

FORMAX[®]

Cut-True 29H
Hydraulic Guillotine Paper Cutter
Serial # 1115 and above

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1. GENERAL INFORMATION

1.1 Purpose of use

The Cut-True 29H Guillotine Cutter is designed to cut paper and cardboard. It is mainly used by printing houses, print finishing specialists, copy shops and offices.

The machine must be used according to operator manual and conditions as assemble, disassemble, reassemble, installation, controlling and maintenance should be respected.

1.2 Documentation

- This operator manual is provided with the machine
- The manual should be always stored near the machine
- Operators should be familiar with the manual before starting to use the machine.

2. SAFETY

The cutter is designed with a variety of safety features. Operators should not make any alterations to these features, which could cause personal injury, equipment damage, and invalidate the manufacturer's warranty. This requirement is also applicable to the spare parts used during the repairs.

Any repairs should be made only by authorized technicians trained by the manufacturer. Repairs made by unauthorized technician(s) will invalidate the warranty given by manufacturer, and manufacturer is no longer responsible for any damages.

- **Warranty is terminated if the machine is modified by user without permission of manufacturer**
- **Modification by user removes all responsibility from the manufacturer for any damages**









Despite all precautions, untrained operators may cause the risk of injury or damage.

Possible effects of incorrect usage:

- **risk of life**
- **risk of body damage**
- **risk of machine damage**
- **risk of deterioration of technical condition of machine**

2.1 Symbols: meaning and application

Table 1. Symbols meaning

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

2.2 Operator qualifications

- The cutter can only be operated by qualified staff who have been properly trained.
- The cutter should be used only by trained adults, and not by children.



INFO

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

2.3 Requirements for the operator's workplace.

The cutter should be located on a dry, stable surface to reduce the chance of the operator slipping or falling. Power cables should also be routed to avoid a trip hazard.

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 - eg when cutting fragile material
- Use hearing protection - eg 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 Avoiding risks when operating the cutter

Operator must only use 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 (e.g. safety light curtains, two-handed controls) creates a danger to life or injury!

2.5 Possible risks of operation and evaluation of residual risk

The Cut-True 29H is manufactured to the highest standards for use, and operator safety. Risks remain, due to the failure of operator to follow proper use instructions.

- Failure to follow the safety rules described in the operating instructions
- Using the cutter for other purposes than those described in the user's manual
- Allowing unauthorized persons, especially children, to use the cutter
- Unauthorized machine alterations
- Cleaning and lubrication of the cutter during operation
- Working 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

2.6 Safety systems used in the cutter

- **Two-handed operation buttons** – blade is engaged using a two-handed start system, which keeps operator's hands out of the cutting area
- **LED Safety Curtain** – cutter will not operate if the safety curtain is not functioning

2.7 Safety covers and protective devices

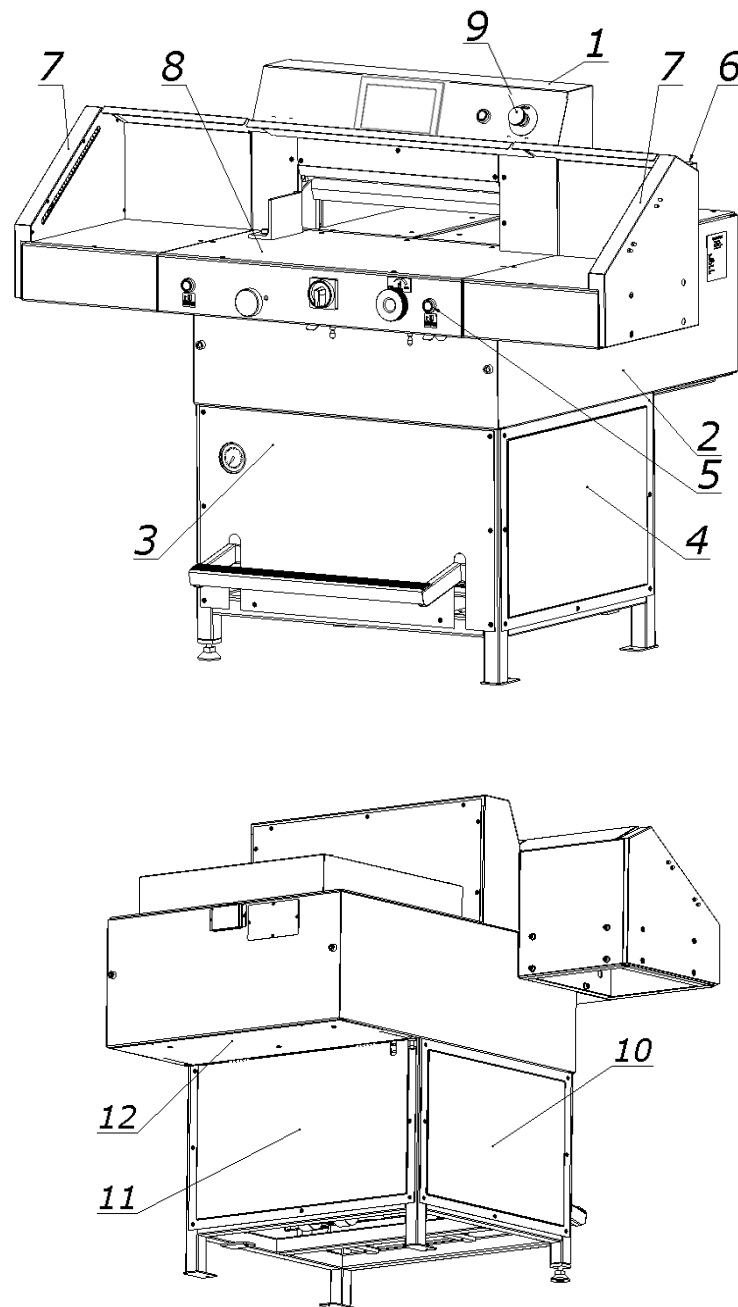


Figure 3. Arrangement of covers and protective elements

Table 3. Safety devices in Figure 3

	Possible Danger Locations	Safety Feature	Identification
	MECHANICAL		
1.	The lever assembly mechanism of the pressure beam drive	– fixed cover – Emergency stop	1,2,3,4,10,1 1 9
2.	Hydraulic system	– fixed cover – front table – Emergency stop	2,3,4,10, 11 8 9
3.	The belt drive for the drive mechanism of the back gauge beam	– fixed cover – front table – emergency switch	2,3,4, 8 9
4.	The screw mechanism of the back gauge drive	– cutter body – fixed cover	2 6
5.	Motor, lever mechanism of the knife drive mechanism	– fixed cover – front table – Emergency stop	1,2,3,4,10 11 8 9
6.	Approach move of the knife beam	- fixed cover – electro sensitive protective device (photocell) – two-handed device – Emergency stop	1 7 5 9
7.	Approach move of clamp beam	- fixed cover – electro sensitive protective device (photocell) – two-handed device – Emergency stop	1 7 5 9
8.	Approach move of back gauge	- fixed cover – Emergency stop	1,6 9
9.	Manipulation with a knife during its replacement	- transport handles – special protective packaging	
10.	Sharp edges and corners of the cutter elements	- refraction, dullness, rounding	

11.	Uneven or rough surfaces	- precise workpiece machining - paint coatings	
II	ELECTRICAL		
1.	Direct contact of active elements	- closed housing - partially reduced voltage supply to the control system up to 24V AC/DC.	2,12
2	Indirect touch	- protection against indirect contact according to PN-EN 60204-1 - continuity of the protective conductor	

2.8 Safety Checks

Periodic safety checks should be performed:

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

3.TRANSPORT AND STORAGE

3.1 Transport

The box with the machine should be transported in accordance with the markings on it (fig.4).
When using a forklift, make sure that the fork length is suitable so that you can grasp the entire depth of the box.

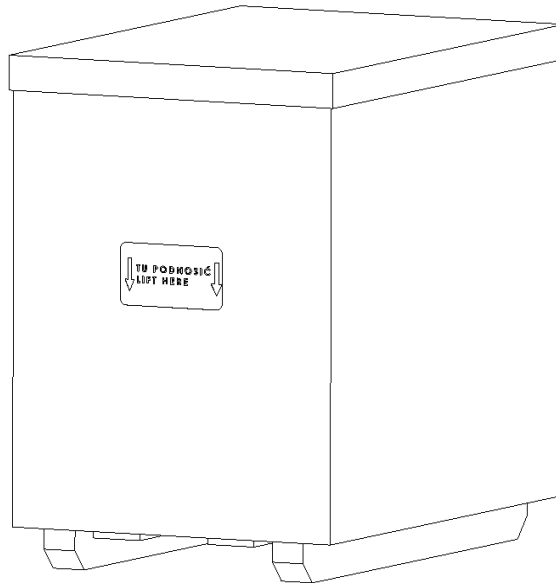


Figure 4. Cutter in a transport crate,

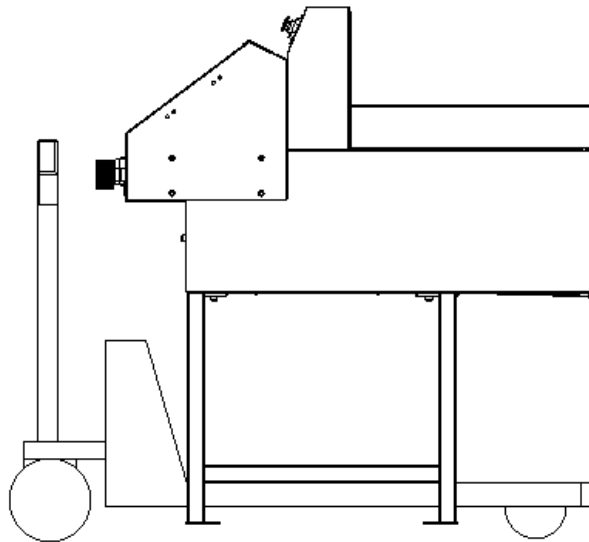


Figure 5. Transporting cutters with a pallet truck

3.2 Delivery and installation of optional side tables

The cutter may be delivered:

- completely assembled and ready for use (Fig. 6a).
- with disassembled optional side tables, assemble of tables according to Figure 6b.

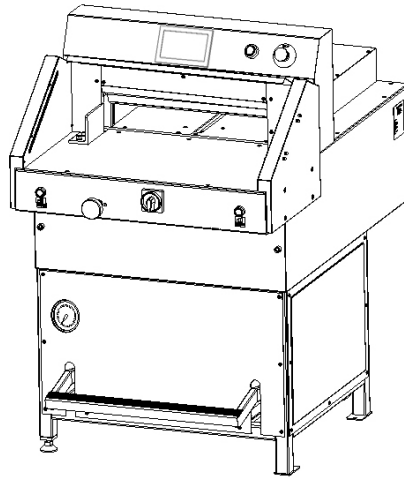


Figure 6a. Cutter without side tables

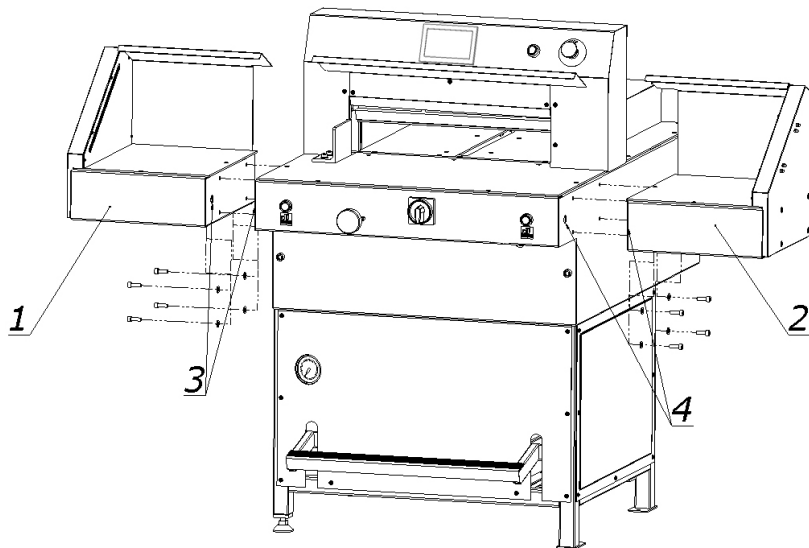


Figure 6b. Installation of the side tables

1. Left side table + M8x25 screw (4 pieces) + washer 8 (4 pieces)
2. Right side table + M8x25 screw (4 pcs.) + 8 washer (4 pcs.)
3. The place of guiding the curtain of the left table
4. The location of the right side curtain cable conduit

3.4 Leveling the cutter

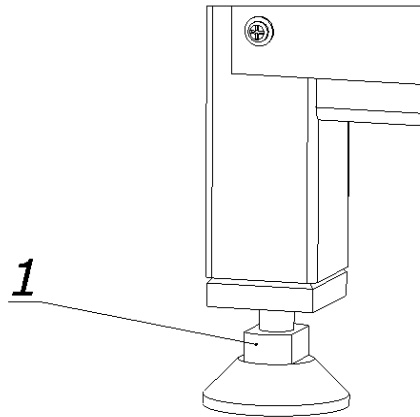
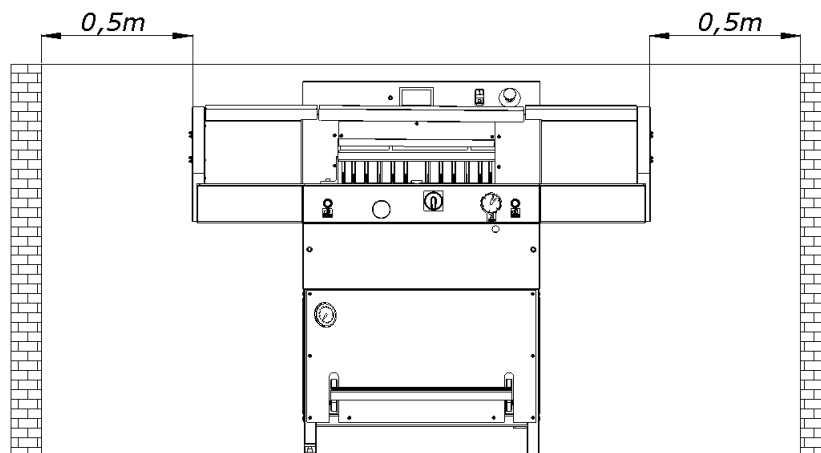


Figure 7. Adjusting the cutter setting.

The cutter does not need to be attached to the ground. The correct and safe setting is to level it using the adjustable foot, 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)



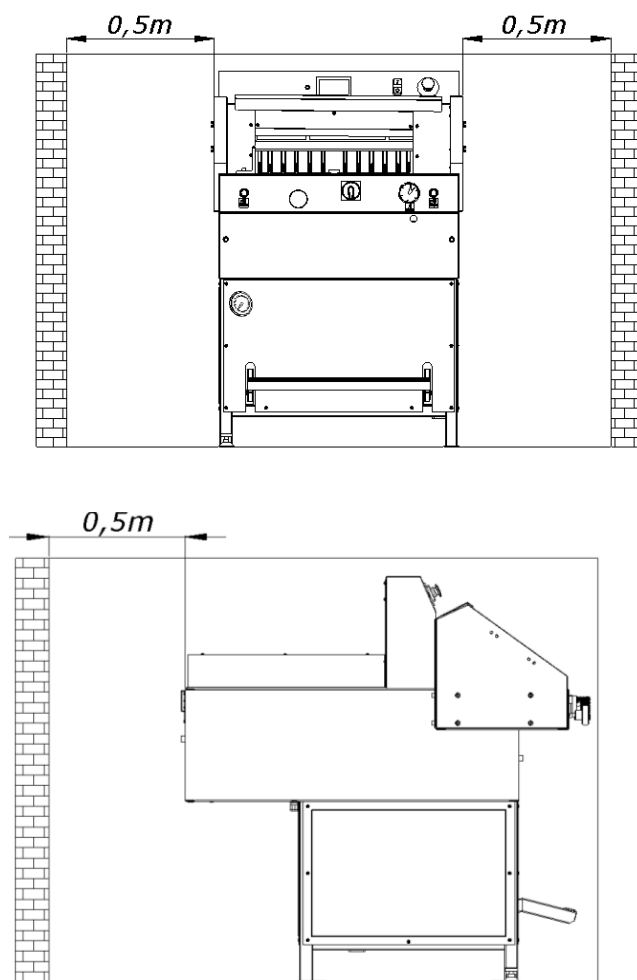


Figure. 8

4. SPECIFICATIONS

4.1 Primary Use

The cutter is intended for trimming stacks of paper or cardboard. It is mainly used in printing houses, bookbinding shops and offices.

4.2 Basic parameters

4.2.1 Technical data

Table 4.

PARAMETER		CUT-TRUE 29H
Maximum stack width (mm)		520
Maximum stack height (mm)	Without false clamp	80
	With false clamp	76
Cutting depth (mm)		520
Front table lenght (mm)		466
Narrow cut (mm)	Without false clamp	22
	With false clamp	40
Sound power level (dB)		74,6
Backguage speed (mm/s)		58
Side table load (kg)		15
Weight (kg)	Without side table	350
	With side tables	387
Static load substrates (daN / m2)	Without side table	343
	With side tables	310

4.2.2 Technical data - electrical system

Table 5.

Parameter	Cut-True 29H
Maximum power	2 kW
Voltage / frequency	230/50 Hz
Fuse	20A
Motor power of back gauge drive (kW)	0,18

4.2.3 Technical data - hydraulic system

4.2.3.1 Technical data - hydraulic power supply

Table 6.

Parameter	Cut-True 29H
Motor (kW)	1,5
Voltage / frequency (V/Hz)	3x400/50
	1x230/50
Control of executive elements (VDC)	24
Tank capacity (l)	10,5

4.2.3.2 Technical data - hydraulic oil

Table 7.

Parameter	Cut-True 29H
Oil type	HV 46
Quality norm	ISO 11158 - HV
Viscosity	ISO VG 46
DIN norm	51524, 46 mm ² (cST).
Kinematic viscosity temp. (40°C)	47,2 mm ²

4.2.4 External dimensions

The dimensions of cutters in different equipment versions are shown in figure 9a, 9b and table 8.

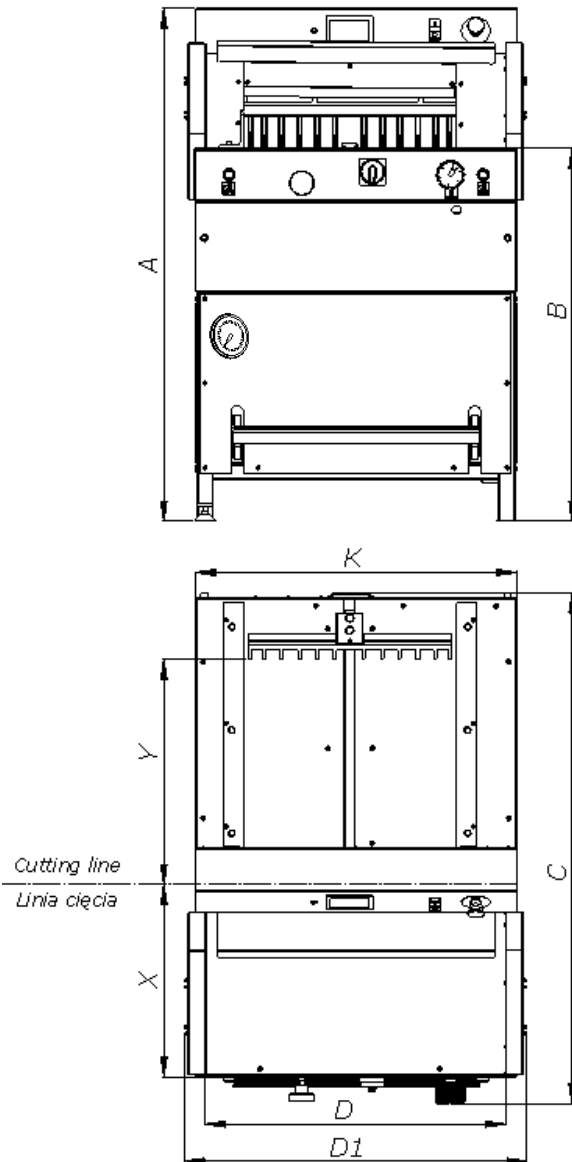


Figure 9a. External dimensions of the cutter without side tables.

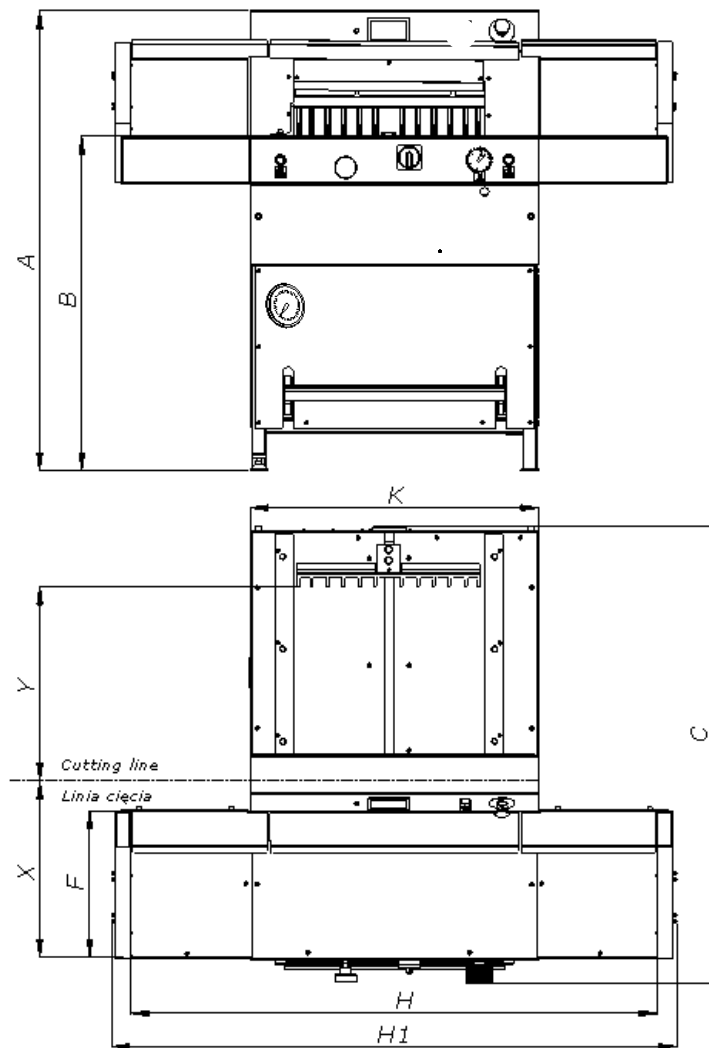


Figure 9b. External dimensions of the cutter with side tables

Table 8.

Dimension	VALUE (mm)		
A	1255	F	400
B	904	H	1430
C	1230	H1	1533
D	730	K	785
D1	833	X	466
K	785	Y	520

5. OPERATION

5.1 Operating safety

5.1.1 Safety instructions

- Before use, operators should check to be sure all safety components are functioning 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 using the cutter immediately.
- All defects must be resolved immediately.

5.1.2 Warning about special hazards

Operators should refrain from performing any actions that risk their personal safety.

- DO NOT place hands into the blade/clamp area.
- Exercise extreme caution when handling the knife! Use transport handles when installing / removing / carrying the knife.
- Use only undamaged and sharp knives!
- The knife should only be changed by trained personnel.
- When cutting on the work table, there must be no objects (such as keys, screwdrivers, tools)

5.2 Control system



Danger!

The cutter cannot be operated with defective photocells forming the safety curtain!

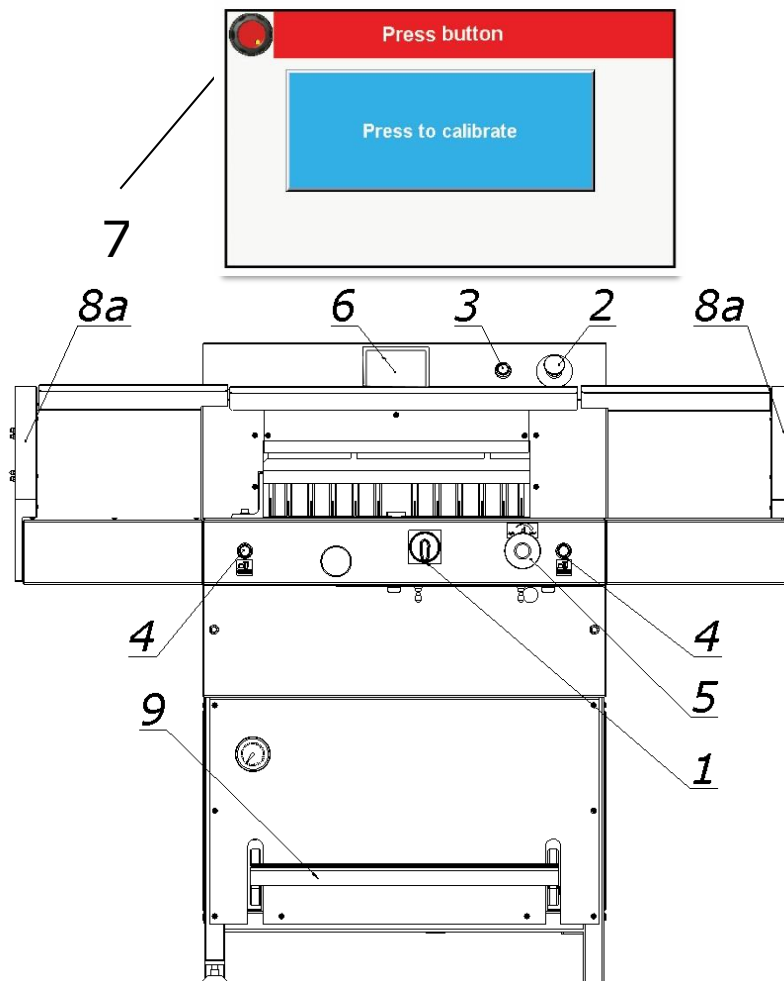


Figure 10. Elements of the Cut-True 29H cutting machine operation and signaling

1.	Main power switch
2.	Emergency stop button
3.	Button that activates the control system.
4.	Buttons enabling the cutting cycle (two-hand cutting system)
5.	Clamp pressure adjustment knob
	- turn to the right - increases the pressure
	- turn to the left - reduces the clamping force
6.	Touchscreen control panel
7.	Two-color signal lamp, displayed on the touchscreen.
	- red, signals the power supply to the control system
	- green, signals the activation of the control system
8.	LED safety curtain (non-contact protection device)
8a.	LED safety curtain - Transmitter
8b.	LED safety curtain -Receiver
9.	Foot clamp pedal (mechanical preview of the cutting line)

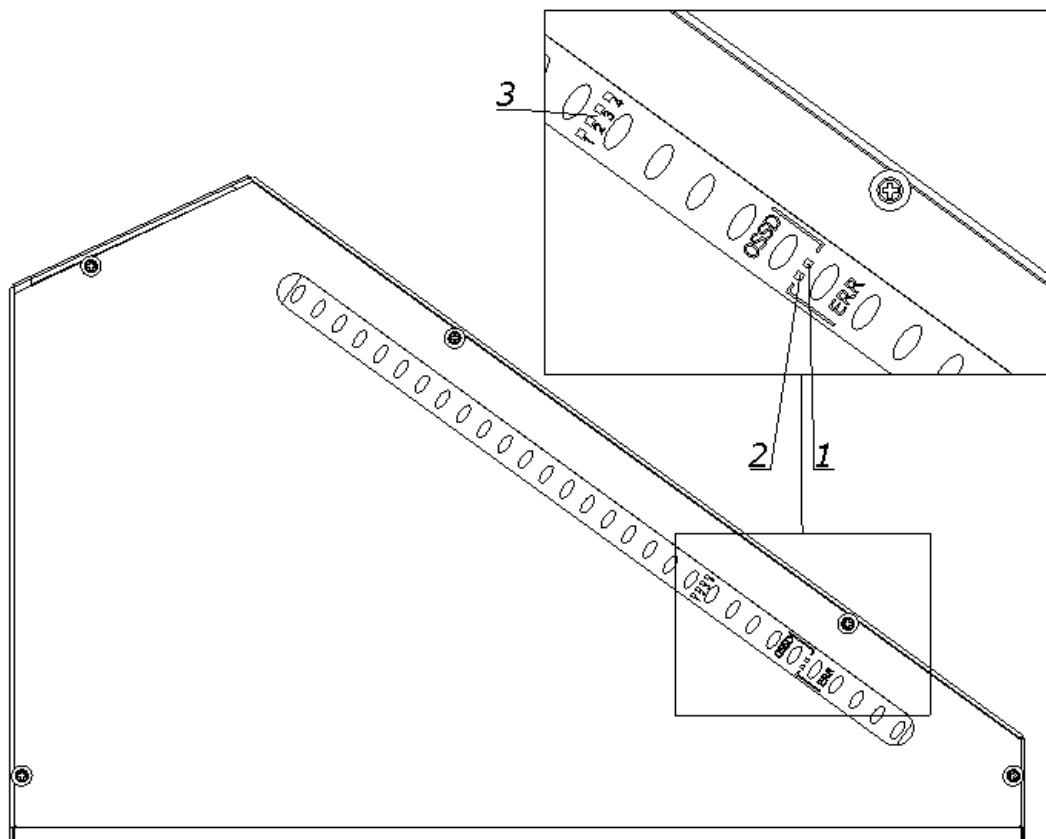


Figure 11. Indicators of the LED safety curtain receiver

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	1 2 3 4

Blue LEDs informing 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 settings	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.

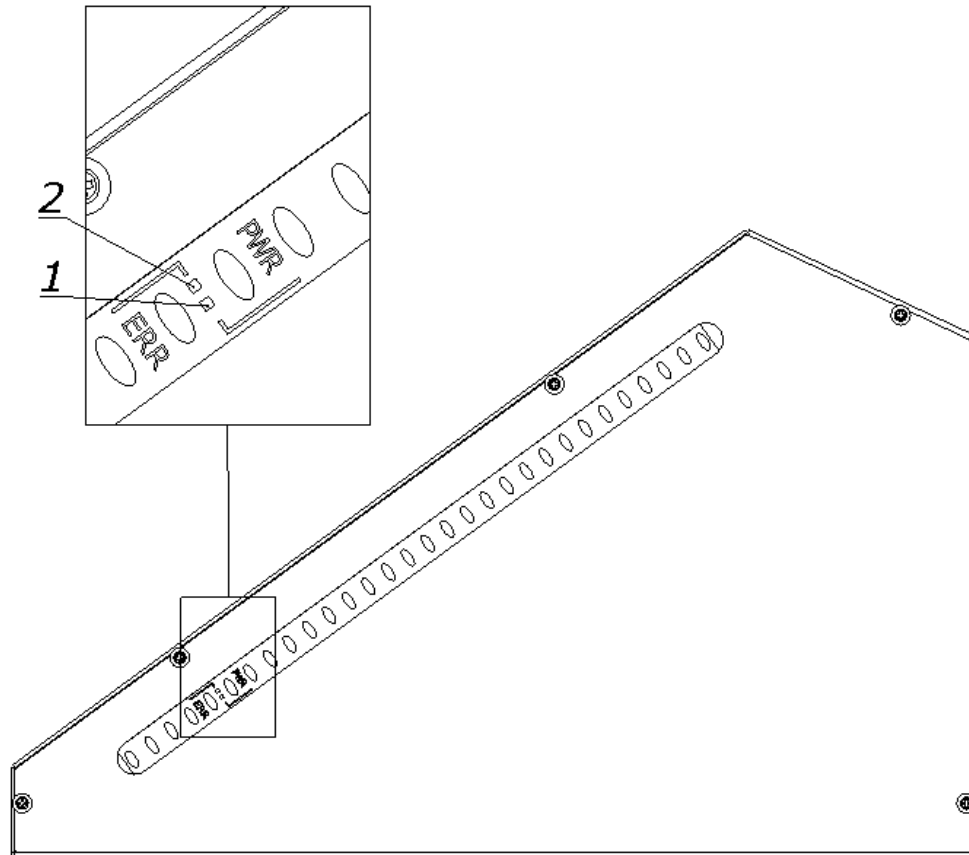



Figure 12. Indicators of the LED safety curtain transmitter


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

Table 11.

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

5.3 Electrical apparatus

**Danger!**

**Dangerous electrical voltage!**

Before opening the housing, switch off the main switch!

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

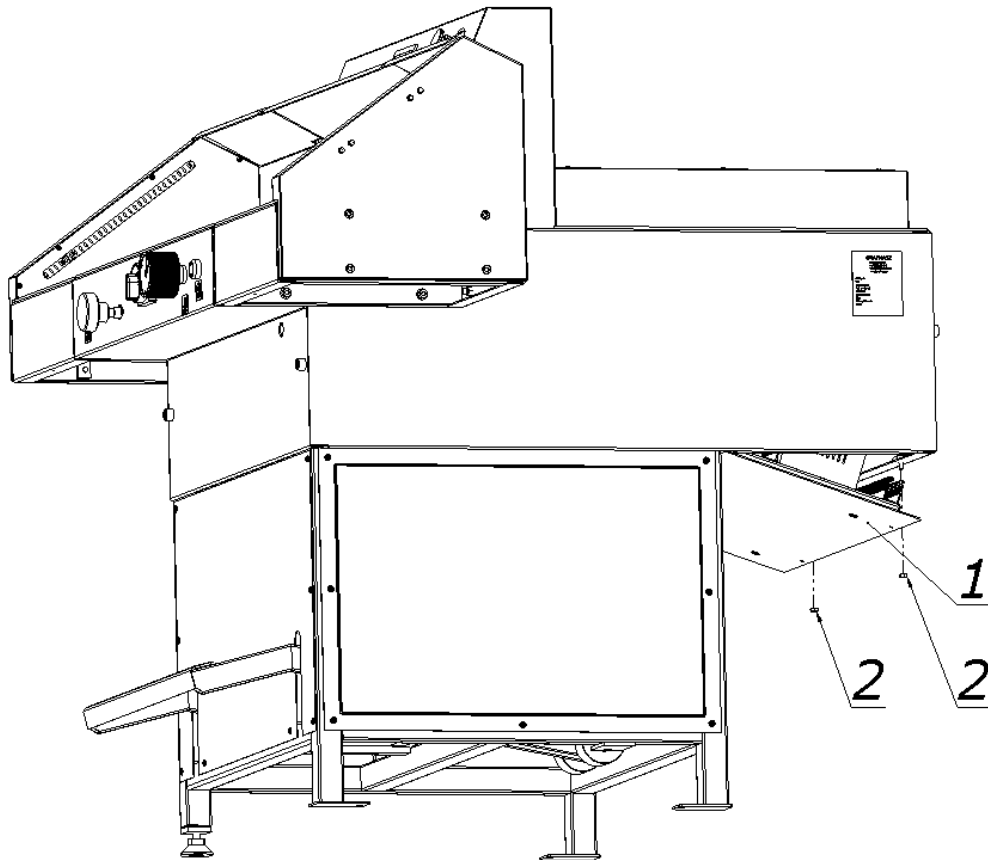


Figure 13. Location of electrical apparatus

6. POWER SUPPLY

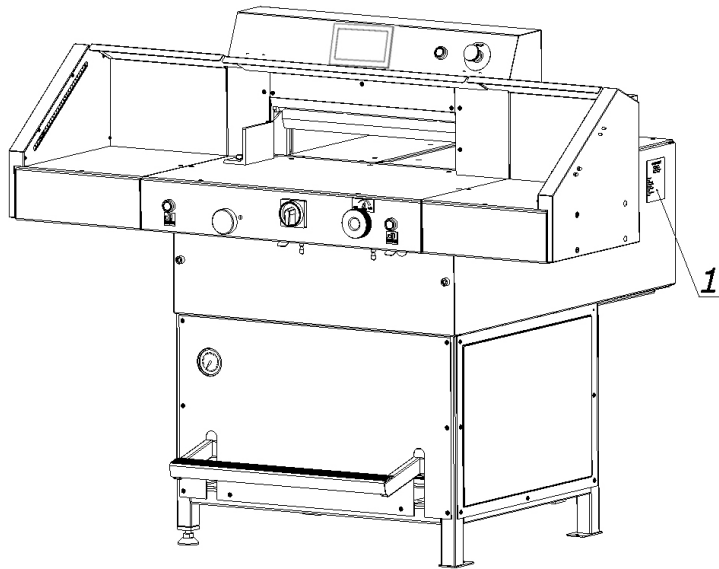


Figure 14. Location of the nameplate

Data on the plate:

- 230V power supply
- 50 Hz frequency
- 2 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 cannot be changed!

Cutter should be grounded.

7. USING THE CUTTER

7.1 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 back gauge)
- bottom side of the rear table access to the back gauge zone (spindle and slider)

7.3 Starting the cutter

7.3.1 Powering on

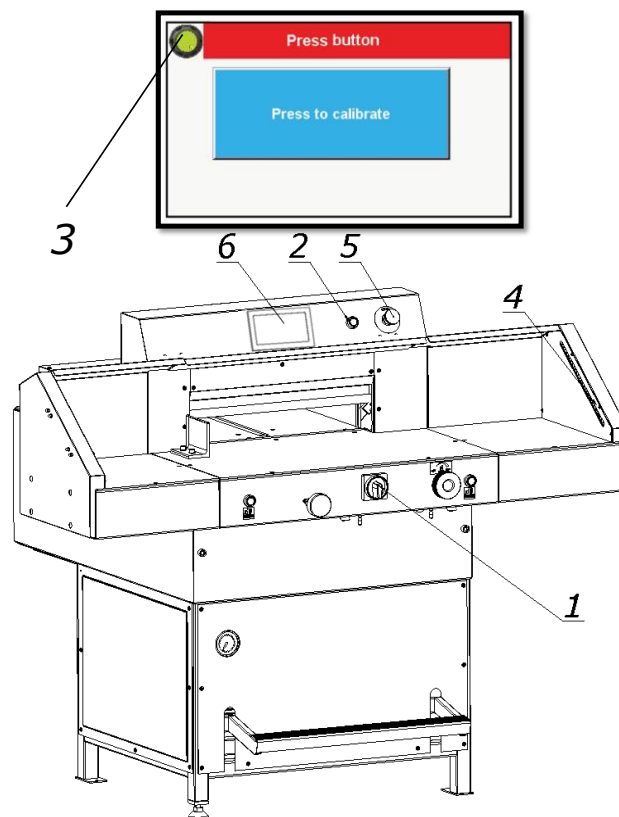


Figure 15. Arrangement of the elements used when switching on the cutter.

1. Set the main switch 1 to "ON" 1 position (Fig. 15)
2. Press the green button 2 (Fig.15)
 - green LED 3 on the program unit 6 display lights up (fig.15)
 - the green OSSD 1 LED lights up (Fig.11) in the receiver 4 (Fig.15)

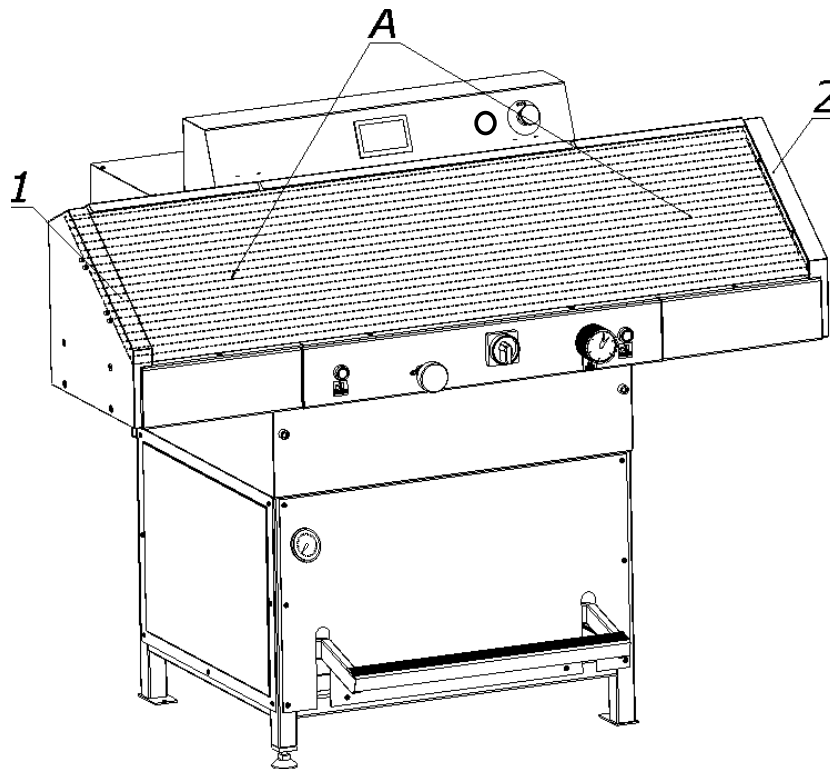


Figure 16. Safety curtain

1. Transmitter

2. Receiver

A - field of the safety curtain

7.3.2 Diagnostics of the safety 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 output signal of the receiver.

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



Danger!

In case of malfunction of photocells, immediately contact a licensed technician!

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 touchscreen control panel. The pressure clamp and knife will stop moving.

7.3.4 Starting the cutter after emergency stop

1. Unlock button, 5 (turn it to the left, it will pop out) (Fig.15)
2. Press the green button, 2

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

7.4 Determining the position of the back gauge



Danger!



Do not put your hands into the cutting area when back gauge moves!

Determining the position of the back gauge is carried out using the touchscreen, 1, and hand wheel, 2 (Fig. 17).



INFO

The method of determining the position of the back gauge as well as the operation of the touchscreen are described in the "Programming Manual."

7.4.1 Changing the position of the back gauge with the hand wheel

1. Press knob, 2
2. Turn the knob to move the gauge closer or farther away by reading the position value on the touchscreen.

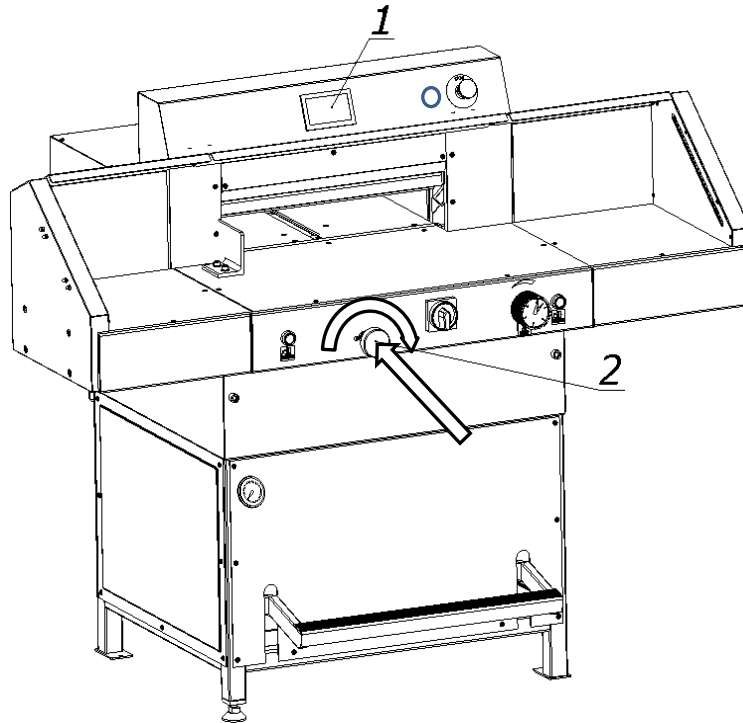


Figure 17. Changing the position of the back gauge

7.5 Using the paper clamp



Do not put your hands into the cutting area when clamping!

7.5.1 Clamping the material without cutting (determination of the cutting line)

Lower the paper clamp 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.

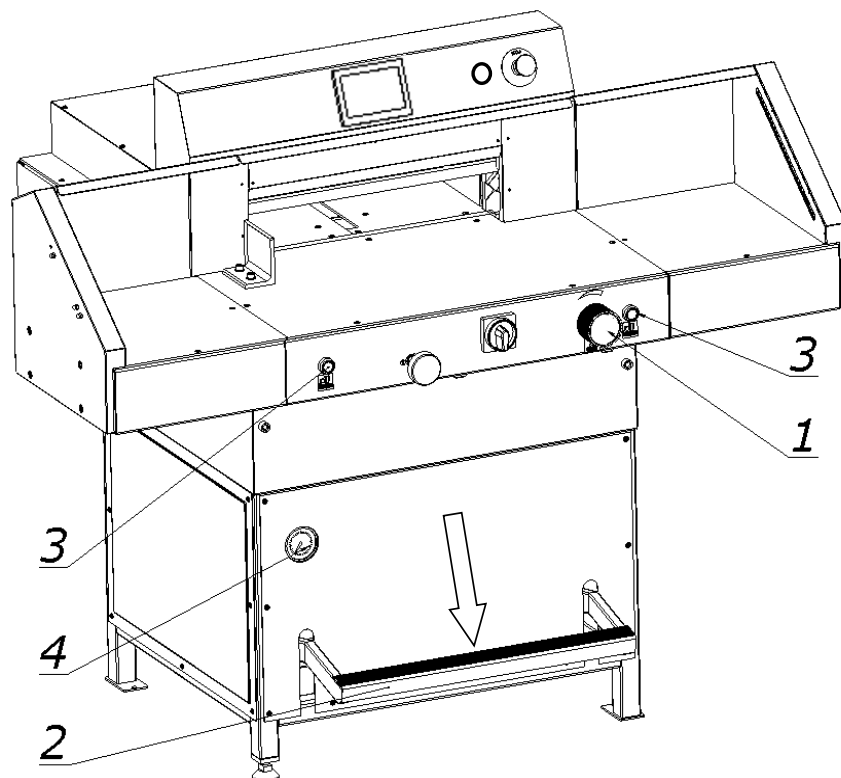


Figure 18. Operating elements during use during clamping.

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)

- turn to the right to increase the pressure
- turn to the left to reduce the clamping force

Approximate values of the clamping force depending on the pressure value read on the pressure gauge, 4

- 25 bar ~ 200 daN
- 40 bar ~ 400 daN
- 55 bar ~ 600 daN
- 70 bar ~ 800 daN
- 90 bar ~ 1000 daN
- 110 bar ~ 1200 daN

7.5.3 Rules for selecting the contact pressure.

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

The following rules must be observed:

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

7.6 LED cutting line indicator

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)



Danger!



Do not put hands into cutting zone!

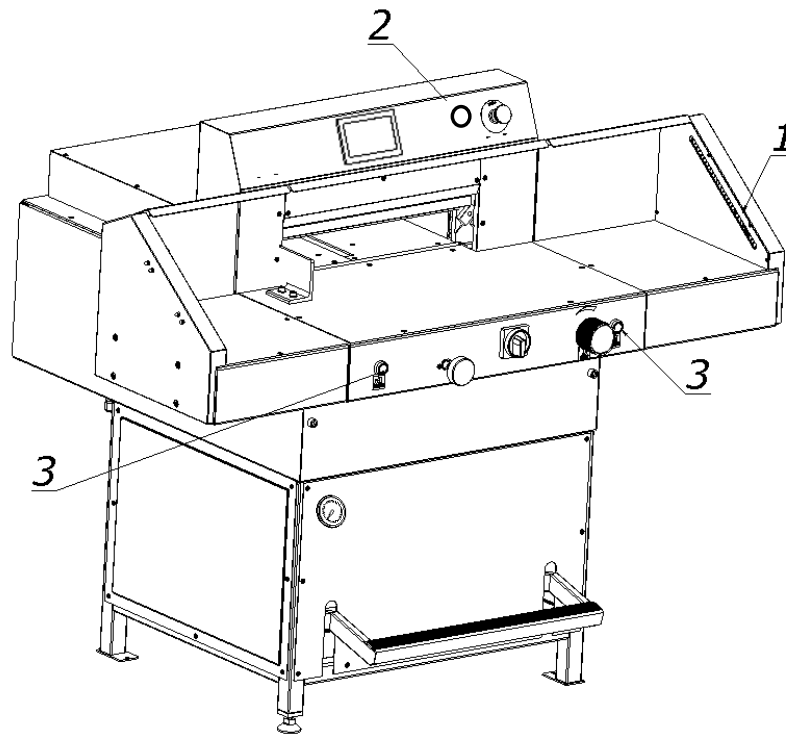


Fig. 19. Operating and signaling elements used during cutting.

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 are pressed simultaneously.

Keep both buttons, 3, pressed until the material is cut.

The knife and clamp will automatically return to the upper position after cutting.

NOTE: Releasing the buttons during the downward movement of the clamp and the knife will interrupt this process.

If an object enters the safety curtain light barrier during cutting, the clamp and the knife downward movement down will be cancelled. To continue cutting, remove the unauthorized item and simultaneously restart both buttons, 3.

NOTE: Paper clips or other hard objects can damage the blade!

8. OPERATIONAL ACTIVITIES

8.1 Replacing the knife

It is recommended to replace the knife after about 8 hours of effective, continuous work.



Danger!



Risk of injury!

- Danger of injury to the operator and auxiliary personnel
- Danger of injury to hands in the knife area
- The edge of the knife is sharp - do not touch!
- Do not handle the knife without the blade change tool handles
- 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 sent to the scrap yard

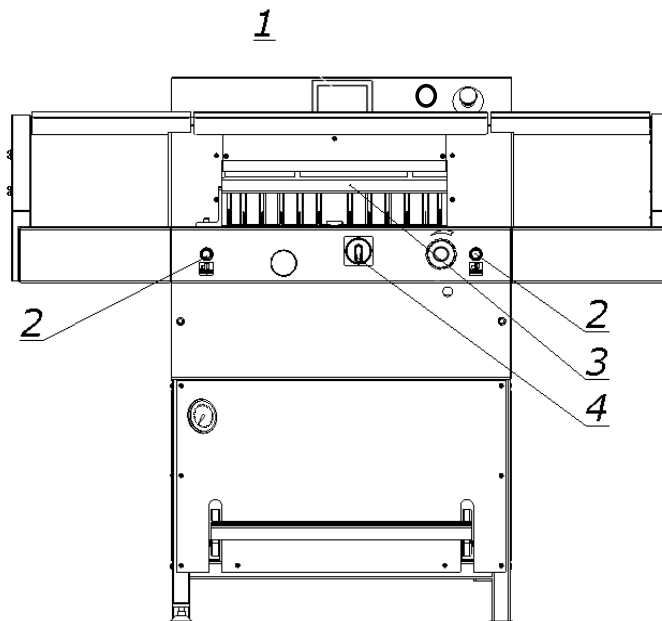


Figure 20.

8.1.1.1 Select the "Change knife" function on the touchscreen (Fig.20)

(Refer to the Programming Manual for specific information.)



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.20) to the "0" position

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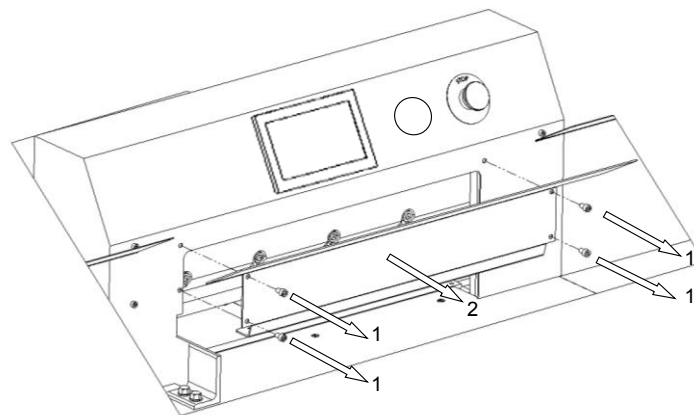


Figure.21

8.1.1.4 Remove the four screws 1 (fig.21) securing the cover, 2, and remove the cover.

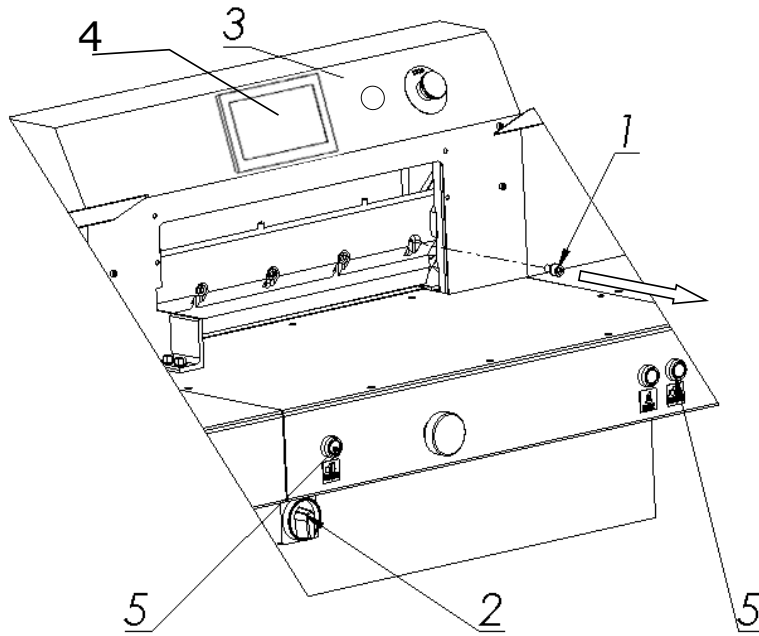


Figure.22

Unscrew and remove the first fastening screw, 1, from the right side of the cutter bar (Fig. 22).

8.1.1.5 Switch on the power supply of the electrical system by turning the main switch knob, 2, to position "I"

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

8.1.1.7 On the touchscreen, 4, deactivate the "knife change" function

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

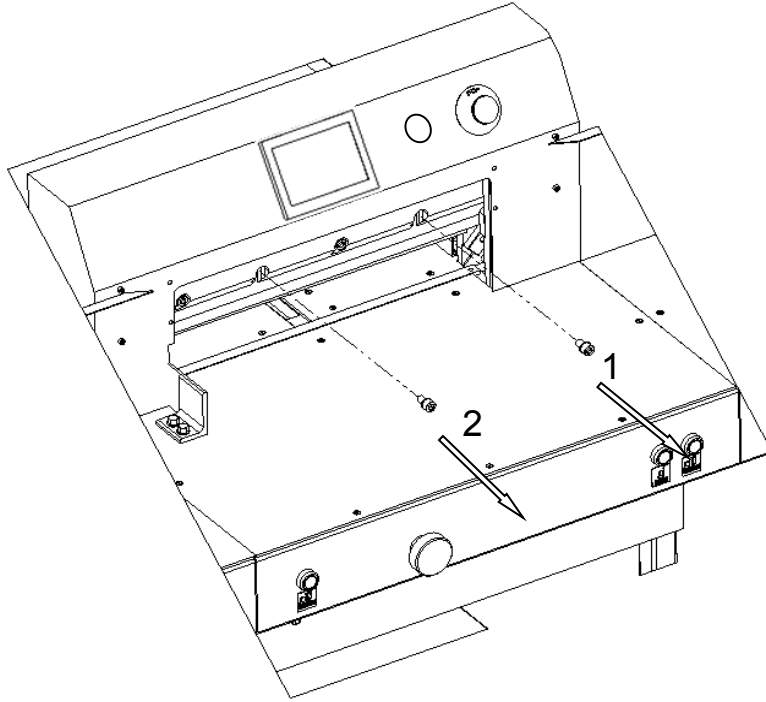


Figure 23.

8.1.1.9 Unscrew and remove the fastening screws 1 and 2 (Fig. 23).

8.1.1.10 In the place of screws, 1 and 2 removed (fig.23), screw in the transport handle, 1 (fig.24, next page).

8.1.1.11 Unscrew and remove the screws 2 (fig.25)

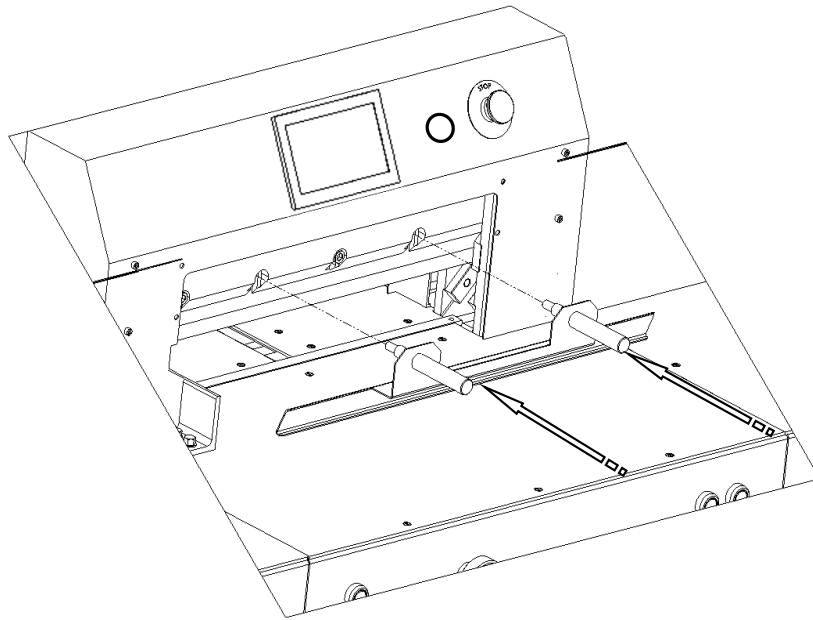


Figure 24.

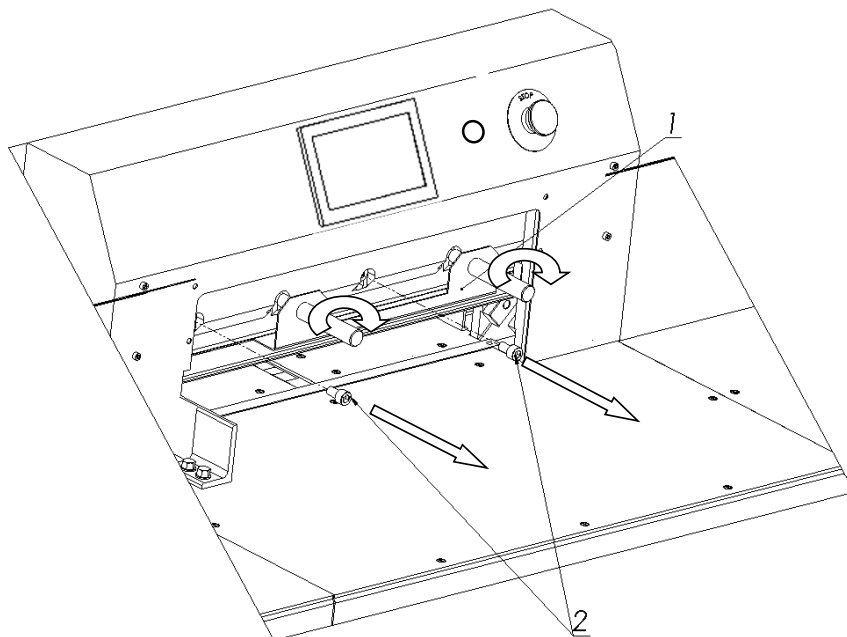


Figure 25.

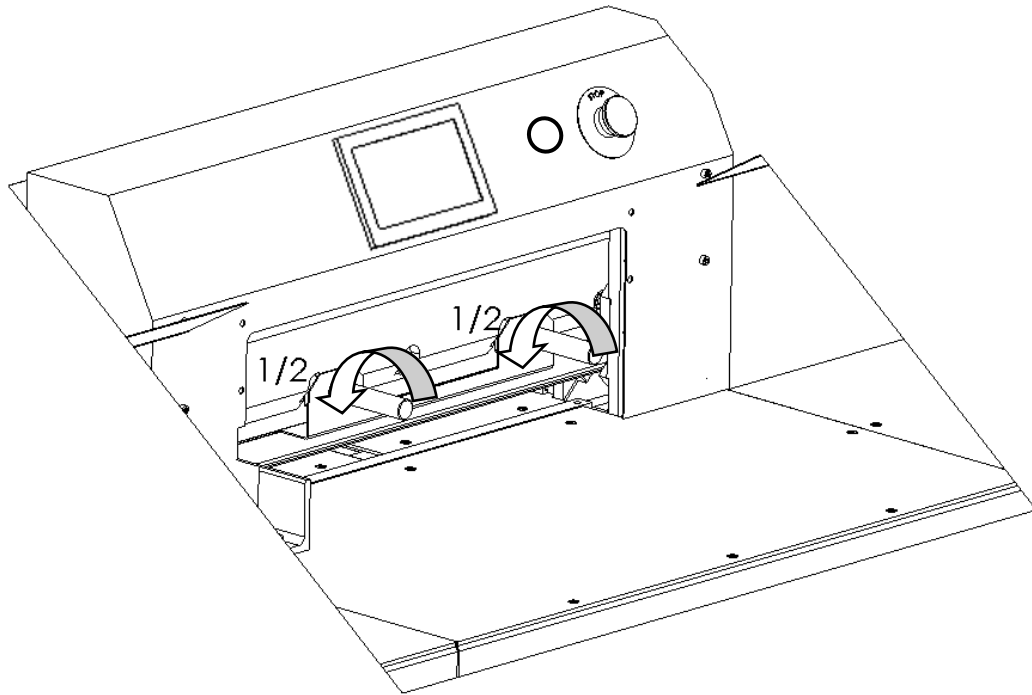


Figure 26.

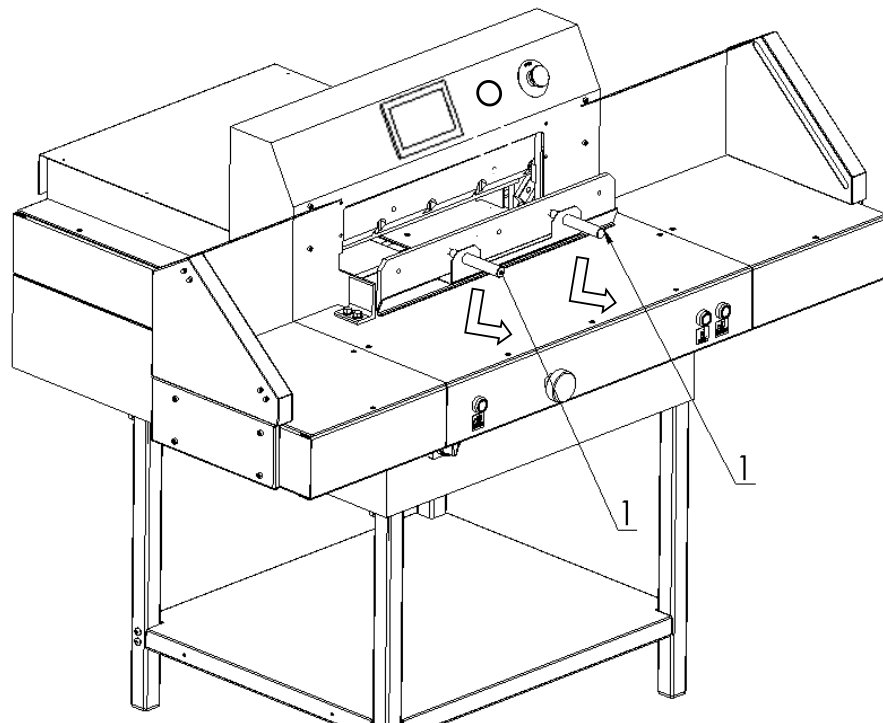


Figure 27.

8.1.1.12 holding the transport handles release the clamp by turning them 1/2 turn at a time to the left (fig 26) and carefully pull the knife down (fig 27).

Place the removed knife into the special protective packaging (Fig. 28a - 28d.) 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.

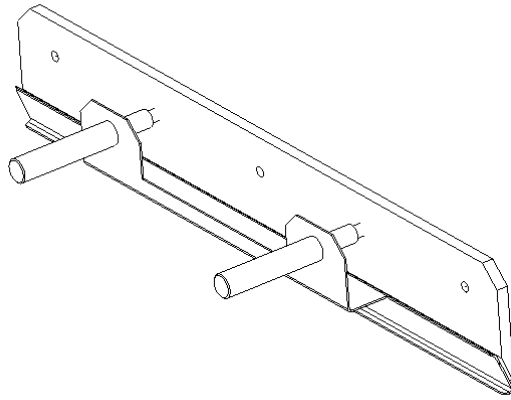


Figure. 28a. Knife in the transport handle

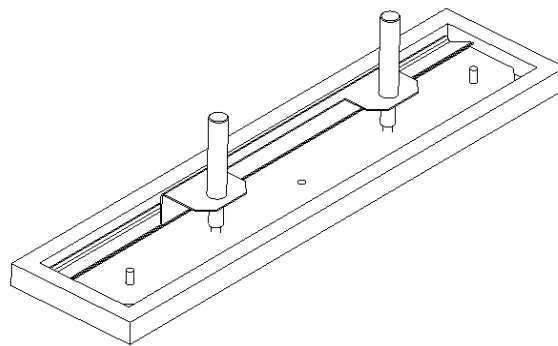


Figure 28b. Knife in the package

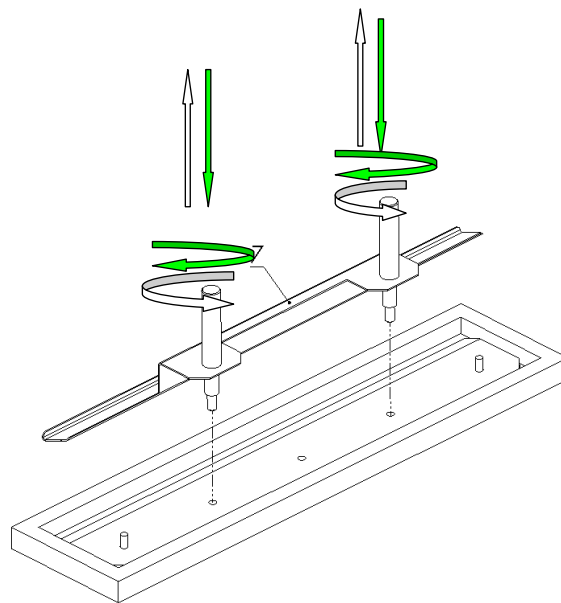


Figure 28 c. Unscrewing / securing the transport handles

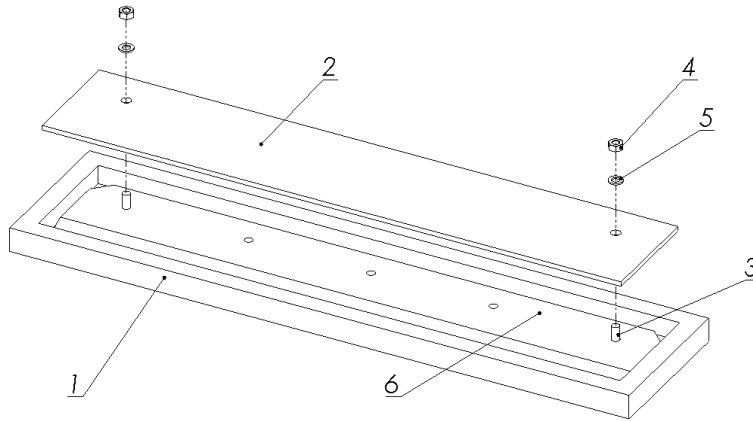


Figure 28d. Fixing the knife in the package

1. Packaging
2. Cover
3. Screw
4. Nut
5. Washer

8.1.2 Installing a knife

8.1.2.1. Remove all adjusting screws, 1 (figure 29) so that their faces are hidden in the knife bar body.

Figure 29 B The adjusting screw does not protrude below the protrusion 2 in the cutter bar - **correct position.**

Figure 29 A - the adjusting screw protrudes under the projection 2 in the cutter bar - **incorrect position, remove the screw.**



WARNING

The new knife must be able to support its upper surface with the projection of the cutting stick. Failure to comply with this condition may result in a situation when the new knife is higher than removed, potentially causing serious overloading and even damage to the machine.

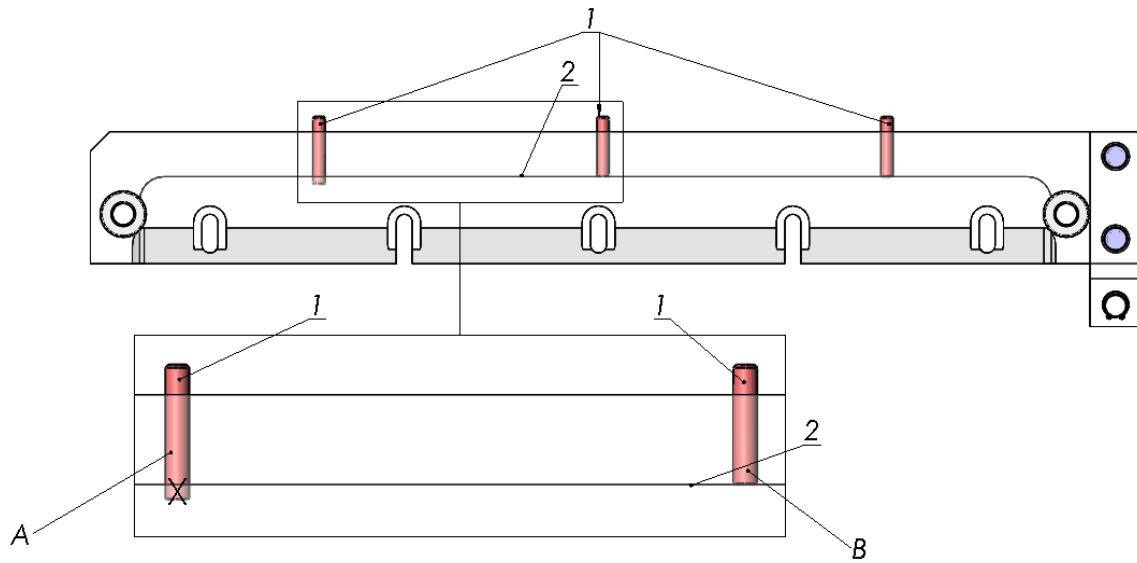


Figure 29. Position of adjustment screws.

8.1.2.2. Remove the knife from the packaging (Fig.28a - 28d)

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.30)

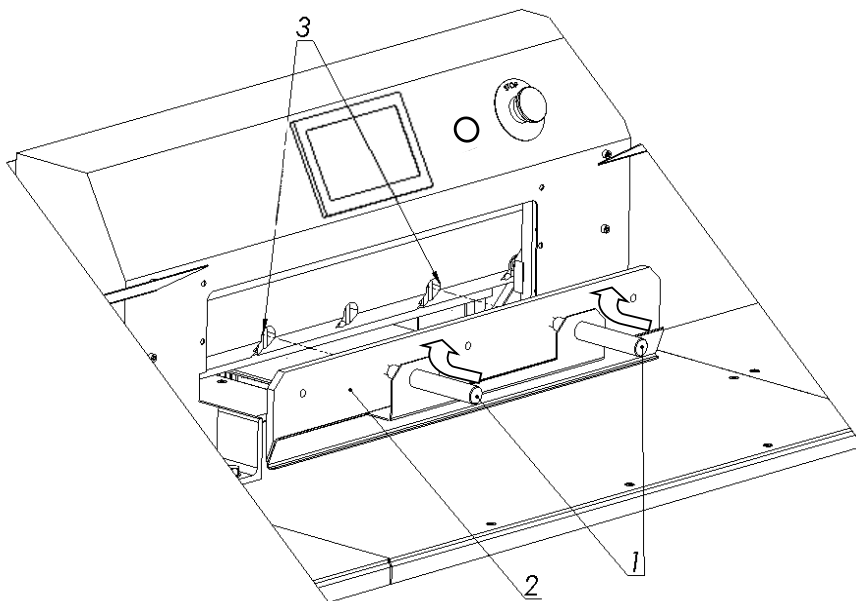


Figure 30.

Insert the knife so high that its upper surface will rest against the protrusion in the knife bar 2 (Fig. 29).

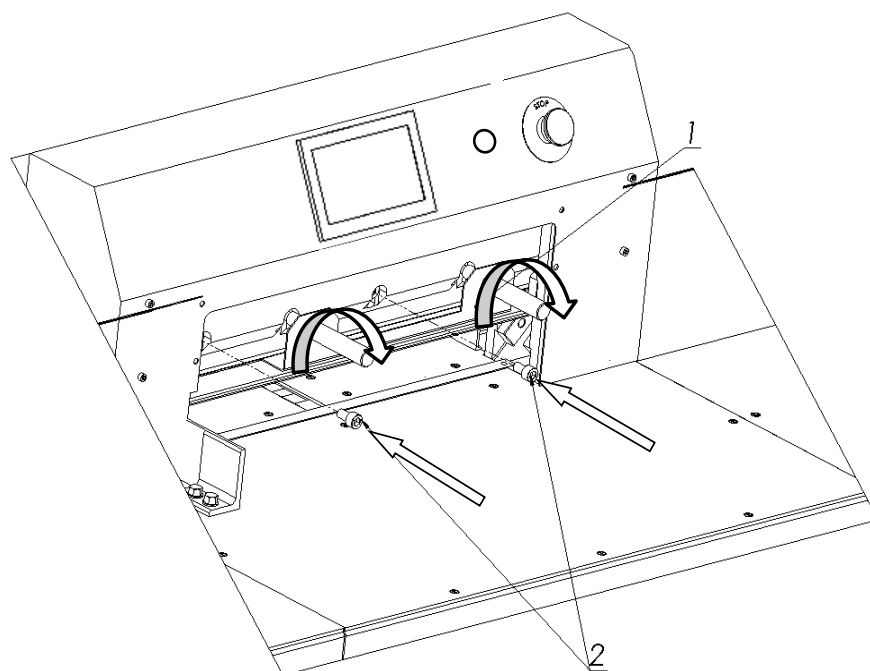


Figure 31.

8.1.2.4 Pre-attach the knife to the cutter bar by turning both transporting handles 1 to the right (fig. 31).

8.1.2.5 Install the fastening screws 2 (fig. 31).

8.1.2.6 Unscrew both transport lugs 1 (figure 31) and replace them with the mounting screws 1 and 2 (fig. 32).

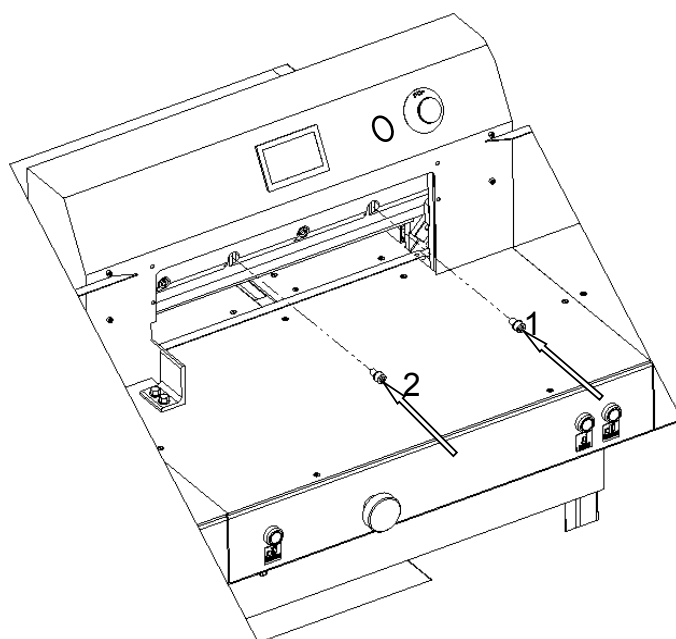



Figure 32.

8.1.2.7 Slightly unscrew the first screw on the left side of the clamping screw 2 (Fig. 31), 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 touchscreen 3 (Fig.22)

8.1.2.9 Pressing the push buttons, 2  (Fig. 33) 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, 3 (fig. 33) to the "0" position

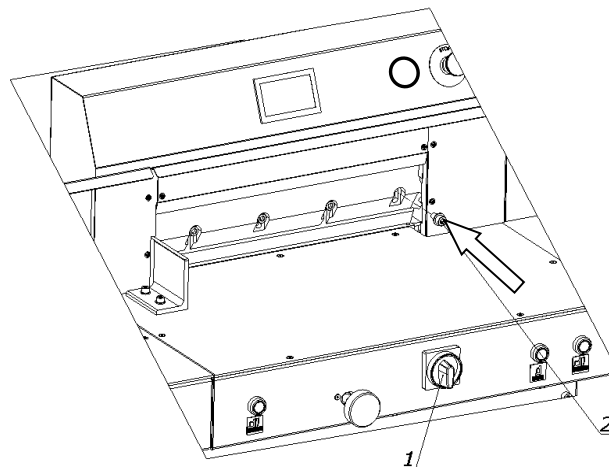


Figure 32a.

8.1.2.11. Screw in the bolt 2 lightly (fig.32a)

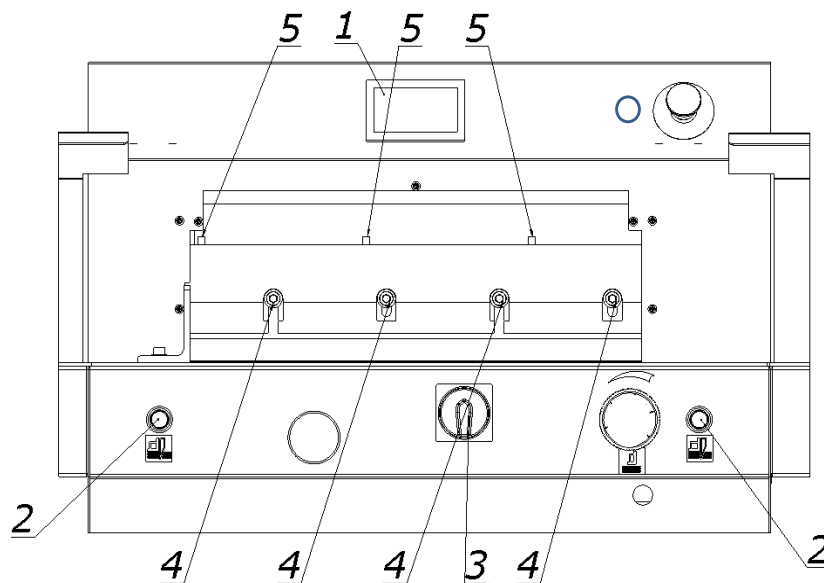


Figure 33.

8.1.2.12. Remove (loosen) the fixing screws 4 (fig.33) so that the knife falls under its own weight on the cutting bar with its entire length.

8.1.2.13. Tighten the adjustment screws 5 (fig. 33) as far as they will go, so that the blade of the knife is cut into the cutting bar, approx. 0.3 mm.



WARNING

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

8.1.2.14. Tighten the fixing screws 4 (figure 33)

8.1.2.15. Switch on the power supply of the electrical system by turning the main switch knob 3 (fig. 33) to position "I".

8.1.2.16. Turn off the "knife change" function on the programmer 1 (fig.33)

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. 33) to the "0" position

8.1.2.19. Firmly tighten the first screw on the left side of the knife. 2 (Fig. 31).

8.1.2.20. Turn on the power supply of the electrical system by turning the knob of the main switch 3 (fig.33) to position "I"

8.1.2.21 Switch on the power supply to the control system by pressing the green push button 3 (fig.22).

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.34)

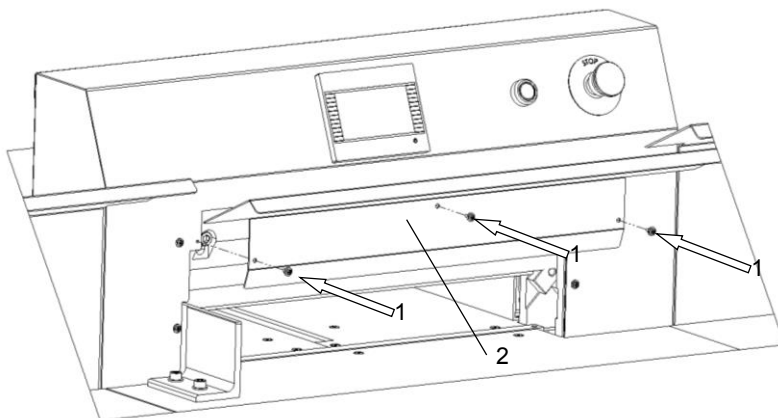


Figure 34.

8.2 Reversing or replacing the cutting stick



Danger!



Risk of injury!

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



WARNING

The channel between the tables into which the cutting stick is inserted must always be clean.

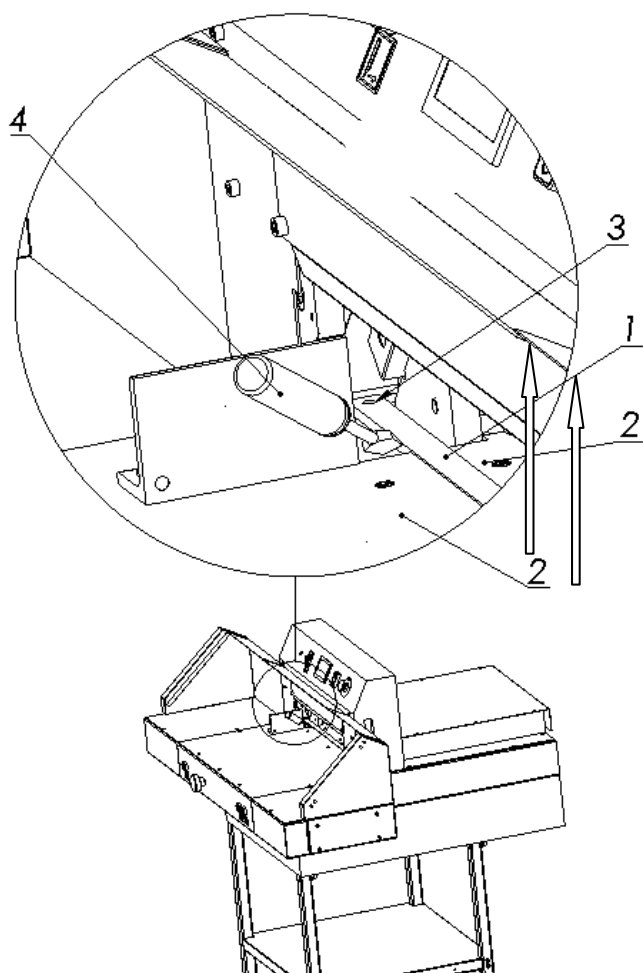


Figure 35. Removing the cutting stick.

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

8.2.1 Lift the cutting stick with a screwdriver (fig. 35)

8.2.2 Rotate or replace the cutting stick

8.2.3. Insert the replaced stick into the channel between the tables and place it on the dowel (Fig. 35)

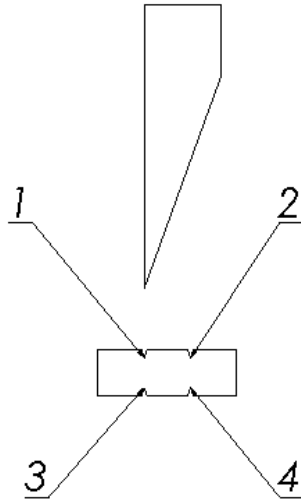


Figure 36. Diagram of using the cutting stick

Rotation of the cutting stick in both planes gives the possibility of obtaining four lines of contact with the knife, marked in Figure 36 as 1, 2, 3, 4.

8.3 False clamp

The use of the false clamp under the pressure bar prevents marking made by the lower part of the beam on the material to be cut.

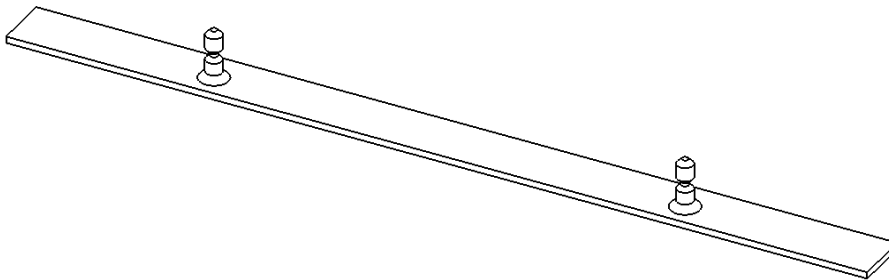


Figure 37. False clamp plate (insert)

The false clamp insert (fig. 37) is attached under the front table in the place shown in figure 38.

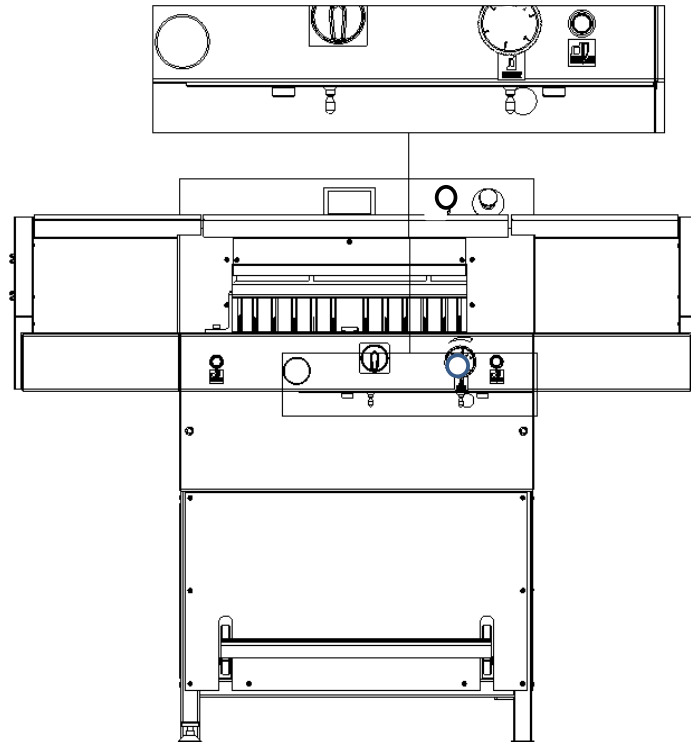


Figure 38. Placement of the false clamp before attachment in the pressure bar



Danger!



Risk of injury!

In order to mount the false clamp in the pressure bar:

8.3.1 Place the false clamp 1 (Fig. 39) under the pressure beam so that the insert pins are under the holes in the pressure beam.

8.3.2 Pressing pedal 2 (Fig. 39), bring the pressure beam down so that the insert pins hit the holes in the beam and the false clamp 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. 39) in the threaded holes in the clamping beam, causing the false clamp to be locked in the clamping beam.

8.3.4 Release the pressure on the pedal 2 (Fig. 39) - the beam with the inserted cylinder returns to the upper position

**The removable false clamp must be attached under the front table!
(Fig. 38).**

INFO

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.

Mounting the insert into the pressure bar causes: the minimum narrow cut (waste) is 40mm (without insert 22mm), maximum stack height is 76mm (without 80mm insert).

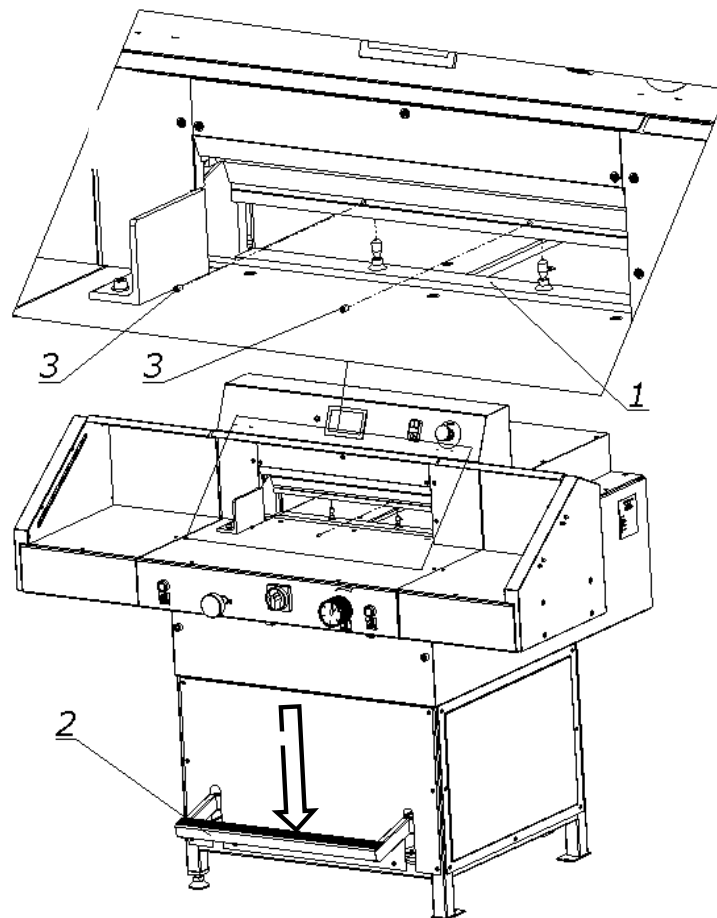
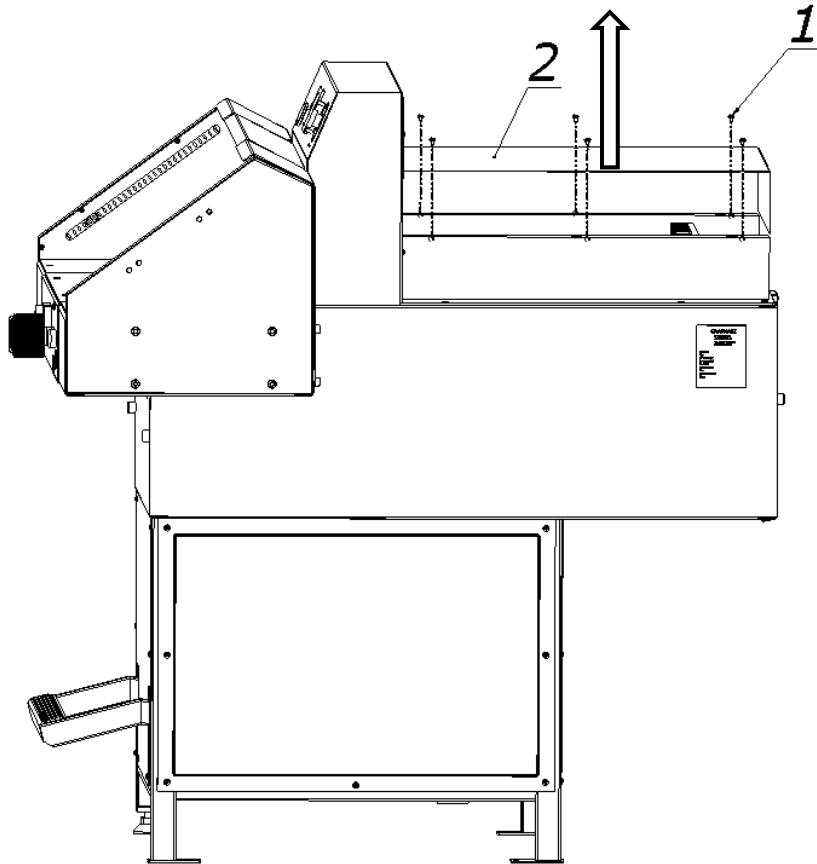


Figure 39. Operating elements used when mounting the false clamp into the pressure bar

8.4 Adjusting the parallelism of back gauge

Depending on the required inclination of back gauge, its adjustment should be carried out using drawings 40 and 41,



Drawing. 40 Method for removing the cover

To adjust back gauge:

- 8.4.1 unscrew the screws 1 (fig.40)
- 8.4.2 remove the cover 2 (fig.40)
- 8.4.3 loosen the screws 1 (fig.41)
- 8.4.4 loosen the nuts 2 (fig.41)
- 8.4.5 by turning the screws 3, place the approaching beam 4 (Fig. 41) at the right angle
- 8.4.6 lock the adjustment screws with 3 nuts 2 (fig.41)
- 8.4.7 firmly tighten the screws 1 (fig.41)

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

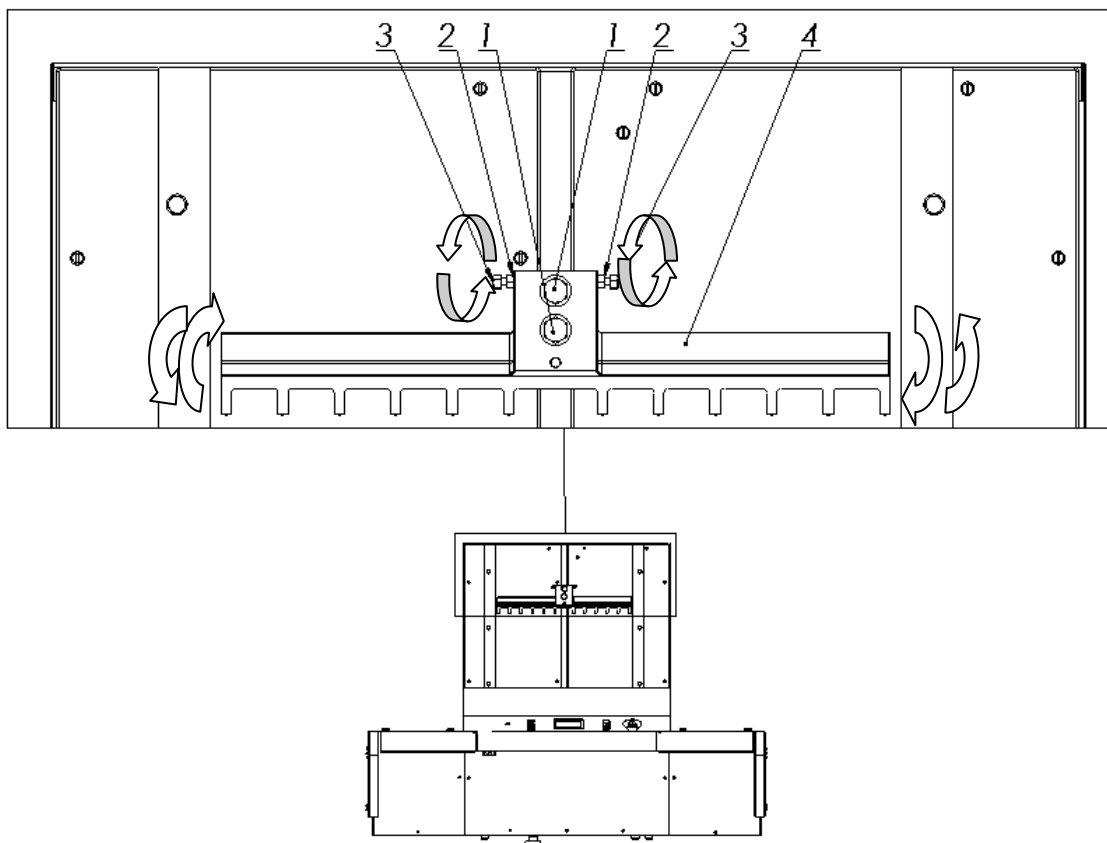


Figure 41. Adjusting elements of back gauge

9. MAINTENANCE



Danger!

Maintenance and lubrication work should be carried out after turning off the machine (main switch in position "0")

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 periodically

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.



Danger!

Caution- fire hazard with insufficient ventilation.

The machine guards must be put back into place immediately after maintenance has been completed!

9.3 Lubrication

The list of lubrication points is shown in Figures 44, 45, 46, 47, 48 and described in table 12. Access to lubrication points is possible after removing the covers shown in Figs. 42, 43, 46, 48. When lubricating the knife assembly, use the controls as when changing the knife (Chapter 8.1) 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 points 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"> • Side surfaces of the guides (in contact with the knife body) • Internal surfaces of guides (in contact with rollers) • Side surfaces of the knife body • Fixing the hydraulic cylinder of the knife • knife pulley 	43,44 46 47
	Back gauge	Oil	<ul style="list-style-type: none"> • guide roller (apply a thin layer of oil.) • lead screw (apply a thin layer of grease) 	45 46
3	Clamp	Grease	<ul style="list-style-type: none"> • the pressure beam slides • shaft bearings • Attaching the hydraulic pressure cylinder 	44 46 47

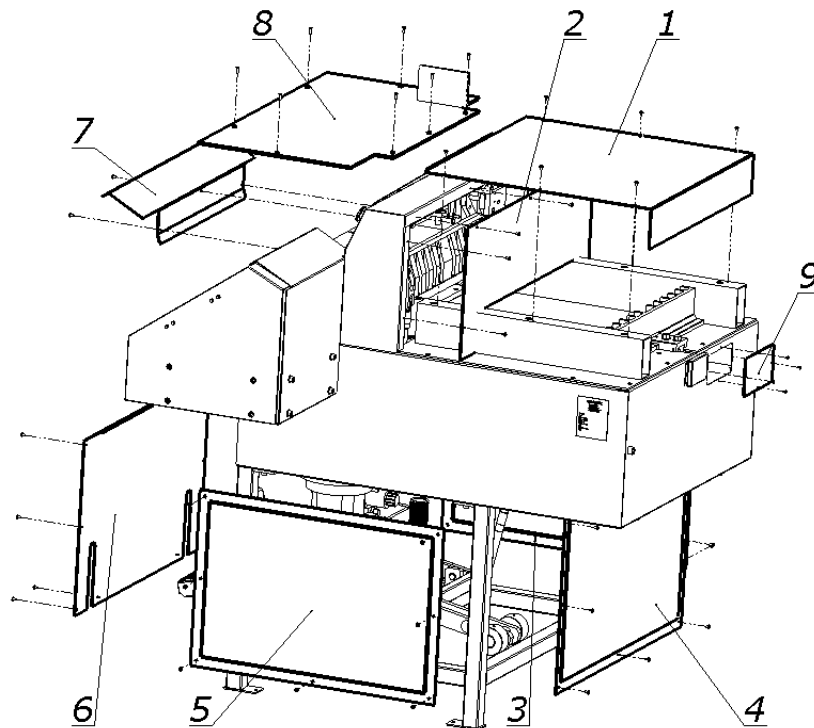


Figure 42. Way of unscrewing the covers

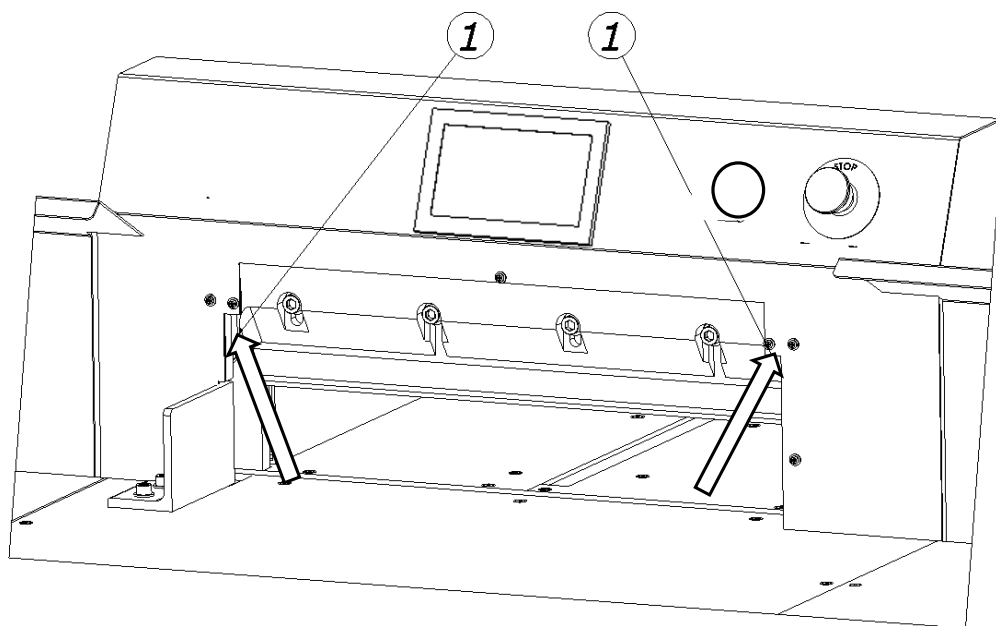


Figure 43 Lubrication locations of the knife assembly.

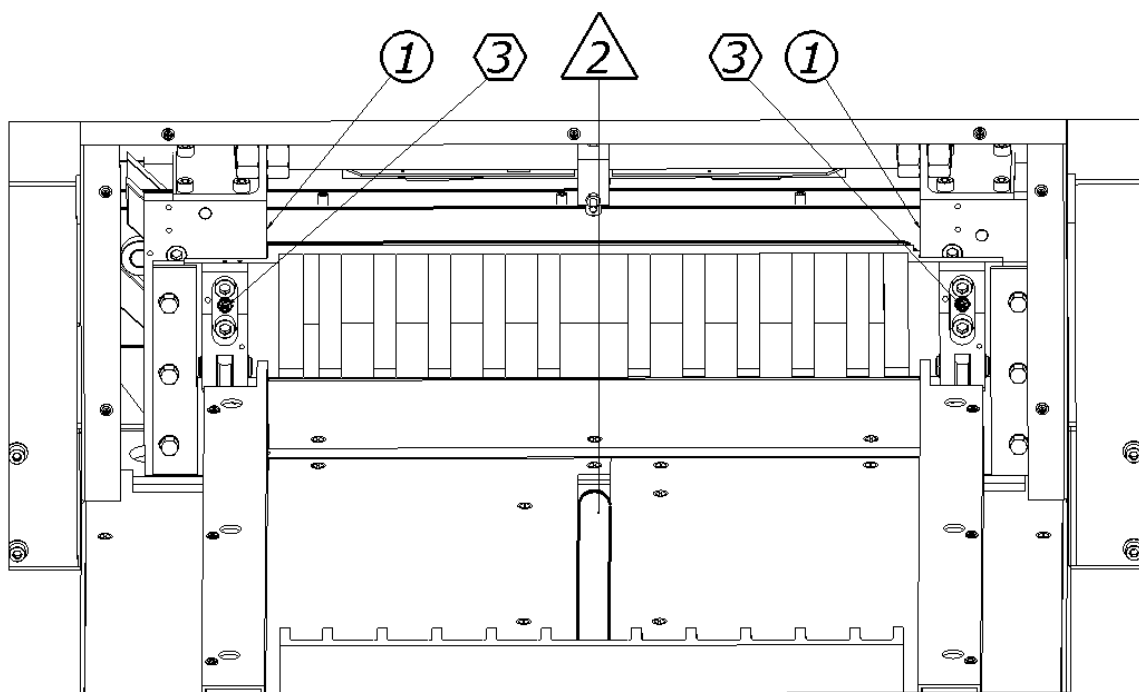


Figure 44. Lubrication points of the knife assembly (1), the paper clamp(2), the guide shaft of the feed mechanism (3)

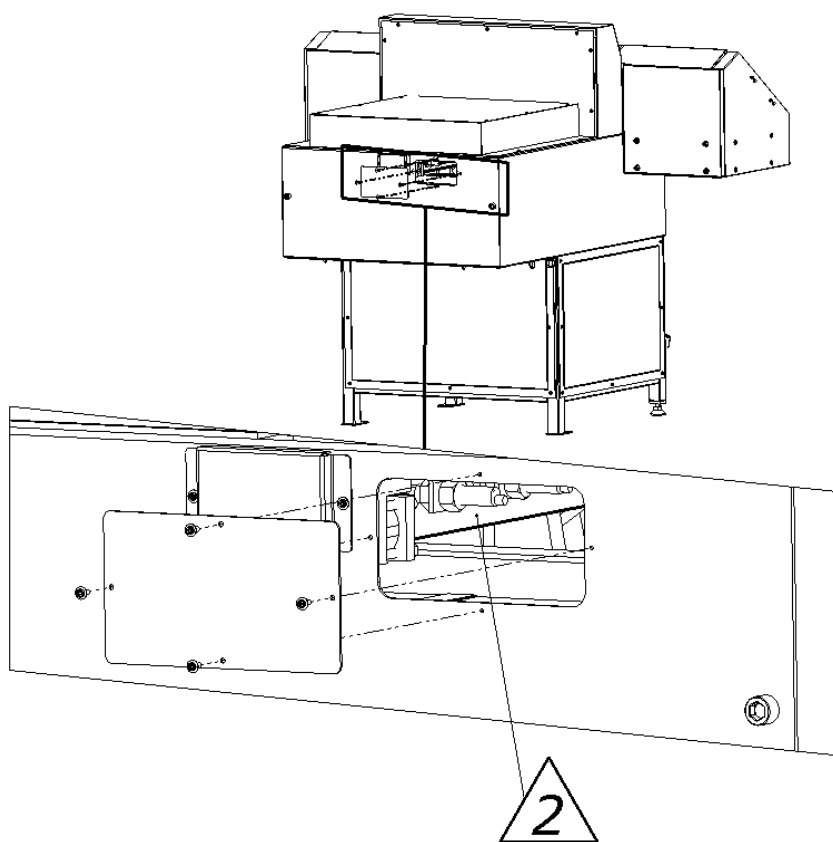


Figure 45. Grease location of the lead screw.

The worm gear mechanism is filled with an exchangeable oil. The exchange should be made after 5 years of work. The use of GL-5 and / or MIL-L-2105D gear oil is recommended.

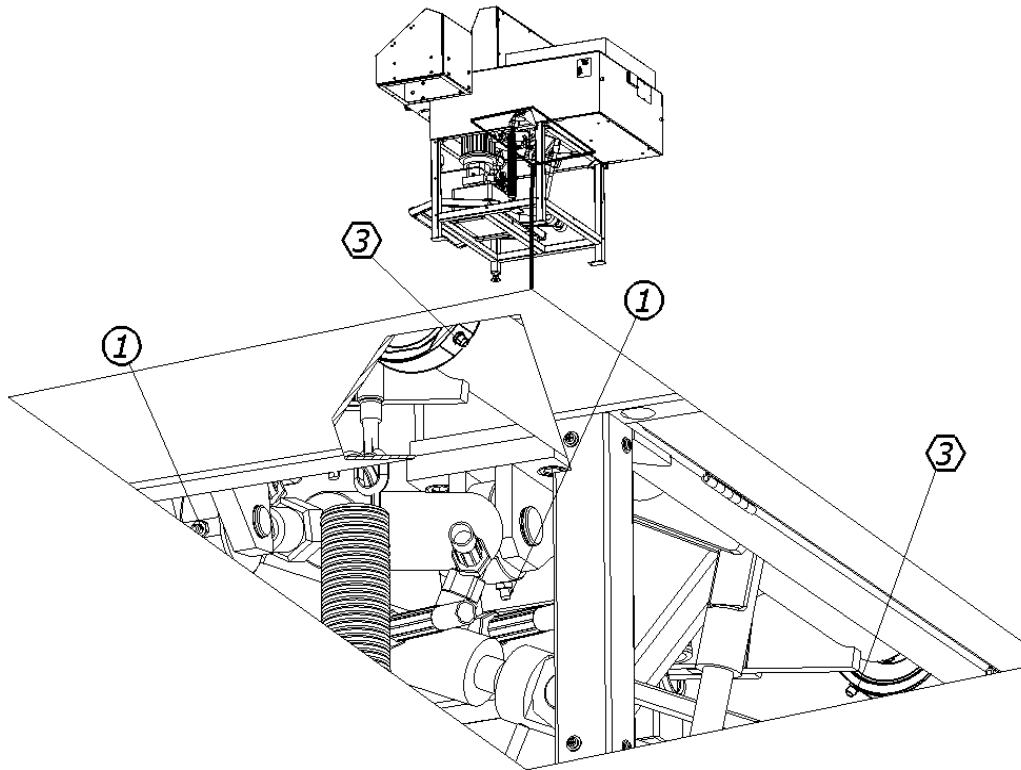


Figure 46. Arrangement of the lubrication points of the knife assembly 1 and the pressure mechanism 3

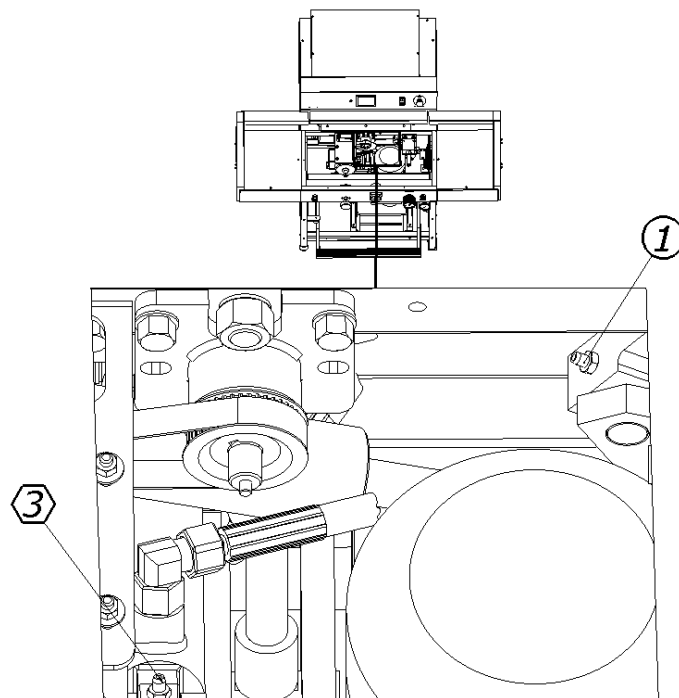


Figure.47. Grease location of clamp piston 3 and knife tie 1

9.4 Hydraulic system

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 manometer 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 degrees C to 30 degrees 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

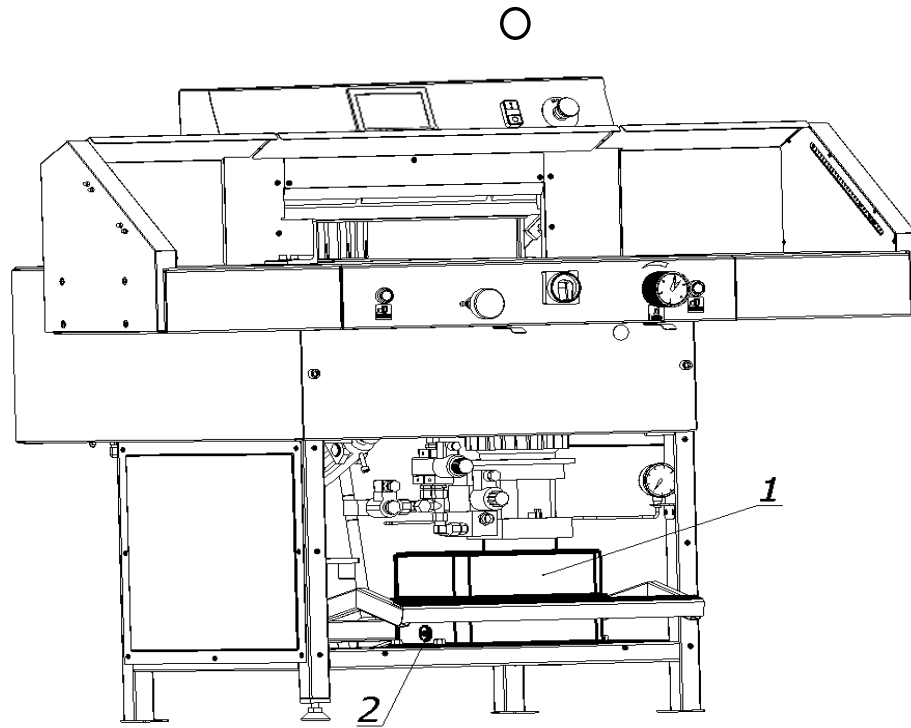


Figure 48. Oil change in hydraulic system



Danger!

Danger of burns due to hot oil!

Danger of splashing of hydraulic oil!

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. 48) located in the bottom of tank 1 (fig. 48). 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 3. (Fig. 49)

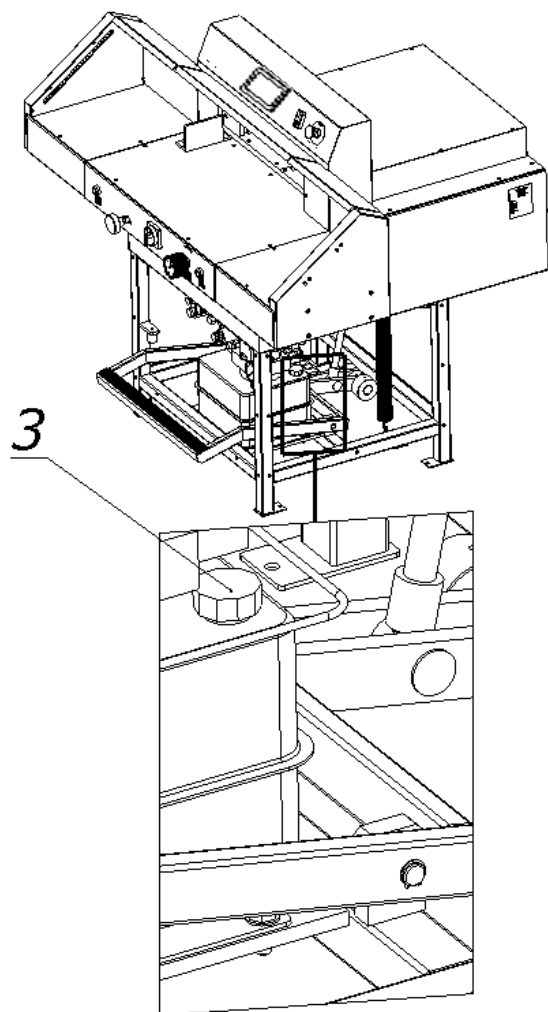


Figure 49. Location of the oil fill opening



Danger!



Risk of injury!

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 paper clamp.

9.5 Inspections

9.5.1 General recommendations

- After each shift 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 sharpening

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

9.5.3.1 Features of a blunt knife

- rough and uneven surface of the cut ream
- ticking the edge of the cut material
- inaccurate cutting
- increased formation of paper dust.

10. FAILURES



Danger!

- Each fault carries a risk of injury to the operator.
- If the cutter knife jams in the cut material during cutting, do not attempt to pull the material out from under the knife.
- Defects can be corrected only by trained service personnel.
- After completing the fault rectification, fit all covers and check that the individual protection devices are working properly.
- 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.

10.1 Determining the causes of the fault

Determine if the vulnerability affects the elements:

- electric
- mechanical
- hydraulic
- touchscreen control panel

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