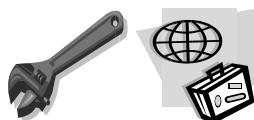
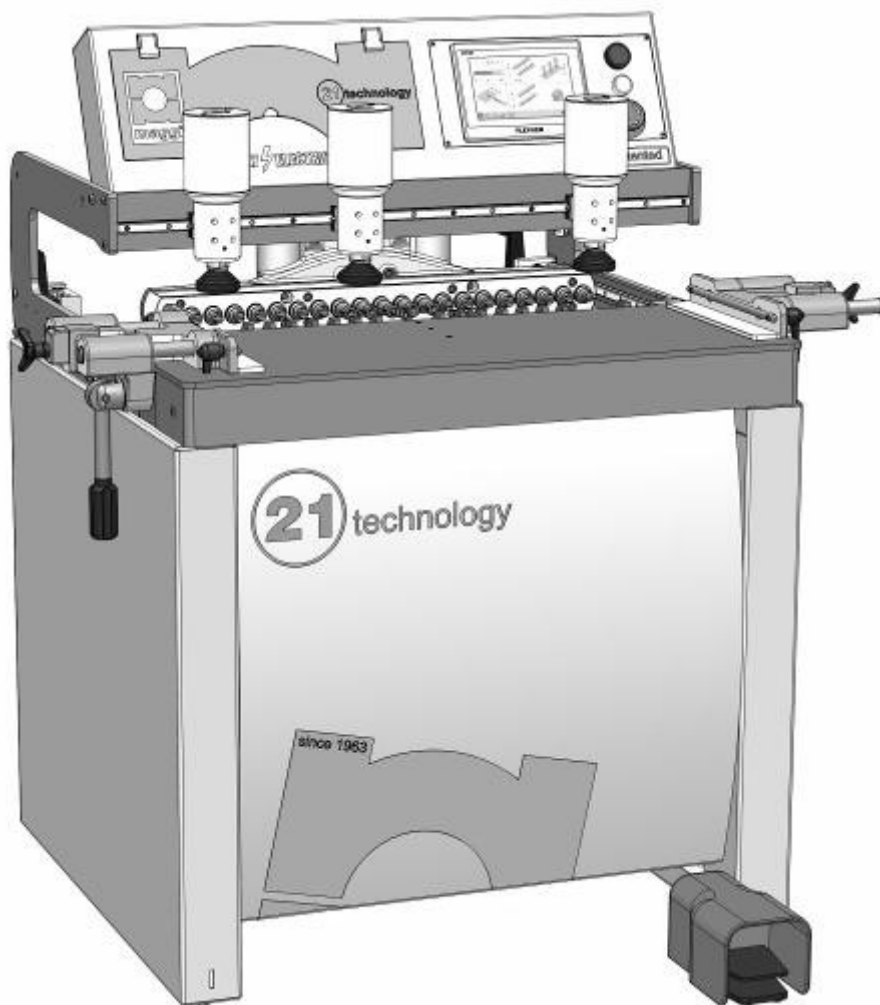




WOODWORKING MACHINERY



EN

MACHINE CODE 16236100
MANUAL CODE 00008173
REV 04



THIS MANUAL SHOULD ALWAYS BE KEPT NEAR THE MACHINE FOR FUTURE REFERENCE

BORING 21 TECHNOLOGY

ORIGINAL USE and MAINTENANCE MANUAL

THANK YOU FOR CHOOSING ONE OF OUR PRODUCTS

This manual contains all information, tips and warnings necessary to use the machine properly. It also contains the periodical maintenance operations that should be performed in order to keep the machine in proper conditions. We strongly recommend that you read this manual in its entirety before using the machine.

INTRODUCTION

Some information or images in this manual may differ from the machine in your possession as the manual refers to configurations of the machine provided with all its OPTIONAL accessories: please consult only the information regarding the particular configuration of your machine.

This manual was prepared exclusively for use by its customers, ensuring that this is the most up-to-date documentation for the product as of the publishing date.

The use of this manual falls within the user's responsibility.

No further guarantee is therefore given by the manufacturer (in particular for any imperfections, incompleteness and/or operational difficulty) with the express exclusion of any responsibility for direct or indirect damage deriving from the use of said documentation.

Maggi Technology reserves the right to make changes to the product described in this manual at any time and without prior notice.

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CE Declaration of Conformity

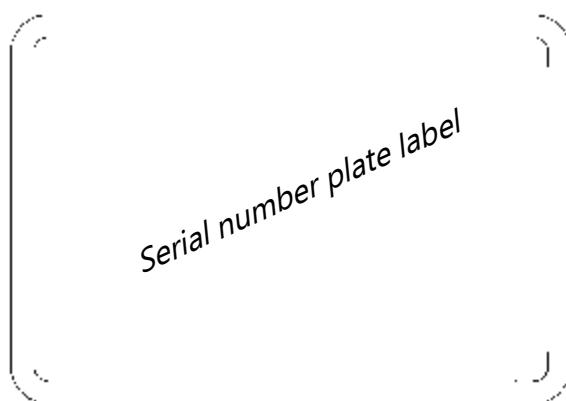
The manufacturer

Maggi Technology S.r.l.

Via delle Regioni, 299 - 50052 Certaldo (FI) ITALIA

Declares that the machine

<i>The machine</i>	<i>BORING SYSTEM</i>
<i>Model</i>	<i>21 TECHNOLOGY</i>



is in compliance with all provisions pursuant the following directives:

2006/42/CE (Machinery Directive)

2004/108/CE (Electromagnetic Compatibility)

and represents the technical file.

-Certaldo - Issues date :

The General Manager
Giacomo Landi



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GENERAL INFORMATION ON THE MANUFACTURER

Manufacturer: MAGGI TECHNOLOGY S.r.l.
Address: Via delle Regioni, 299 - 50052
Town: CERTALDO (FI)
Country: ITALIA
Tel. +39 0571 63541
Fax. +39 0571 664275
E-mail: service@maggi-technology.com

1. SAFETY AND GENERAL INFORMATION

1.1 RECOMMENDATIONS FOR USE AND MAINTENANCE

This manual contains all operations to be performed for correct use and proper maintenance of the machine. Please do not perform any other operation, repair or intervention than those mentioned in this manual. Please keep this manual in a place where it can be easily found and consulted by the operator.




ANY TAMPERING WITH OR REMOVAL OF THE SAFETY ELEMENTS MAY CAUSE SERIOUS ACCIDENTS: THE SAFETY ELEMENTS SHOULD BE CHECKED PERIODICALLY AS TO MAKE SURE THAT THEY ARE IN PERFECT STATE AND THEIR REMOVAL, DISABLEMENT OR MODIFICATION IS STRICTLY FORBIDDEN ANY ENCOUNTERED FAULT OR INCONVENIENCE SHOULD BE ELIMINATED IMMEDIATELY.

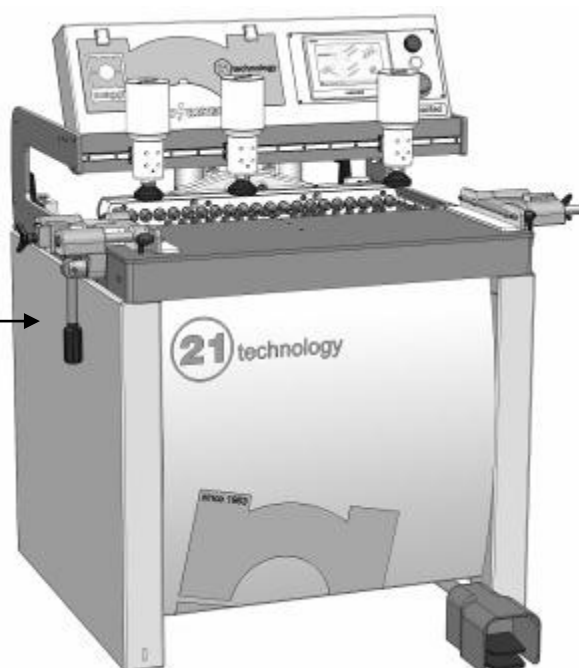
1.2 MACHINE IDENTIFICATION

The machine can be identified via the identification plate placed on the left side of the machine, operator's side. Whenever requesting spare parts or information on how to use or maintain the machine, you should always specify the model and serial number on the plate.

It is strictly forbidden to remove this plate or to change the data on it.

On the boring machine described in this manual is placed the plate below:

	MAGGI TECHNOLOGY S.R.L. Via delle Regioni, 299 50052 Certaldo Firenze - Italy	CE
MADE IN ITALY		
Type:		
Serial n°:		
Year:		
V:	PH:	Hz:
XV:	A:	



2. OPERATION NOTES



WOODWORKING MACHINERY CAN BE DANGEROUS

- For a safe and correct use of the machine, please read and follow the instructions in this manual.
- The machine should be used only by adult qualified staff. The safety responsible should make sure that the person assigned to use the machine has properly read and understood the information in this manual.
- The staff performing the maintenance operations (both routine and extraordinary maintenance operations) should have proper mechanical and electrical training.
- Stay away from any moving part of the machine.
Do not touch the spindles and/or relative moving parts.
- Never overlap the pieces to be processed. Always drill one piece at a time, only after properly adjusting the machine.

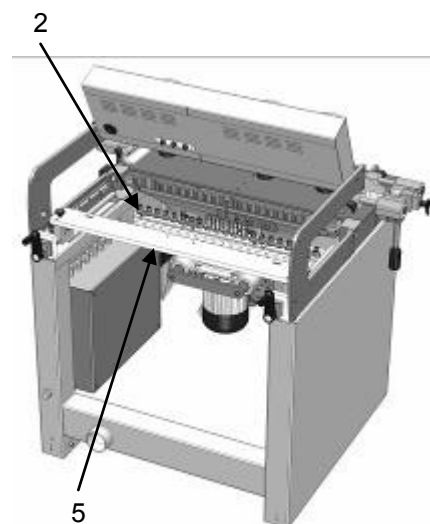
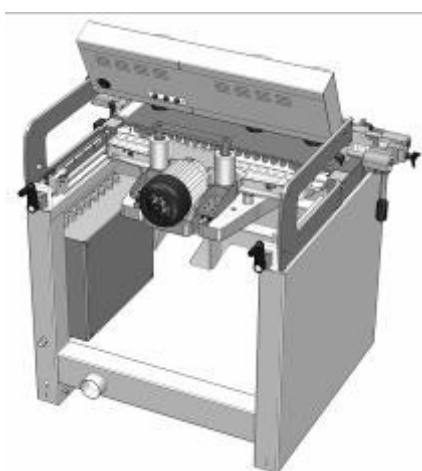
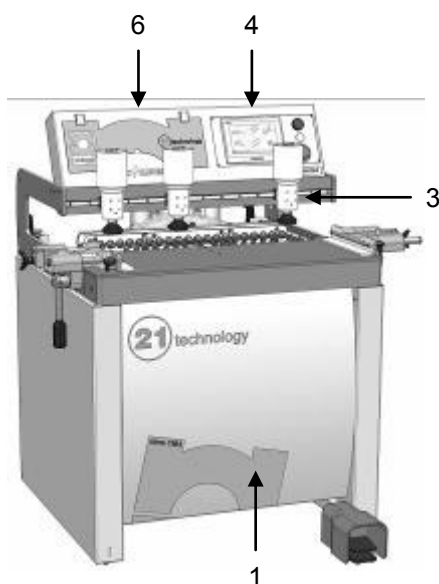
3. MACHINE DESCRIPTION

The Boring systems have been designed to perform drills with fixed interaxis of 32 mm (with maximum accuracy) on wood pieces,

The operator performs all necessary adjustments using the pedal and then places the pieces to be drilled on the working table (manual pieces infeed), locks them in position using the clamps and starts the work cycle.

The machine components are:

1. a steel frame
2. a spindle holder head unit with its relative transmission system
3. clamps unit for vertical locking the working piece
4. electronic touch screen system for head positioning and feed
5. rear stop to obtain the same boring distance on vertical and horizontal
6. Bits holder



3.1 APPLICABLE TOOLS

- Bits for quick change spindles \varnothing 10 mm. L=20 mm fig. A
- You can use bits up to \varnothing 40 mm out of the comb fig. B



Fig. A

Fig. B

4. SAFETY DEVICES AND WARNING SIGNS

The machine operator should be informed on its proper use and on the suitable use of its safety devices and accessories.

- The boring devices should be correctly fixed and adjusted.
- Follow the routine and extraordinary maintenance operations schedule.
- Before starting the machine, please make sure that the working table is free from any material shavings.
- Before performing any operation, make sure that in the working area there are no persons or other obstacles that could become sources of danger.
- Make sure that the mains connection cable is in perfect condition, properly stretched, unwound.
- You should never access the bits area while the machine is running.
- Do not store flammable substances near the machine, as any spark coming from it may cause an explosion or may start a fire.
- The operator should pay utmost attention when starting-up the machine using the pedal.
- The operator should always keep in mind the possible consequences that may occur when going near the dangerous areas such as: boring area, clamps operation range.
- If you are not using the machine, you should shut it down.

The main risk is represented by the moving bits. To reduce this risk to a minimum, our machines are provided with the following safety devices:

- Emergency button

Inserted on the control panel, on the front side of the machine. When this button is pressed, all movements stop immediately.

- Series of plates

They describe the safety precautions, the proper procedure to be followed and are used to identify each part of the machine. One of the plates contains the serial number and identification data of the machine itself.

- Safety clamps

They remain on top of the working table or of the piece being processed, preventing the operator from placing his hands under them.

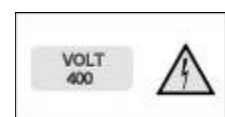
- Safety device

Electronic system against accidental start-up.



WARNING SYMBOLS: THE OPERATIONS MARKED WITH THESE SYMBOLS ARE DANGEROUS FOR THE OPERATOR THEREFORE THEY SHOULD BE PERFORMED PAYING UTMOST ATTENTION.

PLATES CEE, ISO, UNI



U.S.A. PLATES


WARNING SYMBOLS: THE OPERATIONS MARKED WITH THESE SYMBOLS ARE DANGEROUS FOR THE OPERATOR THEREFORE THEY SHOULD BE PERFORMED PAYING UTMOST ATTENTION.

**WARNING**

FOR YOUR SAFETY

1. READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE OPERATING BORING MACHINE.
2. Always wear proper eye protection.
3. Do not operate while wearing gloves, neckties, jewelry or loose clothing.
4. Keep guards in place at all times and in good operating condition.
5. Support work material firmly against fence.
6. Use clamps or fixtures for small or narrow work stock.
7. Keep hands away from rotating bits.
8. Make sure that drill bits are not damaged and properly secured before operating.
9. Disconnect and lock out machine from power source before making repairs or adjustments.
10. Do not operate while under the influence of drugs, alcohol or medication.
11. Do not expose to rain or use in damp locations.



**WARNING**

TO AVOID INJURY, KEEP HANDS-OUT OF DRILLING AREA WHEN MACHINE IS OPERATING.

5. PERSONAL PROTECTIVE EQUIPMENT AND RESIDUAL RISKS

Although the manufacturer took all the necessary safety measures, dangerous situations may still arise, being caused by:

- wood splinters fallen or projected during the work cycle
- clothes that get entangled between the machine moving parts
- fire hazard
- electrocution hazard
- damages caused by noise
- hazards caused by dust emission

In order to prevent risks while placing, installing, adjusting, using, performing the routine and extraordinary maintenance operations, please use:

- gloves (to handle the pieces, machine parts and to replace the blade)
- non slip and crush-proof shoes
- protective goggles against splinters or shavings that may be projected during the work cycle or when cleaning the machine
- anti-dust masks

The clothing should also be suitable, in order to avoid dangers such as:

- entanglement
- dragging
- crushing
- slipping
- abrasion

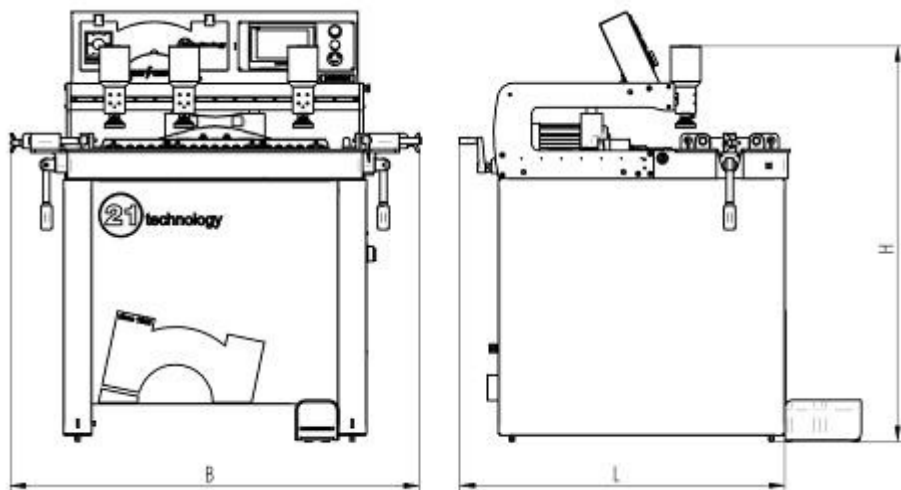
the use of contact lenses is strictly forbidden



NEVER LEAVE THE MACHINE UNATTENDED WHILE CONNECTED TO THE MAINS.

6. TECHNICAL DETAILS

NUMBER OF SPINDLES	21
INTERAXIS BETWEEN SPINDLES	32 mm
INTERAXIS BETWEEN FIRST AND LAST SPINDLE	640 mm
MAX. BORING DEPTH	65 mm
MAX. DIMENSIONS OF THE WORKING PIECE	960 x 3000 mm
HEIGHT OF THE WORKING TABLE	875 mm
NUMBER OF CLAMPS	3
NUMBER OF MOTORS	1
MOTOR POWER	2 (1,5) HP(KW)
MOTOR R.P.M.	2800 RPM
MAX. DIMENSIONS OF THE MACHINE (B x L x H)	1230x920x1110 mm
NET WEIGHT	260 Kg



7. INTENDED USE

7.1 MATERIALS

The Boring machine was designed and intended to process the following materials:

- solid wood
- M.D.F (medium density fiberboard)
- Chipboard, laminated, faced panels, etc.

The maximum thickness of the panel is 65 mm with maximum dimensions described at par. 7.

- Any other material than the ones mentioned above, may be processed only after receiving written authorisation from the manufacturer: in particular, you should not process materials that contain toxic substances, that may represent a danger for the safety and health of the operator, metals or substances that may affect the proper operation of the machine or that may cause fire or explosions.
- Any modification performed without receiving written authorisation from the manufacturer, is strictly forbidden.
- Tampering with the safety devices is strictly forbidden.



7.2 IMPROPER USE

Any action performed without following the instructions mentioned in this manual is considered improper.

Additional information:

We do NOT RECOMMEND leaning or placing tools above the machine for any reason during its installation, use or maintenance.

We do NOT RECOMMEND you to climb on the machine or on any of its parts.

The machine is identified through the identification plate placed on its frame.



Whenever requesting spare parts or additional information for use or maintenance, you should mention the model and serial number indicated on the plate.

It is strictly forbidden to remove this plate or to change the data on it.

On the boring machine described in this manual is placed the following plate, as indicated



THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY DAMAGE TO PERSONS, ANIMALS OR GOODS DUE TO IMPROPER USE OF THE MACHINE.

		MAGGI TECHNOLOGY S.R.L. Via delle Regioni, 298 50052 Certaldo Firenze - Italy		
MADE IN ITALY				
Type:				
Serial n°:				
Year:				
V:	PH:	HZ:		
KW:	A:			

8. TRANSPORT

The boring machine is packaged in a wooden crate.

You can move it using:

- forklift truck
- overhead crane
- pallet truck



For the data concerning their capacity please consult par. 6 , the lifting points can be viewed in the image below.

When moving the machine, please make sure that the area around it is free of any obstacles. The machine should be stored in a dry place, away from rain, snow or humidity. While handling the machine, please pay utmost attention in order to avoid damaging persons, goods or the machine itself.

9. INSTALLATION

9.1 MACHINE LOCATION

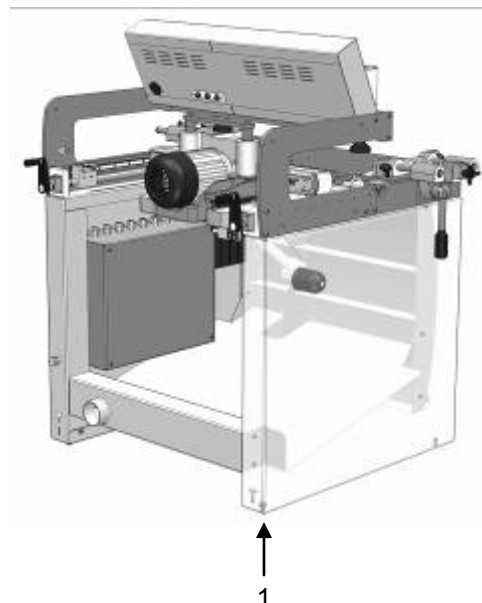
The machine should be placed on a stable surface that can support its weight, any difference in level should comply with the building regulations. If the machine should be placed on a raised structure, the slab support system should have the capacity to sustain the weight of the machine. Place the machine in the most suitable position, based on the operational requirements, so that it can be easily connected to the mains and pneumatic power supplies.

The installation location should be provided with suitable lighting, so that every part of the machine can be easily viewed. We also recommend you to place an intake nozzle near the machine, for its periodical cleaning.

9.2 LEVELLING

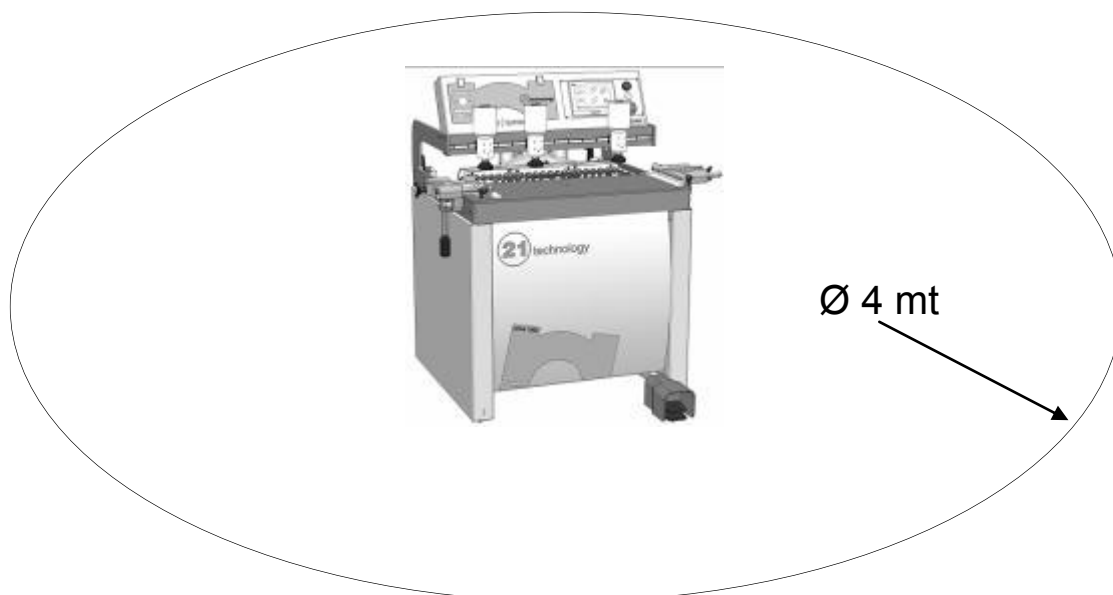
Make sure that the machine is fully resting on the floor, then align the working table via the adjustable foot (1) using an Allen wrench, check the levelling with a spirit level. Before proceeding, remove the layer of protective oil from all unpainted surfaces, using only petroleum or kerosene.

Do not use solvents such as benzene and diesel fuel, that may damage the paint dulling it, or that may oxidise the machine parts.



10. OPERATING AREA

In order to use the machine correctly, you must ensure the clearance areas indicated below.



11. MACHINE INSTALLATION AND CHECK PROCEDURE



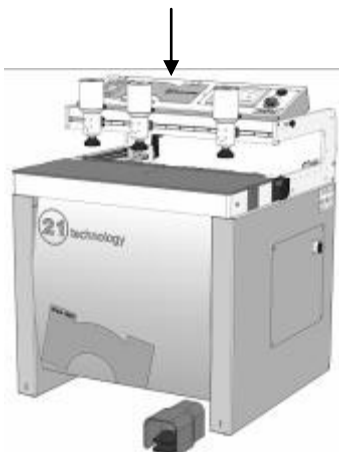
The boring machine is packaged in a wooden crate. Given the size of the package, please handle it correctly, paying utmost attention. After bringing the package next to the area in which you want to place the machine, remove the crate.

The package contains 2 cutting units, 2 fence units and a box containing different accessories, please see figures below:

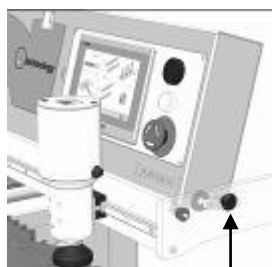


Please adjust and install the cutting units following the procedure below:

Rotate the control panel unit



Turn it until you reach the stop ref.

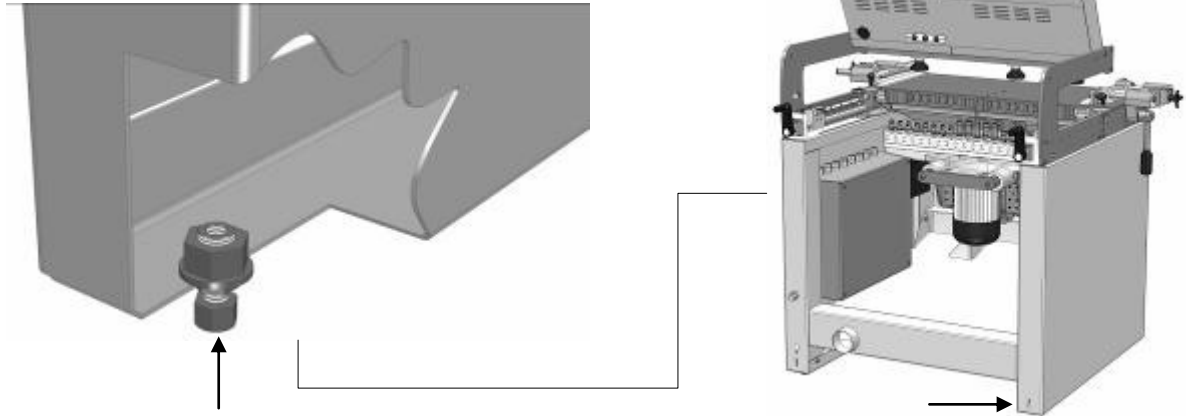


Tighten the handle

Install the cutting units



Place the Boring machine in the pre-chosen location, respecting all the warnings in paragraph 11-12. Level the machine using the Te screw as indicated in the figure:

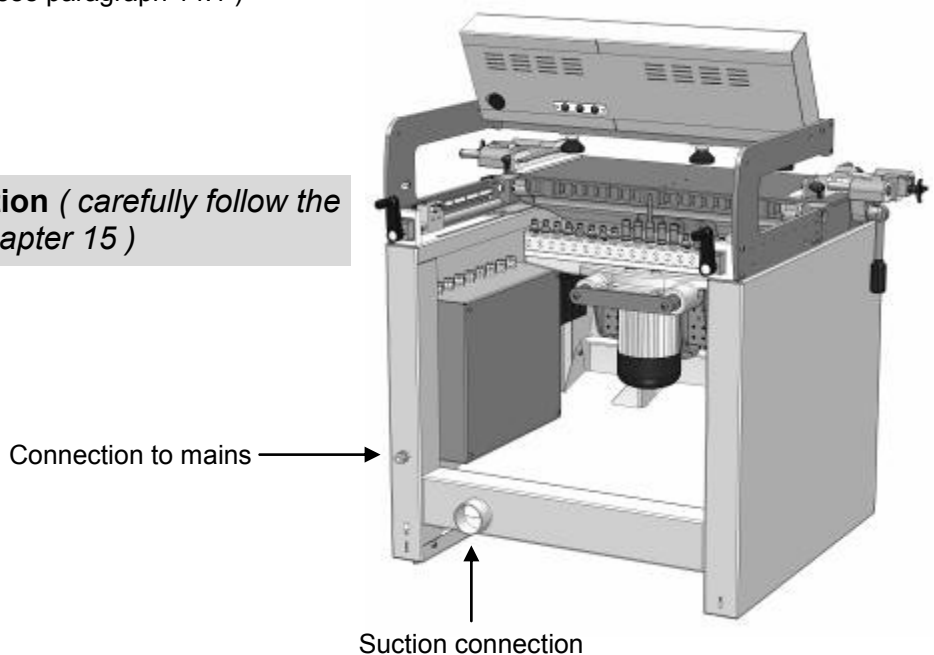


Then proceed with the other connections: (please see chapter 14)

- Connection to the mains (see paragraph 14.1)
- Suction connectin



Boring preparation (carefully follow the instructions in chapter 15)



12. MACHINE INSTALLATION AND PRELIMINARY CHECKS PRIOR TO COMMISSIONING

The machine is delivered partially assembled, therefore you should only install the pieces provided separately due to packaging reasons.

Before proceeding with the installation, the customer should make sure that all machine parts are in perfect condition, without any damages.

Please check in particular, the delicate components, such as the electrical or mechanical parts, the pneumatic tubes or the safety devices.

After the installation, please clean the surfaces removing the protective oil to prevent the pieces from getting dirty during the work cycle.

WOOD SHAVINGS REMOVAL

The wood shavings and waste resulted during the work cycle should be removed in compliance with the standards in force in the Country of Use of the machine.

Please contact the competent bodies in the Country of Use, in order for them to provide you with the relevant standards in force.



Warning: the machine is intended for aspiration, but it is not provided with a vacuum system; the customer should provide this device, based on the processed material and frequency with which the machine is used. Please install a suitable system, able to maintain the dust concentration below the TLV provided in the Country of use.

13. MACHINE HOOK-UP TO THE EXTERNAL POWER SOURCES

After properly installing the machine, proceed with the connection to the:

- Mains
- Suction system

13.1 HOOK-UP TO THE MAINS

We recommend you to connect the machine to the mains only after properly placing it in its operating position. Before connecting the machine to the mains, make sure that it complies with the necessary power and safety requirements:

- Equipotential grounding system
- The electrical system should comply with standards CEI 64.8 (CENELEC HD 384, IEC364-4-41)
- The motors voltage and frequency are indicated on their plates
- Please connect the supply cables to the terminals marked with R-S-T
- Automatic safety devices installed upstream from the machine and configured to automatically stop the machine in compliance with the previously mentioned standards.

The electrical connection is performed via a three phase plug (or single phase, based on the requirements)

The grounding cable is coloured in yellow-green

The allowable tolerance voltage is $\pm 10\%$

When the electrical system is powered, make sure that the spindles rotate in the proper direction indicated on the plate placed on the head (Black = Right ; Red = Left).

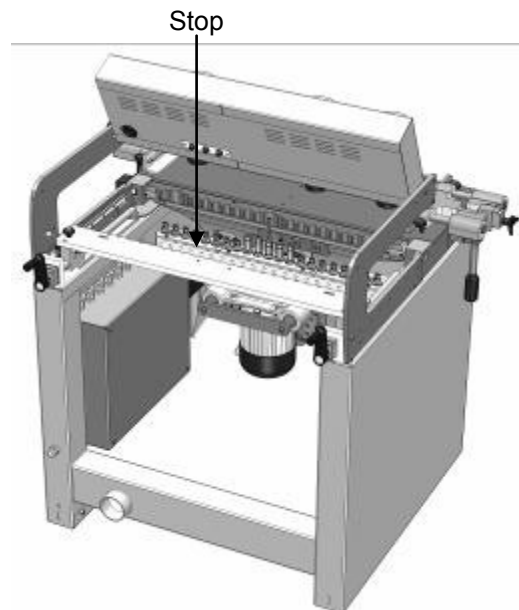
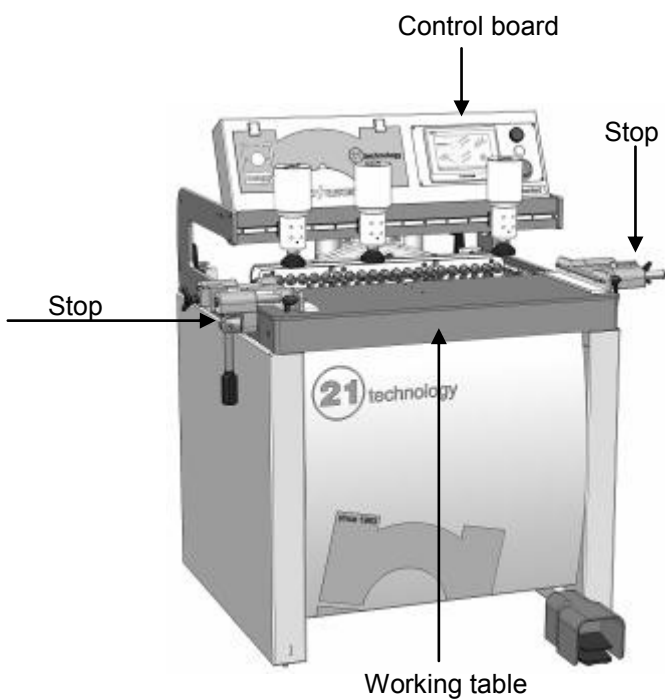
If the rotation direction does not match, switch the connection cables to the three phase electrical power supply line. For any reference please see the wiring diagrams attached to this manual.



WARNING: the machine connection should be performed only by qualified staff.

13.2 MACHINE START-UP

The workstation and the control panel are located on the electronic panel of the machine. The operator should place the parts on the workbench after having adjusted the stops.



13.3 CONTROL PANEL

You can connect with the PC via touch screen (1) that allows quick file exchange via USB (4) port installed on the control panel. The main functions include creating new projects (boring head inclination angle, bits selection, boring speed and depth), deleting projects, searching projects saved in the internal memory of the touch screen (installed memory 128 MB), changing projects. Using the software integrated in the touch screen you can manage the boring settings, such as 0° - 90° boring unit rotation, boring depth and speed, length of the bits and distance between panel and clamp. You can individually save the working settings (boring head inclination angle, bits selection, boring speed and depth) in a file and load them later on. Using the USB port you can export (backup) or load (upload) working configuration files saved on external media.

After having created Your file project with Your CAD/CAM, You can immediately download it from Your office PC and add it to the machine system just by using an USB key. The machine operating system also allows a language selection and the installing of drivers for the software updating; it provides alarm signals to avoid collisions or selection of non-suited parameters and on-board diagnostic.



When switching on the machine an “Alarm” message is visualised on the touch-screen as in picture (A); then You have to press the start/stop button as in picture (B) to start the machine. The “Zero-setting” message is now displayed as in picture C , You only have to press the zero-setting icon to get it started. When the “zero-setting” is completed the “HOME” screen is displayed as in picture (D).



Pressing  the “HOME” icon You can always get back to the screen showed in picture (D).

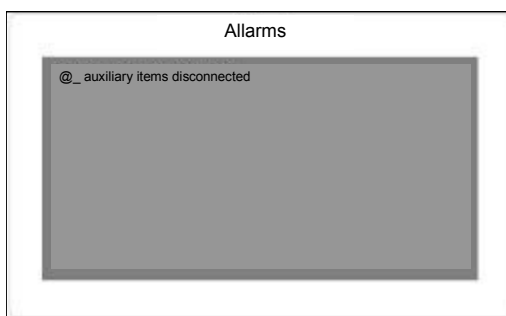


Fig. A

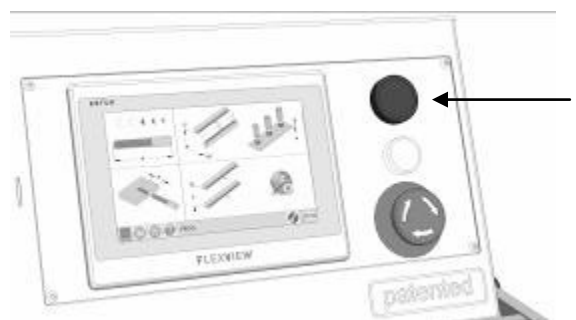


Fig. B



Fig. C

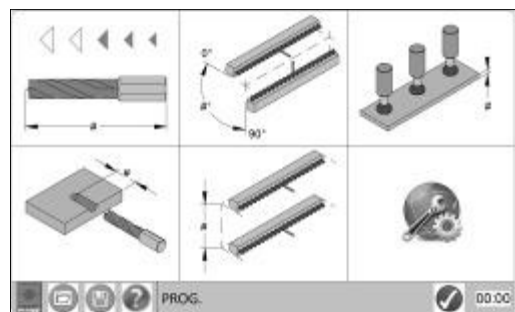



Fig. D

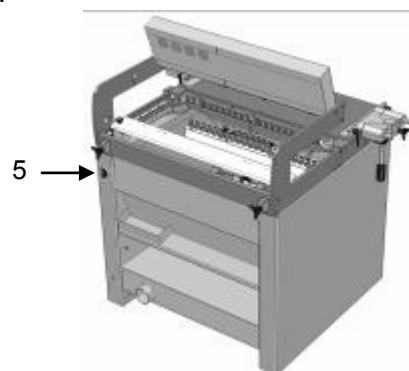
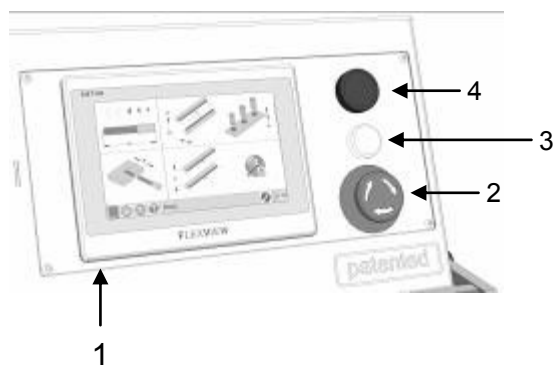
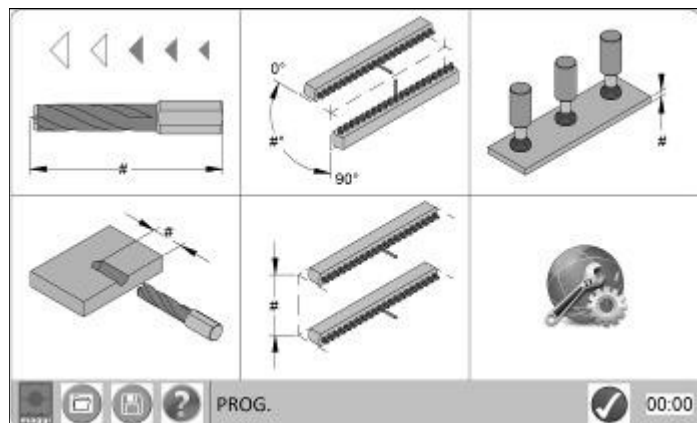


Fig. E



After having pressed the emergency button (pict. E) the “Alarm” sign is showed, as in picture A. You have then to press the start/stop button (picture B) to start with the “zero-setting” as in picture C. At the end of the process the “Home”  screen is displayed as in picture D.

1. TOUCH SCREEN
2. MOTOR STOP LOCKING EMERGENCY BUTTON
3. LIGHT BUTTON FOR OPERATING CYCLE RESTORE
4. USB INPUT (universal serial bus)
5. MAIN POWER SWITCH



1) TOUCH SCREEN (starting page “ Home”)

- A) Tool selection , selection of tool length, head-progress speed selection during the boring cycle
- B) Selection of boring angle (boring-head tilting)
- C) Set-up of the clamping-units
- D) Machine settings (Password 1111)
- E) Display Clock
- F) Confirmation Icon
- G) Information bar (showing the name of the selected file)
- H) Full reference and contacts of Maggi Company
- I) Save icon (projects)
- L) Archive icon (saved projects)
- M) Selection of boring depth
- N) Selection of boring height

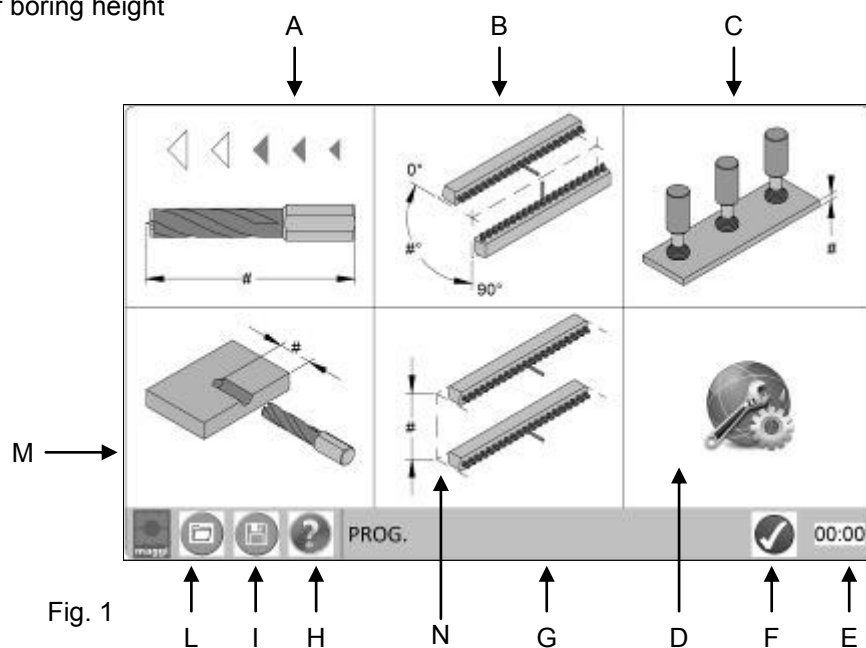
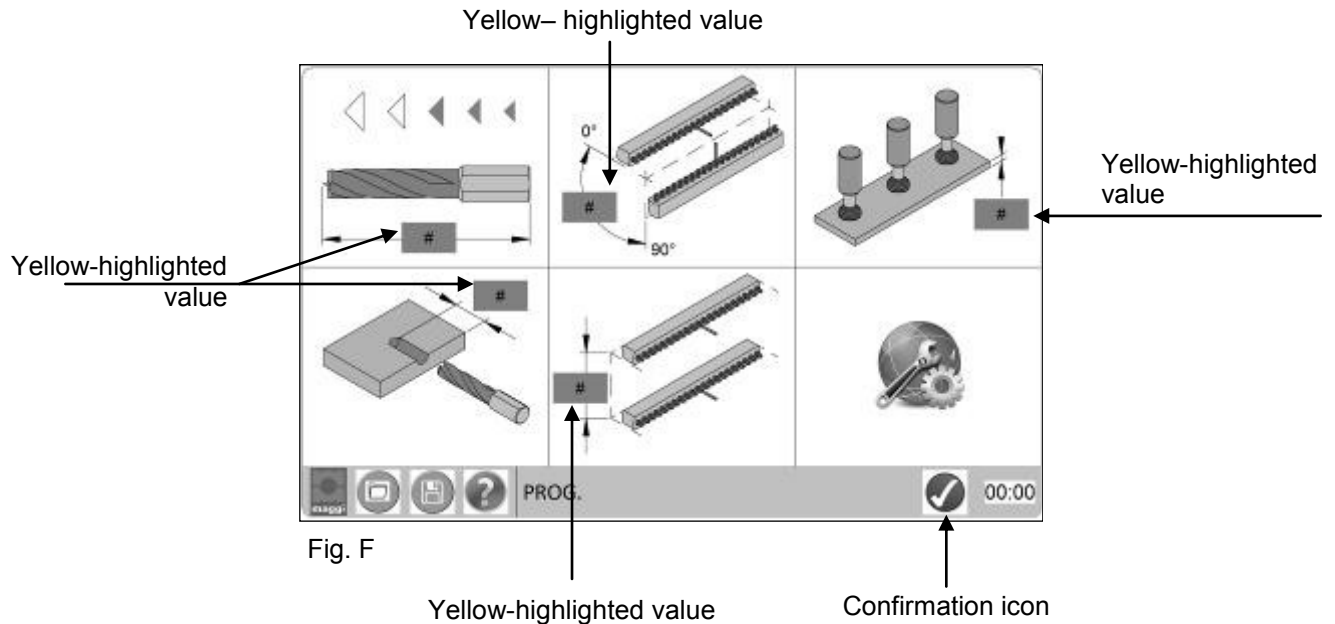


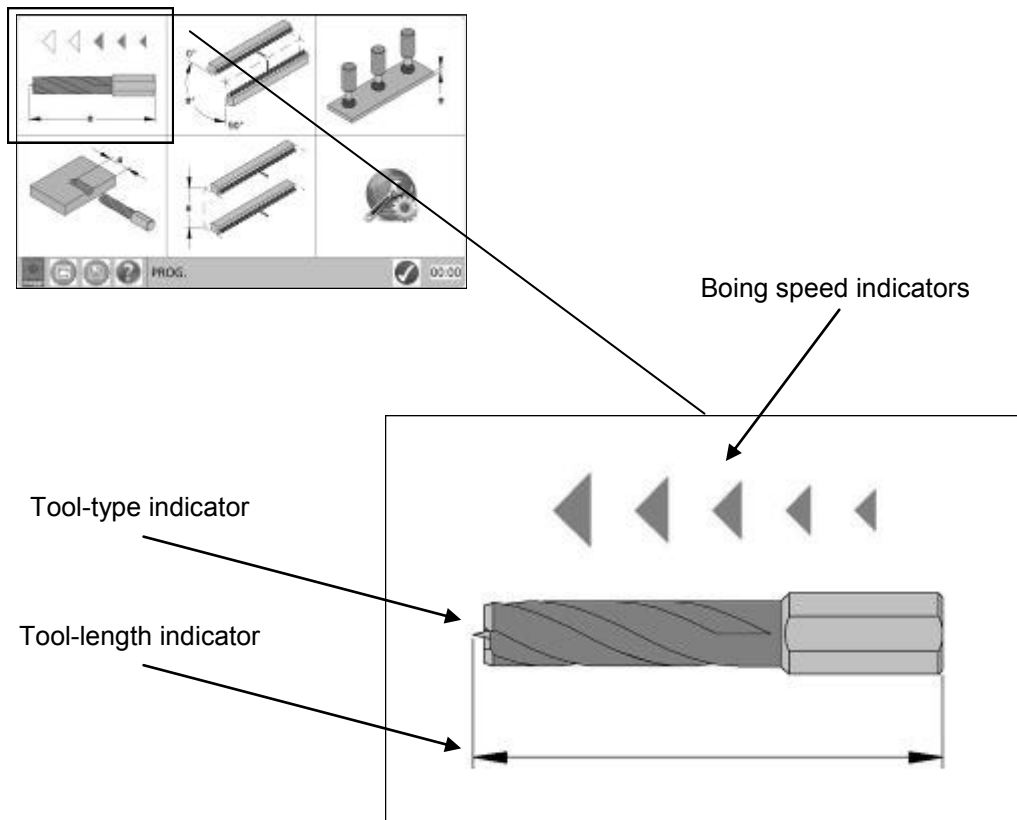
Fig. 1



The values displayed in the different sections of the machine set-up screen can be highlighted in yellow; this happens when the machine is being adjusted (Fig. F). To confirm the set-up and adjust the machine You have to press the confirmation icon (F) , after that the yellow highlight disappears and the machine is now ready to start working.



A) Selection of tool, tool length, boring-head-progress speed



Boring-speed indicators

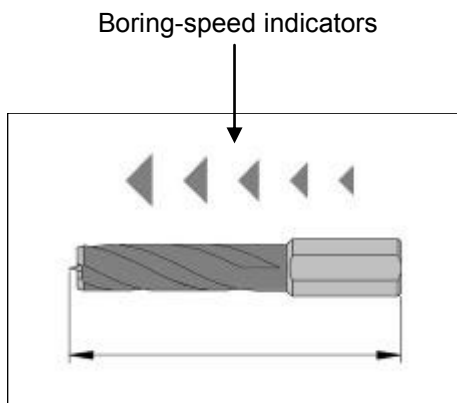


Fig. 2

Pressing the triangular icons (Fig. 2) You enter the “boring-speed” section (Fig.3). Through the arrows You can adjust the head-progress speed on a range between 1 and 5. 1 is the lowest speed and is equal to 2 mt/sec, while 5 is the highest speed and is equal to 15 mt/sec. After having set-up the speed, do press the Home icon to get back to the main screen (Fig. 1) Verify that the values displayed on the main screen are updated accordingly

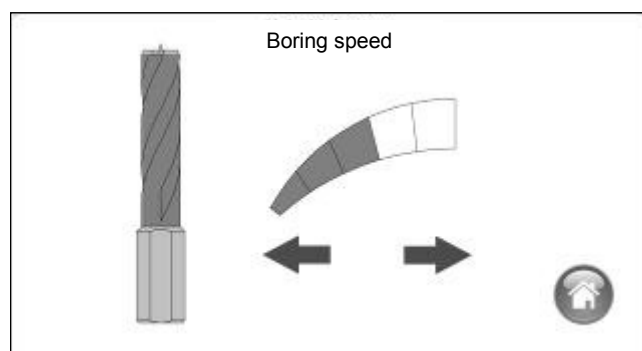


Fig. 3

Tool-type indicator

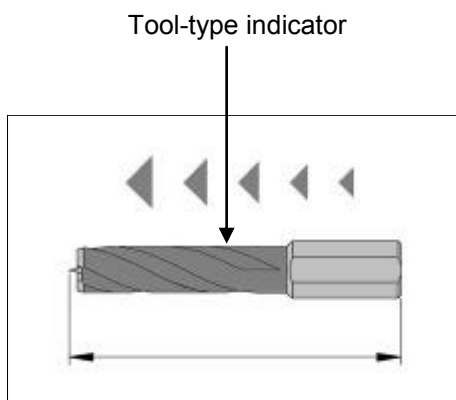


Fig. 4

Pressing the tool icon (fig. 4) You enter the “tool-selection” (Fig. 5). The choice is among 4 drill-bit types: standard, v-point, sunk, hinge-sink (max. diam. 40 mm). After having selected the tool-type confirm Your choice by pressing the Home icon, this will bring You back to the main screen (Fig. 1) Verify that the selections displayed on the main screen are updated accordingly

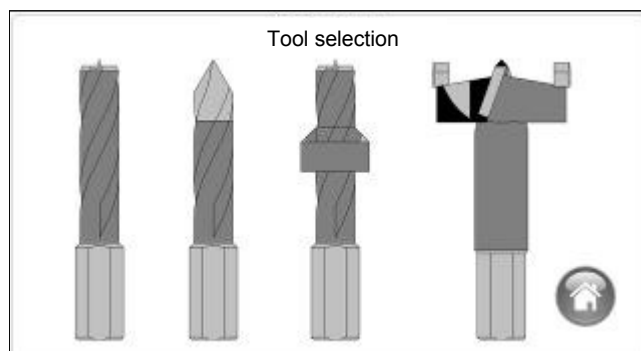


Fig. 5

Tool-type indicator

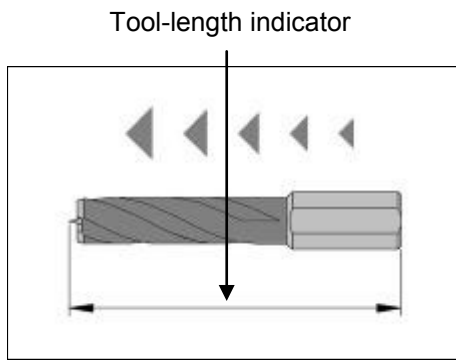


Fig. 6

Pressing the tool-length indicator (Fig.6) You enter the "Tool-length" section (Fig.7) and can choose among 4 standard lengths, while pressing the 00,0 figure You are allowed to insert any value through the numeric keyboard. Confirm the selection by pressing the home icon and get back to the main screen (Fig. 1). Verify that the values on the main screen are updated accordingly.

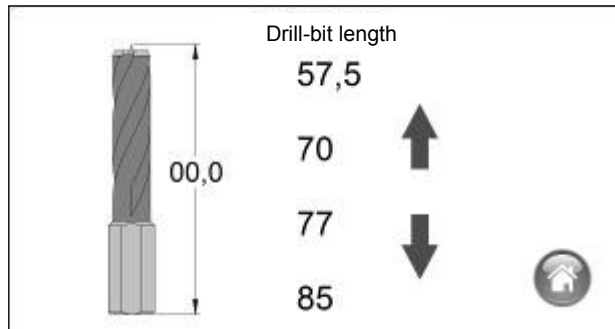
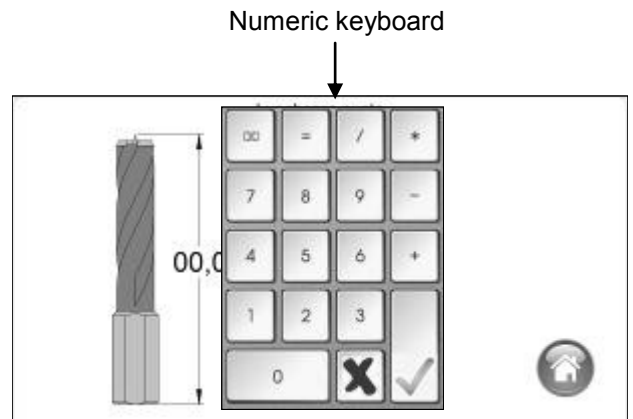
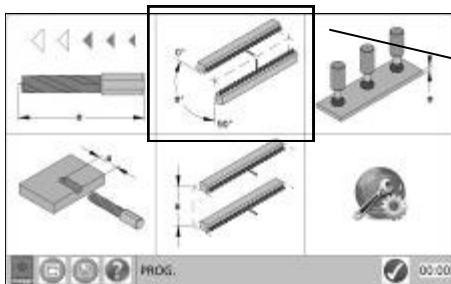


Fig. 7



B) Set-up of the boring angle (boring-head tilting)



Pressing the boring-angle icon (fig. 8) You enter the section showed in fig. 9. You can either choose one of the available angles or insert any degree through the numeric keyboard by pressing on the #° value. After having selected the angle confirm Your selection by pressing the home icon and get back to the main screen (Fig.1). Verify that the values on the main screen are updated accordingly.

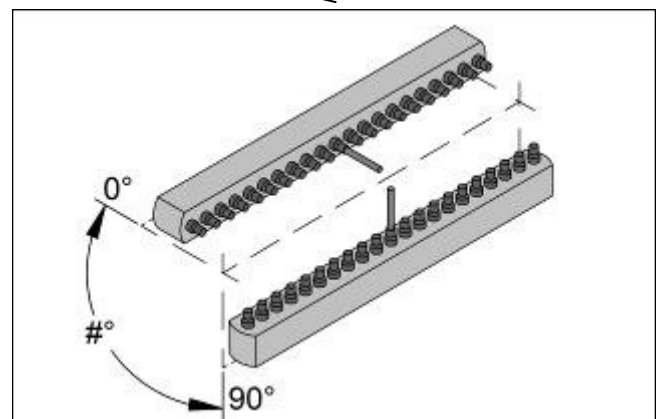
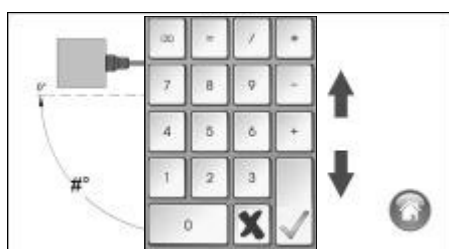


Fig. 8



Numeric Keyboard

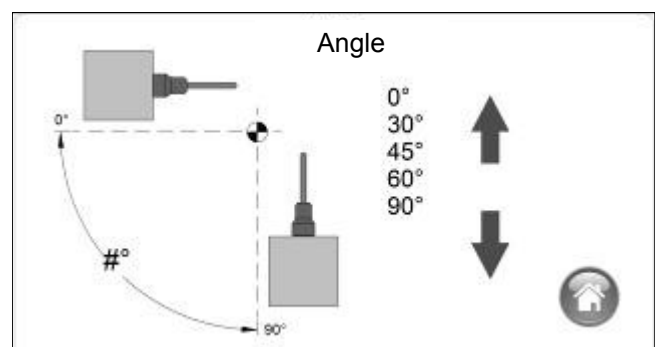
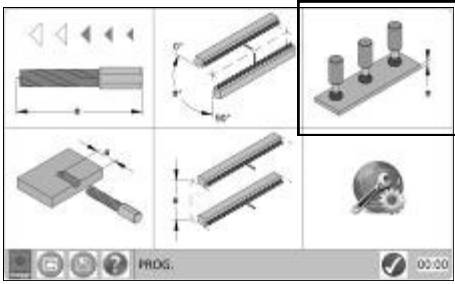


Fig. 9

C) Set-up of clamping units



By pressing the icon "handling of hold-down clamps" (Fig. 10) You open the page shown in fig. 11 ; there You can enter the panel thickness, thanks to a numeric keyboard, and the hold-down clamps automatically reach the corresponding working height. During the working cycle, the clamps give a 7 mm downward stroke to press the panel. By pressing the HOME icon You confirm the set-up and get back to the main menu (Fig. 1)

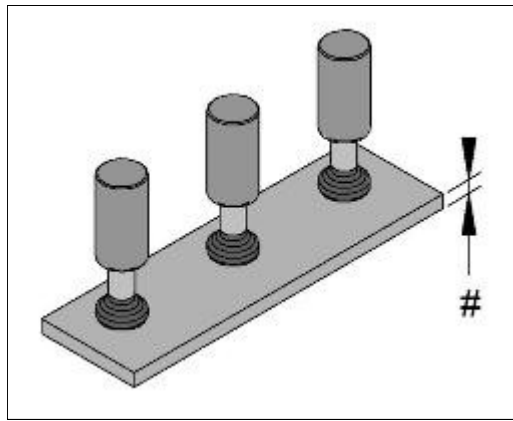


Fig. 10

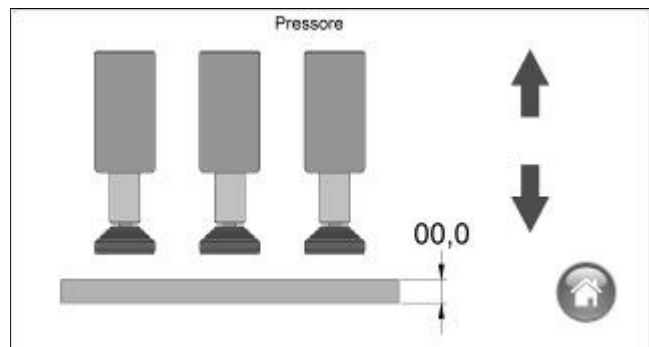
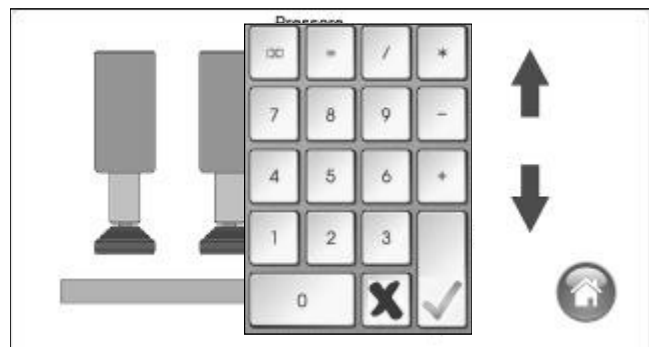


Fig. 11



D) Machine Settings (*diagnostics*)

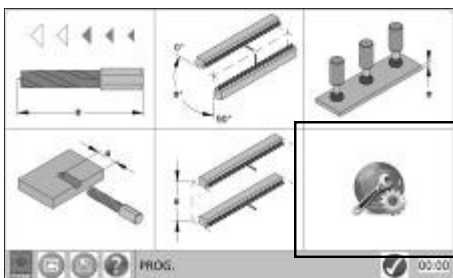


Fig. 12



Watch-out : digit the password 1111 to enter the machine settings

Pressing the “machine settings” icon (Fig.12) You enter the section showed in picture 13.
This section is dedicated to the diagnostic:

- “Inputs lights” to verify that sensors are working properly
- “Outputs lights” to verify that outputs are working properly
- “Rotative potentiometer light ” to verify that the tilting of the boring-head (0° - 90°) is working properly

You can select one of the following languages:

- Italian
- English
- French
- German
- Spanish

Press the Home icon to get back to the main screen after You have verified that all machine settings are working properly and You have selected the language.

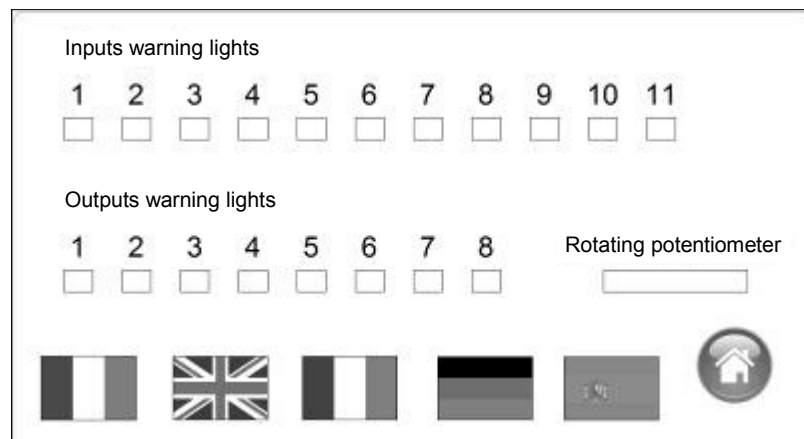
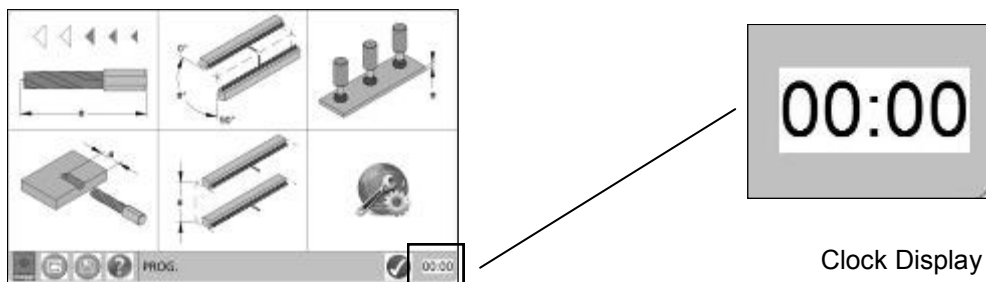
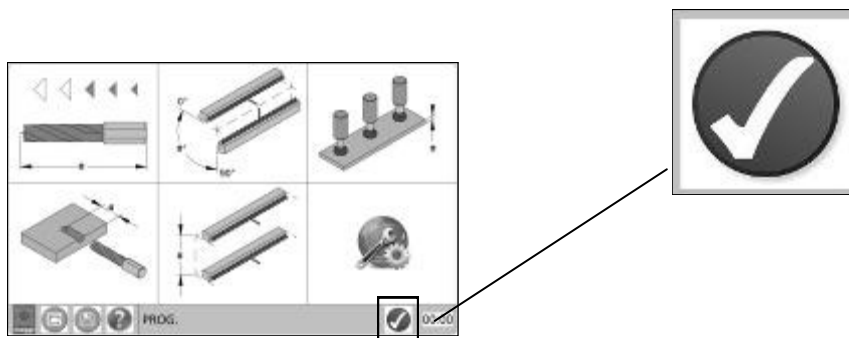



Fig. 13

E) Display-Clock

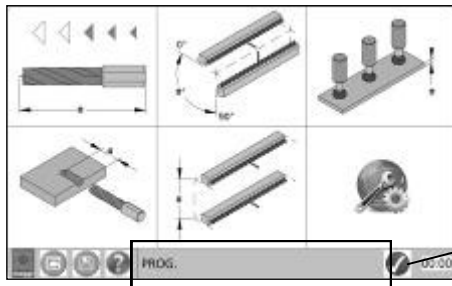


F) Confirmation icon to confirm selections and start the boring cycle



By pressing the  icon You start the boring cycle according to the saved values

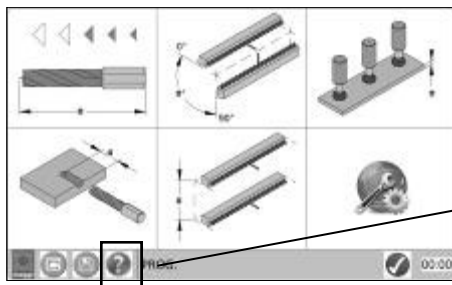
G) Information bar



PROG.

The name of the active file (working program) is displayed on the information bar

H) Full company reference and contacts

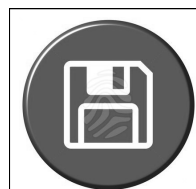
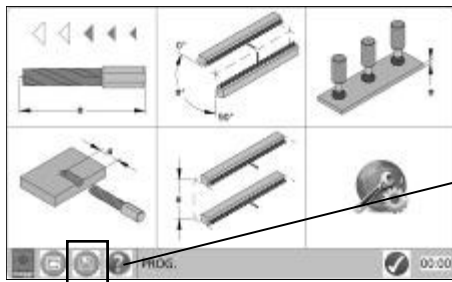


Pressing the icon You enter the page showed in picture 14



Fig. 14

I) Save icon (projects)



By pressing the save icon the screen in picture 15 is displayed and You can store Your project files.

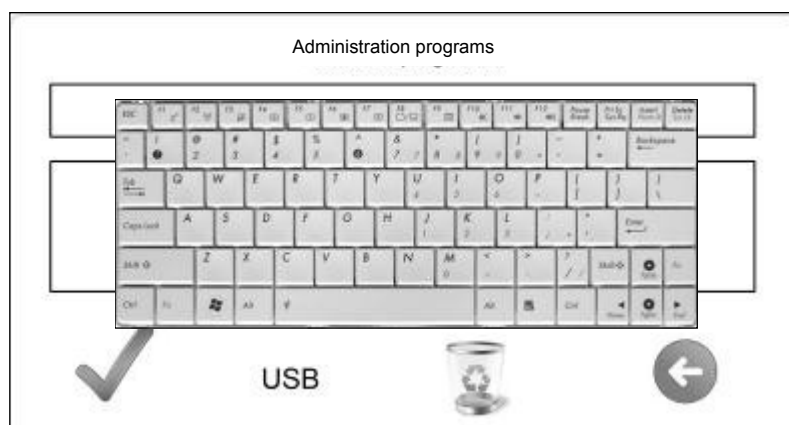


Fig. 15

L) Archive Icon (saved projects)

Pressing the “archive icon” You start a browser search to access the stored files and the screen showed in picture 16 is displayed

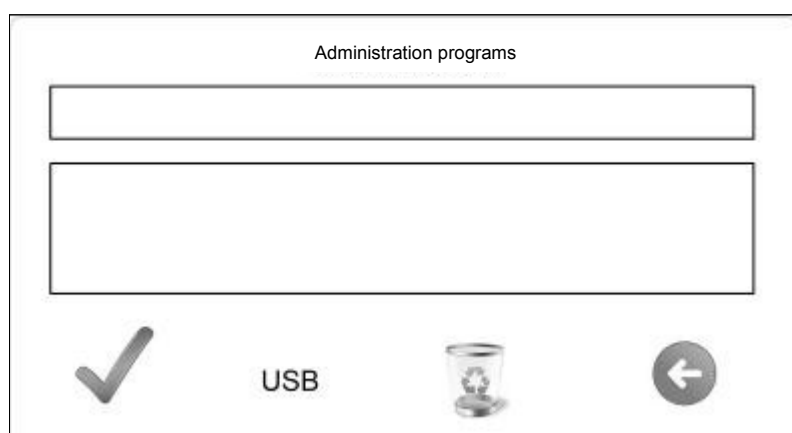
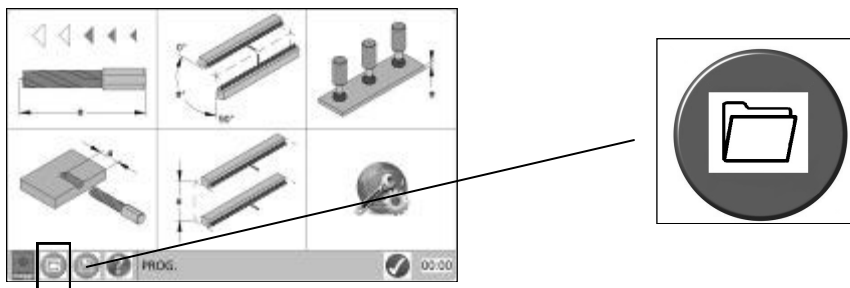
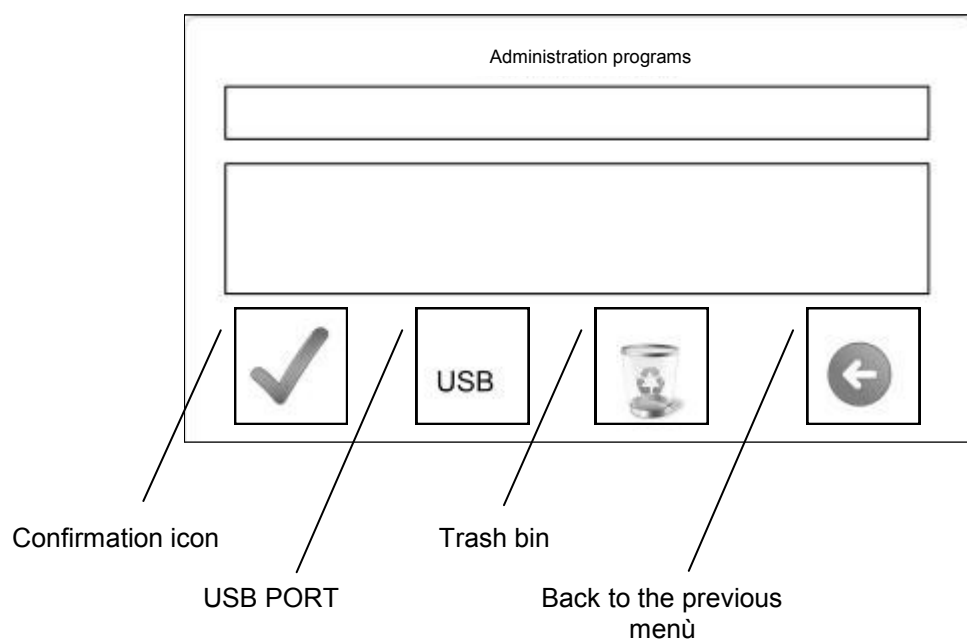


Fig. 16



M) Set-up of boring depth

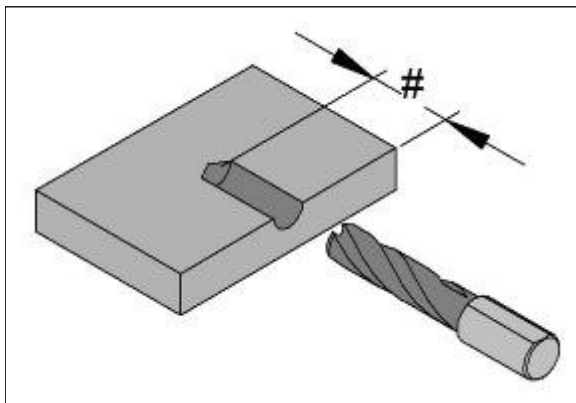
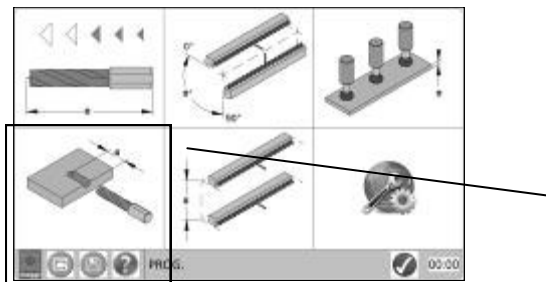


Fig. 17



Watch out : the menù showed in picture 17 is meant to select the drill-bit length. The menù shows the maximum boring depth allowed with reference to the selected tool-length.

Pressing the “boring depth” icon (pict.17) the screen showed in picture 18 is displayed. You can either choose one of the available boring-depth values or insert any other value through the numeric keyboard by pressing on the 00,0 value. After having selected the boring depth do confirm Your selection by pressing the home icon and get back to the main screen (Fig.1). Verify that the values on the main screen are updated accordingly.

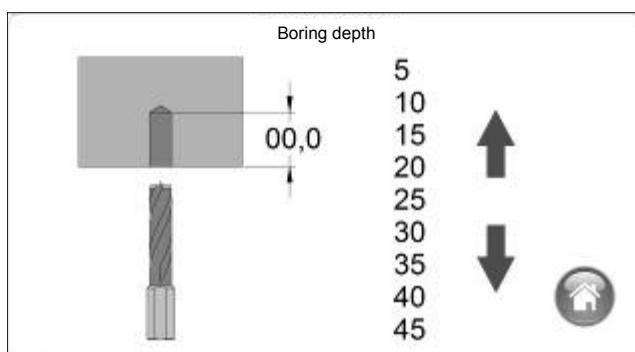
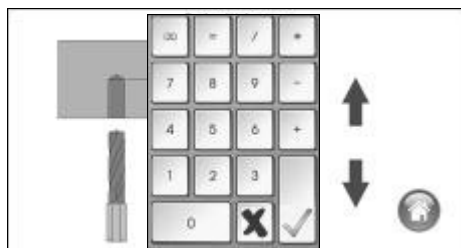


Fig. 18



Numeric keyboard

2) MOTOR STOP LOCKING EMERGENCY BUTTON

The emergency button is manual. This button is used in case of fault detected in the functioning of the electric system or during machine use. After pressing the button, the power supply is cut off and the machine stops. The operator may lock the machine safely by pressing this button. Once pressed, this button remains held down due to the mechanical interlocking system; in order to restore it to its initial position you just have to pull it or turn it. This way, the machine restores its operation. The button can cut off the power supply to the machine.

3) LIGHT BUTTON FOR RESTORING THE WORK CYCLE

Light button for restoring the machine operation. If the led is on, the machine is ready to start the work cycle.

4) USB INPUT (Universal Serial Bus)

USB input with cap. It allows you to export (backup) or load (upload) work program files saved on external media, and can also be used to update the touch screen software with new versions (service pack) released by Maggi.

5) MAIN SWITCH

This manually controlled device cuts off the power supply to the machine electrical equipment.

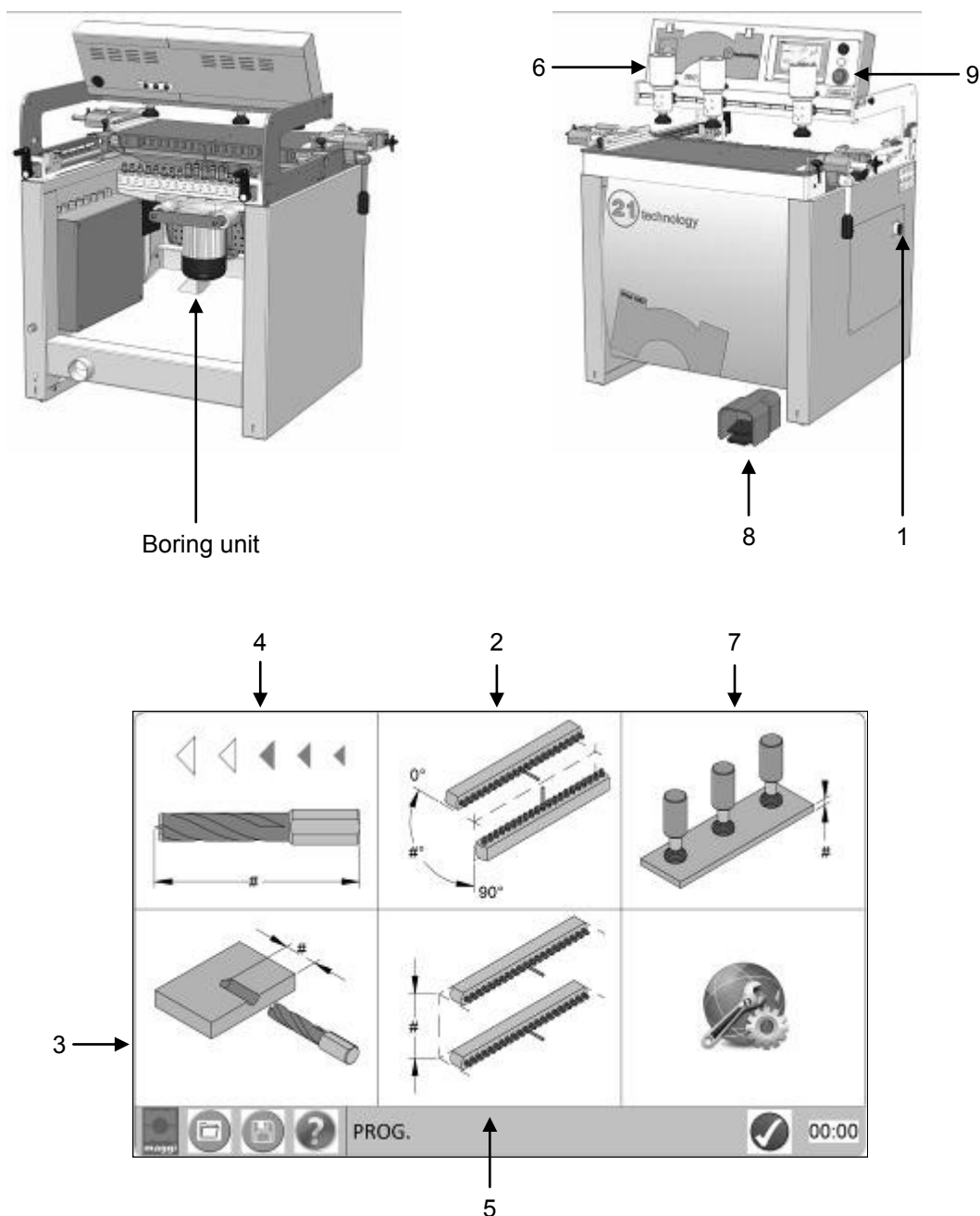
13.4 WORK CYCLE

After performing the machine setup, proceed with the operations in the paragraph below to start the work cycle :

- Turn the main switch (1) to ON. The machine is ready to start the work cycle.
- Set the boring angle (2) boring depth (3) length of the bit (4) boring speed (5)
- Place the clamps (6) at a distance between 1 and 4 mm from the piece to be processed (the pressing stroke has 7 mm) using the commands (7)
- By pressing the electric pedal (8) the spindles start rotating and the head starts its work cycle, while the clamps (6) lock the piece
- If the pedal (8) is released, the boring unit returns to stand-by position and the spindles stop
- The clamps (6) unlock the piece when the boring unit returns to its initial position

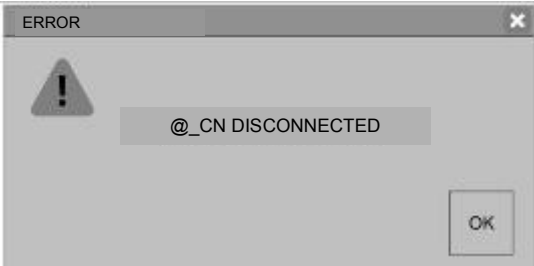
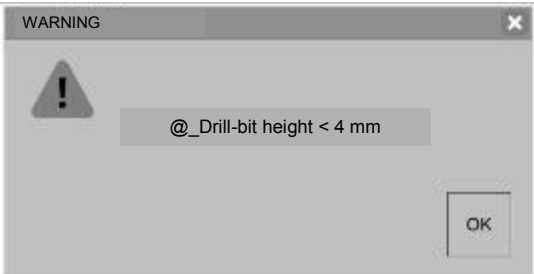
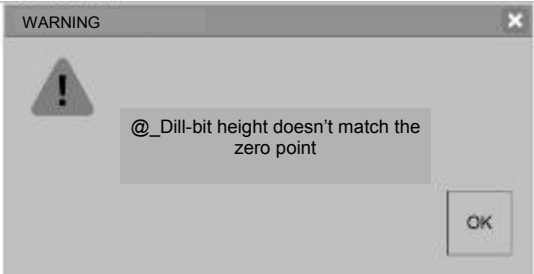
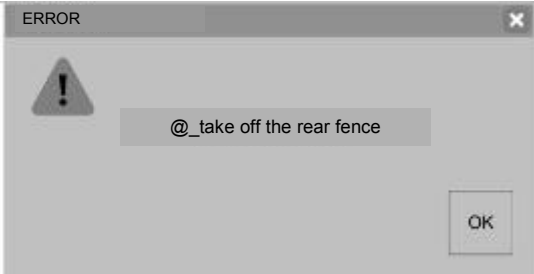
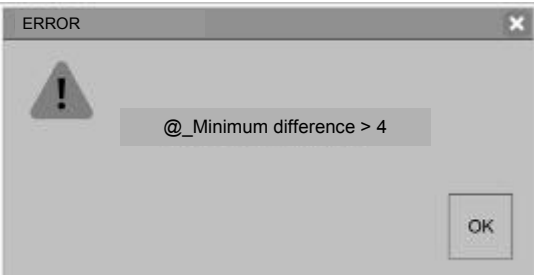


If for any reason, the work cycle should be stopped, please press the emergency button (9)



13.5 ALLARMS TO AVOID COLLISIONS OR SELECTION OF NON-SUITED PARAMETERS

The machine is equipped with an error detecting system and provides warnings during the set-up or the working cycle

MESSAGE	WHY	WHAT TO DO
	<ul style="list-style-type: none"> - Serial cable is disconnected - PLC board missing - Power interruption or failure 	Verify connections and power supply
	The drill-bit height is at a distance of less than 4mm (risk of collision between drill-bits and working table)	Modify settings to > or = to 4 mm
	During the boring-head tilting from 0° to 90° the boring-height is at a distance > or = to zero	Press OK to start with the boring-head tilting at any drill-bit height
	The rear fence is mounted on the machine while the boring-head is tilting from 90° to 0° (risk of collision between boring head and rear fence)	Take-off the rear fence
	When setting the tilting angle of the boring-head unit	Minimum difference of the boring-head tilting grades is > or equal to 4°

MESSAGE

WHY

WHAT TO DO



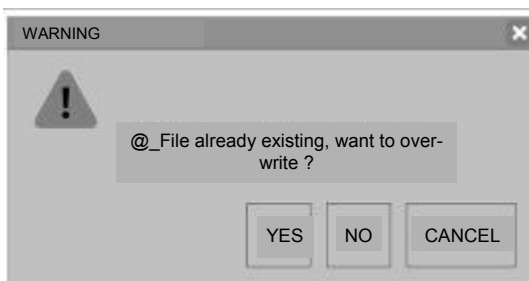
The selected drill-bit height and panel thickness are inconsistent!

The selected panel-thickness must be > than the drill-bit height



Panel thickness is > 7 mm

Minimum panel-thickness allowed > or = to 7 mm



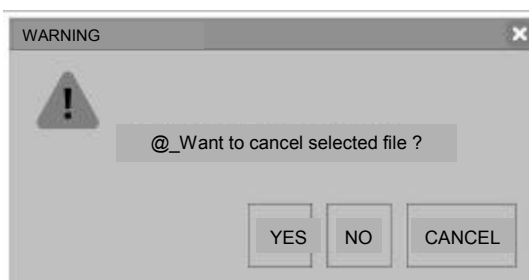
The name of the file already exists

Overwrite the file or cancel the operation



You are searching for a non existing program

The file You are looking for does not exist



The selected file is going to be cancelled from the memory and cannot be restored

You can either cancel the file or undo the operation



No USB key is found by the System

Verify that the USB Key is connected

14 CHECKS AND ADJUSTMENTS

14.1 INSULATION PROCEDURE

Please follow the procedure below before performing any maintenance operation on the machine:

- make sure that the machine is in a suitable position, that allows you to perform the desired operation. After mechanically locking the machine in this position, proceed with insulating it from electrical and pneumatic power supplies;
- make sure that there are no other energy sources and no residual energy;

This procedure should be performed by only one person who should indicate the status of the machine using an appropriate, well visible warning sign.

14.2 PREVENTIVE INSPECTIONS

Make sure that the area around the machine is in order, free of any residues from the work cycle, such as wood shavings or pieces.

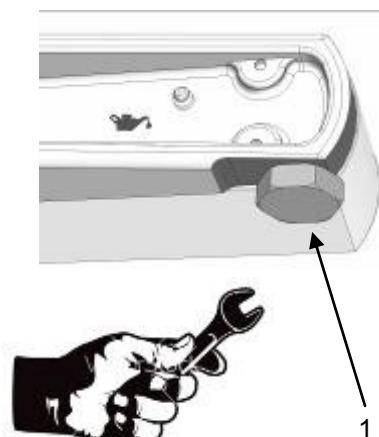
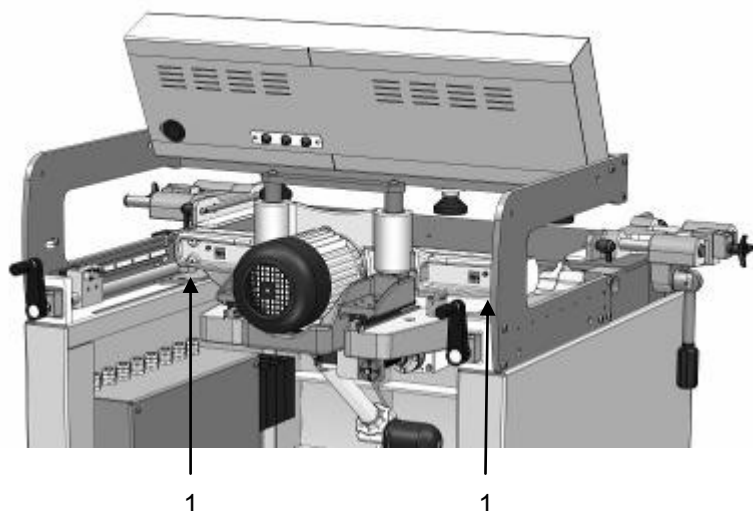
make sure that all covers and safety devices are properly placed, ready to be used.



DISCONNECT THE ELECTRIC AND PNEUMATIC SUPPLY BEFORE PERFORMING ANY MAINTENANCE OPERATIONS OR BEFORE REPLACING ANY DAMAGED OR WORN PART. FOLLOW THE PROCEDURES DESCRIBED BELOW USING THE RECOMMENDATIONS INDICATED AT PARAGRAPH 5 OF THIS MANUAL.

14.3 ADJUSTMENT OF THE HEAD PARALLELISM

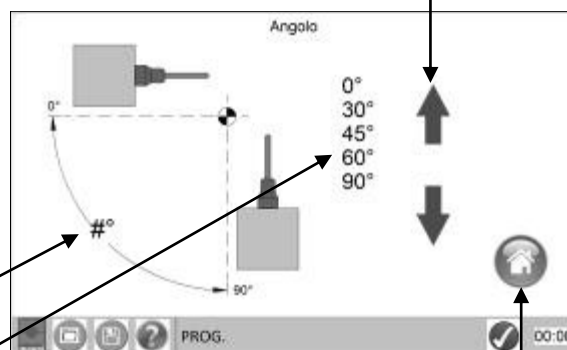
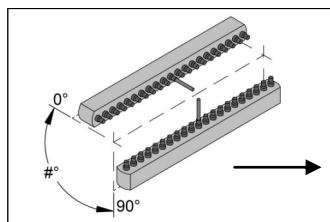
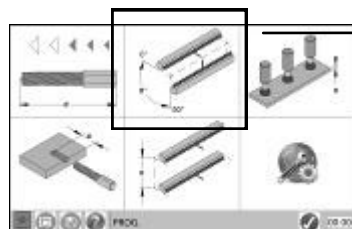
Use the hex head screws (1) to place the head in parallel position with respect to the working table



14.4 HORIZONTAL AND VERTICAL PLACEMENT OF THE SPINDLE HOLDER HEAD



Carefully follow the procedure described below.



Intermediate angles setting

Angle values (degrees) for quick positioning

Fig. 19

press OK to confirm the settings

14.5 PLACEMENT OF THE SPINDLE HOLDER HEAD AT A 45° ANGLE AND OTHER INTERMEDIATE ANGLES

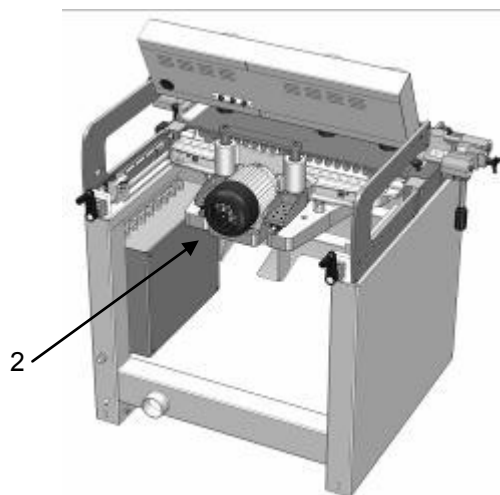
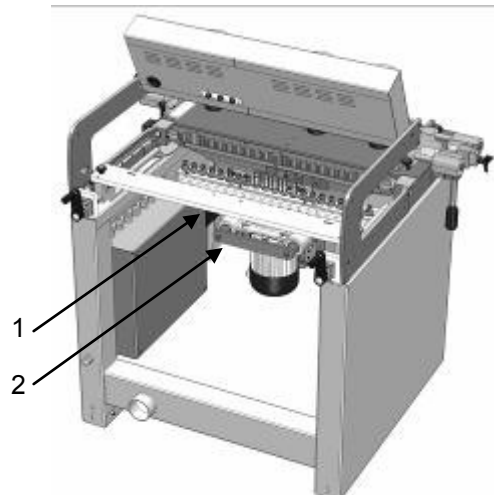


Carefully follow the procedure described below.

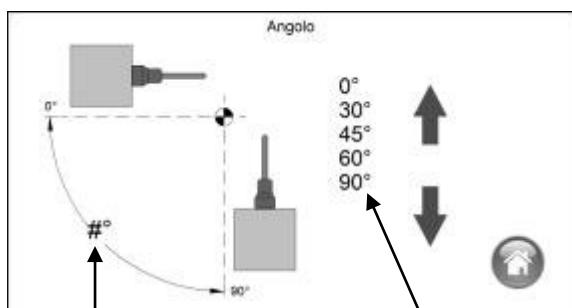
In order to place the spindle holder head at a 45° angle (with respect to the working table) proceed as indicated below:

- From the touch screen control panel, go to section “ boring angle (boring unit) “ indicated in figure 14, press on quick setting parameter 45° and then press OK
- The boring unit will be placed at a 45° angle

WARNING Remove the rear stop unit (1) as shown in the figure to proceed with the rotation of the boring unit (2). **If the rear stop unit (1) is installed on the machine, the 0° command will be disabled until the unit is removed (1).**

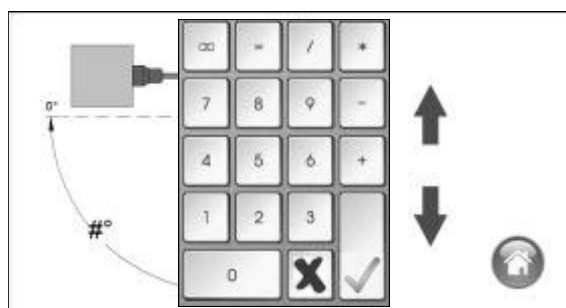


To place the spindle holder head at an intermediate angle, go to touch screen control panel, section “ boring angle (boring unit) “ indicated in figure 14, press the quick selection button (Intermediate angles setting) and enter the desired boring angle using the numeric keyboard. The selection will appear on the display. If the rear stop unit (1) is installed on the machine, the previously set rotation command will be disabled until the unit is removed (1).

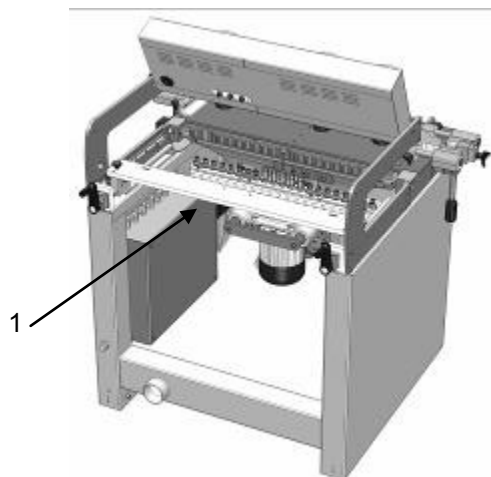


Intermediate angles setting

Quick selection of angles



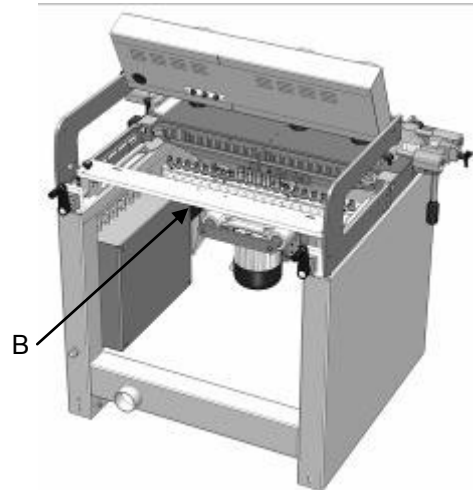
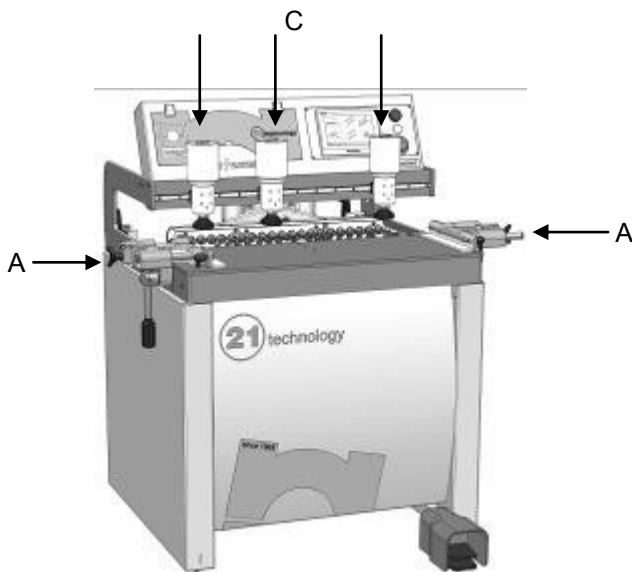
Numeric keyboard



14.6 USE OF THE REFERENCE STOP FOR STANDARD OPERATION 0°-90°

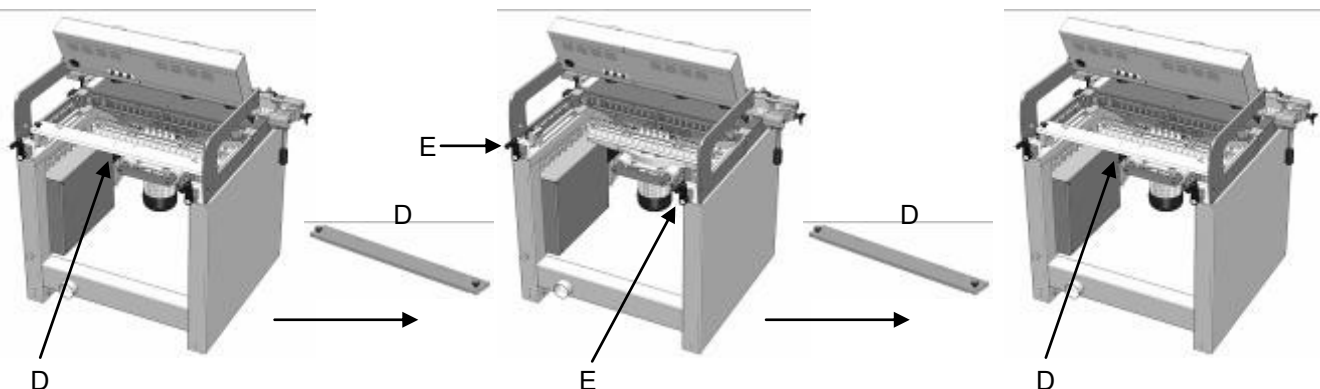
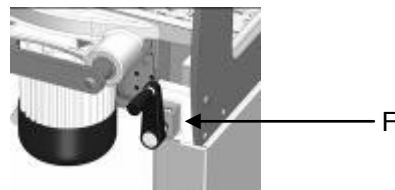
The lateral fences (A) and the rear stop (B) are used to place the working piece in the standard work cycle. With the boring unit placed at a 90° angle:

- Place the lateral fences (A) at suitable distance from the bits.
- Place the clamps (C) in the area of the working table where the working piece will be placed.
- Place the working piece next to the lateral fences (A) using them as guides to place the piece under the clamps, making sure that it also comes into contact with the comb.
- Then position the rear stop (B) setting the parameters as to obtain a 0° - 90° fit.
- The piece is now in proper position and you can start the work cycle by pressing the pedal, the bits will start moving forward (the motor is enabled) and at the same time, the clamps will lock the piece in its position.
- After completing the first phase, release the pedal and remove the processed piece.
- Place the boring unit at a 90° angle
- Place the piece that should be united to the one previously processed against the lateral fence under the clamp (C) and against the rear stop.
- After properly placing the piece, proceed with the boring cycle.
- After releasing the pedal, the piece can be removed, thus completing the work cycle.



WARNING to set the rear stop (B) proceed as follows:

- Remove the reference stop (D).
- Adjust the supports using the screws (E) and make sure that both counters (F) are set at the same value.
- Install the reference stop (D)



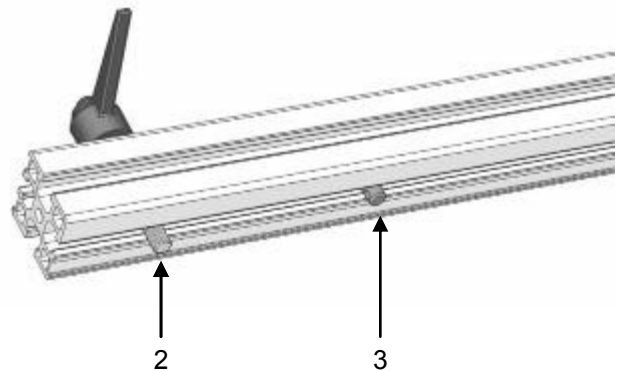
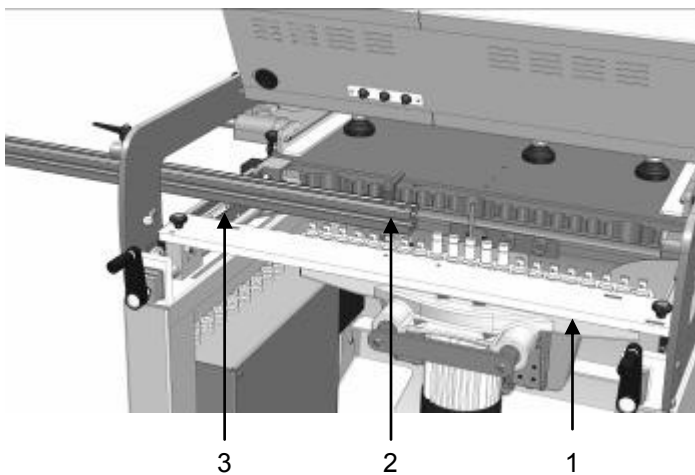
14.7 USE OF THE LONG FENCE 1.5+1.5 mt STANDARD

The fence is used for a series of drills that exceed the capacity of the machine, or for large pieces. The use of the long fence usually implies total or partial exclusion of the lateral fences as well as positioning the spindle holder head at a 90° angle. For longitudinal use of the fence, we recommend a total exclusion of the lateral fences, as the movable reference stops can be used on the extension itself (the extension is provided with 4 movable stops with positioning screws, stop screws and extension fastening screws) for combined positioning of the working piece.

LONGITUDINAL POSITION OF THE LONG FENCE

In order to use the fence longitudinally, please fasten it to the rear stop (1) using the appropriate handles (2). Please follow the procedure below:

- Remove the lateral fences from the working table, releasing it.
- Place the fence above the rear stop (1) as indicated in the figure.
- Fasten the fence to the rear stop (1) locking the handle (2) and engaging the pin (3).
- Using the movable stops (4) provided along with the long fence you can drill sections or repeat groups of drills for long pieces.
- Add an appropriate support (i.e. stand) to the fence and the working panel.

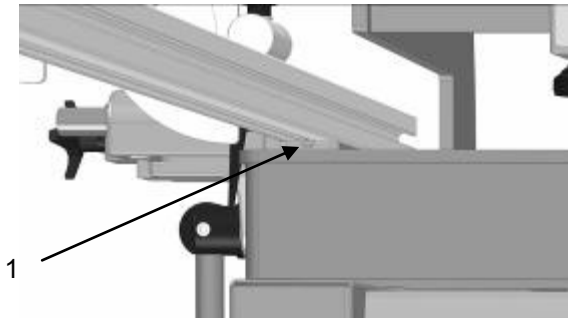
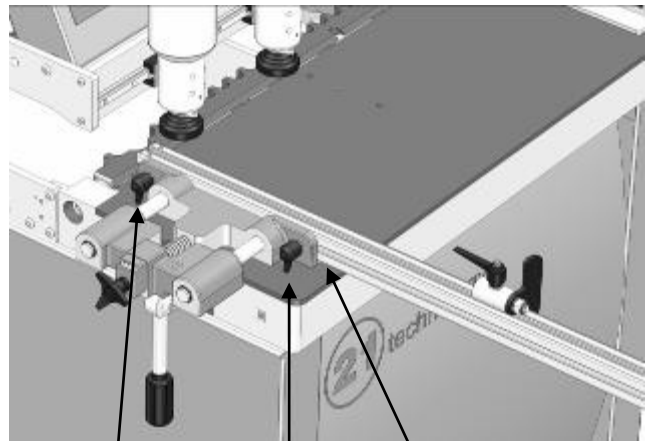
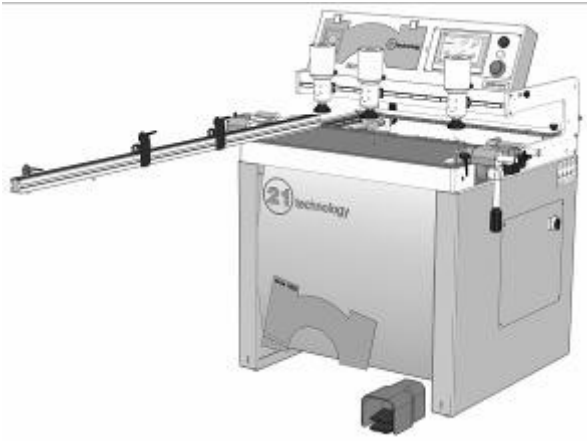


TRANSVERSAL POSITION OF THE LONG FENCE

In order to use the fence transversally, fasten it to the lateral fence using the appropriate locking knobs.

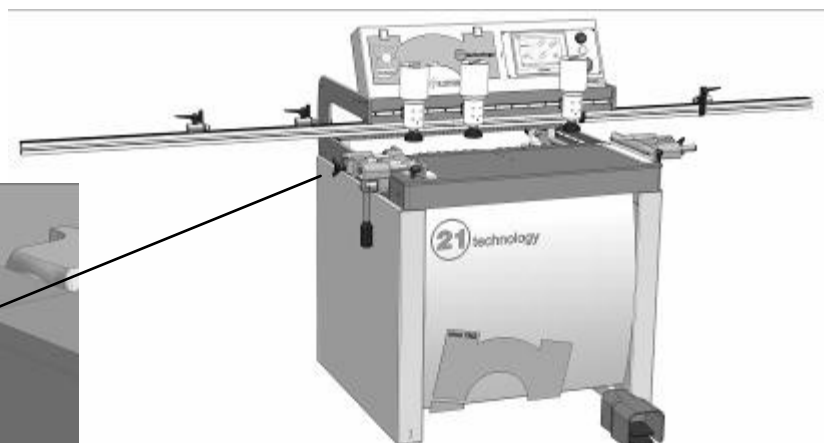
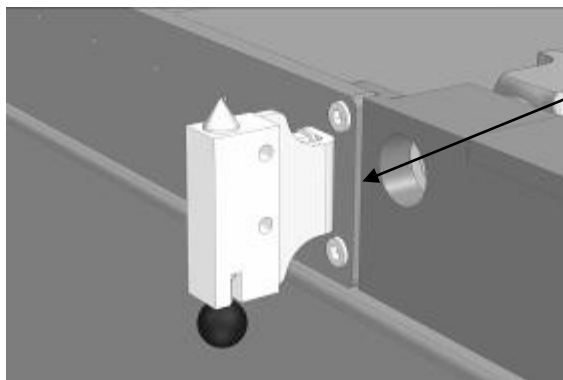
Please follow the procedure below:

- Place the fence on the inner side of the lateral fence, placing it in position using the stop pin (1) provided on the extension itself.
- Lock the quick-release levers (2) on the lateral fence.
- With the fence placed in this manner, you can remove the other lateral fence, if necessary.
- now you can use the movable stops, to coordinate the positions of the the sections to be drilled on long pieces.
- Add an appropriate support (i.e. stand) to the fence and the working panel.



14.8 USE OF THE REFERENCE PIN FOR SERIES OF DRILLS MADE ON LARGE PIECES (*OPTIONAL*)

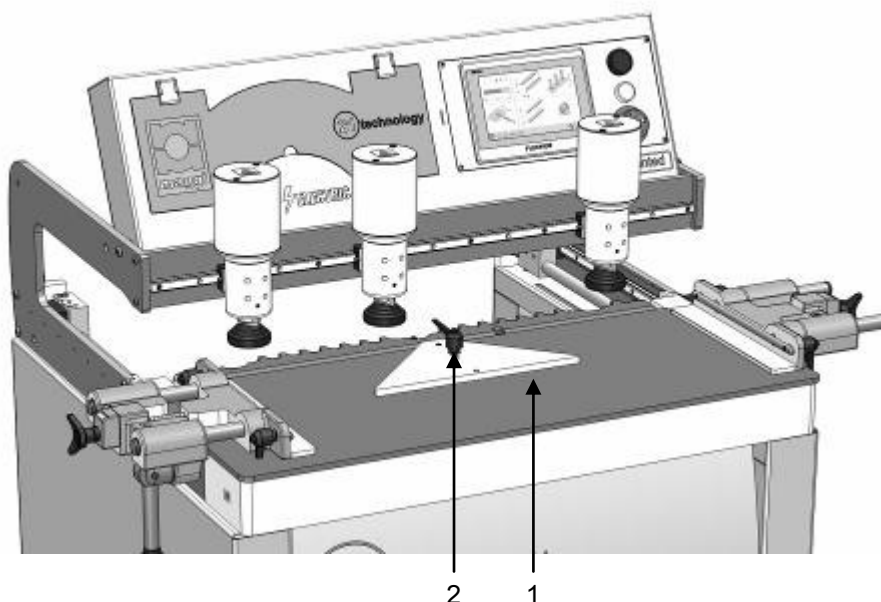
It may be difficult to use the fence for processing large pieces, therefore our machines are provided with a reference pin that can be used to repeat a series of drills on a large piece, in which the axial distance between the first and the last drill is greater than the one that can be obtained using this model of boring machine. Being aligned with the bits axis, after performing the first series of drills, the reference pin goes in its housing, under the working table. You can still enable the pin during the work cycle by turning the knob to unlock the spring, allowing the pin to come out of its housing. The pin must be inserted in one of the previously made drills, so that the series of drills can be repeated.



14.9 USE OF THE TRIANGLE FOR 45° CORNERS (*OPTIONAL*)

The 45° triangle is particularly useful for 45° - 45° matching, mainly used for quick manufacture o corners.

- Fasten the triangle (1) on the working table using the reference holes and lock it in central hole M8 using the quick-release lever (2).
- This way you can lean the cut pieces to be drilled at a 45° angle to match them with the “dowel” wooden peg. The spindle holder head of the machine must be at 0°. When the position is correct, the clamp stands above the working piece; proceed as for a standard work cycle, pressing the pedal to start it and releasing it at its completion. Repeat the procedure on both sides of the triangle to obtain the two mirrored pieces of the corner ready to be matched.



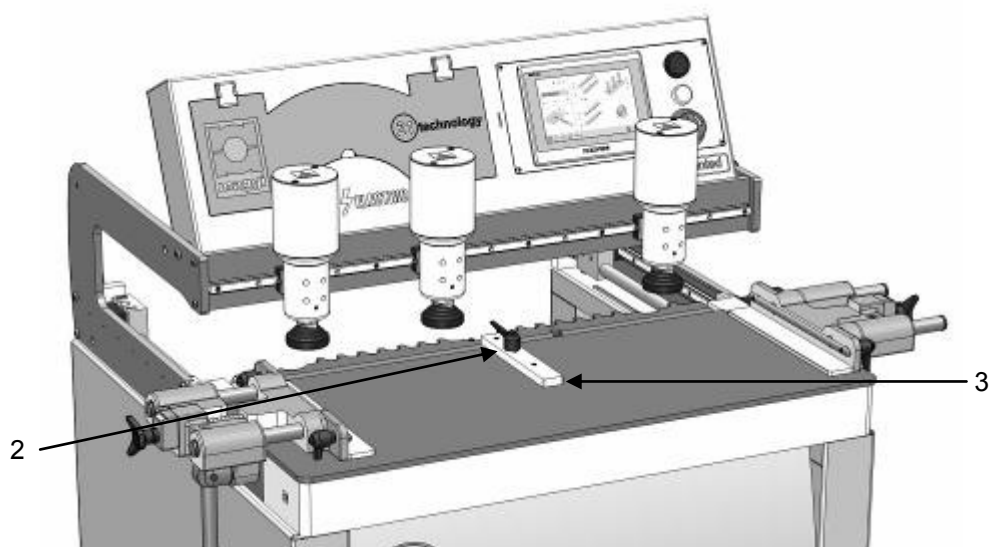
14.10 USE OF THE CENTRAL BATTEN FOR STRAIGHT CORNERS AT 90° (*OPTINAL*)

The batten is used to match two pieces with right angled sides (mainly used for quick manufacture of straight corners).

- Fasten the batten (3) in the appropriate reference holes on the surface, locking it then with the quick-release lever (2).
- Place the pieces to be processed along the batten, you can now perform the boring for matching the corners with “dowel” wooden pegs.

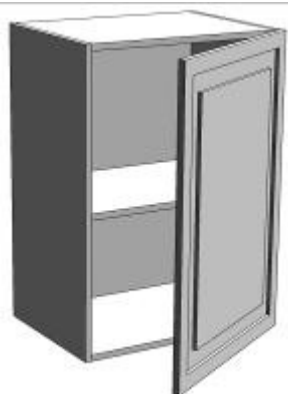
The correct position is obtained when the spindle holder head is at a 0° angle and the clamp is placed above the working piece.

Proceed as for a standard work cycle, pressing the pedal to start it and releasing it at its completion. Repeat the procedure on both sides of the batten to obtain the two pieces of the corner ready to be matched.

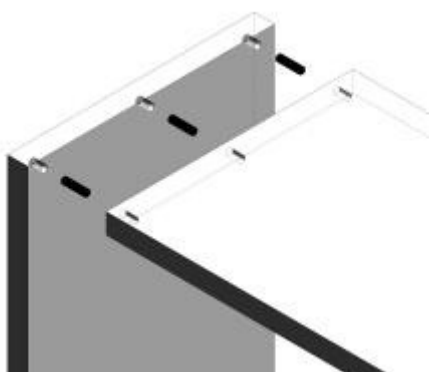


15 EXAMPLES OF WOODWORKING

Examples of panels matching



Pieces assembly

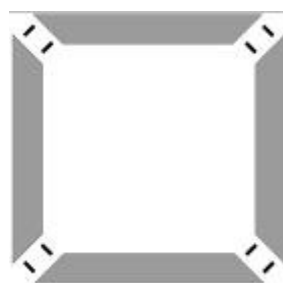


Pieces matching

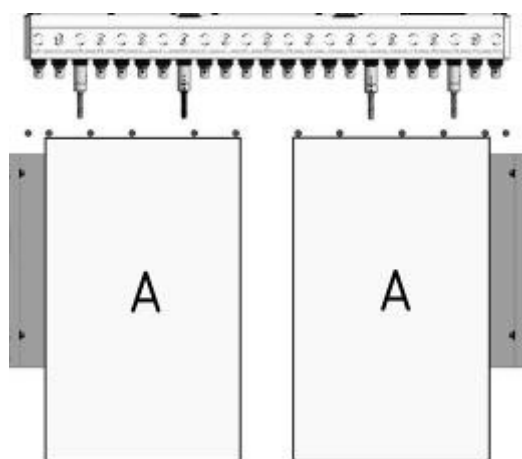


Matching at intermediate angle 0° 90°

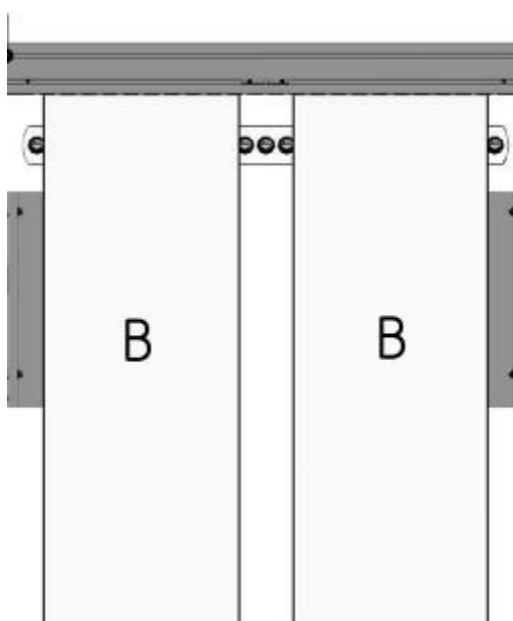
Examples of corners matched at 0° and 45°



Examples of simultaneous mirrored boring

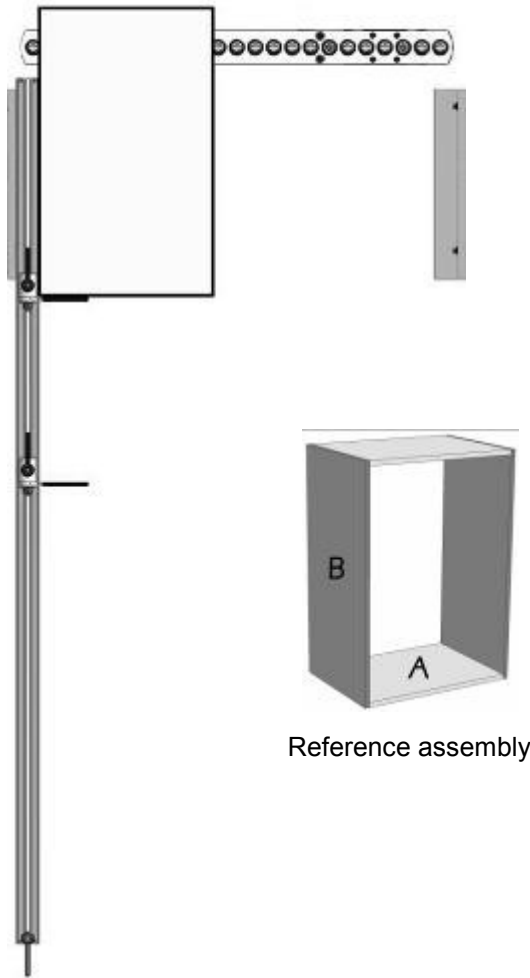


Simultaneous horizontal boring of two mirrored panels with the head placed at 0°



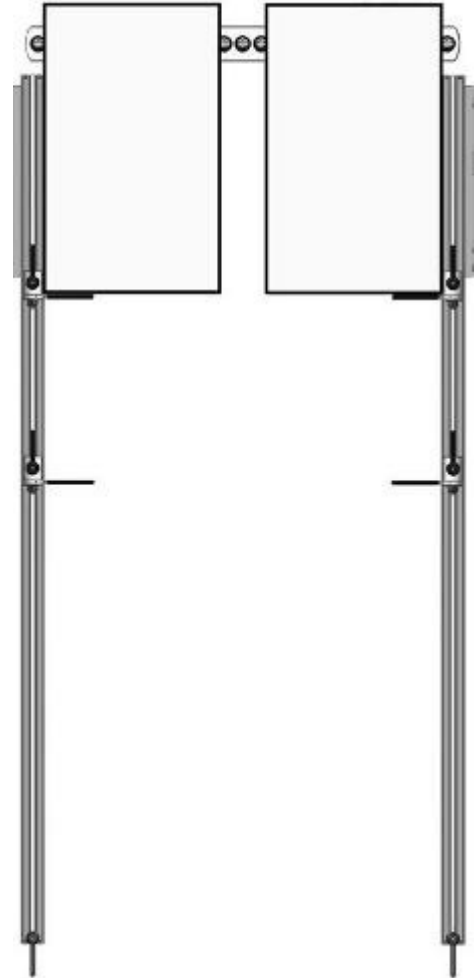
Simultaneous horizontal boring of two lateral panels with the head placed at 90°

Examples of boring with reference fences



Reference assembly

Transversal positioning of the fence using stops for transversal boring on the sides of a moving object for inserting support surfaces

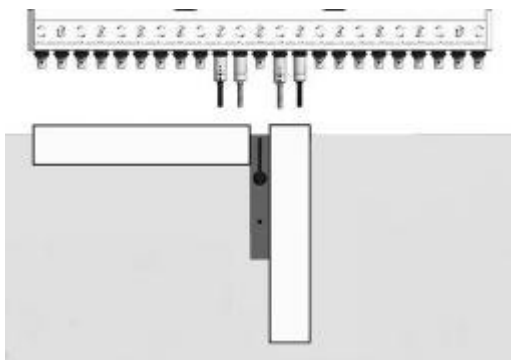


Transversal positioning of two fences using stops for simultaneous transversal boring on the sides of a moving object for inserting support surfaces

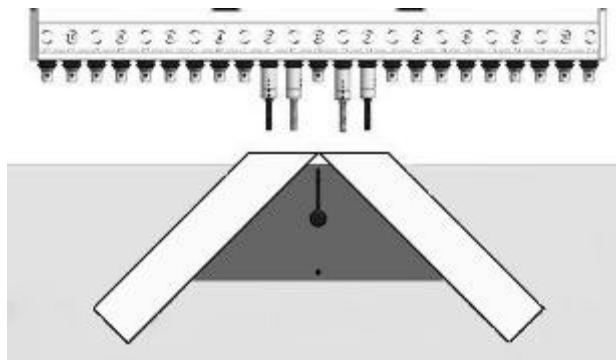


Longitudinal positioning of the fence of 1500 mm with 2 reference stops for in line boring of large panels. The long fence may be used from the centre of the machine, ensuring maximum work precision. The fence of 3000 mm with 4 reference stops is intended for in line boring of large panels. The size of this fence allows quick and complete positioning.

Examples of boring with stops for corners



Use of standard measure for simultaneous boring of two pieces for corners 0° - 90°

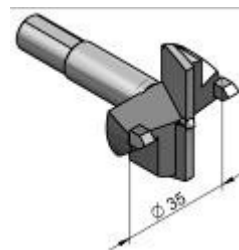
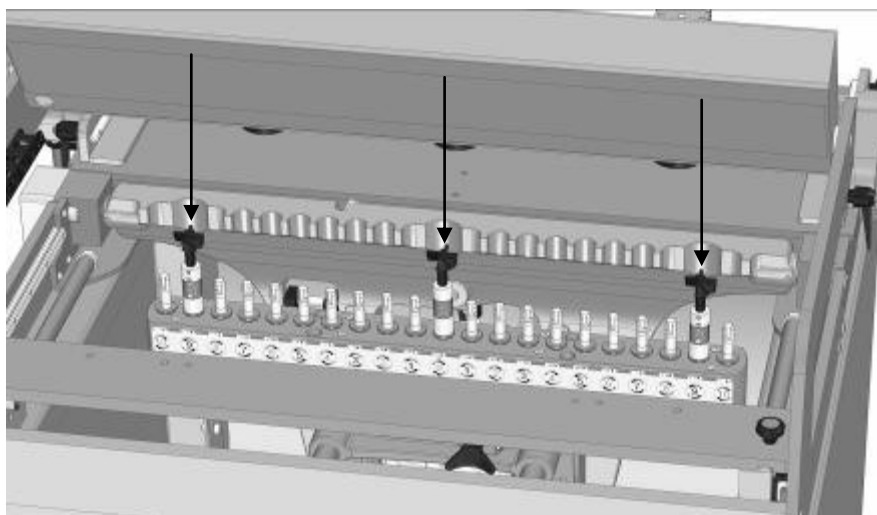


Use of the 45° triangle for simultaneous boring of corner pieces with 45° - 45° matching

Examples of drilling for hinge housing

Possibility of boring with tools of $\varnothing 35$ max. (for tool $\varnothing 40$ please follow the procedure below)

WARNING !!! The tool $\varnothing 35$ should be mounted on spindles in correspondence with the three positions available on the comb; the head unit should be brought in vertical position 0.0 as indicated in the figure below.



By moving the head away from the comb for a distance equal to the diameter of the tool + 10 mm, you can make holes of 40 mm or more, regardless of the comb position.

WARNING !!! Make sure that the tool is above the comb.

16. MAINTENANCE

16.1 ROUTINE MAINTENANCE



A PROPER MAINTENANCE IS VERY IMPORTANT FOR THE LIFE CYCLE OF THE MACHINE AND FOR ENSURING OPTIMAL CONDITIONS OF USE. DO NOT PERFORM ANY MAINTENANCE OPERATION IF THE MACHINE IS RUNNING. ALWAYS WEAR PROTECTIVE GLOVES AND GOGGLES



WARNING - DANGER OF SLIPPING !

While cleaning the working area, pay attention to any process residues and liquids in the area around the machine; they may cause slipping hazards for the operator.

16.2 MACHINE CLEANING (DAILY)

The machine and the working table must be kept free of any processing residues and of any other elements that may obstruct the work cycle or the access to the machine itself. The machine must be cleaned daily. Make sure that there are no foreign materials inside it that may affect its safe operation, causing dangers during normal work cycle.

16.3 SLIDES CLEANING (WEEK-LY)

The sliding guides and fences should be cleaned from any process residues, as they may obstruct the machine movements, affecting its performance. Do not use detergents or lubricants.



16.4 CHECK POWER CABLES

Check the status of the power cables. Make sure that they do not present signs of wear, scratches, etc.



16.5 EXTRAORDINARY MAINTENANCE

- Check the safety of the power system.
- Check the locking of the mechanical components.
- Check the level of lubricant oil in the filter unit, top up if necessary.
- Make sure that the components are lubricated periodically.
- Check the air pressure: the line supply must be of 6bar.
- Check the condense: the condense and air impurities are deposited in the transparent cup of the air treatment unit.
- Check the lubrication of the spindle holder heads.

17. COMMON FAULTS - TROUBLESHOOTING

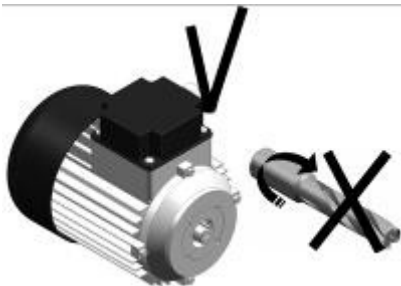
Some of the faults causes can be eliminated directly by the operator, other by qualified staff.

17.1 THE BITS DO NOT ROTATE



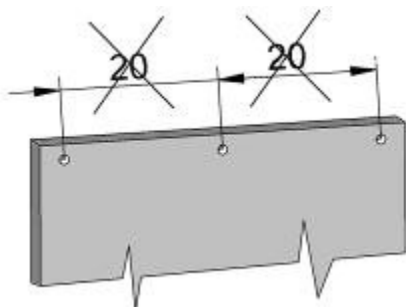
PROBABLE CAUSE	WHAT TO DO
A - The motor does not rotate B - The motor is burnt	- Press the motor enabling button - Unlock the emergency button and/or check the fuses - Check the air pressure (to activate the pressure switch) - Replace

17.2 THE MOTOR ROTATES BUT THE BITS DO NOT



PROBABLE CAUSE	WHAT TO DO
-A - Possible rupture of: - Gears and/or keys - Transmission joint	- Replace (contact the technical support service)

17.3 THE DRILL IS NOT PRECISE



PROBABLE CAUSE

- The bit is not properly locked
- The bit is worn out
- The piece to be processed is not properly locked

WHAT TO DO

- Check the locking. If properly locked contact the technical support service
- Replace or contact the technical support service
- Check the clamps, relative seals and operating pressure

18. FAULTS DURING NORMAL WORK CYCLE

18.1 THE BITS LEAVE SIGNS OF BURNING

This defect may appear due to improper levelling of the piece or excessive wear of the bits or incorrect rotation direction of the latter.

18.2 THE DRILLED PIECES ARE NOT PARALLEL WITH THE STOP

This defect may be caused by improper paralleling of the bits with respect to the reference stop. Check the heads with respect to the stop and the parallelism of the line of the bits of head 1 with head 2.

18.3 DIFFICULTIES IN HEAD ROTATION

If the boring unit does not reach or has difficulties in reaching other positions, check the hinge and the shaft of the tilting piston

18.4 THE CLAMPS DO NOT LOCK THE PIECE

If the clamps do not lock the piece, please check the air pressure and the connection tubes.

In order to solve these faults, please contact Maggi Technical Support Service, or your distributor.

19. NOISE

During normal machine operation, if all the installation requirements in this manual are met, the noise emissions differ depending on the material to be processed, the diameter of the bits and the boring depth. The staff should be present 8 hours a day.

There are other factors determining the level of exposure; the environment and other sources of noise, and other machines nearby. Please inform the operators regarding the risks arising from prolonged exposure to noise, providing them with appropriate personal protective equipment.

The noise pressure level measured with a sound level meter class 1 at the operator's workstation is 76.1 dB (A).

The measuring was performed in compliance with ISO3745 with the machine operating at standard speed and pressure, drilling a chipboard panel with PVC coating. The measuring was performed at a height of 1.5 m in front of the machine, at the operator's workstation.

Furthermore, the following reference measurements were obtained following the same procedure:

Sound pressure level in Atm. dB(A): 78.3

Sound power level dB(A): 93.3

20. DUST EMISSION

Below are indicated the results obtained from determination of dust emission during 1 hour of continuous work, while drilling a 20 mm thick pine panel covered in PVC.

The dust emission-s resulted equal to 13.9 mg/N cu.m at the workstation that is placed at a height of 1.5 m in front of the machine.

21. MACHINE DECOMMISSIONING

If the machine should be decommissioned, please follow the instructions below, in order to protect the persons and the environment. Therefore, after performing the insulation procedure you should; remove the bits and place them into a suitable container, that should protect them from any inconveniences. Remove the electrical, pneumatic and hydraulic components, so that they can be reused after an inspection or revision. Empty the hydraulic unit from oil, making sure not to release it in the environment. Remove all metallic parts of the machine, sorting them by type of material.

Contact a specialised company for the recovery and disposal of materials (solids and liquids).

22. WIRING DIAGRAM

For consulting the wiring diagrams, please see attached documents.

23. GUARANTEE

Maggi Technology S.r.l. guarantee the mechanical parts of their machines against faulty construction for a period of 12 (twelve) months after the date of despatch of the machines.

The guarantee is limited to the obligation to repair or replace free of charge any parts that prove to be faulty. The transportation cost is charged by the customer. All motor, electric and electronic equipment are excluded from the guarantee.

It is understood that, in all cases, the guarantee does not entitle the customer, to any refund for damages, interruption of work or any indirect damage caused to person or things.

All parts to be replaced must be sent carriage paid to our works at Certaldo and any parts that have been made faulty due to

Inexpert use of the operators, to deterioration caused by lack of lubrication or to normal wear and tear, will not be replaced.



VOUCHER TO BE SHIPPED TO MANUFACTURER



WARRANTY AND ACKNOWLEDGEMENT OF RECEIPT VOUCHER

Model.....Serial number.....

Name.....

Address.....

ZIP code.....City.....

Date of purchase.....Dealer.....

Owner signature

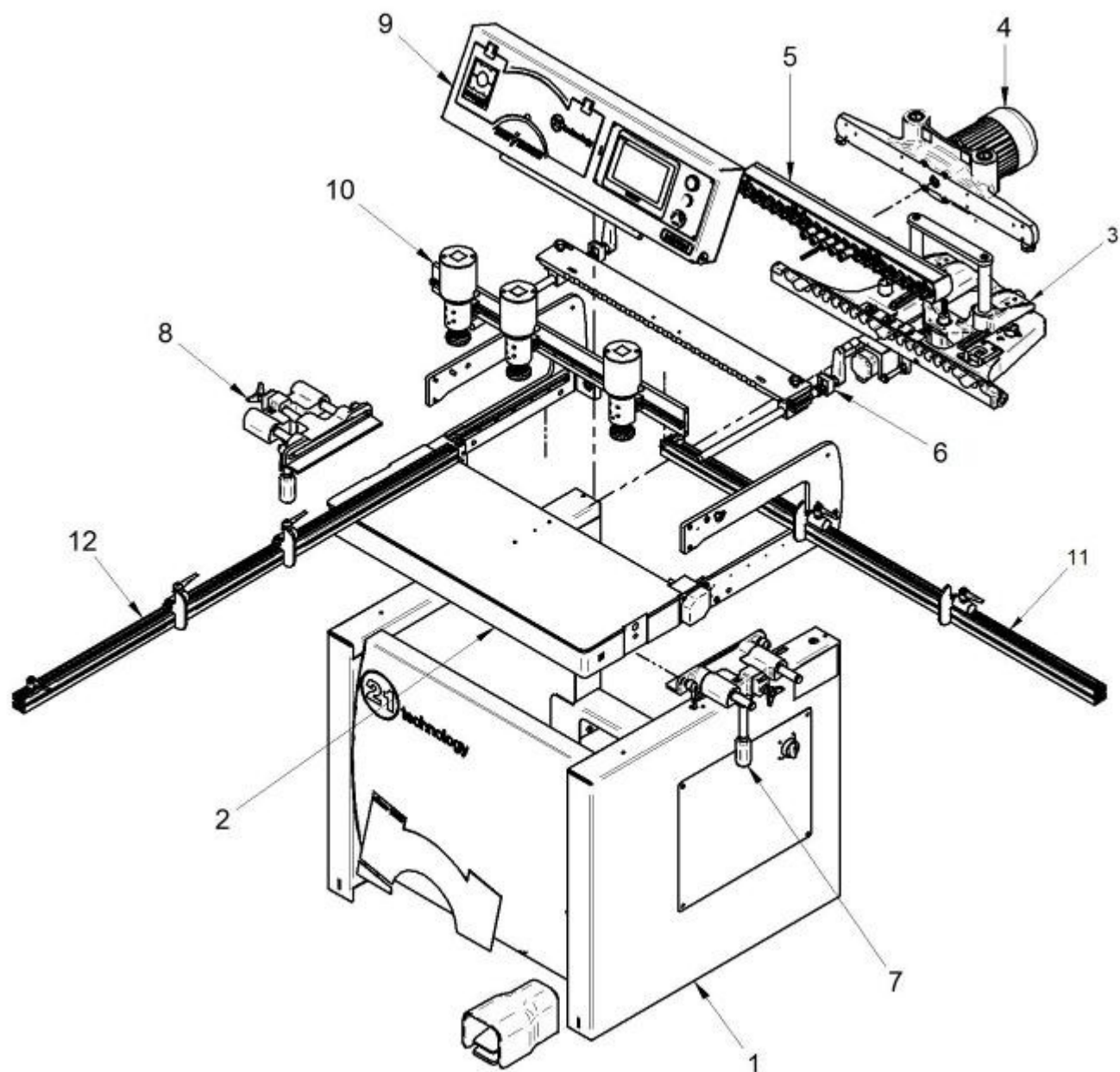
.....

The owner declares that he agrees with the warranty conditions and that he checked the proper functioning of the machine

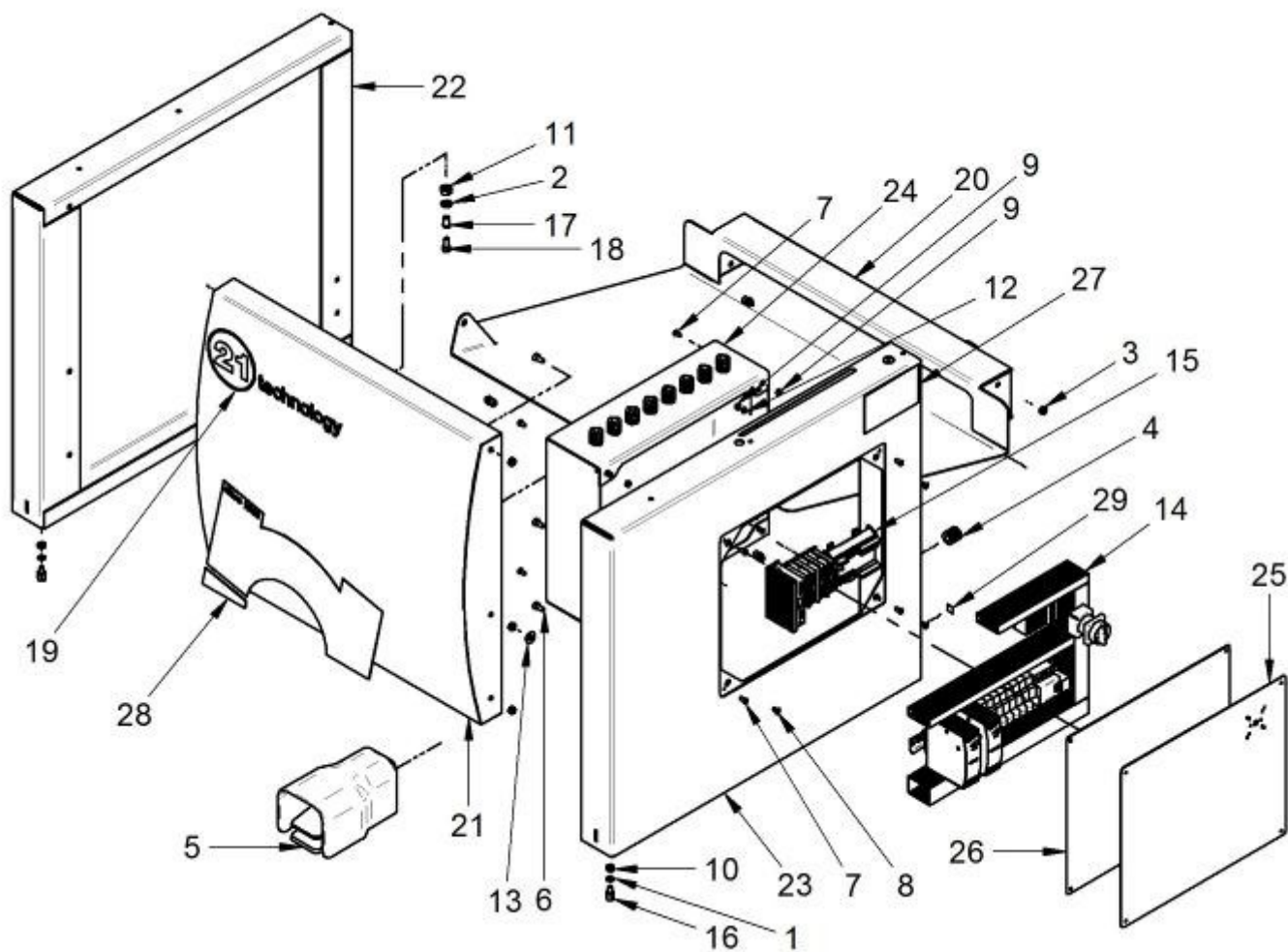


MAGGI TECHNOLOGY srl
Vendita ed Assistenza Tecnica
 Via delle Regioni n°299
 50052 CERTALDO (Fi)
 ITALIA

24. SPARE PARTS

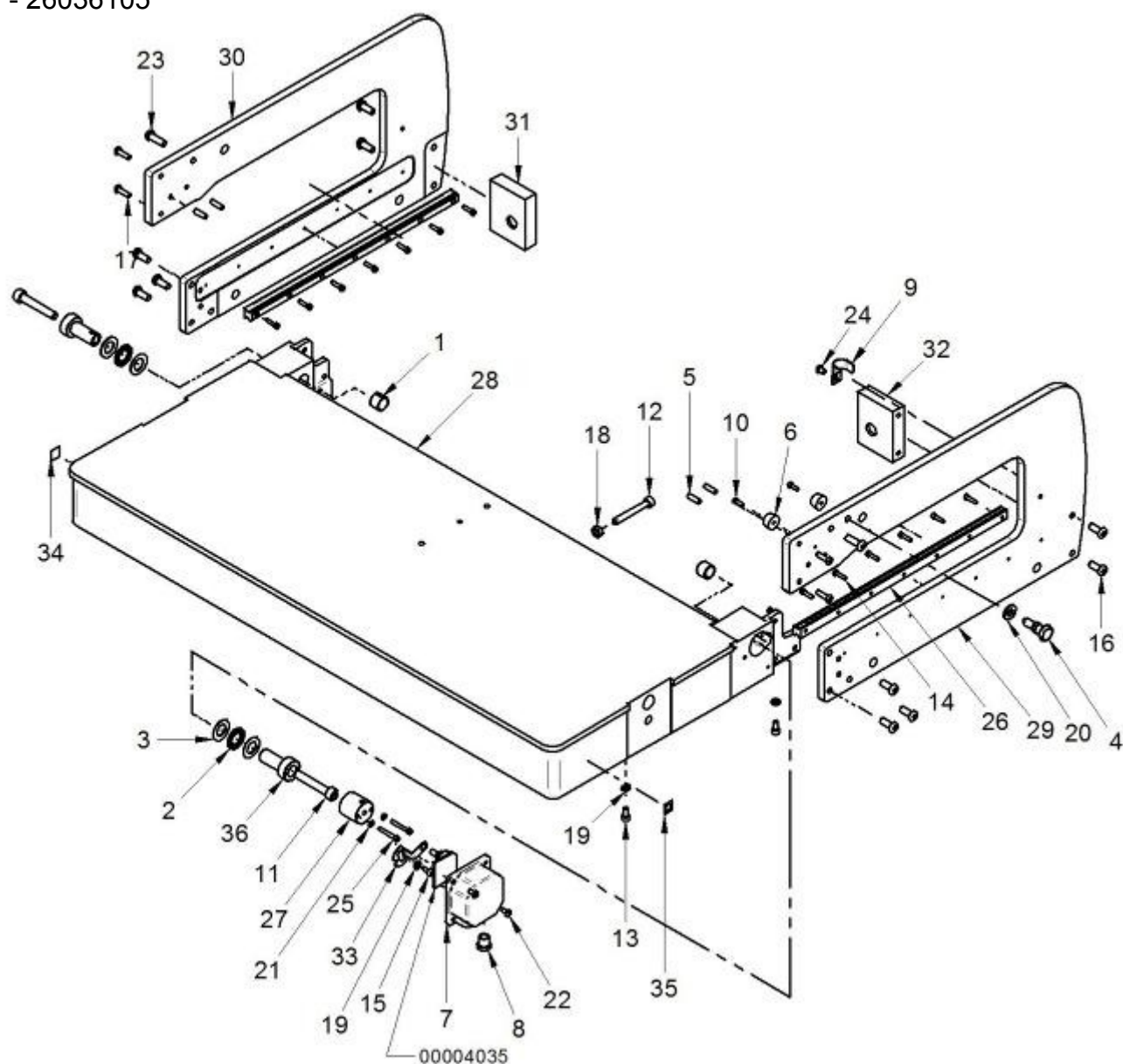


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10	26036804	1
11	26036907	1
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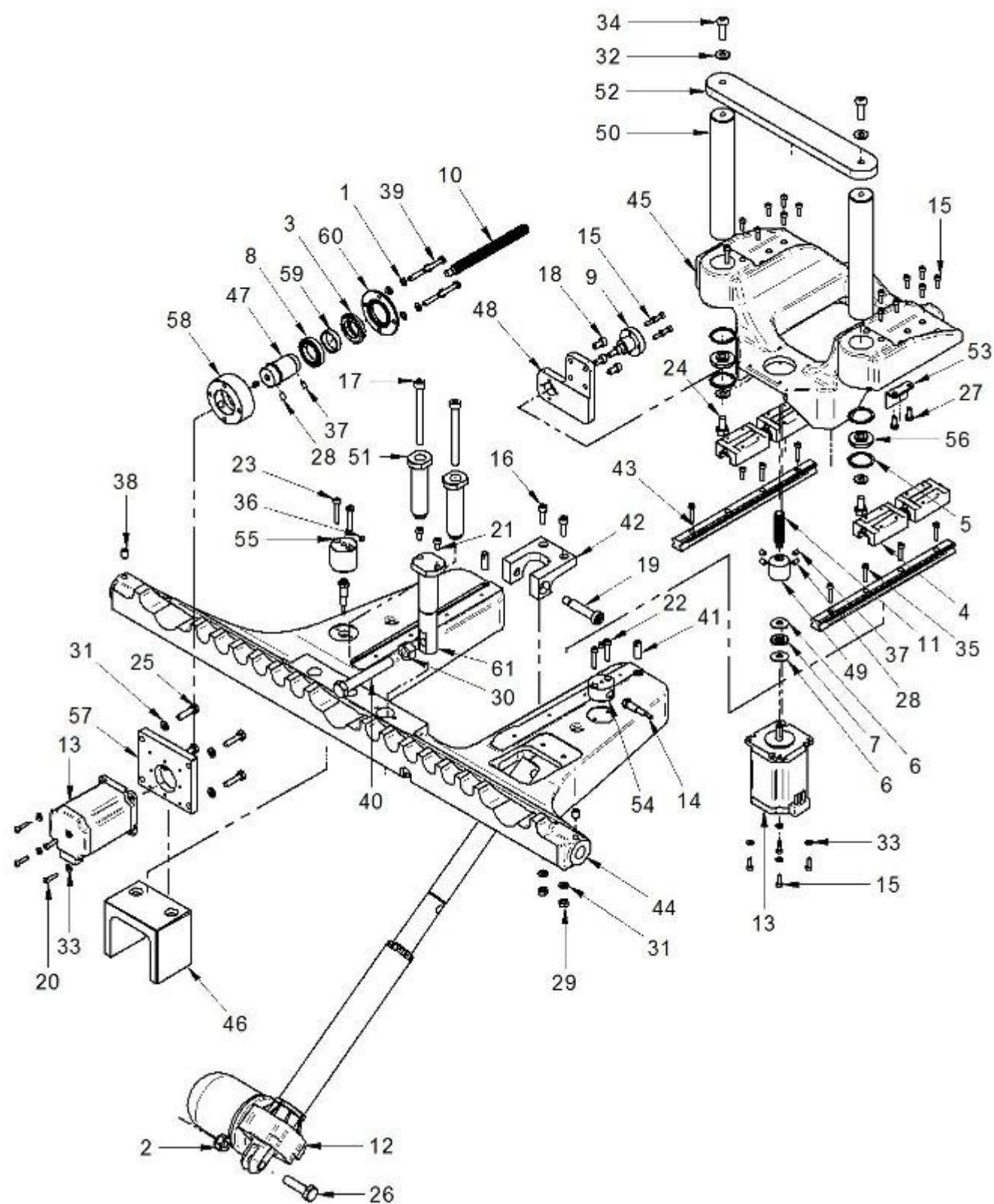
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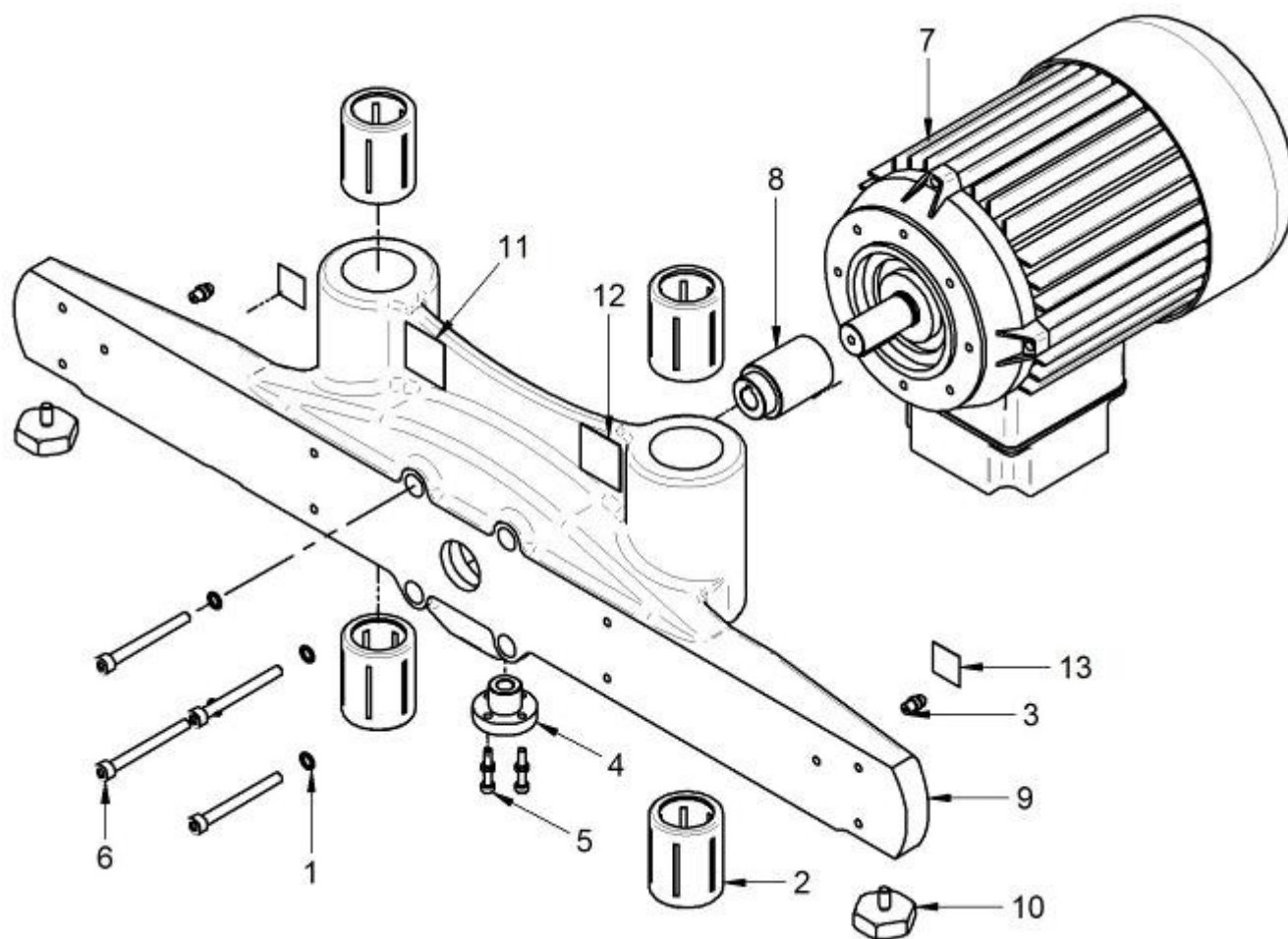
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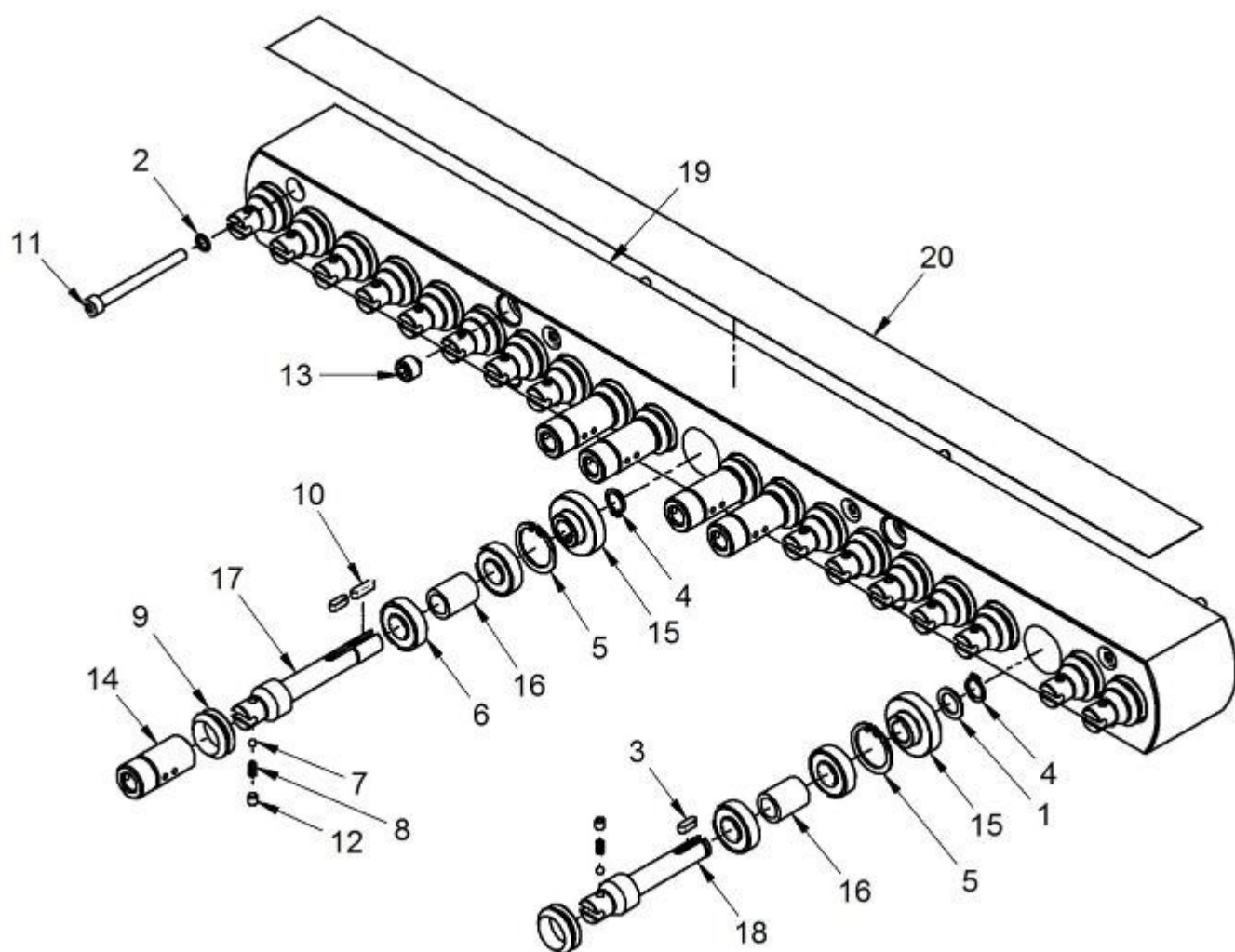


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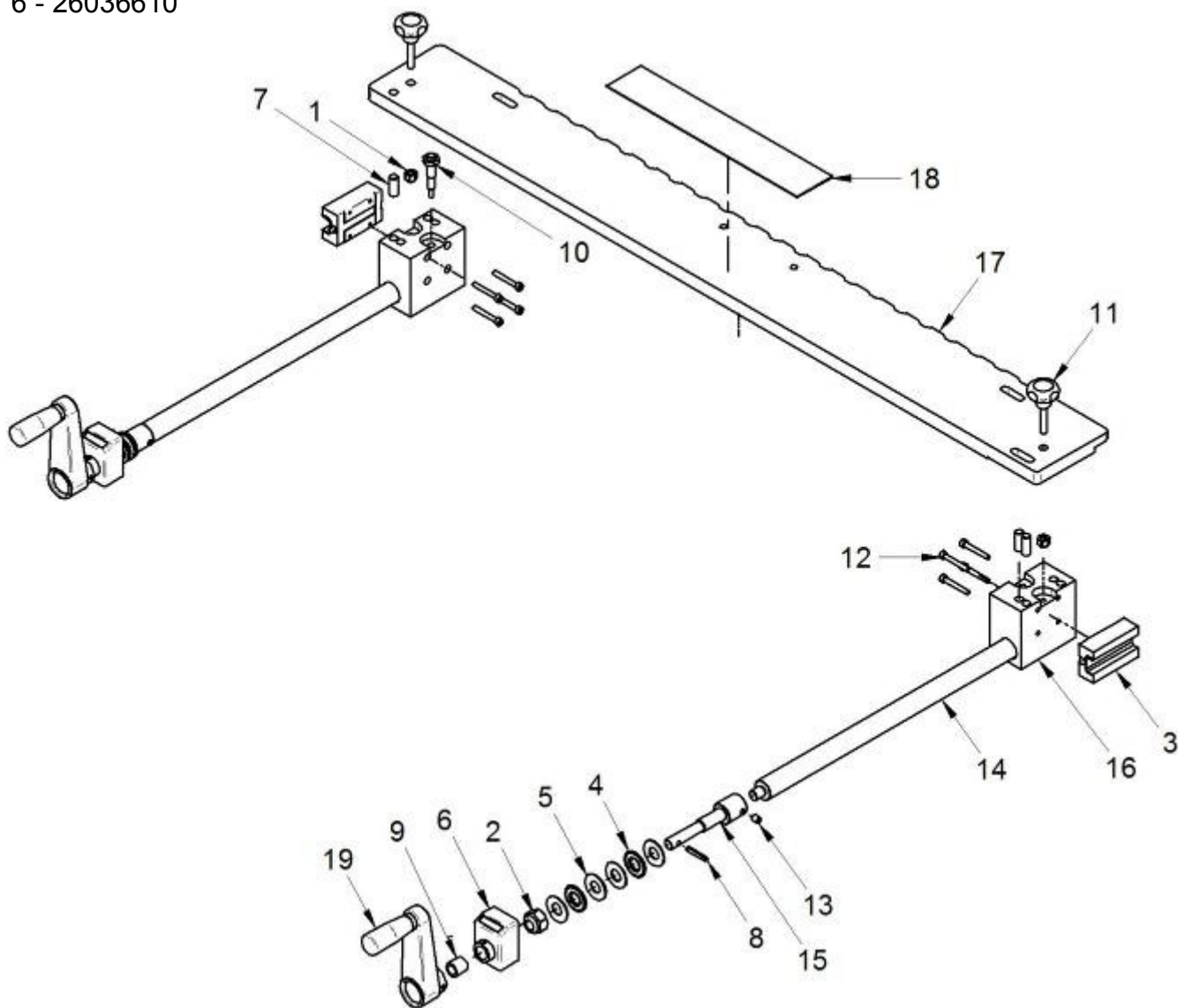
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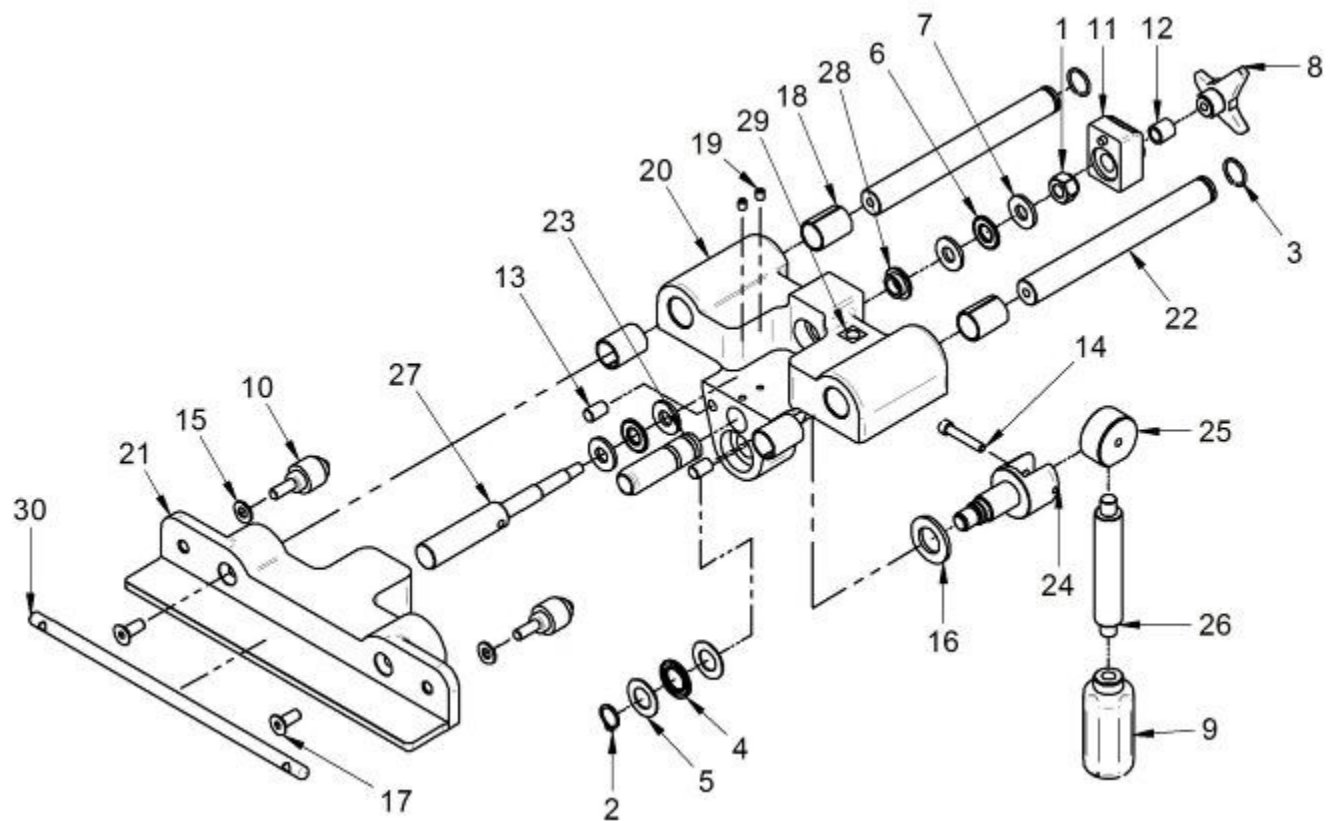
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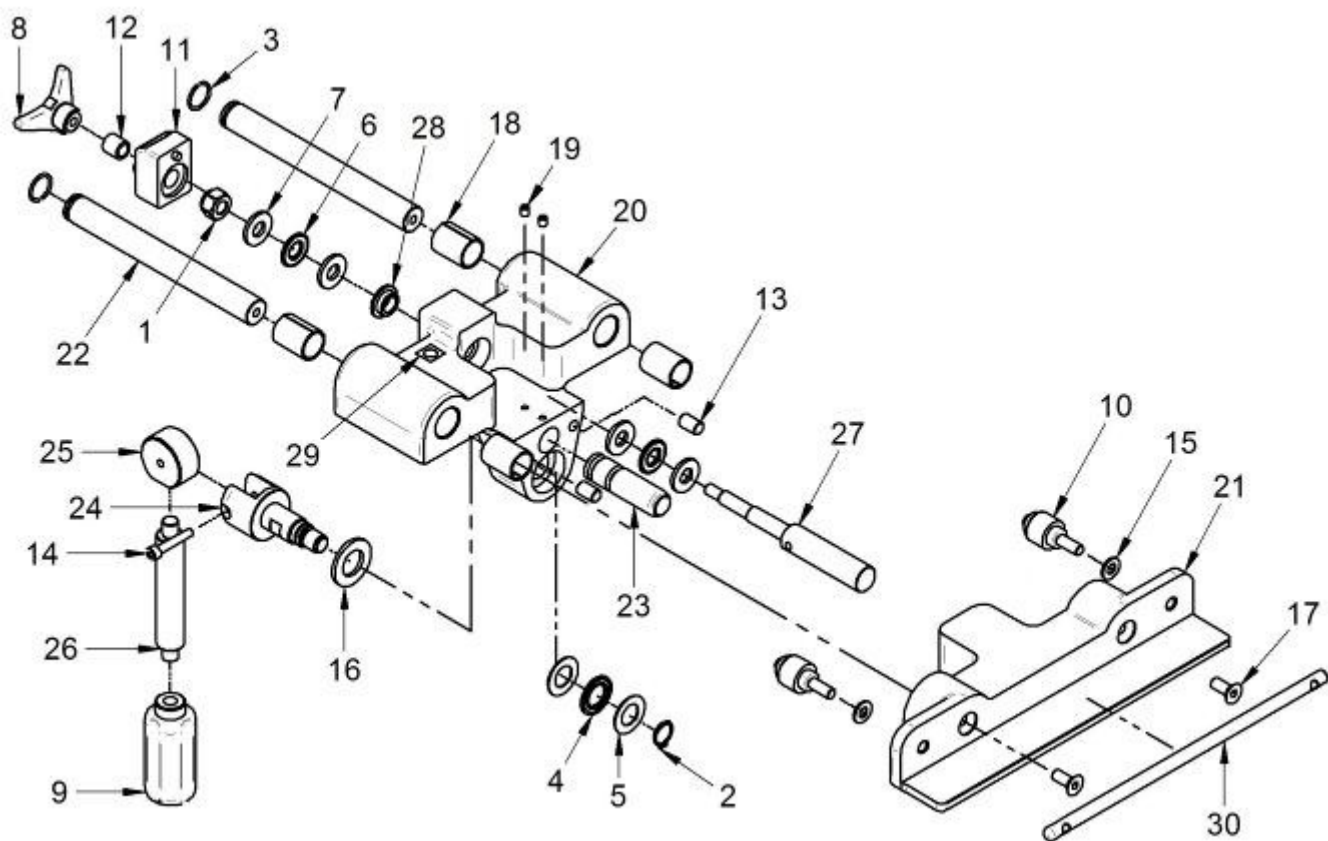


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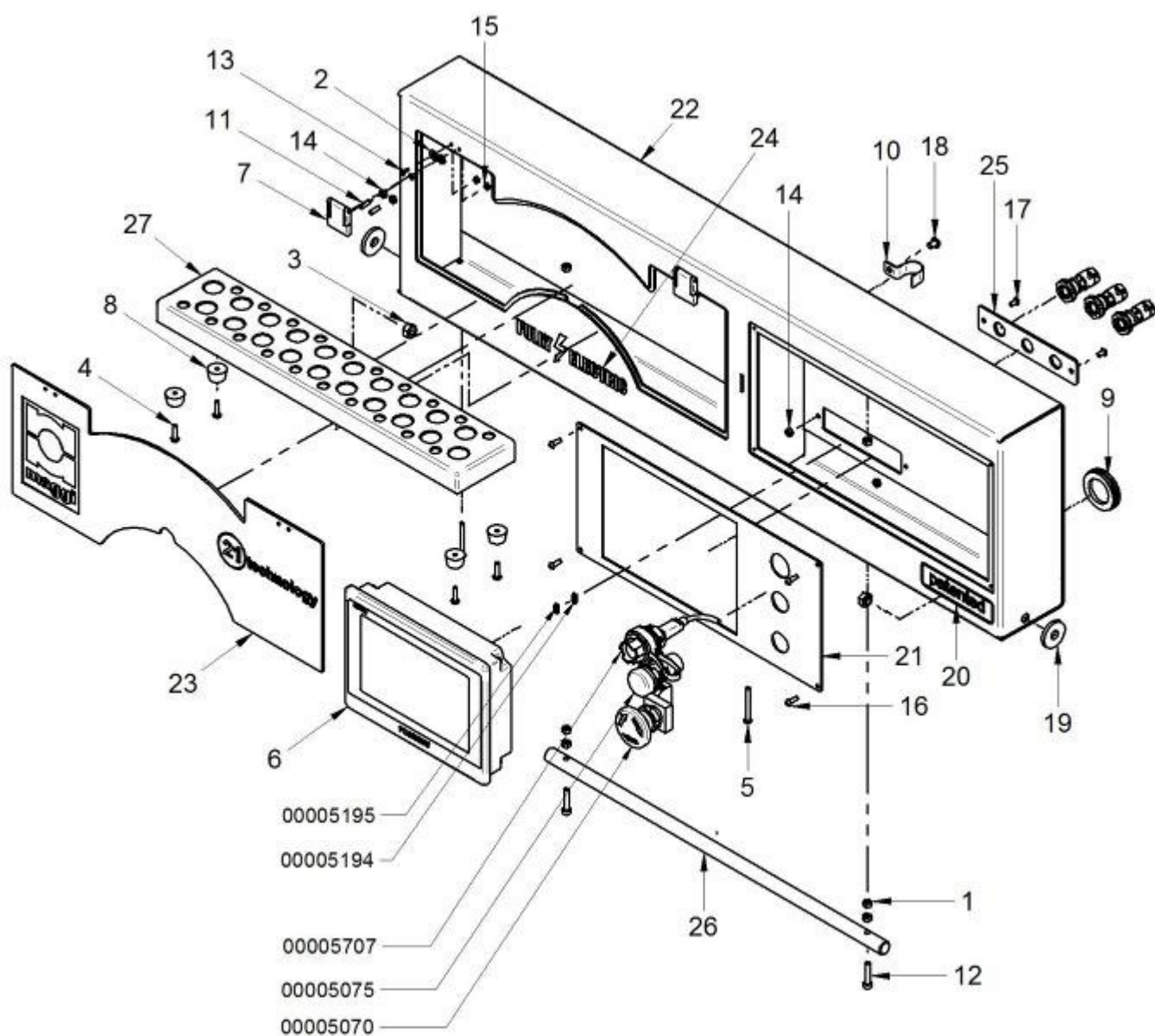
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POS.	COD./CODE	Q. TA'/Q. TY
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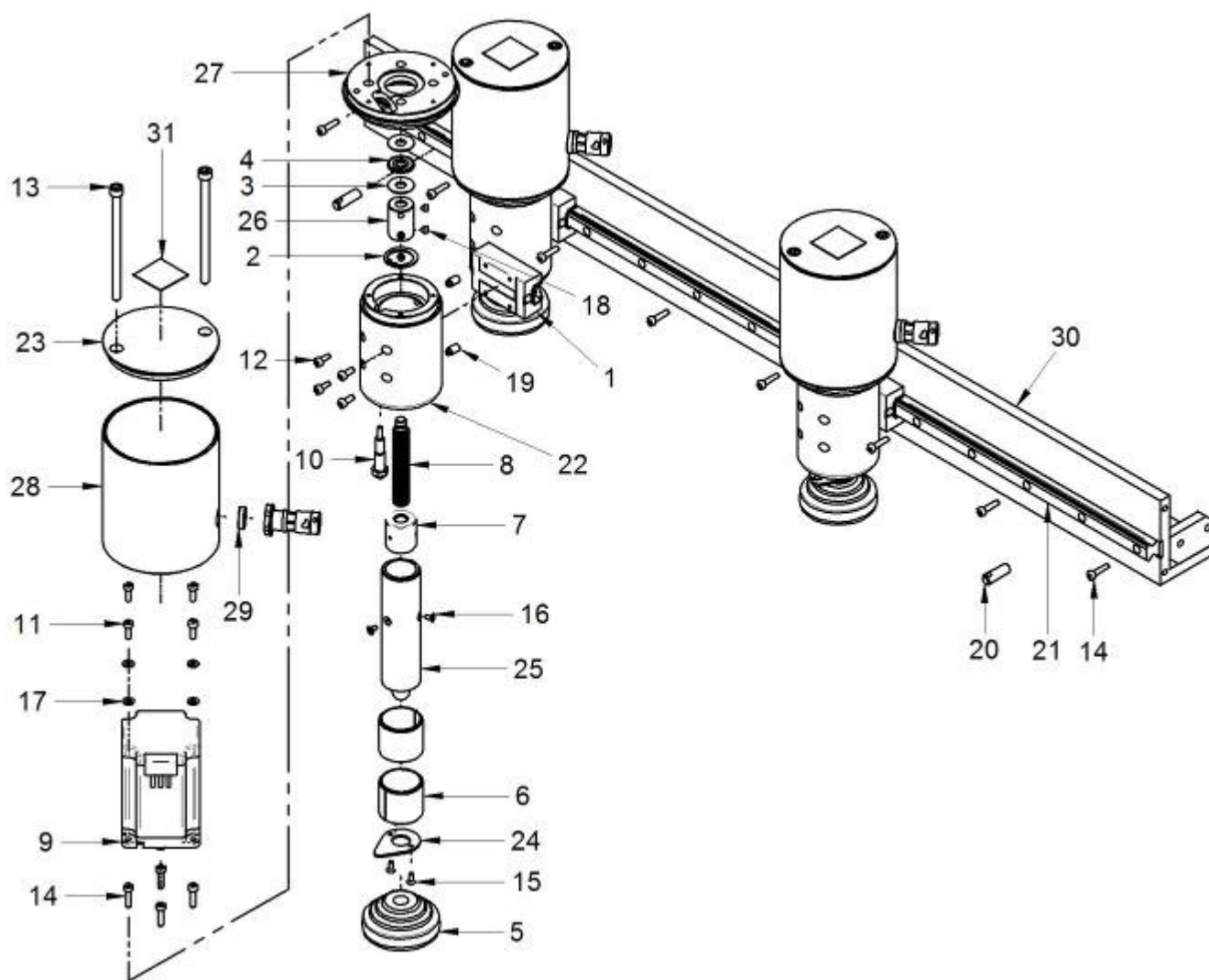
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11	00004061	1
12	00005015	1
13	00017995	2
14	00018335	1
15	00018521	2

POS.	COD./CODE	Q. TA'/Q. TY
16	00018590	1
17	00018703	2
18	00019106	4
19	00160010	2
20	36002301	1
21	36002302	1
22	36030304	2
23	36030305	1
24	36030307	1
25	36030308	1
26	36030309	1
27	36030310	1
28	36030313	1
29	36205125	1
30	36205311	1



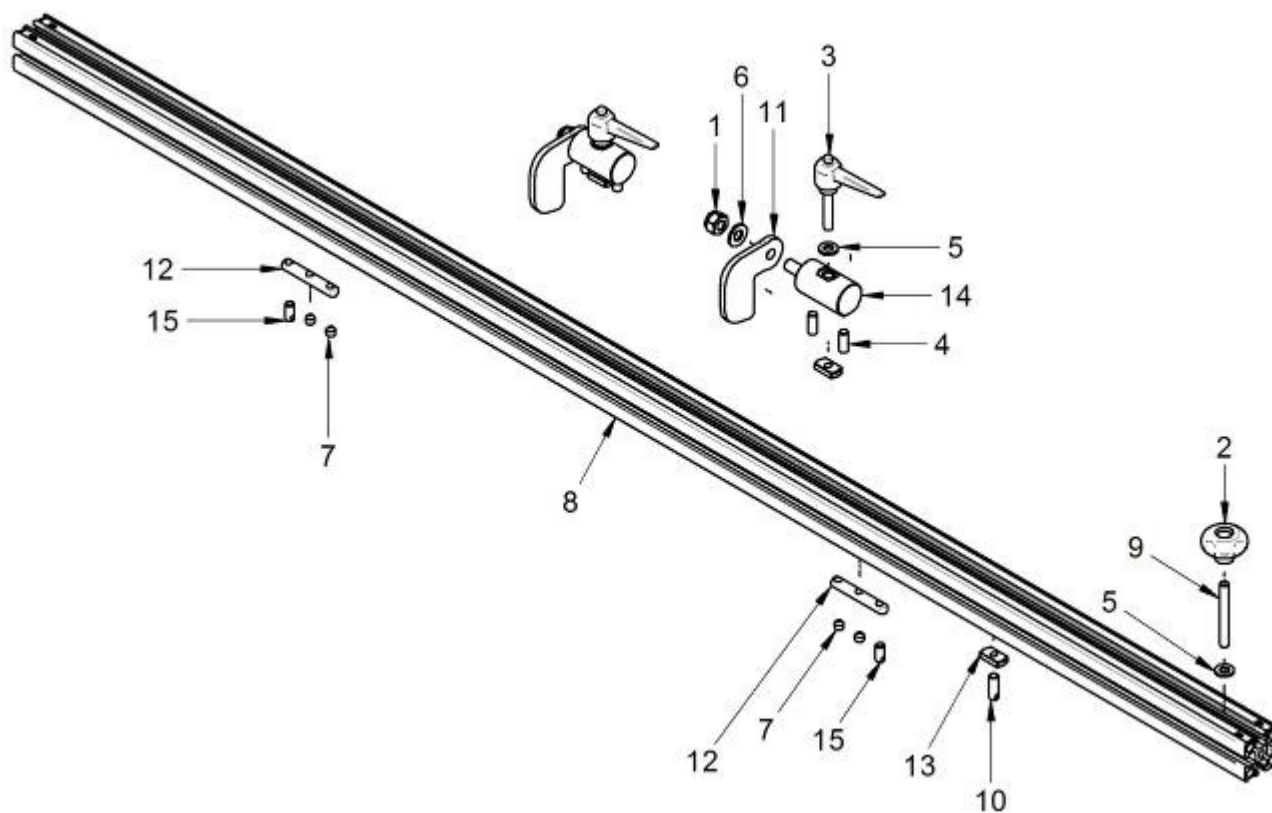
POS.	COD./CODE	Q. TA'/Q. TY
1	00000139	6
2	00000140	4
3	00000146	2
4	00005110	4
5	00005129	2
6	00005166	1
7	00005178	2
8	00005201	4
9	00005716	1
10	00008507	1
11	00018291	4
12	00018383	2
13	00018443	4
14	00018499	6

POS.	COD./CODE	Q. TA'/Q. TY
15	00018511	4
16	00018619	4
17	00018620	2
18	00018720	1
19	36030506	2
20	36030511	1
21	36030515	1
22	36036510	1
23	36036515	1
24	36036517	1
25	36036518	1
26	36036520	1
27	36036540	1



POS.	COD./CODE	Q. TA'/Q. TY
1	00003038	3
2	00003302	3
3	00003477	6
4	00003478	3
5	00003997	3
6	00005043	6
7	00005163	3
8	00005175	3
9	00005183	3
10	00005721	3
11	00018290	12
12	00018300	12
13	00018341	6
14	00018380	20
15	00018443	6

POS.	COD./CODE	Q. TA'/Q. TY
16	00018449	6
17	00018531	12
18	00130501	12
19	00160015	6
20	36001078	2
21	36030802	1
22	36036128	3
23	36036132	3
24	36036133	3
25	36036135	3
26	36036136	3
27	36036137	3
28	36036138	3
29	36036139	3
30	36036802	1
31	36054018	3



POS.	COD./CODE	Q. TA'/Q. TY
1	00000150	2
2	00003921	1
3	00004020	2
4	00004214	4
5	00018521	3
6	00018522	2
7	00150802	4
8	26054816	1
9	36000079	1
10	36001078	1
11	36036906	2
12	36050612	2
13	36050801	3
14	36050802	2
15	36090801	2



A series of horizontal lines for writing, starting from the top right of the notepad icon and extending across the width of the page.

25. SPARE PARTS REQUEST

WARNING! FILL IN THIS FORM

Customer

.....

Address

.....

.....

Date

Telephone

.....

Telefax

.....

MACHINE TYPE	SERIAL NUMBER	DELIVERY DATE	
UNIT CODE	CODE	NAME	QUANTITY

NOTES

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N.B.: Attach a copy of each table that contains the requested item



Maggi Technology S.r.l.

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