

---

# FORMULA SP1

**PIALLA A SPESSORE  
THICKNESSING PLANER  
RABOTEUSE  
DICKENHOBELMASCHINE  
REGRUESADORA**

ENGLISH



**USO E MANUTENZIONE  
OPERATION AND MAINTENANCE  
FONCTIONNEMENT ET ENTRETIEN  
BETRIEBS- UND WARTUNGSANLEITUNG  
USO Y MANTENIMIENTO**

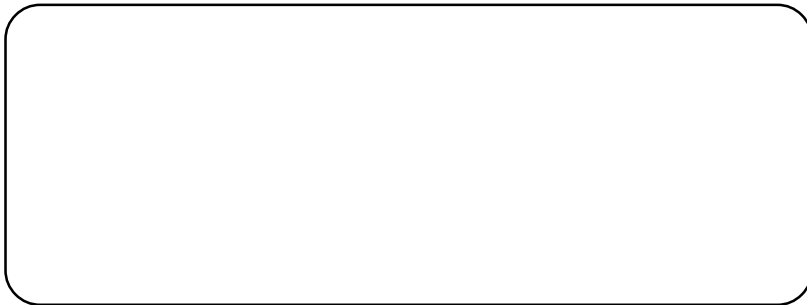
---

*MiniMax*

0000502431B/4

MINI MAX will not be held responsible for damages caused by wrong use or wrong maintenance.

For any technical problem concerning the machine please apply to the dealer:



The machine has been tested by authorized L.N.E. office for CE certification according to Macchine 98/37/CE Directive of European Parliament.

L.N.E.  
Service SATI  
1 Rue Gaston Boissier  
F 75015 Paris  
France

Modificato vari capitoli	B11176 16/11/00	4
Modificato con bolla B11417 del 14/7/99	B11163 17/12/99	3
Modificato con bolla U.T. B11008 del 11/03/99	B11161 19/02/99	2
Unificato libretto per macchine ce e non_ce	B9398 16/10/96	1
Modifica	N° Bolla	N- °
	Data	

Pagine totali compresa copertina e retro; vedi indice paragrafi		
CF3	C.I. 03/00	LIBRETTO USO E MANUTENZIONE  FORMULA SP1 CE INGLESE
N° Bolla	B9377	
Data	15/09/95	
Firma SIT/RB/07--	<i>MiniMax</i>	

## SYMBOLS USED IN THE HANDBOOK

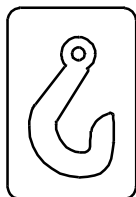


**OPTIONAL:** devices indicated in price list available only upon request

Symbols fitted on the machine:



**Danger of cutting upper limbs when tools are moving**



**Shows point where hooks should be placed to lift the machine**

**Yellow triangular danger place fitted on electric cabinet**

**Danger: electric power on**



**Warning plate**



---

**GENERAL INFORMATION ..... SECTION 1**

1-1 Instructions for contacting by mail or phone ..... 1.5

1-2 Notes for technical assistance ..... 1.5

1-3 Machine identification ..... 1.6

1-4 Conditions for use ..... 1.6

    1-4A Operator’s training ..... 1.8

1-5 Specifications ..... 1.9

1-6 Noise level ..... 1.11

1-7 Safety rules ..... 1.12

1-8 Overall dimensions ..... 1.14

**INSTALLATION ..... SECTION 2**

2-1 Machine unloading ..... 2.2

2-2 Machine positioning ..... 2.2

2-3 Electric connection and earthing ..... 2.4

2-4 Connection to the dust exhaust system ..... 2.6

2-5 Safety devices ..... 2.6

**CONTROLS ..... SECTION 3**

3-1 Control board ..... 3.2

3-2 Start and stop of machine ..... 3.2

3-3 Access to the electric housing ..... 3.2

3-4 Auto-brake motor ..... 3.4

**ADJUSTING THE THICKNESSING UNIT ..... SECTION 9**

9-1 Automatic feed and change of speed ..... 9.2

9-2 Powered lifting of thicknessing table ..... 9.2

9-3 Adjustment of pressure rollers ..... 9.4

9-4 Rollers on the table (OPT) ..... 9.4

9-5 Safety guards ..... 9.4

9-6 Knife adjustment ..... 9.6

    9-6a Substitution of knives ..... 9.8

    9-6b Substitution of throwaway tips (OPT) ..... 9.8

9-7 Belt tension adjusting ..... 9.8

    9.7.1 Substitution of belts ..... 9.10

9-8 Adjusting the chain tension ..... 9.10

**CMR CARD ..... SECTION 18**

**AUTO-BRAKE MOTOR ..... SECTION 19**

**MAINTENANCE ..... SECTION 20**

20-1	Machine cleaning .....	20.2
20-2	Periodical lubrication .....	20.2
20-3	Removal - Storing - Demolition .....	20.2
20-4	Emergency situations .....	20.2
20-5	Trouble Shooting Guide .....	20.3

## 1.1 INSTRUCTIONS FOR CONTACTING BY MAIL OR PHONE

When writing or telephoning to the dealer or MINI MAX for whatever reason regarding your machine, always supply the following information:

- 1) Machine model
- 2) Serial number
- 3) Voltage and frequency
- 4) Purchase date
- 5) Name of dealer where you have bought the machine
- 6) Detailed information about the trouble
- 7) Detailed information concerning the working to be carried out
- 8) Period of use - Number of working hours

SCM  
 Divisioe Mini Max Samco  
 Via Casale, 450  
 47827 - VILLA VERUCCHIO - ITALIA  
 Tel.0541-679580-679578 - Fax. 0541-674273

## 1-2 NOTES FOR THE USER

The handbook describes all the operations required for normal maintenance of the machine. Do not carry out any repairs or operations not described in the handbook. All operations which require the disassembly of machine parts as well as maintenance operations should only be carried out by authorized technicians. Please refer to this instruction manual for the correct use of the machine. Only trained and authorised staff should use and service the machine after having carefully read this instruction manual.

**Safety norms and all general safety regulations should be strictly adhered to. Keep the handbook for future reference.**

*NOTES: only use original SCM spares. The manufacturer will not be held responsible for damages caused by the use of components which are not the original ones. For information concerning the electric system always specify the data indicated on the metal plate (fig.1.1) located on the inside of the door giving access to the electric housing.*

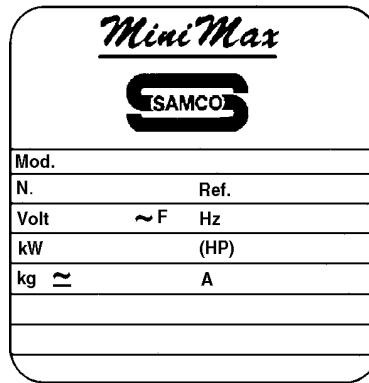
FORNIT.	Company that carried out the electric system
DATA	Date of power unit manufacturing
CODICE DISTINTA	Number of electric components bill
N.	Wiring diagram number
VOLT RETE	Mains voltage for machine supply (V)
VOLT AUX	Voltage for auxiliary circuits supply (V)
VOLT FRENO	Voltage for motor brake supply (V)
Hz	Frequency (Hz)
kW	Absorbed power
MACCH.	Machine type

FORNIT. <input style="width: 80%;" type="text"/>	DATA <input style="width: 80%;" type="text"/>
CODICE DIST. <input style="width: 80%;" type="text"/>	N. <input style="width: 80%;" type="text"/>
VOLT RETE <input style="width: 40%;" type="text"/>	VOLT AUX <input style="width: 40%;" type="text"/>
VOLT FRENO <input style="width: 40%;" type="text"/>	Hz <input style="width: 40%;" type="text"/>
kW <input style="width: 40%;" type="text"/>	MACCH <input style="width: 40%;" type="text"/>

**1-3 MACHINE IDENTIFICATION**

Machine data are punched on the metallic plate on the machine frame side.

- Mod. Machine model
- N. Serial number
- Ref. Internal reference
- kg Gross weight
- Volt Voltage (Volt)
- F Phase number
- Hz Frequency (Hz)
- A. Electric input (Ampere)
- kW Installed power



1.2

**1-4 CONDITIONS FOR USE**

This machine has been designed for planing solid wood and wood based pieces; any different use of the machine can cause damages for which the user will be held responsible.

N.B. The machine cannot be used in an environment where explosives are stored.

**The machine is designed for use in an industrial environment**

**DIMENSIONS OF WORKPIECE TO BE PLANED**

- Max. thickness: 250 mm
- Max. length: **is not a fixed one. The use of infeed and outfeed table extensions (not supplied by SCM) and vertically adjustable, is compulsory when machining workpieces longer than 2000 mm**
- Max. width: 520 mm
- Min. thickness: 3 mm
- Min. length: 220 mm
- Min. width: 10 mm

## TOOLING

The machine has been designed for the exclusive use of tools conforming to EN847-1 Norms and suitable for the material to be used and for hand feeding.

The term "hand feeding" intends components guided by hand or feeding incorporated in the machine.

## WORKING ENVIRONMENT

The machine can be used in the following environment:

Max. 90% humidity

Temperature min. + 1°C, max. 40° C

Height max. 1000 mt. above sea level (if higher please consult manufacturer)

Always connect machine to dust exhaust system which must be of sufficient capacity (see par. 2-4)

**The machine can only be run indoors**

**The machine is designed for use in an industrial environment**

**The machine cannot be used in an environment where explosives are stored**

## CONDITIONS FOR USE

- \* do not use the machine in a different way from the one described above
- \* do not use the machine without safety guards foreseen for each job neither remove guide parts
- \* do not use the machine to process different materials from the ones indicated or pieces of different dimensions to the ones previously specified
- \* tools must not be used which are not in accordance with EN847-1 norms
- \* the user will be held responsible for damages due to the wrong use of the machine
- \* no alterations must be made to the machine
- \* in case of modifications carried out on the machine, the machine compliance statement is no more valid.

The user is responsible for the damages caused by the wrong use of the machine



## **FURTHER RISKS**

In spite of the observance of all safety norms and use of the machine according to instructions contained in this manual, the following further risks could be encountered:

- contact with tool
- contact with rotating parts (belts, pullies)
- kickback of workpiece or part of it
- danger due to inhaling dust when working without connection to dust exhaust
- danger of contact with parts switched on inside electric box when servicing

## **1-4A OPERATOR'S TRAINING**

All machine operators must be trained for the use, adjustment and operation of the machine.

In particular the operator's training should include:

- a) the principles for the right operation of the machine, correct use of safety guards
- b) the correct use of the pieces during the working.
- c) the position of the hands in relation to the blades before, during and after cutting operations  
The operator must be informed about the dangers which can occur during the use of the machine and the precautions to be taken. Besides this the operator must be trained to carry out periodical tests on guards and safety devices..

## **IMPORTANT**

The mains switch should be padlocked to avoid tampering with machine and the trained operator will be authorized to be responsible for the key.

**1-5 SPECIFICATIONS**

Table size .....	520x1000 mm
Working width .....	520 mm
Max. working height: .....	max.250 mm
.....	min 3 mm
Max. depth of cut in one stroke .....	8 mm
Min. length .....	220 mm
Min. width .....	10 mm
Cutterblock diameter .....	120 mm
Dimensions of the 4 knives .....	35x3x520 mm
Cutterblock speed .....	4500 rpm
Steplessly-variable feed speed .....	5/8/12/18 m/min
Auto-brake motor .....	5.5 kW
Net weight .....	650 kg
Suction hood diameter .....	150 mm

Dust exhaust system with air speed at 20 mt/sec. and 1000 cu. mt/h. air consumption must have the following specifications:

Exhaust air pressure of exhaust air hood of thickening planer under table ..... 745 Pa

## **STANDARD EQUIPMENT**

Read out of work thickness  
Aut-brake motor  
150 mm. diam. exhaust hood  
Sectional pressers infeed  
Powered raising of thicknessing table  
Infeed and outfeed protection straps  
Knife adjustment device  
4 knives  
Direct start of main motor  
Set of spanners for servicing  
Manual zero-star-delta starting

## **OPTIONAL**

Thicknessing table with 2 rollers and 1 top steel roller outfeed  
1st Sectional feed roller of steel  
Spindle with "TERSA" throw-away knives

**1-6 NOISE LEVEL**

Thickening planer: SP1		
Working: Thickening		
Reference norm: ISO 3746 + ISO/DIS 7960-95 /C		
	Idle without exhaust	In operation
Noise level dB W (A) [mW (A)] LW	82,5	92,4
Noise level level at operator station dB (A) [dB max] INFEED	70.3	78,8
Noise level level at operator station dB (A) [dB max] OUTFEED	72,0	78,4
Constant K = 2 [dB] according to pr EN 860 The values shown above are in a "free field" according to testing methods foreseen by norms in question.		

**ATTENTION:**

The noise values shown indicate level of noise emission and do not necessarily mean the level necessary for safe working. The relation between emission levels and expose levels may not be used to reliably determine whether further precautions are required or not. The factors which influence the real exposure level for the operator include the exposure time, the environment conditions, other sound emission sources e.g. the number of machines and other work being carried out nearby.

The expose levels may be different from country to country. Thanks to such information the operator can better evaluate the dangers and risks.

Some factors which reduce the noise exposure are:

- right tool selection
- correct speed selection
- machine and tool maintenance
- correct use of protections for ears

## 1.7 SAFETY RULES

- 1- Carefully read this manual before starting the machine
- 2- Only trained operators should use the machine
- 3- Training must include information regarding dangers which may be encountered when using the machine and the precautions to be taken
- 4- The operator must be trained regarding the correct use of guards and safety devices. Besides this the operator must be trained to carry out periodical testing on guards and safety devices.
- 5- The operator must never leave the machine unattended when it is running
- 6- The machine has been built to afford the highest degree of safety as well as top performance.
- 7- **The manufacturer will not be held responsible for any damages which may occur due to alterations made to the machine by the user.**

However final safety depends on you. Any machine tool can be potentially dangerous: do not forget it!

### PERSONAL SAFETY

- 1- **The operator must be provided with proper overalls e.g. double leather and synthetic material overalls (not supplied by Mini Max) to protect him from wood splinters**
- 2- **Experience teaches that there are various objects on a person that can cause injuries; take off rings, watches, bracelets; button your sleeves tightly around your wrists, take off ties that could be caught in several places, tie hair back using caps, elastics or hair pins.**
- 3- Always use glasses, or protective shields for your eyes
- 4- Use ear protection (ear phones, ear plugs etc.)
- 5- Use a mask to protect you from dust

### MACHINE SAFETY

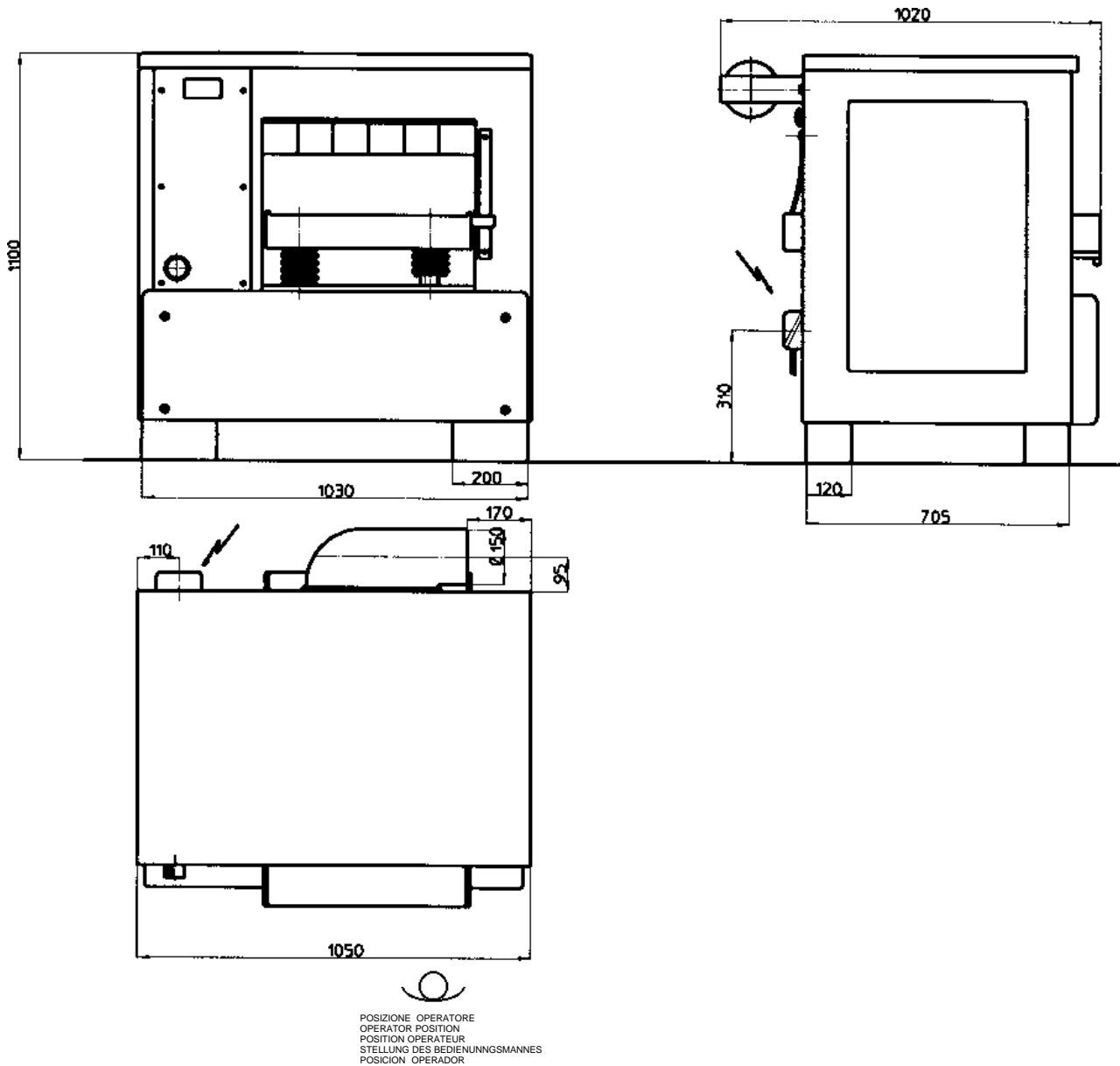
- 1- **Be extremely careful when starting up any work cycle**
- 2- **Before raising thickening table, make sure that there are no wood particles on the table**
- 3- **Make sure that no parts are on the worktable which are not required**
- 4- **Never process workpieces which are too small or too large for the machine.**
- 5- Knives which are not sharp reduce quality of finish and increase danger of kickback of workpieces.
- 6- Use tools in conformity with EN847-1 norms and suitable for manual feed.
- 7- **Tool adjustment must be carried out when the machine is switched off and using the proper device (e.g. gauge, comparator)**

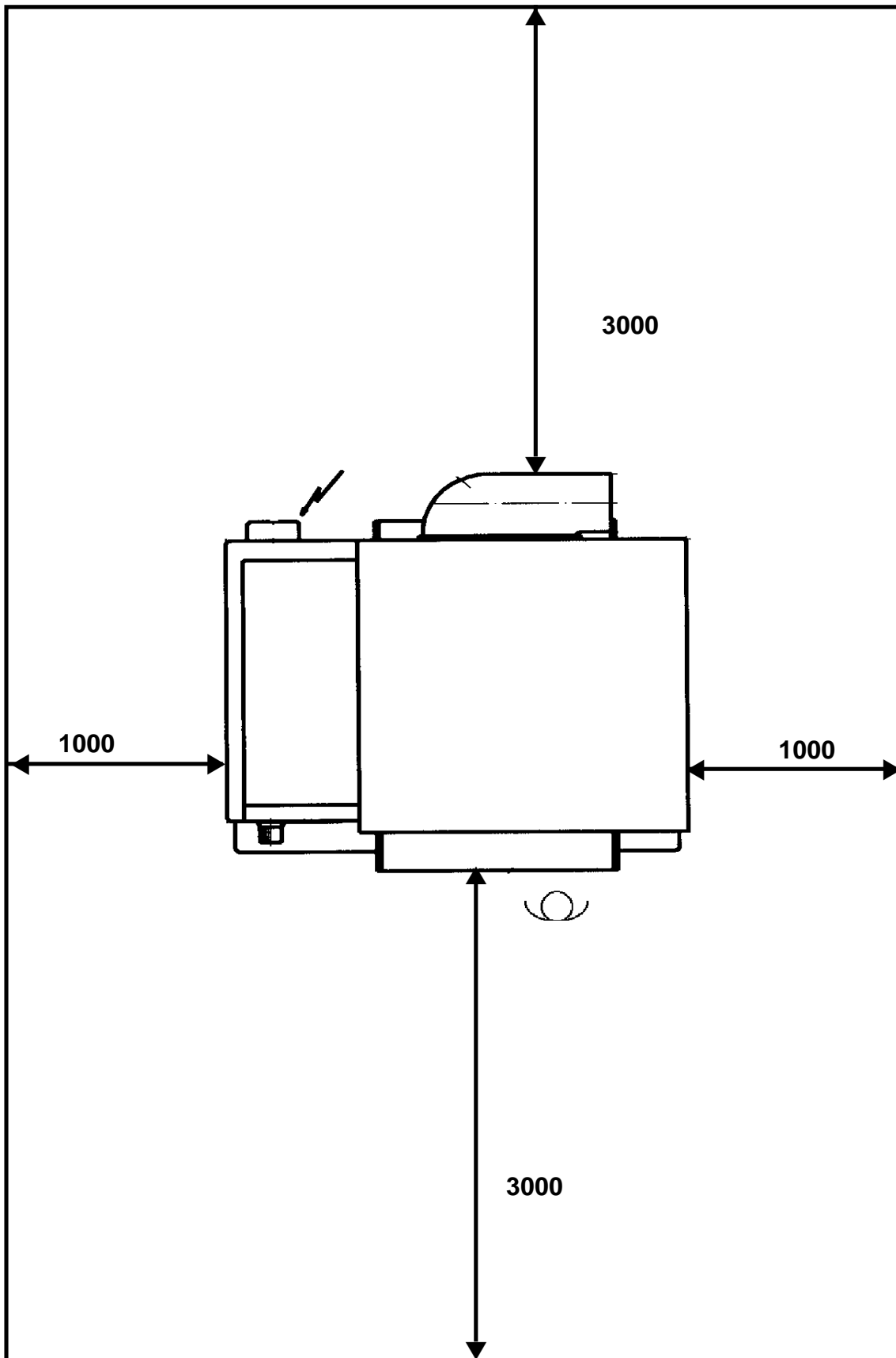
- 8- Dust hood must always be connected to dust exhaust system. Only start working when dust exhaust system has been switched on.
- 9- Working environment must be well lit and with sufficient space for working and servicing, so that there is no danger for operator and no possibility of slipping.
- 10- Start work only when cutterblock has reached the correct speed
- 11- Use roller or extension tables when processing long work pieces.

### MAINTENANCE SAFETY

- 1- If you stop the machine to carry out adjustments or to disassemble a component, **turn the main switch to zero, indicating this on a card and then padlock the main switch**
- 2- Stop the machine completely before proceeding with cleaning or before removing the guards for maintenance operations.
- 3- General cleaning of the machine (particularly the worktable) and the floor around the machine is an important safety factor.
- 4- Use proper gloves prescribed by safety norms when handling blades or knives.

1-8 OVERALL DIMENSIONS





The measures indicated are to be considered as the free room of the working area.





**SECTION 2**  
**INSTALLATION**

	<b>Page</b>
2-1 Machine unloading .....	2.2
2-2 Machine positioning .....	2.2
2-3 Electric connection and earthing .....	2.4
2-4 Connection to the dust suction system .....	2.6
2-5 Safety devices .....	2.6

## 2-1 MACHINE UNLOADING

Before unloading the machine take off all parts placed on it for packing and transport requirements. Raise the machine by a crane or other lifting means by hooking the slings as shown in fig. 2. Avoid jerking movements during lifting of the machine.

**Make sure that the crane, sling ropes or fork truck are of the same weight or more than that of machine.** Alternatively when the machine is supplied on pallet it can also be lifted by fork truck (fig. 2.2) by inserting the forks under the base, taking care not to overturn the machine.

## 2-2 MACHINE POSITIONING

Choose a well lit position (at least 500 LUX) suitable for the electric connection as well as the connection to the dust suction system and compressed air system if pneumatic adjustment (optional) has been requested.

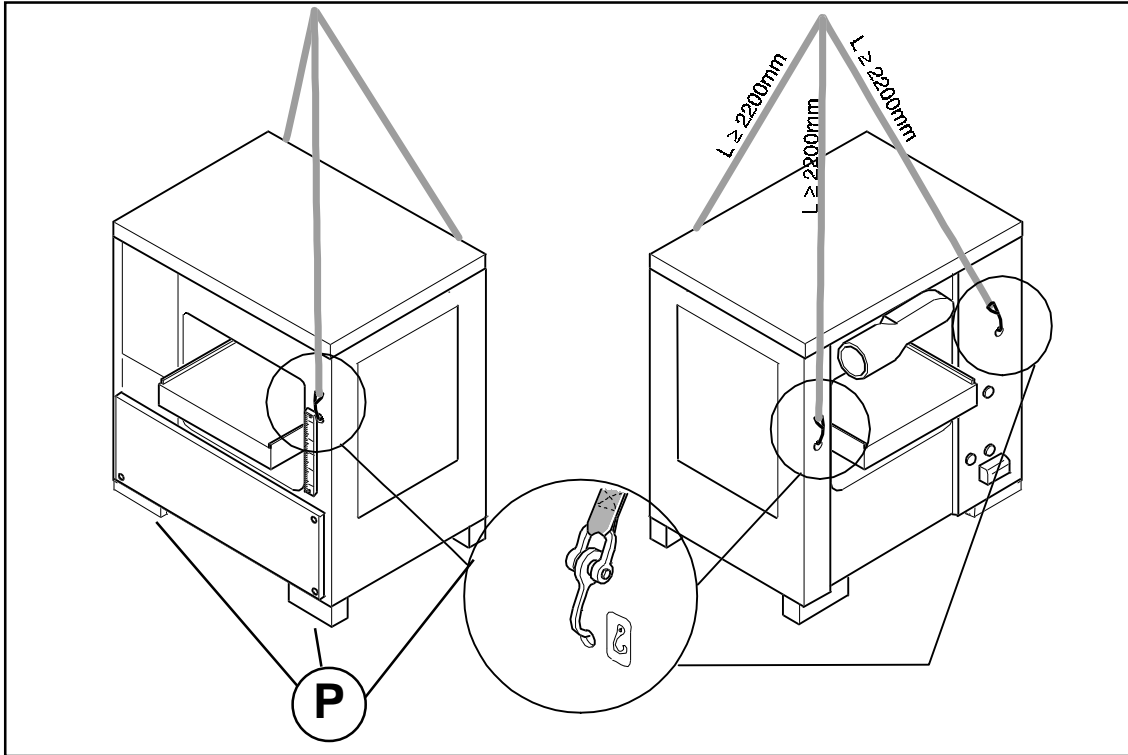
Make sure that there is sufficient space around the machine for servicing.

Make sure that the floor is solid: we recommend a concrete floor.

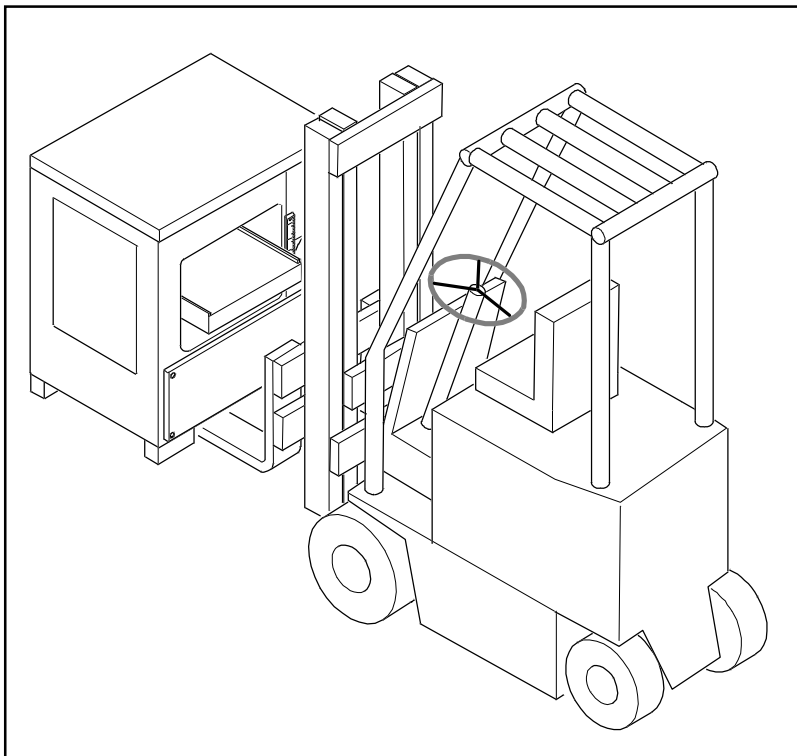
If it is necessary to level the machine insert the 4 screws M12 T.E under feet (P fig.2.2) then adjust the screws using a 19 mm wrench. We recommend to set steel plates with damping material between screws and floor.

If machine is required to be fastened to the floor insert the pivots of the 2 brackets (S fig.2.2a supplied in the accessory bag) into the holes on the machine frame then screw down the proper screws M10.

Before starting work carefully remove the grease from work areas and safety guards using a suitable diluent.



2.1



2.2



2.2a

## 2-3 ELECTRIC CONNECTION

The electric connection and checking shown here below must always be carried out by a skilled electrician.

Make sure that the power supply system of the workshop may absorb the machine power and the mains voltage corresponds to the voltage of the machine.

Where machine is connected up, the short-circuit current should be less than 10 KA.

NOTE: The right voltage is given on plate fig. 2.3.; tolerance range +/- 5%.


For voltage values out of this range you have to set the supply voltage.

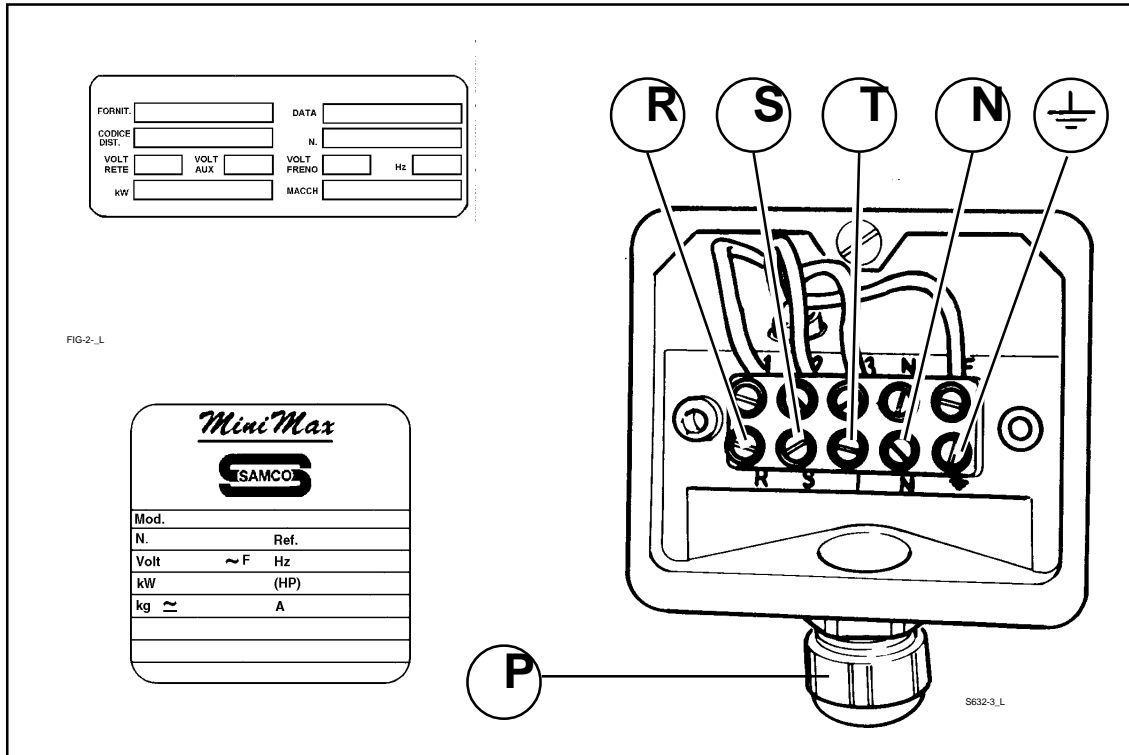
Read the value of total current absorbed (Ampere) on the machine identification plate (fig.2.3).

Use the table below indicated for selecting the cable section and fit "DELAYED INTERVENTION" fuses ahead of the machine

AMPERE ASSORBITI ELECTRICAL INPUT (AMPERE) AMPERES ABSORBES STROMAUFNAHME (AMPERE) AMPERE ABSORBIDOS	SEZIONE CAVI CABLE SECTION SECTION CABLE KABELQUERSCHNITT SECCION CABLES	mm <sup>2</sup>	FUSIBILI AM AM FUSE FUSIBLE AM SICHERUNGEN FUSIBLES AM
fino a/up to/ jusqu'à /bis 10.		2.5	12 A AM
da/from/de/von 10 a/to/à/bis 14		4.0	16 A AM
da/from/de/von 14 a/to/à/bis 18		6.0	20 A AM
da/from/de/von 18 a/to/à/bis 22		6.0	25 A AM
da/from/de/von 22 a/to/à/bis 28		10.0	32 A AM
da/from/de/von 28 a/to/à/bis 36		10.0	40 A AM
da/from/de/von 36 a/to/à/bis 46		16.0	50 A AM
da/from/de/von 46 a/to/à/bis 54		16.0	63 A AM
da/from/de/von 54 a/to/à/bis 76		25.0	80 A AM
da/from/de/von 76 a/to/à/bis 92		35.0	100 A AM
da/from/de/von 92 a/to/à/bis 110		50.0	125 A AM

Electrically insulate the machine and connect the 3 wires (phases) to terminals R, S, T (fig.2.3).

Connect the earth wire (yellow-green) to terminal (PE) (or ); if present connect neutral cable to terminal N. If the machine is connected with a moveably laid power supply cable, use a flexible rubber cable countersigned H07RN-F or A07RN-F. The coupling socket must be in conformity with DIN 49463 Norms as well as the international IEC309-1 or IEC309-2 ones. Tighten terminal screw (P fig.2.3); check that the cutterblock rotates in the opposite direction to workpiece feed after starting the machine as described in section 3



2.4

If the cutterblock does not rotate in the right direction proceed as follows:

- Shut off the power
- Interchange 2 phases on the terminal board
- Check the rotation direction again.

Note: A set of fuses is supplied in the accessory bag plus all documentation, wiring diagram and certificates

## 2-4 CONNECTION TO THE DUST SUCTION SYSTEM

Connection to the dust suction system is compulsory for the right operation of the machine.

Always work with main dust exhaust system running.

If plastic tubes are used these must be flameproof.

Exhaust manifold must be fitted externally to dust suction hood to avoid chips jamming.

The machine is equipped with a suction hood (C fig.2.4) that ends with a 150 mm fitting

The dust suction system must ensure a flow equal to 1000 m<sup>3</sup>/h at a flow speed at least of 20 m/s.

The right operation of the suction system reduces the risks due to dust inhalation and ensures the safe working.

Other factors which reduce the dust emission in the working environment:

Correct servicing of tools, machine and dust exhaust system

Correct ratio between cutting speed and feed speed

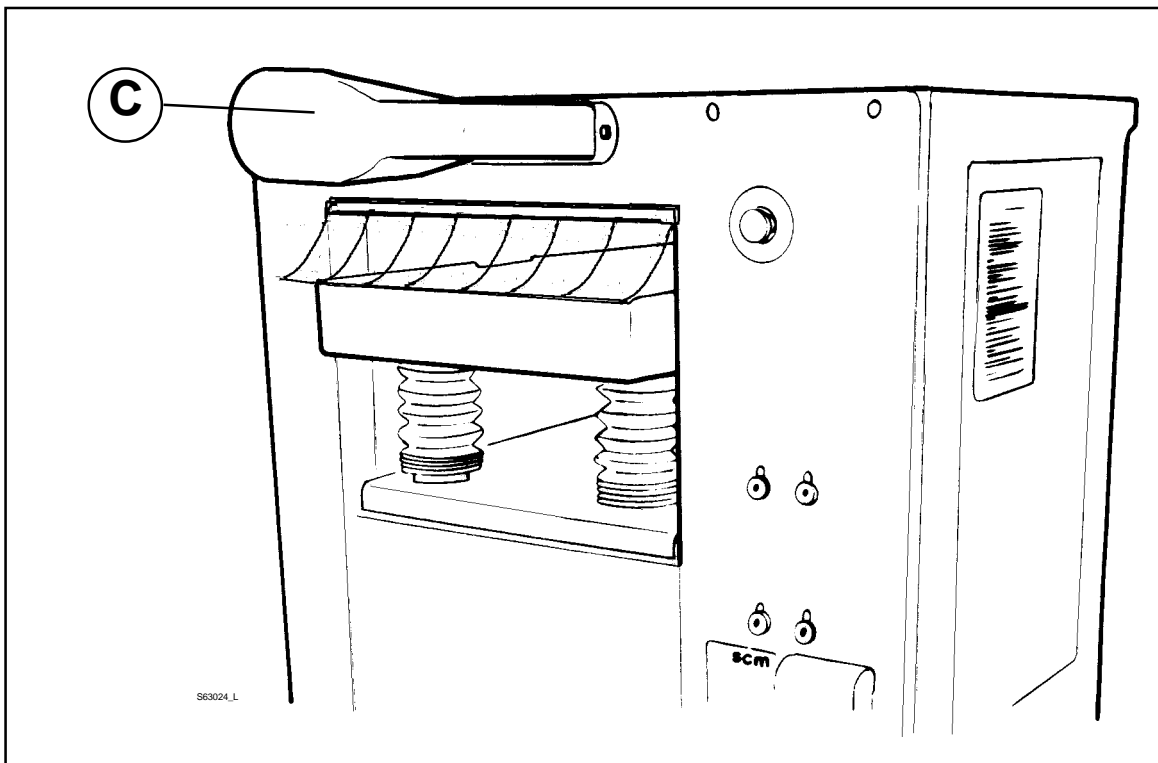
Correct adjustment of exhaust hood

Correct use of dust protections.

## 2-5 SAFETY DEVICES

Emergency pushbutton at outfeed

Safety micro-switch on exhaust hood



2.5

**SECTION 3  
CONTROLS**

	<b>Page</b>
3-1 Control board .....	3.2
3-2 Starting /stopping of machine .....	3.2
3-3 Access to the electric housing .....	3.2
3-4 Auto-brake motor .....	3.4




## 3-1 CONTROL BOARD

The control board elements are the following ones:

- A) Padlockable main switch
- B) Luminous selector to lock/release cutterblock brake
- D) Manual zero-star-delta starter
- E) Emergency pushbutton
- F) Fuses
- G) Emergency pushbutton outfeed
- H) Luminous button for vertical micro adjustment of worktable/spy light showing table locked in position
- L) Selector raising and lowering of thickening table
- M) Speed change lever

## 3-2 START/STOP OF MACHINE

To start the machine proceed as follows;

- 1- Make sure that the top hood (Z fig.3.3) is closed
- 2- Make sure that the emergency button is released, otherwise turn it in the direction of the arrow
- 3- Make sure that brake is released, selector (B) turned to 
- 4- Turn starter (D) from 0 position to to start position, after 8 seconds turn it to delta position

### To stop the cutterblock motor:

Turn starter (D) to 0

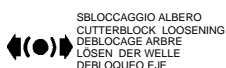
**It is forbidden to stop the motor by turning selector (B) to **

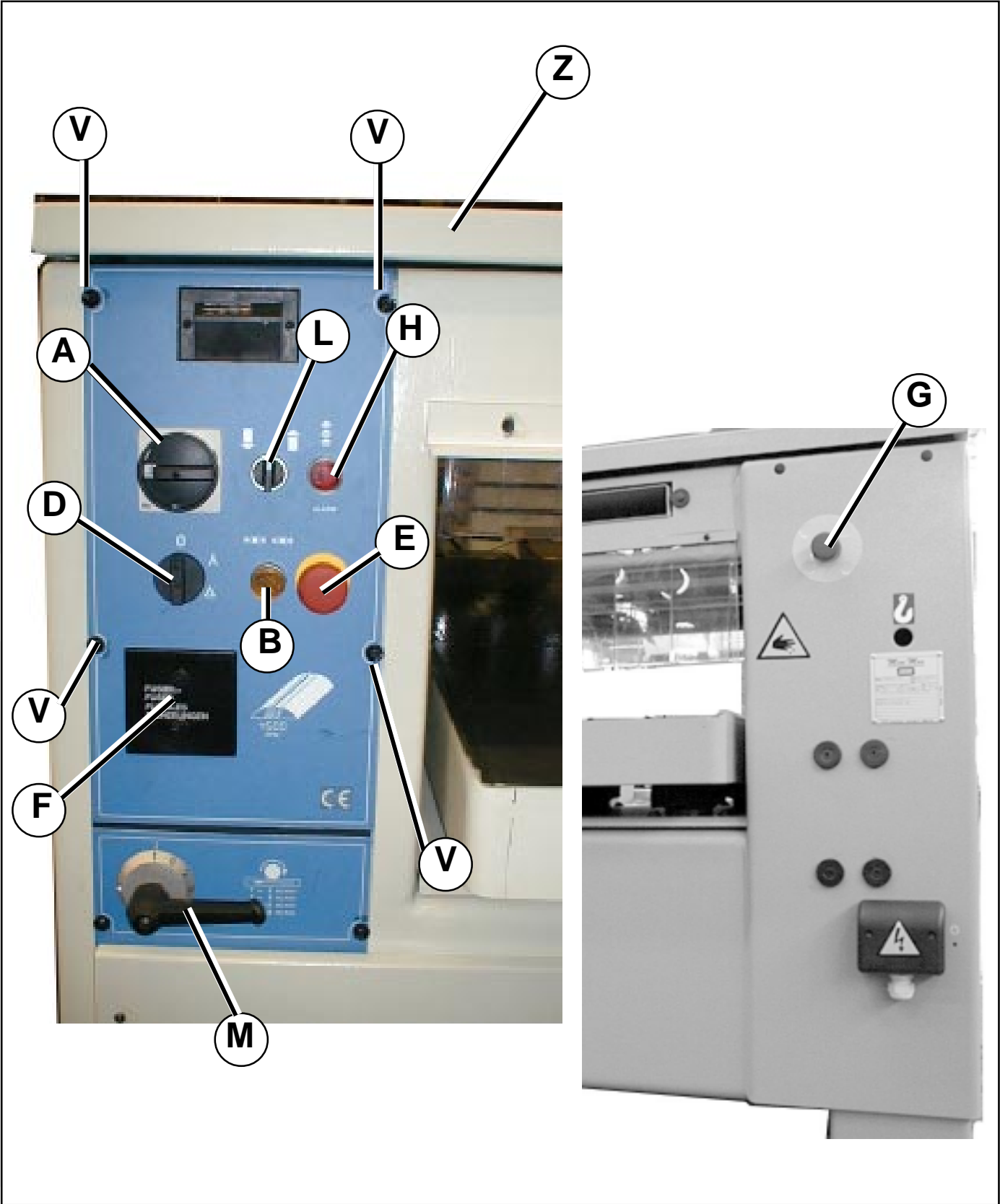
## EMERGENCY BUTTONS

In case of danger if you press the emergency button, any function of the machine is locked. Periodically press the emergency buttons to check whether they are efficient.

## 3-3 ACCESS TO THE ELECTRIC HOUSING


Access to the electric housing is only allowed to a qualified electrician after having turned the main switch to 0 (A fig. 3.1) and after having unscrewed screws (V fig. 3.1). Open the panel which is hinged at the bottom and held by a thin steel cable.







## 3-4 AUTO-BRAKE MOTOR


Spindle rotation is carried out by an electric auto-brake motor.

Under normal conditions selector (B) is turned to position 

When power is shut off by turning the mains switch to 0, the motor brakes automatically and remains braked until started up again.

In case of operations such as knife fitting etc. where the cutterblock must freely rotate, turn selector (B) to the position  and the pilot lamp (C) lights up: in this position the cutterblock can not be started

The motor can be started up again only if selector (B) is turned to  .

Note: if you turn selector (B) to  when the cutterblock is in operation, the brake immediately intervenes

Note: the material used for auto-brake motors does not contain any cancerous components.



**SECTION 9**  
**ADJUSTING THE THICKNESSING UNIT**

	<b>Page</b>
9-1 Automatic feed and change of speed .....	9.2
9-2 Powered lifting of thickness table .....	9.2
9-3 Adjustment of pressure rollers .....	9.4
9-4 Rollers on the table (OPT) .....	9.4
9-5 Safety guards .....	9.4
9-6 Knife adjustment .....	9.6
9-6 a Substitution of knives .....	9.8
9-6 b Substitution of throwaway tips (OPT) .....	9.8
9-7 Belt tension adjusting .....	9.8
9.7.1 Substitution of belts .....	9.10
9-8 Adjusting the chain tension .....	9.10

## 9-1 AUTOMATIC FEED AND CHANGE OF SPEED

To switch on the feed, turn lever (N fig.9.1a): carry out this operation with the machine running.

There are 4 feed speeds available: 5-8-12-18 m/min: there is an idle position between each other (feed standstill).

**WARNING:** *Never machine workpiece of length and thickness lower than the values permitted ( $L = 220 \text{ mm}$ ;  $\neq 3 \text{ mm}$ ), as in that case the system, which control the feed and the pressure on the workpiece, can not operate and causes dangerous conditions.*

## 9-2 THICKNESSING TABLE RAISING

**WARNING:** *Before lifting the thicknessing table make sure that there are no wood residues on the table, as in that case the system, which control the feed and the pressure on the workpiece, can not operate and causes dangerous conditions.*

To lift or lower the thicknessing table turn selector (M fig.9.1a) and the table will rapidly be displaced in the direction indicated by the selector.

Reach the right position with micrometric table adjustment by pressing button (L ) which enables slow motion adjustment only upwards.

Working measurement required must always be obtained by raising the table in order to take up slack between screws and lead nut.

Read out the working measure on scale (A fig.9.1) and on decimal indicator (I fig.9.1a).

The 2 screws on the limiting rod serve as top end stops; with the table totally up you get a working height corresponding to a piece thickness equal to 3 mm.

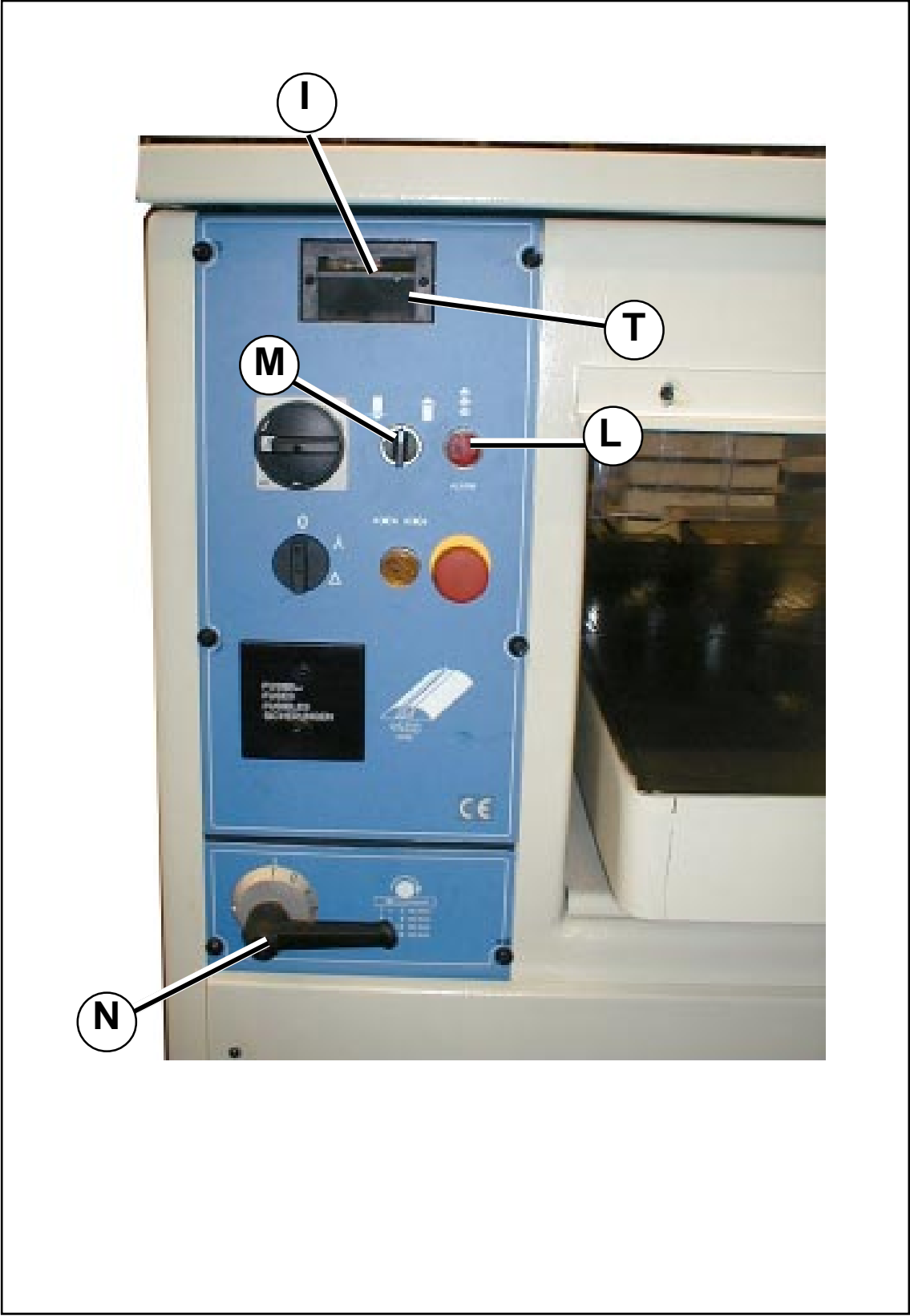
When the table is locked against the bottom/top mechanic stops or against the workpiece, the red pilot lamp (ALARM) (L fig.9.1a) lights up and raising movement is blocked.

Reverse the feed direction by selector (M fig.9.1a) to reset the normal working conditions.

If the measure given by indicator (I fig.9.1a) does not correspond to the real thickness of the finished piece insert a small screwdriver into hole (T fig. 9.1a), lightly press and turn clockwise to increase the decimal value of the measure indicated; turn counterclockwise if you shall decrease this value.



9.1



9.1a

## 9-3 ADJUSTMENT OF PRESSURE ROLLERS

The spring pressure of the feed rollers is adjusted at factory during testing of machine to ensure perfect feed of workpiece.

Only in some cases intervene on bushes (B fig.9.2) with a 6 mm Allen wrench.

Uniformly adjust the spring pressure of the same roller.

## 9-4 ROLLERS ON THE TABLE OPT

To adjust the projection of the rollers from the table operate on lever (D fig.9.2a), then read out the adjusting measure on plate (C).

## 9-5 SAFETY GUARDS

Anti-kickback fingers working with pieces of different thickness prevent the workpiece to be thrown back towards the operator, thus providing an effective protection.

Before starting the working check that the fingers can rotate smoothly around their support shafts.

To prevent binding or jamming of some fingers, always keep clean them clean by removing the shavings jammed in the fingers with compressed air.

Remove resin residues by washing the unit with a brush and turpentine: then dry with compressed air.

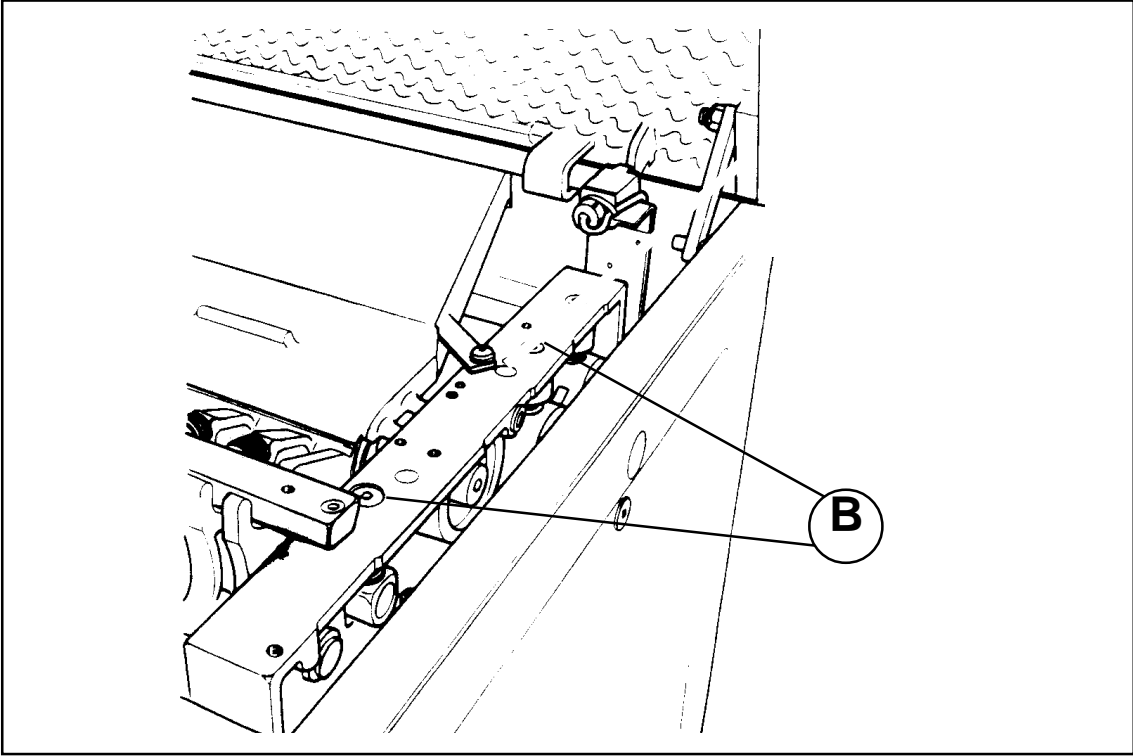
**NEVER OIL OR GREASE THE ANTI-KICKBACK FINGERS**

**Do not use the machine if the above points have not been observed.**

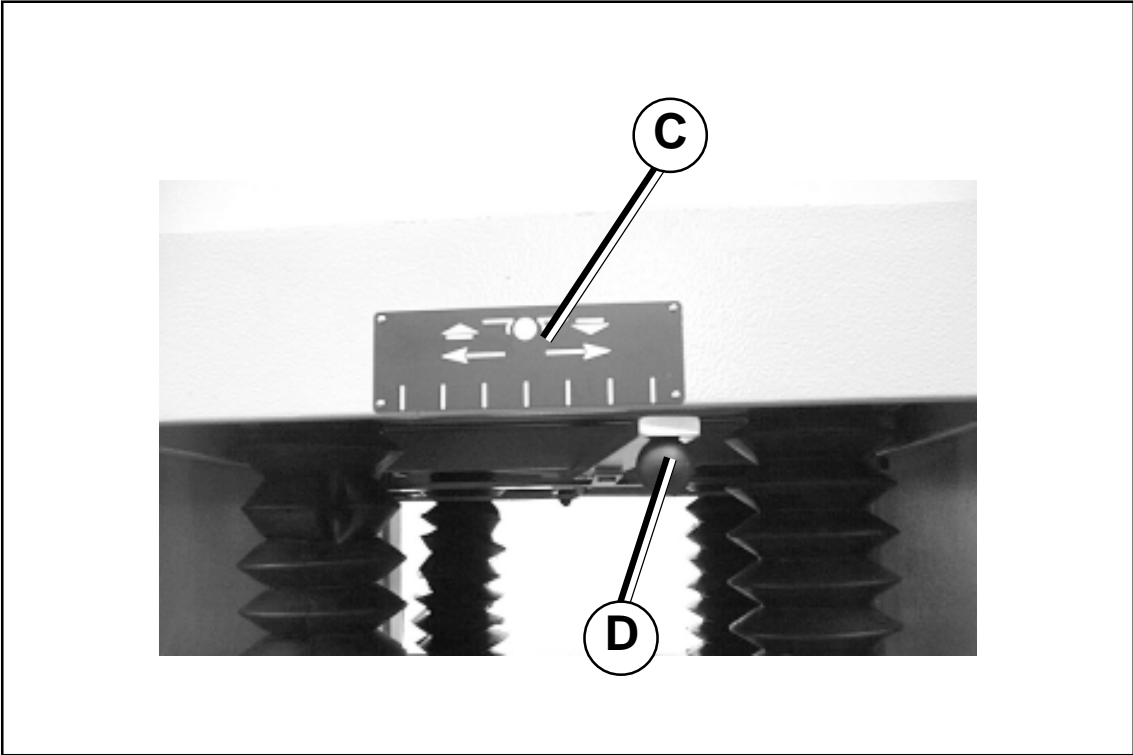
Guard (A fig.9.3) covers the tool and must always be positioned as shown in fig. 9.3 when working.

## SAFETY WARNINGS

- Periodically press emergency button (placed outfeed) to check its efficiency.
  - Check that motor brake stops cutterblock in a maximum time of 10 seconds; if this is not the case see Section 18.1 to adjust
- Do not process wood pieces with clefts, knots etc.
- Do not feed boards with different thickness at the same time (except in the case of machines fitted with optional sectional roller).
  - Select the feed speed according to the piece width and the depth of cut.
  - Make sure that the feed rollers are free to rise in the right way.
  - **Never stand in front of the machine infeed side during machining and do not try to look inside the machine: the danger of splinters being ejected is always possible.**
  - **Never put your hands inside the machine to remove chips or splinters when the machine is running.**
  - **When a piece is locked in the machine, stop the cutterblock, lower the table, take off the piece.**
  - Do not try to carry out depth of cut larger than the one specified.



9.2





9.2a



## 9-6 KNIFE ADJUSTMENT

*NOTE: Always wear gloves when handling knives and cutterblock*

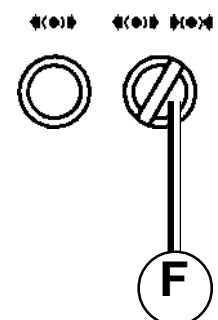
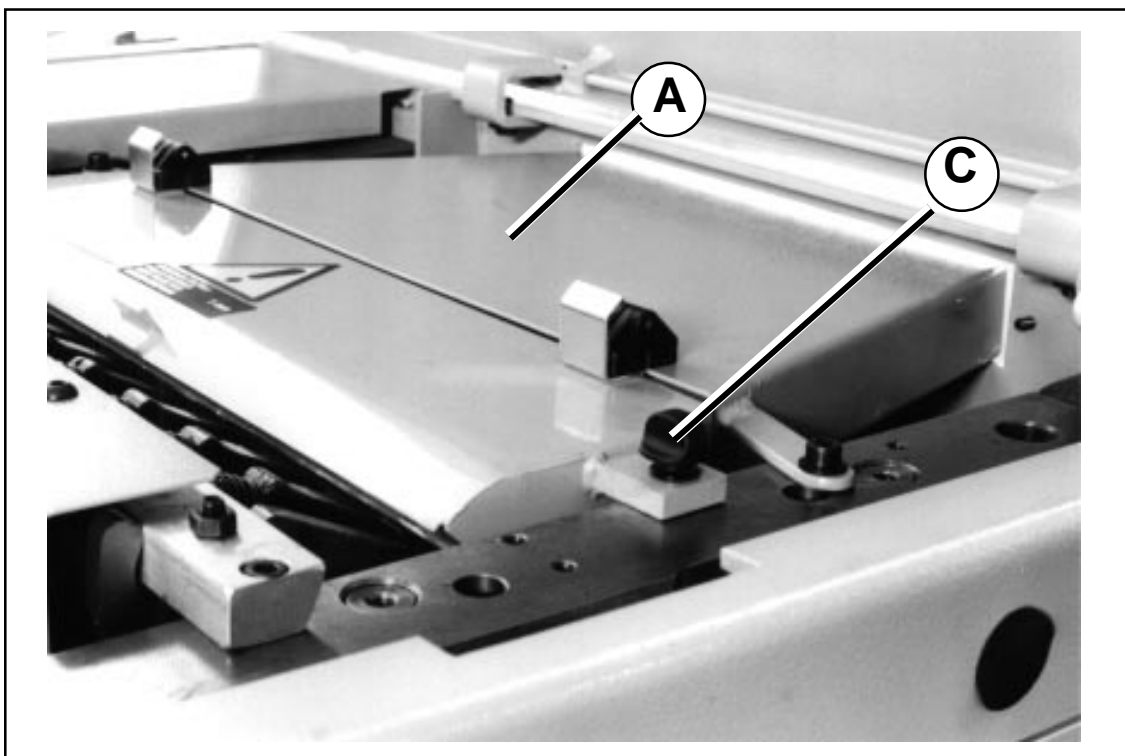
For adjusting the knife projection proceed as follows:

- 1) Open the top hood (D fig.9.3)
- 2) Unscrew knob (C fig. 9.3.)
- 3) Remove guard (A fig.9.3)
- 4) Turn selector (F fig. 9.3) to  to release motor brake
- 5) Rest knife setting gauge (B fig.9.4) on the support and fasten it with knobs (P fig.9.4).
- 6) Manually turn the cutterblock and insert pivot (E fig.9.4) into the groove between gib and cutterblock.
- 7) Fully loosen screws (T fig.9.5): in this way the knife is pushed against the 2 screws (V fig.9.4) by the springs in proper seats on the cutterblock.
- 8) Tighten all screws (T fig.9.5) beginning from the central screw, then alternately tighten the other ones.
- 9) Carry out the same operation for all other knives.
- 10) Turn selector (F fig. 9.3.) to  to block motor brake

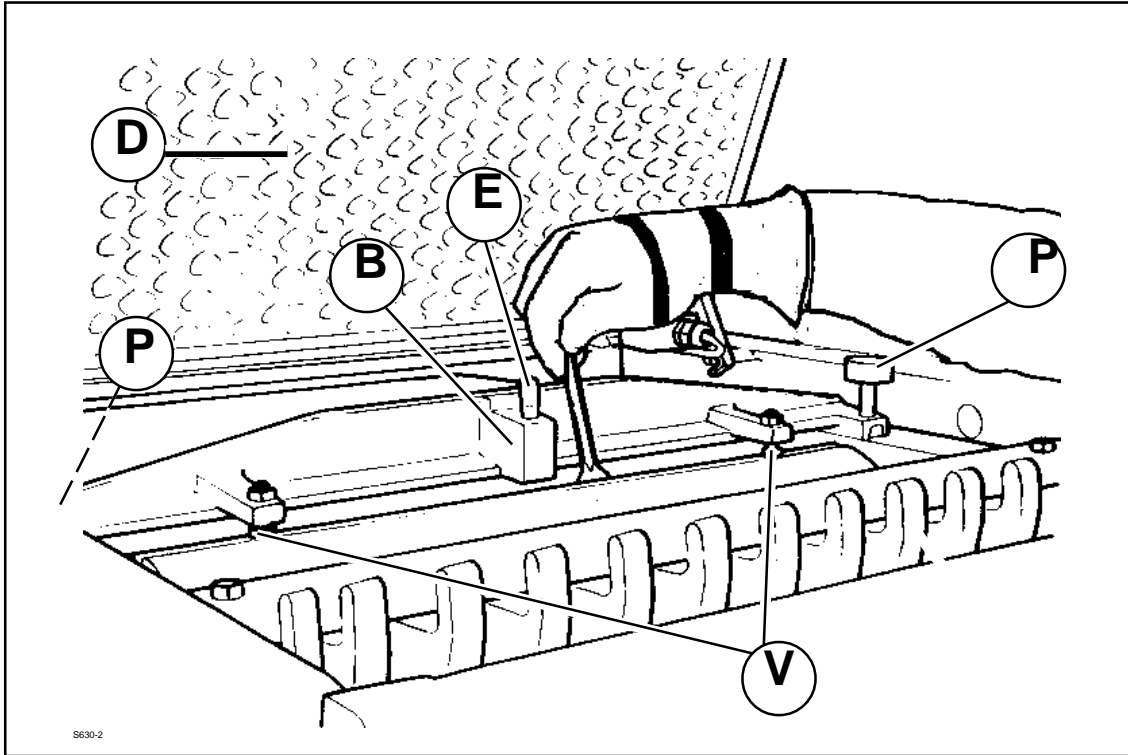
*NOTE: max.knife projection from the cutterblock: 1 mm.*

### IMPORTANT

**Keep the knives and gibs always clean to ensure the best performance of the machine.**  
**Remove resin residues, sawings and chips with a hard bristle brush and a suitable diluent.**  
**Never use other different products or synthetic solvents.**  
**With a strong jet of compressed air remove dirt then dry each part.**  
**Clean the worktable with a dry cloth.**

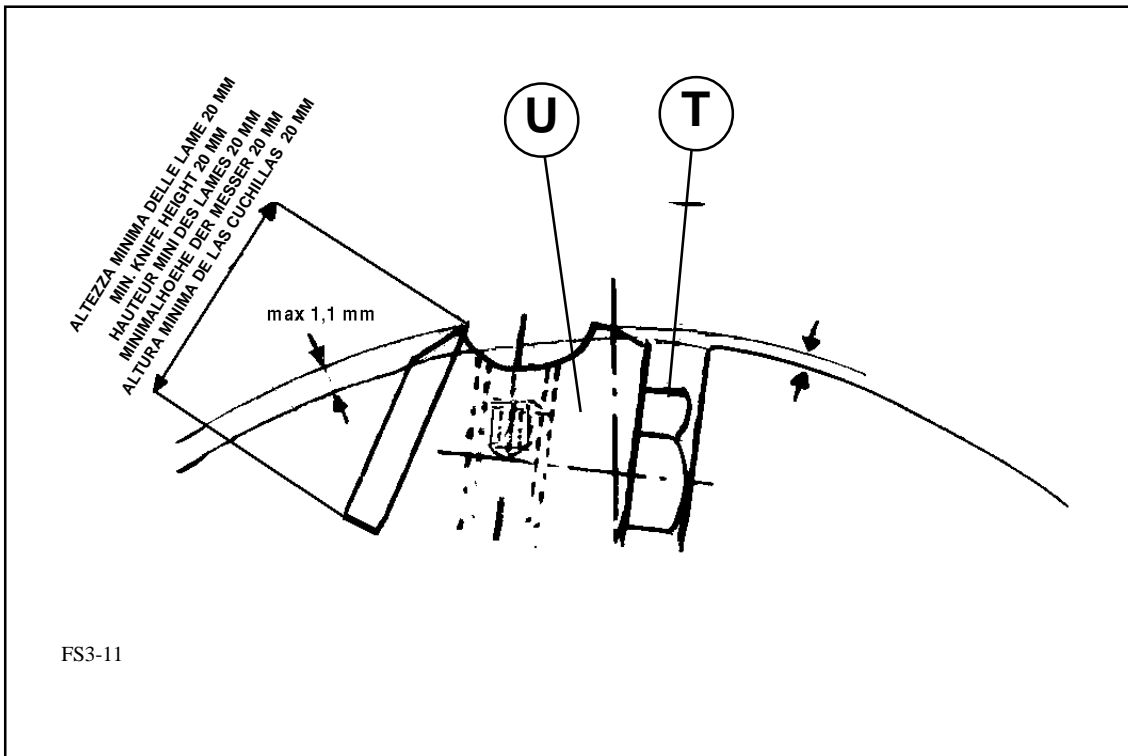


9.3



S630-2

9.4





ALTEZZA MINIMA DELLE LAME 20 MM  
MIN. KNIFE HEIGHT 20 MM  
HAUTEUR MIN DES LAMES 20 MM  
MINIMALHÖHE DER MESSER 20 MM  
ALTURA MINIMA DE LAS CUCHILLAS 20 MM

FS3-11

9.5

## 9-6A SUBSTITUTION OF KNIVES

- 1) Stop the machine
- 2) Open the top cover (D fig. 9.3)
- 3) Unscrew knob (C fig. 9.31)
- 4) Raise guard (A fig. 9.3)
- 5) Turn selector (F) to  to release motor brake
- 6) Completely loosen screws (T fig. 9.5)
- 7) Remove knife and substitute or grind
- 8) Fit knives and adjust as mentioned in the previous paragraph
- 9) Turn selector (F) to  to lock motor brake

**SAFETY NOTE:** knives can be ground down to a min. height of 20 mm (fig. 9.5). Once this has been reached knives must be substituted

## 9-6B SUBSTITUTION OF THROW AWAY TIPS OPT

- 1) Stop the machine
- 2) Open the top cover (D fig. 9.6a)
- 3) Raise guard (1 fig. 9.6) loosening fixing knob (B)
- 4) Release motor brake as described in paragraph 3-3
- 5) Rotate cutterblock until knife to be substituted is on top
- 6) Release gibs by lightly pressing with a wood or plastic mallet
- 7) Remove cap (T fig. 9.6)
- 8) Push knife outwards by means of a screwdriver
- 9) Using gloves, get hold of the knife and remove it by passing through hole (F fig. 9.6)
- 10) Insert the new knife or the old one turned round, centering it perfectly according to length
- 11) Re-fit tap (T fig. 9.6)
- 12) Lock motor brake
- 13) Lower guard (1 fig. 9.6)

## 9-7 BELT TENSION ADJUSTING

During the first period of use of the machine check the set of the belts in the pulley race and the unavoidable reduction of belt tensioning.

After the first days of use, stretch the belts without exaggerating otherwise the bearings of the motor and cutterblock could be damaged.

At least 3 times a year check the belts to reset the right tension.

**Before adjusting the tension, turn the main switch to zero and indicate this on a card.**

To reach the belts remove side cover (F fig.9.6a).

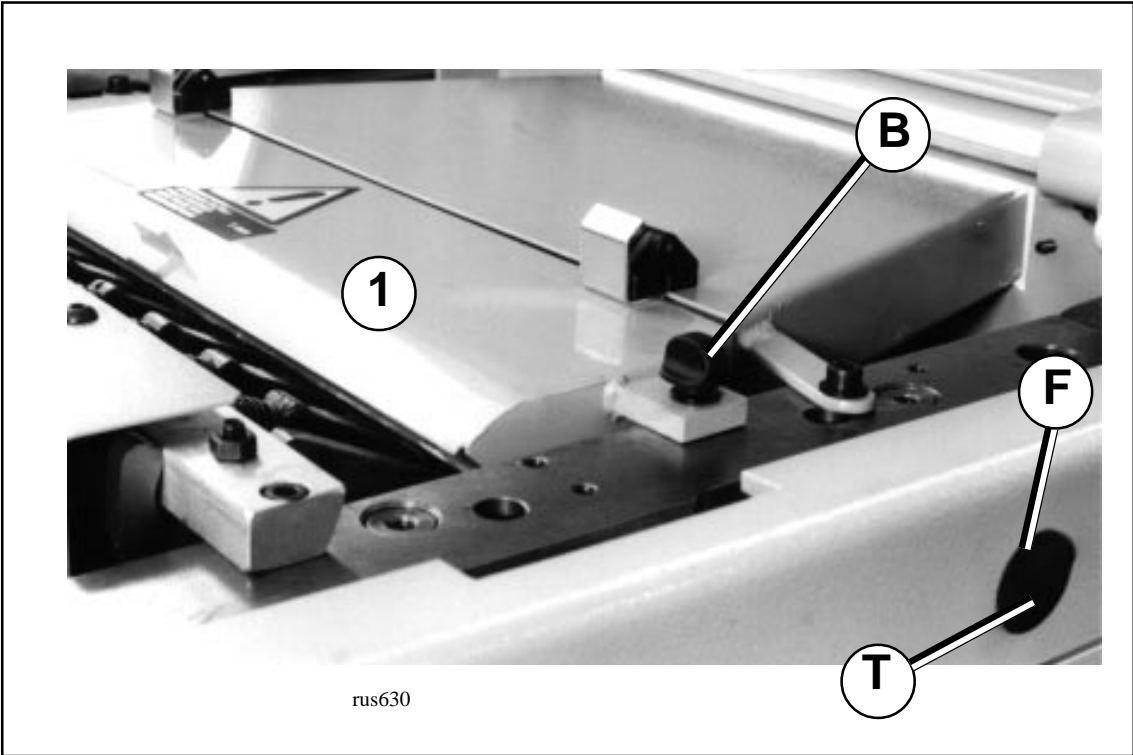
To stretch the belts loosen screw ((Z fig.9.7) and move the motor downwards, then screw down screw (Z).

If only one belt is worn or too long, replace all belts.

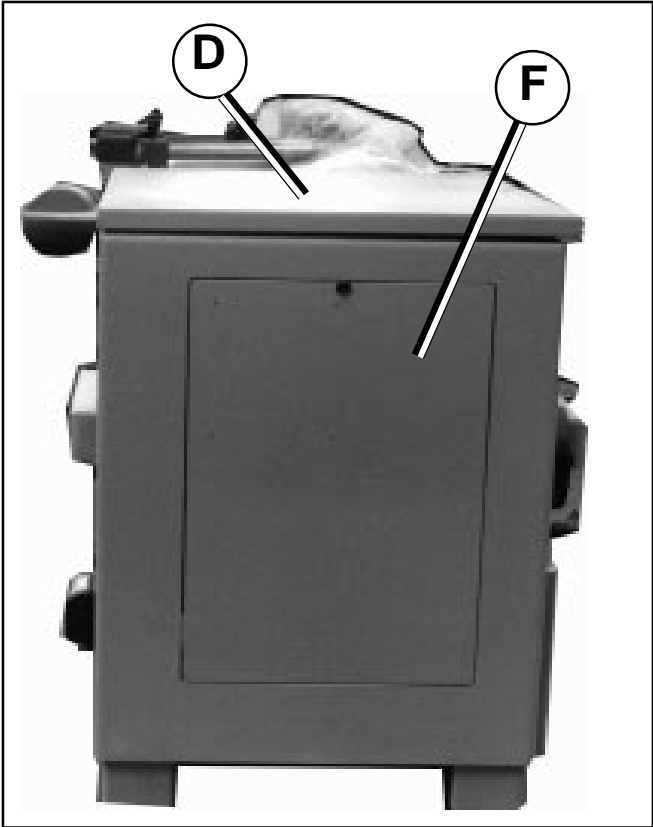
Never pair belts of different makes together.

Never use a worn belt and a new belt together as the new one would be damaged in a very short time.

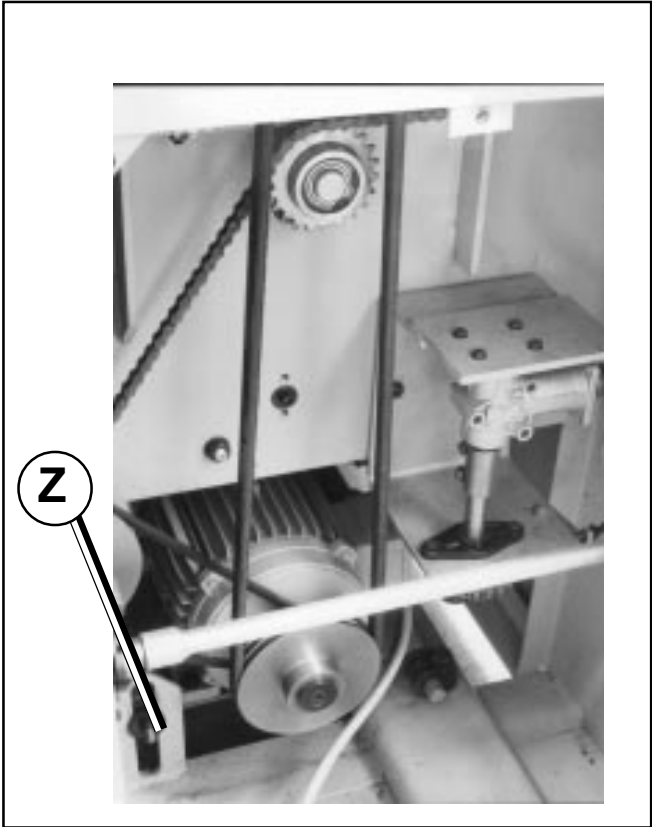
The belt tension is right if by exerting a force of about 3 kg on the middle of the belt it gives by 10 mm



9.6



9.6a



9.7

## 9.7.1 SUBSTITUTION OF BELTS

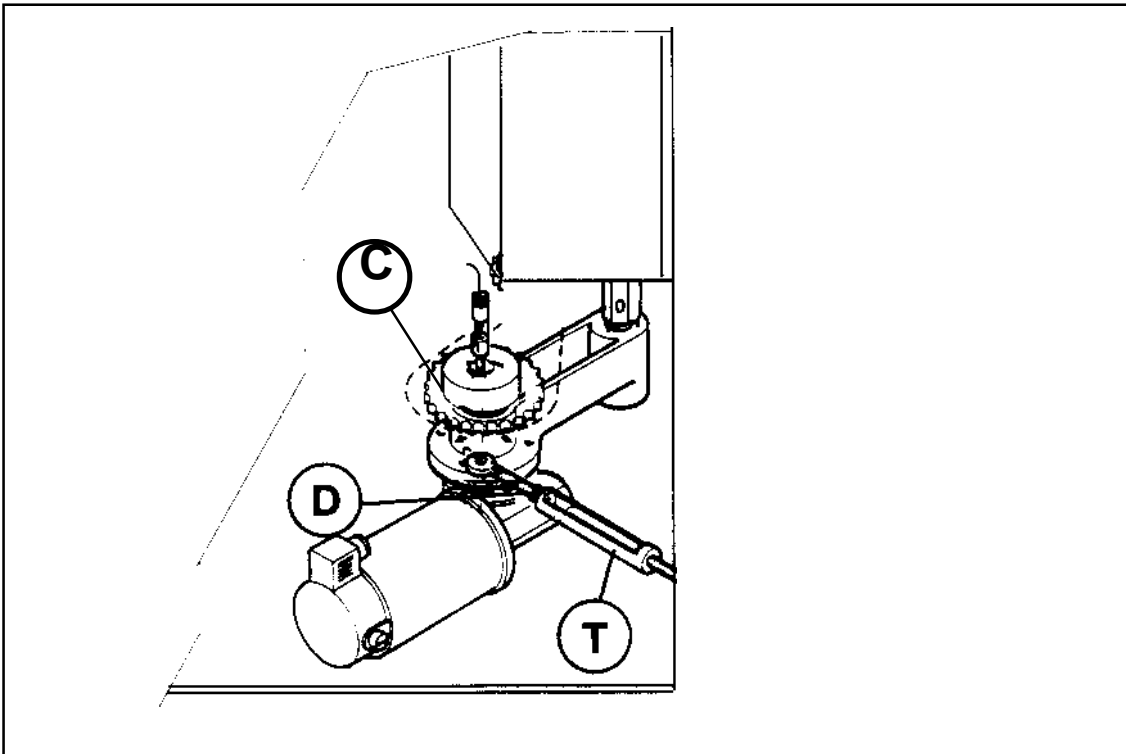
Before substituting belts, turn switch to zero and write this on a card.

- 1) Remove cover (F fig.9.6)
- 2) Loosen screw (Z fig.9.7)
- 3) By using a lever lift the motor and keeping it in this position withdraw the worn belts, then fit the new ones.
- 4) Lower the motor and screw down screw (Z fig. 9.7)
- 5) Stretch the belts as previously described.

## 9-8 ADJUSTING THE CHAIN TENSION

After the first 40/60 working hours check the tension of the chain (C fig.9.7).

- Turn main switch to 0 and hang a sign indicating it.
- Take off side cover (F fig.9.6)
- If necessary loosen counternut (D fig.9.8)
- stretch the chain by tie rod (T fig.9.8).
- tighten counternut (D).



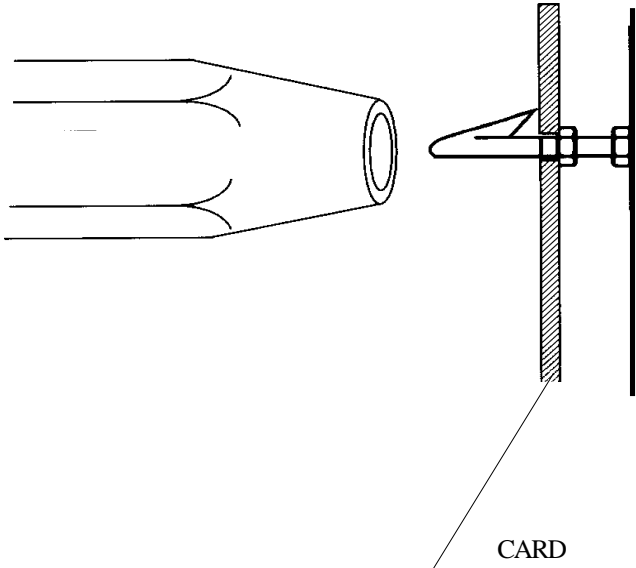
9.8

**SECTION 18**

**CMR CARD**

**18-1 HOW TO REPLACE THE CARD DRIVE OF D.C. MOTORS**

- 1) Cut out the power by means of main switch QS on the electric cubicle.
- 2) Open the door of the electric cubicle after unscrewing the screws and free the access to the card arranged in the electric box.
- 3) Take off the card from the 4 plastic supports by bending the locking tooth: we recommend to use a small plastic pipe of proper diameter (e.g. a body pen see fig. 18.1).
- 4) Withdraw the 3 connectors present on the card.
- 5) Connect the new card according to the wiring diagram, fasten the card to the door of the electric box, shut it to put the machine under voltage.
- 6) If the correct spare card is used no other adjustment is necessary; otherwise carry out the instructions attached where operation and methods of adjustment of the cards is fully explained



18.1



## 18-2 SEPRI CMR06 CARD FOR D.C MOTOR CONTROL

Operations required :

- **To check the conditions for the right working of the card;**

voltage values required:

- 36 V a.c between terminals 1 and 2 of 10-terminal board with 10 terminals

If the fuse is okey, these are the conditions to obtain the voltage of 24 V d.c at the output between terminals 1 and 2 of the terminal board with 10 terminals by sending high voltage 110 V to channel A or B of the terminal board with 8 terminals.

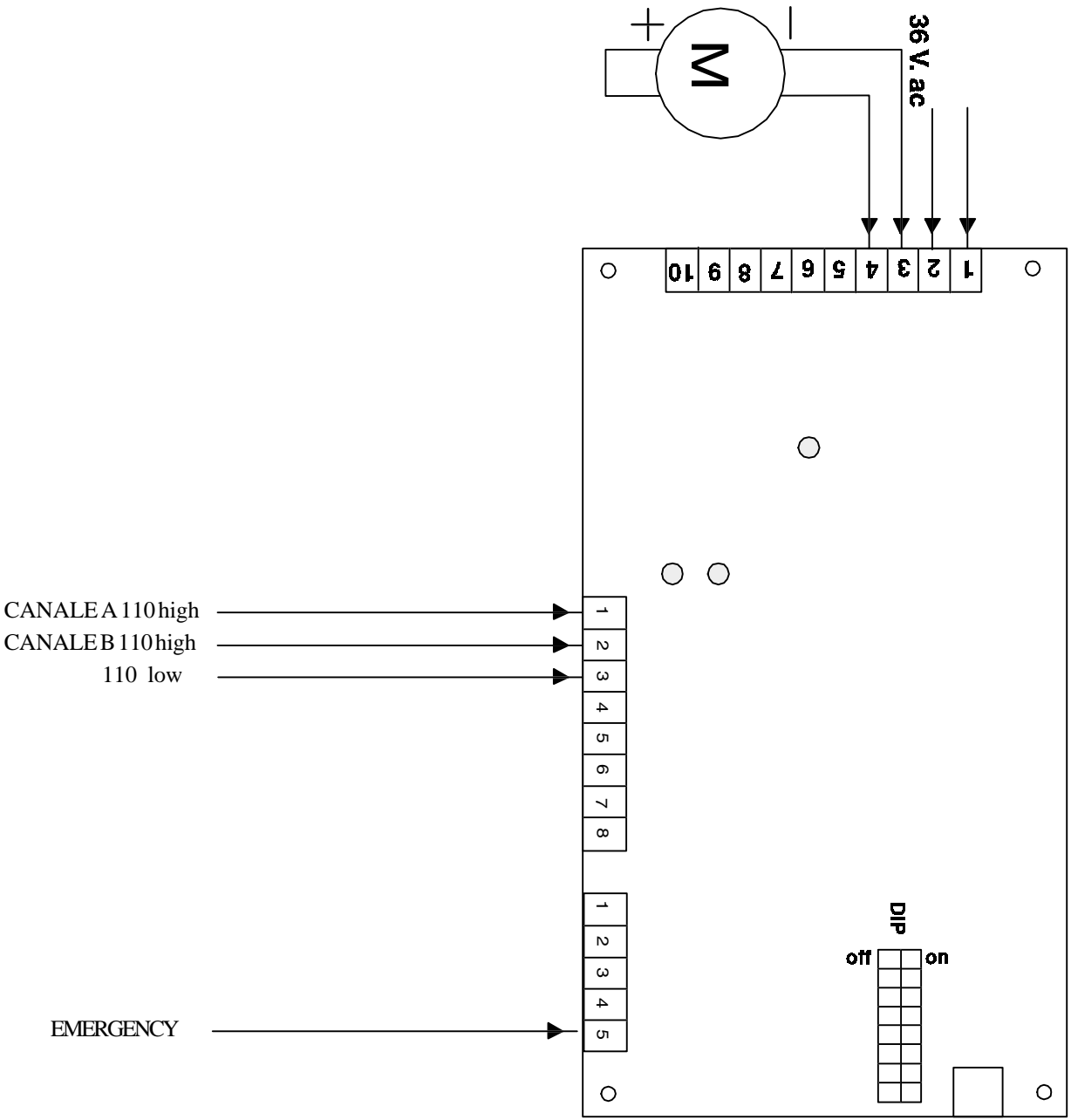
Otherwise replace the card and send the defective one to SCM Technical Service .

3 leds are present on the cards:

- red light lit: card fuse interrupted
- green light lit: motor overload cutout intervention
- yellow light lit: motor overload cutout intervention.

Vda = Volt (alternate current)

Vdc = Volt (direct current)





**SECTION 19**  
**AUTO-BRAKE MOTOR**

## 19-1 AUTO-BRAKE MOTOR

At least every 2 months or 500 stops, check and adjust the electromechanic braking device illustrated in fig.19.1. Before carrying out any intervention on the motor, shut off the power by turning the padlockable main switch to 0.

### Electromagnet brake clearance

Distance between electromagnet and mobile core is called “air gap” and is adjusted during device construction. Adjustment is required only in case of replacement of mobile core having glued to its surface a brake disk of friction material being subject to wear .

Wear limit of friction disk is 3 mm.

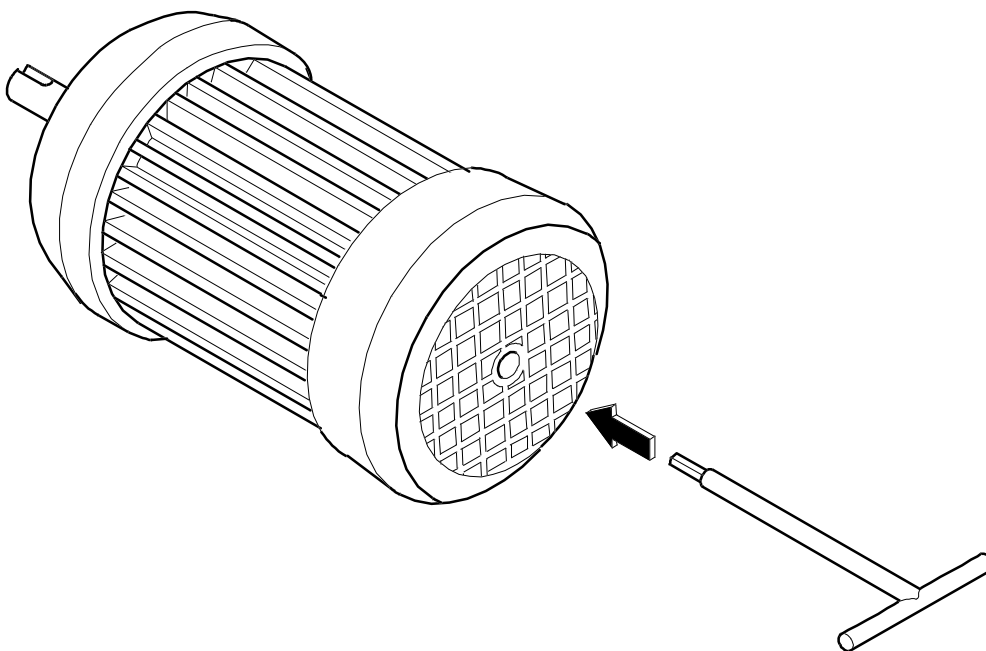
Replacement is to be carried out only by technicians of SCM dealer.

### Adjustment of braking unit

Braking efficacy reduction can be noticed by the increase of the time required to fully stop the cutterblock/spindle (max. time 10 seconds) in case of tool of max. size and at the maximal permitted speed.

To reset the best braking torque proceed as follows:

- insert an 5-6 mm Allen wrench into the hole on cover for the fan in order to reach the adjusting screw.
- progressively screw down screw in order to join the mobile elements and to eliminate distance (brake clearance).
- unscrew screw by min. 1/4 turn (max. 1/3 turn) (corresponding to about 0.4mm air gap)
- start and stop the motor a few times to check the correct running.



**SECTION 20**  
**MAINTENANCE**

	<b>Page</b>
20-1 Machine cleaning .....	20.2
20-2 Periodical Lubrication .....	20.2
20-3 Removal - Storing - Demolition .....	20.2
20-4 Emergency situations .....	20.2
20-5 Trouble shooting guide .....	20.3

## 20-1 MACHINE CLEANING

A good maintenance ensures the long life and the best performance of the machine.  
The general cleaning of the machine as well as of surrounding floor is an important safety factor.

*Note:*

*If you stop the machine to carry out some adjustment or to take off a machine part, turn main switch to zero and indicate so with a sign, then lock the main switch.*

Every evening at the end of work carefully clean the table, cutterblock, anti kickback fingers and the cavities where you can see dust and chips with compressed air.  
Make sure that the motor housing is free from chips.

## 20-2 LUBRICATION

All bearings of the machine are sealed and lubricated for life, therefore they do not need any lubrication.  
Weekly oil the chain which transmits the motion to the feed rollers.  
Monthly oil the chain for table lifting.

## 20-3 REMOVAL - STORING - DEMOLITION

Disconnect machine from mains to remove it. Follow instructions given previously for lifting the machine.  
If the machine is to remain unused for some time, disconnect it from mains, thoroughly clean it as described above and protect worktables and cutterblock from rust. Do not store the machine in a damp environment. The machine has been manufactured using materials which are not toxic. In case of demolition separate the metal parts from the plastic ones.

## 20-4 EMERGENCY SITUATIONS

If **flooding** of the working environment occurs, immediately shut off electric power. Before starting to work again, the machine must be checked by a skilled technician.

If there is a **fire** immediately shut off electric power and use fire extinguisher at the base of the flame.

Even if it seems that the machine has not undergone any damage, it must be checked by a skilled technician before starting work again.

As already stated in par. 1-7 there must be sufficient space around the machine to enable the operator to quickly get away in case of danger.

Once again it is underlined that the machine must not work in an environment where explosives are stored.

## 20-5 TROUBLE SHOOTING GUIDE

This section gives some solutions to problems which may arise during machine use. Only intervene after having thoroughly read the contents of this manual. For any further problems not included herein please contact the SCM Technical Assistance Department.

---

### TROUBLE

The machine does not start

#### CAUSE

No power on one phase or more phases

Fuses of auxiliary circuit to protect the transformer interrupted or housing of fuses open

Emergency button on

Top hood open

Magnetothermic switched off

#### WHAT TO DO

Make sure that the 3 phases are hot

- 1- Close the housing; if the machine does not start:
- 2- Open the housing
- 3- Check the fuses; if required replace them (a set of fuses is supplied in the accessory bag)

Switch off the emergency button by turning it

Close the top hood to action safety micro switch

Re-set magnetothermic placed inside electric housing

---

### TROUBLE

The machine stops during the working

#### CAUSE

No power on one phase or more phases

Fuses of auxiliary circuit interrupted or housing of fuses open.

Too heavy duty working for the motor power or bad working conditions

#### WHAT TO DO

Make sure that the 3 phases are hot

- 1- Close the housing; if the machine does not start, open the housing and check the fuses; if necessary replace them (a set of fuses is supplied in the accessory bag).

Wait until the motor overload cutout placed inside electrical cabinet is cool. Reset it after some minutes. Check the cutterblock knives, grind or replace them.



---

**TROUBLE**

The thickening table does not move

**CAUSE**

The nylon slide blocks are dirty (dust and resin residues), after lifting a few millimeters the red pilot lamp lights up.

CMR card is faulty

**WHAT TO DO**

Carefully clean the slide blocks and slideways; check the chain.

Check as indicated in SECTION 18 point 1 or replace the card

---

**TROUBLE**

The piece is not fed

**CAUSE**

Feed speed not right  
The thickening table is set to a height more than the piece thickness

**WHAT TO DO**

Select the right speed (see par.9-1)  
Set the thickening table to the right height: see THICKENING TABLE RAISING.

Rupture of the belt receiving the motion from main motor

Apply to Technical Service of the Area dealer.

Rollers pressure not sufficient

Adjust the rollers (see par.9-3)

---

**TROUBLE**

The motor is running but the cutterblock stops when it touches the piece.

**CAUSE**

The belts between motor pulley and cutterblock are loose

**WHAT TO DO**

Stretch the belts see: par.9-7