



AMERI-CAN
MACHINERY LTD.

EM 200 End Mill



Use and Maintenance Manual

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1. MANUAL USE AND CONSERVATION



WHO IS IT FOR

This manual is intended for the machine user and for the persons in charge of moving, installation, using, surveillance, maintenance and final dismantling of the machine.

AIMS OF THE MANUAL

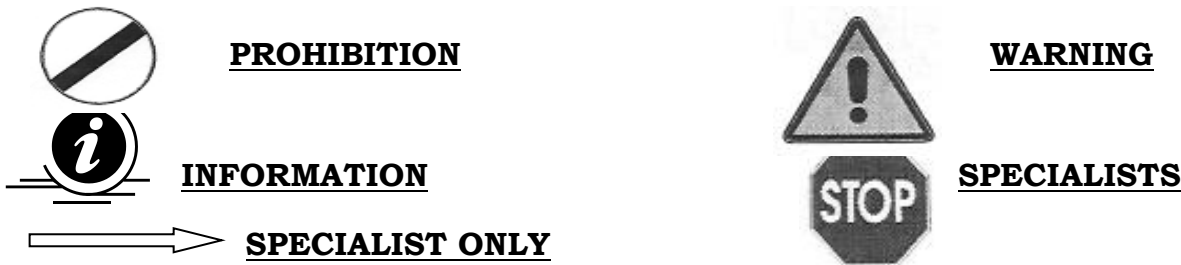
The manual explains the correct use of the equipment, as foreseen at the design stage and in the technical data. It includes instructions for moving the machine as well as for its correct and safe installation, assembly, adjustment and use, as well as supplying information concerning maintenance interventions and how to order replacement parts.

LIMITS OF USE

This manual is valid only for the machine with the code number it expressly mentions. No information contained in this manual may be applied of other machine models from different ranges. All of the necessary indications shall be taken from this manual and not from any similar manuals, similar equipment or from other manufacturers.

SYMBOLS

In order to draw greater attention to certain points, this manual contains the following symbols that are divided as follows:



RESPECT OF LEGISLATION

As well as the regulations specified in this manual, the Customer shall respect the relevant legislative dispositions concerning accident prevention in the workplace.



CONSERVATION OF THIS MANUAL

This manual is considered to be an integral part of the machine and as such, must be kept in good condition until the machine is disposed of. This manual must be kept in a safe, dry place, away from direct sunlight and it must always be easily available for consultation in the workplace.

HOW TO REQUEST A FURTHER COPY OF THE MANUAL

In the event that the original copy of the manual is damaged in any way, Customers may, at their own expense, request an additional copy from the Manufacturer.

INFORMATION FOR THE USER

- a) This manual refers to technical conditions at the time of the sale of the machine.
 - The Manufacturer reserves the right to modify products and manuals without the obligation to upgrade previous products or manual.
- b) The characteristics of this manual may be modified at any time in accordance with technical developments and with no prior notification.
- c) In the event that the equipment is sold on, the Manufacturer should be informed of the address of the new owner in order to facilitate the sending of any additional parts to be integrated into the manual.
- d) For further information or clarifications, it is possible to contact the Assistance Service (see section 13.2)

The Manufacturer declines all responsibility in the event of the following:

- Incorrect use of the machine
- » Use of the machine by untrained personnel

- » Any use of the machine that contravenes that which is stated in this manual
- Any use of the machine that contravenes the laws and standards in force
- » Any use with defect of primary alimentation
 - Exceeded of limits service
 - Excessive mechanicals stress

The user is required to guarantee that:

- All operations for transport, connection, use, maintenance and repair will be carried out by qualified personnel
 - Qualified personnel are understood to be (as per IEC 364) persons who, in terms of their training, experience, knowledge of standards, prescriptions, accident prevention provisions and conditions of use and service, are able to carry out all necessary interventions and to recognise and avoid all possible danger and/or damage.
- " These persons will avail of all of the relevant information and training required, including any local prescriptions, to which they will adhere when carrying out any operations,
- Unqualified personnel will be prohibited from carrying out any operation even directly on the machine or equipment.
 - During the stages of installation, any local or special prescriptions and/or in any case, all prevention conditions that have not been discharged will be met using additional safeguards.

2. MARKING DATA AND DELIVERY CHECKS



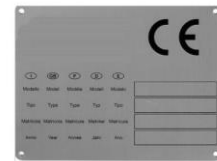
Ensure that the equipment shows no signs of damage and that no parts are missing. In the event of damage, contact the relevant insurance company or the Manufacturer. In the event that the supplied goods are incomplete, contact the Manufacturer directly. Each machine has an identification plate.

2.1 MACHINE IDENTIFICATION PLATE

This plate contains information about the Manufacturer as well as the model and progressive serial number of the machine. For any communication regarding the machine (problems, interventions under guarantee, replacement parts, etc.) always refer to this plate and to the information it contains.

2.2 CE MARKING

The CE marking on the machine means that it conforms to the European Community Directives with regard to Health and Safety in the workplace.



3. HANDLING



Machines are delivered in a protective plastic covering or packed on pallets with crates - wooden crates cardboard coverings, according to the requirement stated at the time of order.



WARNING!!

Once the packing has been removed, the machine may only be moved using a suitable truck.



WARNING!!

Once the packing has been removed, the machine may only be moved using a suitable truck.

4. OPERATION NECESSARY FOR THE INSTALLATION



All stages of installation must be carried out by qualified personnel

4.1 POSITIONING

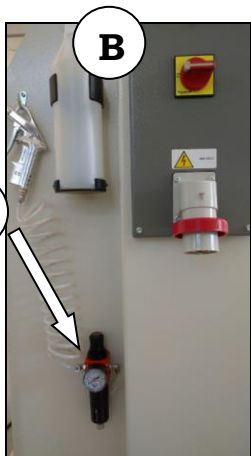
It is necessary to make sure that the machine is correctly positioned in order to guarantee its stability and to ensure the correctness of the operator's working position. The machine must be placed in a sufficiently large area to permit the handling of the material to be machined. The machine must be placed on a flat, horizontal and stable surface that is able to support the weight of the machine adequately. Furthermore, the machine must be situated in a place that allows its entire structure to be lit evenly.

4.2 CONNECTIONS

The machine must be supplied from two sources: electric and pneumatic.

The pneumatic inlet (**FIG.A**) must be connected to a supply of compressed air using a pipe that withstand a minimum working pressure of 7 bar. A filter with an automatic condensation discharge outlet must be installed between pipe and the compressor, as must a tap to intercept the pneumatic supply. The entire supply system must guarantee a minimum internal passage with a diameter of 6mm. The machine is supplied pre-calibrated and if necessary, use the pressure reducing valve (**FIG.C**) to adjust the pressure from a minimum of 6 bar to a maximum of 7 bar.

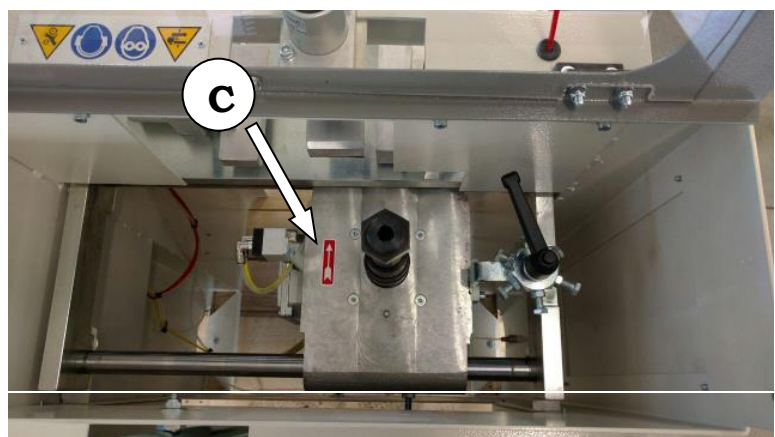
The electrical connections (**FIG.B**) must be carried out by specialist personnel. The connection requirements are as follows: double insulation cable of type N1WK-3P+T with a section of 2,5 mm² and a 16 3P+T socket compliant with EC standards with a thermo magnetic cut-out switch 16A and ICC short circuit current that is equal to or more than 10 kA. The electrical connection must be made to a three-phase alternate current, line 50Hz with a voltage of 380.



WARNING! BEFORE SUPPLYING POWER TO THE MACHINE, MAKE SURE THAT THE CONNECTIONS HAVE BEEN MADE CORRECTLY IN ORDER TO PREVENT THE OCCURRENCE OF SITUATIONS THAT MAY ENDANGER THE OPERATOR.



WARNING! CHECK THE ROTATION OF THE BLADE (C). IN CASE THE ROTATION WOULD RESULT ON THE CONTRARY DIRECTION THEN INVERT TWO OF THE THREE CABLES L1/L2/L3



5. MACHINE SAFETY AND INTENDED USE



5. MACHINE SAFETY



WARNING!

Sawing machines, like all other equipment with moving parts, can be sources of serious danger if not correctly used, protected and maintained.

Safeguards may not be removed under any circumstances

- The machine has not been designed, built or tested to operate in damp or wet environments, environments with a high degree of pollution from gaseous chemical substances such as chlorine, ammonia or similar, or in areas at risk from fire or explosion.
- The machine has been designed for the use by a single operator.
- Simultaneous use of the same machine by more than one operator is not permitted.
- During operation people other than the operator are not allowed to remain in the vicinity of the machine.

5.1 INTENDED USE

These CUTTING OFF MACHINES are intended for professional use only; they are specially designed and built to machine light-alloy profiles. Any other type of material is not compatible with the specifications of the machine.

5.2 WORKPLACE

No particular precautions with regard to the physical or chemical safety of the operator are required for the workplace. However, the use of suitable gloves to protect against the burrs of the profiles and the shards that are produced during machining, as well as of safety glasses and head-cuffs, is recommended.

5.3 FORBIDDEN USE

The machine has not been designed and built to carry out any machining other than that described in this manual. The operator must avoid carrying out any unsafe operations or operations that are not foreseen as part of machine use and which could compromise personal safety.

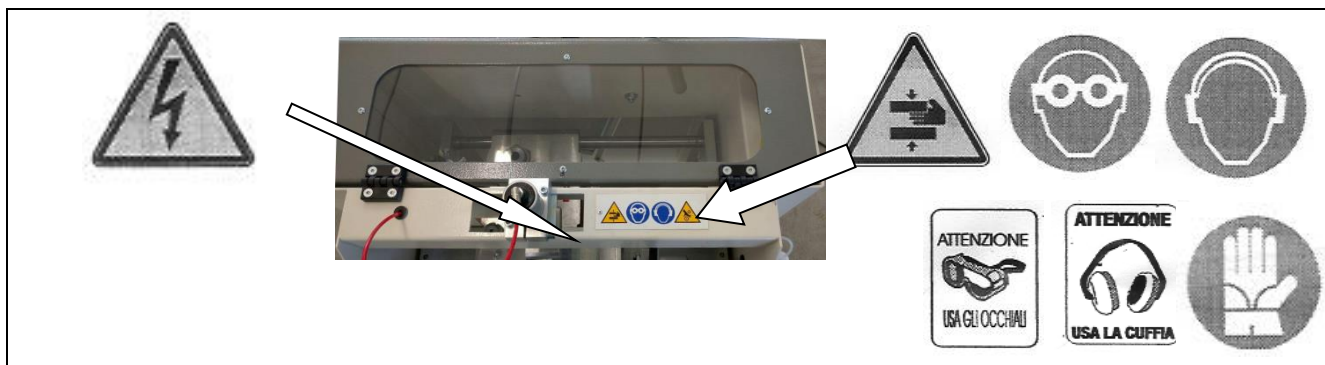
Under any circumstances may any machine part (attachments, boring, finishing) be modified or adapted for use with other devices. *AMERI-CAN MACHINERY LTD.* declines all liability in the event of any malfunction caused by failure to respect the above. Any modifications must be directly requested to and expressly authorized by *AMERI-CAN MACHINERY LTD.*

5.4 SWITCHING OFF AND PUTTING OUT OF SERVICE

The equipment is switched off by cutting off the pneumatic and electric power supplies. The machine is put out of service by removing the air supply pipe and protecting the inlet against dust, shavings, etc... Furthermore, the power cable must also be removed from the mains electricity.

5.5 MACHINE BOARD SAFETY LABELLING

Several labels have been applied to the router to draw the operator's attention to the care to be taken when using the machine.



GENERAL SAFETY WARNINGS

The machinery was designed to be used from only one operator that must position himself in front of the machine where is possible to reach easily all machine commands including the emergency commands. Moreover, the operator must have the complete control of the work cycle.

The operator must immediately stop the operations in progress if for every reason the blade does not go down in the rest position or if any anomaly is noted.

The operator must stop the operations in progress if other people approach the machine.

LIGHTING

Must be provided adequate lighting, natural or artificial in accordance with ISO 8995-89 on lighting at the workplace.

GROUNDUNG SYSTEM

Must be performed at CEI 64-8.

The operator must necessarily turn off and lock the main switch and unplug the machine from the air by venting the pressure from the air system if:

-must clean or remove protective casing to make any type of operations, he must wait the time required for the stopping of the blades and their return to the rest position.

-to carry out maintenance work in the machine working areas.

-to carry on whatever operation in correspondence of the machine blade.

-to carry on whatever adjustment operation on the machine.

The machine is equipped with safety devices: it is prohibited any alteration, modification or partial removal of these devices.

Check at the beginning of each work shift their presence and efficiency, otherwise alert immediately the responsible person.

The use of compressed air to clean or to blow up the chips must be carried on only with adequate eyes protection (glass).

The electrical equipments can cause accidents.

The work areas should not be approached with the hands, being present in the machine components with sharp or high pressures and movements unwary can cause injury.

For every reason do not let unauthorized personnel to operate on the machine.

Do not wear jewels, unfastened, loose-fitting and dangling clothes that could catch in the moving parts.

It is advised the use of suitable clothing, safety shoes, safety glass, face maks.

Do not start the machine if there is any anomaly.

The working area must be always clean and dry.

During the assembly and disassembly of casing or other parts, do not align any holes with your fingers but with appropriate tools as there may be danger of crushing.

INTENDED USE

The cutting machine is adequate to cut light aluminium profiles using appropriate blades.

NOISINESS

average sound vacuum pressure: 71,0 dba

average sound pressure at work: 86,4 dba

vacuum sound pressure: 87,0 dbwa

sound pressure at work: 101,0 dbwa

vacuum lop user place: 81,0 dba

lop user place at work: 97,0 dba

maximum sound pressure level in the user place 119,0db

It is advised the use of individual safety protection devices against noise in the case of prolonged use of the machine.

PACKING

The machine is supplied with a shrink-wrapping.

LEVELLING

The machine must be levelled transversely and longitudinally.

OPERATING TEMPERATURE

From 10 °C to 40 °C.

CLEANING

The machine should be cleaned with detergents, non-acids or non-aggressive to paints, we recommend specific industrial products.

Do not use acids, gasoline, paint thinner, turpentine or petroleum.

Use gloves and suitable clothing

SAFETY DEVICES

Pressure switch of minimum pressure, if the pressure is not sufficient the blade will not start.

Valve of low and high pressure: when closing the clamps, the pressure is about 2.5 bar only when pressing the two buttons and the work cycle begins then takes over a pressure of about 7 bar, to prevent crushing even if slight of the hands.

One-way valves on the clamps: if the pressure is missing the clamps will remain closed and the profile locked.

Command cycle with two hands: you have to press both buttons simultaneously to start the cutting phase, with two-hand safety valve. The working cycle is interrupted releasing one of the two buttons.

Fixed protective casing.

Blade casing with protective strips of plastic against-intrusion. Replace them immediately if they get weared.

At the rear of the turntable were applied two mechanical stops that prevent direct the plane in positions that may cause the meeting of the blade with the iron structure.

RESIDUAL RISKS

Despite the barriers and safety devices, the machine has the residual risks caused by improper use of the machine or unpredictable situations. These risks are reported with technique symbols:



crushing danger



use eyes glass



use headset

Please be aware that in the electric panel even with main switch off there is electricity.

The pneumatic circuit even if disconnected remains under pressure. If in case of malfunction the blade does not come down, do not put your hands near to the work area until the blade is fully back and stopped. The operator must use precautions and individual devices according to the current legislation: glasses, gloves, headsets and all that is necessary according to the residual risk analysis in the workplace.

The use of compressed air to clean or to blow up the chips must be carried on only with adequate eyes protection (glass).

It is advised the use of suitable clothing, safety shoes, safety glass, face masks.

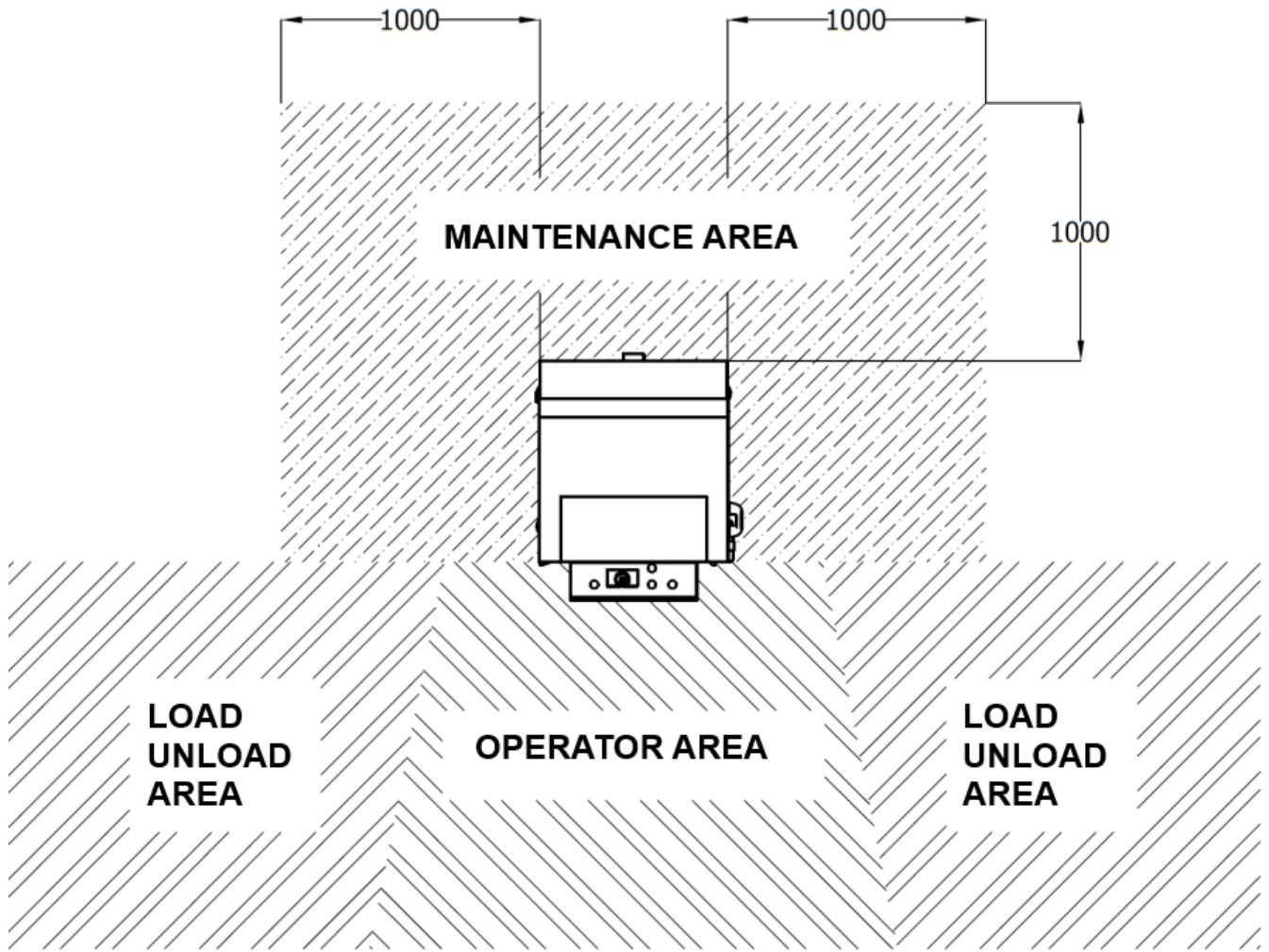
Do not start the machine if there is any anomaly.

During the assembly and disassembly of casing or other parts, do not align any holes with your fingers but with appropriate tools as there may be danger of crushing.

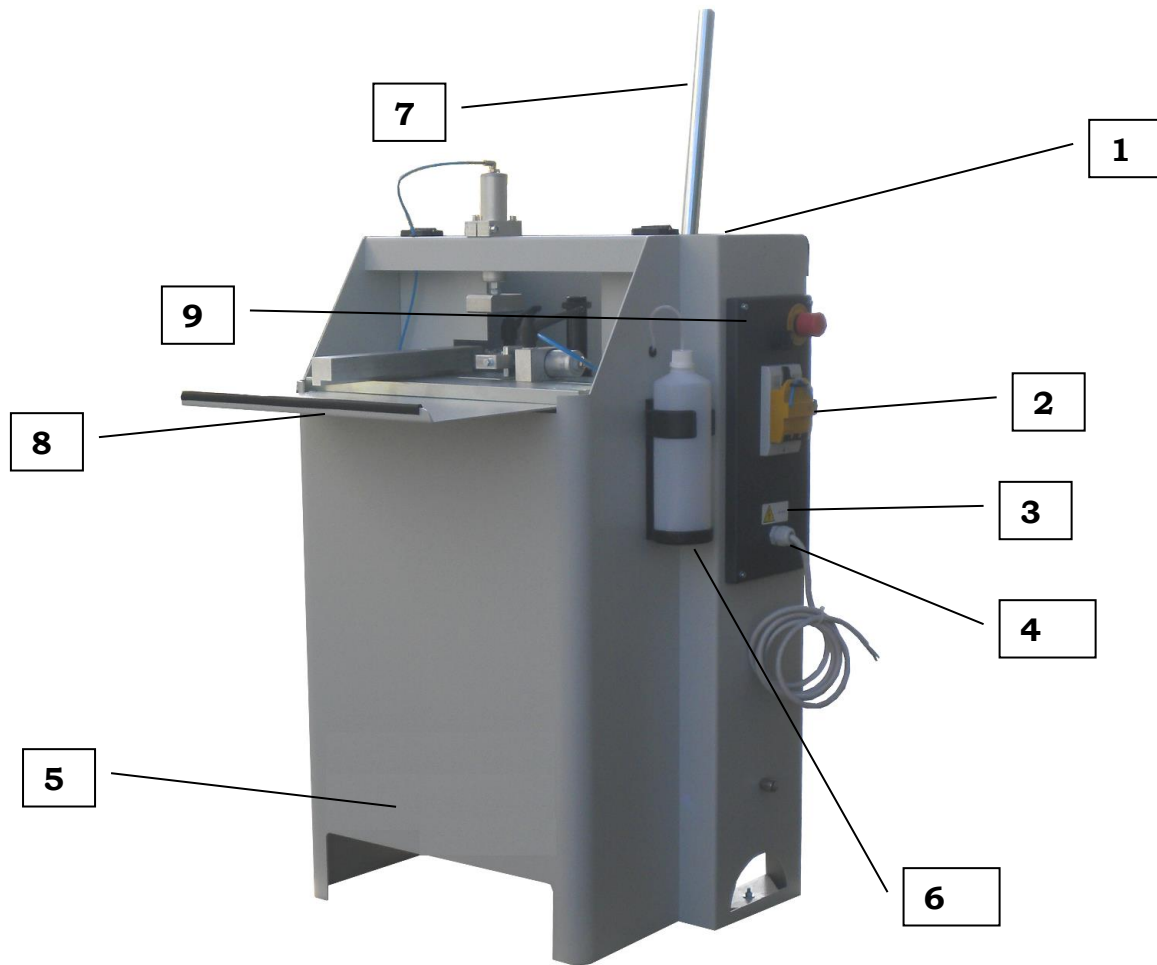
The safe area is the area indicated as **operator area**, in the rear area indicated as **maintenance area** must not stay anyone, particularly if you do not equip the machine with a chips and fumes extractor, as there is a filler pipe from which chips and fumes can be expelled. It is therefore necessary to provide optionally a bag or a suitable container for the collection of any chips.

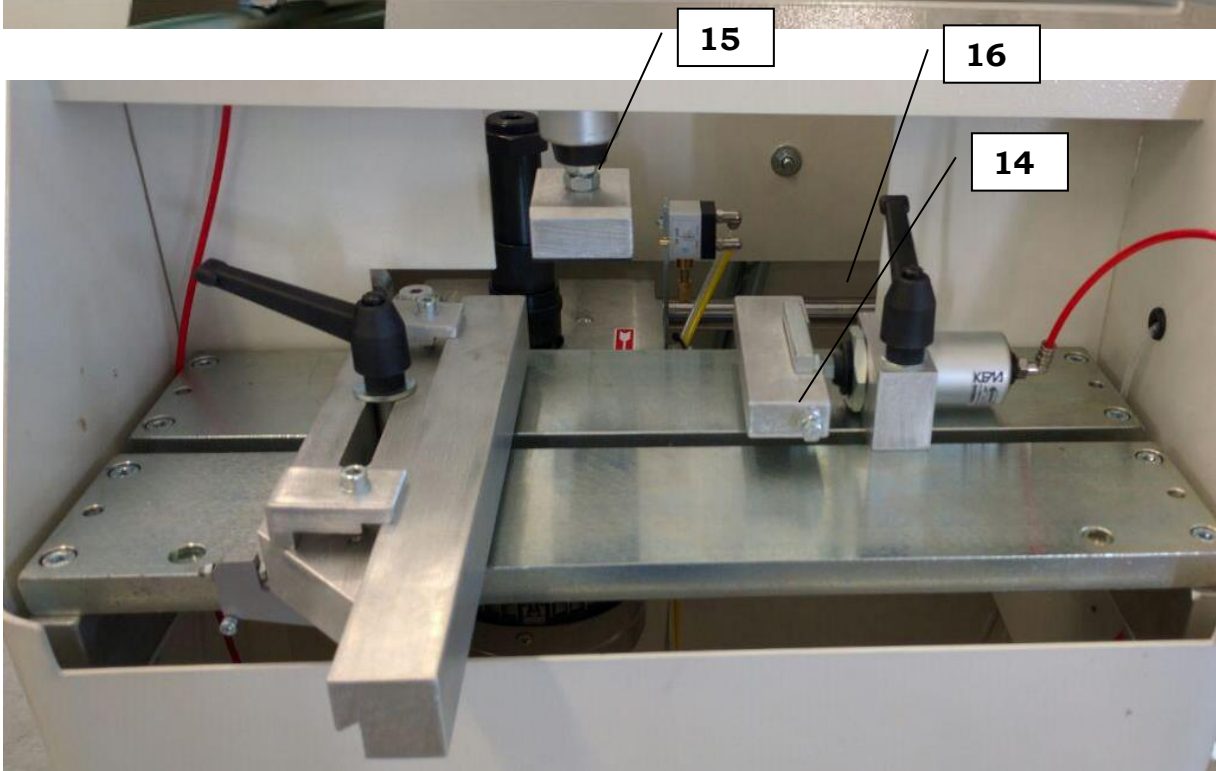
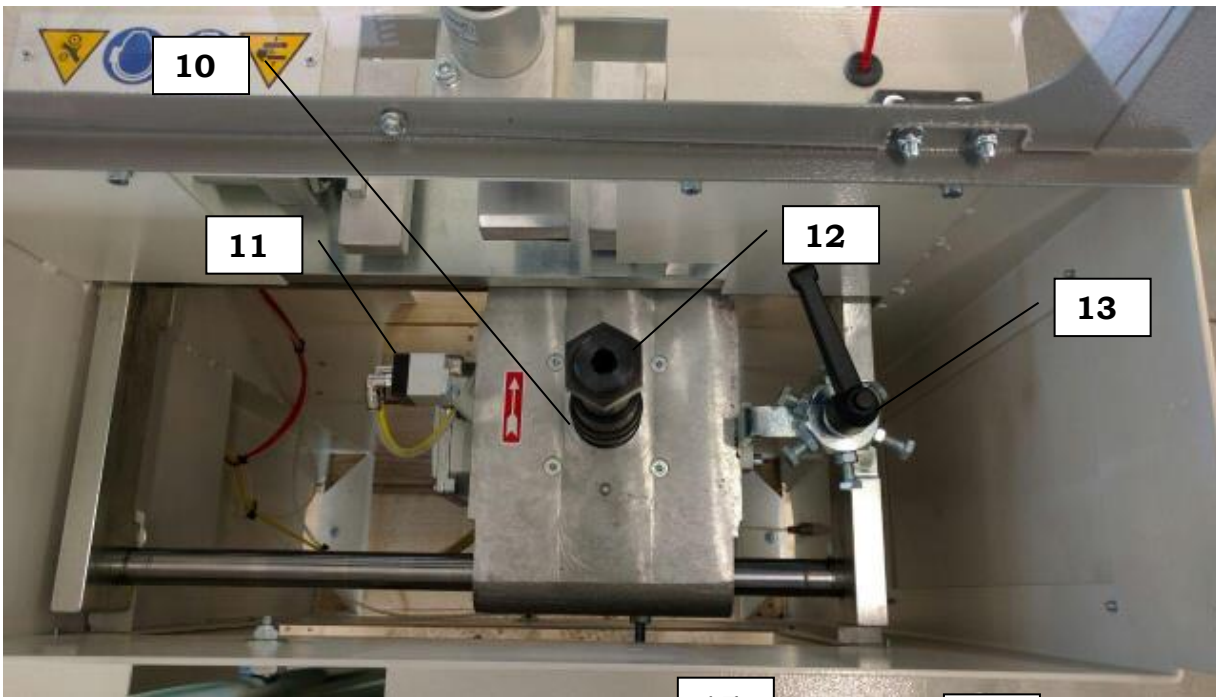
It is forbidden to insert objects, tools or body parts inside the filler pipe for the suction of the chips: this action can cause damage to people and/or property.

The lateral area indicated as **load area** must be used only for the eventual loading and unloading of profiles, only when the machine is off.



6. MACHINE COMPONENTS LIST

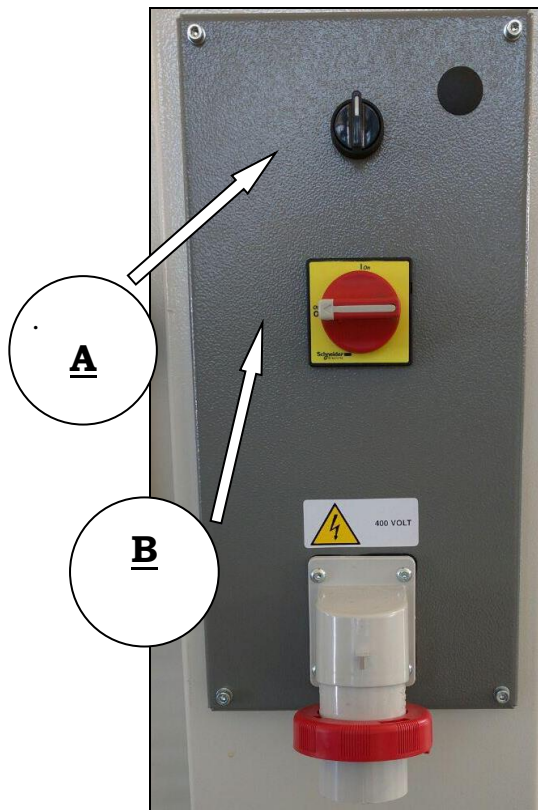




1	PROTECTION GUARD
2	ELECTRICAL SWITCH
3	VOLTAGE LABEL
4	ELECTRICAL CONNECTION
5	BASEMENT
6	LUBRICATION TANK
7	LEVER
8	ADDITIONAL SUPPORT FOR PROFILES
9	CONTROL PANEL
10	MOTOR AND SLIDING UNIT
11	SPARY MIST LUBRICATION

12	CUTTER BLOCK
13	TURRET STOP FOR PRESETTING 6 MILLING DEPTHS
14	ADJUSTABLE HORIZONTAL CLAMPS
15	ADJUSTABLE VERTICAL CLAMP
16	PROFILE SUPPORT
17	
18	
19	
20	
21	

6.1 CONTROL PANEL

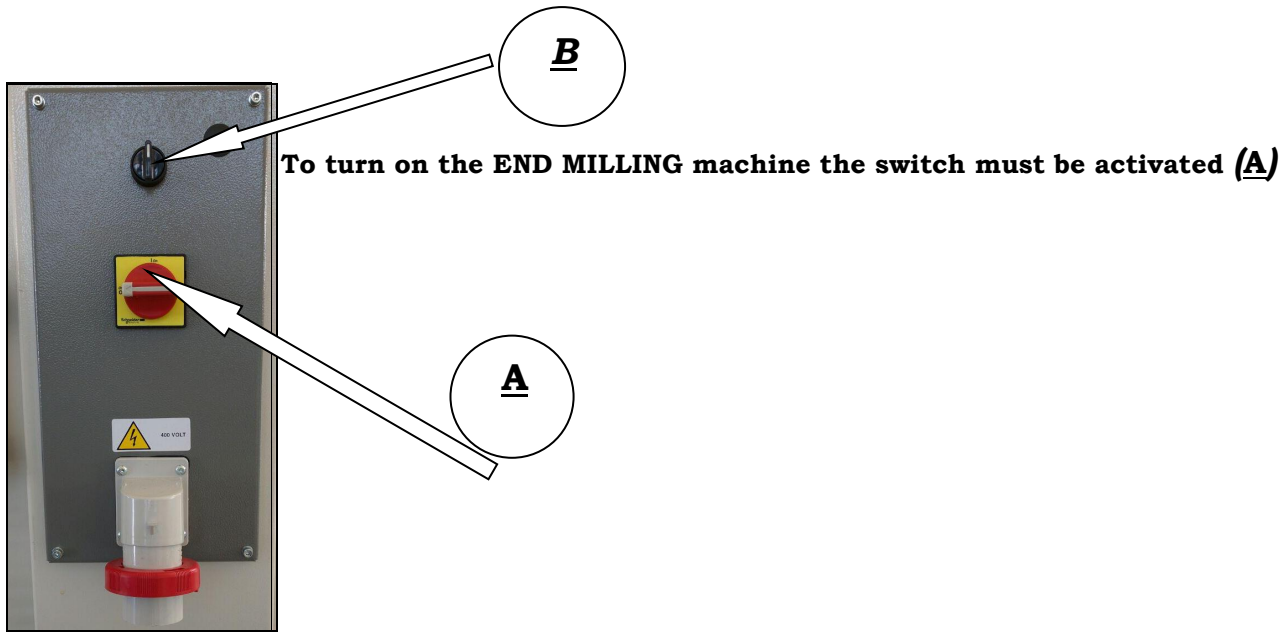


<u>A</u>	OPEN/ CLOSE CLAMPS SELECTOR
<u>B</u>	MAIN ELECTRIC POWER SWITCH
<u>C</u>	
<u>D</u>	
<u>E</u>	

7. HOW TO USE



7.1 PRELIMINARY WORK SEQUENCE



It is necessary to close the protection cover then the clamps must be closed otherwise the blade motor will not run.

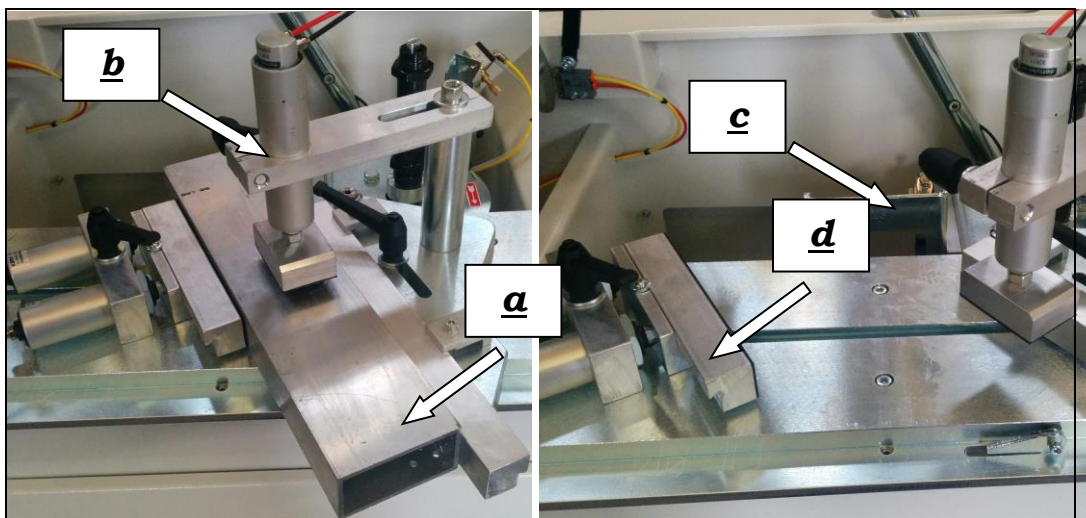
To close the clamps the CLAMPS CLOSING SELECTOR (**B**) must be activated.

IMPORTANT!!!

Start the work sequences below only after a complete reading of this manual and the consciousness that you understand the correct use of the machine. If the above-mentioned conditions are not respected, serious damage can be caused to persons and property.

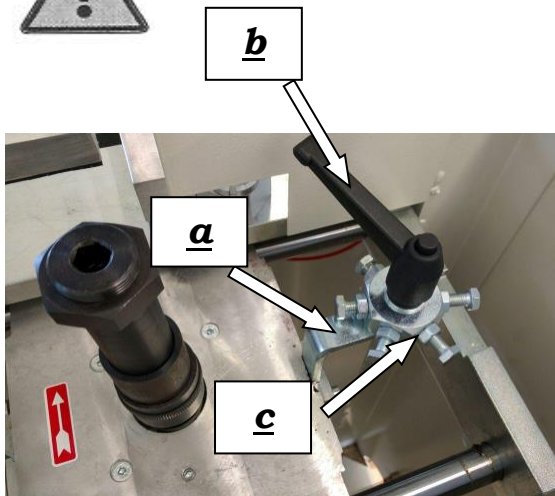
7.2 WORKING COMMANDS ACTIVATION

After the clamps are closed and the main power switch is activated, it will be possible to start the motor.



Once the profile (a) to be milled has been placed on the working table of the machine, press it on the end milling depth stop (c), by locking it with the vertical clamp (b) and horizontal clamp (d)

8. END MILLING DEPTH STOP ADJUSTMENT



In order to modify the end milling depth stop (A) proceed as follows:

- 1. Unloose the knob (B)*
- 2. Unloose or tight the bolts (A) depending from the desired position.*
- 3. Place the turret stop for presetting 6 milling depths (C) in the desired position.*

- 4. Move backward the end milling depth stop (A) until the same will lean on the corresponding nut - Block the knob (B)*

9. CLAMPS



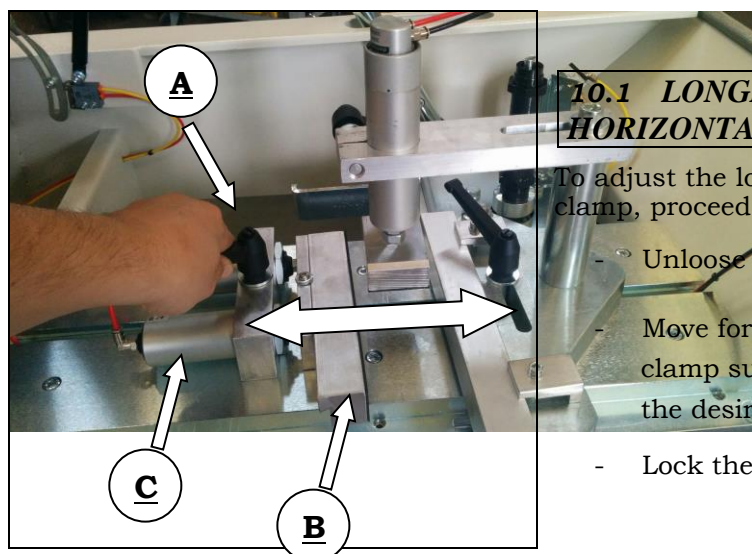
As previously said, for security reasons, it is not possible to start the machine if the clamps are not closed.

WARNING!!!

BE SURE IN EVERY WAY OF THE CORRECT POSITIONING OF THE PROFILE BETWEEN WORKING TABLE AND CLAMPS.

To close the clamps, it is necessary to use the OPEN/ CLOSE CLAMPS selector as shown in the figure (A), once machining has been completed, return the selector to its initial position to open the clamps and thus unlock the machined piece.

10. CLAMPS REGULATIONS



10.1 LONGITUDINAL REGULATION OF THE HORIZONTAL CLAMPS:

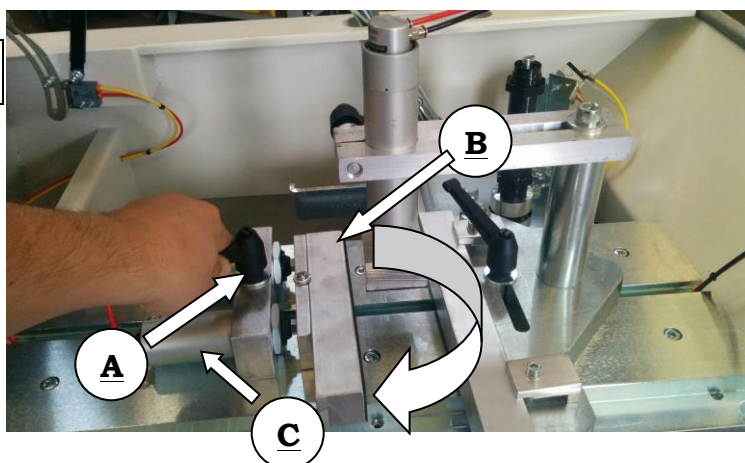
To adjust the longitudinal movement of the horizontal clamp, proceed as follows:

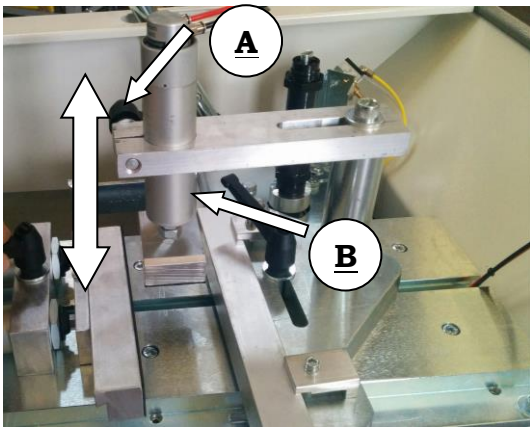
- Unloose the level **(A)**
- Move forward or backward the aluminum clamp support **(B)** of the pistons **(C)** until the desired position.
- Lock the level **(A)**

10.2 TRANSVERSAL REGULATION OF THE HORIZONTAL CLAMPS:

To adjust the transversal movement of the horizontal clamp in order to milling profiles at 45°, proceed as follows:

- Unloose the level **(A)**
- Tilt to the right or left side the aluminum support **(B)** of the pistons **(C)** until the desired position is reached.
- Block the level **(A)**

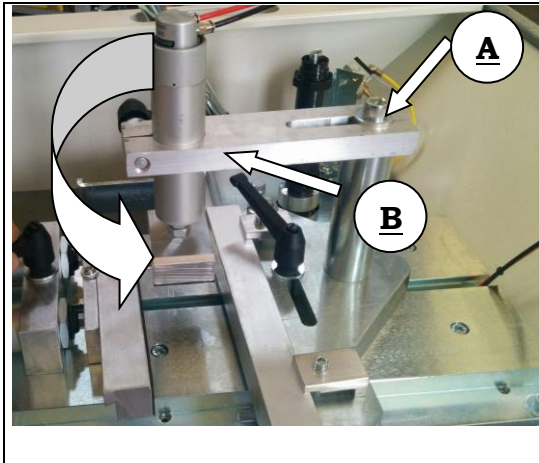




10.3 VERTICAL REGULATION OF THE VERTICAL CLAMPS

To adjust to vertical movement of the vertical clamp, proceed as follows:

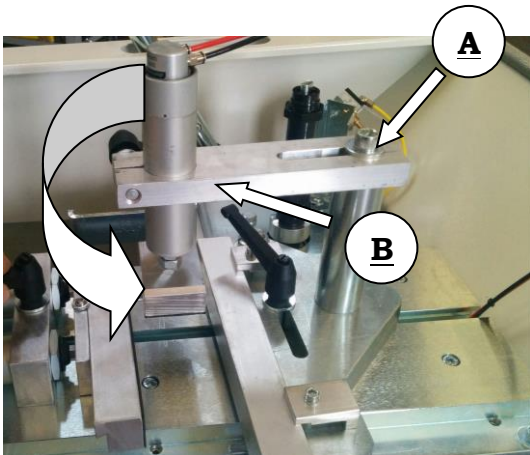
- Unloose the level **(A)**
- Move the piston **(B)** up or down till the desired position is reached
- Lock the level **(B)**



10.4 LONGITUDINAL REGULATION OF THE VERTICAL CLAMPS

To adjust to longitudinal movement of the vertical clamp, proceed as follows:

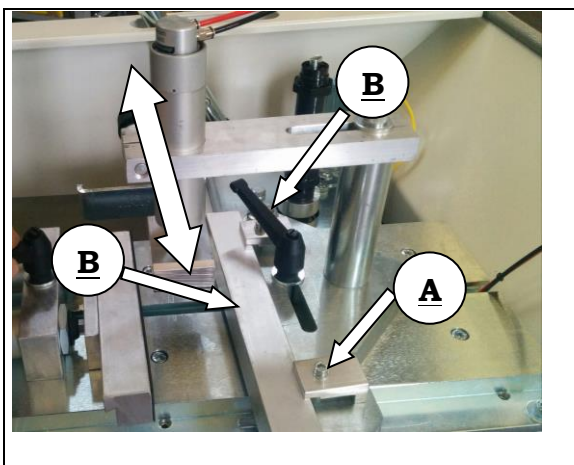
- Unloose the bolt **(A)** with an allen key
- Move the piston support **(B)** left or right till the desired position is reached
- Lock the level **(A)**



10.4 LONGITUDINAL REGULATION OF THE VERTICAL CLAMPS

To adjust to longitudinal movement of the vertical clamp, proceed as follows:

- Unloose the bolt **(A)** with an allen key
- Move the piston support **(B)** left or right till the desired position is reached
- Lock the level **(A)**



10.5 REGULATION OF THE PROFILE SUPPORT

To adjust the position of the profile support, proceed as follows:

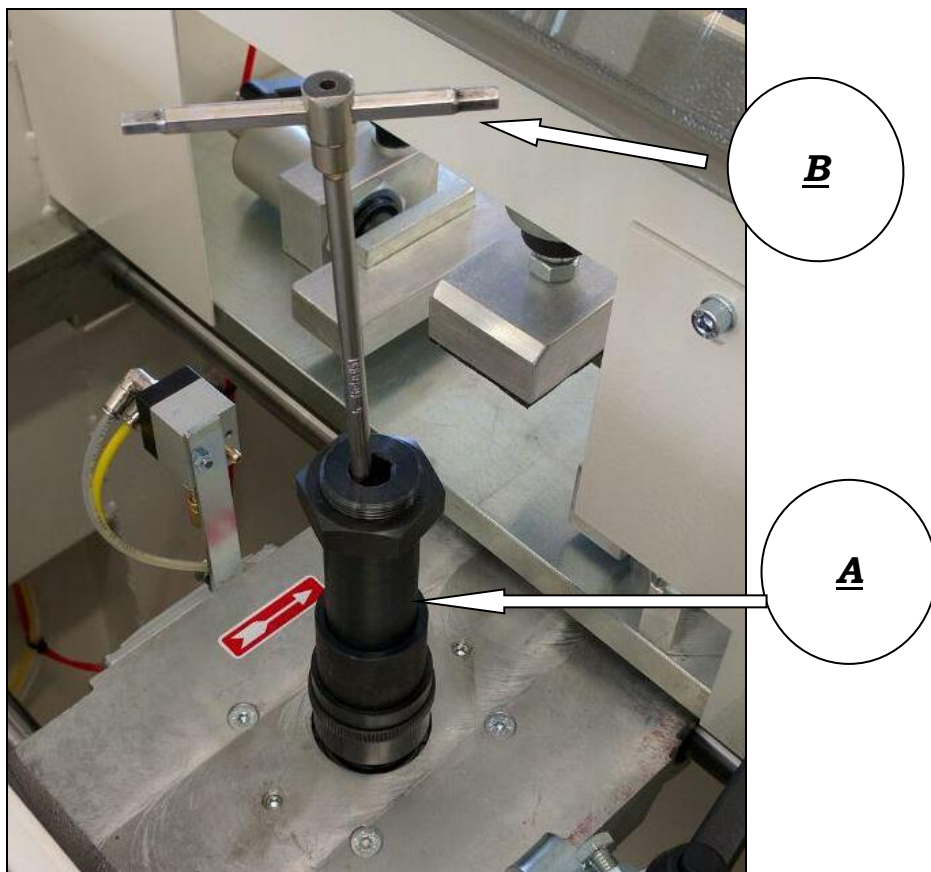
- Unloose the bolts **(A)** and **(B)** with an allen key
- Move the profile support **(C)** left or right till the desired position is reached
- Lock the bolts **(A)** and **(B)**

11. CUTTER BLOCK



11.1 CHANGE OF THE CUTTER HOLDER

To change the cutter holder proceed as follows:

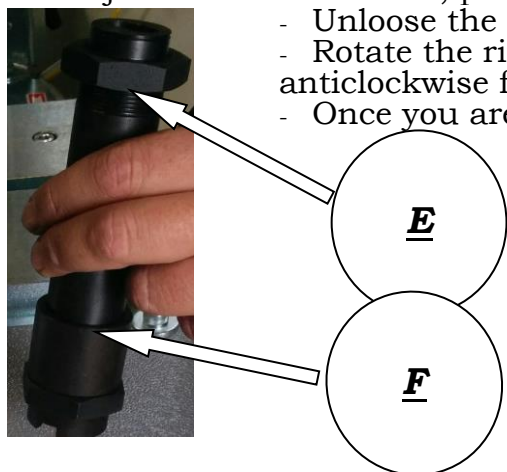


Loose the bolt locking the cutter block (A) with a 5 mm allen key (B). Insert the new cutter block in the spindle Rotate at 90° and release the button (A).

11.2 CUTTER HOLDER ADJUSTMENT

To adjust the cutter holder, proceed as follows:

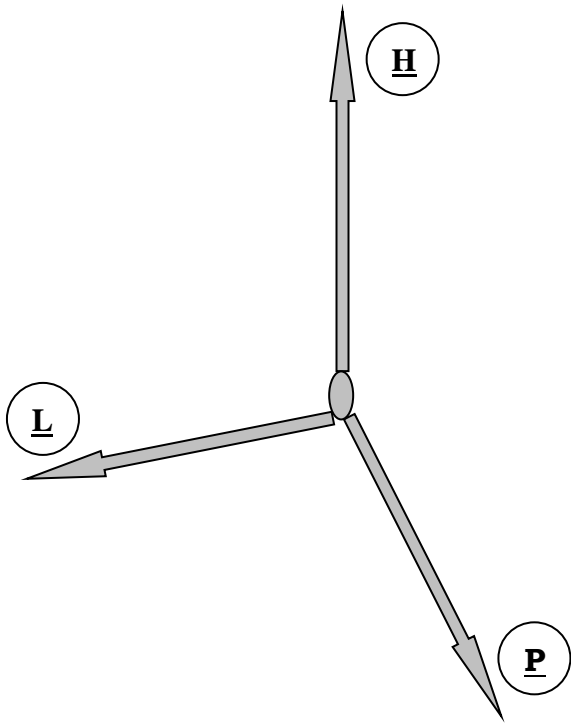
- Unloose the nut (E) with the nut key.
- Rotate the ring (F) clockwise for raising up the cutter block or anticlockwise for lowering the cutter block.
- Once you are in the right position block the nut (E) with the nut key.



12. TECHNICAL DATA



HEIGHT	H	mm	1100			
WIDTH	L	mm	800	RPM MOTOR'S CUTTER BLOCK	rpm	2800
DEPTH	P	mm	600	MOTOR SPINDLE	Hp	1
WEIGHT		kg	80	AUTOMATIC FEEDING OF THE CUTTER BLOCK		
HEIGHT WORKING TABLE		mm	860	SHAFT MOTOR	mm	19
WORKING PRESSURE		bar	7	CUTTER BLOCK DIAMETER	mm	32
USEFULL STROKE		mm	390			



13. INSTRUCTIONS FOR MAINTENANCE



WARNING!!

It is important that qualified personnel carry out periodical maintenance, inspections and servicing of the unit used in order to avoid those breakdowns that may, directly or indirectly, cause damage to people, animals or property.

Before proceeding to carry out any maintenance, it is necessary to cut off the electrical and pneumatic supplies to the machine (remove the plug from the mains electricity and remove the pneumatic supply pipe).

13.2 MAINTENANCE PROGRAM

It is important to carry out the following maintenance operations on a regular basis:

- Clean the machine regularly in order to guarantee good working order and paying particular attention to the organs in movement,

WARNING!!! DO NOT USE JETS OF WATER TO CLEAN THE MACHINE AND ESPECCIALY ON ELECTRICAL PARTS.

Lubricate the machine tools with coolant cutting fluid so that these will never operate when dry. In this way the machining finishes are improved, and the useful life of the tools is greatly increased.

Variations in normal working conditions (noise, vibration, etc.) are indicative of incorrect machine operation, In the event of problems or the need for repair interventions, contact our assistance service or that of our dealer, In any case, follow the instructions contained in this manual for any type of maintenance and/or repair intervention,

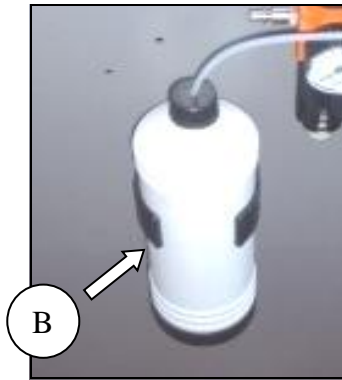
For anything not expressly contained in this manual it is necessary to contact the local Assistance Service (section 14.2).

13.3 SPECIAL MAINTENANCE

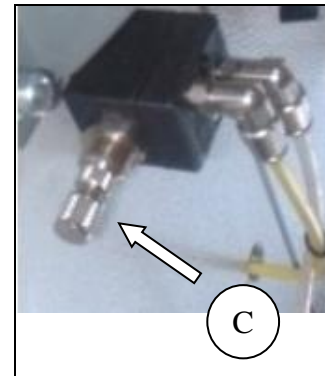
Contact the Assistance Service directly (section 14,2)

13.4 ROUTINE MAINTENANCE

The routine maintenance that are usually requested on this machine are:



Periodically replace the cooling lubricant that is contained in the relevant tank (B). failure to observe this rule will invariably cause machining to be rougher and the mills to wear out more rapidly In the event that increased tool lubrication is required, use the regulator (C) of the exit of the cooling soupape which is placed inside of the machine near the blade.



14. HOW TO SOLVE ORDINARY PROBLEMS



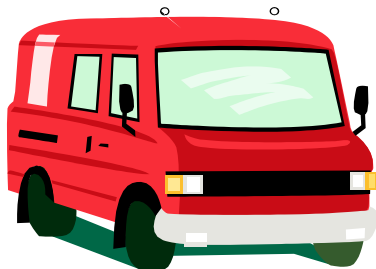
14.1 COMMON PROBLEM LIST



PROBLEMS	CAUSE	SOLUTION
THE MACHINE DOES NOT START	Main switch not enabled Emergency button pressed	Enable switch Unlock emergency button
THE MACHINE STOPS DURING OPERATIONS	Missing phase	Enable phase
	Thermal overload	Find the cause and eliminate it
BAD CUTTING	Worn blade	Replace blade
	Insufficient lubricant	Add lubricant
THE LUBRICANT DOES NOT ARRIVE	Lubricant finished	Replace lubricant
	Lubricant circuit blocked	Check oil cleanness or blow compressed air through the atomiser connection
ANOMALOUS WEAR OF PNEUMATIC PARTS	Lack of lubricant in the pneumatic system	Add lubricant
	Compressed air not purified	Replace filter
	Water in the pneumatic system	Check and clean outlets

15.1 CUSTOMER CARE

The Assistance Service network is available both nationally and internationally. For specific problems, please contact THESE NUMBERS:



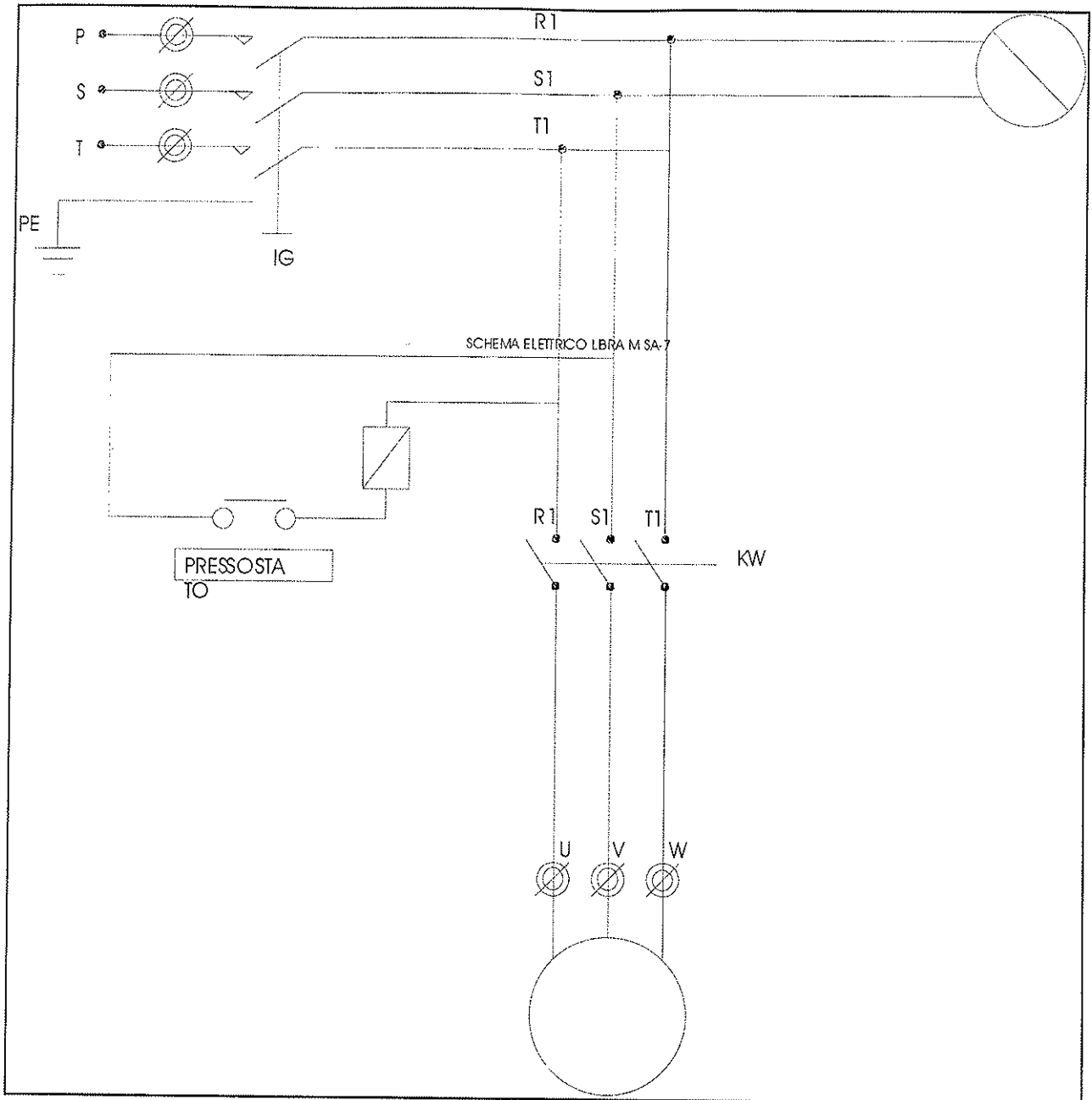
Tel: 1-905-542-2055
Email: service@ameri-can.ca



WARNING!!

WHEN THE MACHINE IS TO BE DECOMMISSIONED BECAUSE IT HAS BECOME OBSOLETE OR IT HAS IRREMEADIABLY BROKEN DOWN, IT MUST FIRST OF ALL BE PUT OUT OF SERVICE BY BEING RENDERED INOPERATIVE AND ANY DANGERS REMOVED. DISCONNECT THE MACHINE FROM THE MAINS ELECTRICITY, DISCONNECT THE AIR PIPES AND REMOVE ALL TOOLS AND ADDITIONAL PARTS. COVER THESE ELEMENTS WITH PROPERLY SEALED WRAPPING. SEAL THE MACHINE INSIDE STURDY PACKAGING AND PROCEED TO ITS DISPOSAL IN CONFORMITY WITH THAT SPECIFIED IN THE STANDARDS AND REGULATIONS IN FORCE. CONTACT THE RELEVANT LOCAL BODIES FOR THIS OPERATION.

ELECTRIC DIAGRAM



PNEUMATIC DIAGRAM

