# Z15 - Z32 - Z45

## SEZIONATRICI AUTOMATICHE
## AUTOMATIC PANEL SAWS
## SCIES PANNEAUX AUTOMATIQUES
## AUTOMATISCHE AUFTEILSÄGEN

**ENGLISH**

## USO E MANUTENZIONE
## OPERATION AND MAINTENANCE
## FONCTIONNEMENT ET ENTRETIEN
## BETRIEBS- UND WARTUNGSANLEITUNG

scmi
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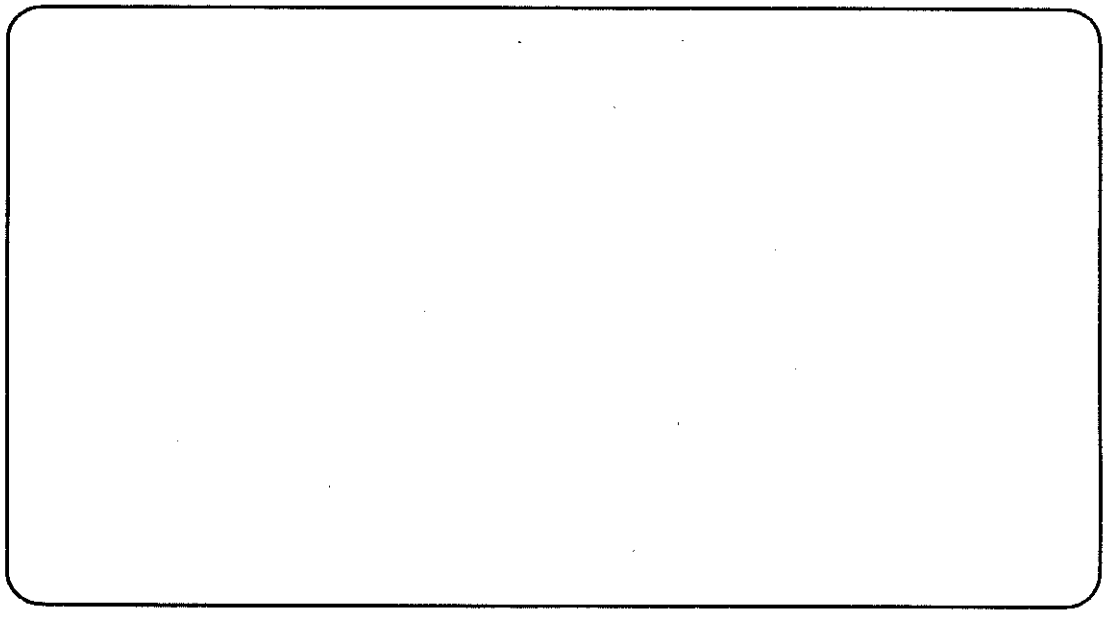
scm

With this booklet,

we wish to supply you with all the necessary information for the correct maintenance and use of the machine.

Avoiding in this way damages to your production and to your equipment

The SCM distribution network is from this moment at your service for any problem regarding technical assistance and spare parts and for any new requirement needed for the developement of your business.



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# INDICE

scm

## GENERAL INFORMATION

SCM can at any time, undertake any eventual modification of parts or accessories without timely updating this publication.

Protections, characteristics and accessories may be different, in accordance with laws and particular requirements of the countries to which the machines are to be sent.

For any necessity or advice please refer to the local agent, or to:

SCM S.p.A.
Via Casale 384
47040 - Villa Verucchio - FO - Italy
Tel: 0541-677061 - Tlx. 550142 - Tlfx.0541-677360

## MACHINE IDENTIFICATION

Model and serial number are stamped on the metal plate on the base.

## REQUEST FOR INFORMATION

When writing or telephoning the Agent or S C M for any requests relative to the machine always supply the following information:

- Machine model
- Reference number
- Name of the agent
- Detailed information on the possible defect
- Clear information on the work to be carried out
- Working time - hours of service

## SAFETY WARNINGS

1. THIS IS A DANGEROUS MACHINE BE CAREFUL. Only skille doperators should use this machine or be within twenty feed when the machine is in operation.
2. Read the Operations Manual carefully before operating.
   An Operations Manual should be attached to this machine.
   It contains important information and warnings concerning the use and operation of this machi ne.
   Improper use of this machine may result in serious injuries to persons and fires.
3. Never operate this machine without the safety shields and guards intheir proper place.
   Operate this machine only when the doors and covers are iin their proper protective position.
4. Before attempting oiling, cleaning, adjusting, maintenance or repair, turn off this machine and disconnect this machine from its power source.
   Failure to disconnect this machine from its power source could result in electrocution or other injury.
5. Keep all body parts away from the moving parts of this machine, whether it is an operation or at rest.
6. Be certain that this machine is properly grounded before opearting it.
7. Do not place hands or fingers between the workpiece and the conveyou belt, near the feed rolls, or near the blades abrasive belts at any time.
8. Do not wear gloves or loose clothing (such as sweaters, jackets or jewelry) when operating or standing near an operating machine. Remove any loose clothing and all jewelry when feeding or working near a machine in operation.
9. Do not stand in line with work piece when feeding or unloading this machine
10. Always wear protective eye wear when operating or standing near an operating machine
11. Never overlap or double feed parts; always keep this machine properly adjusted for the work undertaken.
12. Do not run sparking materials (such as steel) with combustible materials (such as aluminium and magnesium dusts); a fire may be result.
13. Always keep the area around this machine clean and uncluttered.
    Poor housekeeping could result in slips and falls or other injuries.
14. Concentrate at all times. Failure to pay attention to the task at hand is the cause of most accidents.
15. DO NOT REMOVE THESE WARNINGS. They are permanently affixed to this machine to warn you and all future users of the inherent dangers of this machine.
    Removal may result in injuries to you or to others for which you might be responsible.

## TECHNICAL DATA

| | STANDARD PANEL SAW | | | PANEL SAW WITH CLAMPS | | PLATFORM |
|---|---|---|---|---|---|---|
| | Z15 | Z32 | Z45 | Z32D | Z45D | Z45P/Z32P |
| Length of cut in mm | 1570 | 3200 | 4500 | 3200 | 4500 | 4500 |
| Max. height of cut mm | 90 | 90 | 90 | 80 | 80 | 90 |
| Working stroke of the pusher | | 2100 | 2100 | 3200 | 4300 | 3200/4300 |
| Max diameter main blade mm | 350 | 350 | 350 | 350 | 350 | 350 |
| Diameter of scorer mm | 150 | 150 | 150 | 150 | 150 | 150 |
| Motor power main blade HP | 10 | 10 | 10 | 10 | 10 | 10 |
| Motor power scorer HP | 1.5 | 1.5 | 1.5 | 1,5 | 1,5 | 1,5 |
| Power motor blade feed HP | 0.5-0.8 | 0.5-0.8 | 0.5-0.8 | 0.5-0.8 | 0.5-0.8 | 0.5-0.8 |
| Blade feed speed m/min | 13.5-27 | 13.5-27 | 13.5-27 | 13.5-27 | 13.5-27 | 13.5-27 |
| Optional speed forward-return | | | | | | 1:27-40m/1 |
| Speed fast feed pusher m/min | 3 | 3 | 3 | 9 | 9 | 9 |
| Speed slow feed pusher m/min | 0.2 | 0.2 | 0.2 | 0,4 | 0,4 | 0,4 |
| Speed slow return pusher m/min | 3 | 3 | 3 | 9/18 | 9/18 | 9/18 |
| Speed blade rotation rpm | 3800 | 3800 | 3800 | 3.800 | 3.800 | 3.800 |
| Speed scorer rotation rpm | 8000 | 8000 | 8000 | 8.000 | 8.000 | 8.000 |
| Service pressure on pneumatic ATM system | 6 | 6 | 6 | 6 | 6 | 6 |
| Air consumption for every suction intake mc/h | 1200 | 1200 | 1200 | 1200 | 1200 | 1200 |
| Suction intake diameter mm | 120 | 120 | 120 | 120 | 120 | 120 |
| Net weight of machine kg | 1150 | 1686 | 2048 | 2880 | 3780 | 4740 |
| Blade hole diameter mm | 30 | 30 | 30 | 30 | 30 | 30 |

**CORNER PANEL SAWS:**

Z45A composed by Z45P + Z32 or Z15 angular (The characteristics are those of single machines)

Z32A composed by Z32P + Z32 or Z15 angular (The characteristics are those of single machines)

## MAIN OPTIONALS

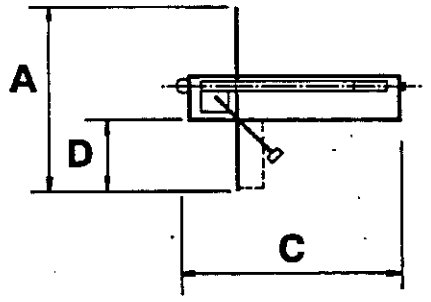
Oversize cutting length
Flange for fast locking of saw and scorer blades
Front tables with pivoting wheels
Front tables made of bakelite
Front tables with air cushion
Oversize cutting depth
Long pusher
Automatic lateral approaching device
Guide for sloping cuts from 45º to 135º
Electronic programmer 9x99
Electronic programmer MASTER
Oleodynamic speed variator
Nebulizer for blade cooling
2-speed spindle (for cutting plastic materials)
Front and rear safety guard with plastic sectors

## NOISE LEVEL

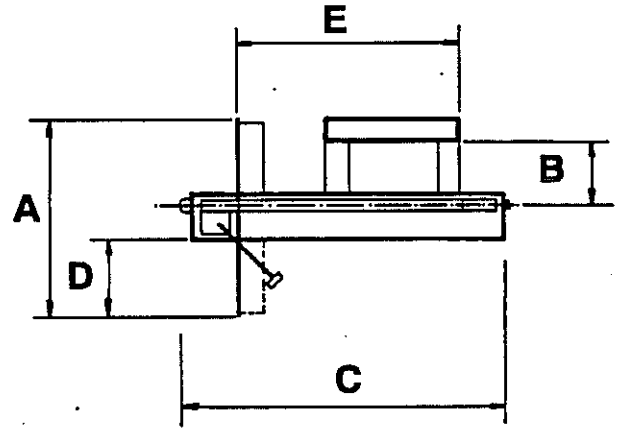
| | |
|---|---|
| Idle noise | 79,5 dB(A) |
| in operation | 81,5 dB(A) |

Noise level calculated according to DIN 45635/201

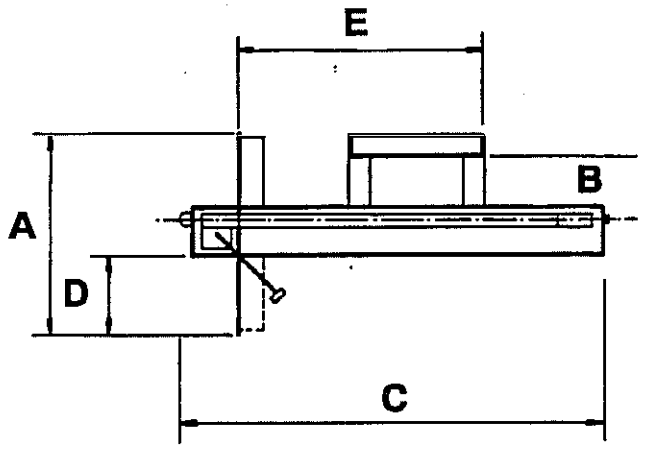
## OVERALL DIMENSIONS




Z15
DIS. 1

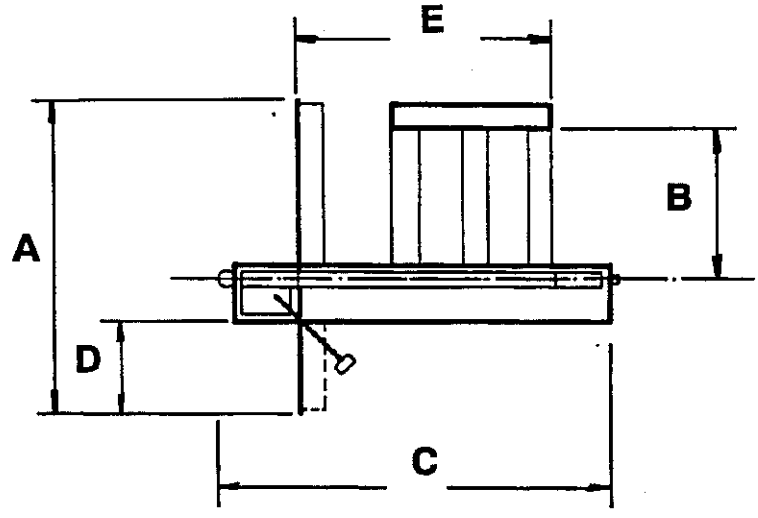



Z32
DIS.2

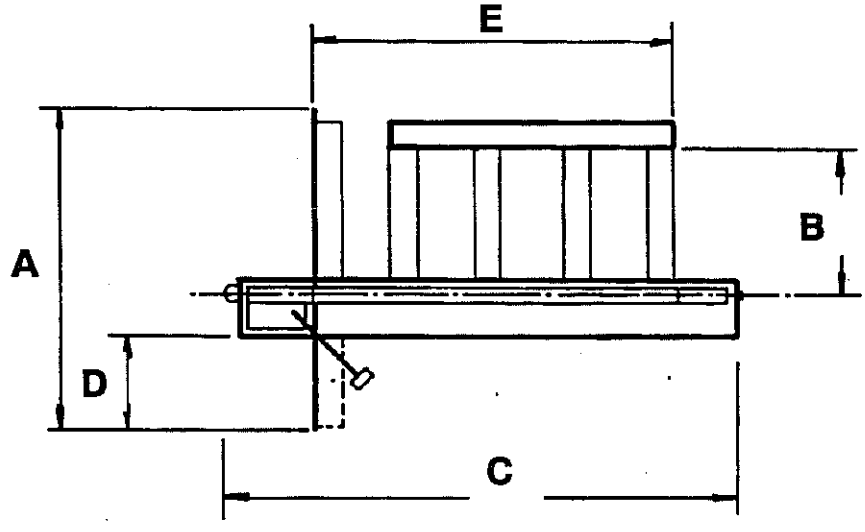



Z45
DIS.3

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Z15 | 3712 | | 3415 | 1500 | |
| Z32 | 3712 | 1300 | 5032 | 1500 | 3222 |
| Z45 | 3712 | 1300 | 6350 | 1500 | 3222 |

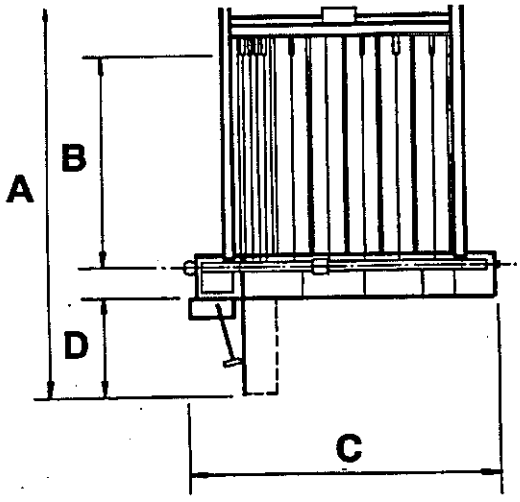



Z32
DIS.4

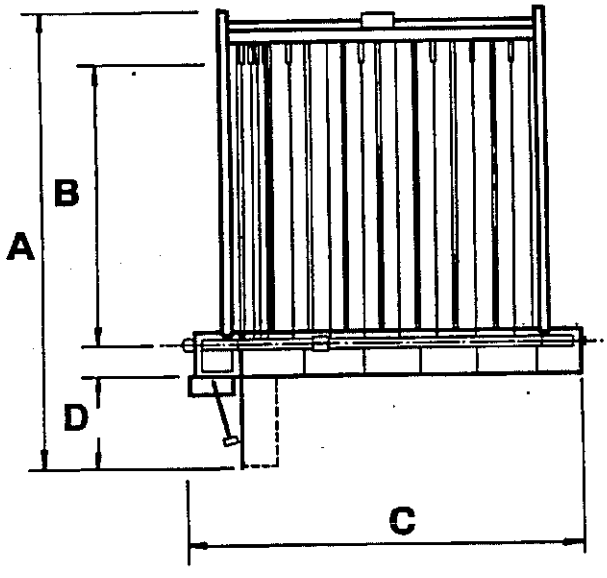



Z45
DIS.5

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Z32 | 4712 | 2100 | 5032 | 1500 | 3200 |
| Z45 | 4712 | 2100 | 6350 | 1500 | 4500 |

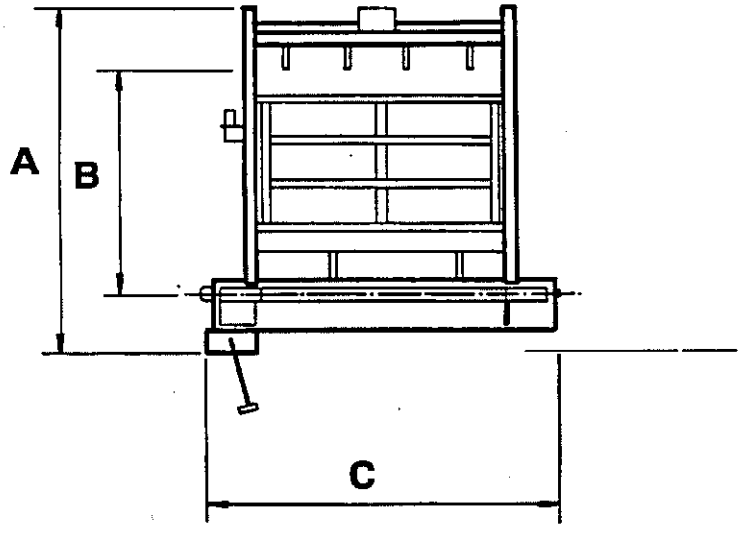



**Z32 D**
**DIS.6**

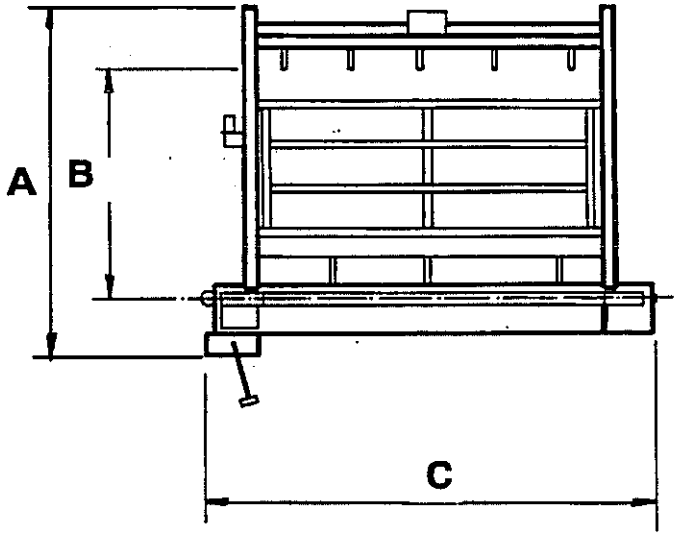



**Z45 D**
**DIS.7**

| | A | B | C | D |
|---|---|---|---|---|
| Z32 D | 6250 | 3200 | 5032 | 1500 |
| Z45 D | 7350 | 4300 | 6350 | 1500 |

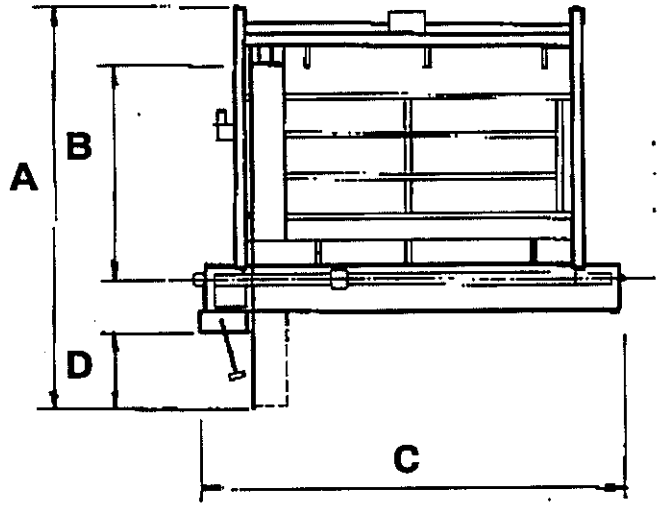



**Z32 P**
**DIS.8**

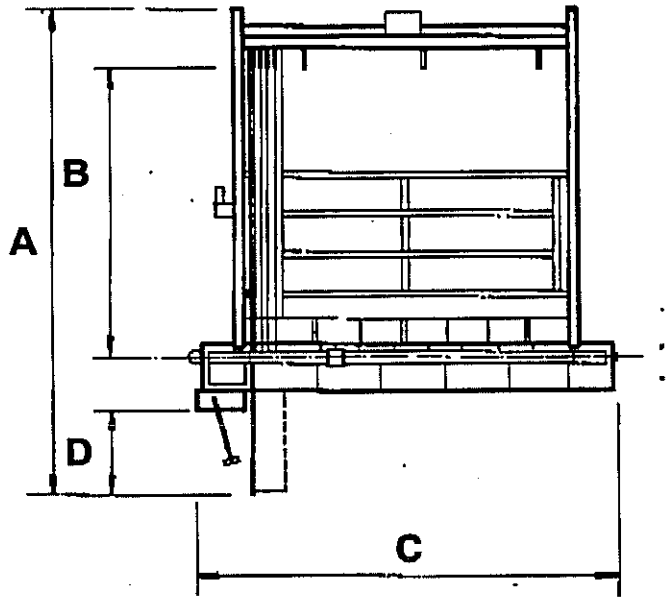



**Z45 P**
**DIS.9**

| | A | B | C |
|---|---|---|---|
| Z32 P | 5050 | 3200 | 5032 |
| Z45 P | 5050 | 3200 | 6350 |




Z32 P
Z45 P
DIS.10




Z32 P
Z45 P
DIS.11

| | | A | B | C | D |
|---|---|---|---|---|---|
| DIS.10 | Z32 P | 6250 | 3200 | 5032 | 1500 |
| | Z45 P | 6250 | 3200 | 6350 | 1500 |
| DIS.11 | Z32 P | 6250 | 3200 | 5032 | 1500 |
| | Z45 P | 7350 | 4300 | 6350 | 1500 |

# SECTION 2

## MACHINE POSITIONING

In order for the support to be stable and secure, a solid floor is necessary.
A cement floor is best, an asphalt floor is not advisable as this cedes in time.
Lift the machine with a crane, placing the metal cables or belts in the most suitable way, fig.2.1
Remove the end doors if method in fig.2.2 is used.

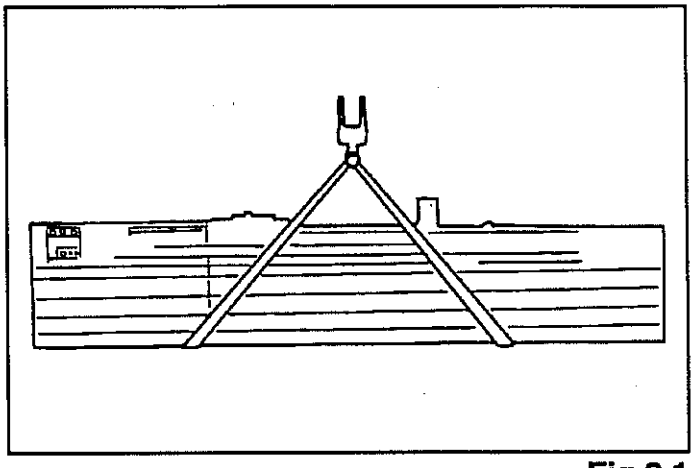


Fig.2.1

If a crane is unavailable, the use of a fork-lift is sufficient to place the machine in its desired position.
Position the machine in such a way that the grip of the forks (F fig.2.4) of the lift is off-centre by about 50 cm as the main part of the weight is concentrated in the area of the left cutter block carriage in the rest position. (see fig.2.3)

Put plates (F fig.2.5) under grub-screws (G) in order to level the machine.

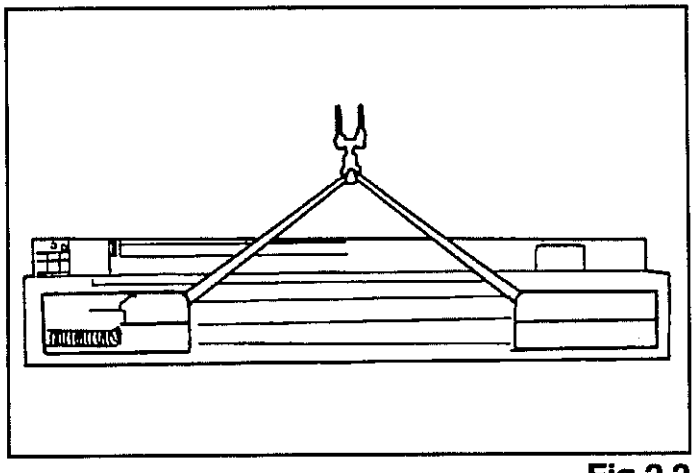


Fig.2.2

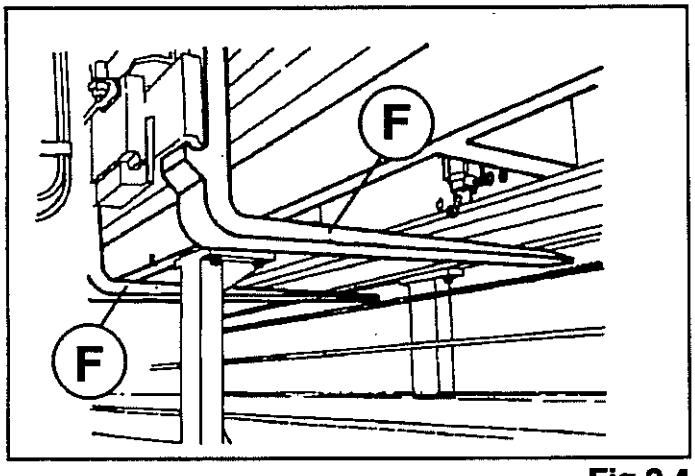



Fig.2.4

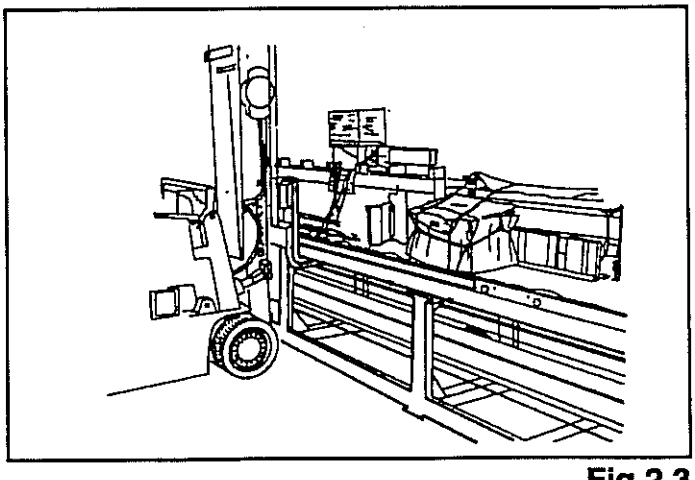


Fig.2.3

## LEVELING THE MACHINE

It is essential that the machine is perfectly level before work begins in order to guarentee a perfectly straight and accurate cut.

**IN ORDER TO DO THIS, THE MACHINE IS LEVELED BY ADJUSTING FIRSTLY THE ENDS AND THEN THE CENTRE, IN THE FOLLOWING WAY:**

1- Place a level on one side of the machine, transverse in regards to the base axis.
Make fine adjustments on the screws as illustrated in Fig.2.6 points 1.

2- Place the level longitudinally in the centre of the top of the machine.
Make fine adjustments on the end grub screws opposite to the side already leveled. (Points 2 of fig.2.7)

3- Level the last side using the same procedure acting on its grub screws.

4- Now adjust the internal grub screws, to uniformly apportion the weight of the sectioning machine and correct possible differences in height between the front part and the back part of the level of the machine. (Points 4 fig. 2.8).

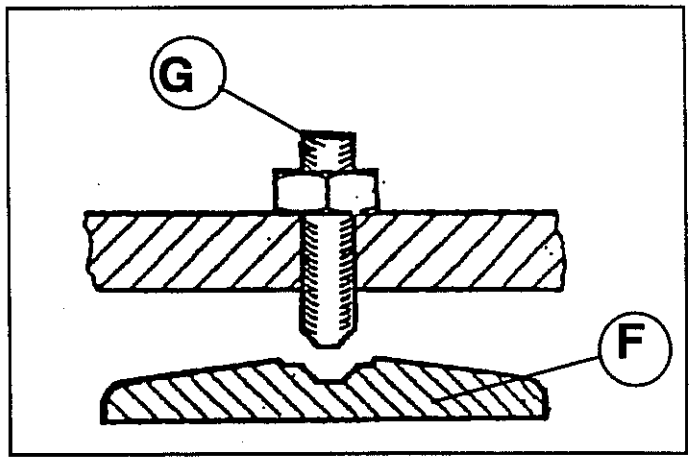


Fig.2.5

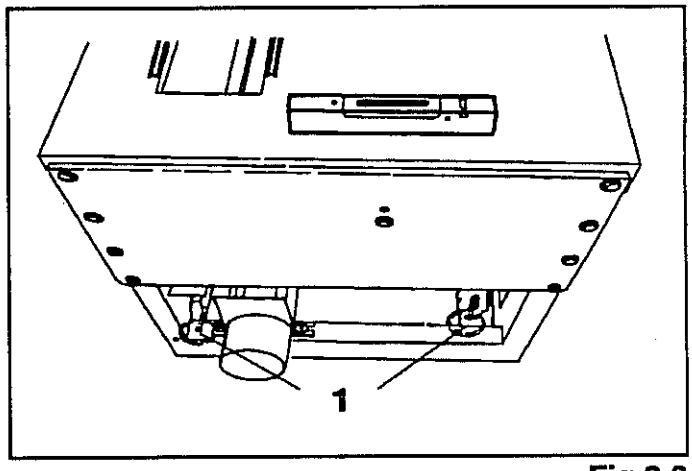


Fig.2.6

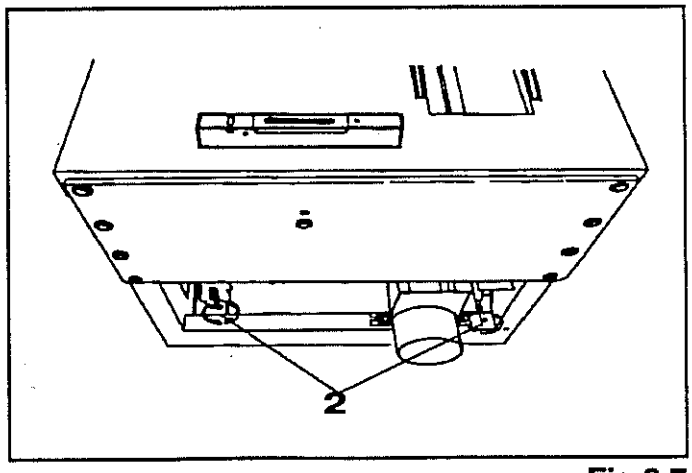


Fig.2.7

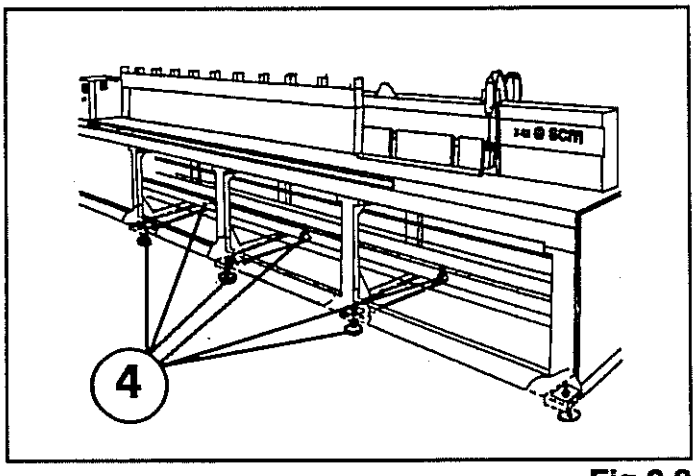


Fig.2.8

**Do not, in any way, modify, during this adjustment, the bearing pressure of the adjustment of the end grub screws.**

5- Once the level adjustments have been made, using a suitable rod check the perfect levelness of the cutting area on the two planes of the machine.

If a perfect levelness still does not result, obtain this by removing or adding shims.

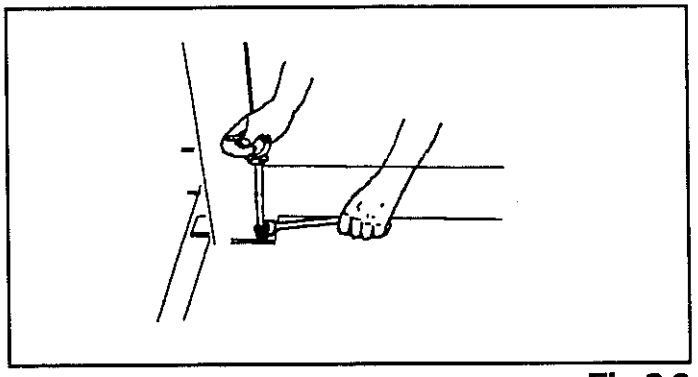


Fig.2.9

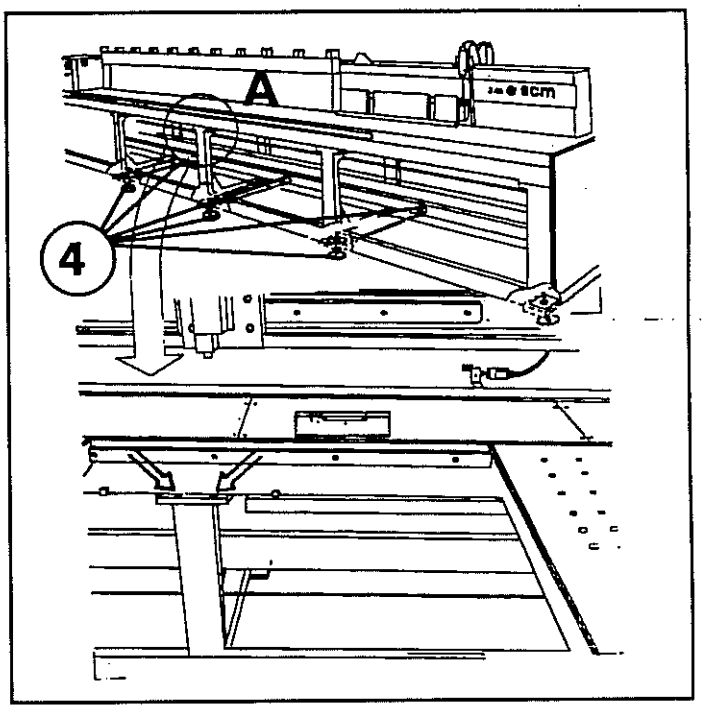



Fig.2.9a

## PLATFORM LEVELING

To level the platform the following is required:
- a fork lift
- a good level

Proceed as follows:

1- Divide the various components of the machine into groups (fig.2.11).
2- Remove the blocks in the platform frame by manually working the motor, making it turn in the lifting sense to withdraw the tubulars to support packaging, that is:
   - remove the cap of the lifting geared motor placed on the left hand side of the platform (fig.2.10)
   - lift the platform by rotating the fan of the lifting geared motor anti-clockwise, by hand (fig.2.10).
   - withdraw the support tubes (A fig.2.11)
3- With a level on the frame of the platform check the leveling given by the floor conditions.
4- To level loosen the nuts (D) that hold the resting plate (P) to its own column fig.2.12.
5- Lower or lift the column by adjusting grub screws (R). Check the obtained leveling on the frame fig.28
6- Mount the longerons onto the platform columns as in the illustrations (fig.2.12)
7- Check the distance and the parallelism of the racks between the two longerons. In order to do this, adjust the two central grub screws (G fig.2.13) of the frame until the distance given in the testing sheet is obtained.

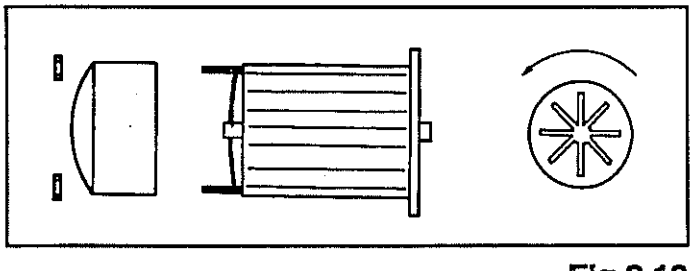


Fig.2.10

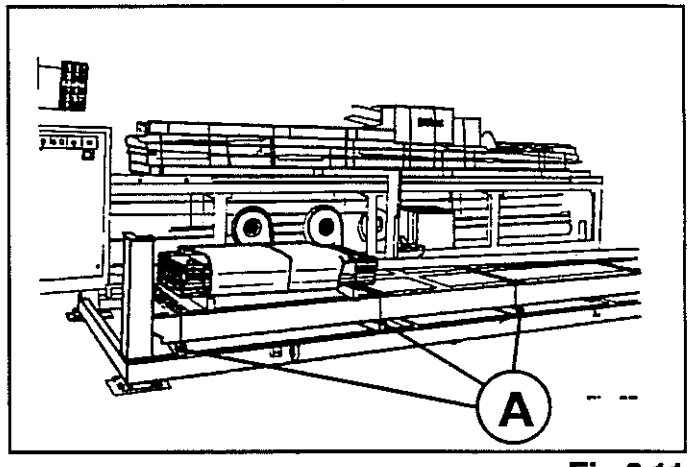



Fig.2.11

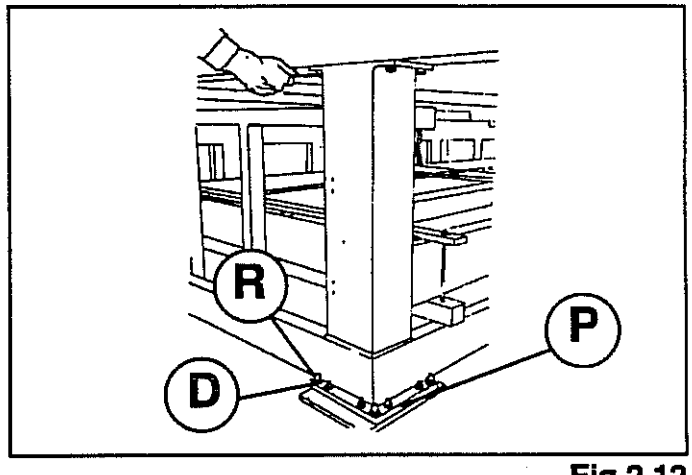



Fig.2.12

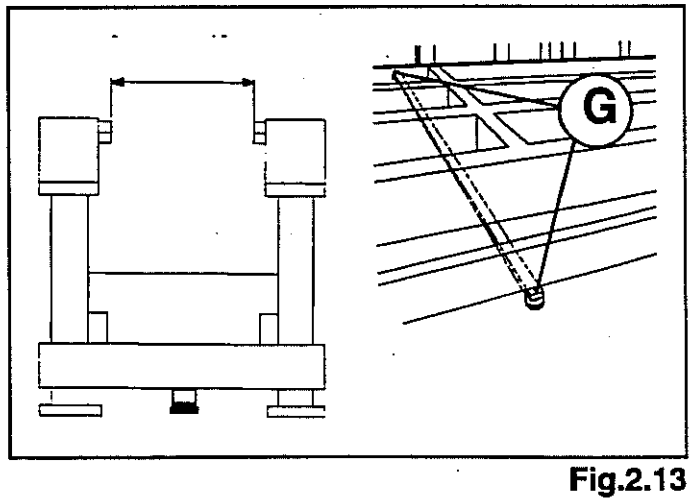



Fig.2.13

## REMOVAL OF TRANSPORTATION CLAMPS

The machine is forwarded with the saw blade carriage lifted and clamped in the centre by means of brackets to avoid that during transportation the wheels bump against the slideways due to being tossed around or abrupt braking.
The motor too, for the same reason is immobilized with a steel cable (C fig.2.14).

The person installing the machine must see to the removal of these clamps only after having positioned and leveled the machine in its final position, as has already been stated.

To remove the transportation clamps proceed as follows:

1- Remove the steel cable (C) from the motor by loosening the screws from clamp (M fig.2.15)

2- Loosen and remove the clamping screws firstly from one bracket (S) and then from the other, in order for the carriage to rest coherently and gently on the slideways.

3- Regulate the 4 screws of the contrast shoes to -0,2mm from their face. (fig. 2.16).

These screws avoid the lifting of the carriage when unusual stress of the carriage occurs.

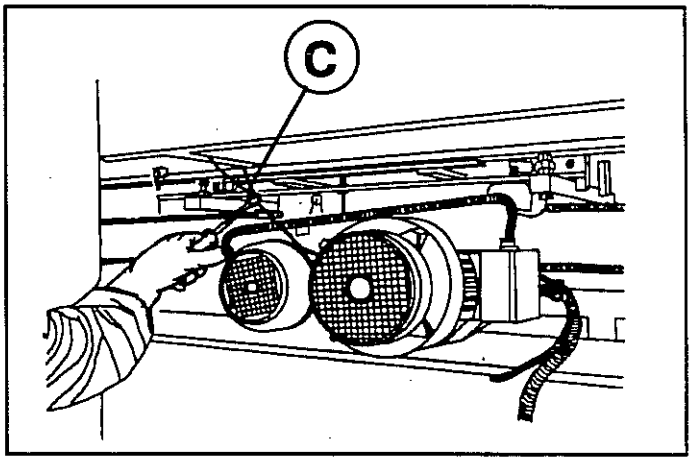



Fig.2.14

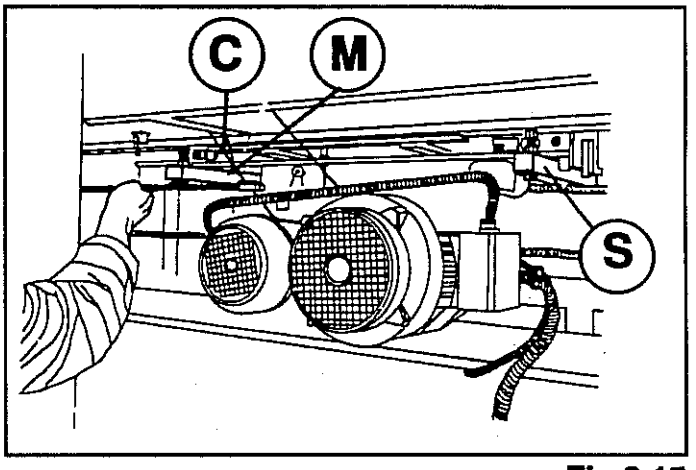



Fig.2.15

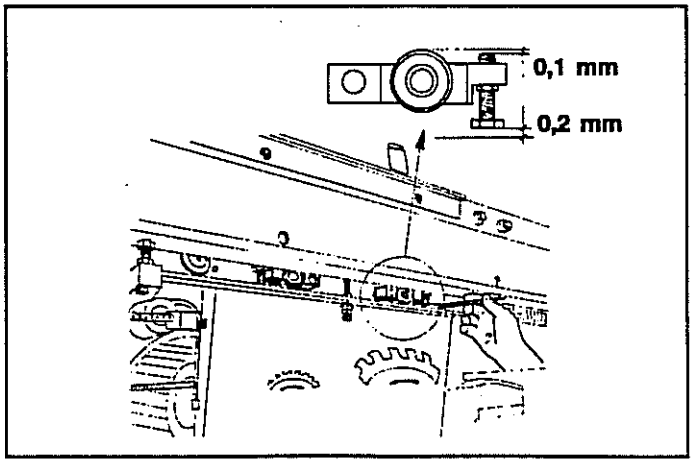



Fig.2.16

## ELECTRICAL CONNECTIONS

Open the electric panel door.

Connect the electric wires of the 3 phases (F fig.2.17) of the earth (M) and of the neutral if necessary.
Remove the front left side closing door of the machine and give brief contacts with the star-delta starter to verify that the blade turns in the right direction.

Otherwise shut off power and reverse two of the three wires than check again.
The electric connection shall be carried out by a skilled electrician.

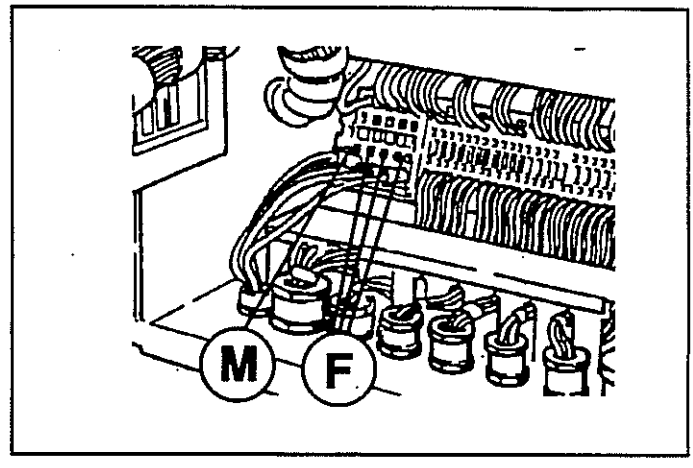



Fig.2.17

## SUCTION CONNECTION

The suction connection is essential in order to avoid that dust from the wood clogs the system.

Connect a flexible tube (Tfig.2.18) (120 mm diameter) to the upper suction outlet (C) and to the lower one (D)

Avoid below curves in the tube (T) that could block the scavenging of chips. Always activate the suction system before starting the machine.

**Do not use the machine without suction; the accumulation of chips and dust could damage the slide guide and the wheels of the guide support of the saw blade carriage.**

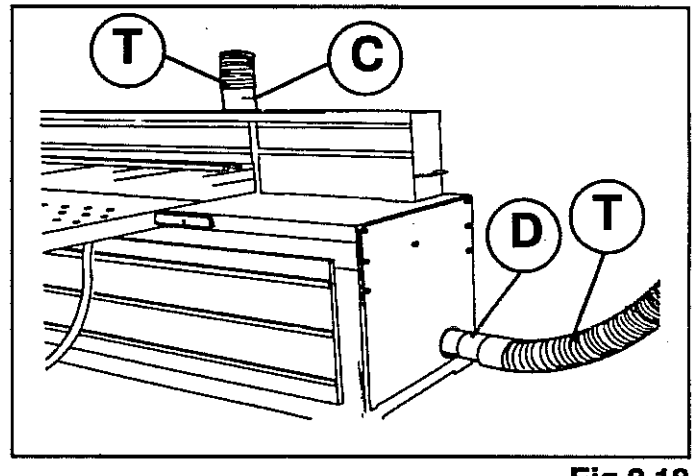



Fig.2.18

## PNEUMATIC CONNECTION

Check that the network pressure is at least 7 - 8 Atm.

Connect the tube of the network to the entry of the pneumatic group (P fig.2.19) that is on the left hand side of the machine.
The internal section of the network tube must be at least 8 mm to compensate for possible losses of pressure due to friction.

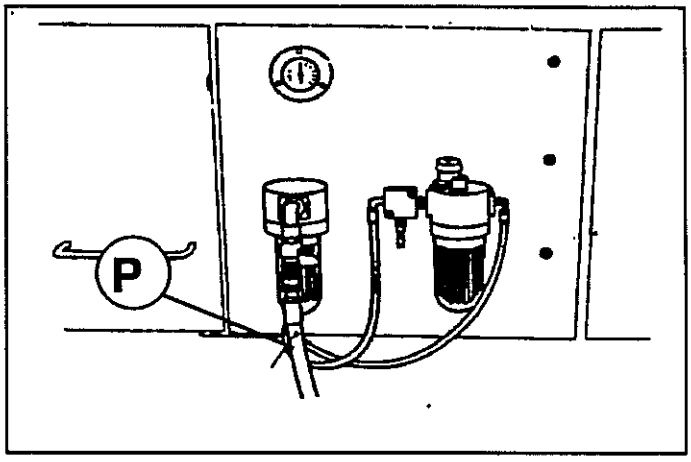



Fig.2.19

The working pressure of the machine is 6 atm. If necessary operate on pressure regulator (R fig.2.20).
Pressure must not be over 7 atm.

Avoid the formation of condensate inside the filter. In the case of this happening, empty it, rotating the lower knob (M) of the filter (F fig.2.20).

Check that the oil contained in the tank (V) of the lubricator of the pneumatic system, that lubricates the lifting cylinders of the presser and of the blade, solenoid valves and flow regulators, never drops below the middle of the height of the tank.

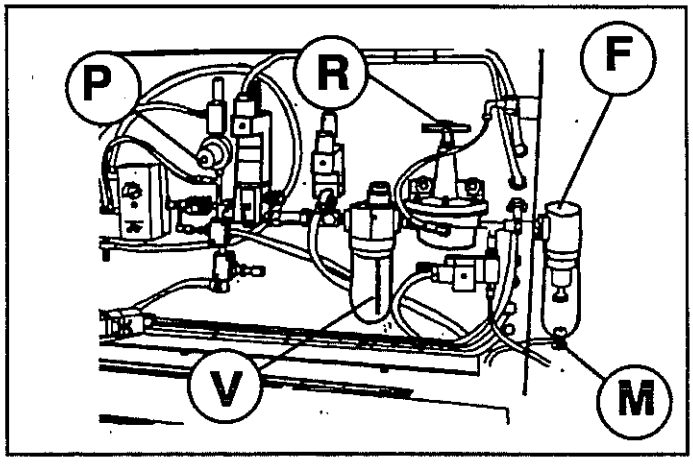



Fig.2.20

## PRESSURE ADJUSTMENT

The pressure, arriving from the laboratory network to the sectioning machine, must be at least 6 Atm.
For panels of small dimensions it is possible to reduce this pressure from 6 to 2 Atm on the presser by means of selector (S fig.2.21).
Once regulated, read this pressure on the relative gauge (M) after the presser has been lowered onto the panel.

To obtain intermediate pressures, extract the protection cover on the left and adjust the regulation knob (P fig.2.20).

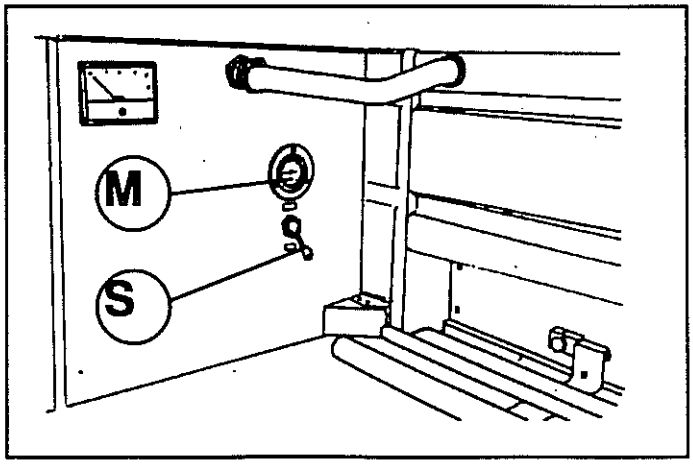



Fig.2.21

## CHECK FOR EMERGENCY BUTTONS

As the machine has been tested by the company SCM before forwarding elsewhere, the emergency buttons shall be efficient.

Press these emergency buttons (E) one at a time to check that the machine effectively enters emergency.

In case these do not function, it is advisable to resort to the
intervention of an electrician or SCM technical staff, for reasons of safety.

Check emergency devices (P) placed inside the protection covers fig.2.24- 2.25)

Extract the covers one at a time and check that the machine enters emergency.

If this does not happen, call the area Dealer or call an electrician.

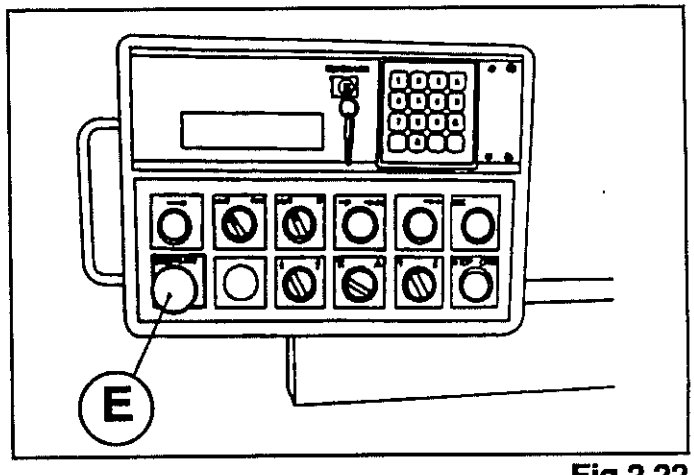



Fig.2.22

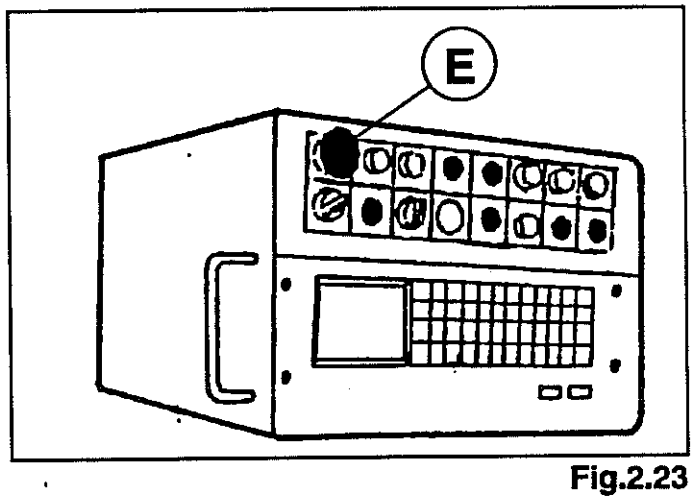



Fig.2.23

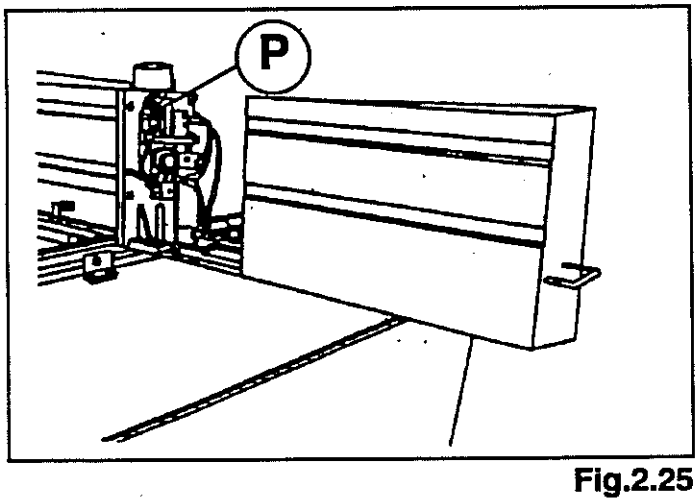



Fig.2.25

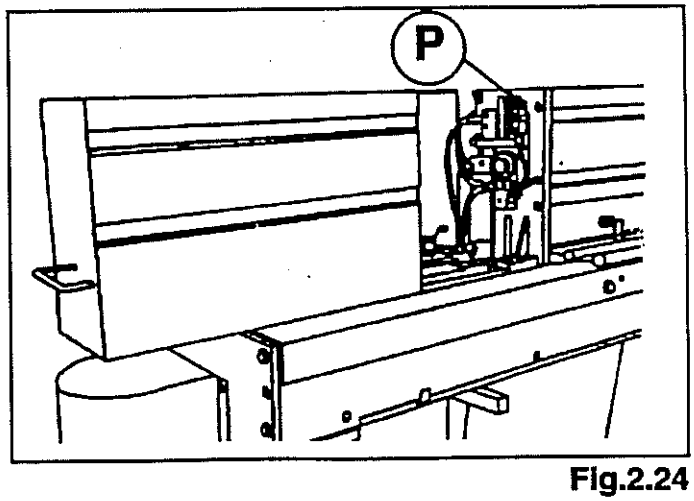



Fig.2.24

## CHECK BAR EMERGENCY FUNCTION

Insert onto the machine surface, firstly corresponding to one bar and then to the other, a material 2-3 cm thick.
Lower the presser with the start of the cycle (fig.2.26)
If the machine does not enter emergency, this could be caused by the cam (C) that energizes the micro as a mechanical part or the electrical circuit.

To analize this call the service technician.

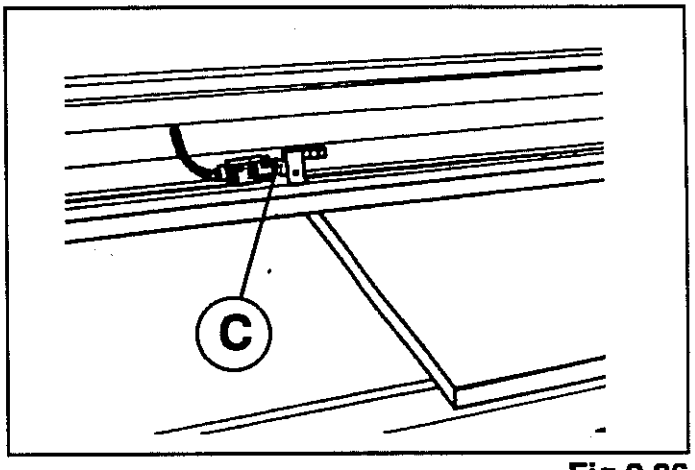



Fig.2.26

# SECTION 3

## ELECTRIC CONTROLS

The control board may be different according to the machine version.

A Padlockable main switch
B Push button for motor reset
C Rotary switch
Saw blade and scorer blade switching on
For starting saw blade: turn the switch to ⅄ position, wait some seconds, then turn it to △ position.
For starting scorer: turn the switch to △ △ position.
D Push button for emergency devices reset
G Selector to be used only for replacing the saw blade and the scorer blade
By turning the selector clockwise the pressure beam comes down, the blade rises; it is so possible to replace the saw blade.
For replacing the scorer blade press button (B fig.1) the saw carriage (with standstill blade) moves to the right side of the machine at the end of the stroke.
In this position you can change the scoring saw.
After replacing the saw blade (or the scorer blade), turn selector (G) to the left (the pressure beam rises, the blade come down).
Press now button (B fig.2): then saw carriage reaches the end of the stroke on the left ready to start a new working cycle.
L Pilot lamp lighted up
P Selector for retractile clamps (for machine with clamps)
Position 0: Clamps back
Position 1: Clamps in working position
S Selector for front aligning devices (for machine with platform)
Position 0: aligning devices off
Position 1: aligning devices on

FOR THE RIGHT USE OF PRESSURE BEAM ADJUST SELECTOR (S fig. 4.16) AS FOLLOWS:

Large panels = lever up = 6 bar
Small panels = lever down = 2 bar

It is possible to modify the low pressure by means of regulator "4" of the pneumatic unit.

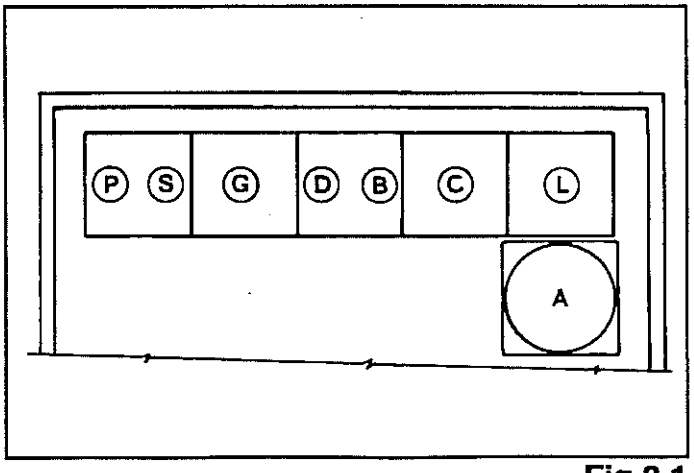



Fig.3.1

## ZERO REGULATION

The instructions are in the manual, given together with the machine, specifically for the programme installed.

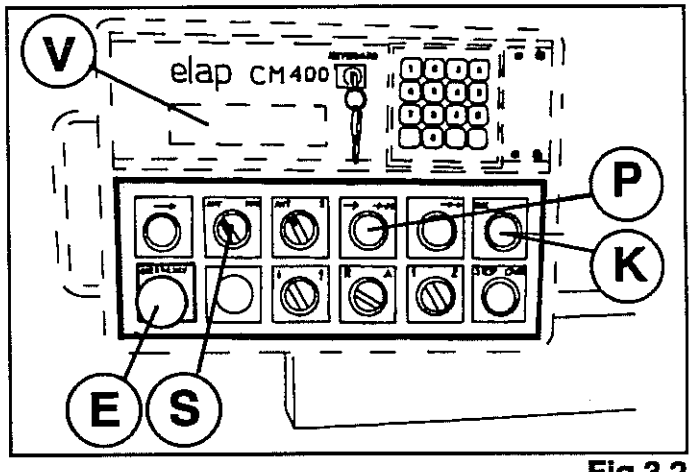



Fig.3.2

## TRIMMING OF THE PUSHER SOCLES

For this operation:

1- Move limit switch 51SQ4 forward by approx 2 mm fig.3.3
2- Position the selector (S fig.3.2) in the manual position.
   Push the (P) button "pusher feed" until it squashes the "front guide" micro.
3- Move limit switch 51SQ1 back until it exits from the small pusher cover.
4- Insert a 85 mm block (A) between the table and the presser, so that the pusher does not come into contact with the pressure beam, fig.3.4.
5- Carry out the trimming cut at a low speed.
6- Reset the limit switch 512Q1 onto the cover.
7- Check again the zero position

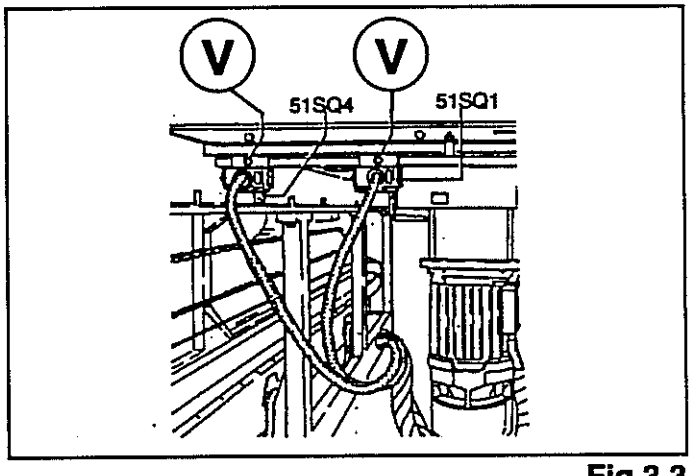



Fig.3.3

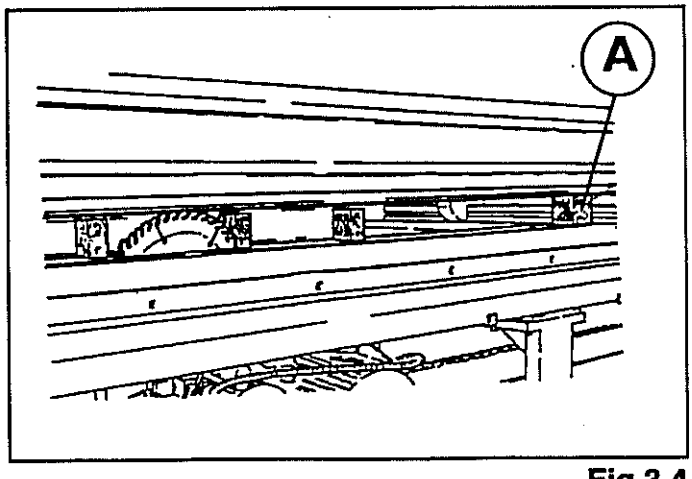



Fig.3.4

## MOUNTING AND DISMANTLING THE BLADE

The mounting and dismantling of the blade is carried out with the carriage in the starting position, on the left side of the machine.

It is necessary to: press emergency button (E fig.3.8).

1- Withdraw the blade protection cover.
2- Rotate the blade lifting selector (G fig.3.8) clockwise.
3- Rotate the saw spindle operating on the pulley, so that the locking pin (H fig.3.5) may fit into its hole.
4- Insert the locking pin with a slight clockwise action.
5- Partially unscrew the locking screw (V) with the supplied wrench as in fig.3.6

Attention: The blade locking screw has threading on the right: by turning it clockwise, it tightens.

6- Remove the locking washer (R fig 3.6), paying attention that it does not fall inside.
7- Remove the flange (F)
8- Ensure the perfect cleanliness of the contact faces of the blade and of the flange.
9- Mount the blade, with the thickness not more than 4,5 mm, so as not to have any interference with the presser and the machine body.
10- Mount the flange (F fig.3.7)
11- Mount the washer (R)
12- Tighten with the locking screw (V fig.3.6)
13- Turn selector (G fig.3.8) to the left for lowering the blade if it is not necessary to fit the scoring saw.

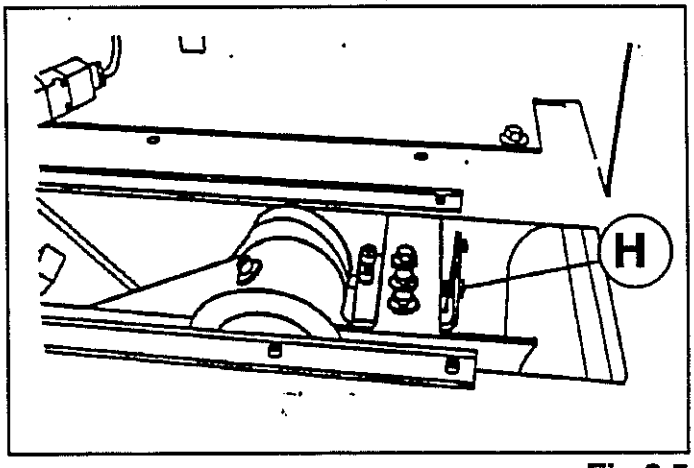



Fig.3.5

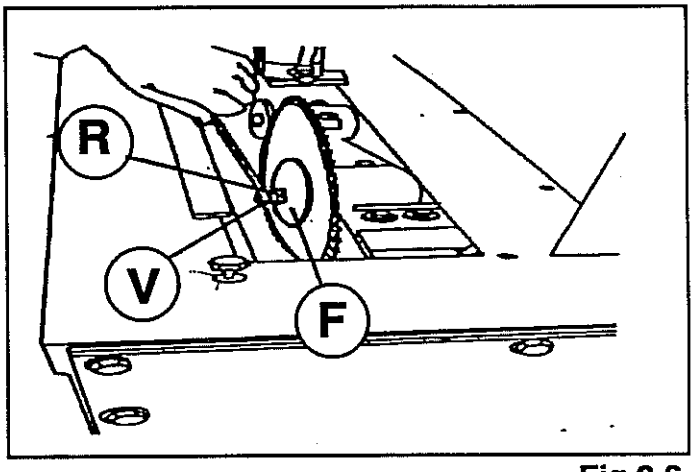



Fig.3.6

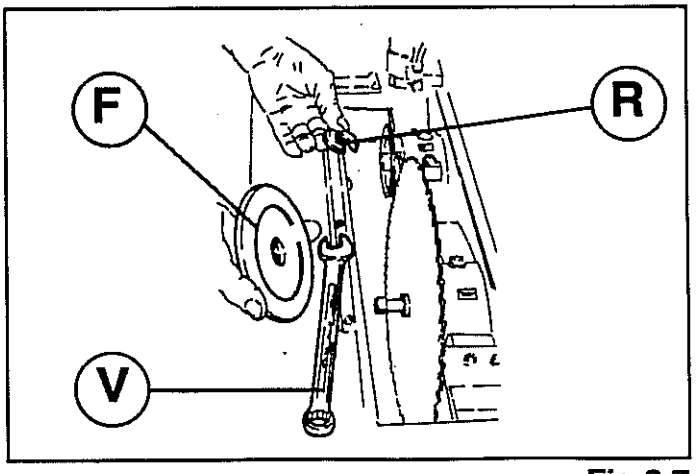



Fig.3.7

## PNEUMATIC BLADE LOCKING

For the correct blade locking hold flange (A fig.3.9) standstill so that the air inlet hole (B fig.3.9) is turned to the top, then turn saw (C) anticlockwise in order to have a light rub against flange (A),.
Now insert nozzle of gun (D) into hole (B) to blow air.
At the same time by holding flange (A) standtill turn blade (C) approx. 60°, move away the gun, the blade is locked.
For unlocking proceed in the contrary way bearing in mind that you shall not turn the flange with the gun, but turn the blade.

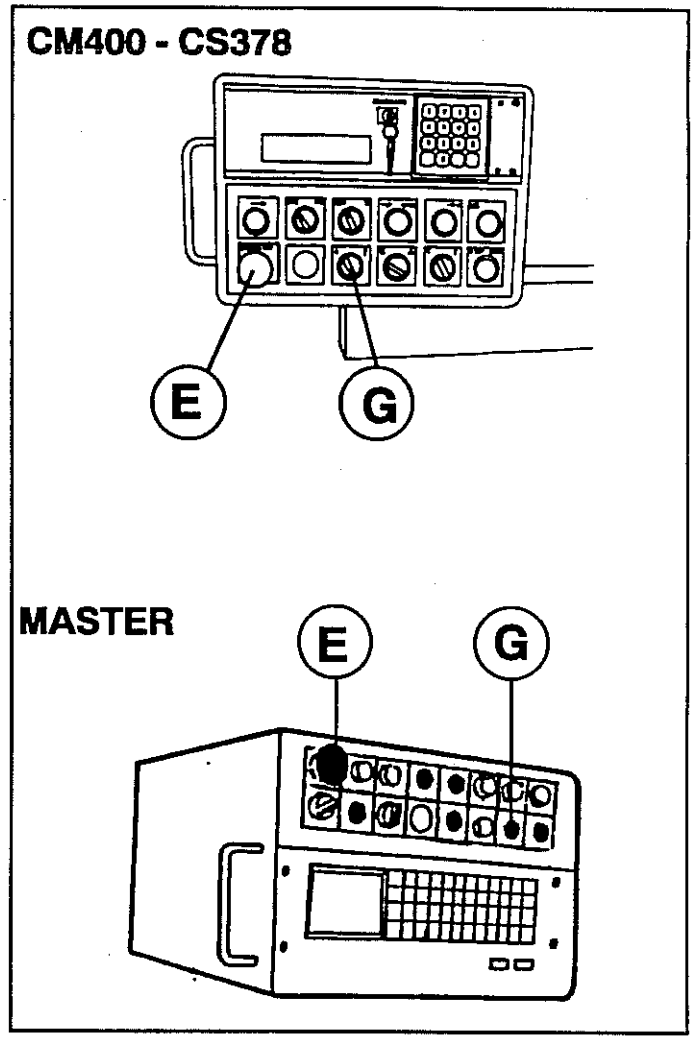



Fig.3.8

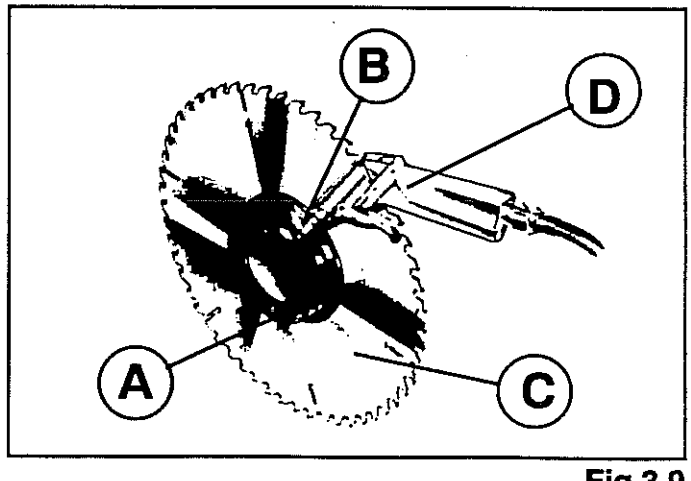



Fig.3.9

## MOUNTING AND DISMANTLING THE SCORER

For fitting the scorer you have not to turn the blade lifting selector but it is necessary to:

a- withdraw the protection cover
b- repeat the operations already illustrated locking the scorer spindle to mount it (fig.3.10)

Attention: The scorer locking screw has threading on the left: by rotating it clockwise it loosens.

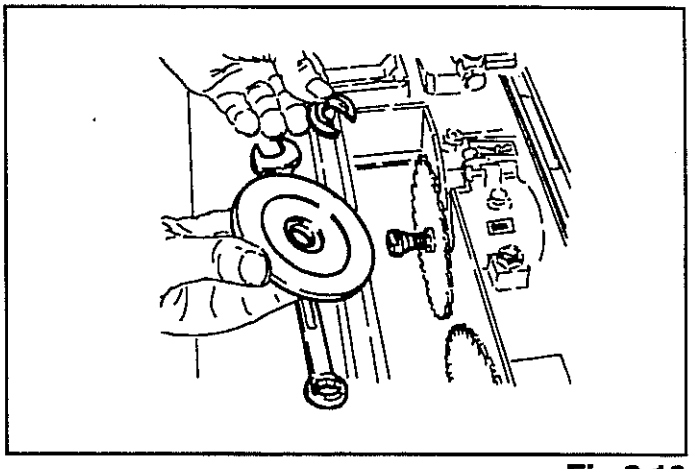


Fig.3.10

## CUTTING TRIAL

This is done to check the correct alignment of the blades.

To carry out a cutting trial on a panel it is necessary to:

1- Return the blade lifting selector (G) to the "low blade" starting position (fig.3.11).
2- Reposition the protection covers onto the machine
3- Lift the presser using the selector
4- Press the re-set button (D): the carriage automatically returns to the starting position.
5- Using switch (C), switch on the main motor and the scorer
6- Insert a panel in the loading area
7- Press the lighted start cycle button (L)
8- When the blade is in the middle of the panel, press the STOP CARRIAGE button to check the alignment of the scorer to the blade.

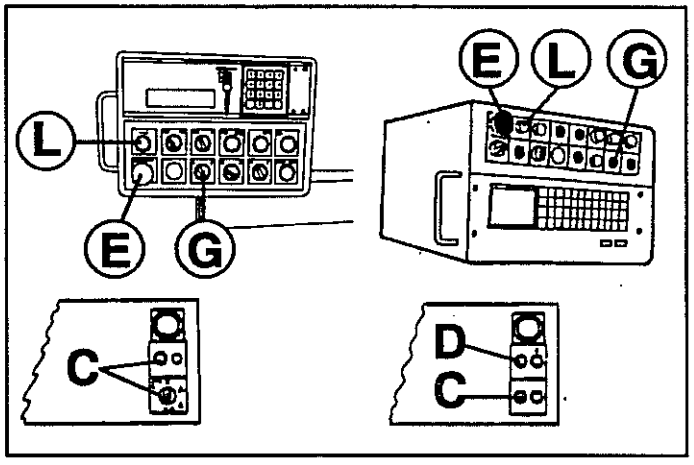



Fig.3.11

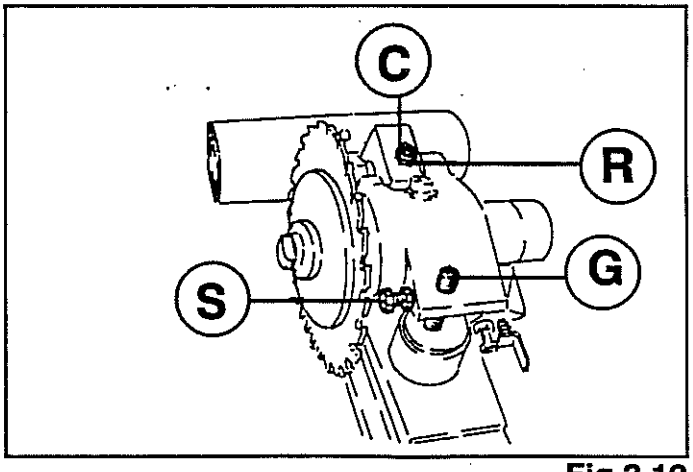



Fig.3.12

## ADJUSTING THE SCORER HEIGHT

The scorer is too high if the engraving exceeds 1,5 mm in depth.
The engraving, given the cone tooth, appears too wide. Adjust therefore the scorer height by means of the grub screws in this way:

1- with the blade high on the left side of the machine, extract the protection cover
2- loosen grub screw (S fig.3.12)
3- unscrew grub screw (G), so that the scorer is lowered
4- rescrew grub screw (S)
5- carry out a test

If the scorer is too low, proceed in the opposite way.

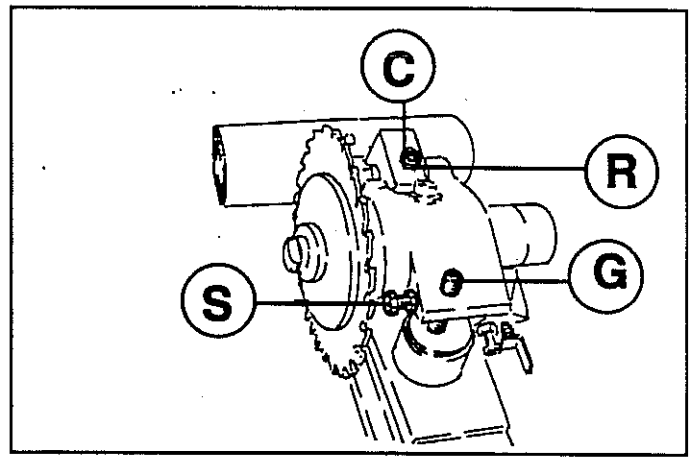



Fig.3.13

## TRAVERSE SCORER ADJUSTMENT

If instead the scorer engraving is moved on the back side of the panel proceed in the left area of the machine as follows:

1- Loosen nut (C fig.3.13)
2- Screw down the set screw (R)
3- Tighten nut (C)
4- Fit the protection cover
5- Turn selector (G) for lowering the blade
6- Press reset buttons (D fig.3.14)
7- Turn motor start switch (C)
8- Carry out a test cut

If the scorer mark is moved on the front side of the panel proceed in the same way by unscrewing the set screw (R)

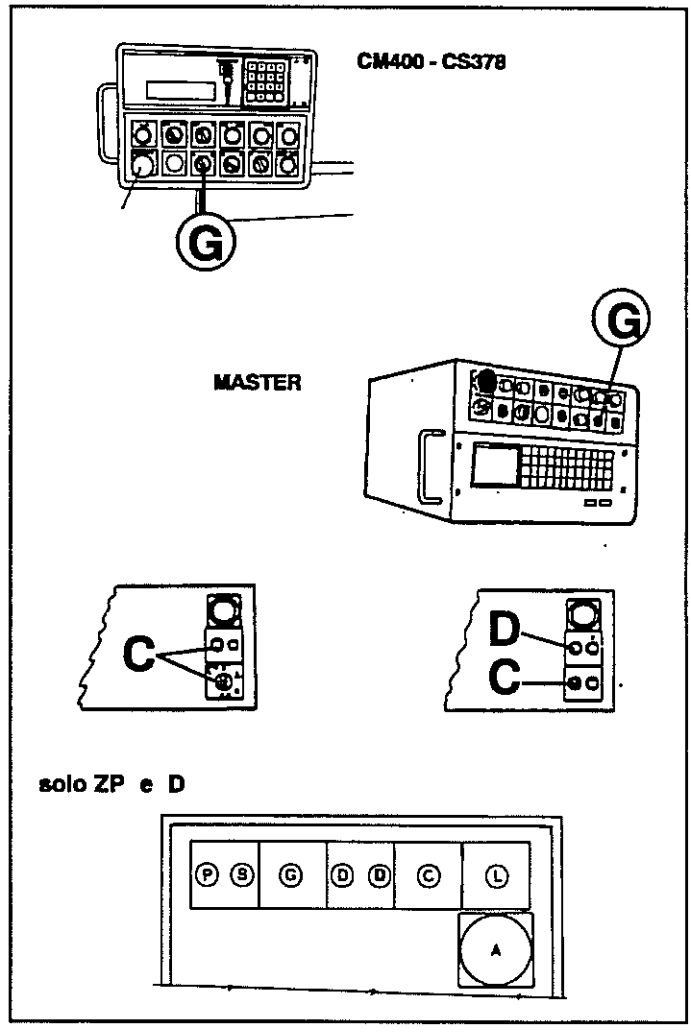



Fig.3.14

## ACCESSORIES FOR SPECIAL WORKS

- With the SCM panel saws, in addition to wood and its derivatives, it is possible to also cut other types of materials, such as plastic, aluminium, plexiglass, asbestos cement, etc.

1) **Nebulizer**
   **Serves to cool the blade.**

Working aluminium, plastic and other similar materials, the off-cuts tend to stick to the blade, subsequently over-heating it.
The emulsifiable oil for cooling, is sprayed directly onto the blade by means of nozzles placed on the carriage.
The spray of oil onto the tool comes about during cutting.
The tank (V) tank that contains the emulsifiable oil is found on the left side of the back part of the machine body (fig.3.15)

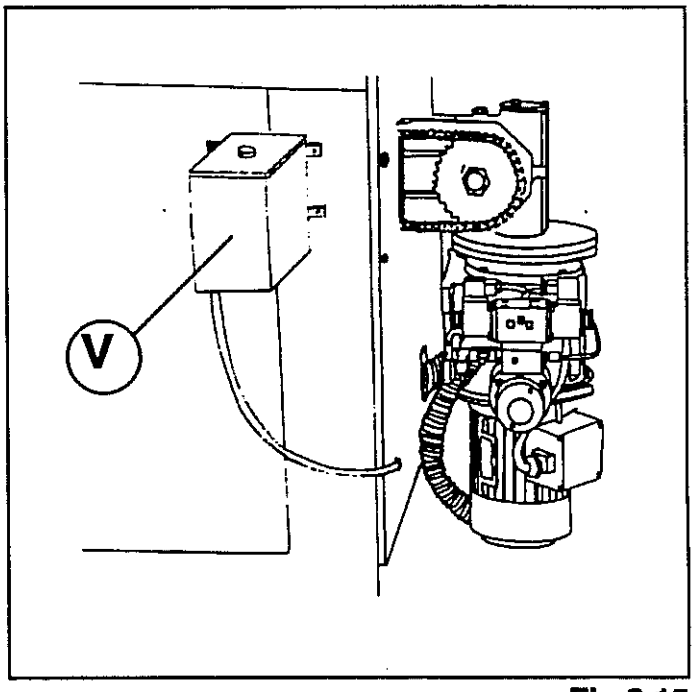



Fig.3.15

2) **Blade with two rotating speeds, to obtain cuts that are more finished.**
3) **Motor speed variator type VAR-SPE.**

This serves to regulate the velocity of the saw blade carriage-Said velocity may be regulated from a min. of 1 m/min to a max. of 27 m/min in the upstroke and over 40 m in the backward stroke. In general, as regards cuts in plastic materials, approx.3 m/min. is considered low speed.
The motor speed variator unit VAR-SPE is situated on the extreme left of the machine body (side of the carriage in a rest position) (fig.3.16)
For the correct use turn on the main switch of the machine - turn on the variator switch and wait 5 - 10 minutes, before starting the cutting cycles, to allow the oil in the system to heat up, guaranteeing an accurate feed.
Set the velocity by rotating the regulating handwheel (R fig.3.16) clockwise, if a low speed feed is required, and anti-clockwise to obtain high speeds.

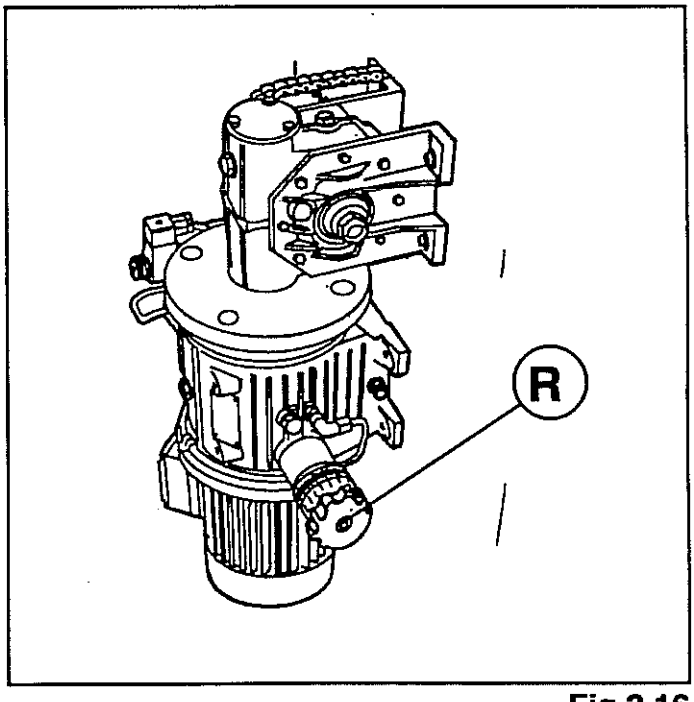



Fig.3.16

On the left of the group there is the oleodynamic solenoid valve with 2 coils (E fig.3.17) that allows the upstroke and the backward stroke of the carriage.

The upstroke is adjustable (as already seen)
The return always comes about at maximum speed (40 m/min)

The motor reducer taper has already been preset during the test.
The operator must only regulate the velocity with the handwheel (R fig.3.16).

For any registration to be effected on the motor speed variator, request the assistance of the Dealer or of the SCM technical staff.

Besides these devices, it is important to use blades suitable for the kind of material to be cut.

The choice of these blades, to work the special materials to be sectionized, may be obtained with the help of the toolmakers or the SCM technical staff.

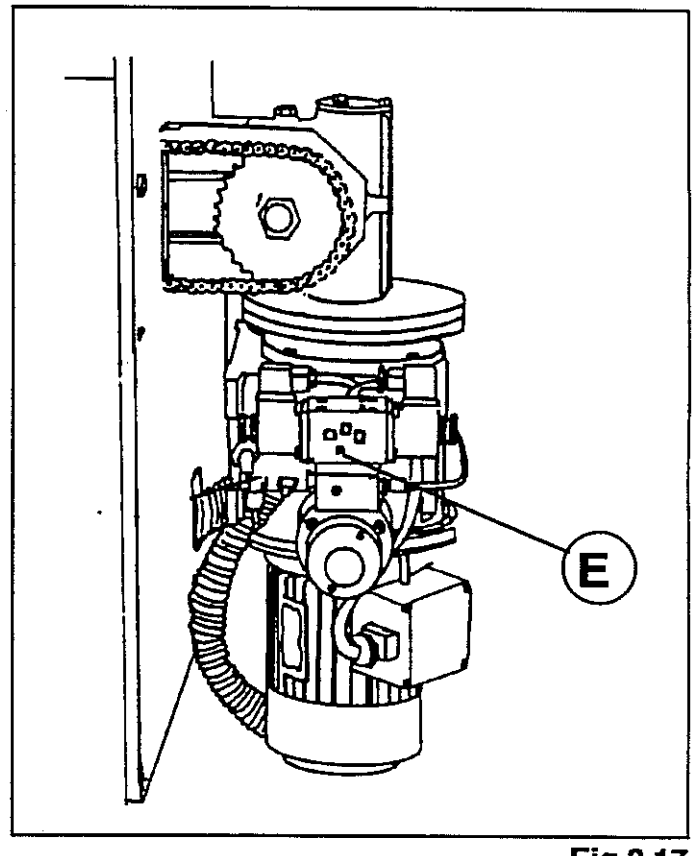


Fig.3.17

## LUBRIFICATION OF THE SPEED VARIATOR

- The oil contained in the speed variator must be changed after the first 200 hours of work, then every 2000 working hours.

Recommended products:

| | |
|---|---|
| ESSO | NUTO H100 |
| AGIP | OSO 100 |
| SHELL | TELLUS 100 |
| MOBIL | ATE 100 |
| IP | HIDRUS 100 |
| FIAT | FTI 100 |

# SECTION 4

## OPERATING CYCLE

The sectioning reduces the dimensions of the commercial panels in
to the format of furniture components.

The machine can cut one or more panels during the same working cycle.

A = Panels with commercial dimensions
B = Longitudinal sectioning cuts
C = Transverse sectioning cuts

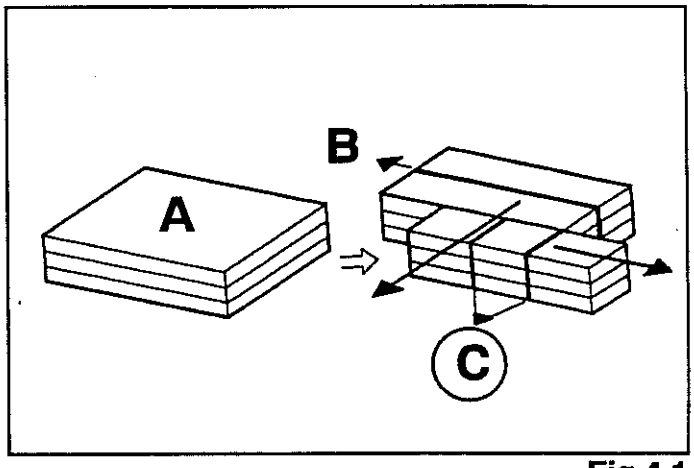


Fig.4.1

The sectioning may occur in 2 ways:

a) one single cut at a time for " outsized " and irregular workings.
b) series of programmed cuts.

A- Longitudinal trim
B- Transverse trim
C- Off-cuts

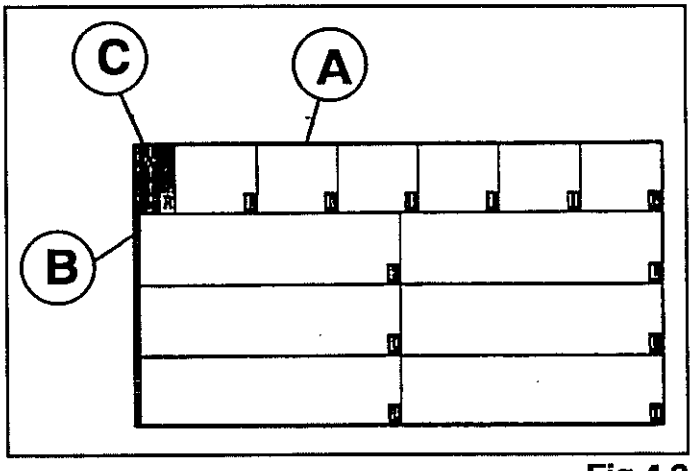


Fig.4.2

## MANUAL MACHINE

In order to sectionize with the machine, it is necessary to:

1- Fix a cutting plane that requires the least off-cuts and labour.
2- Manually pre-set the measures for the panel width required on the graduated guide placed on the left rack (G fig.4.3).
3- Load the panels preferibly from the front against the rest socles of the pusher.

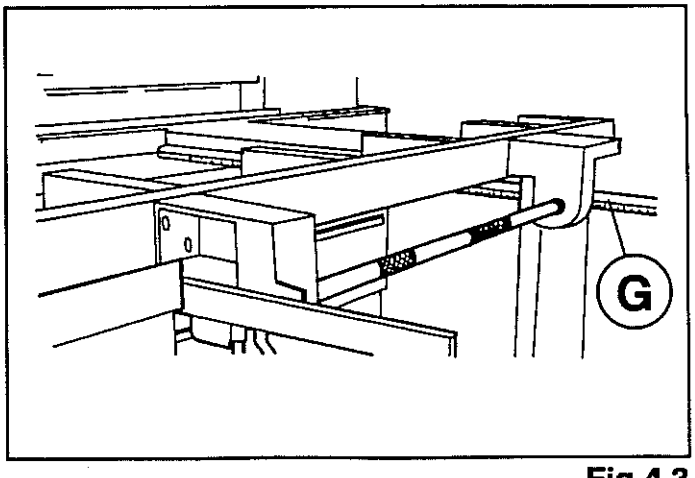


Fig.4.3

4- Set the stroke of the blade by means of the selector (S fig.4.4) rotating it on (R) to set the return or rotating it on (A) to stop the stroke of the blade on the forward motion.

Positions 1 and 2 of selector (S1) correspond to arrows (a1-A2 forward motion of blades) and to arrows (R1-R2 return of blades).

The S1 selector positions 1 and 2 correspond to the front arrows of the blades' forward motion A1 and A2) and to the return of the blades (R1 and R2.fig.4.4)

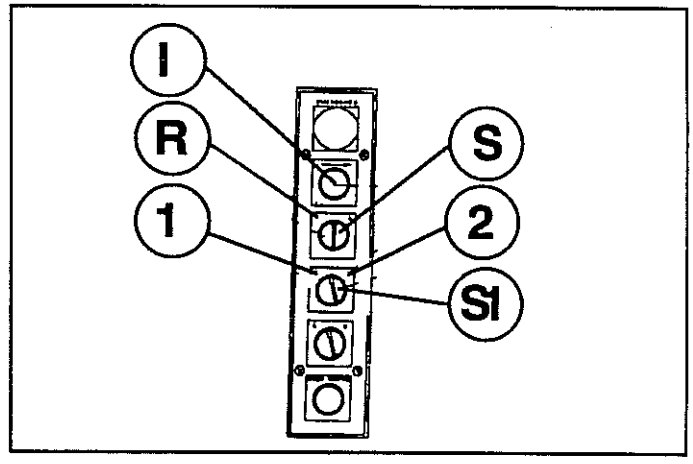


Fig.4.4

5- Execute the trimming cut as follows: (fig.4.5)
- Set the manual fence on the predetermined measure.
- Rest the front panel on the front tables, in order to cover the cutting line.
- Press the luminous button to start the cycle. The blade will execute the trim.
- Manually remove the trimmed strip

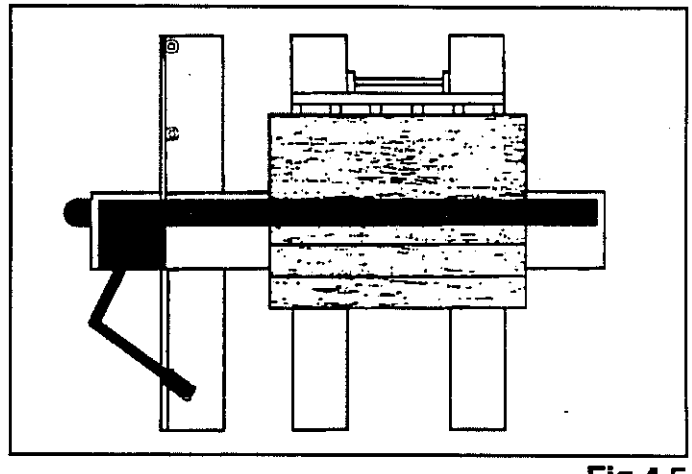


Fig.4.5

6- Execute the longitudinal cuts
- Push the panel against the stops (B fig.4.6) previously set up.
- Re-press the button to start the cycle.
- Proceed in this way for all the longitudinal cuts.

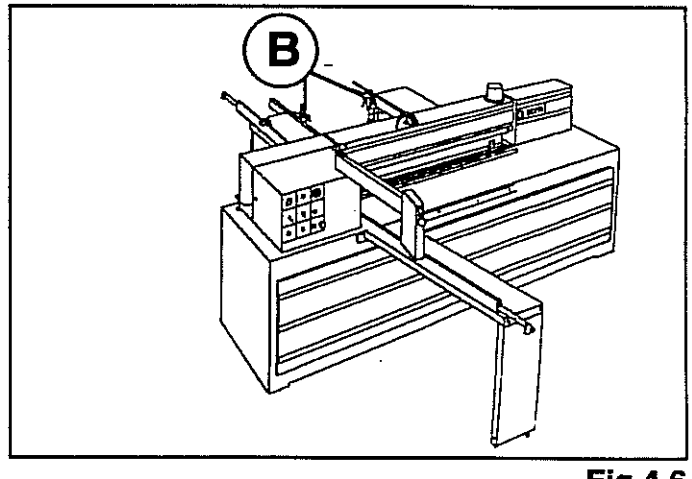


Fig.4.6

7- ransverse cuts
   a) Set the pneumatic or mechanical stops on the predetermined measurements.

Fig.4.7 - B = Mechanical stops
Fig.4.8 - C = Pneumatic stops

   b) rotate the panel against the transverse stop (B fig.4.9) (mechanical or pneumatic).
   c) Set the blade return by rotating the selector (S) to position (R) and the selector (S1 to 1-2 Fig.4.10)
   S- blade return selector
   d) Execute the transverse trim covering the cutting line with the strip.
   e) Push the strip against the stop keeping it fixed against the transverse guide.
   f) Push the cycle start button (I fig.4.10).

If various transverse cut sizes are required, it is necessary to:

- Set the transverse measures with the stops starting from the smallest measure from the cutting line.
- Carry out all the cuts with equal length from the first stop.
- Lift this and go against the next stop previously set.
- Do this for all measures you have set

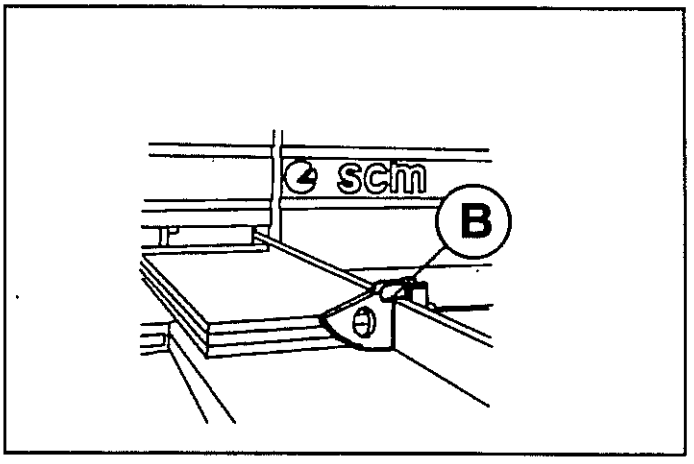



Fig.4.7

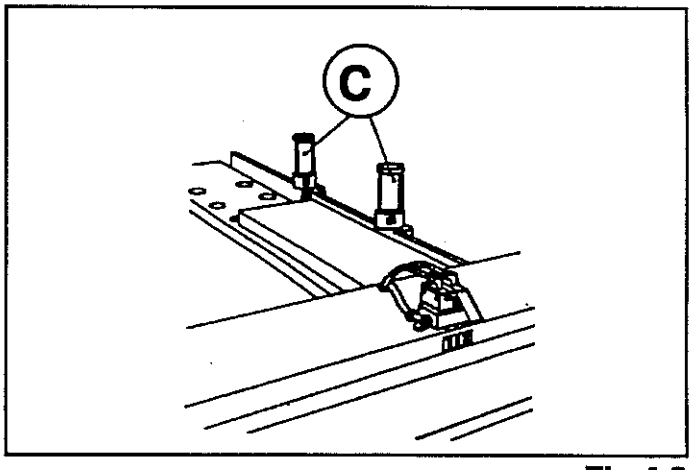



Fig.4.8

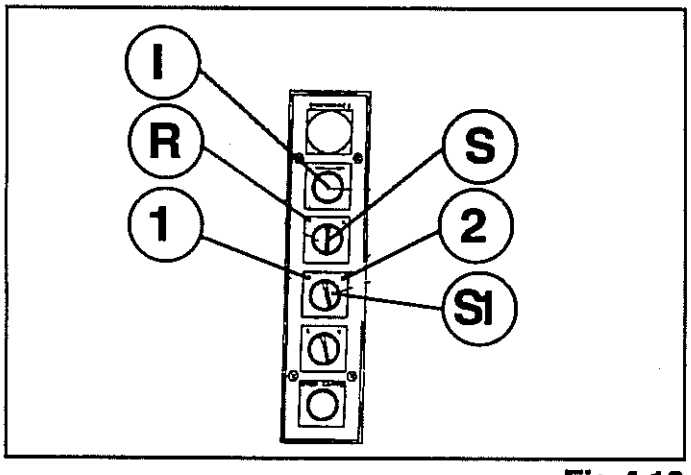



Fig.4.10

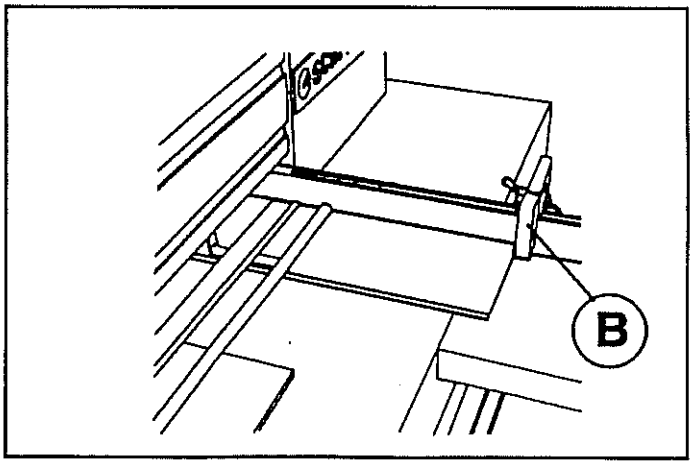



Fig.4.9

## SLOPING CUTS

In order to carry out sloping cuts it is necessary to mount the proper table with fence (fig.4.11)

To mount, proceed as follows:

- fix the table (W) onto the bar (B) in front of the machine body.
- insert the pin (P) of the fence into the table hole
- slant fence (G) reading the desired angle on the graduated rod (A) and locking it with the knob (S).
- the slope may be carried out in two ways, from +45 to -45 degrees.
- If the panel to be cut is long, it is advisable to mount a support table.

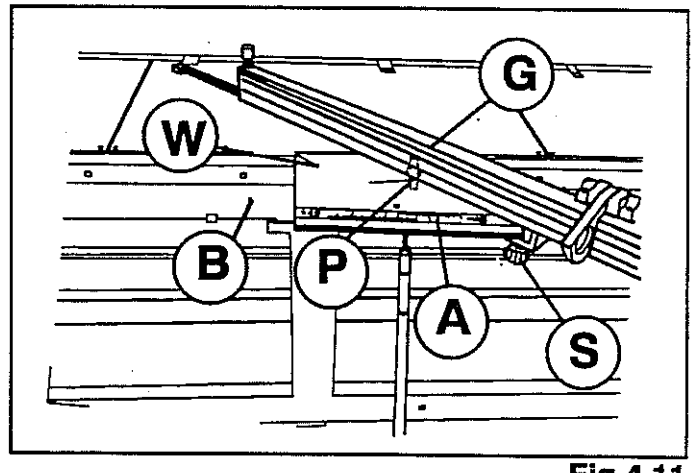


Fig.4.11

## PANEL SAW WITH CLAMPS

Two operators load the panels from the machine face, sending them against the open clamps (fig.4.12).

Only one operator is need for loading, if the machine is supplied with a sucker loader (fig 4.13).
The clamps drag the package backwards and position it for the first trimming cut (fig. 4.14).
The longitudinal cutting sequence follows (fig.4.15).

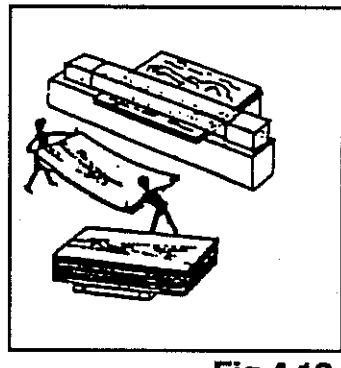


Fig.4.12

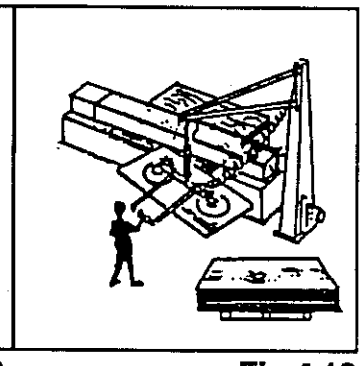


Fig.4.13

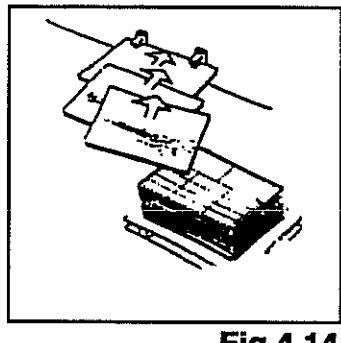


Fig.4.14

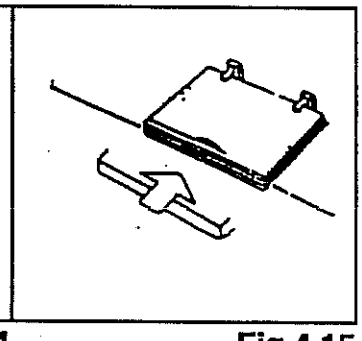


Fig.4.15

Once the longitudinal cuts have been terminated, the operator turns the strips and aligns them against the square fence and the clamps, in order to carry out the transverse cuts (fig.4.16), by means of the approaching unit.
In this operation the operator places more packages of strips along-side, until a max. width of 1200 mm

The position of the approaching unit (A) is adjusted for a stroke max. 110 mm.

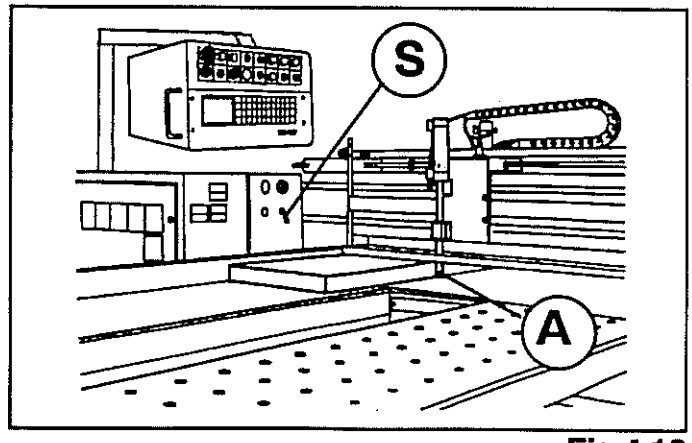


Fig.4.16

The clamps lock the panel package and position it for the first trimming cut (fig.4.17).

The automatic cycle of the transverse cuts will follow.

The operator manually unloads the cut panels, during the work cycle,if an automatic sucker unloader is not available.

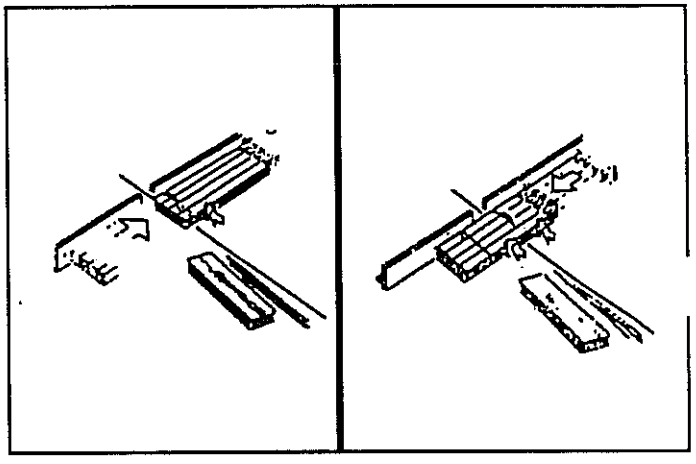


Fig.4.17 Fig.4.18

## USE OF THE APPROACH DEVICE

1- Rotate the selector (H to I Fig.4.19)
2- Position the panel on the cutting line
3- Position the approach device (the approach device has a 110 mm stroke).
   If the panel is 500 mm wide the approach device may be positioned in an area between 400 and 500 mm of the upper millimetered rule (A Fig.4.20).
4- Press button L.
5- The stems of the approach device are lowered and press the panel against the rest square.
6- The presser locks the panel on the work surface.
7- The blade cuts
8- Reset of the position of the different members.
9- The approach device remains with the stems down, and pneumatically locked.
   To position the approach device again, turn selector (H fig.4.19) to 0; in this way the approach device is free.
   To switch it on, turn selector (H) to 1.

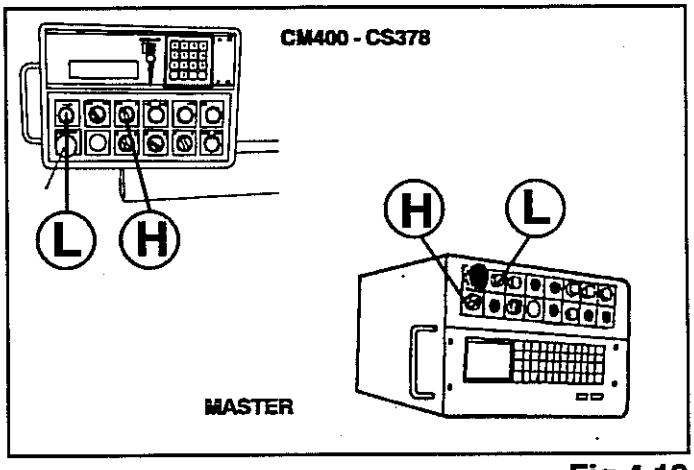



Fig.4.19

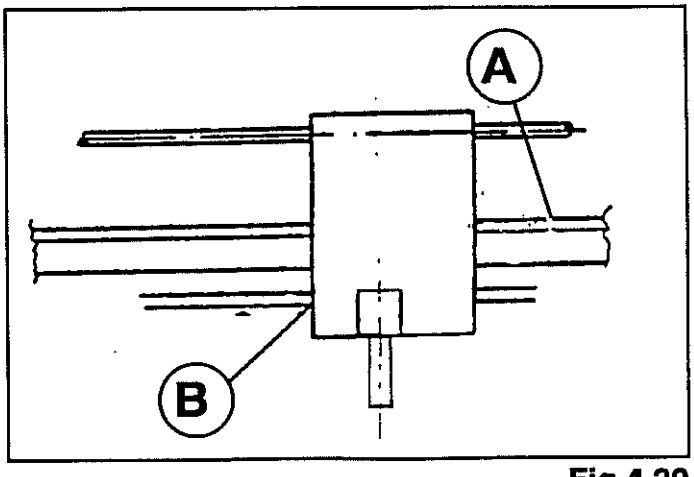



Fig.4.20

For the correct use of the approach unit set air pressure to 6 bar by means of regulator (A fig.4.21). Now with quick exhaust valves (Z) adjust the flow so that cylinder (B) can operate only after the lowering of vertical cylinder (R).
Adjust the pressure with regulator (A).

It can happen that a clamp may only partly lock the panel on the edge, due to the variable dimensions of the panel.

In order not to damage the edge of the panel when the clamps close, adjust the air regulation knob that is behind the clamp-holder sump to exclude the clamp concerned (fig.4.22)

To carry out lengthwise cuts a lot less than the maximum capacity of the machine, it is advisable to adjust the two selectors (A1 and B1 fig.4.23)

With MASTER control set the data on the control (see handbook MASTER)

- Normally selector (A1) is on 0
- Turn selectors (A1-B1) - For programming the saw carriage stroke ONLY WHEN THE SAW CARRIAGE IS STILL
- By turning selector (A1) to A (forward motion) selector (B1) is activated to stop the saw carriage while it is advancing (blade up).
- By turning selector (A1) to R (return motion) selector (B1) is activated to stop the saw carriage when it is coming back (blade down)
- To choose the station desired turn selector (B1) to 1-2

blade up, cut stop
blade down, cut start

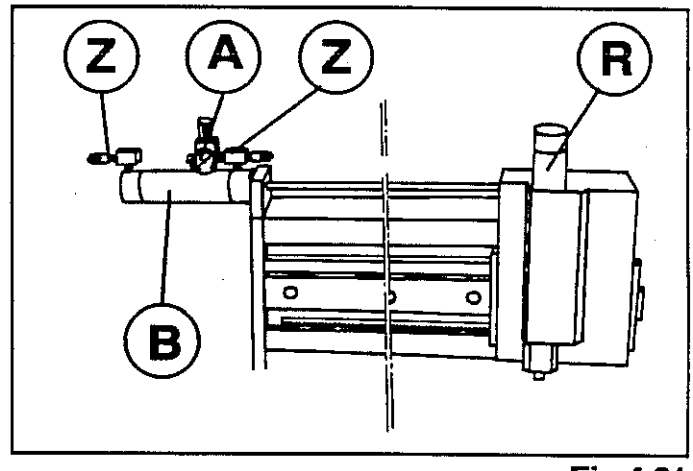


Fig.4.21

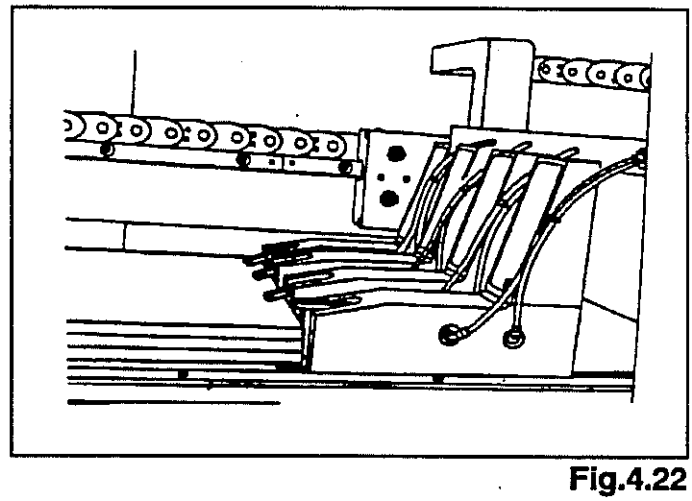


Fig.4.22

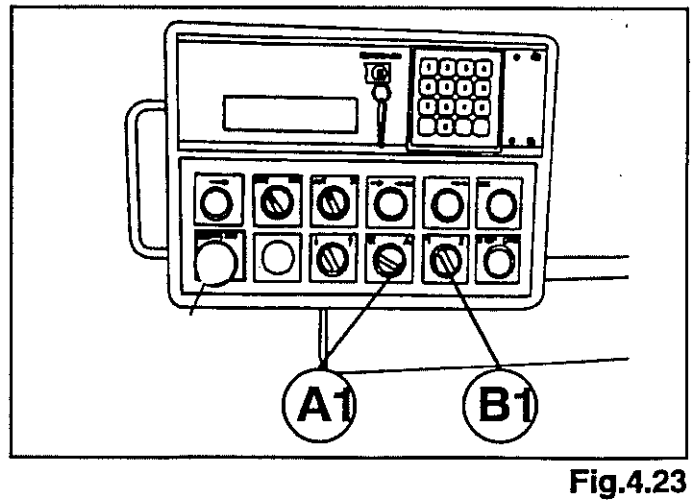


Fig.4.23

## WORK CYCLES ON THE MACHINE WITH PLATFORM

On the machine the loading comes about by means of a lift truck.

It is possible to load panel packages up to a max. height of 500 mm (fig.4.24)

The platform, after the last package, automatically descends and sets itself for a new cycle.

The loading of the material may come about even while the pusher is totally forward for the last longitudinal cut.

The max. capacity on the platform without the small tables for transverse cuts is 4500x2200x500 mm, i.e. approx. 5 m3 of material.

With the small table for square cuts, this capacity is 3800x2200x500, i.e. approx.4,3 m3 of material.

The work cycle comes about in this way:
Pusher completely back
The operator sets the thickness of the panel packages that the platform must lift using the handwheel and the display placed on the longeron. (for 2 panels of 12 mm the number 24 must be set) (fig.4.25)
The platform lifts according to the thickness set.
The pusher advances and pushes the panels that align themselves agaist the aligner for the correct positioning of the package.

In this way, the programmed cycle of the longitudinal and transverse cuts, is started.
The cycle is repeated until the end of the pile placed on the platform.

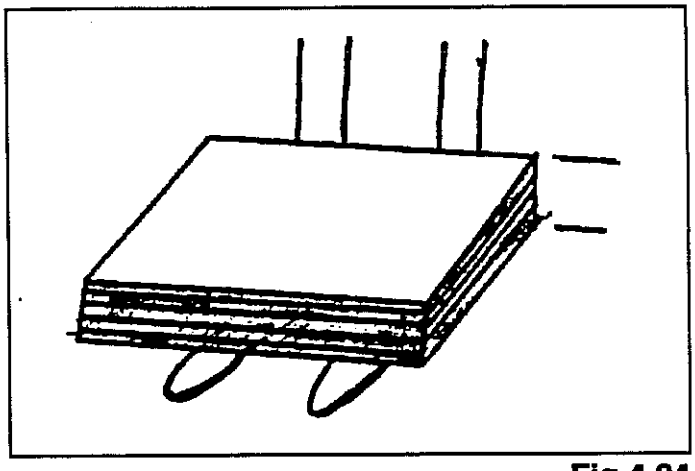


Fig.4.24

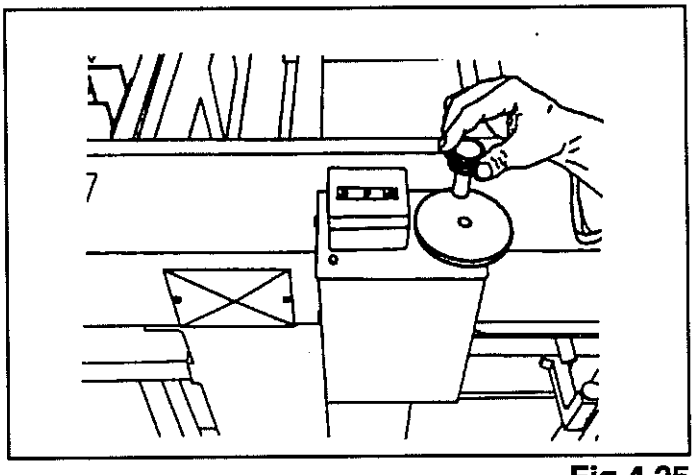


Fig.4.25

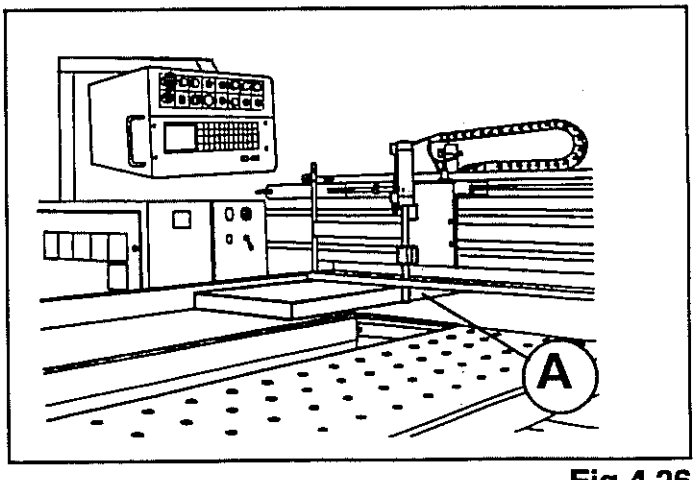



Fig.4.26

## CYCLE ON THE CORNER MACHINE

With the corner machine, 3 operative cycles are possible:

A) Firstly the execution of all the longitudinal cuts of all the panels on the platform followed by the execution of the transverse cuts (fig.4.27)
B) The execution of the longitudinal cuts of the panel package moved forward by the pusher and the subsequent transverse cut (fig.4.28).
C) The execution of the transverse cut following each longitudinal cut (fig.4.29)

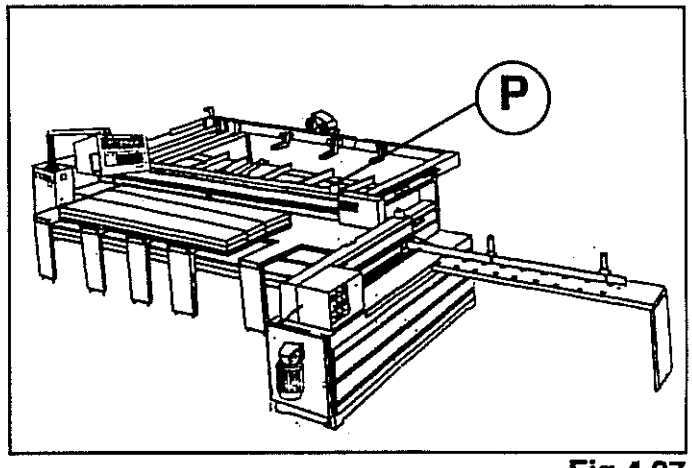



Fig.4.27

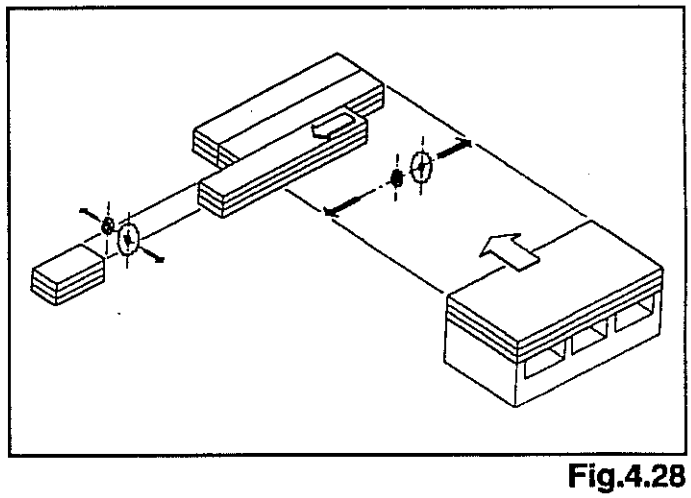


Fig.4.28

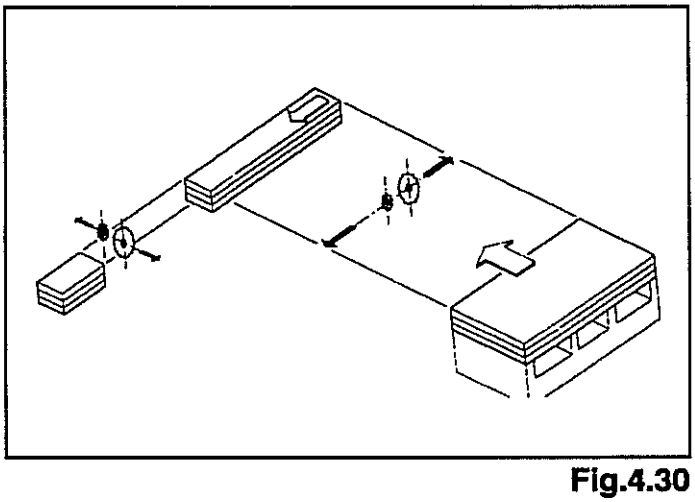


Fig.4.30

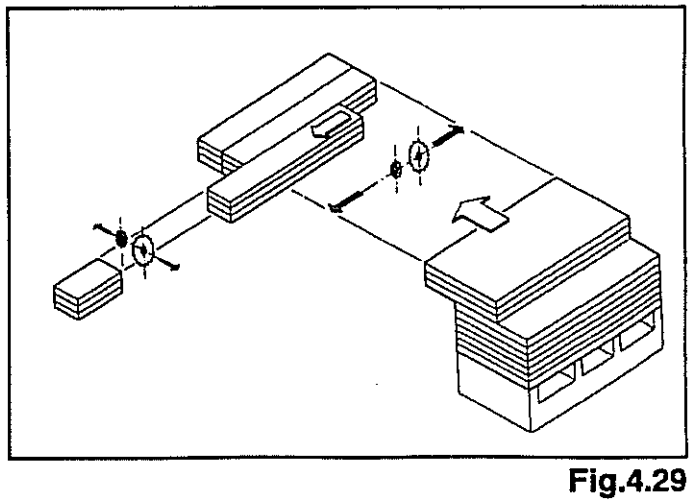


Fig.4.29

# SECTION 5

## CLEANING OF THE MACHINE

Switch off the general switch, and remove the current from the machine.

Remove the back and front covers.

From time to time remove all the off cuts deposited onto the machine that could endanger the stroke of the carriage and the finish of the cut, to facilitate use of the machine.

Check by touching that the guides are free and clean.

Every week clean chain (C) with a jet of compressed air (fig.5.1)

Periodically clean the racks of the pusher and of the pressure beam by blowing compressed air. For this operation you have to remove the two side covers.

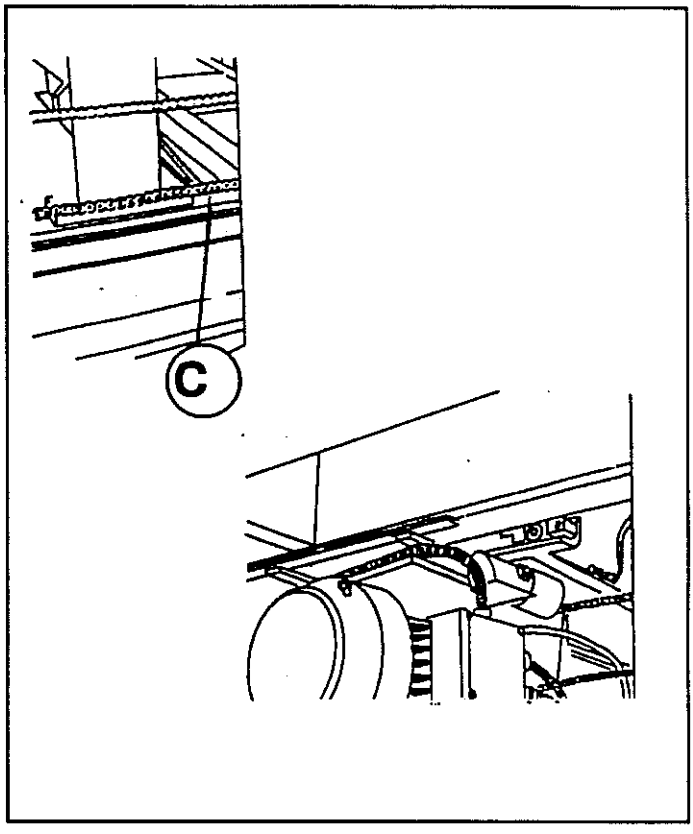



Fig.5.1

### IMPORTANT

**The transmission chain for saw carriage feed has been stretched therefore it shall not be adjsuted.**

## GENERAL LUBRICATION

- The periodic lubrication ensures a longer duration of the machine and the best functioning.

All the bearings of the machine are of the "life" resistant type and therefore do not require any lubrication.

- Lubricate the hinges of the saw arm weekly, with oil, using the suitable oiler (H fig.5.2).
- Dismantle all the doors of the machine and, using a blast of compressed air, clean the sliding guides of the saw blade carriage weekly, subsequently lubricating with oil.
- Clean the sliding guides of the pusher weekly.
- Clean the pulling chain with a blast of compressed air, weekly.
- Clean the rack and the pinions of the torsion bar with compressed air daily, and lubricate.
- Check that the suction is good and remove possible clogged material from the suction chanel.

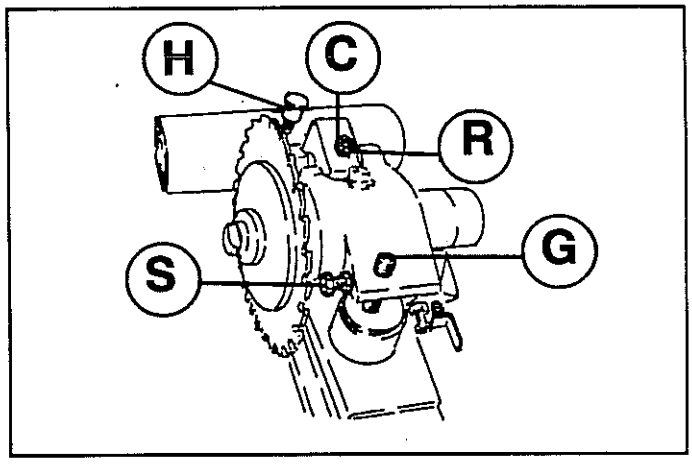



Fig.5.2

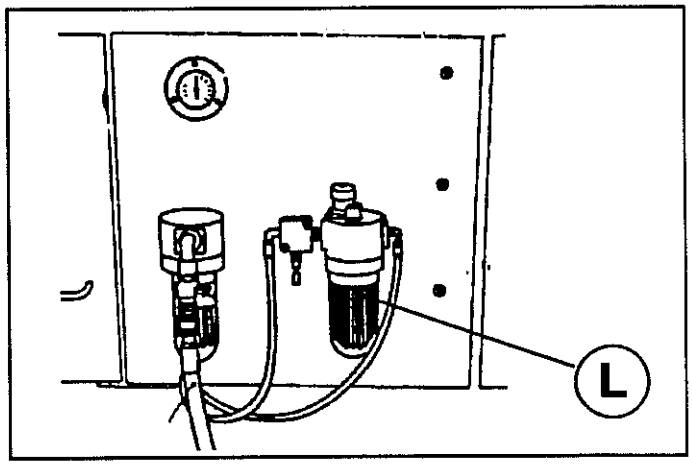



Fig.5.3

## LUBRICATION OF GUIDES

Check the oil level in the tank (L fig.5.3) after adjusting the saw carriage.
The level shall never be less than the half height of the tank (L) in order to ensure the right use of the machine.
The guides are lubricated during the saw carriage return by control of solenoid valve (E).

**Don't intervene wrongly on the lubrication thinking that it may occur during the forward motion.**

## TYPES OF OIL TO USE FOR THE LUBRICATION SYSTEM

| | | |
|---|---|---|
| AGIP | OSO | 32 |
| ESSO | TERESSO | 32 |
| ESSO | NUTO H | 32 |
| MOBIL | DTE | 24 |
| SHELL | TELLUS OIL | 32 |
| BP | ENERGOL HLP | 32 |
| FIAT | HTF | 32 |
| TEXACO | RANDO OIL HDA | 32 |

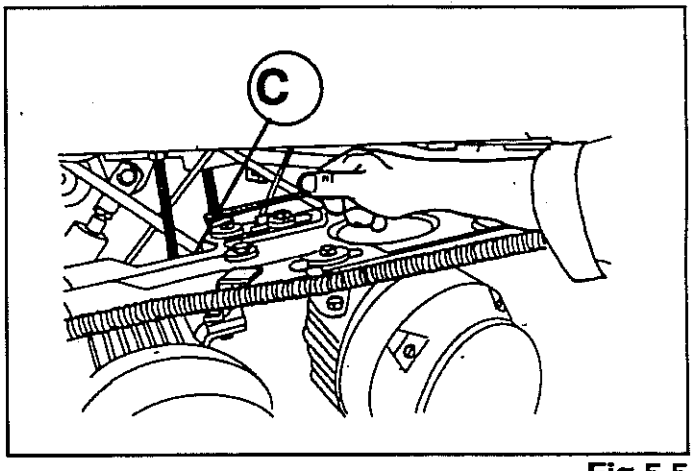



Fig.5.5

For the periodic lubrication of the mechanical parts, use clean oil that is not very dense.

## BELT TENSION REGULATION

The saw blade carriage is in the rest position on the left side of the machine.

- Remove the front left door.
- Loosen the lock nut (C fig.5.5) and regulate the adjusting screw (V fig.5.6) to pull the belt to an optimum.
- Lock the lock nut (C fig.5.5).

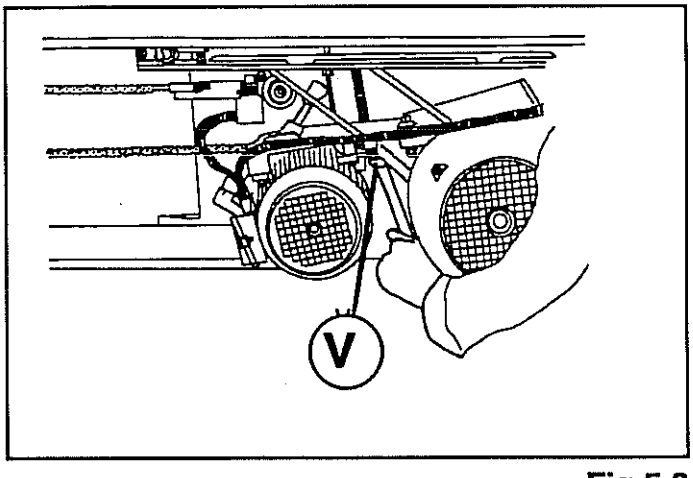



Fig.5.6

## PUSHER MAINTENANCE

Clean the racks daily using a blast of compressed air, both above and below, and remove the pressed wood dust, if any.

Periodically check that the coupling between the pinion and the rack on the one side, is identical to the pinion-rack coupling on the other side.

To eliminate a possible play, adjust the sliding block (H) in rexilon as in (fig.5.7 - 5.8). Unscrew the two screws (V fig.5.7), remove the back sump and adjust in the following way:
Using a suitable wrench, loosen the locking nuts and adjust the adjustment grub screws as in fig.5.8.

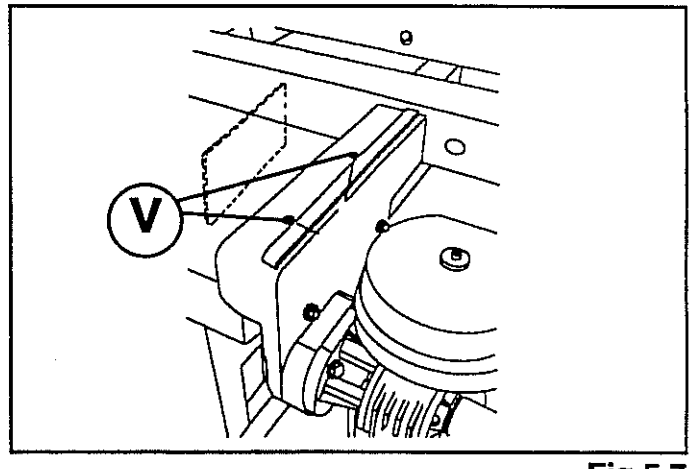



Fig.5.7

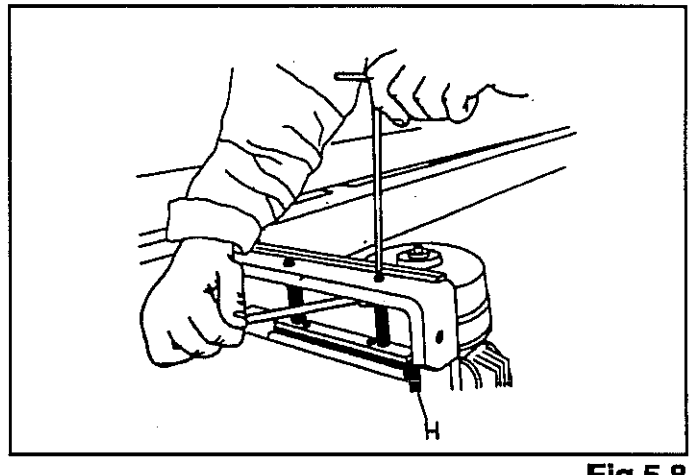



Fig.5.8

# SECTION 6

## PROBLEMS - CAUSES - SOLUTIONS

The machine has been tested by SCM and should not have any defect.
An incorrect use of the sectioning machine could, in time, cause some problems.
For each of these the causes will be defined and for every cause the relative assistance will be examined.
Important Note: remember to electrically insulate the machine before proceeding to the maintenance.

### PROBLEM

By turning on the main switch, the machine does not start.

| CAUSES | SOLUTIONS |
|---|---|
| Interrupted fuses | In fig.6.1,there is a diagram of the cap and fuse holder areas. |
| Loose caps | Tighten the fuse holder caps F2-3 in fig.6.1, if these are not well tightened, otherwise change the relative fuses. Check these and possibly change them paying attention to the reason for their interruption. If the interruption of the fuses persists, call for technical assistance. |
| Interrupted emergency | Check all the emergency, device as already seen. |
| Missing phases | Check that voltage arrives in all 3 phases.fig.6.1 To do this check with a tester. |

### PROBLEM

The pusher does not start

| CAUSE | SOLUTION |
|---|---|
| The protections that safeguard the motor from overload have been inserted (have tripped), these protections are thermoelectronic relays | Reactivate the thermoelectronic relays by means of reset buttons |
| Lower limit switch of the saw arm not pressed | Check the exhaust cylinder works in the proper way: the saw arm shall comes down. |
| Limit switch of pressure beam not totally pressed | Check that the saw dust doesnot prevent the pressure beam lifting. If necessary clean. Check that the limit switch stem is not loose and shifted. (The limit switch shall trip with the pressure beam up) |

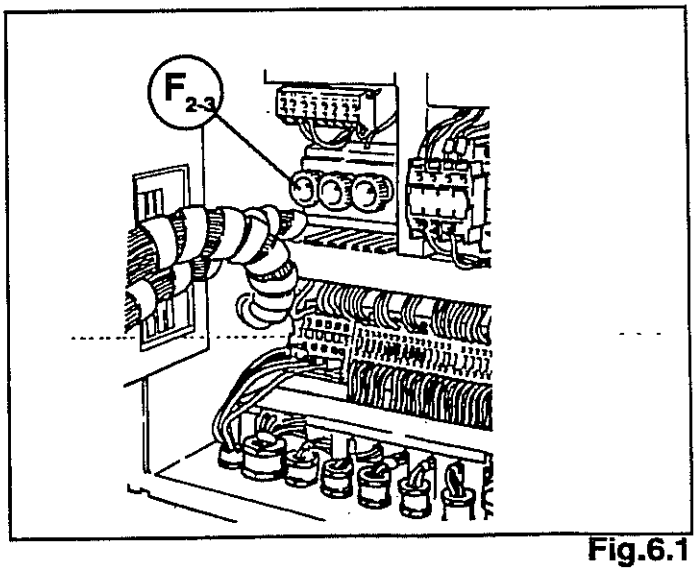



Fig.6.1

## PROBLEM:

The blade motors do not start.

| CAUSE | SOLUTION |
|---|---|
| Interrupted fuses<br>Loose caps | Tighten the fuse-holder caps (F2-3 fig.6.1) if these are not well tightened, otherwise replace the fuses.<br>If the fuses are interrupted again apply to the technical service. |
| Thermal relays tripped | Reactivate the thermal relays of saw and scorer motors by means of reset buttons (R and S fig.6.2) |
| Lack of or insufficient compressed air | Check that there is enough compressed air. (6 bar). To do this proceed as already seen in the pneumatic connection. |

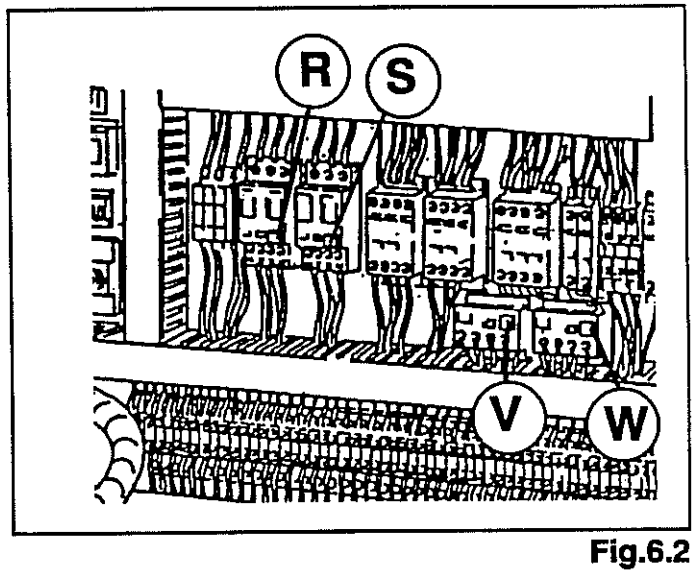



Fig.6.2

## PROBLEM:

The carriage does not start

| CAUSE | SOLUTION |
|---|---|
| Interrupted fuses or loose caps | Tighten the fuse-holder caps.<br>Replace the relative fuses after checking. If the fuse interruption continues, call for technical assistance. |
| Thermal relay for motor feed tripped. | Re-activate the relays for the motor feed carriage by pressing the buttons (V and W fig.6.2) |

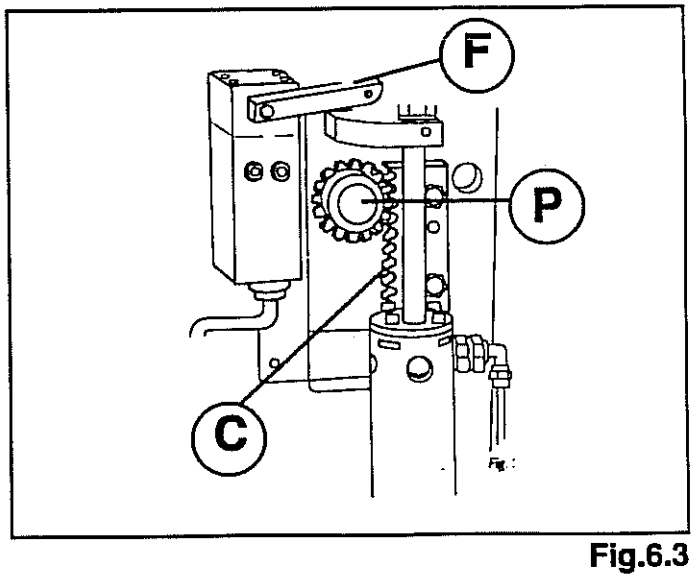



Fig.6.3

## PROBLEM:

One of the two upper edges of the panel is chipped.

| CAUSE | SOLUTION |
|---|---|
| The blade kicks i.e. The blade is slanted in regards to the cut. | Stop the carriage before backward stroke limit stop, at approx. 50cm, so as to provide easy access to the threaded pin (E fig.6.4) that regulates the alignment of the saw carriage. |
| This defect may be caused by unequal wear of the two wheels | Extract the blade protection sump. Loosen the nut (D) that locks the threaded pin (E) of the wheel on the blade side. Rotate the threaded pin (E) using a hexagonal slot wrench. Tentatively proceed tightening the wheel pin by a 1/4 turn every time. If the chipping is on the front part of the panel, or loosening if the chipping is on the back part. Lock the pin with a suitable lock nut. Carry out cut tests. |

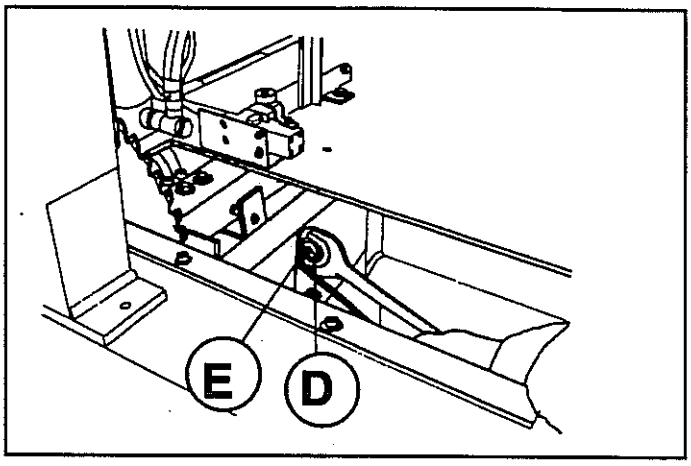



Fig.6.4

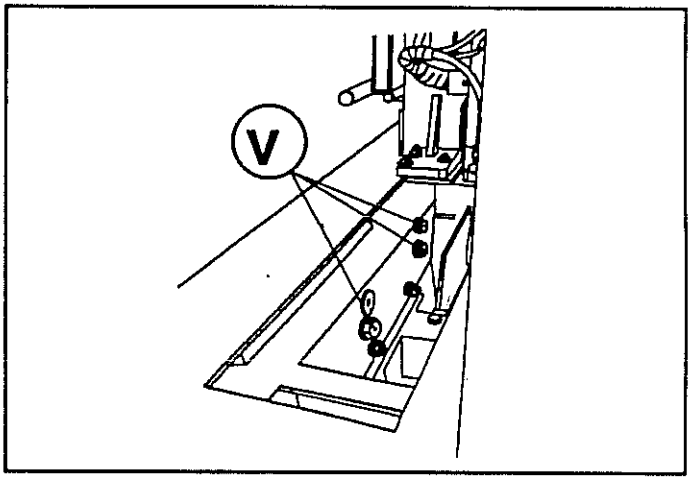



Fig.6.5

**PROBLEM:**

The blade does not carry out a square cut

| CAUSE | SOLUTION |
|---|---|
| The blade does not cut square. | Extract the blade protection |
| It is possible that after many hours of work, the wear of the sliding block or of the sliding wheels of the saw blade carriage may cause an imperfect cut not square to the worktable | sump with the carriage in the starting position. Dismantle the blade as seen already. Loosen the locking screws (V) of the sliding block. (fig.6.5) Unlock the lower lock nut (E fig.6.6). |
| | Tighten the screw (D) that regulates the height of the sliding block, if this is worn. |
| | **Tighten,if on the front part of the panel cut, the corner exceeds 90 degrees.** |
| | Tentatively proceed with subsequent regulations 1/4 turn of the nut. |
| | Re-mount the blade with the inverse operations of those previously stated. Carry out trial cuts. |

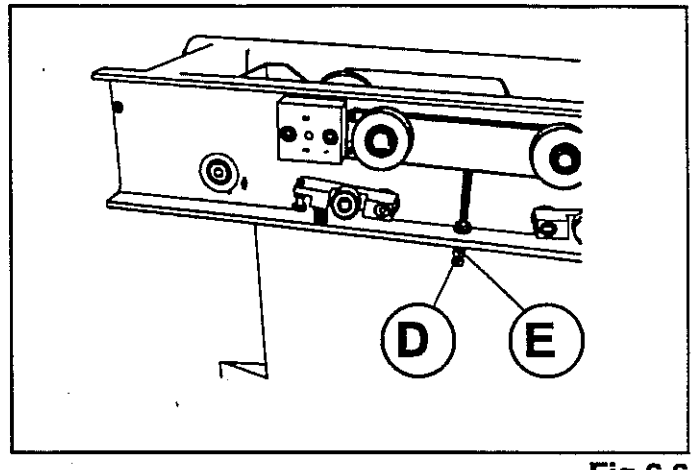



Fig.6.6

## PROBLEM:

Too fast or too slow descent of the blade at cycle end.

| CAUSE | SOLUTION |
|---|---|
| The exit of air from the lifting cylinder is not well regulated. | Unscrew the lock nut (A fig.6.7) from regulator (R) on the piston. Rotate the nut (B) of the regulator R clockwise if the slowing down of the blade is required, and vice-versa if a speeding up is required. |

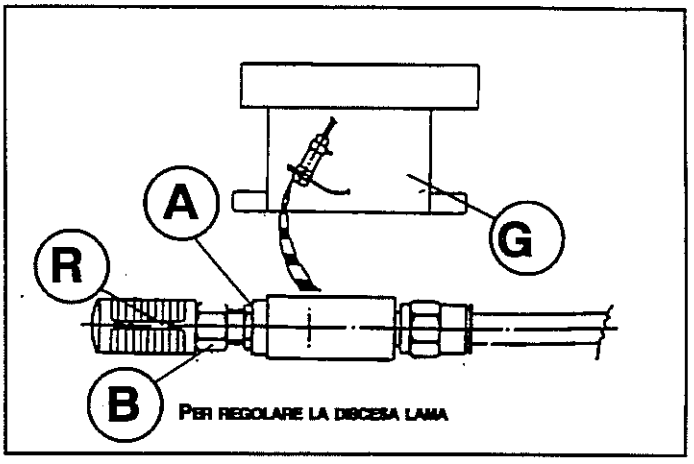



Fig.6.7

## PROBLEM:

The saw blade arm does not descend regularly even following registration of the piston, or even remains blocked high.

| CAUSE | SOLUTION |
|---|---|
| The fulcrum pin (P) is not well lubricated | Move the carriage to the right end of the machine. Unscrew the top of the lubricator (H fig.6.8) Fill the small well with lubricating oil. |

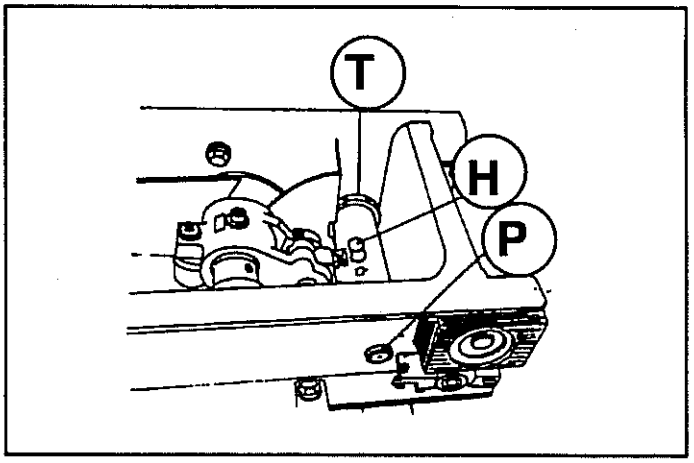



Fig.6.8

## PROBLEM:

The blade remains lifted even following the lubrication of the fulcrum pin.

| CAUSE | SOLUTION |
|---|---|
| The pneumatic piston for lifting the saw blade arm is worn | Remove the pneumatic cylinder, acting on the 2 connecting pins (Q fig.6.9). Check if the saw blade arm locks. Replace the pneumatic cylinder. |

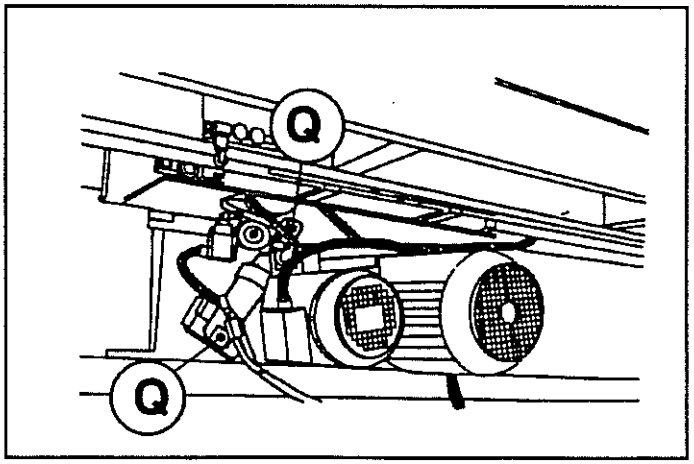



Fig.6.9

## PROBLEM:

The saw blade arm remains locked, even if the cylinder has been replaced.

| CAUSE | SOLUTION |
|---|---|
| Ring nut of the saw blade arm too tight | Loosen grub screw (G fig.6.10) of the ring nut (T fig.6.16)<br>Loosen the ring nut (T fig.6.16)<br>Tighten the grub screw (G fig.6.10) |

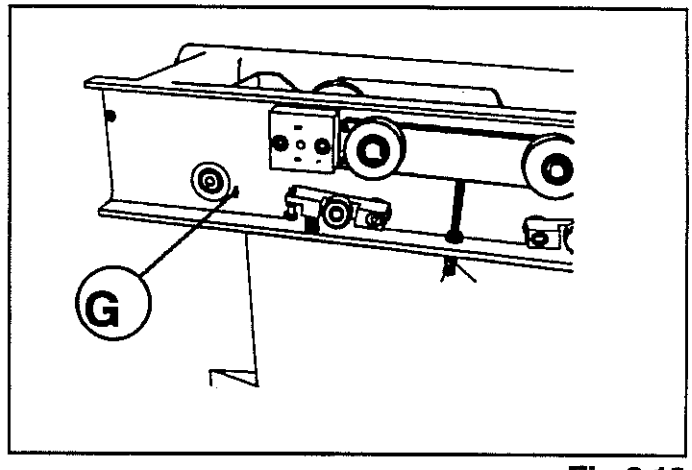



Fig.6.10

## PROBLEM:

The saw arm always remains locked.

| CAUSE | SOLUTION |
|---|---|
| Pivot not loose; lack of a constant lubrication | Withdraw the saw blade carriage proceeding as follows: remove the carriage pulling chain (T) after having loosened it by unscrewing the nut (M) and the lock nut (N fig.6.11)<br>Dismantle the spiral-holder bracket fig.6.12.<br>Remove the pinion holder plate (P) on the right of the machine (fig.6.13)<br>Remove the 4 screws (V) from the suction chanel (A fig.6.13)<br>Rotate the suction chanel (A) to withdraw it from the carriage.<br>Extract the carriage for about 50 cm. |

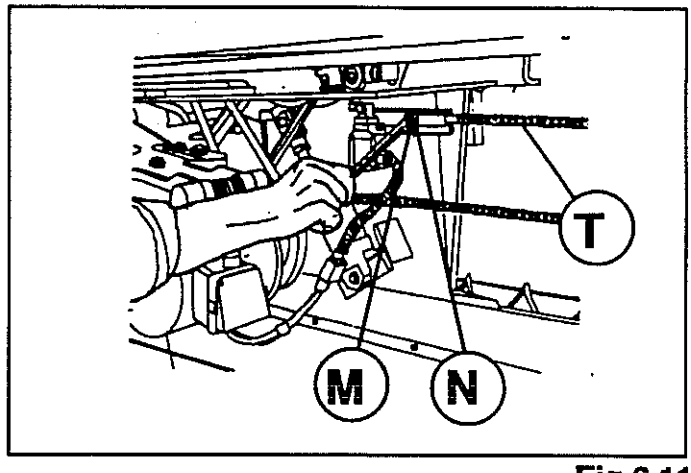



Fig.6.11

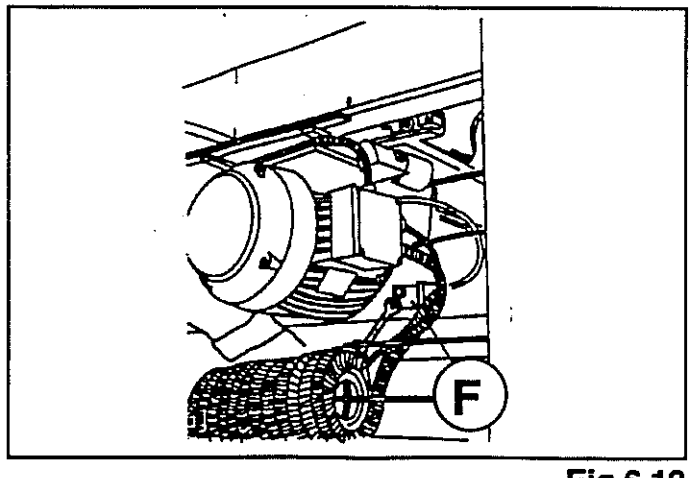



Fig.6.12

Remove the locking screw and its washer.
Loosen grub screw (G) of the ring nut (T fig.6.15-6.16)
Using a suitable mallet, act on the fulcrum pivot, extracting it from its bed
Change the pivot if it is worn.
Change the saw blade arm if the housing is unsuitable.

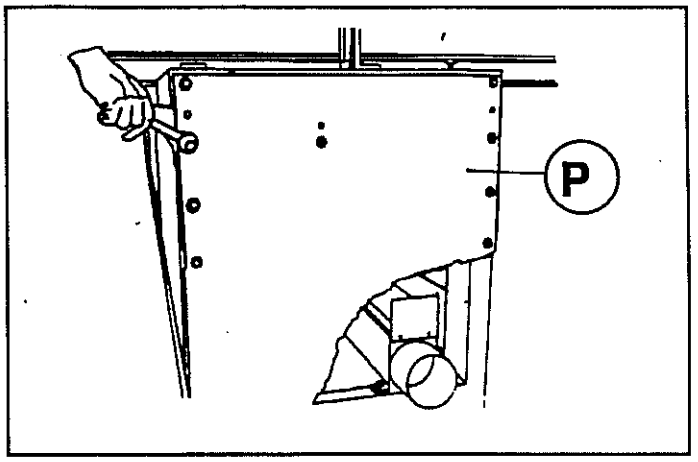



FIG.6.13

**PROBLEM:**

The blade drags the piece away during cutting.

| CAUSE | SOLUTION |
|---|---|
| The pressure beam does not descend s or descends slowly, or descends late lor does not press. | At the beginning of the cutting cycle,firstly the presser descends then the blade rises and only when pressure in the presser-blade synchronous circuit has reached the set measure the blade will start to cut. Once the cut is over, the blade is lowered and the the presser lifts. If this cutting sequence does not come about, it means that the pneumatic synchronous circuit is out of tune. It is then necessary to adjust the descent of the presser in this way: remove the blade-guard sump of the left side and gain access to the pneumatic circuit. Unscrew the knob (D fig.6.17) of the flow regulator of the presser (E) descent in order to favor the descent of the same. |

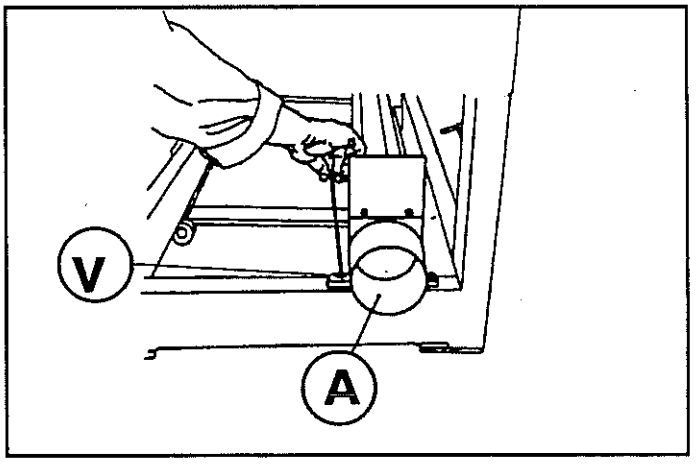



FIG.6.14

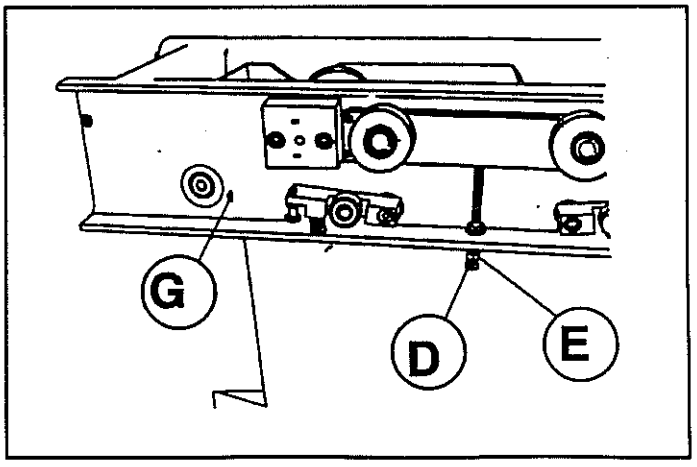



FIG.6.15

## PROBLEM:

The pressure beam continues to descend slowly or locks

| CAUSE | SOLUTION |
|---|---|
| Regulator faulty if by operating knob there are no variations of pressure beam motion | Replace the flow regulator (E fig.6.17) |
| Racks and pinions of the torsion bar are soiled with sawdust. | Clean the rack (C fig.6.18) and the pinions (P) with an energetic blast of compressed air. |

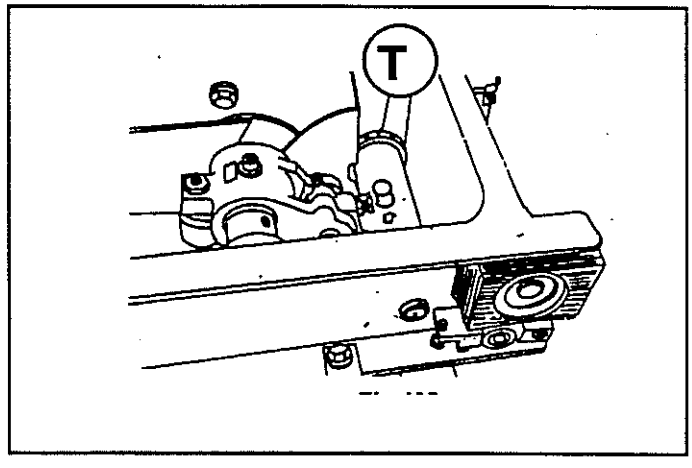



Fig.6.16

## PROBLEM:

The pressure beam does not rise or rises too slowly.

| CAUSE | SOLUTION |
|---|---|
| Flow regulator for pressure beam lifting not set. | Operate regulator (P) by means of knob (W fig.6.17) |

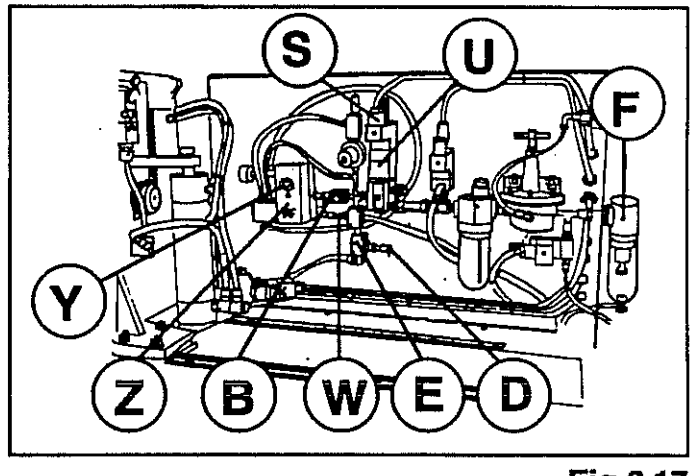



Fig.6.17

All the operations regulating the lifting and lowering of the blade and the pressure beam must be carried out with the blade still, acting on the manual button (S) found on the solenoid valve (U fig.6.17), that allows tests of the pressure beam and blade movements. If the blade lifts too slowly or too quickly, adjust the flow regulator (B).

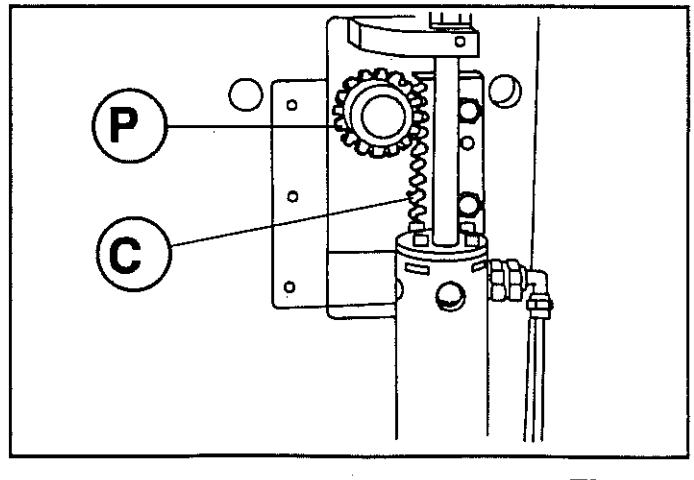



Fig.6.18

## PROBLEM:

The saw blade carriage starts with the blade not completely up.

| CAUSE | SOLUTION |
|---|---|
| The pressure switch for carriage start, has been set to a pressure lower than 6 bar | The saw blade carriage must start only after the presser has clamped the piece and the blade has lifted completely. Check the pressure of the manometer and re-set 6 bar by means of regulator (Y) of pressure switch(Z fig.6.17) |

## PROBLEM:

The saw blade carriage does not start when the blade is completely up.

| CAUSE | SOLUTION |
|---|---|
| Little pressure from the compressed air system of the laboratory (lower than 6 bar) | Adjust the compressed air system of the laboratory. |
| The pressure switch has been tampered with, or it has broken down, or it is not set. | As has already been illustrated,adjust the relative regulator Y to optimize the adjustment. |
| | If, following the adjustment, the problem persists, it will be necessary to replace pressure switch (z) |