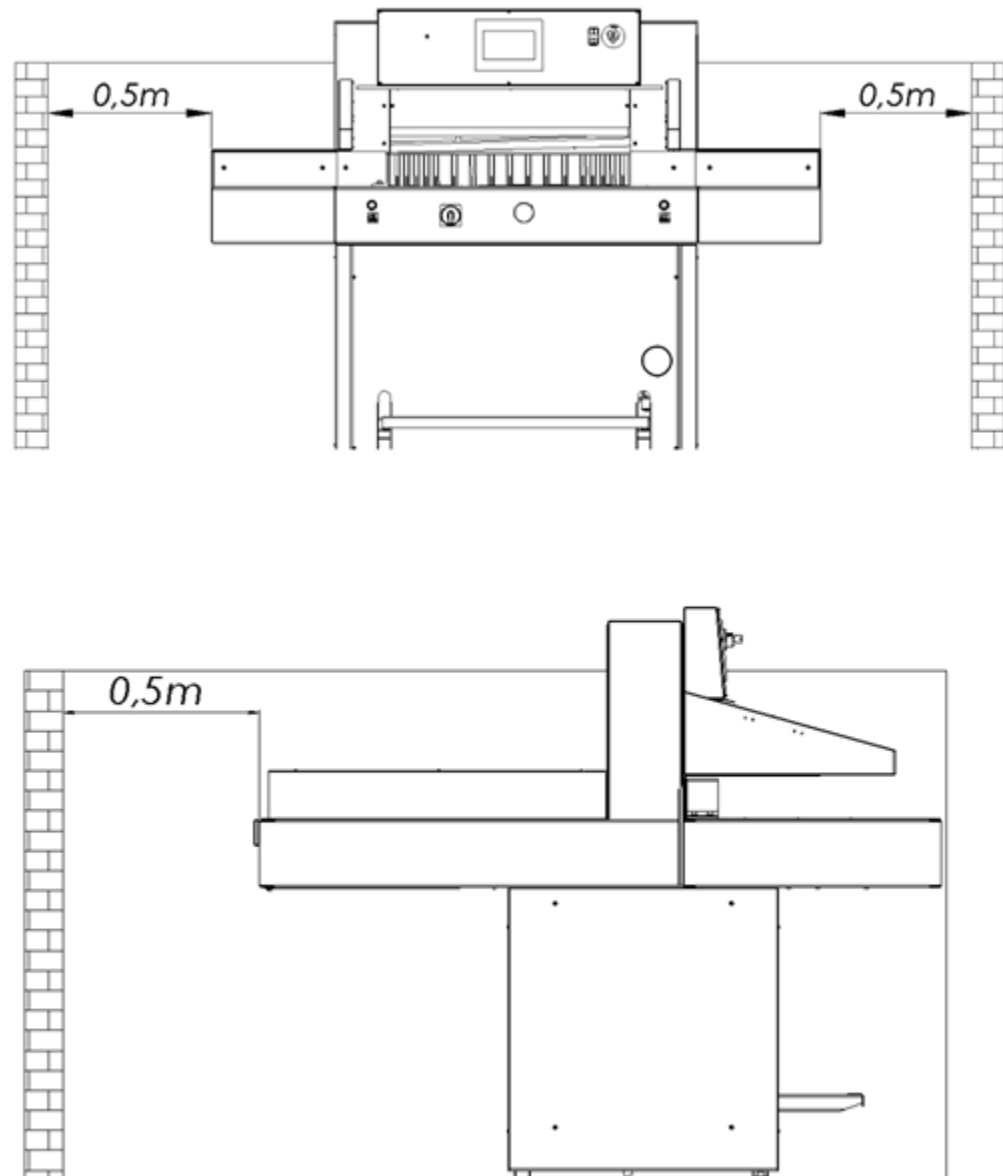


Figure. 8

## 4. TECHNICAL CHARACTERISTICS OF THE GUILLOTINE

### 4.1 Destination

The cutter is intended for trimming the required size of a stack of paper, cardboard and other materials: plastics, fibers, metal foil, laminate, rubber, etc. It is mainly used in printing houses, bookbinding shops and offices.

### 4.2 Basic parameters

#### 4.2.1 Technical data

Table 4:

| PARAMETER                                      |                     | 7310 EPSHP |
|--|---------------------|------------|
| Maximum stack width (mm)                       |                     | 730        |
| Maximum stack height (mm)                      | Without false clamp | 100        |
|  | With false clamp    | 96         |
| Cutting depth (mm)                             |                     | 730        |
| Front table length (mm)                        |                     | 640        |
| Narrow cut (mm)                                | Without false clamp | 30         |
|  | With false clamps   | 60         |
| Sound power level (dB)                         |                     | 74,6       |
| Backgauge speed (mm/s)                         |                     | 58         |
| Side table load (kg)                           |                     | 20         |
| Weight (kg)                                    |                     | 610        |
| Static load substrates (daN / m <sup>2</sup> ) |                     | 271        |

#### 4.2.2 Technical data - electrical system

Table 5:

| Parameter                  | 7310 EPSHP   |
|----------------------------|--------------|
| Maximum power (kW)         | 3            |
| Voltage / frequency (V/Hz) | 400 / 50-60  |
| Fuse (A)                   | 3x20<br>3x30 |

## 4.2.3 Technical data - hydraulic system

### 4.2.3.1 Technical data - hydraulic power supply

**Table 6:**

| <b>Parameter</b>                    | <b>7310 EPSHP</b> |
|-------------------------------------|-------------------|
| Motor (kW)                          | <b>2,2</b>        |
| Voltage / frequency<br>(V/Hz)       | <b>3x400/50</b>   |
|                                     | <b>2x220/60</b>   |
| Control of executive elements (VDC) | <b>24</b>         |
| Tank capacity (l)                   | <b>12</b>         |

### 4.2.3.2 Technical data – hydraulic oil

**Table 7:**

| <b>Parameter</b>                 | <b>7310 EPSHP</b>                          |
|----------------------------------|--|
| Oil type                         | <b>HV 46</b>                               |
| Quality norm                     | <b>ISO 11158 - HV</b>                      |
| Viscosity                        | <b>ISO VG 46</b>                           |
| DIN norm                         | <b>51524, 46 mm<sup>2</sup><br/>(cST).</b> |
| Kinematic viscosity temp. (40°C) | <b>47,2 mm<sup>2</sup></b>                 |

The hydraulic system does not require de-aeration, it takes place automatically after several cuts.

#### 4.2.4 External dimensions

The dimensions of the machine are shown in figure 9 and table 8.

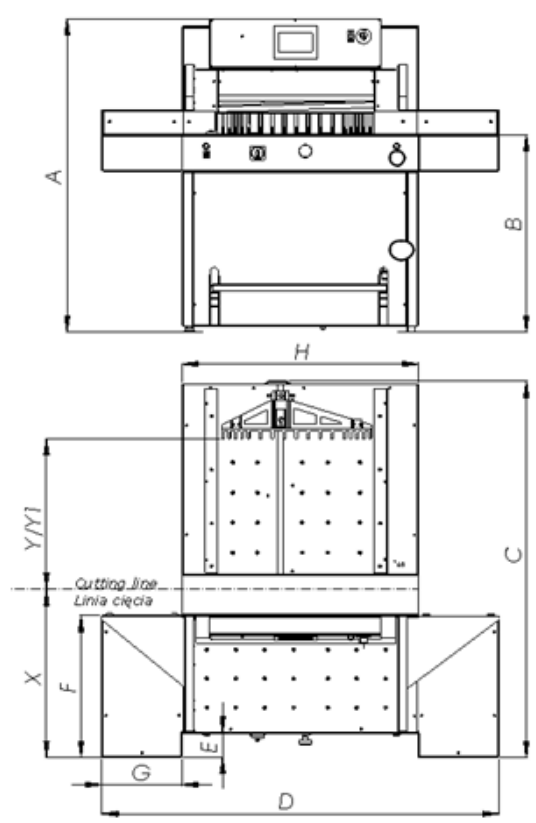


Figure 9 Dimensions of the cutter

Table 8:

| Dimension        | Value (mm)  |
|------------------|-------------|
| <b>A</b>         | <b>1445</b> |
| B                | 924         |
| <b>C</b>         | <b>1754</b> |
| D                | 1857        |
| <b>E</b>         | <b>114</b>  |
| F                | 658         |
| <b>G</b>         | <b>376</b>  |
| H1               | 1105        |
| <b>X</b>         | <b>640</b>  |
| Y program        | 710         |
| <b>Y1 manual</b> | <b>730</b>  |

## 5. OPERATION

### 5.1 Operating safety

#### 5.1.1 Safety instructions

- Before each start-up or start-up on the cutter, the next change should be made to ensure that the safety components are complete and work properly.
- The cutter can only be operated if all safety components and safeguards such as detachable covers, emergency stop switches are installed and fully functional.
- In the event of a malfunction, stop the cutter immediately and block it.
- All defects must be eliminated immediately.

#### 5.1.2 Warning about special hazards

You should refrain from performing any actions that infringe safety in the machine.

In particular, it is prohibited to:

- Putting your hands into the field of knife and pressure.
- Putting hands in the field between the clamping and infeed bars.
- Exercise extreme caution when handling the knife! Use transport handles when installing / removing / carrying the knife.
- Use only undamaged and sharp knives!
- The knife can only be changed by trained personnel.
- When cutting on the work table, there must be no objects (such as keys, screwdrivers)

### 5.2 Control system

|   |  |
|---|--|
|  | <p><b>DANGER!</b></p> <p><b>The machine cannot be operated with defective photocells forming the safety curtain!</b></p> |
|---|--|



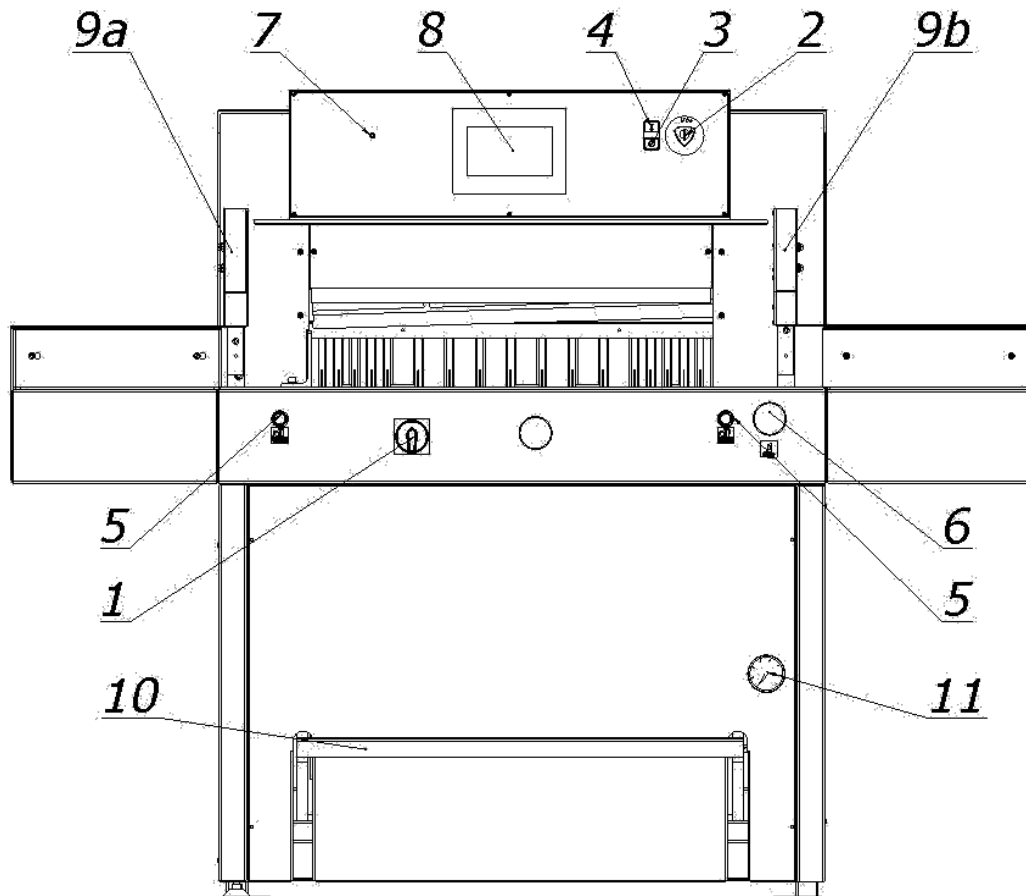


Figure 10 Controls and signaling elements of 7310 EPSHP cutting machine

1. Main switch
2. Palm button, (emergency stop)
3. Locking button of the control system
4. Button that activates the control system.
5. Buttons enabling the cutting cycle (two-handed cutting start-up system)
6. Hydraulic pressure adjustment crank
  - turn right - pressure increase
  - turn left - pressure decrease
7. Two-color signal lamp
  - red, signals the power supply to the control system
  - green, signals the activation of the control system
8. Program unit
9. Light curtain (non-contact protection device)
  - 9a. Transmitter
  - 9b. Receiver
10. Foot pedal (mechanical determination of the cutting line).

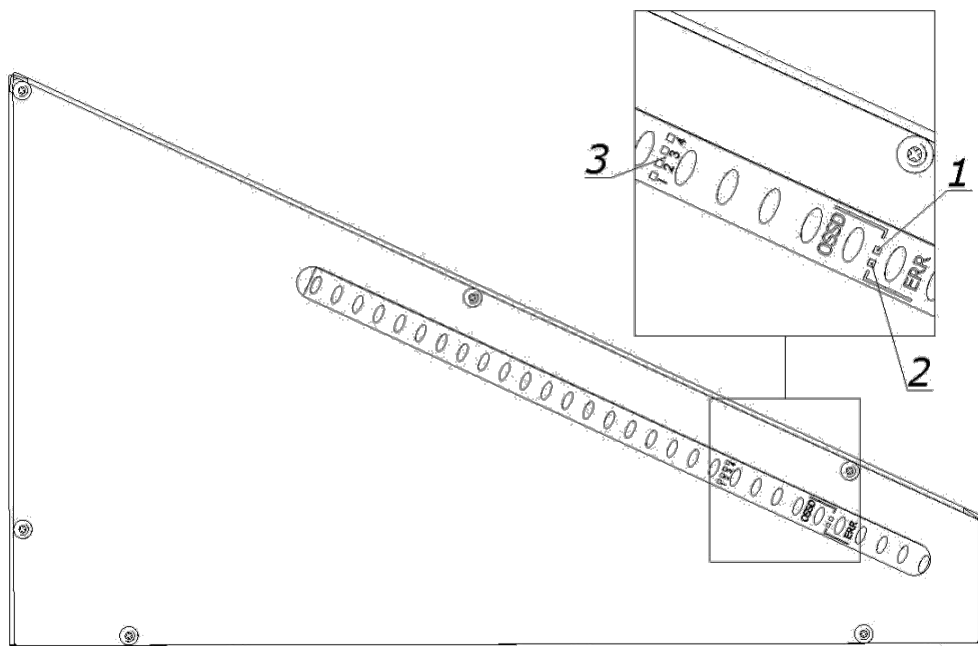


Figure 11 Receiver indicators

The receiver is equipped with six LEDs informing about the operating status:

**Table 9:**

| Item | Color of the LED | Display            | Text |
|------|------------------|--------------------|------|
| 1    | Red/green        | Status OSSD        | OSSD |
| 2    | Red              | Error indication   | ERR  |
| 3    | Blue             | Quality of setting | 1234 |

Blue LEDs inform about the quality of the settings, in conjunction with the flashing red color LED ERR, also indicate errors.

**Table 10. Blue LEDs informing about the quality of the settings**

| LEDs informing about quality setting | Diode LED OSSD | Meaning   |
|--------------------------------------|----------------|---|
| It does not light up no LED          | red            | The setting is insufficient or the protective field is interrupted at least partially. The receiver can not synchronize with the transmitter. |
| It lights up 1 LED                   | red            | The setting is insufficient or the protective field is interrupted at least partially.  |
| It lights up 2 LEDs                  | red            | The setting is insufficient or the protective field is interrupted at least partially.  |
| It lights up 2 LEDs                  | green          | The setting is not yet sufficient to ensure stable availability   |
| It lights up 3 LEDs                  | green          | The setting is good, stable availability  |
| It lights up 4 LEDs                  | green          | The setting is very good  |

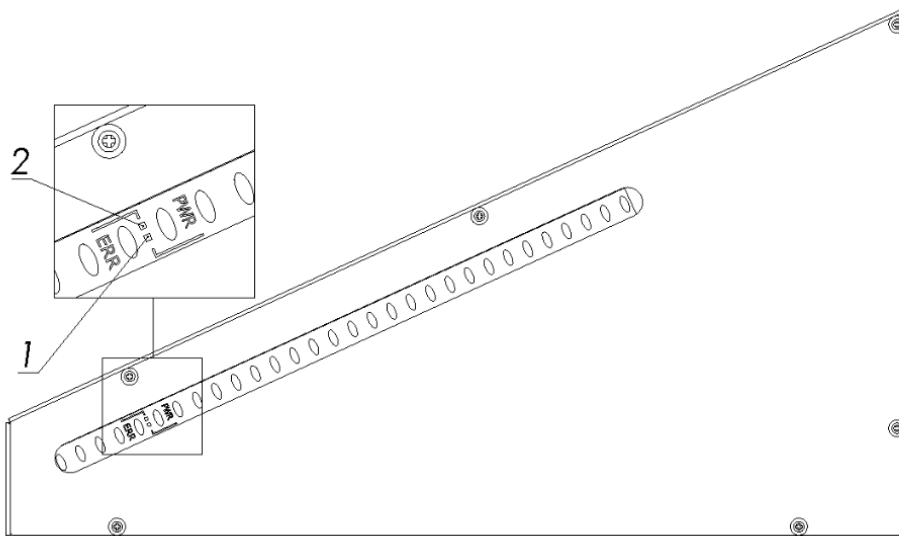


Figure 12 Transmitter Indicators

The transmitter is equipped with two LEDs informing about the operating status:



Table 11:

| Position | LED diode colour | Indication            | Text |
|----------|------------------|-----------------------|------|
| 1        | yellow           | Work status indicator | PWR  |
| 2        | red              | Error indication      | ERR  |

### 5.3 Electrical apparatus

The cutter is supplied with a five-core copper wire with 2.5 mm<sup>2</sup> wire cross-section. The user's duty is to install the cutter to the electrical network with 20 A safeguards. For connecting, use a copper wire with a cross-sectional area of 2.5 mm<sup>2</sup> or more. Voltage fluctuations should be in the range of 90-110% of the rated voltage, and frequency fluctuations in the range of 50 Hz ± 2%.

The cutter can be connected to a five-core, L1, L2, L3, N, PE electric network.

|   |  |
|---|--|
|  | <b>DANGER!</b>   |
|  | <b>Dangerous electrical voltage!</b>                           |
|   | <b>Before opening the housing, switch off the main switch!</b> |

1. Hinged housing of electrical apparatus (Fig. 13)
2. Nuts fixing the housing (Fig. 13)

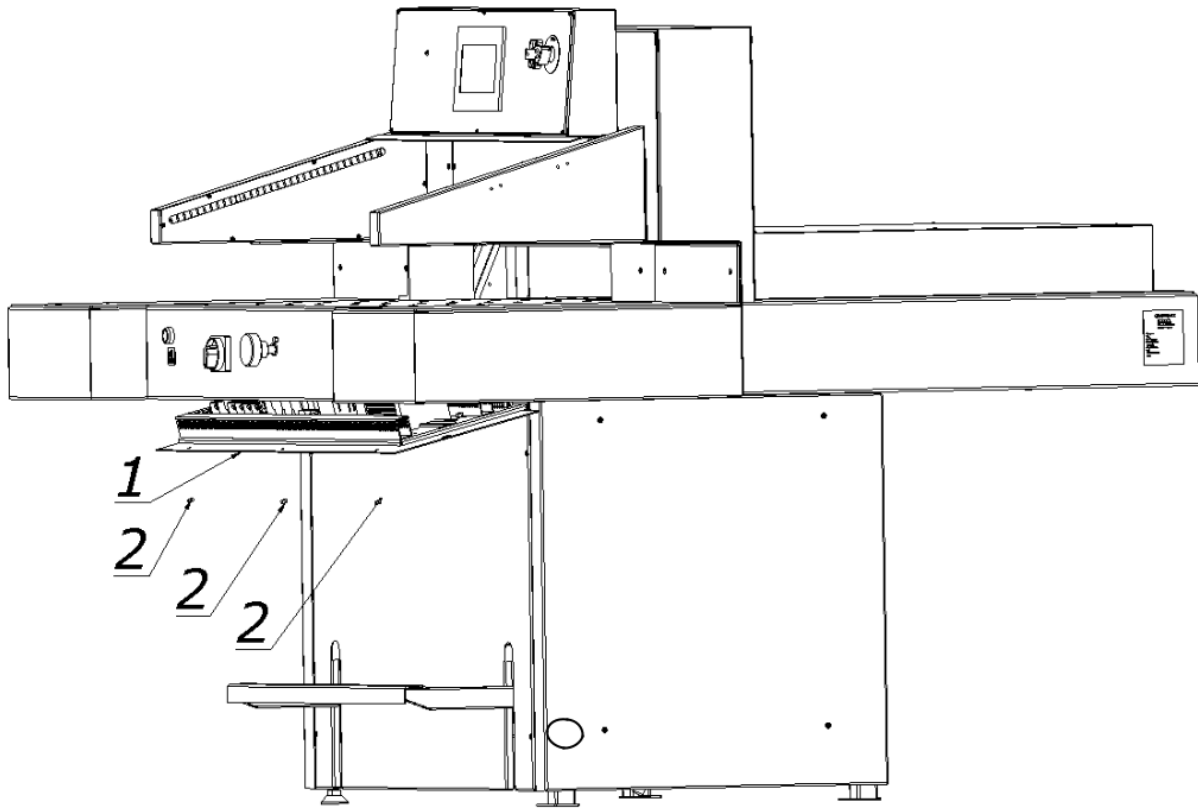


Figure 13 Location of electrical apparatus

## 6. POWER SUPPLY

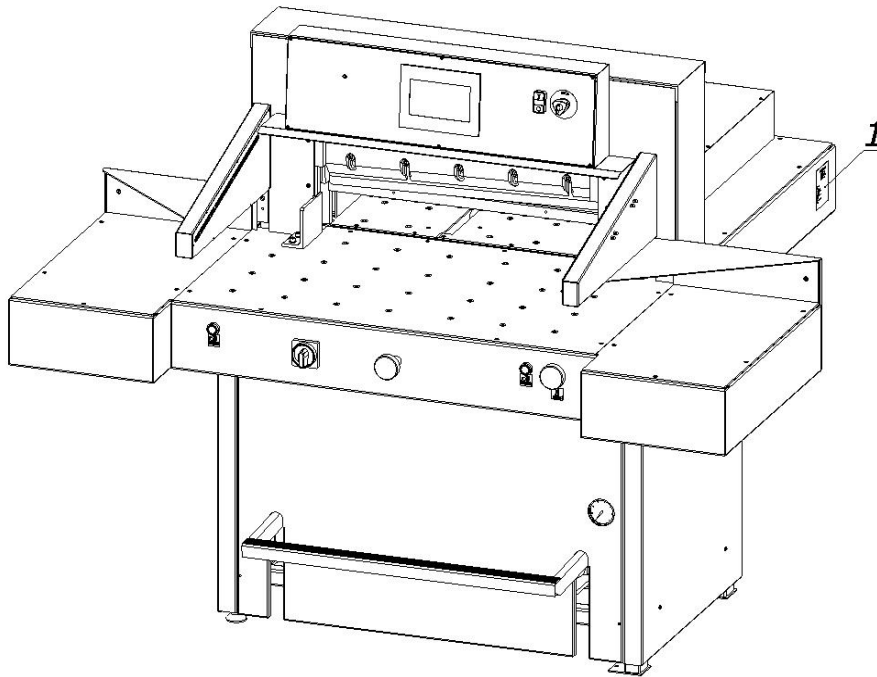


Figure 14 Location of the nameplate

Data on the plate:

- 400V power supply
- 50-60 Hz frequency
- 3 kW power
- 20 A protection



**WARNING!**

The data on the plate must correspond to the current parameters in the mains!

Parameters of frequency converters (inverters) are set by the cutter manufacturer and can not be changed!

Cutter needs be grounded.

## 7. USING THE CUTTER

The user is obliged to create working conditions at the cutter workplace that preclude the operator from slipping or falling due to poor ground conditions, cable routing the wires or lack of convenient access!


### 7.1 Work area for operational staff

The working area is the front side of the (operational) cutter!

### 7.2 Danger zones in the cutter

- knife and clamp zone
- back side of the cutter frame (access to clamp zone and knife)
- back side of the cutter (access to the backgauge)
- bottom side of the rear table access to the backgauge zone (spindle and slider)

### 7.3 Starting up the cutter

|   |   |
|---|---|
|  | <p><b>INFO</b><br/>During the first start-up, pay attention to the correct connection of the cutter to the network.</p> |
|---|---|

#### 7.3.1 Commissioning

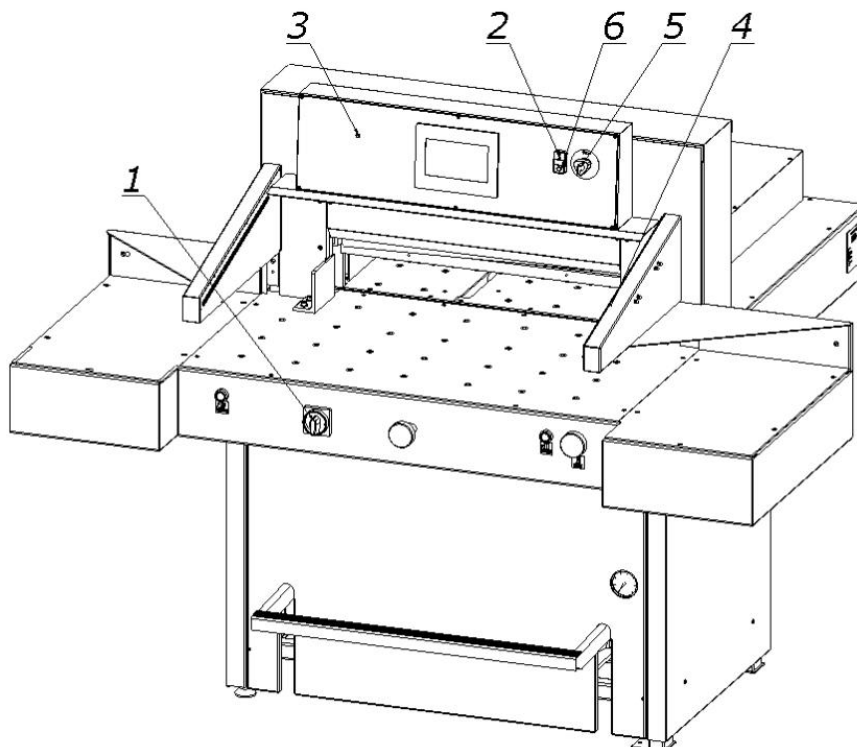



Figure 15 Arrangement of the elements used when switching the cutter.

1. Set the main switch 1 to "ON" 1 position (Fig. 15)
2. Press the green button 2 (Fig.15)
  - LED 3 lights up green
  - the green OSSD 1 LED lights up (Fig.11) in the receiver 4 (Fig.15)

|   |  |
|---|--|
|  | <p><b>INFO</b></p> <p>If after turning on the power supply with the main switch 1 (Fig. 15) and pressing the green button 2, the LED 3 is green, the connection is correct (correct direction of rotation), if the LED is red, the connection is not correct and should be replaced in the plug two of three phase conductors.</p> |
|---|--|

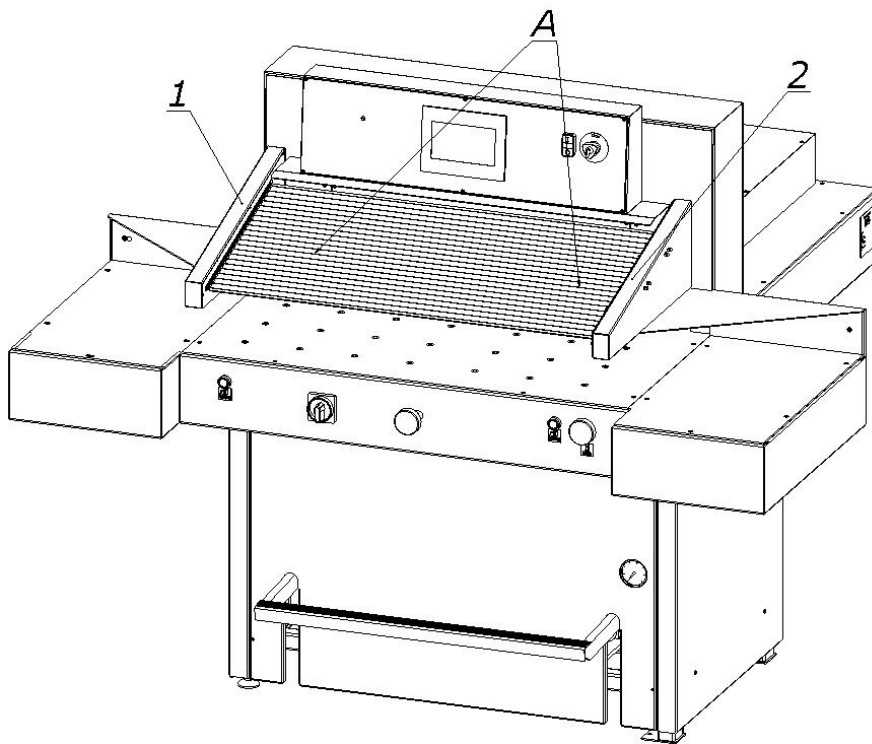


Figure 16 Light curtain

1. Transmitter
  2. Receiver
- A - field of the security curtain

### 7.3.2 Diagnostics of the light curtain after switching on the power supply.

When the cutter is switched on, the transmitter 1 and receiver 2 are initialized (fig. 16). All transmitter and receiver LEDs will light for a moment. After initialization the receiver indicates the quality of the setting using four blue LEDs 3 (Fig.11). (Table 9)

The setting indicator extinguishes after a suitable time when the safety light curtain is set (the LED of the device switching the output signal: green item 1 figure 11) and only the PWR LED of transmitter 1 (fig.12) and LED 1 (fig. 11) device for switching the receiver's output signal.

In case of an error on the device, the red LED will light. On the side receiver red error LED - in combination with blue LEDs - indicates the cause of the error.

|   |  |
|---|--|
|  | <p><b>DANGER!</b></p> <p><b>In case of malfunction of photocells, immediately contact the service!</b></p> |
|---|--|

### 7.3.3 Emergency stop of the cutter

1. Press the button 5 (Fig.15)

The switch is used for emergency stopping of the machine.



After pressing it, the message "Disable safety button" will appear on the programmer. The pressure beam and knife will stop.

### 7.3.4 Starting the cutter after emergency stop

1. Unlock button 5 (turn it around) (Fig.15)
2. Press the green button 2

When the stop has been made during the cutting cycle, pressing the cutting buttons again will result in returning to the upper position of the clamping bar and the knife.

## 7.4 Determining the position of the approaching beam

|   |   |
|---|---|
|  | <p><b>DANGER!</b></p>   |
|  | <p><b>Do not put your hands into the cutting area when backgauge moves!</b></p> |

Determining the position of the approaching beam is carried out using the programmer 1 and handwheel 2, figure 17.



**INFO**

The method of determining the position of the beam as well as the operation of the programmer are described in the "Instruction for program unit".

### 7.4.1 Changing the position of the beam with the handwheel

1. Press knob 2 (Fig. 17)
2. Turn the knob to bring the beam closer or closer by reading the position value on the programmer screen.

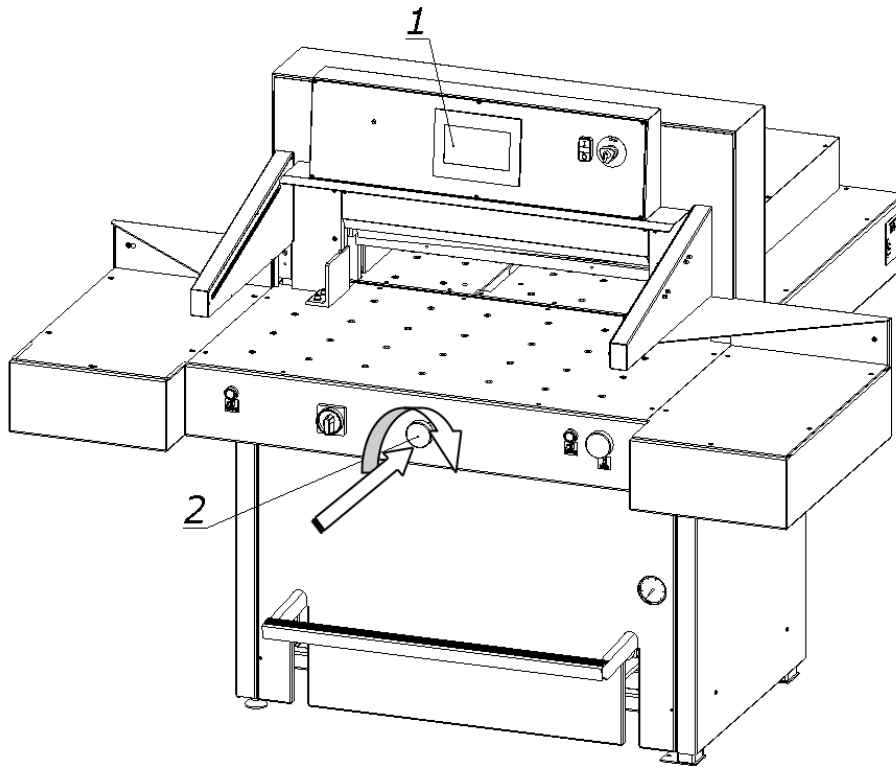




Figure 17 Arrangement of the positioning elements of the backgauge

## 7.5 Pressing the material

The pressing of the cut material takes place automatically after pressing the buttons that start the cutting cycle 1 (fig. 18).

|   |   |
|---|---|
|  | <b>DANGER!</b>  |
|  | <b>Do not put your hands into the cutting area when pressing!</b> |

### 7.5.1 Manual clamping of cut material (mechanical cutting line determination)

Lower the pressure beam onto the stack by pressing the pedal 2 (Fig.18). The front edge of the clamping bar is the same as the cutting line. Therefore, it can be used as an indicator of the cutting line. The clamp can be stopped in any position.

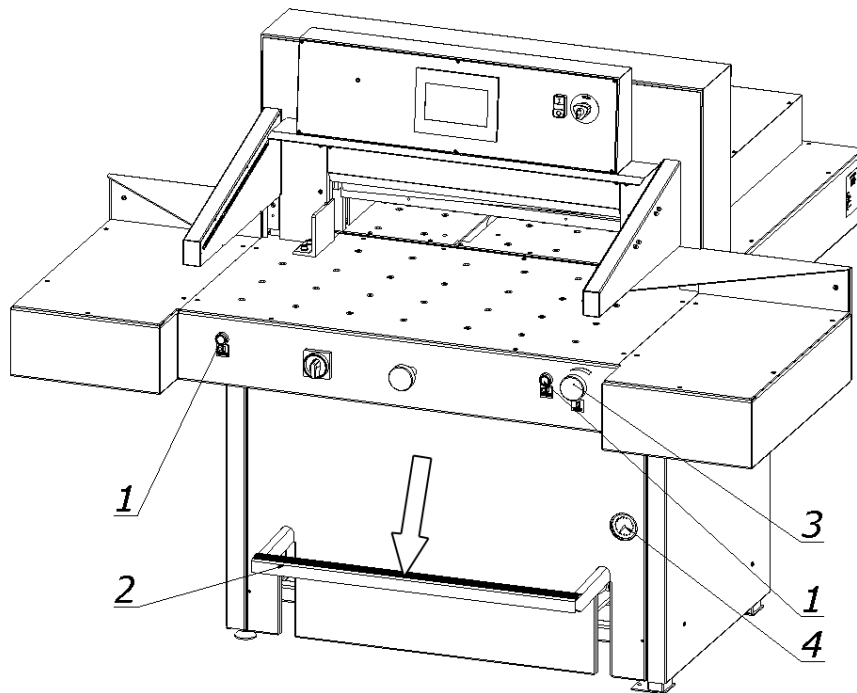


Figure 18 Operating elements when used during pressing.

### 7.5.2 Change of clamping force

Changes in the clamping force are made by the knob 1, reading the pressure value on the pressure gauge 4 (Fig.18)

- turning to the right - increasing the pressure
- turning to the left - reducing the clamping force

**Approximate values of the clamping force depending on the pressure value read on the pressure gauge (manometer) 4**

- 25 bar ~ 300 daN
- 40 bar ~ 650 daN
- 55 bar ~ 1000 daN
- 70 bar ~ 1350 daN
- 90 bar ~ 1700 daN
- 110 bar ~ 2000 daN

### 7.5.3 Rules for selecting the contact pressure.

The value of pressing force is selected experimentally, in relation to the type, width and height of the cut material.

The following rules must be observed:

- the higher the pile, the greater the downforce
- the greater the cutting width, the greater the downforce
- the harder the material, the greater the downforce

### 7.6 Cutting line indicator (optical)

The cutter is equipped with an optical cutting line indicator. A thin light line indicates the cutting line on the material to be cut.

### 7.7 Cutting (pressing and cutting)

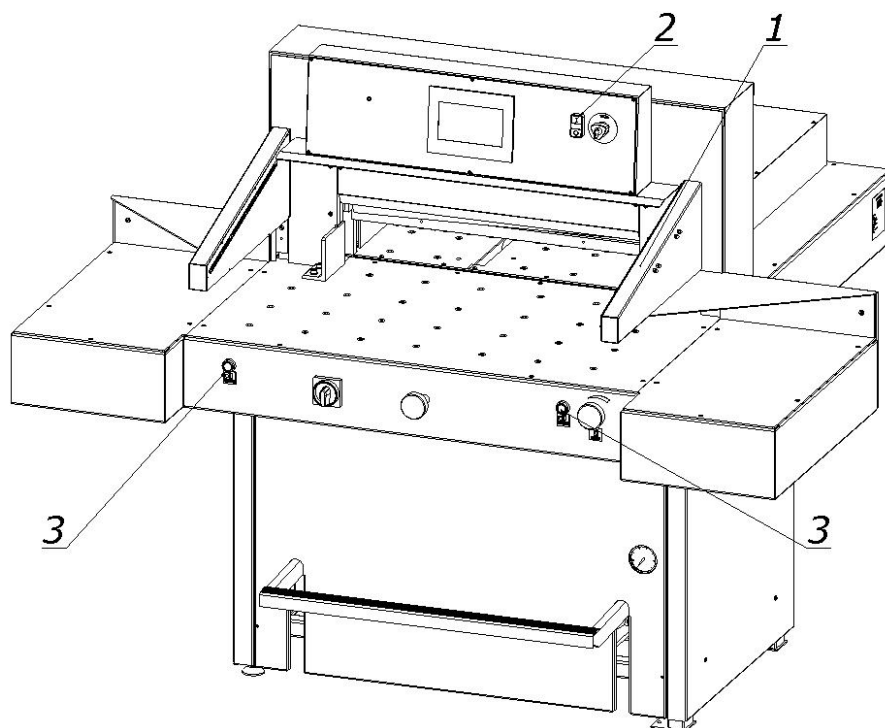
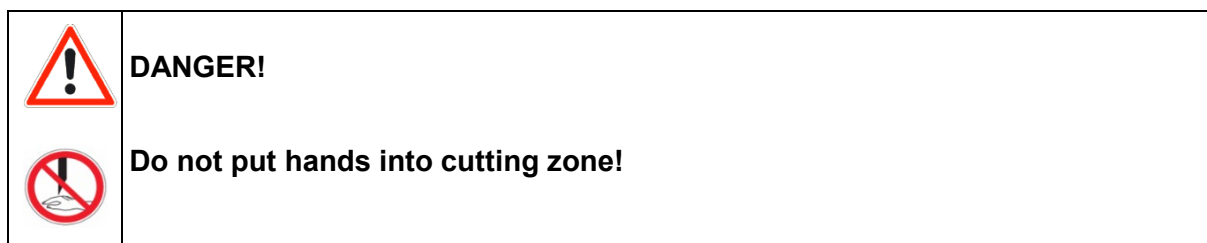


Fig. 19 Operating and signaling elements used during cutting.

Cutting can be done if:

1. there is no object in the work area of the light barrier - the green OSSD 1 LED lights up (Fig.11) on the receiver 1 (Fig.19).
2. the green push button switch 2 is pressed.
3. the two buttons 3 were pressed simultaneously.

Keep both buttons 3 until the material is cut.

The return of the knife and its stop in the upper return position and the movement of the pressure beam upwards is automatic.

Releasing the buttons 3 during the movement of the pressure beam and the knife downwards interrupts this movement. If an object gets caught in the light barrier working area, the pressure beam and the knife will stop moving. To continue cutting, remove the unauthorized item and simultaneously restart both buttons 3.

**Paper clips or other hard objects can damage the blade!**

## 7.8 Air Table

The surface of the cutter table is equipped with air nozzles 1 (fig.20).

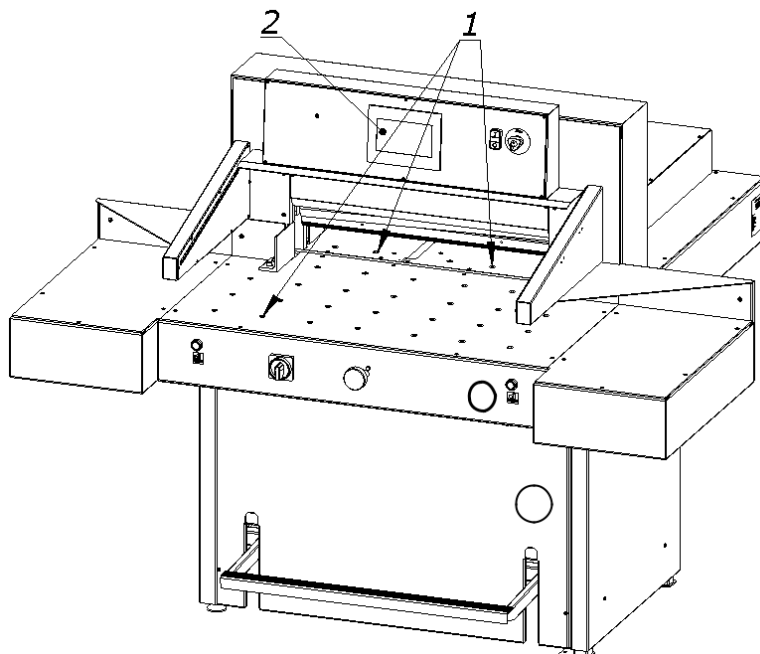


Figure 20.



To turn on the air supply press the blower button  on the programmer 2 screen (Figure 20).

After switching on the air supply, moving the pile becomes easier. During the cutting, pressing or manual pressing (testing), the air supply is switched off automatically

## 8. OPERATIONAL ACTIVITIES

### 8.1 Replacing the knife in the cutter

It is recommended, on the basis of experience, to change the knife to sharp after about 8 hours of effective, continuous work.

|   |  |
|---|--|
|  | <b>DANGER!</b>                                 |
|  | <b>Do not put hands into the cutting zone!</b> |

- Danger of injury to the operator and auxiliary personnel
- Danger of injury to hands and hands in the knife area through cutting
- The edge of the knife is sharp - do not touch
- Do not handle the knife without the handle
- The blade may only be changed when the tools for replacing it are undamaged
- Blunt knives should be put in cassettes immediately
- Knives intended for scrapping must be deliberately blunted
- Worn and blunt knives should be taken to the scrap yard

### 8.1.1 Removing the knife

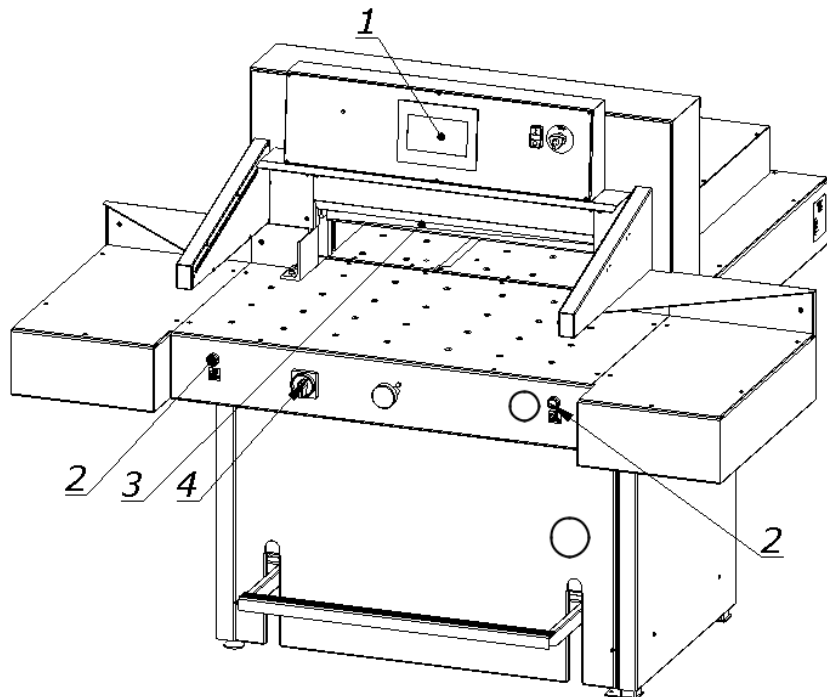


Figure 21

8.1.1.1 Select the "Change knife" function on the programmer 1 screen (Fig.21) ("Programmer's manual").

8.1.1.2 Pressing the push buttons 2  (fig.20) at the same time, start the cutting cycle. The knife 3 is held in the lower position.

8.1.1.3. Turn off the power supply of the electrical system by turning the main switch knob 4 (fig.21) to the "0" position

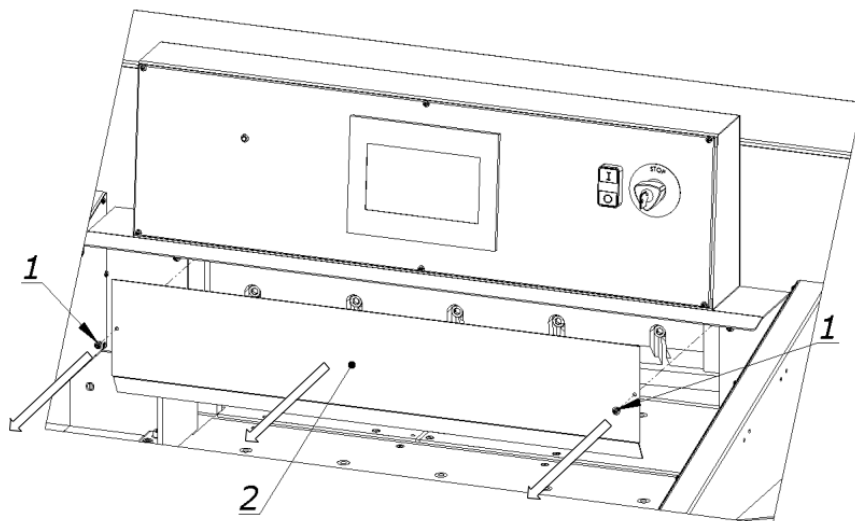


Figure.22

8.1.1.4 Remove the two screws 1 (fig.22) securing the cover 2 and remove the cover 2.

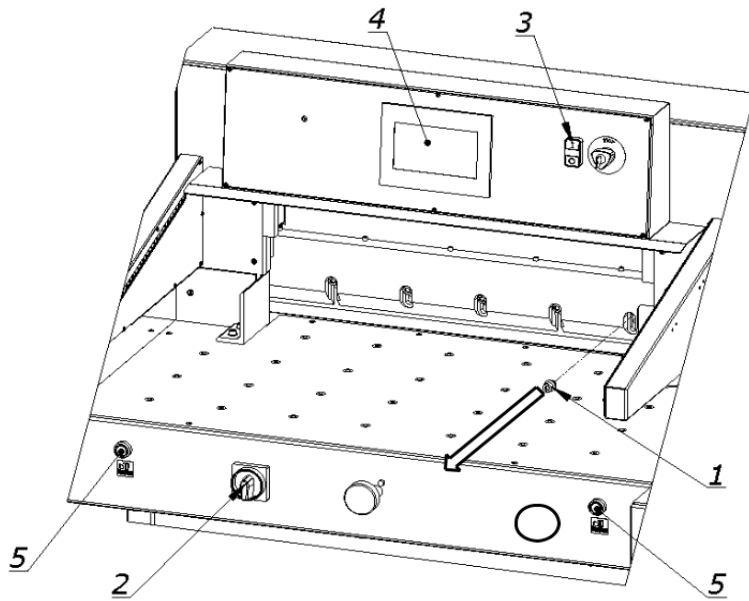


Figure.23

8.1.1.5 Unscrew and remove the first fastening screw 1 from the right side of the cutter bar (Fig. 23).

8.1.1.6 Switch on the power supply of the electrical system by turning the main switch knob 2 (fig.23) to position "I"

8.1.1.7 Turn on the power supply to the control system by pressing the green push button 3.

8.1.1.8 On the program screen 4 (fig.23), deactivate the "knife change" function

8.1.1.9 Press simultaneously on the push buttons 5. The knife will return to its upper position.



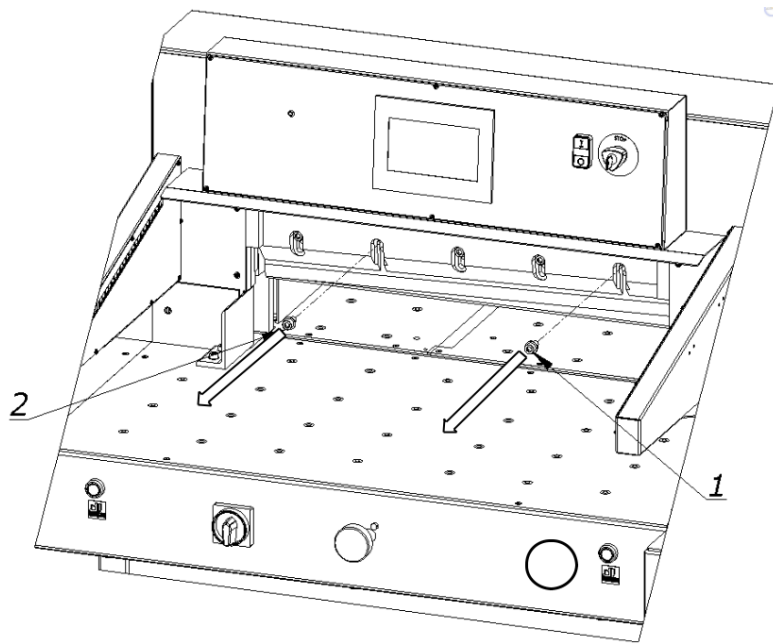


Figure 24

8.1.1.10 Unscrew and remove the fastening screws 1 and 2 (Fig. 24).

8.1.1.11 In the place of screws 1 and 2 removed (fig.24), screw in the transport handle 1 (fig.25), so that it secures the knife to the cutter bar.

8.1.1.12 Unscrew and remove the screws 2 (fig.26)

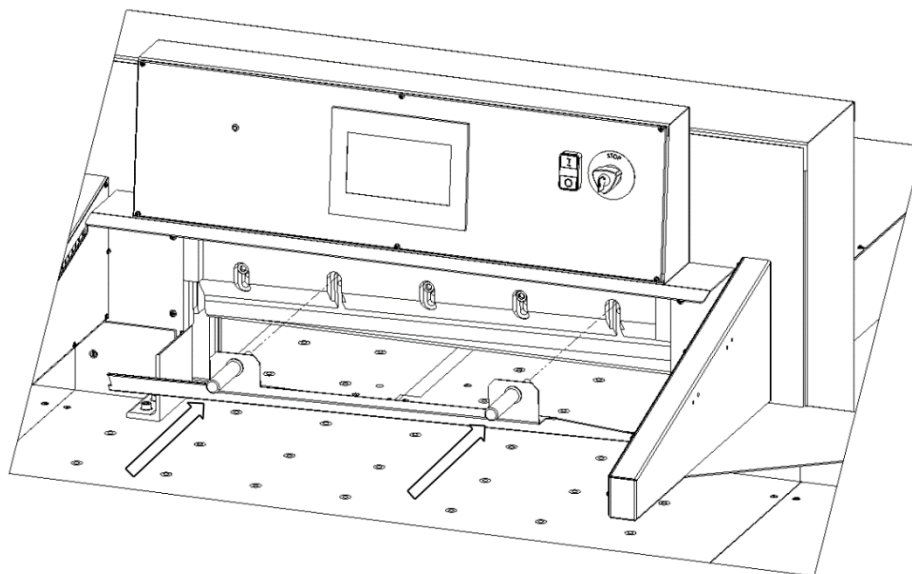


Figure 25

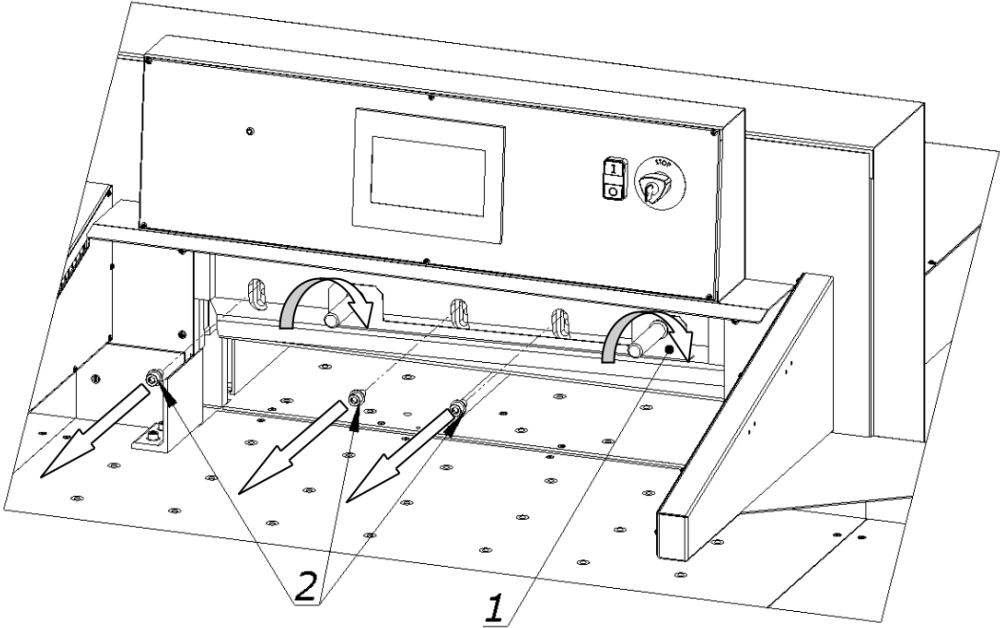


Figure 26

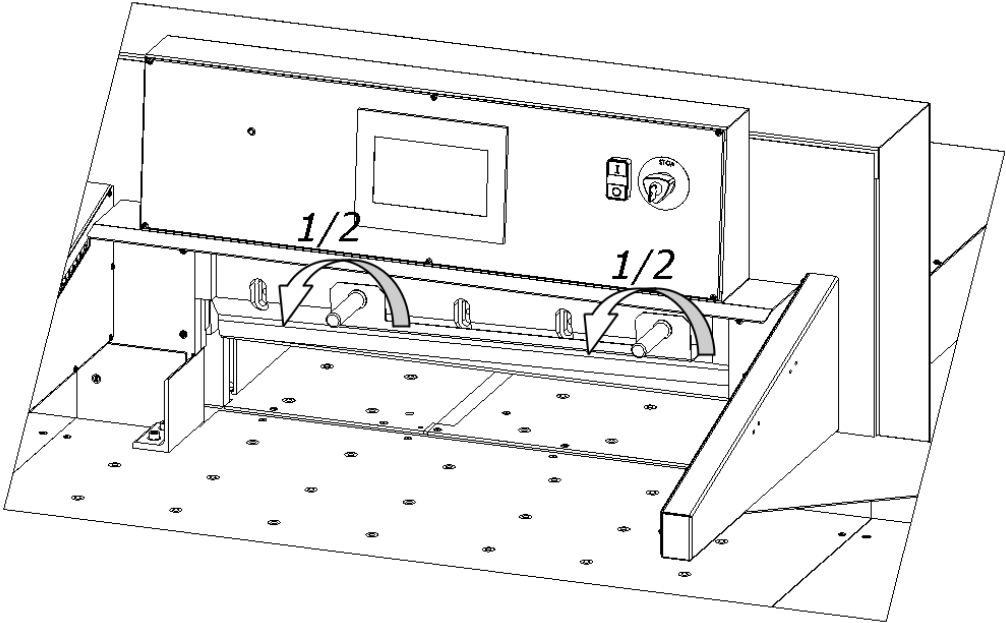


Figure 27

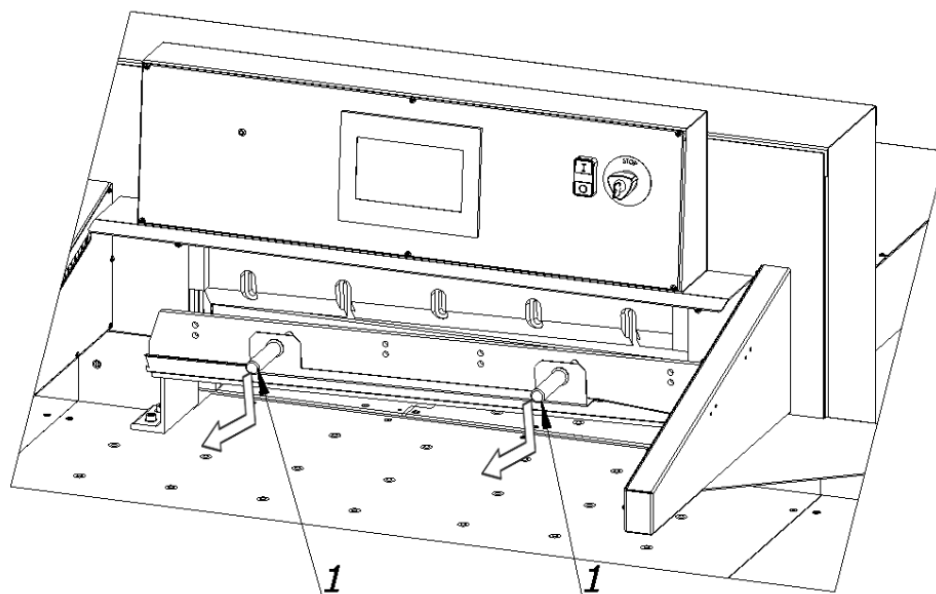


Figure 28

8.1.1.13 holding the transport handles release the clamp by turning them 1/2 turn at a time to the left (fig 27) and carefully pull the knife down (fig 28). Take the removed knife into the special protective packaging (Fig. 29a - 29d.) With the blade inwards and fasten it with two screws. To unscrew the bolts fixing the blade knife, use the RWTg 8 wrench provided on the cutter.

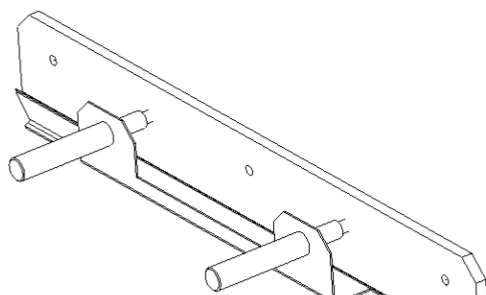


Figure. 29a Knife in the transport handle

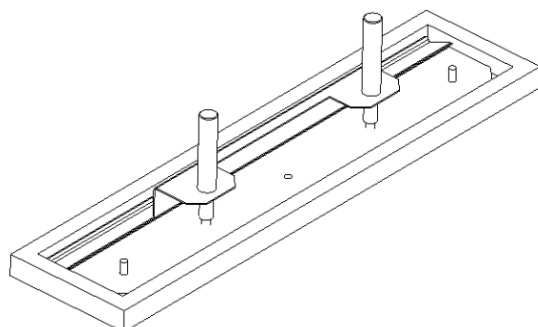


Figure 29b Knife in the package

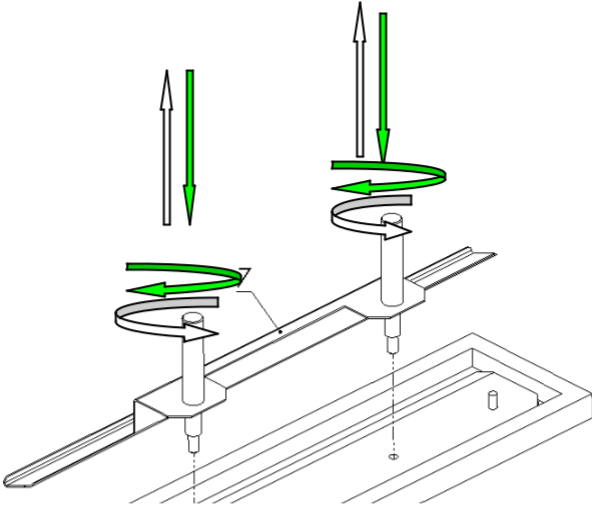


Figure 29c Unscrewing / securing the transport handles

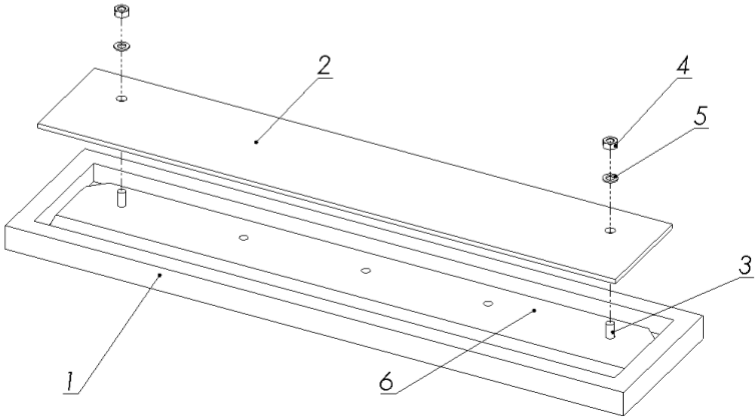


Figure 29d Fixing the knife in the package


- 1. Packaging
- 2. Cover
- 3. Screw
- 4. Nut
- 5. Washer
- 6. Knife
- 7. Knife change holder

### 8.1.2 Inserting a knife

8.1.2.1. Remove all adjusting screws 1 (figure 30) so that their faces are hidden in the knife bar body.

Figure 30 B - the adjusting screw does not protrude below the protrusion 2 in the cutter bar - correct position.

Figure 30 A - the adjusting screw protrudes under the projection 2 in the cutter bar - incorrect position, remove the screw.

|   |   |
|---|---|
|  | <p><b>WARNING!</b></p> <p>The assumed knife must be able to support its upper surface with the projection of the cutter bar. Failure to comply with this condition may result in a situation when the assumed knife is higher than removed, serious overloading and even damage to the machine.</p> |
|---|---|

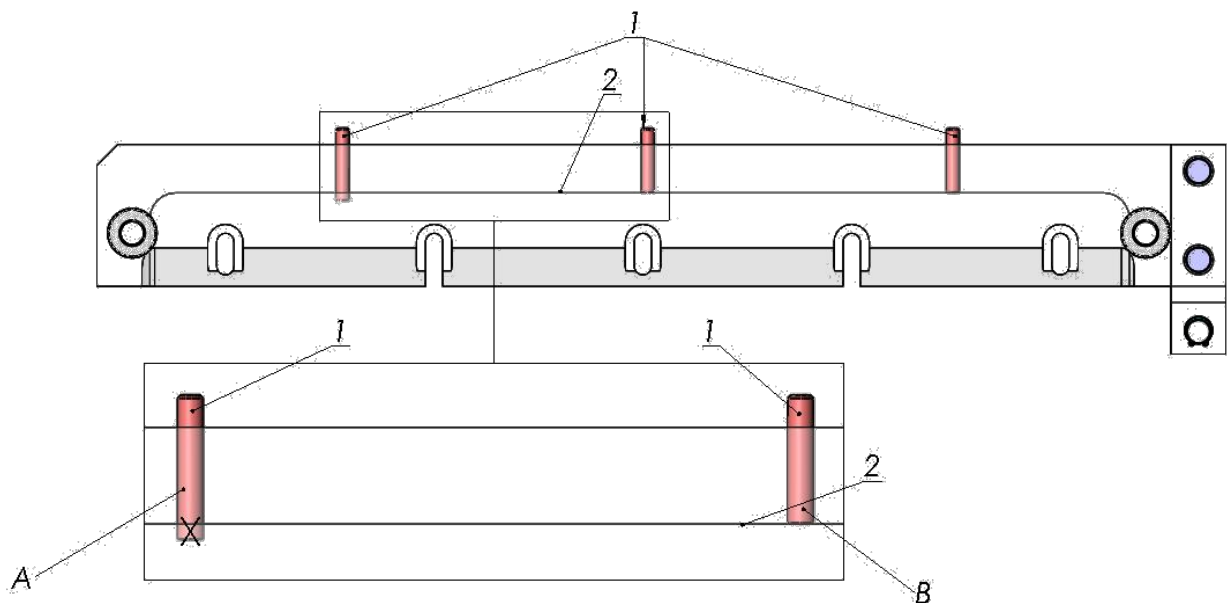


Figure 30 Position of adjustment screws.

8.1.2.2. Remove the knife from the packaging (Fig.29a - 29d)

8.1.2.3. Holding the transport handles 1, insert the knife 2 into the cutter so that the transport handles screwed into the knife hit the cutouts in the cutter bar 3. (fig.31)

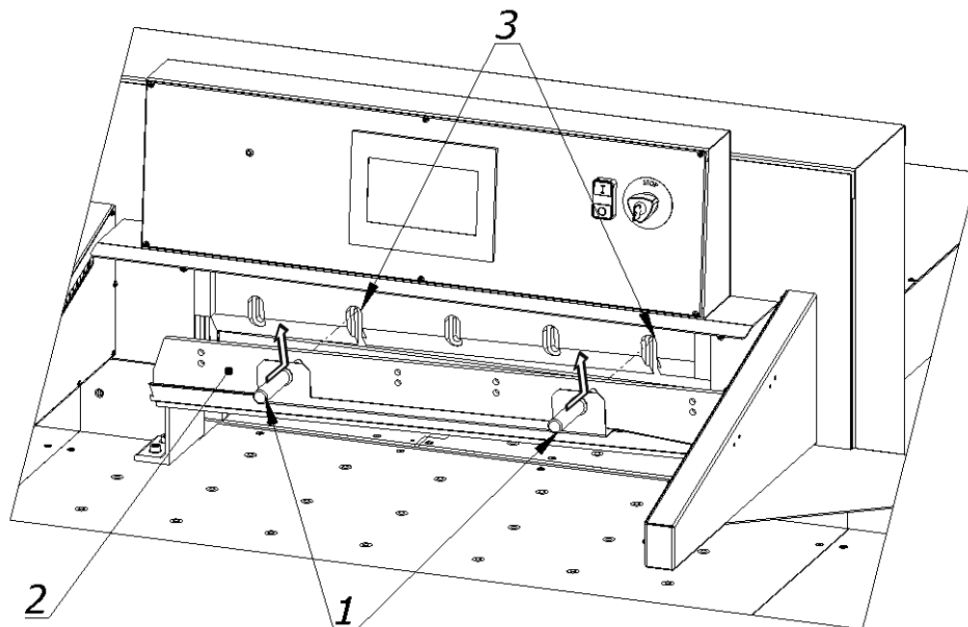


Figure 31

Insert the knife so high that its upper surface will rest against the protrusion in the knife bar 2 (Fig. 30).

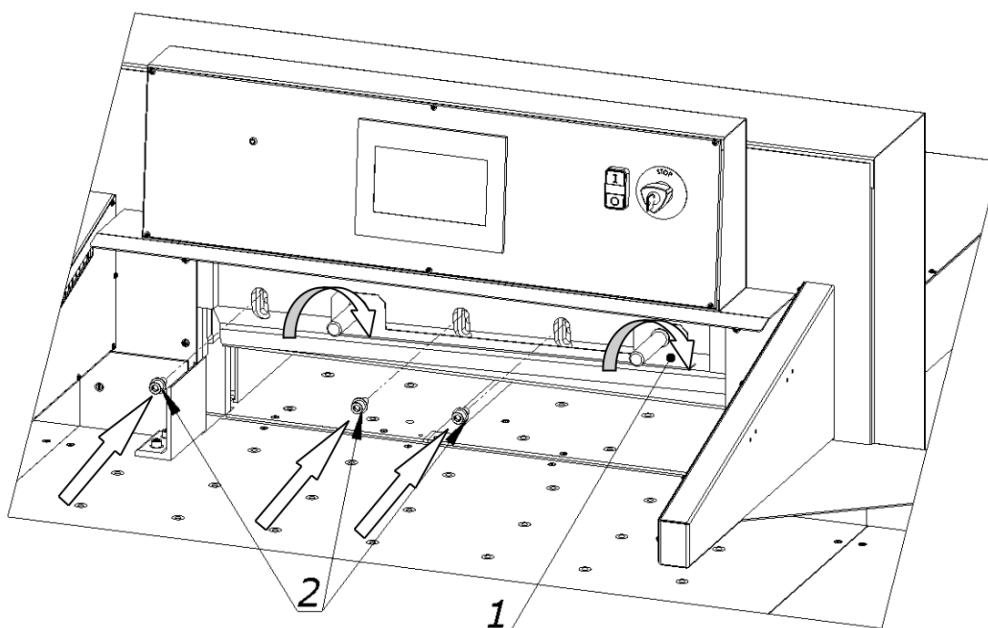


Figure 32

8.1.2.4 Pre-attach the knife to the cutter bar by turning both transporting handles 1 to the right (fig. 32).

8.1.2.5 Install the fastening screws 2 (fig. 32).

8.1.2.6 Unscrew both transport lugs 1 (figure 33) and replace them with the mounting screws 1 and 2 (fig. 33)

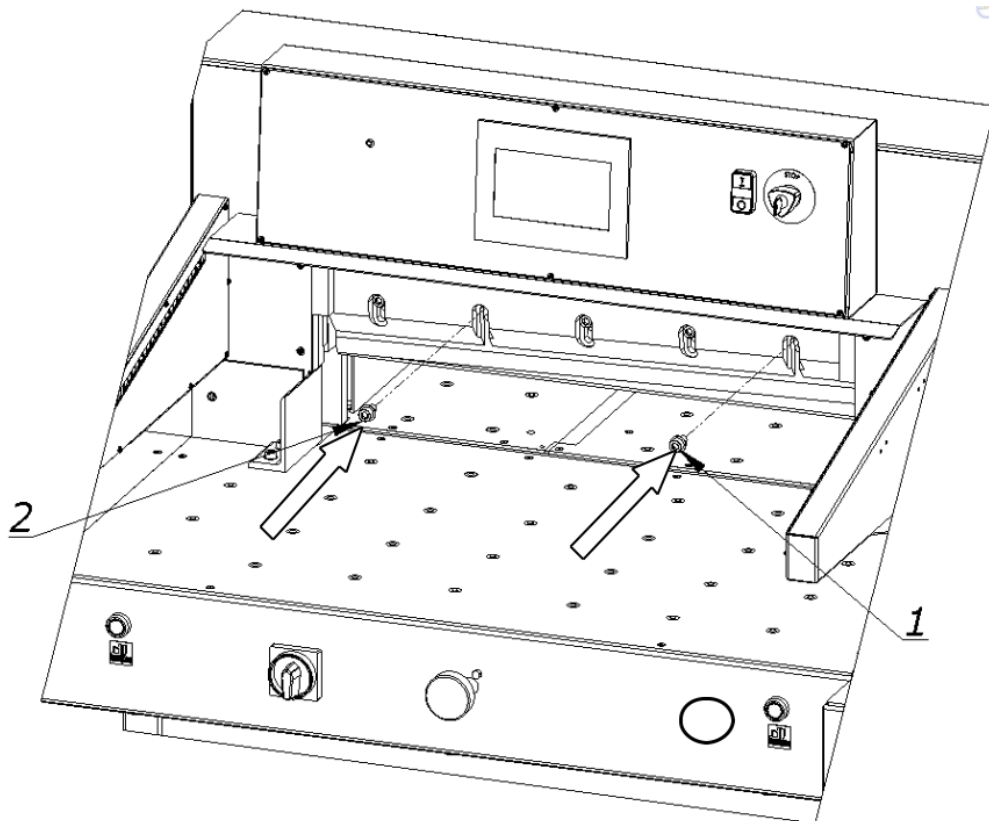



Figure 33

8.1.2.7 Slightly unscrew the first screw on the left side of the clamping screw 2 (Fig. 32), taking care that the screw head does not protrude above the knife beam sliding plane.

8.1.2.8 Press the "Change knife" function on the programmer 3 (Fig.23)

8.1.2.9 Pressing the push buttons 2  (Fig. 35) at the same time, start the cutting cycle. The knife will stop in the lower position.

8.1.2.10. Switch off the power supply of the electrical system by turning the main switch knob 1 (fig. 34) to the "0" position

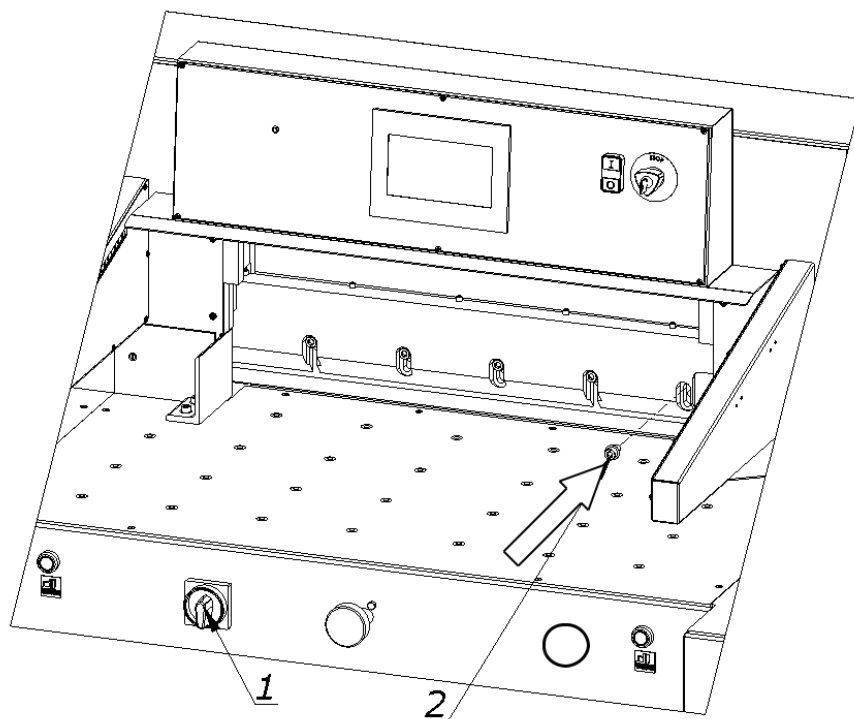


Figure 34

8.1.2.11. Screw in the bolt 2 lightly (fig.34).

8.1.2.12. Unscrew the fixing screws 4 (fig.35) so that the knife falls under its own weight on the base bar with its entire length.

8.1.2.13. Tighten the adjustment screws 5 (fig. 35) as far as they will go, so that the blade of the knife is cut into the base bar, approx. 0.3 mm.

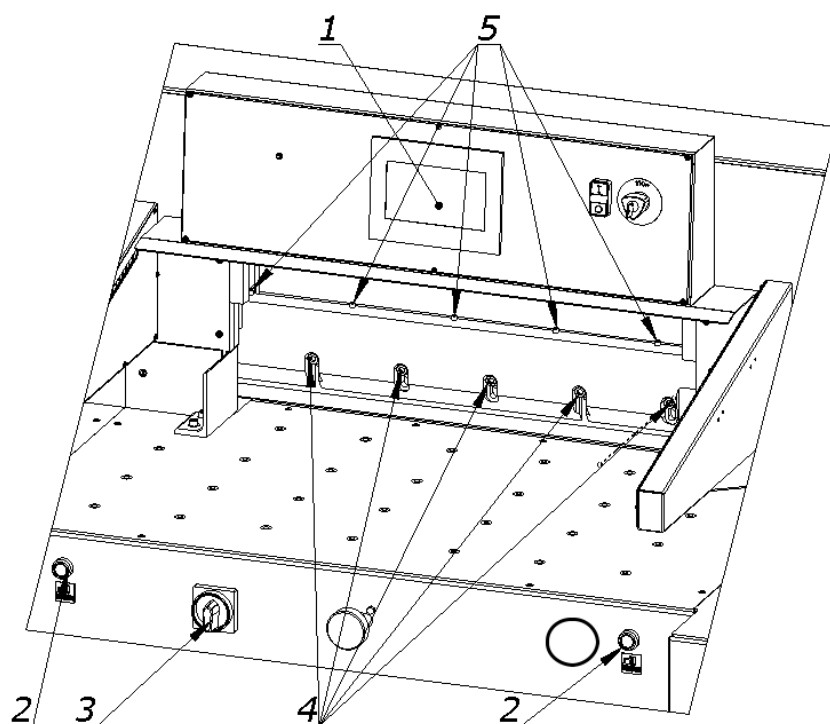


Figure 35



**WARNING!**

**Performing too deep cuts may result in shortened blade life!**

8.1.2.14. Tighten the mounting screws 4 (figure 35)

8.1.2.15. Switch on the power supply of the electrical system by turning the main switch knob 3 (fig. 35) to position "I".

8.1.2.16. Turn off the "knife change" function on the programmer 1 (fig.35)



8.1.2.17. Press simultaneously the push buttons 2 . The knife will return to its upper position.

8.1.2.18. Turn off the power supply of the electrical system by turning the main switch knob 3 (fig. 35) to the "0" position

8.1.2.19. Firmly tighten the first screw on the left side of the knife. 2 (Fig. 32).

8.1.2.20. Turn on the power supply of the electrical system by turning the knob of the main switch 3 (fig.35) to position "I"

8.1.2.21 Switch on the power supply to the control system by pressing the green push button 3 (fig.23).

8.1.2.22 Carry out a cutting test.

If the knife does not cut the pile to the last sheet, repeat steps 8.1.2.7.

8.1.2.23 Attach cover 2 with the screws 1 (fig.36)

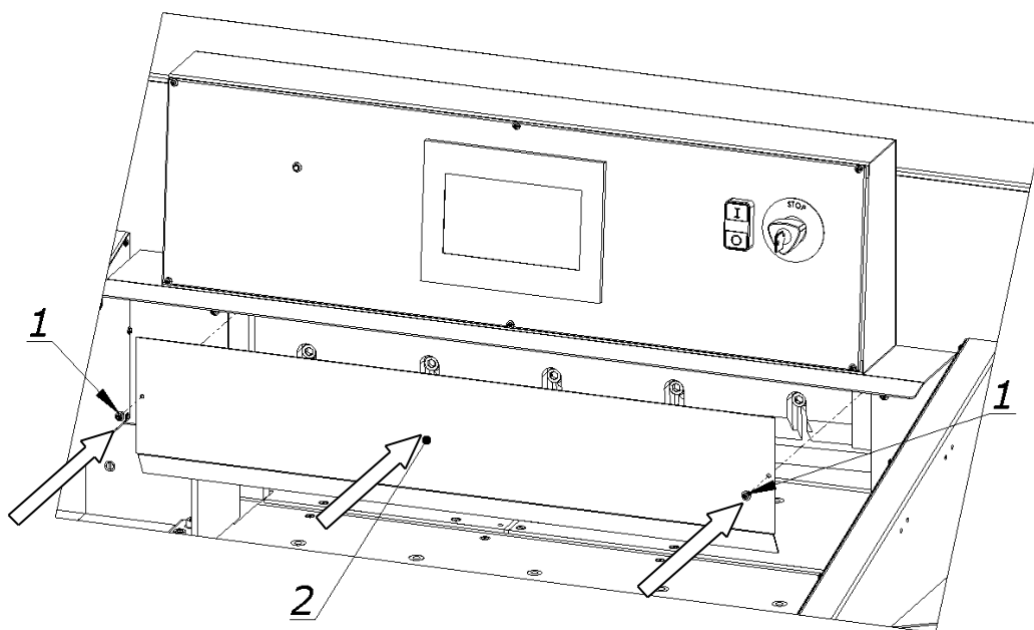


Figure 36

## 8.2 Reversing or replacing the cutting sticks

|   |                        |
|---|------------------------|
|  | <b>DANGER!</b>         |
|  | <b>Risk of injury!</b> |

The cutting quality of the lower stack sheets and the speed of blunting of the knife depend to a large extent on the cutting stick. Replacing or reversing the cutting stick is recommended after each knife change or in the event of breaking (not cutting) the lower sheets.

|  |                 |
|--|-----------------|
|                     | <b>WARNING!</b> |
| <b>The channel between the tables into which the cutting stick is inserted must always be clean.</b> |                 |

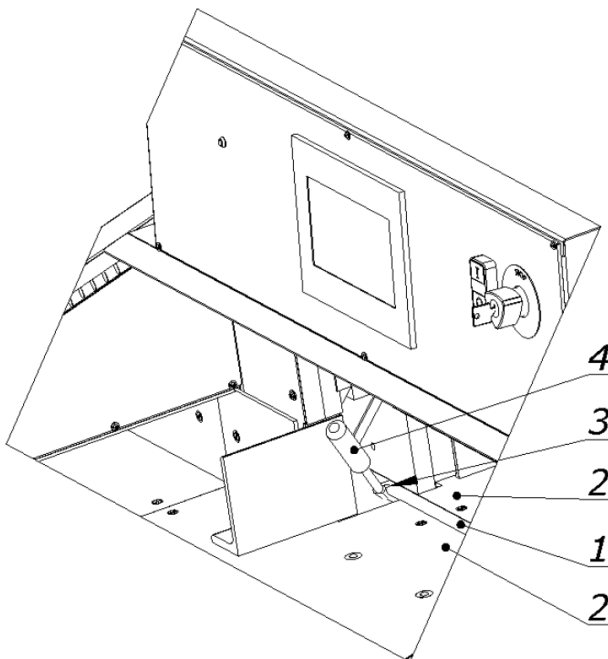


Figure 37 Removing the cutting stick.

1. Cutting stick 1
2. Table 2
3. Fixing pin
4. Screwdriver

8.2.1 Lift the cutting stick 1 with a screwdriver 4 (fig. 37)

8.2.2 Rotate or replace the cutting stick

8.2.3 Insert the replaced stick into the channel between the tables 2 and place it on the dowel 3 (Fig. 37)

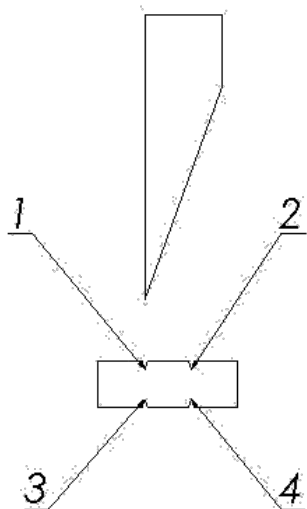


Figure 38 Diagram of using the cutting stick

Rotation of the cutting stick in both planes gives the possibility of obtaining four lines of contact with the knife, marked in Figure 38 as 1, 2, 3, 4.

### 8.3 False clamp

The use of the insert under the pressure bar prevents creation of markings made by the lower part of the beam on the material to be cut.

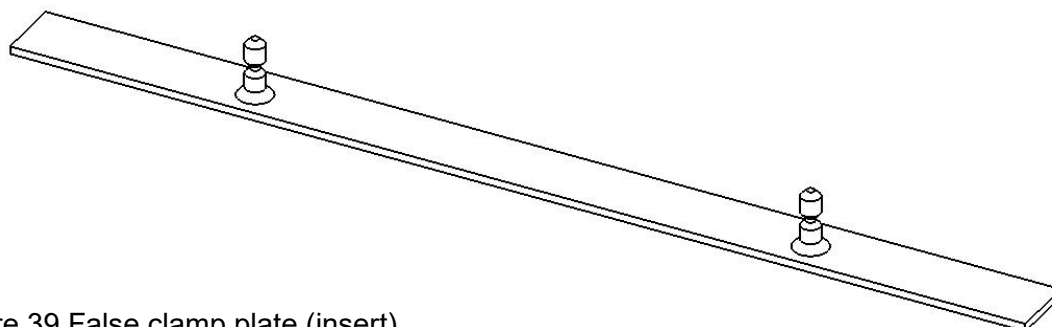


Figure 39 False clamp plate (insert)

The pressure beam insert (fig. 39) is attached under the front table in the place shown in figure 40.

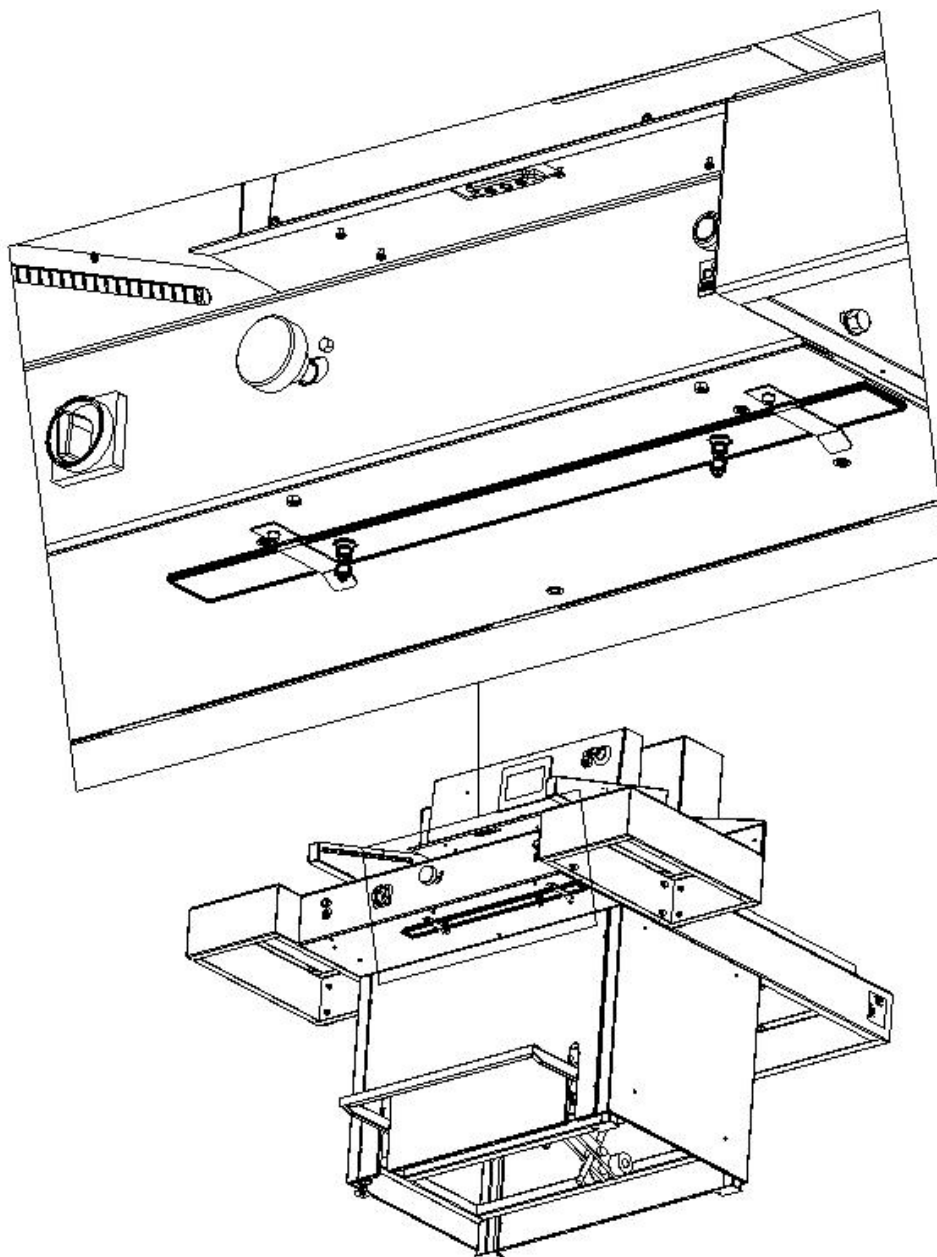




Figure 40 Placement of the insert before attachment in the pressure bar

|   |                               |
|---|-------------------------------|
|  | <p><b>DANGER!</b></p>         |
|  | <p><b>Risk of injury!</b></p> |

**In order to mount the insert in the pressure bar:**


8.3.1 Place the insert 1 (Fig. 41) under the pressure beam so that the insert pins are under the holes in the pressure beam.

8.3.2 Pressing pedal 2 (Fig. 41), bring the pressure beam down so that the insert pins hit the holes in the beam and the insert adheres the entire surface to the bottom surface of the beam.

8.3.3 Use a 3-mm hexagonal key with 3 mm to firmly screw in the screws 3 (Fig. 41) in the threaded holes in the clamping beam, causing the insert to be blocked in the clamping beam.

8.3.4 Release the pressure on the pedal 2 (Fig. 41) - the beam with the inserted insert returns to the upper position

**The removable insert must be attached under the front table! (Fig. 40)**

|   |  |
|---|--|
|  | <p><b>INFO</b></p>   |
|   | <p>The lack of the insert in the place of attachment is treated by the programmer as if it was mounted in the clamping beam and narrow cut (waste) is greater.<br/> <b>Mounting the insert into the pressure bar causes;</b><br/> <b>the minimum narrow cut (waste) is 40mm (without insert 22mm),</b><br/> <b>maximum stack height is 76mm (without 80mm insert).</b></p> |

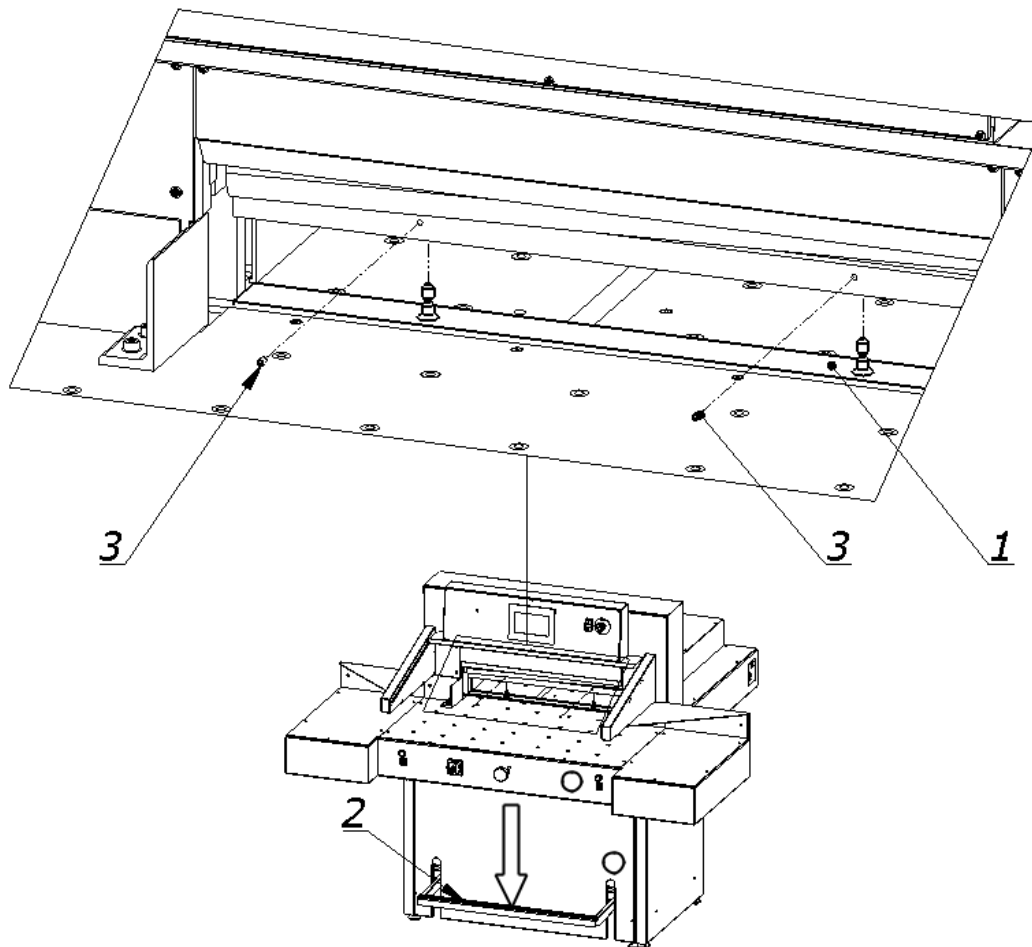


Figure 41 Operating elements used when mounting the insert into the pressure bar

## 8.4 Adjusting the parallelism of backguage

Depending on the required inclination of backguage, it must be adjusted using drawings 42 and 43.

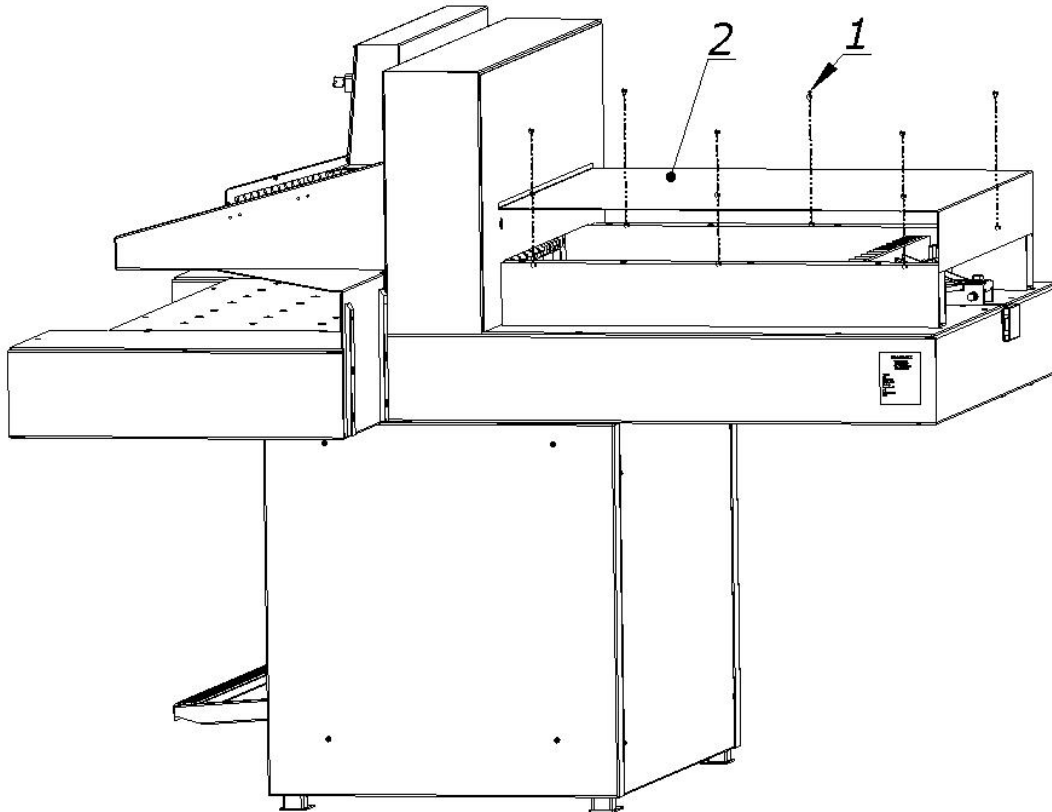


Figure 42 How to remove the cover

To adjust backguage:

8.4.1 unscrew the screws 1 (fig.42)

8.4.2 remove the cover 2 (fig.42)

8.4.3 loosen the screws 1 (fig.43)

8.4.4 loosen the nuts 2 (fig.43)

8.4.5 by turning the screws 3, place the backguage 4 (Fig. 43) at the right angle

8.4.6 lock the adjustment screws with 3 nuts 2 (fig.43)

8.4.7 firmly tighten the screws 1 (fig.43)

After the cutting attempt, repeat the adjustment until the parallel cutting is achieved.

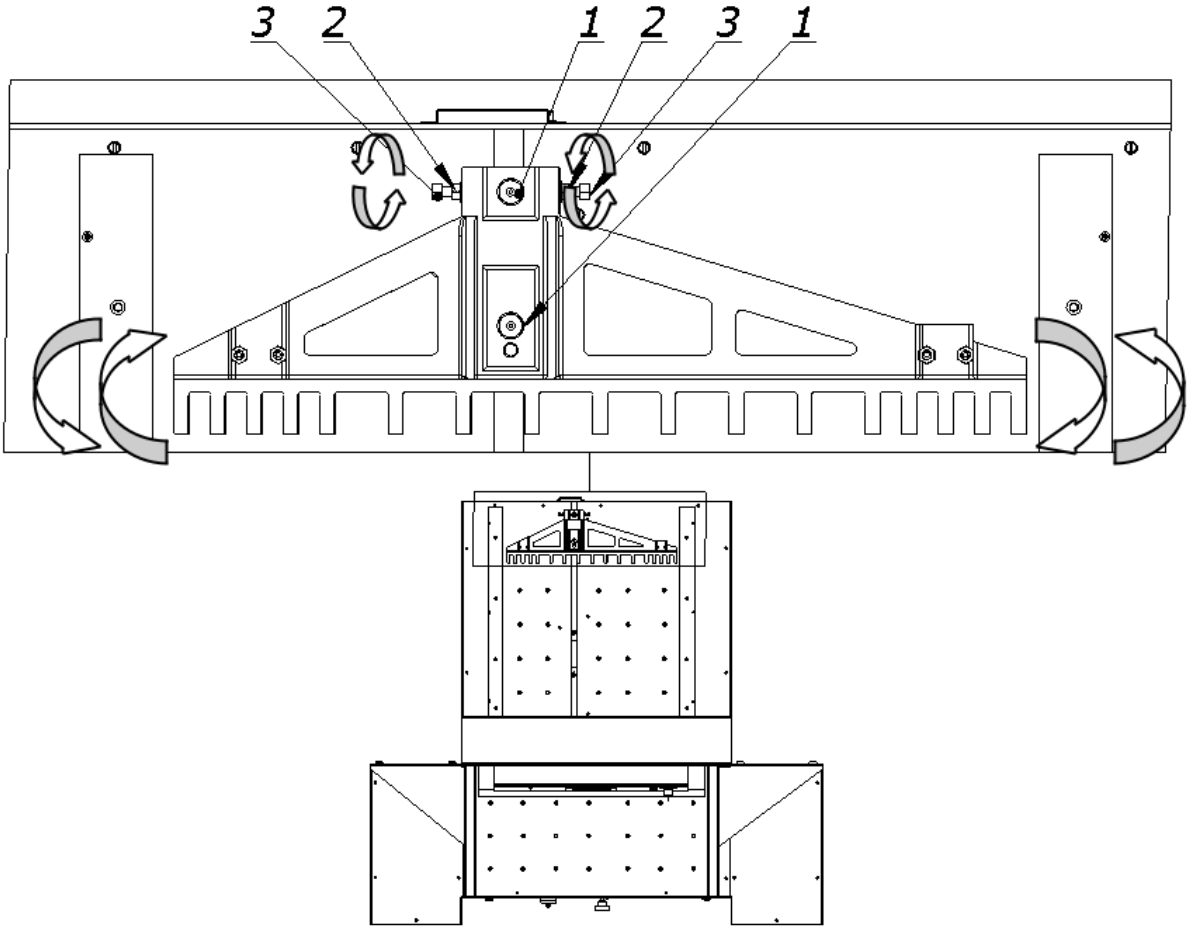



Figure 43 Adjusting elements of backgauge

## 9. MAINTENANCE

|   |  |
|---|--|
|  | <p><b>DANGER!</b></p> <p>Maintenance and lubrication work may only be carried out after turning off the machine (main switch in position "0").</p> |
|---|--|


### 9.1 Daily maintenance

Every day, remove all waste from the cutter and the operator's working space.

### 9.2 Treatments that should be performed cyclically

At regular intervals, waste and dirt should be removed from hard to reach machine and surrounding areas:

- Regularly remove paper waste from the press and knife drive holes
- Air intakes for motors must be kept free of dust and debris.
- 

|   |  |
|---|--|
|  | <p><b>DANGER!</b></p> <p><b>Caution – Fire hazard with insufficient ventilation!</b></p> <p><b>The machine guards must be put back into place immediately after maintenance work has been completed!</b></p> |
|---|--|

### 9.3 Lubrication

The list of lubrication points is shown in Figures 46, 47, 48, 49, 50 and described in table 12. Access to lubrication points is possible after removing the covers shown in Figs. 44, 45, 48, 50.

When lubricating the knife assembly, use the controls as when changing the knife (Chapter 8.1)

Lubrication of the side surfaces of the guides as well as the surface of the knife body in contact with the guides should be carried out in the upper (Fig. 46a) and lower position of the knife body (Fig. 46b). Lubricate recommended places on both sides of the cutter.

In places requiring lubrication with a grease, apply grease with a grease gun. It is enough to press the trigger of the lubricator 2-3 times.

**The indicated places should be lubricated once a week!**



Table 12 List of lubrication points of the cutter mechanisms

| Mark | Cutter mechanism | Type of lubricant | Lubrication point  | Figure   |
|------|------------------|-------------------|--|----------|
| ①    | Knife            | Grease            | <ul style="list-style-type: none"> <li>• Side surfaces of the guides (in contact with the knife body)</li> <li>• Internal surfaces of guides (in contact with rollers)</li> <li>• Side surfaces of the knife body</li> <li>• Fixing the hydraulic cylinder of the knife</li> <li>• Knife pulley</li> </ul> | 46a, 46b |
| ②    | Backguage        | Oil               | <ul style="list-style-type: none"> <li>• Guide roller (apply a thin layer of oil.)</li> <li>• Lead screw (apply a thin layer of grease)</li> </ul>   | 47<br>48 |
| ③    | Clamp            | Grease            | <ul style="list-style-type: none"> <li>• Shoe beam slides</li> <li>• Shaft bearings</li> <li>• Surface of the lead screw</li> <li>• sliding bushes of the pressure mechanism</li> </ul>  | 47<br>49 |

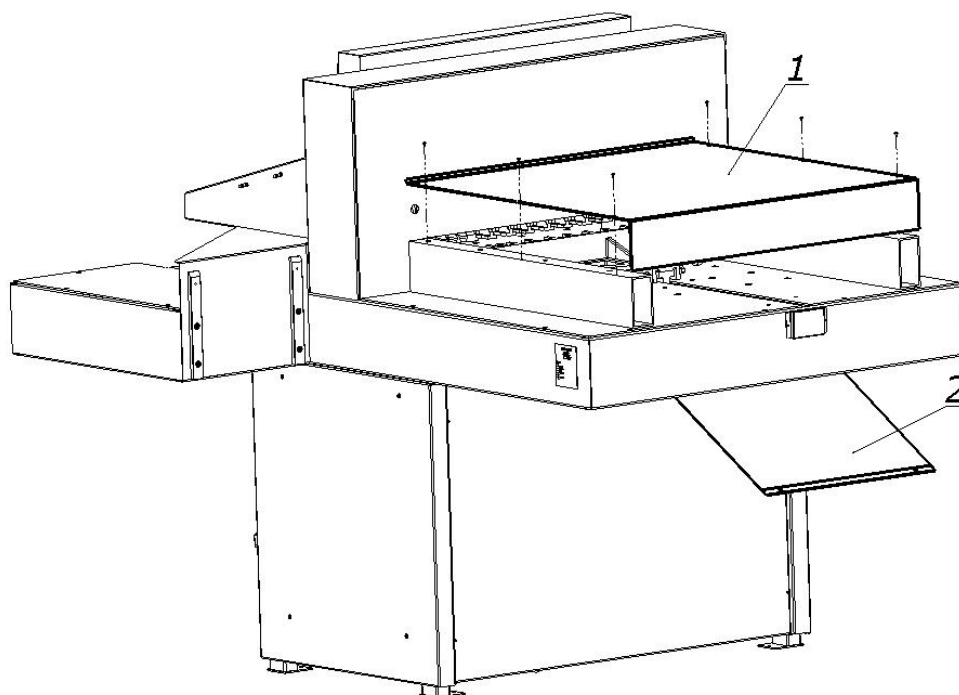


Figure 44 Cover for the backguage (1) and lead screw (2)

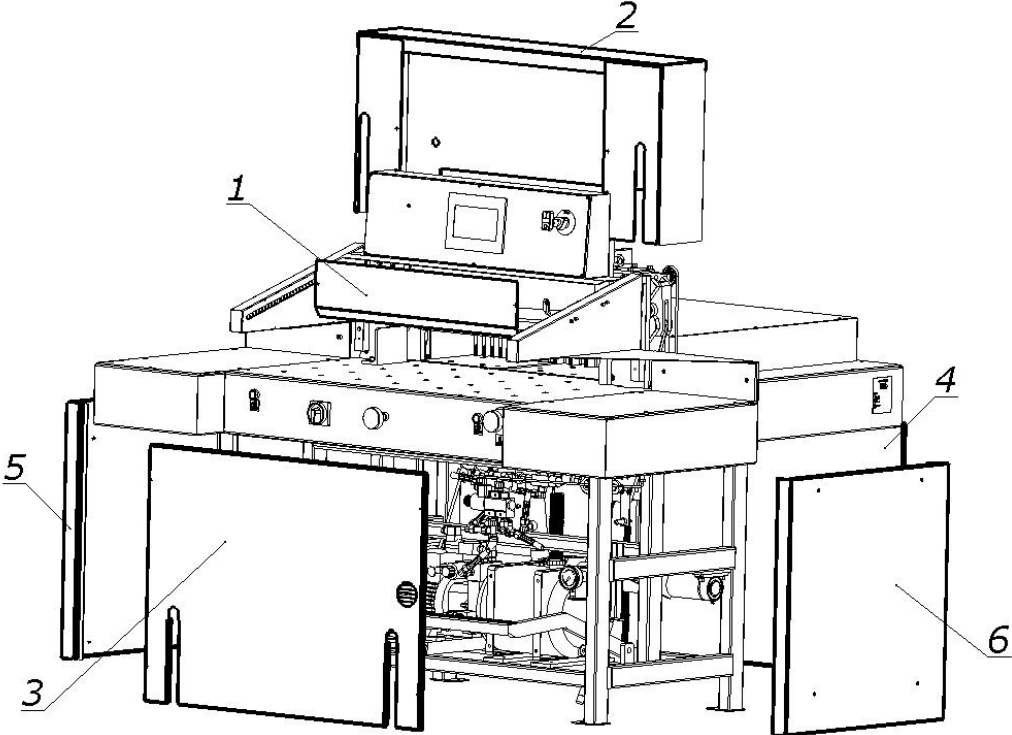


Figure 45 Base frame covers.

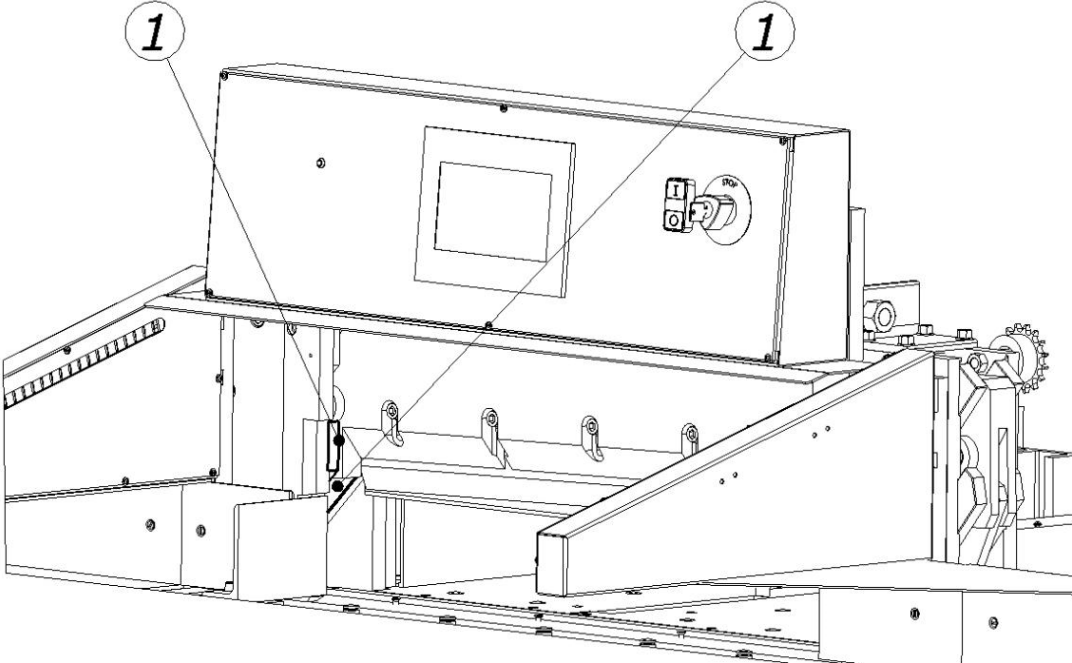


Figure 46a Space for lubrication of the knife assembly in its upper position

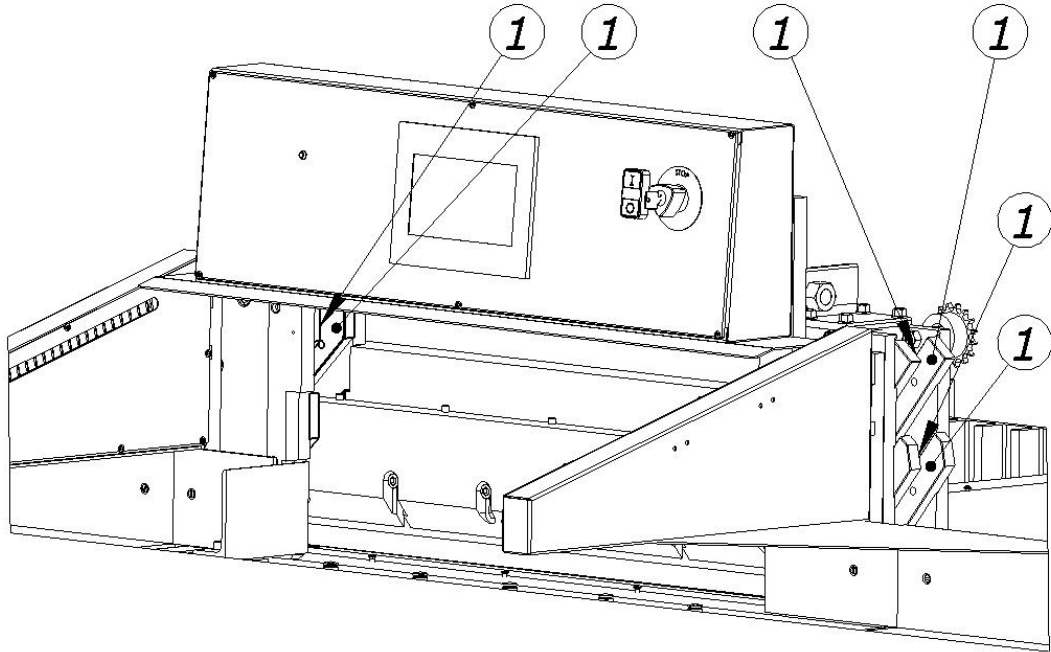


Figure 46b Space for lubrication of the knife assembly in its lower position

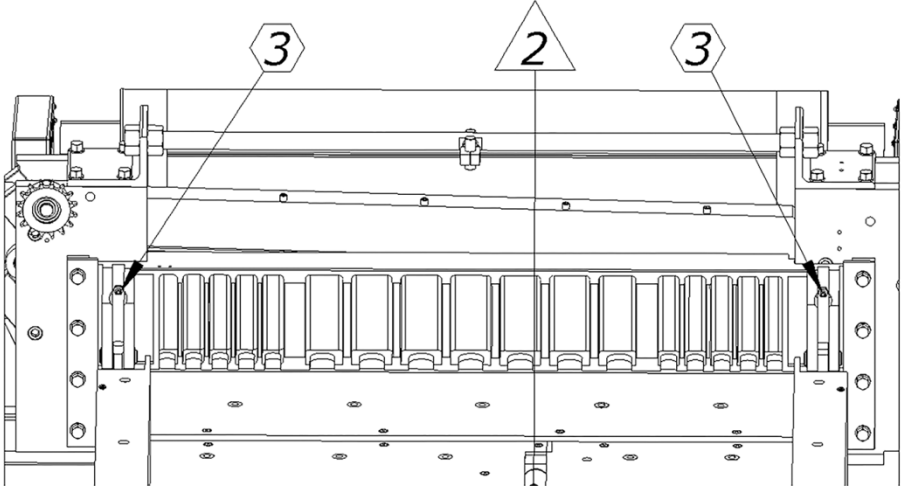


Figure 47 Lubrication space of the pressure beam (3), guide shaft of the backgauge mechanism (2)

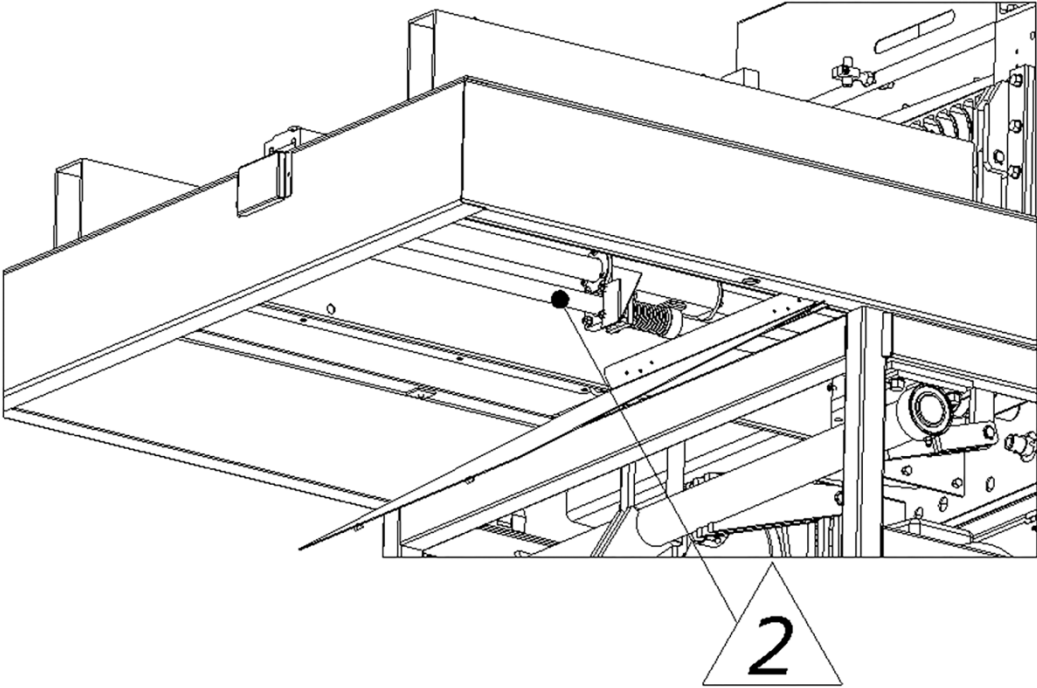


Figure 48 Lubricating point of the lead screw

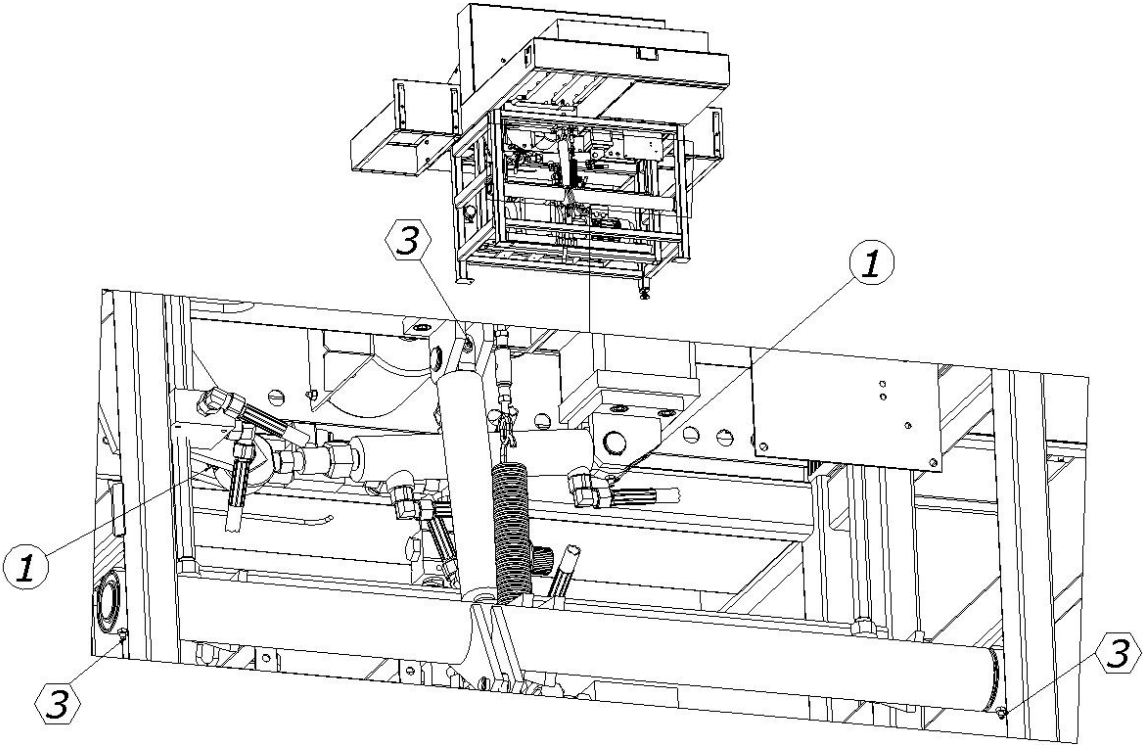


Figure 49 Lubrication point of the knife actuator (1), pressure cylinder and shaft actuator (3)

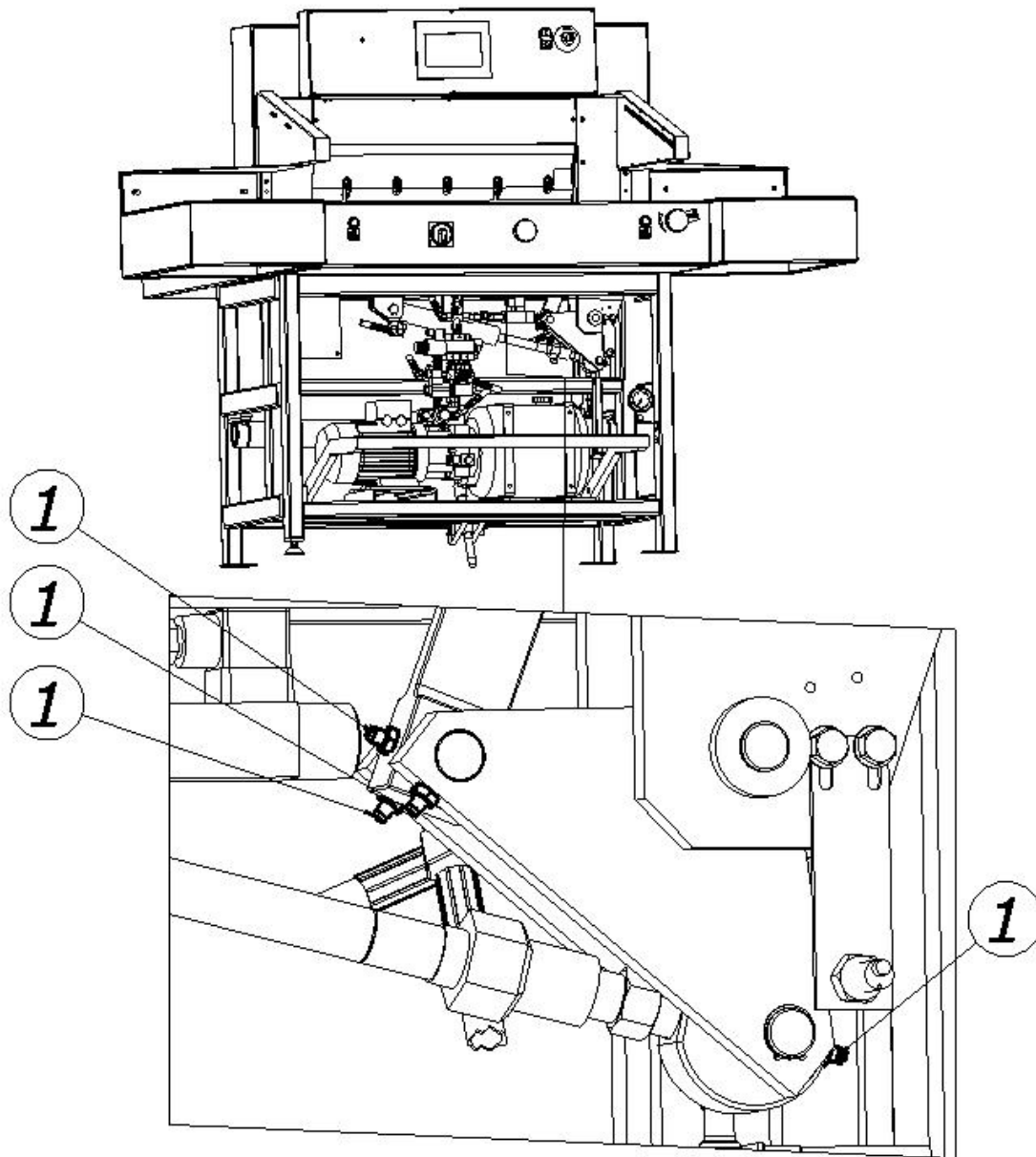


Figure 50 Lubrication point of the knife assembly lever

## 9.4 Hydraulic power supply

The overflow valve was set to 110 bar and sealed.

This setting can be checked using a manometer (included in the aggregate) by connecting it to the manometric connection.

**Unauthorized change of the pressure value is unacceptable and causes the warranty for the aggregate to be lost!**

### 9.4.1 Working conditions of the aggregate

- ambient temperature of the unit from 5 °C to 30 °C,
- HV 46 hydraulic oil,
- dust free air,
- free air exchange for cooling,
- the hydraulic oil temperature must not exceed the specified value by the manufacturer of hydraulic oil,
- the aggregate is designed to work in a closed room, shielded against environmental influences, i.e. direct exposure to radiation solar, atmospheric precipitation,
- use in accordance with the principles of health and safety at work and fire regulations,
- the unit must be operated by a qualified and trained person staff

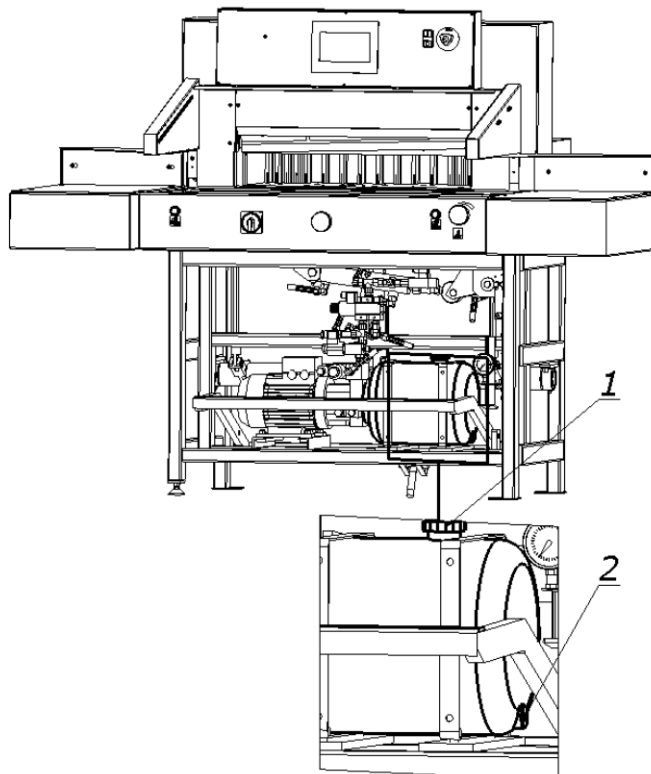



Figure 51 Oil change in in hydraulic system



|   |   |
|---|---|
|  | <p><b>DANGER!</b></p> <p><b>Danger of burns due to hot oil!</b></p> <p><b>Danger of hydraulic oil splash!</b></p> |
|---|---|

According to the recommendations of the hydraulic power supply manufacturer, the oil in it should be replaced after a year of intensive work.

To change the oil, unscrew the drain plug 2 (fig. 51) located in the bottom of tank 1.

Old oil should be drained while it is still warm.

Fresh oil should be poured after first screwing in the drain plug 2 through the filler opening 1. (Fig. 51)

|   |                               |
|---|-------------------------------|
|    | <p><b>DANGER!</b></p>         |
|  | <p><b>Risk of injury!</b></p> |

After lubrication: Using a cloth, completely remove any excess lubricant (grease, oil), in particular from the table surface on which the cutting material is laid and the work pieces in contact with the cut material, i.e the knife body and the pressure beam.

## 9.5 Inspections

### 9.5.1 General recommendations

- After each change, clean the machine (mainly from paper dust)
- Pay attention to the cleanliness of contacts of control elements (contactors, connectors)
- Check the screw connections of the cutter elements and if necessary, tighten the screws.

### 9.5.2 Checking hydraulic hoses

Check regularly that the hose is not damaged or frayed, and check the oil level.

Recommended test criteria for hydraulic hoses:

- Damage to the inner layer (scratches, cuts, cracks)

- Hose deformation
- Leaks (on the surface of the hose, fixing)

The condition of the hoses should be checked at least every 12 months.

Replacement of hoses is recommended at least every 6 years.

### **9.5.3 Knife regeneration**


The quality and accuracy of cutting depends primarily on the sharpness of the knife and the right angle of its blade.

#### **Features of a blunt knife**

- rough and uneven surface of the sliced stack
- ticking the edge of the cut material
- inaccurate slicing
- increased formation of paper dust.



## 10. FAILURES

|   |   |
|---|---|
|  | <p><b>DANGER!</b></p> <ul style="list-style-type: none"> <li>• Each fault carries a risk of injury to the operator or his assistant.</li> <li>• If the cutter knife jams in the cut material during cutting, do not attempt to pull the material out from under the knife.</li> <li>• Defects can be eliminated only by personnel with appropriate permissions.</li> <li>• After completing the fault rectification, fit all covers and check that the individual protection devices are working properly.</li> <li>• Performing repairs by persons who do not have the proper qualifications and proper training results in an immediate loss of the cutter warranty, and also releases the manufacturer and the machine supplier from liability for damage caused.</li> </ul> |
|---|---|

### 10.1 Determining the causes of the fault

Determine if the vulnerability affects the elements:

- electric
- mechanical
- hydraulic
- programmer

### 10.2 Basic procedures for removing various types of defects

Electrical faults:

- Check the compatibility of the direction the motor is turning,
- check the fuses in the machine,
- measure the voltage,
- check that all connectors are tightened securely,
- check if there are any failures at the same time in other machines in the plant.

Mechanical faults:

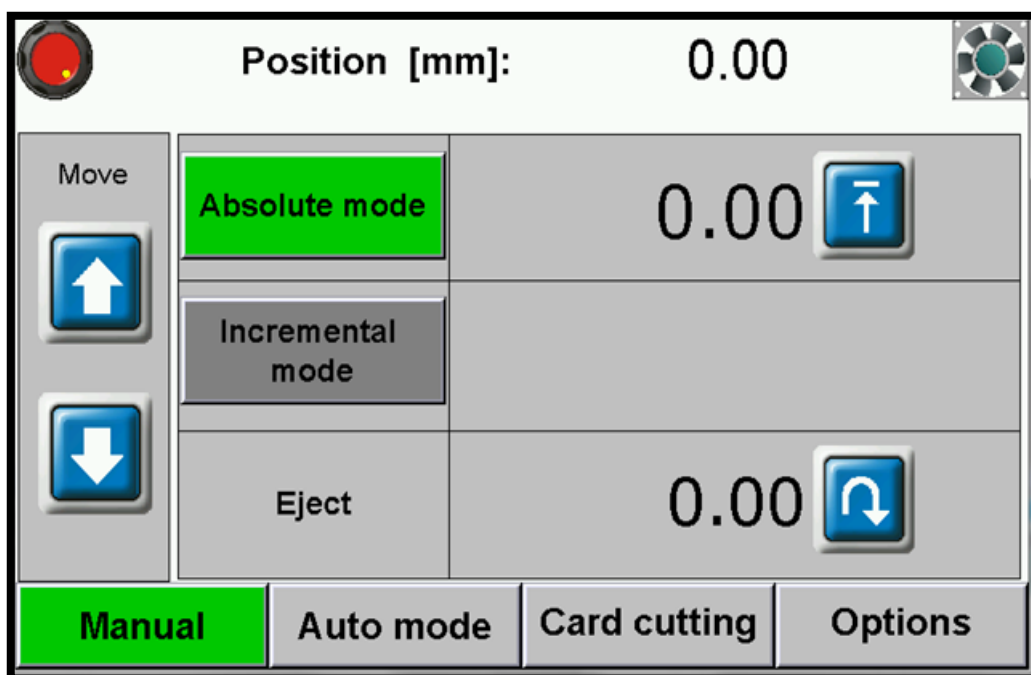
- Look closely at all moving parts,
- check if abnormal noises occur during operation,
- check if the machine has been damaged, no cracks or iron filings appeared on it.

Hydraulic faults:

- Check whether the machine does not produce unusual noises,
- check the oil level,
- check the oil for its condition and color,
- make sure that there is no oil leak.

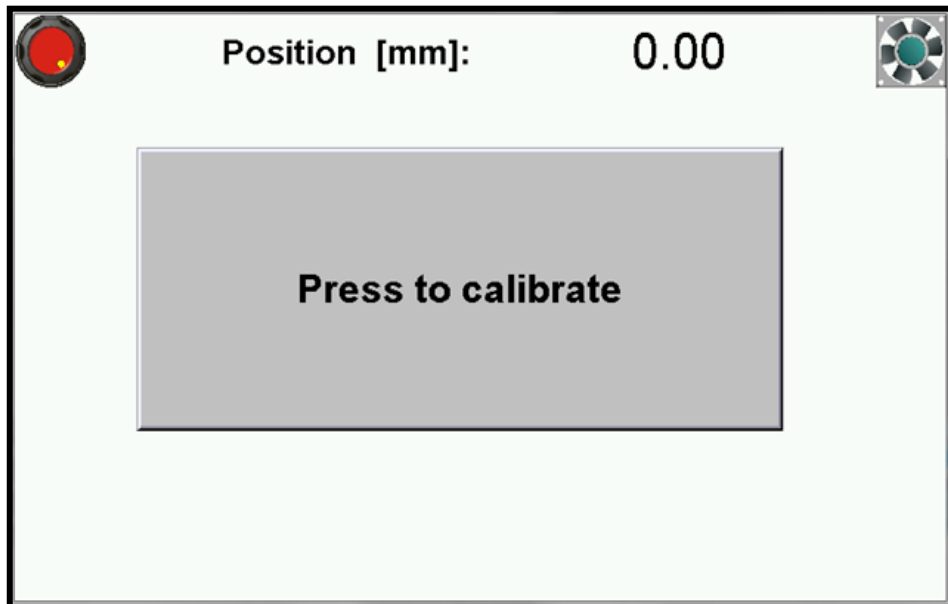
# PROGRAM MODULE OPERATOR MANUAL

## *DOP-B07S410 – 7”*



## 1. MACHINE START

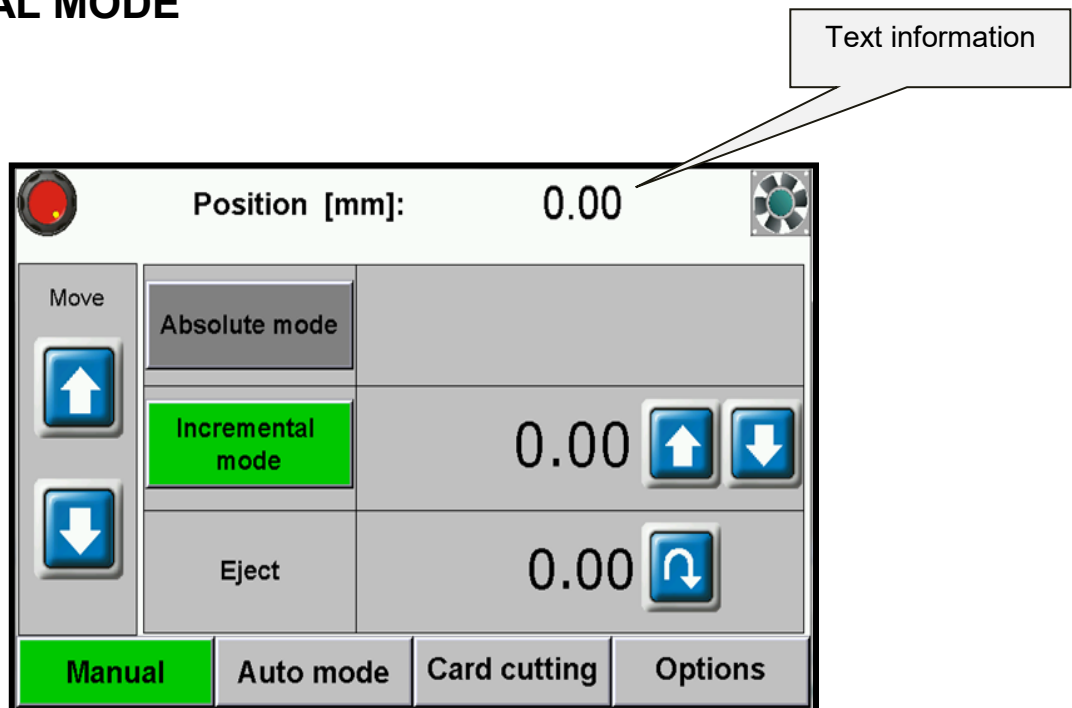
After turning of the machine the starting screen appears



- Please press green button on the screen to start machine control system.
- After pressing „**Press to calibrate**” machine starts the calibration.

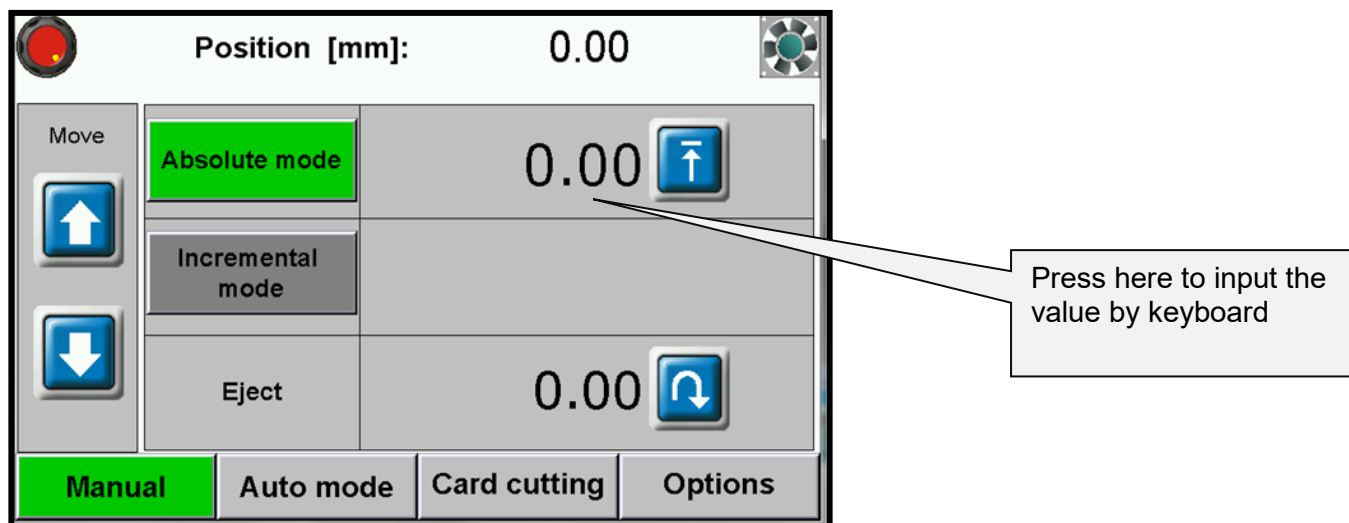
During the calibration the backgauge moves to the maximum back position, then it moves forward till the moment when calibration sensor will be detected. When the calibration is finished on the screen appears the manual mode.

## 2. MANUAL MODE




Available functions:

### 2.1 Absolute mode - Automatic move to input dimension

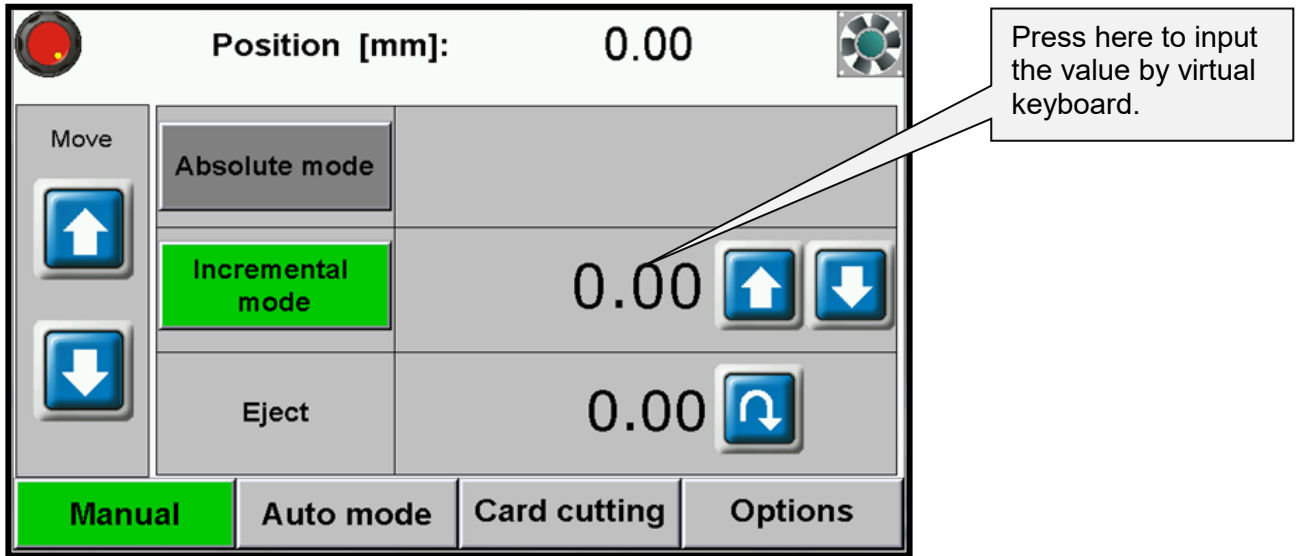


To input the required dimension press the dimension on screen and input value by keyboard.


Confirm by pressing button **ENT** and press .

The backgauge will move to requested position

## 2.2 Incremental mode - Repeating same dimension on next steps



To multiple move of backgauge by same dimension (forwards or backwards) please input this dimension by pressing it on the screen.

Use virtual keyboard and confirm by pressing **ENT** and next by pressing button . Backgauge will automatically move into given position.

It is possible to repeat the move by pressing . Process can be repeated many times.


## 2.3 Manual Backgauge Movement

The backgauge can be moved manually forwards and backwards by pressing



## 2.4 Paper Eject



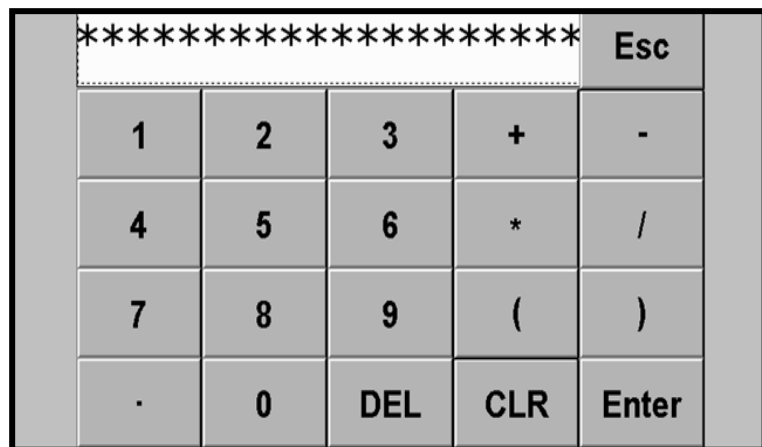
By pressing  button operator can remove the paper. The backgauge automatically move forwards by given value and returns to initial position.

## 2.5 Air Table (optional)



Pressing the button  turns on/off air tables.

## 2.6 Numerical Keyboard



Program module includes calculator function (multiplication, division, addition, subtraction and ()).

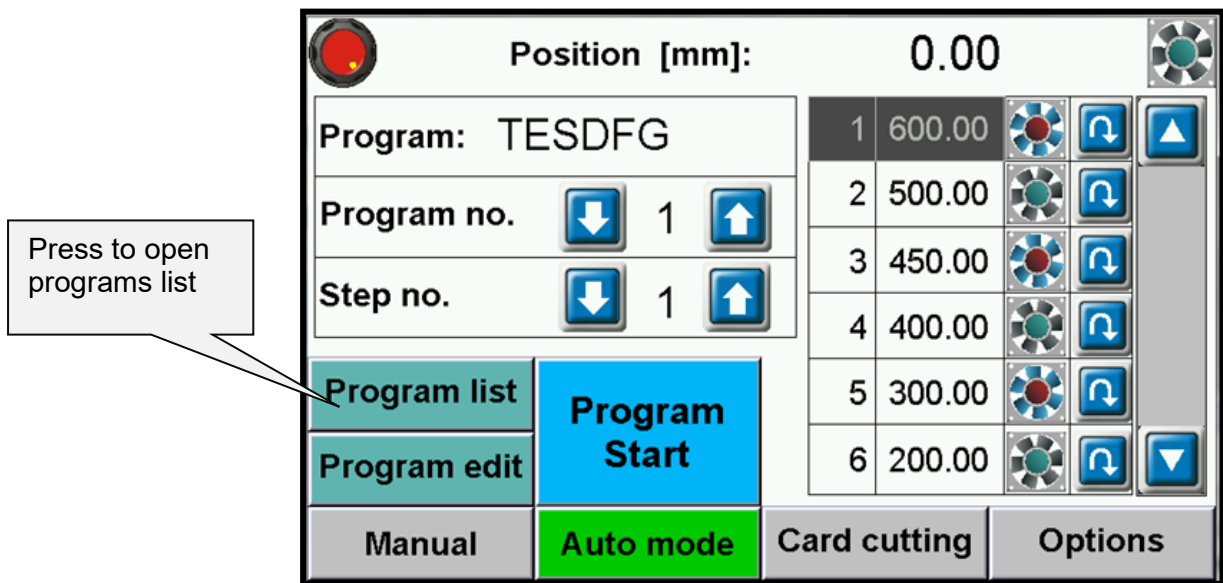
### 3. AUTO MODE- PROGRAMMING

This menu allows to select the program, edit and start program mode.

100 programs can be stored in memory, including 100 steps (dimensions) in each program.

For each step operator can program eject, air and paper rotation left, right.

#### 3.1 Program selection

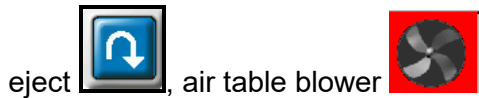


#### Selecting the program to edit or start.

Program can be selected from the list which appears on screen after pressing program name. Program can be also selected by arrows or input program no.

Sliding the program list can be done by pressing arrows next to the list.

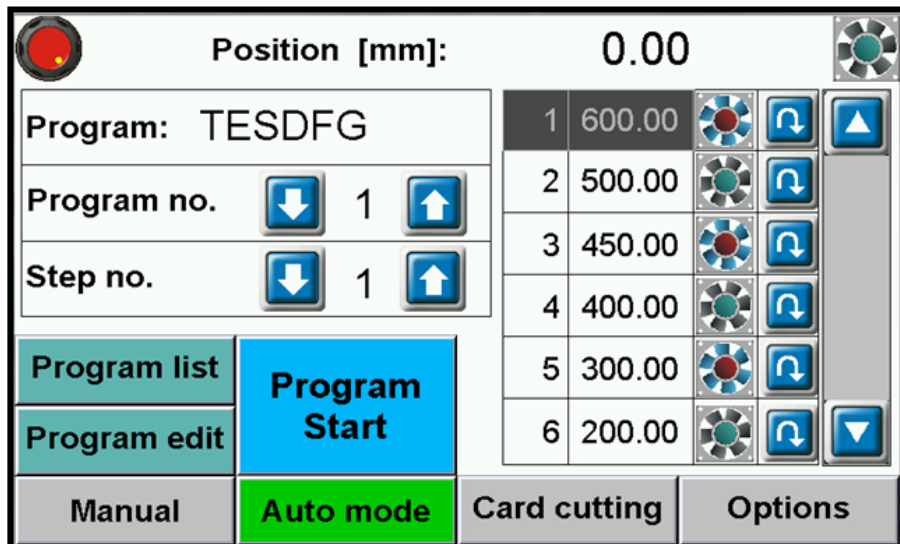
Selection of program in this window allows to check dimensions in each step (by arrow buttons) as well as to see if options are on/off such as:



### 3.2 Launching program from memory.

To launch the program please select the requested program and press button **PROGRAM START**.

After pressing the backgauge moves to dimension saved in step 1 and new screen appears:




After each cut backgauge moves to next step. When last cut is made in selected program backgauge automatically moves to step 1 and program can be repeated.



It is possible to skip cut in step. Press button  to move backgauge to next step



without cut. Press button  to return backgauge to previous step.

To stop program please press button **PROGRAM STOP**.



### 3.3 Program edit and saving.

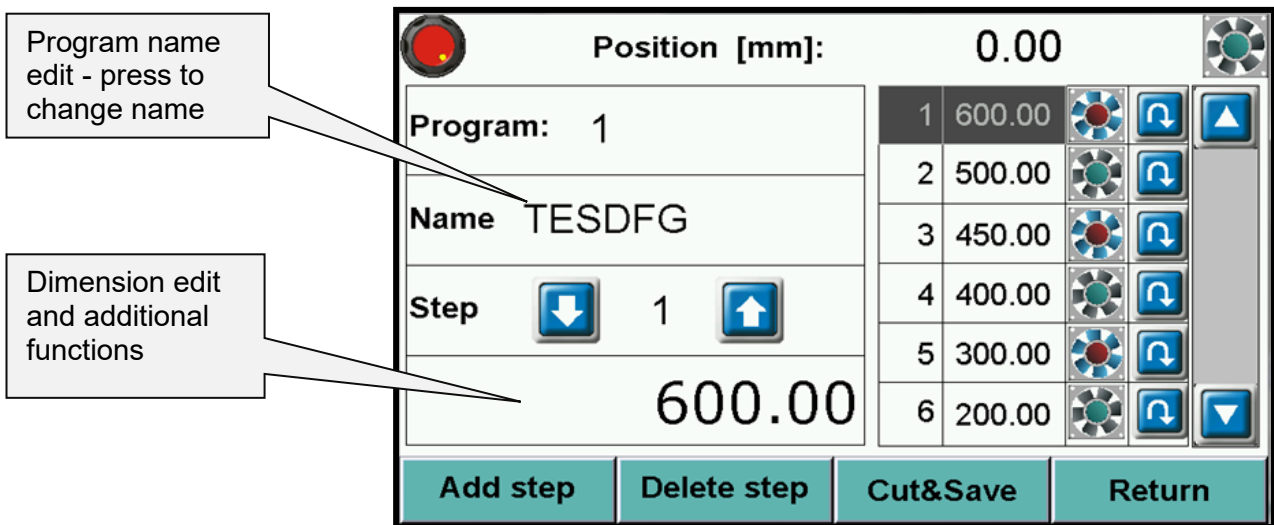
By pressing button **Program Edit** operator can edit previous selected program.



Dimension change, program name change, step removing and turning on/off eject



After selecting program no. / pressing button **Program Edit** new screen appears:



To input new program name or change existing name press the window Name. Pressing opens keyboard screen which allows to input name.

After program name confirmation cursor automatically appears on the steps list.

To input step dimension or add: eject, air, rotation please press icons located in left bottom corner (edit window).

Saving program to memory is done by exiting program edition (button **Return**)

Add step -

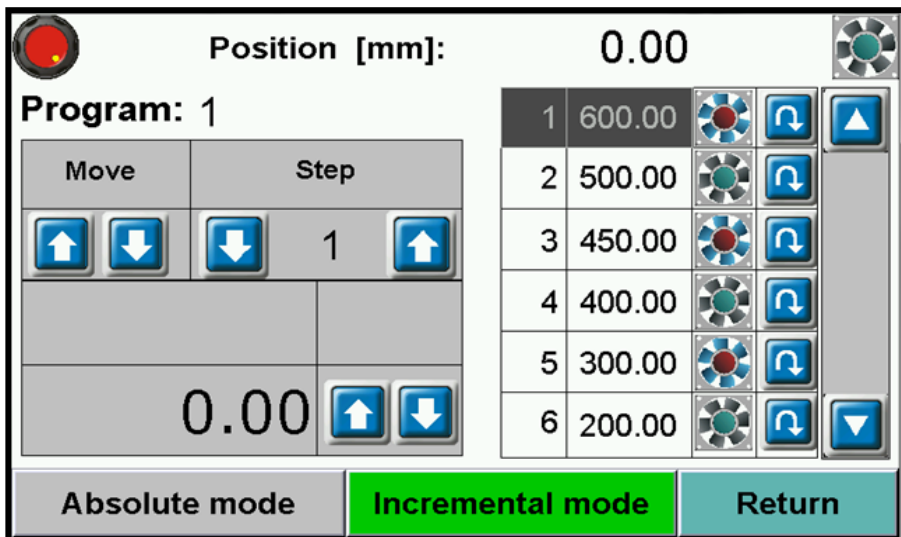
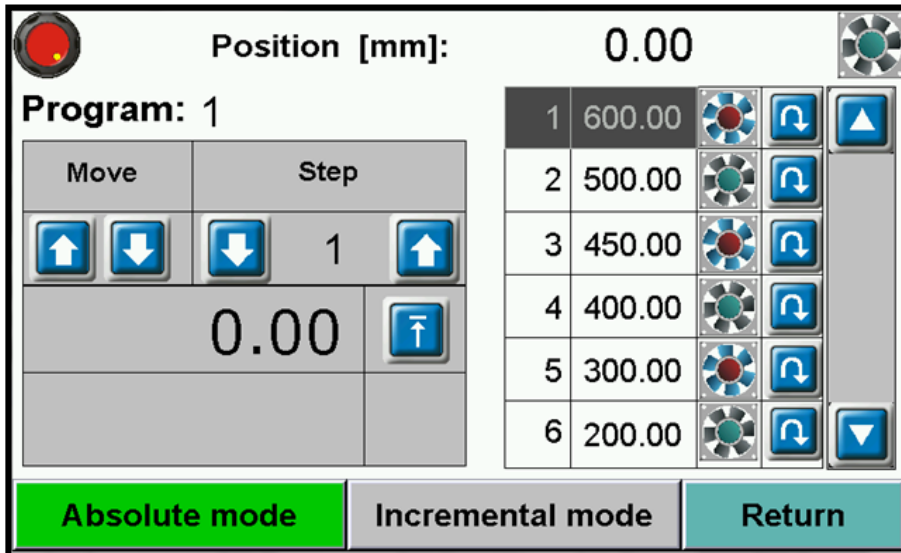
Delete step - to delete one (current) step

### 3.4 Cut & Save

Function allowing to edit program by making backagauge move and cut.

After cut backagauge position is automatically saved as step.

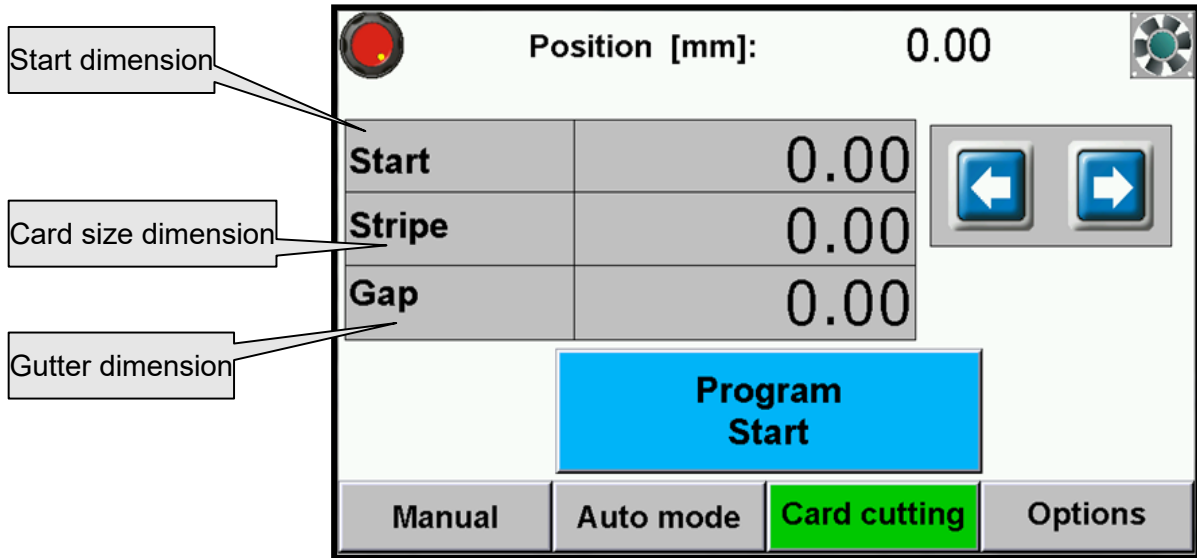
After next cut automatically changes into next step editing.



To exit the program edit by making a cut press button **Return** to return to main menu.

## 4. CARD CUTTING

This program allows to make sequence of cuts with same distance (card size) or 2 changing dimensions (card size and gutter).



**Start dimension** -first cut dimension starting the card cutting sequence

**Card dimension** – dimension of stripe


**Gutter** – if having a gutter on the sheet , if there is no gutter input again card size

**NOTE! Remember to confirm each value by pressing ENT.**

After dimension input and pressing **Program Start** program starts automatically:



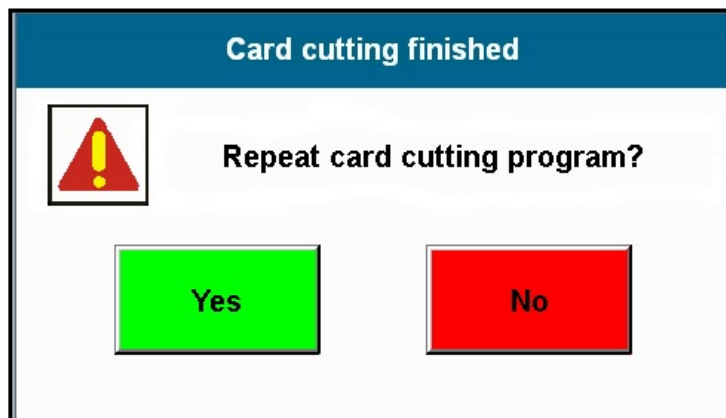
Backgauge moves into starting dimension and after each cut move automatically.

It is possible to skip cut in step. Press button  to move backgauge to next step

without cut. Press button  to return backgauge to previous step.

Pressing **Program Stop** stops card cutting program.

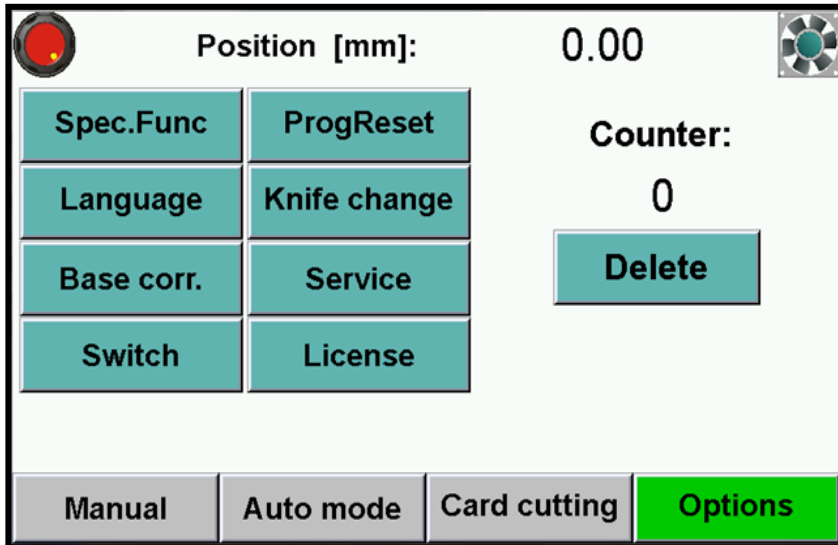
After each cycle when last stripe is too narrow to cut a text appears:



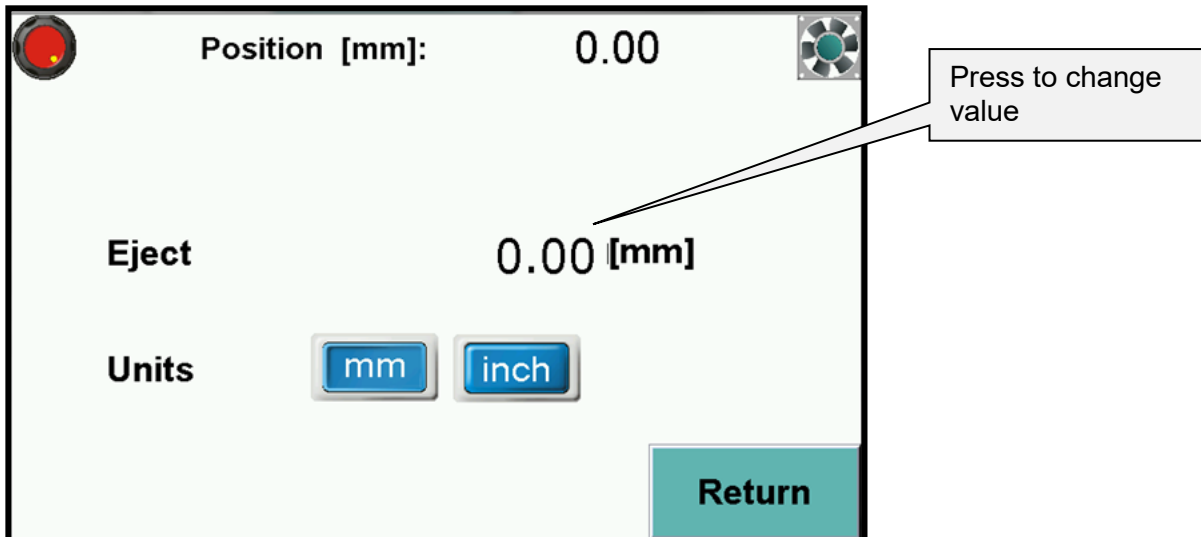
Pressing **YES** moves backgauge automatically into first dimension.

Pressing **NO** exits program.

## 5. OPTIONS



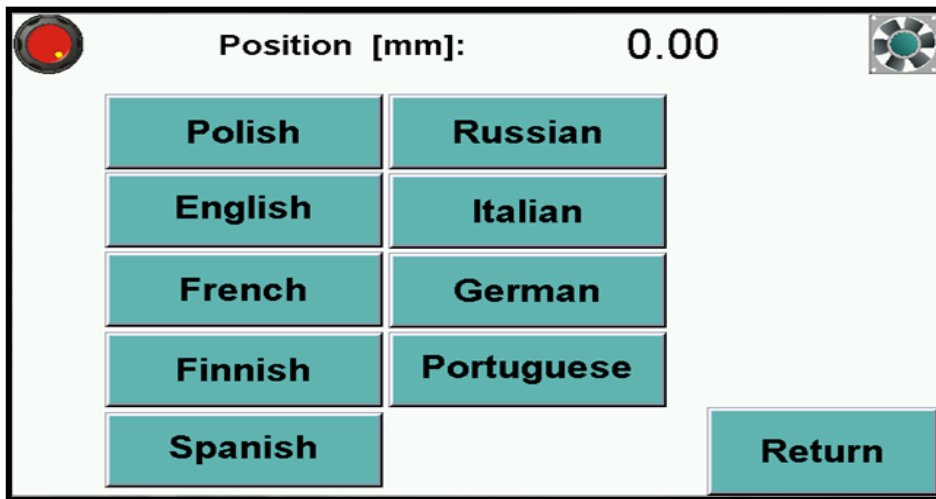
### 5.1 Options – Special functions



Eject can be set in mm or inches. It is value by which paper ream moves forward. After cycle backgauge returns to previous position.

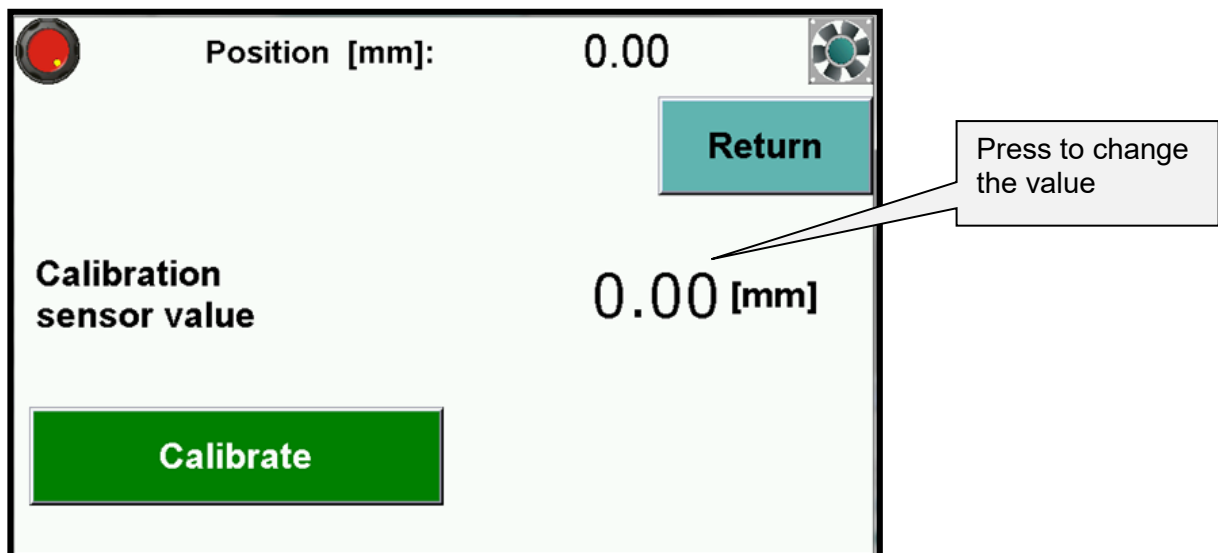
## 5.2 Options – Language

Enter language selection menu.



## 5.3 Options – Base correction – Base dimension corr.

allows to redo calibration without turning off guillotine and optional correction of dimension (if display dimension does not correspond to real, measured dimension).



When starting machine operator should measure the paper cut and compare with actual display indication. If both dimensions do not correspond to each other input the base correction.

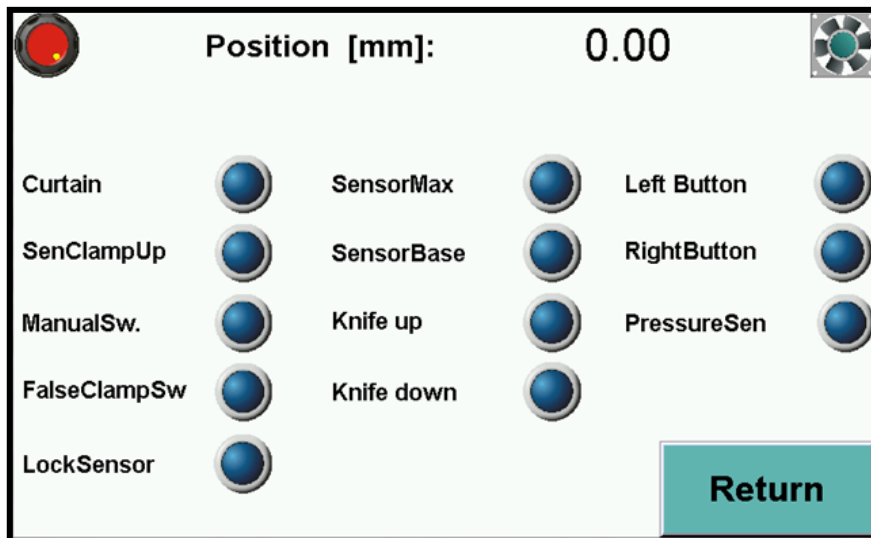
### How to make base dimension adjustment:

- move backgauge into position ex. 100,0 mm
- cut paper
- measure the size
- if measured size is ex. 103,7 mm operator should change dimension by increasing the value (difference between screen and real size) 3,7mm in this example.(ex. if dimension is 680,0 mm change into 683,7mm).
- if measured dimension is 98,4 mm, please make correction be decreasing the value (difference between screen and real size) by 1,6 mm.

(ex. if dimension of base is 680,0 mm change value to 678,4 mm).

After base dimension change press button **Calibrate** to save adjustment.

## 5.4 Options – Sensor - Diagnostics

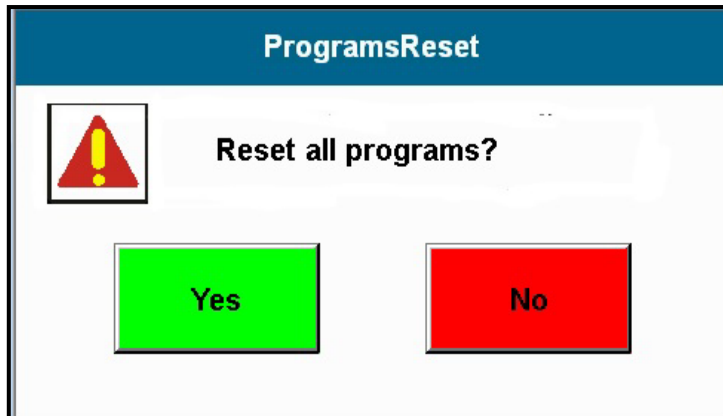


Allows operator to check control system elements like: optical sensors, limit switches, buttons, micro switches.

Back lighted button means that this element is active.

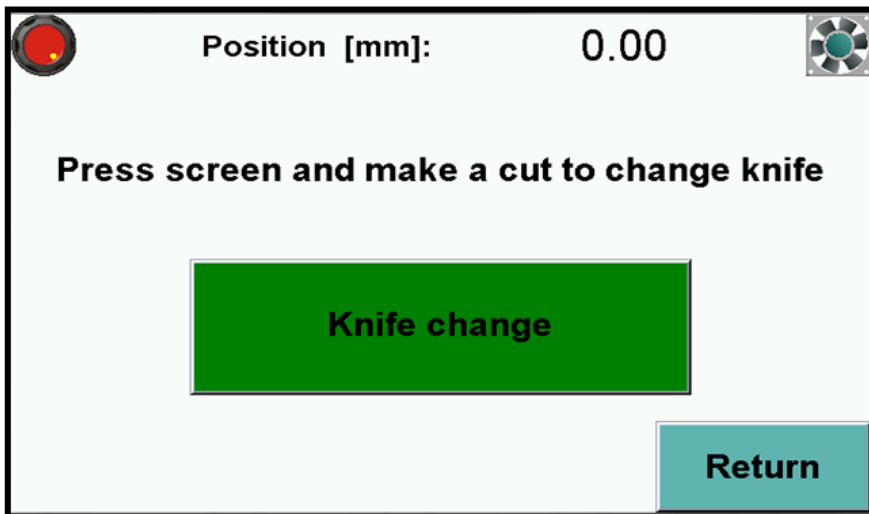
### 5.5 Options- Reset programs – program cancelling.

This options resets all saved programs.

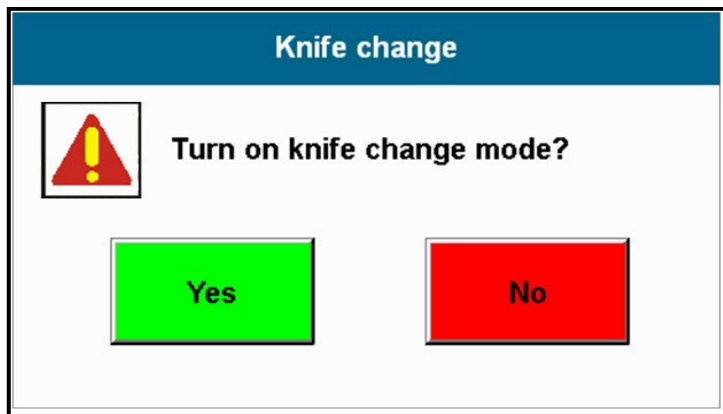


### 5.6 Options – Knife change

To enter knife change mode press button Knife change



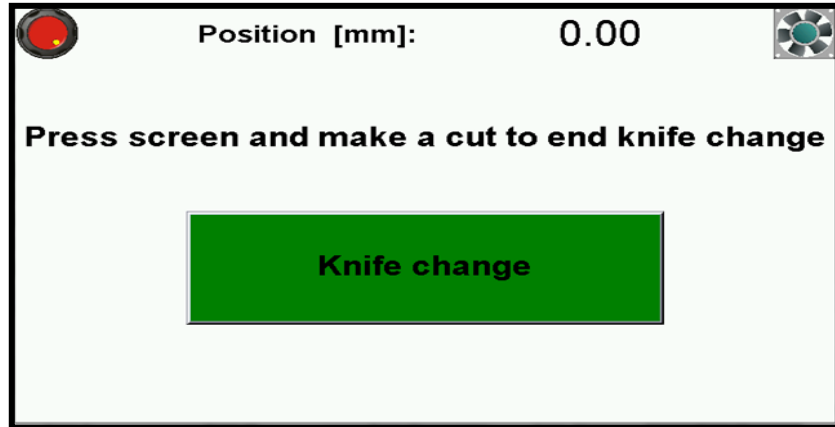
After pressing text on screen appears to confirm Turn on knife change mode?



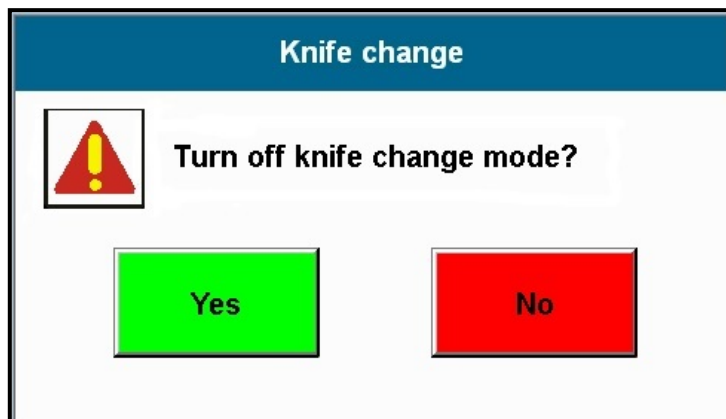


Confirm and make a cut to put knife into lower position.

After knife change (please look into guillotine manual for procedure) press again button **Knife change**.



Text appears **Turn off knife change mode?** By pressing the mode is being closed.



Press Yes and make a cut to exit knife change mode.

## 5.7 Options – Service

### 5.7.1 Enter Service mode

To enter service mode press **Service** button. Keyboard appears on screen to input service code XXXX and press **ENTER**.

|       |   |   |   |       |
|-------|---|---|---|-------|
| ***** |   |   |   | Esc   |
| 0     | 1 | 2 | 3 | CLR   |
| 4     | 5 | 6 | 7 | DEL   |
| 8     | 9 | A | B | Enter |
| C     | D | E | F |       |

**NOTE!** The code is for service information only.

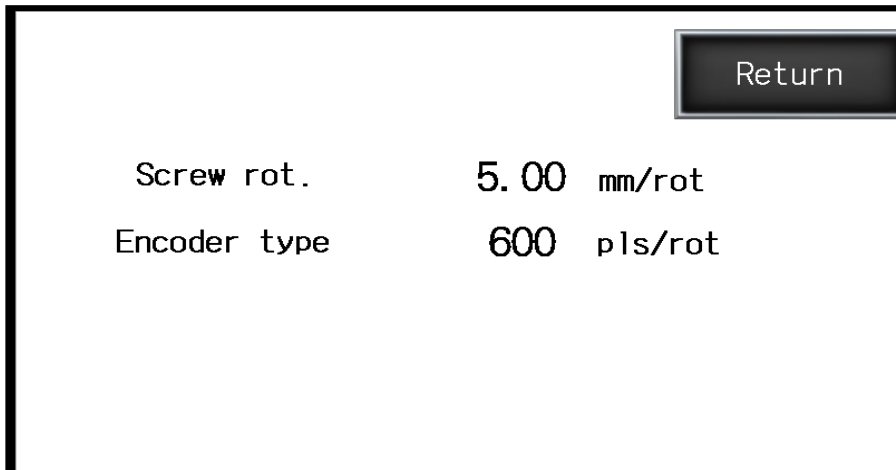
| SERVICE     |               |
|-------------|---------------|
| Dimensions  | Test          |
| Encoder     | Counter:<br>0 |
| Factory     |               |
| Calibration |               |
| License     | Return        |

### 5.7.2 Options – SERVICE – dimensions.

|           |      |    |        |
|-----------|------|----|--------|
| Min dim.1 | 0.00 | mm | Return |
| Min dim.2 | 0.00 | mm |        |
| Max dim.  | 0.00 | mm |        |
|           |      |    |        |
|           |      |    |        |
|           |      |    |        |
|           |      |    |        |
|           |      |    |        |
|           |      |    |        |
|           |      |    |        |

- **Min. dim. 1** – min. value for guillotine backgauge automatic move in program mode (with false clamp)
- **Min. dim. 2** – min. value for guillotine backgauge automatic move in program mode (without false clamp)
- **Max. dim.** – max. value for guillotine backgauge automatic move in program mode.

### 5.7.3 Options – Service – Encoder

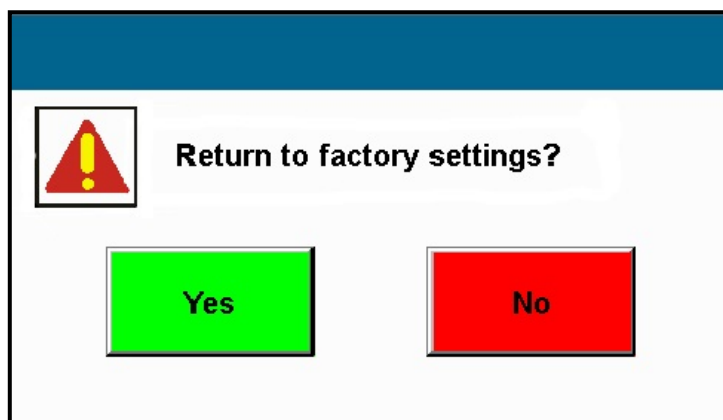


Screw rot. – mm by lead screw rotation (backgauge)

Encoder type – impulses per rotation of encoder

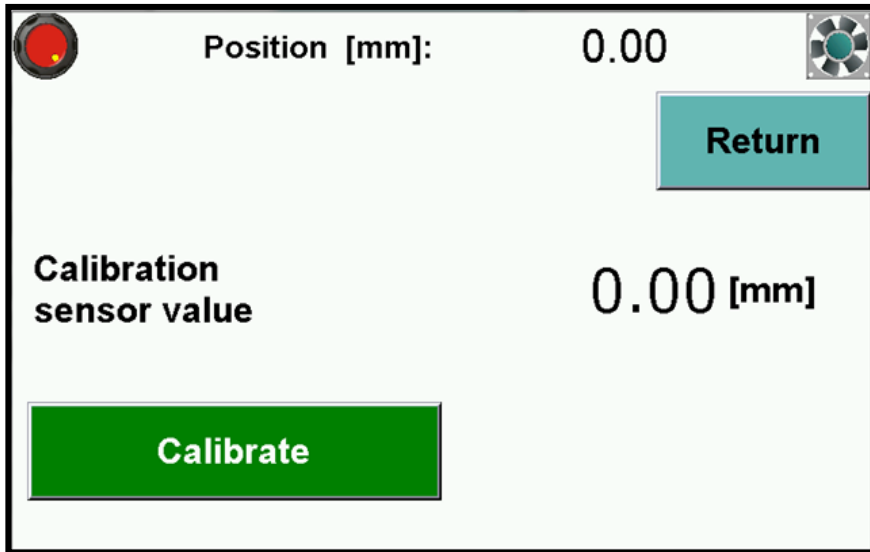
### 5.7.4 Options – Service – Factory settings

All parameters in windows **Dimension and Encoder** can be cancelled by function **Factory settings** (but may need readjustment depending on equipment in the machine).



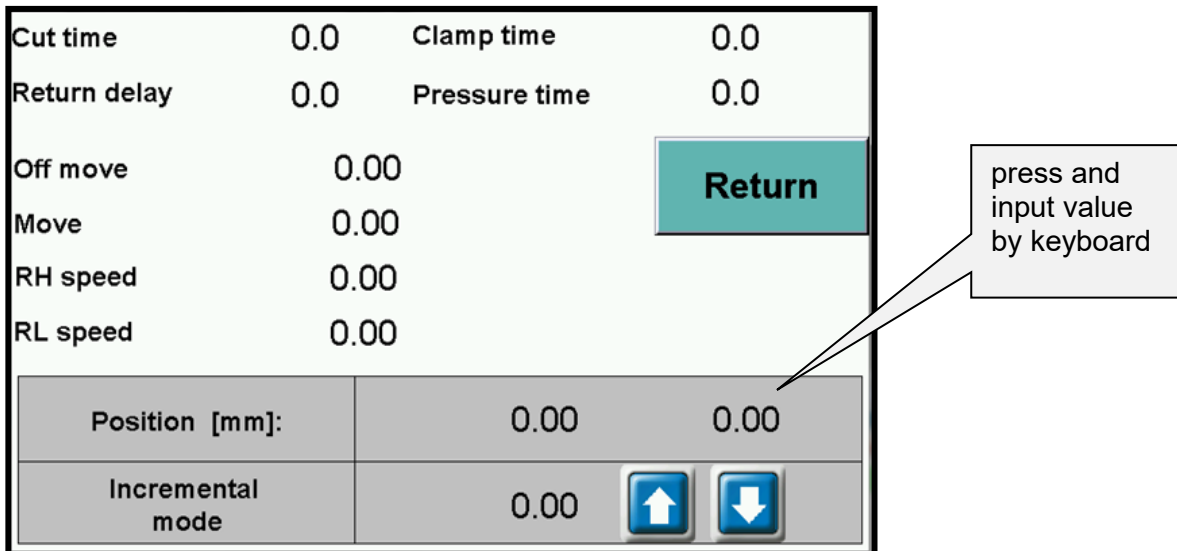
Press **Yes** to return to factory settings.

### 5.7.5 Options – Service – Calibration



**Calibration** – allows to repeat calibration without machine turn off and dimension correction if needed. (see 5.3 Calibration ).

### 5.7.6 Options- Service – Test



- **Off move** –distance before dimension when backgauge drive is off
- **Move**– distance where fast backgauge movement is off before reaching position (how long backgauge moves slowly into dimension)
- **speed RH** – frequency of backgauge speed move
- **speed RL** – frequency of backgauge speed move on the dimension

In table **Position** first dimension is actual dimension of paper, second is dimension close to actual.

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