MEBER

USER MANUAL

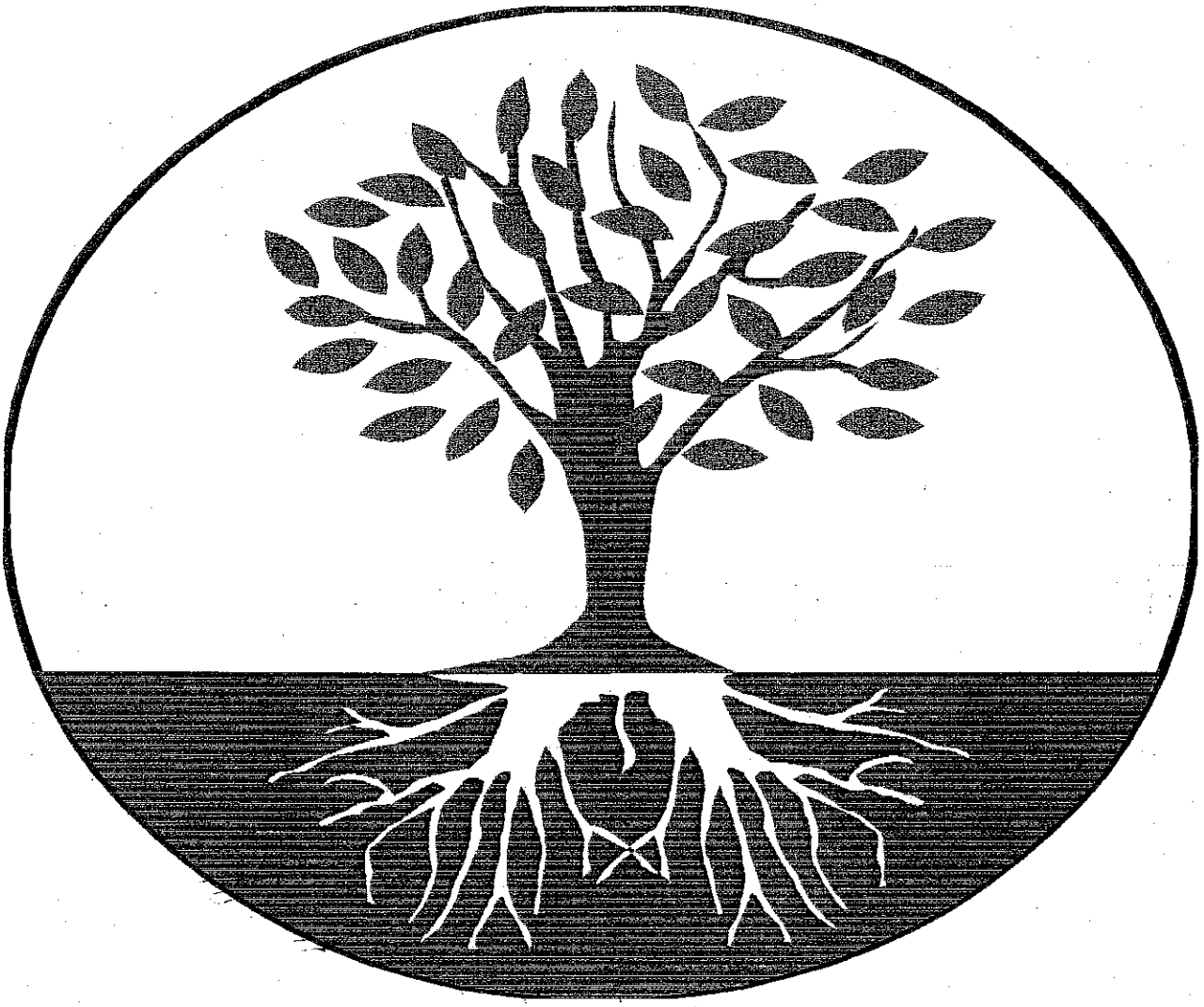
PROF. - DS - PB

BANDSAWS

400

Warning: The Hobby version of bandsaw PB400 with full flywheels and electronic braking is forbidden to professional users!

MEBER - Macchine per legno
Via dell'Artigianato 1 - 41012 Carpi (MO) - Italia
Tel. (059) 69 35 84 - Telefax (059) 64 21 09 - Teletex 51 85 45 Meber



A GOOD PART OF OUR TECHNICAL DOCUMENTS IS PRINTED ON 'RECYCLED PAPER'.

We intend, as should everyone, to contribute to saving our trees so that logging, wood and wood by-products exploitation are done with intelligence, because wood is a precious source of work for all of us but also of life and,
as such, the property of all mankind.

CONTENTS

1. GUARANTEE

All our machines undergo strict controls before leaving our factory, and are in perfect working order when shipped.

They are guaranteed against any manufacturing defects, provided they have been used and maintained properly.
We accept no responsibility for malfunctions or faults in the electrical system.

The machine is guaranteed for 6 months from the delivery date.

If any malfunctions are present, the customer must proceed as follows:

1. Report the problem or defect to Meber spa.
2. With authorization from Meber spa, the customer may repair the machine in accordance with the specific instructions provided.
3. If any work is done without Meber's authorization, the guarantee will immediately become null and void.
4. If Meber spa decides to do repairs in person, the guarantee will become null and void if the engineer discovers that any devices of importance for proper operation of the machine have been tampered with.
5. Replaced or faulty parts must be kept at the disposal of Meber spa if the latter wishes to examine them.
6. CAUTION: users are advised to read this user manual carefully and keep it for future consultation.

MEBER spa declines all responsibility for the machine and its components if work has been done on them by unauthorized staff.
The customer or dealer may never carry out any repairs or maintenance on the machine without the authorization of Meber spa.

THE CUSTOMER ...
Mechanical installation by ...
Electrical installation by ...
Date: ....

2. TECHNICAL DATA common for P 400 - DS 400 - PB 400

Flywheel diameter	400 mm
Table dimensions	500x400 mm
Cutting capacity (widthxheight)	225x390 mm
Flywheel speed	780 rpm
Max/min blade length	3185/3110 mm
Max/min blade width	25/6 mm
Blade thickness	0.4 mm
Three-phase motor power	1.1 kW
Single-phase motor power	0.9 kW
Overall dimensions	50x73x173 cm
Net weight	120 kg

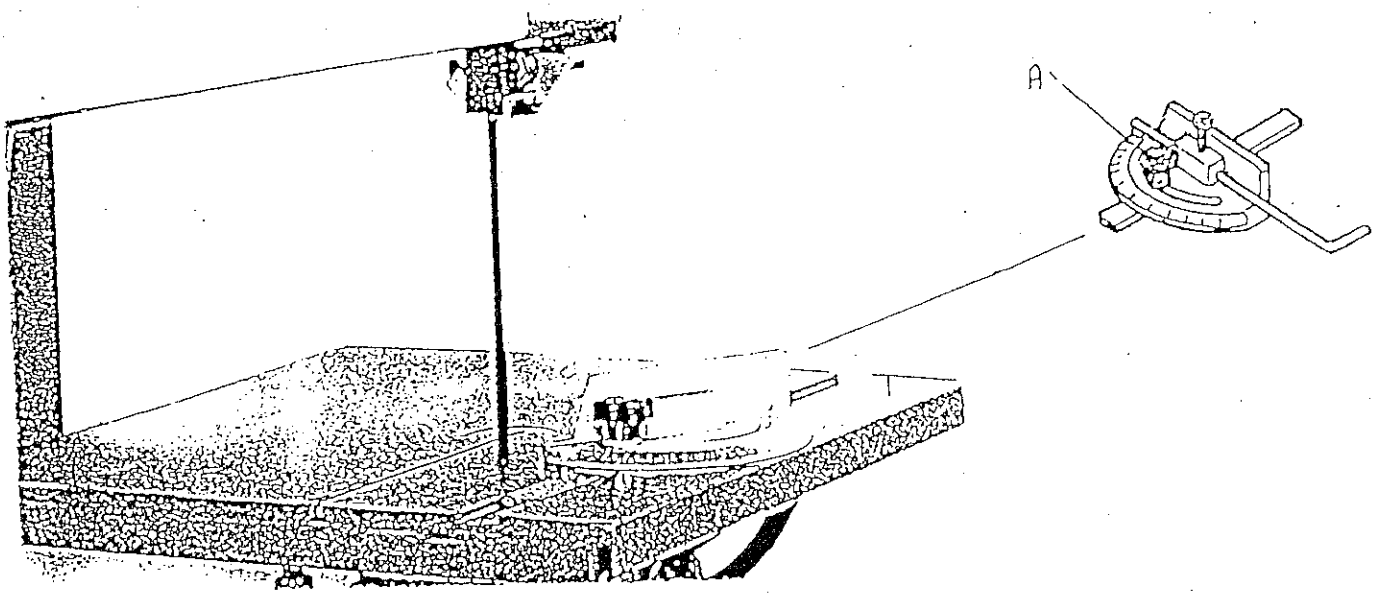
3. MACHINE OUTFIT

- User manual
- Limit stop pusher

4. OPTIONALS

Lower roller blade guide
Mitre fence for angle cuts
Sawblade

Fence for 45° angle cuts
To adjust, unscrew knob A and place the mitre fence according to the cut to be carried out.
The operator chooses the tilting angle according to its requirements.
The fence for angle cuts slides in a groove in the table and is used for cutting off operations.



5. EC APPROVAL

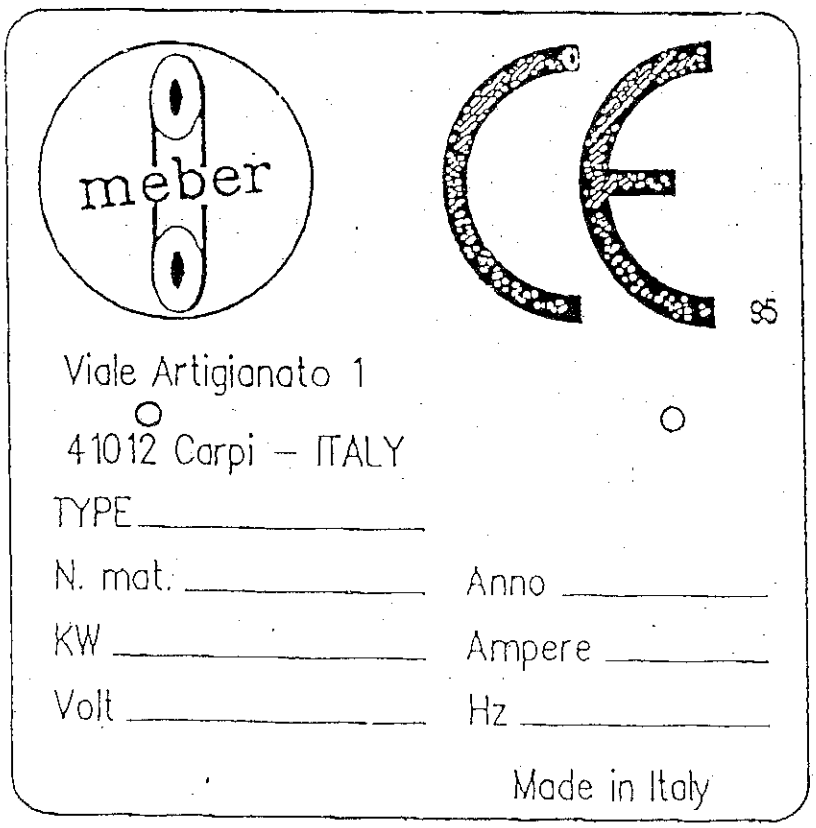
EC approval has been granted for Model P 400 and DS 400 by the French Testing Institute INRS, Approval N.0070 040A 5022 0295.

EC approval has been granted for Model PB 400 by the French Testing Institute INRS, Approval N.

5.1 Identification CE plate

A data plate located on the side of the machine indicates all data for the identification of the bandsaw model:

- EC mark
- Manufacturer's address
- Model
- Serial number
- Power
- Voltage
- Fabrication year
- Amperage
- Frequency



6. NOISE EMISSION

Although there is a correlation between the emission level and the exposure level, this cannot be used directly to determine whether further precautions may be required. The factors influencing the actual noice level to which the personnel is exposed are the duration of the exposure, the workshop features, other noise sources, etc., i.e. the number of machines and other adjacent operations. Moreover, the permissible exposure level can vary from one country to another. However, the information below may help the user of the machine to a better evaluation of any risks.

BANDSAWS P 400 and PB 400

MEASUREMENT OF NOISE EMISSION ACCORDING TO ISO/DIS 7960 STANDARDS
USE: Cutting of strips

OPERATING CONDITIONS ACCORDING TO NF E 64-209 STANDARDS

Operator's place	Equivalent level Laeq dB(A)	Max. level Lpeak dB
At workpiece inlet	81	> 130
At workpiece outlet (optional)		

Acoustic power...
only if Laeq>85 dB(A)

BANDSAW DS 400

MEASUREMENT OF NOISE EMISSION ACCORDING TO ISO/DIS 7960 STANDARDS
USE: Cutting of strips

OPERATING CONDITIONS ACCORDING TO NF E 64-209 STANDARDS

Operator's place	Equivalent level Laeq dB(A)	Max. level Lpeak dB
At workpiece inlet	87.8	> 130
At workpiece outlet (optional)		

Acoustic power...93.8 (2.4) ... dB(A) (mW)
only if Laeq>85 dB(A)

7. PERSONAL PROTECTION DEVICES

- Gloves for handling material and for replacing the blade
- Non-slip footwear
- Protective goggles
- Soundproofing ear-muffs or helmet

8. INTENDED USE OF THE MACHINE AND CONTRAINDICATIONS

The machine may be used for cutting solid wood and similar materials (cork, bone, rubber, hard plastics and other similar hard materials) using blades having characteristics suitable for the function required: consult your blade supplier or manufacturer.
Cutting with fence, finishing cuts on profiles and shaping cuts are possible.
The machine is not able to cut metals or iron.
The machine must be used within the limits imposed by the technical data, in accordance with the safety, use and maintenance instructions in this manual.
The staff who use the machine must have served a suitable period of apprenticeship in its use and maintenance and must have the minimum age required by the legislation in the various countries.
Personal protection (EPI art. 7) must be used and the specific precautions mentioned in the manual must be taken, also using any equipment appropriate to the specific working conditions.
Always use the machine with the dust extraction system operating, even when cutting single pieces.
All safety measures have been applied in relation to the instructions given above; use of the machine for different functions and/or modifications without the constructor's prior consent are forbidden.

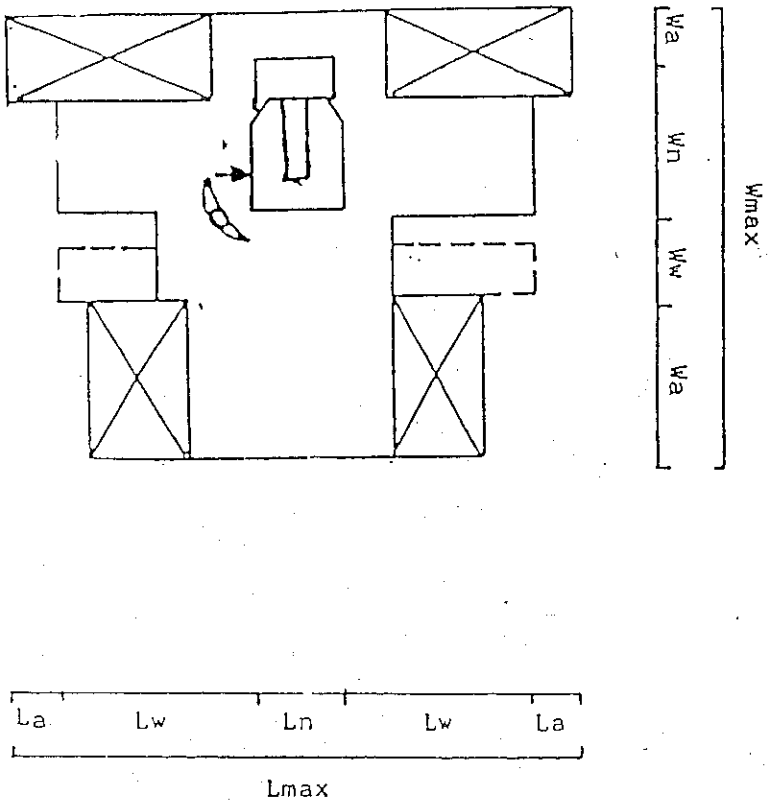
FURTHER RISKS: We wish to draw the attention of the staff responsible for production and of the operators to the further risks involved when using bandsaws. In fact, access to the blade may always be possible, even when the guards are accurately adjusted to the height of the workpiece passage.
It is therefore mandatory to:
- use a pusher at the limit stop (see § 14.3)
- keep your hands away from the operating blade between two processing cycles;
- lower the guard to touch the worktable when the machine is to be left unused for a long time.

9. BRAKING SYSTEM

There are two different braking systems:

P 400 and DS 400 Professional version with motor brake.
PB 400 version: suitable for the hobby-room, it is equipped with an electronic braking system

POSITIONING THE MACHINE AND THE WORKING ENVIRONMENT

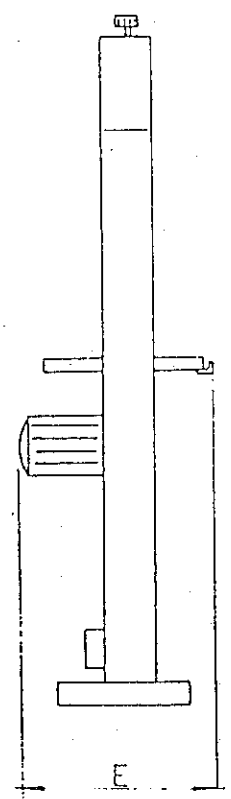


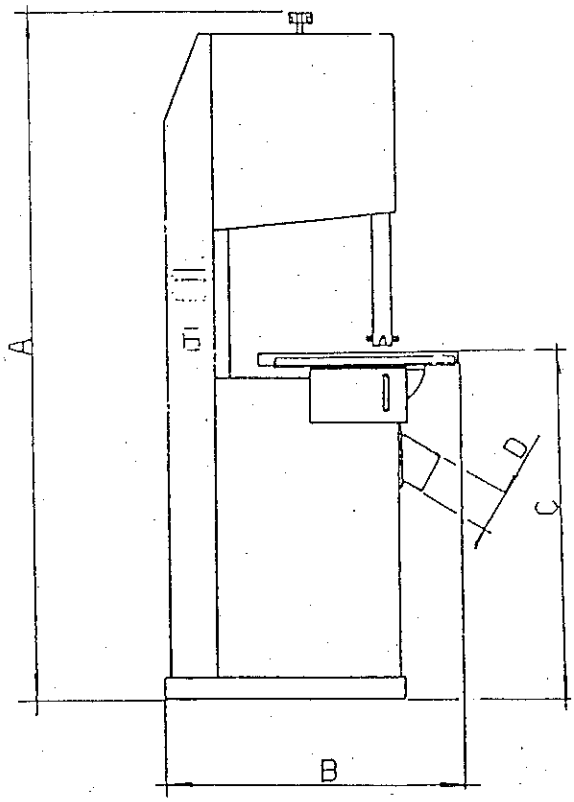
Lmax = maximum length	4635
Ll = length required for machining and maintenance	2000
Lm = auxiliary length required	635
Amax = maximum width	2600
Al = width required for machining and maintenance.	1000
Am = machine width	900
An = required width for passage	700

10. INSTALLATION

10.1 Machine dimensions and positioning

A = 1730
B = 730
C =870
D = 100
E = 500





A = 1730

B = 730

C = 870

D = 100

E = 500

10.4 Electric connection, start-up and wiring diagrams

The machine is equipped with an electric socket and the connection to the electric box is therefore carried out in the workshop. First of all make sure the machine corresponds to the main power.The minimum size of the power supply lead wires must be 1.5 mm2, including the earth wire.
Connect the power wires to the terminals R-S-T (L1-L2- L3) and the earth wire to the terminal with the earth symbol.
On start-up, check the rotation direction on the thre-phase machines; if the flywheel turns the wrong way, stop immediately and exchange the connections of the phase wires. Check the rotation direction both for single-phase models and for three-phase models.
When the connection has been carried out, close the terminal-box and tighten the wire clamp.

To start the machine, just press the start button, which also enables the overload cutout A (1 Fig. 3).

The overload cutout also has the start function and can be padlocked.
If voltage is missing for any reason, including the tripping of a safety-switch, press the overload cutout button 1 to start the bandsaw again.

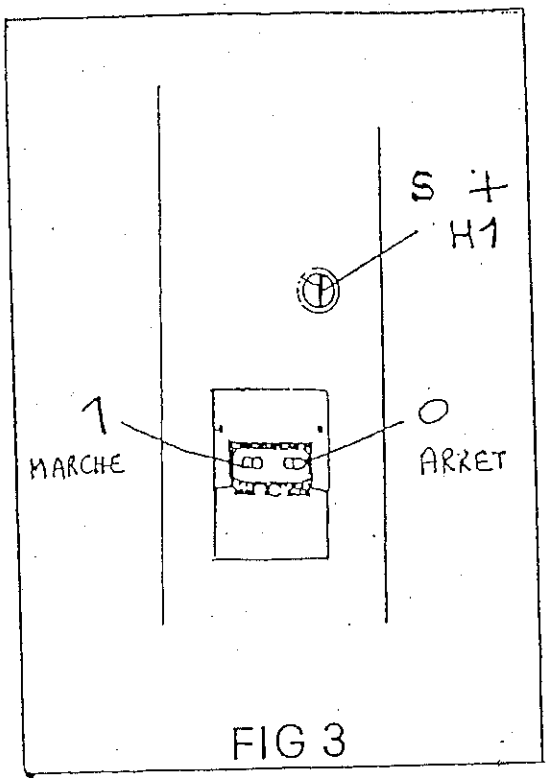
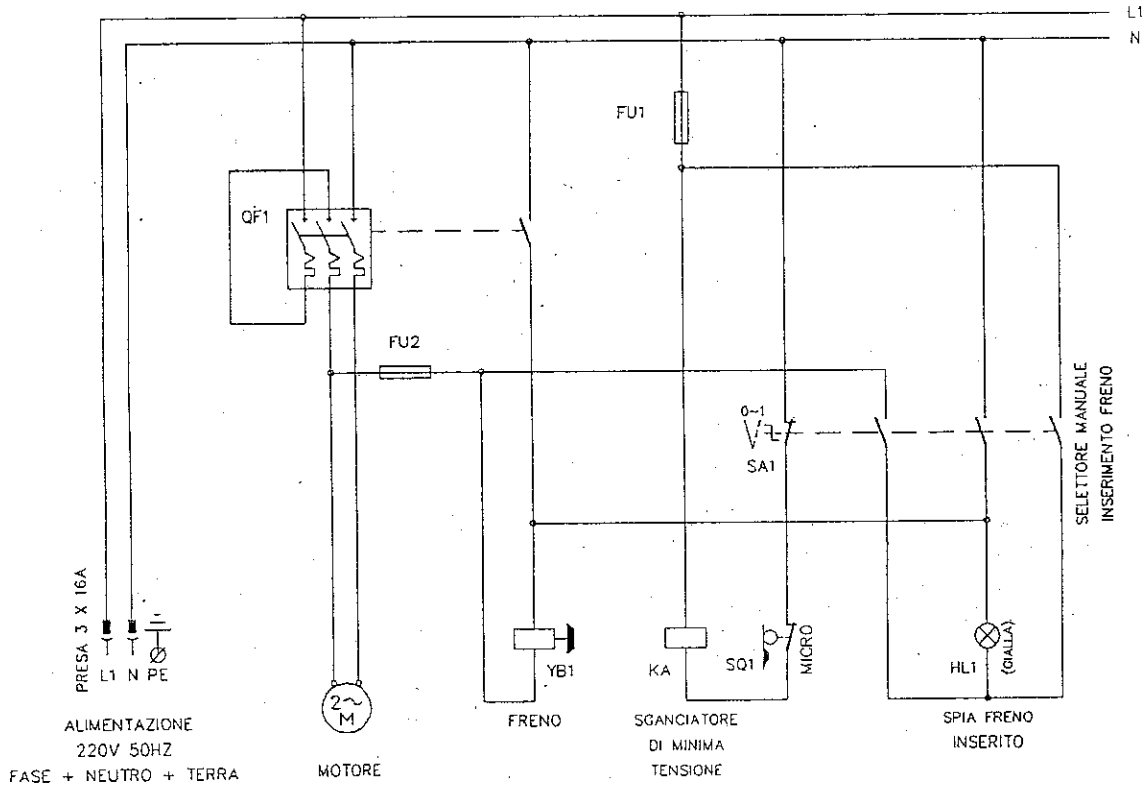


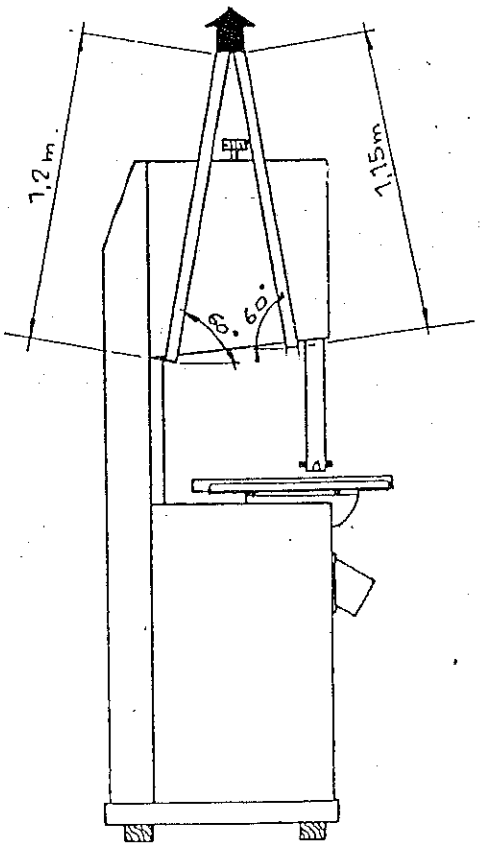
FIG 3

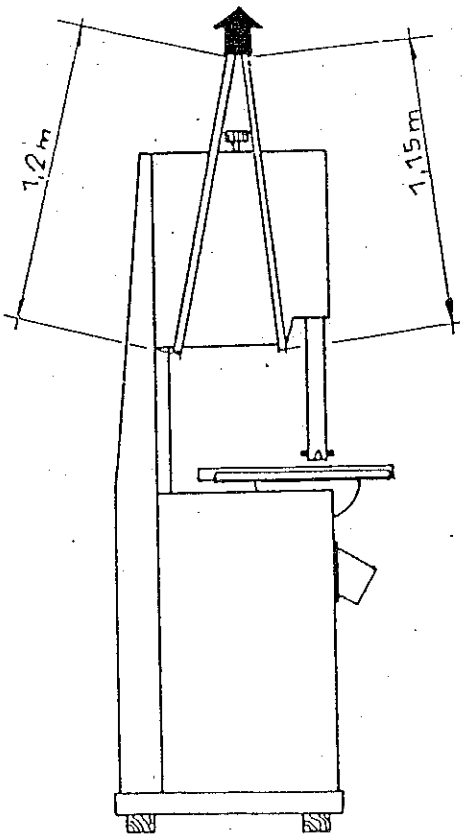


MEBER	DESCRIZIONE SEGA A NASTRO MOD. P400 - DS400 - P320 AUTOFRENANTE - MONOFASE		FOGLIO 1/1
	COMMESSA	DATA 06-06-95	NOTE

10.2 Lifting and positioning (Fig. 1)

The machine is lifted by means of cables (for Mod. 800) as indicated in Fig. 1 or by means of a fork lift by inserting the forks under the macine feet.
If a fork lift is used to handle the machine, some anti-slip material must be placed between the machine casing and the forks to prevent the machine from falling or slipping.
It is advisable always to handle the machine with maximum care during loading/unloading and positioning at the work station. The use of the handling equipment may be used only by qualified personnel and no other people may stand around the machine to be positioned.
It is advisable to place the machine on vibration-dampers and to fix it to the floor. The fastening must be just so much as to prevent any turning over, but not too much as this might favour vibrations.
Follow the instructions below to obtain a correct and rational work station:
a) install the machine in a place that does not favour vibrations or noise;
b) make sure the place is sufficiently illuminated for the operator;
c) if the machine is installed in a place where there are already some other machines, the distance between the side of the bandsaw and the other machines must not be below 80 cm. There must be sufficient space to enable the cutting of long workpieces as well as for the application of support equipment at the table inlet and outlet;
d) the wooden base of the machine must not be to strictly fastened to the floor, because this might cause deformation of the base and consequently favour vibrations.





10.3 Dust extraction system

Connect the machine to an effecting dust extraction system with a connection having inside diameter 100 mm (fig. 2). At a speed of 20 m/sec., the air flow-rate for each connection is 200 m3/h. If the wood is damp, the air speed may be increased up to 28 m/sec., giving a flow-rate of 800 m3/h.

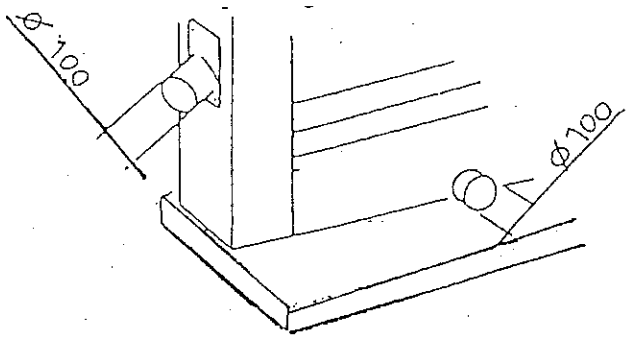
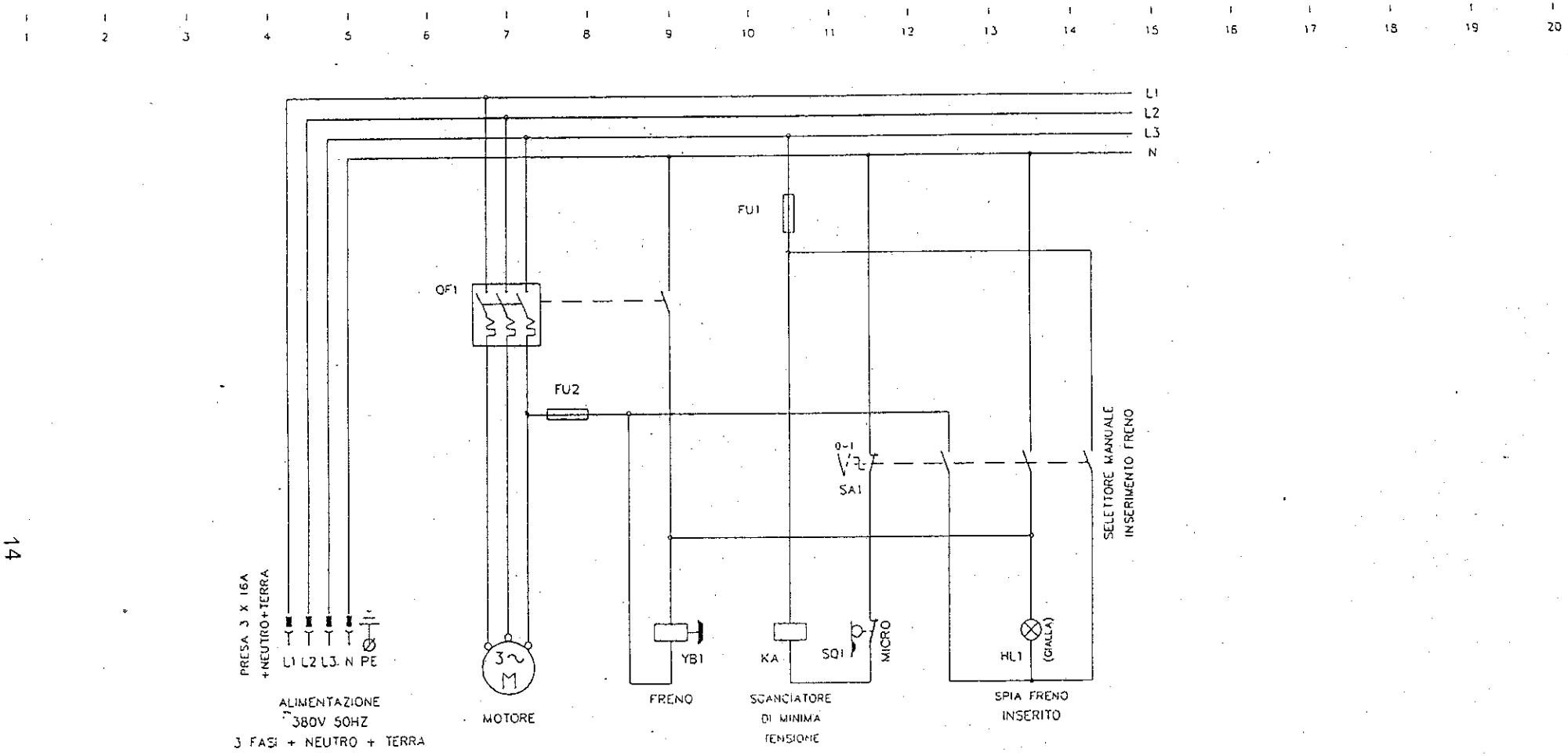


FIG 2

NOMENCLATURE OF ELECTRIC EQUIPMENT of P-DS 400 single-phase

QF1	Circuit-breaker	AEG	MBS 25
KA	Coil	AEG	R/E-Nr910-293-100-52
FU1/2	Fuse	CAFRULLO GL	
		WEBER GL	
		LEGRAND GL	
SQ1	Microswitch on doors	PIZZATO	FR515
PE	Electric socket	GEWISS GW 60409	
		ILME PE 1665 SM	
	Cable	GIOVDIN	
M	Motor	CEG	
		SEIMEC	
YB1	BRAKE		
SA1	Brake release switch	AEG	TRM2525
HL1	Brake release telltale	AEG	TK2010



14

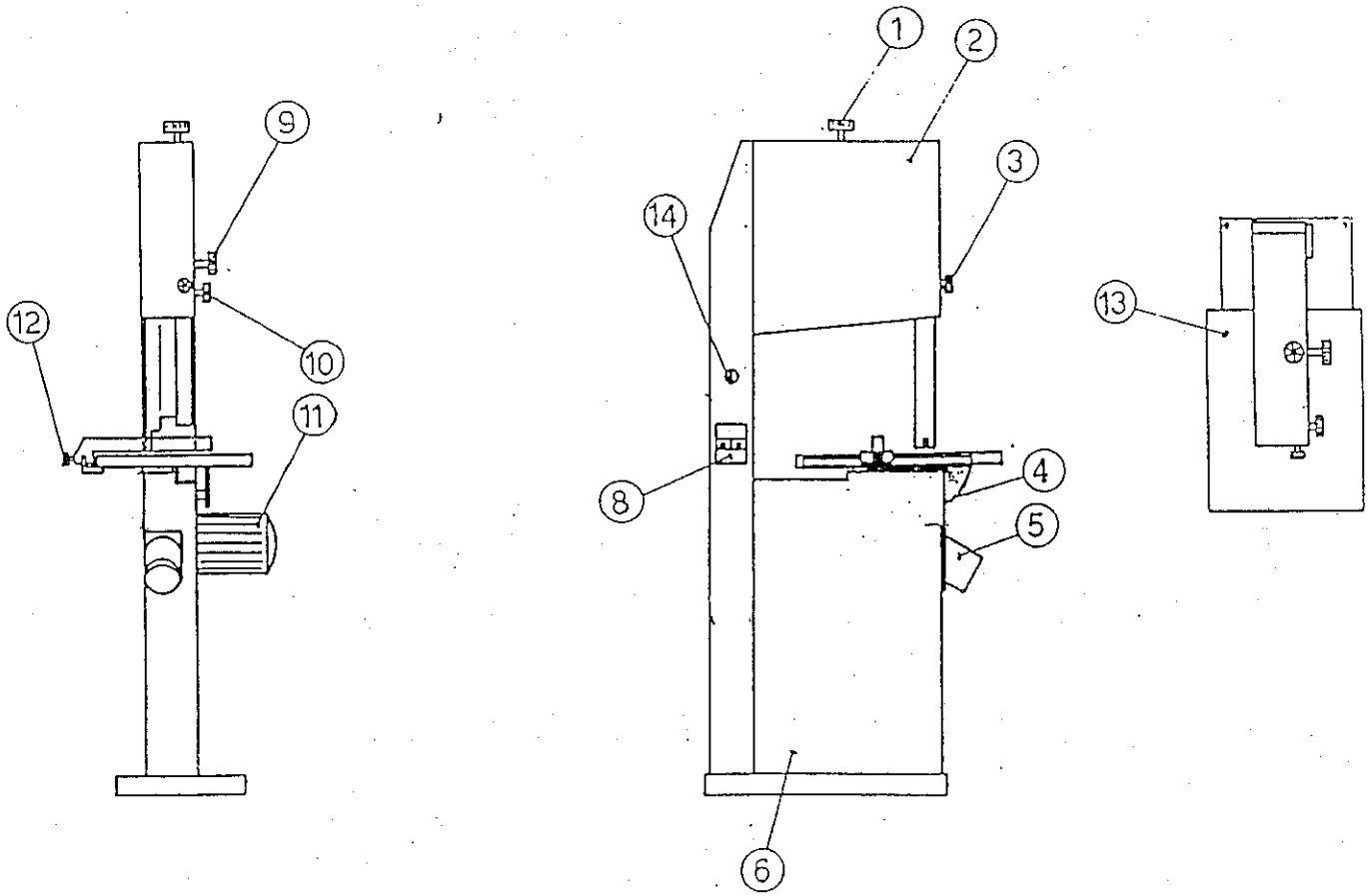
MEBER	DESCRIZIONE SEGA A NASTRO MOD. P400 - DS400 - P320 AUTOFRENANTE		FOGLIO 1/1
	COMMESSA	DATA 06-06-95	NOTE

NOMENCLATURE OF ELECTRIC EQUIPMENT of P-DS 400

QF1	Circuit-breaker	AEG MBS 25
KA	Coil	AEG R/E-Nr910-293-100-52
FU1/2	Fuse	CAFRULLO GL WEBER GL LEGRAND GL
SQ1	Microswitch on doors	PIZZATO FR515
PE	Electric socket	GEWISS GW 60409
	Cable	GIOVDIN
M	Motor	CEG SEIMEC
YB1	BRAKE	
SA1	Brake release switch	AEG TRM2525
HL1	Brake release telltale	AEG TK2010

11. USE OF MACHINE

The precautions to be taken for work safety are indicated in § 14.



Designation		Qty	Material
1 Blade tension adjustment		1	Thermohardening
2 Upper Door		1	Sheet steel
3 Blade fence fastener	1		Thermohardening
4 Guard under table		1	Sheet steel
5 Dust extraction	1		Nylon
6 Lower door		1	Sheet steel
7 Switch contactor		1	AEG
8 Upper flywheel adjuster knob	1		Thermohardening
9 Up/down command		1	Termohardening
10 Motor brake		1	CEG
11 Handwheel for parallel fence clamp	1		Thermohardening
12 Table	1		Cast-iron
13 Motor brake release telltale	1		Thermohardening

11.1 Assembly and adjustment of the blade

Release the automatic brake before installing the blade.
While the machine is stll, operate switch 14 (Fig. 3A, pag. 15) to release the brake. Afterwards the switch must be placed to normal position so that the machine can be started again.
During this operation, no safety device may be dismantled.

To fit and change the blade (Fig. 5), the following operations are required:
- lower blade guard 3 (Fig. 9) - as described in item 11.2
- unscrew the handwheel 8 (Fig. 9A), turn the guard to the right
- when the sawblade has been replaced, fit guard 3 in its original position and lock handwheel 8 (Fig. 9A)
- close the door.

For long life of the blade and the flywheel rubber rings, the teeth must project beyond the edges of the flywheels. The machine is tested before delivery, and is thus supplied with the flywheels correctly positioned.

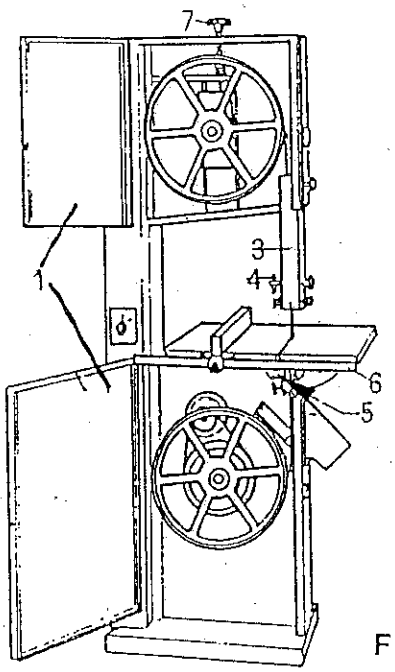
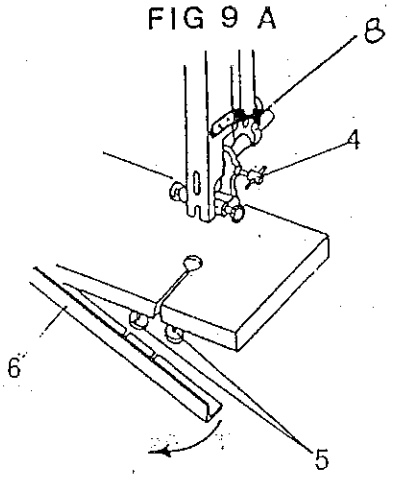


FIG 9

FIG 9 A



11.2 Blade guide adjustment (fig. 10-11)

Upper blade guide

The blade guide, rigidly mounted on the guard, must be adjusted to a height of 4-5 mm above the board to be cut. To adjust its height, back off the clamp 1 (Fig. 10), turn the handwheel 2 by hand (Fig. 10A) and lock it in the position required.
The rear roller 1 (Fig. 11) must be positioned about 2 mm from the back of the blade to prevent it returning excessively during cutting; the position can be adjusted using the screw 2 (Fig. 11).
During the idle return stroke, the back of the blade must not be permanently in contact with the roller.
The side rollers 3 (Fig. 11) must just touch the sides of the blade, allowing the teeth to project, to prevent the blade from bending to the side and reduce any vibrations during cutting. They can be adjusted using the screw 4 (Fig. 11) with clamping in position by means of the rings 5 (Fig. 11). The blade guide does not require greasing.

FIG 10 A

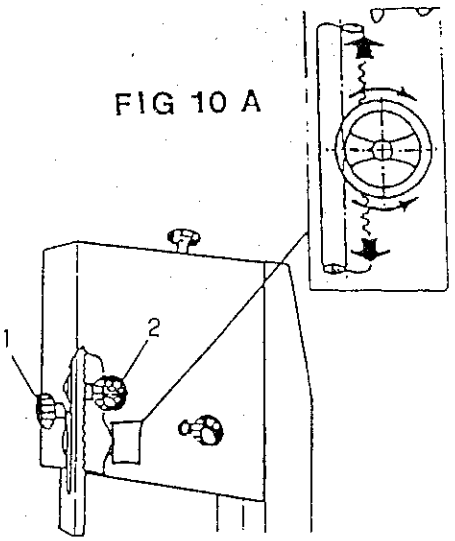


Fig. 10

Lower blade guide

The lower blade guide adjustment is the same as for the upper blade guide only in the case that the machine is equipped with this optional.

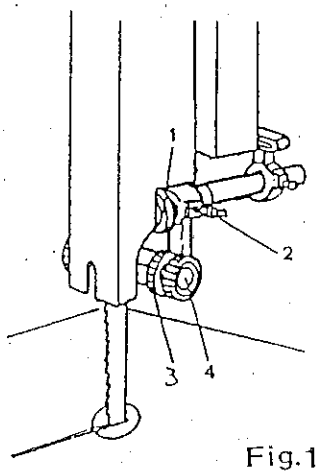


Fig.11

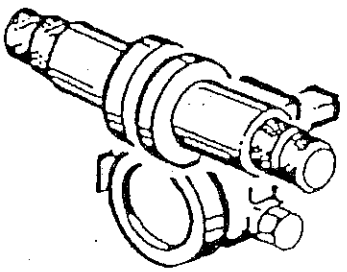


FIG 13

Angle adjustment (Figs. 9)

For long life of the blade and the flywheel tyres, the teeth must project beyond the edges of the flywheels. The machine is tested before delivery, and is thus supplied with the flywheels correctly positioned.
To adjust the angle of the flywheel, back off the clamp 1 (Fig. 9A), and turn the handwheel 2 in direction A, to increase the projection of the teeth, or in direction B to reduce. Then lock with lever 1.
Two microswitches prevent the machine from starting up if the flywheel covers are open.
After use, slacken the blade completely to prevent the flywheel seals from deforming and causing vibration.When the blade is not taut, place a warning sign on the machine.

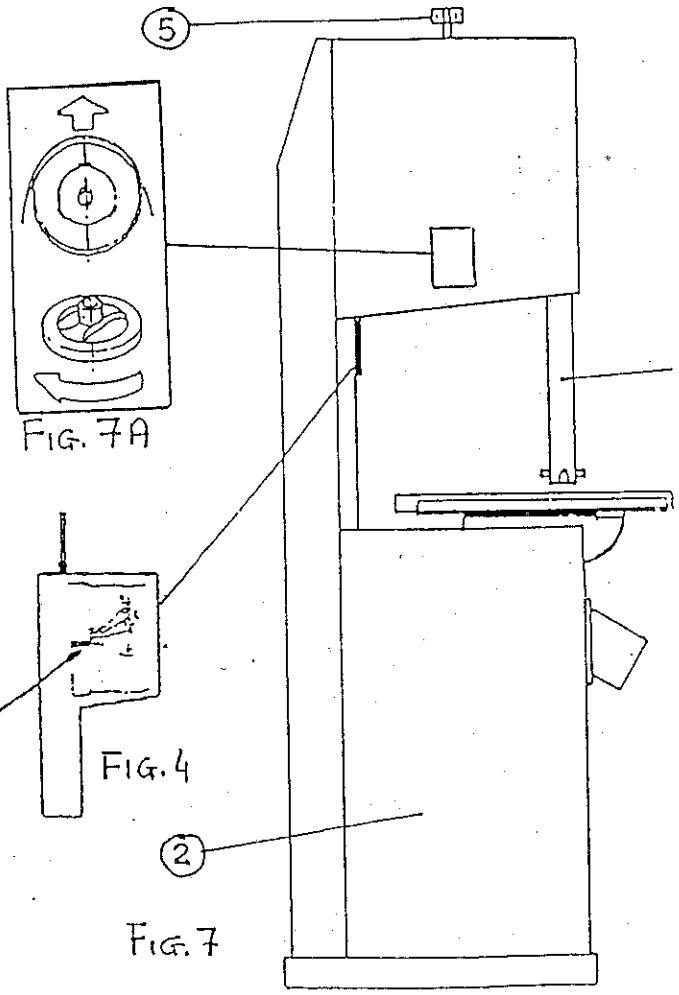


FIG. 7A

FIG. 4

FIG. 7

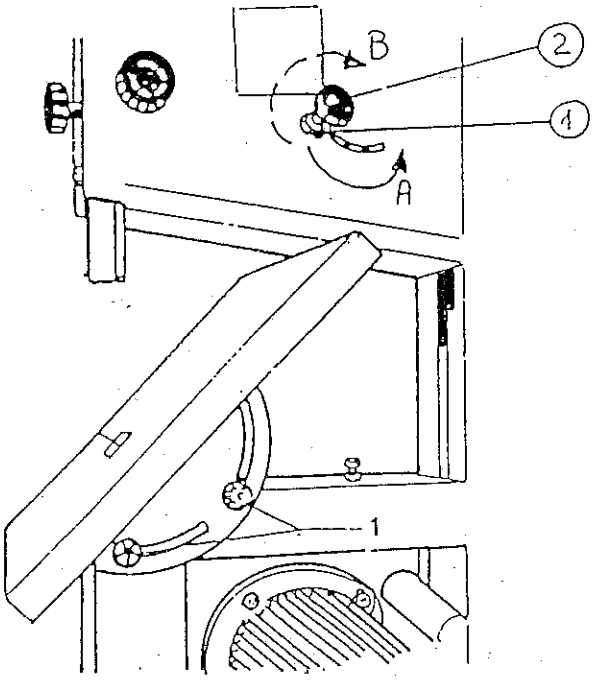
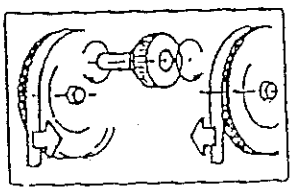


FIG. 8

FIG 9 A



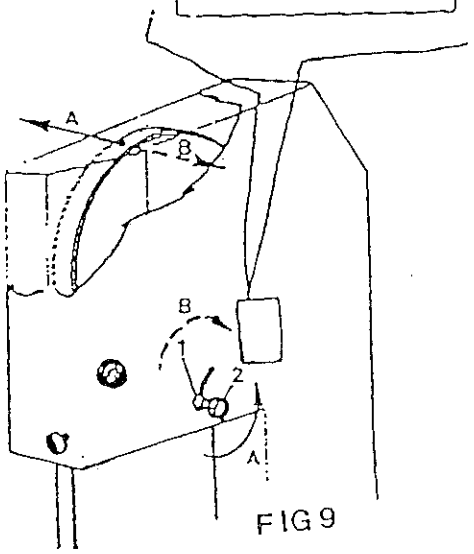


FIG 9

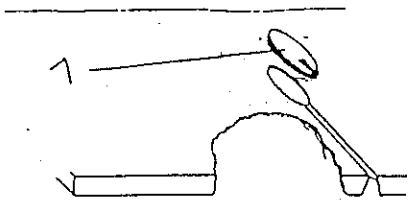
11.3 Table block (Figs. 14)

On models P-DS 400 the table plastic insert 1 (Fig. 14) is made of nylon. The fitting has been carried out during the testing of the machine, and it should not be necessary to regulate or remove it except if it must be replaced.

11.4 Chute

Our machines have undergone dust emission tests; to keep them in good condition, replace the sawdust remover chute (Fig. 15) when the slot for passage of the blade becomes wider and good dust removal is no longer ensured.

FIG 14



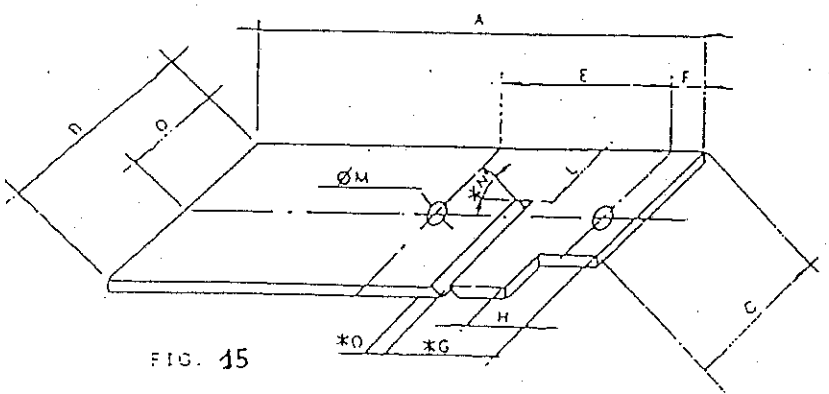


FIG. 15

11.5 Fence and parallel settings

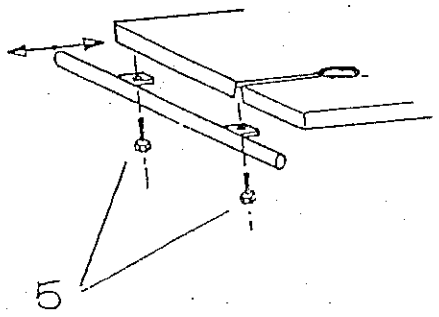
If cutting is not perfectly parallel during operation with the fence, the main causes may be:
a) blade too slack
b) incorrect sharpening or setting
c) fence not parallel to blade ,

To correct the fence position, unscrew the two handwheels 5 (Fig. 17), adjust the position of the bar as indicated, and then secure in position, starting with the second fastening point with a 13 mm spanner.

11.6 Table tilt

The table tilts by up to 20°.
To tilt the table unscrew the handwheel 1 which secures it as indicated in figure 18, tilt the table to the angle required (shown on the dial) and lock in position by means of a 13 mm wrench.

FIG 17



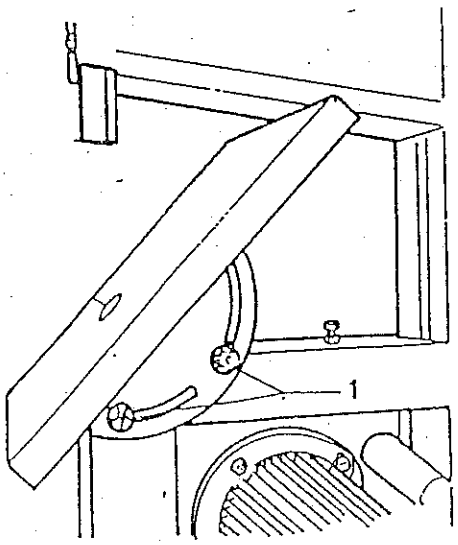


FIG. 18

12.CHOICE OF BLADES AND MAINTENANCE

The dimensions of the blade (length, width and thickness) must be within the minimum and maximum limit values indicated in the technical data (section 3).
Blades are defined by the their width, their conformation and the number of teeth they have. Narrow blades are suitable for curved or profile cuts, and wide blades for straight cuts. The conformation and the number of teeth depend on the thickness and the material to be cut: the thicker the material, the smaller the number of teeth, for better shaving removal and to prevent the blade from jamming or overheating.
Blade setting will be greater (twice the thickness of the blade) for soft and fibrous materials, and less (1.5 - 1.3 times the thickness of the blade) for hard materials.
When the blade is not sufficiently sharp, replace it immediately. In case of breakage, the teeth must be set and the blade sharpened and welded by skilled staff using suitable equipment. Poor welding may cause vibrations on the machine.
The main causes of breakage are:
a) imperfect welding,
b) excessive thickness in relation to the flywheel diameter,
c) blade too taut: the spring is too compressed and is therefore not performing its function,
d) outside surface of flywheels dirty,
e) the blade is not sharp enough and/or tooth setting is uneven,
f) the blade guide position is incorrect (too much friction on the blade),
g) the flywheel angle is not correct for the blade position,
h) the four rear screws which secure the bottom flywheel shaft have been forced and the flywheels are out of line,
i) the spring for tensioning the blade is not normally taut after use; this causes deformation of the flywheel tyres.
l) poor quality blade material.

13. BRAKE - for P 400 (Professional sawing)

A mechanical brake with electromagnetic control ensures the stop of the moving parts within 10 seconds. The brake is subject to wear and must therefore be regularly checked. Adjust it and replace it, if necessary, to guarantee that the machine stops within the required limits. For adjustment and replacement, see § 15.

Brake for PB 400 (hobby machine)
This version, which is intended for domestic use only, i.e. for bricolage, is equipped with an electronically operated brake, which guarantees the stop of all moving parts in less than 10 seconds.

14. SAFETY DEVICES - ADVICE FOR USE - PRECAUTIONS

14.1 Stopping the machine

For any work on the machine (maintenance, repairs or modifications), proceed as follows:
- disconnect the machine from the power source;
- padlock the circuit breaker in off position;
- check that the machine is not receiving power and that there is no residual, potential or kinetic energy (springs).

Only one person must be responsible for carrying out these three operations. In case of simple procedures, this person may be the operator himself.
The machine is locked by padlocking the master switch or by cutting out the plug for the smaller versions.
If the machine is out of order for any reason, place a warning sign on it.

14.2 Advice - Precautions

Before operation

- There must be nothing on the floor around the machine, to avoid unsteadiness on the feet,
- wear suitable working clothes which are not loose fitting,
- check that the blade is well sharpened, taut and well positioned on the flywheels,
-adjust the height of the upper blade guide so that it is 4-5 mm above the board to be processed, and check that the other protective devices are in position and properly adjusted,
-position any supports or rests for long or large boards.

During operation

- Never clean the table with your hands: use a brush, with the blade at a standstill,
- use the pusher when cutting short, narrow or thin pieces,
- if the blade breaks, stop the machine and wait for the flywheels to come to a complete stop before doing anything else,
- when work is over, slacken off the blade and place a warning sign on the machine to indicate this.

During maintenance

- Disconnect the machine as described above
- use tough gloves when handling the blades
- check the earth connection periodically.

14.3 Examples of safe working procedures

Attention! The base of the blade fence must in any case be adjusted as near as possible to to the workpiece. Max. space 5 mm.

Longitudinal cuts along profiles (fig. 19)

Push the wood evenly without jerking to make the cut wider. After starting the cut, do not stop or withdraw the board. Use supports when cutting long boards.

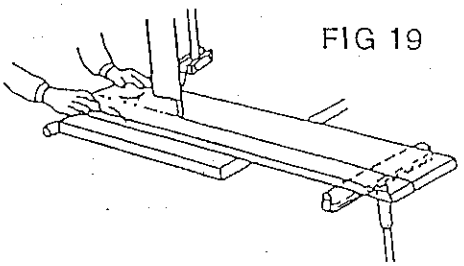


FIG 19

Longitudinal cuts of thin and narrow boards using the fence (fig. 20)

Use pushers of the type shown in the diagram to avoid bringing your hands dangerously close to the blade.

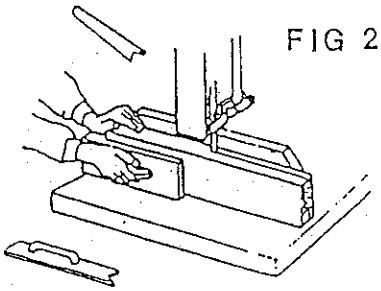


FIG 20

Cutting boards on profile (fig. 21)

Use a square with the minimum dimensions shown in the diagram to ensure firm guidance.

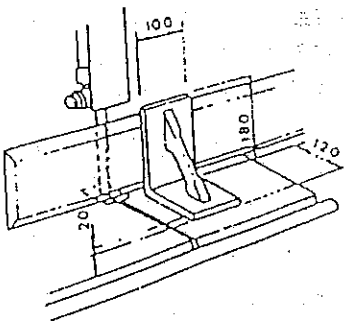
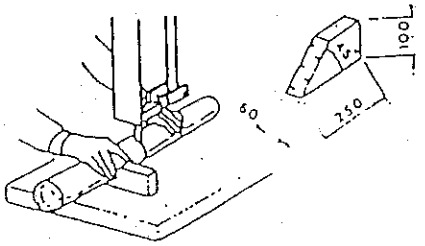


FIG 21

Cutting circular section pieces (fig. 22)

Use a supporting wedge with nails of the minimum dimensions shown, to prevent the piece rotating during cutting.

FIG 22



Cutting wooden wedges (fig. 23)

Use the feed device shown in the diagram.

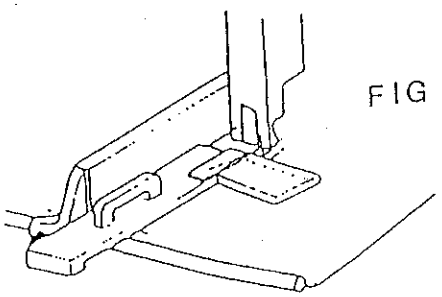


FIG 23

15. MAINTENANCE

15.1 Machine maintenance

Tensioning and changing the belts

After a number of hours' operation, check that the belts are still taut enough. When a force of 2-3 kg is applied to an intermediate point, the belts should give way by about 5 mm (Fig. 24).
If the voltage is insufficient, for models PB 400 - P 400 - DS 400 remove screws 1 and 2, intervene on the motor and lock to position.

To replace the belts, disassemble the lower flywheel as indicated below.

- Open the front flywheel guard.
- Remove screw A (Fig. 27) and remove flywheel B from its shaft -
- Replace the worn belts by new ones and locate them in their housing on the drive pulley.
- Reinstall the flywheel on the shaft and tighten screw A.
- Make sure the belts are properly fitted to their housing on the flywheel pulley and close the guard.
- Pull the belts manually while lifting the motor and fasten screw 2 (Fig. 25) so as to lock the motor to the position set for models PB 400 - P 400 - DS 400

IMPORTANT: When the belts are slack, the braking time is longer.
Do not tighten the belts too far, since excessive tension causes the belts to overheat and generates rapid wear.
To replace the belts, dismantle the lower flywheel as indicated below:

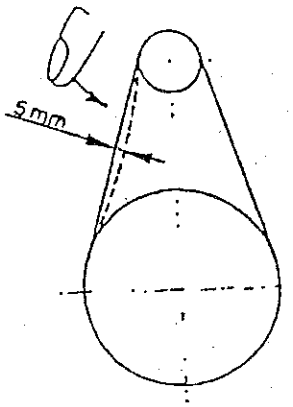


FIG 24

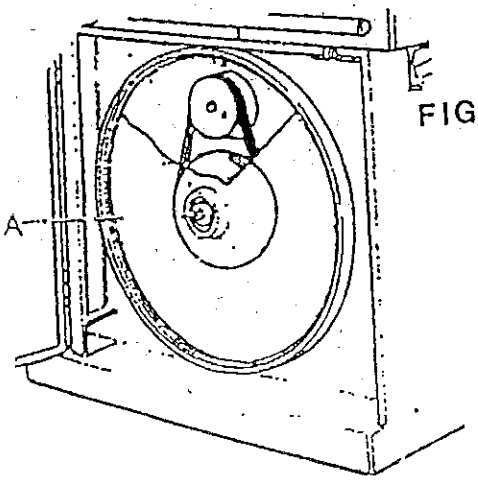


FIG 27

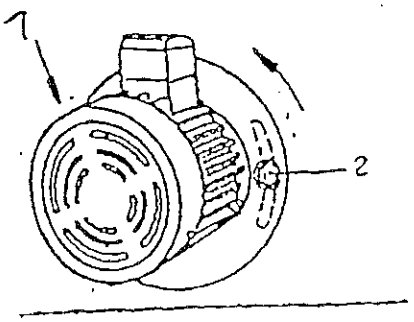


FIG 25

Flywheels (Figs. 28-29)

To remove the lower flywheel, remove the screw 1 (Fig. 28) at the end of the shaft, back off screws 2 and remove the the shaft from its housing. Do not operate any other screws in order not to jeapardize the alignment. To dismantle the upper shaft, remove the two screws situated at the end of the shaft and back off the screw on the hub.

The PB 400 - P 400 - DS 400 flywheels are covered with a rubber ring. Apply to an authorized dealer for any replacement.

Cleaning and lubrication

Observe the procedure for the stopping of the machine, see § 14.

Clean the machine regularly to remove any resinous deposits. Grease the upper flywheel fence, the blade tensioning screw, and the rack and pinion sustem of the adjustable protective device. Oil the pins, the shafts and the joints.
Check that the brush is working properly and remove any deposits from the flywheels to avoid vibration and blade breakage.
Clean the machine from any residual sawdust that may have stored inside the machine

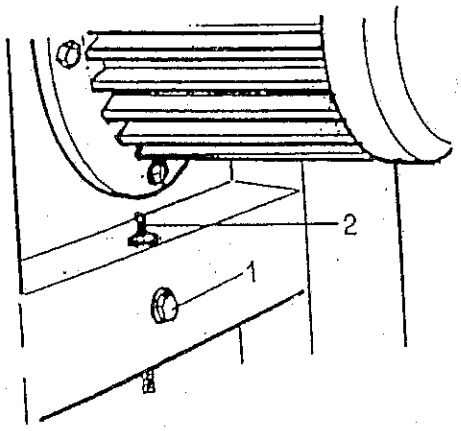


Fig. 28

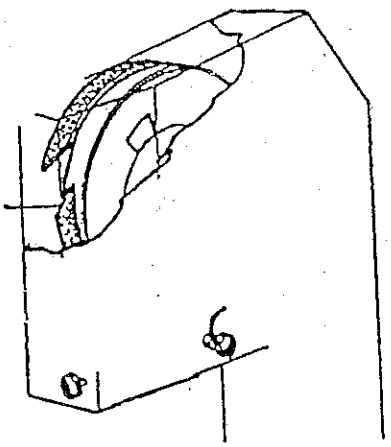


FIG 29

15.2 Maintenance of the electromagnetic brake of the motor (Fig. 30) (only for P 400 - DS 400)

Before making any adjustment or replacement, make sure belt tension is correct.
Note: The brake must be adjusted when braking times (due to disc wear) are above 10 seconds.
The user must perform the following routine maintenance operations.

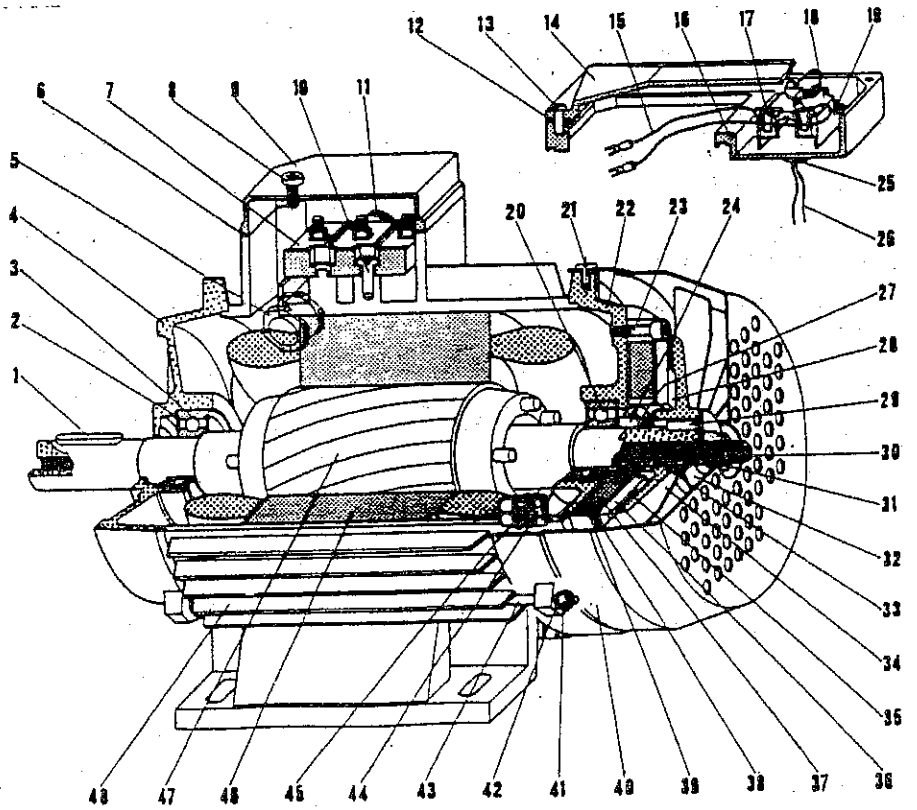
Adjustment of the braking torque
The flywheels should stop within 10 seconds
To regulate the stopping time adjust nut 31 and make sure the stopping time is not over 10 seconds. This time reading must be taken several times (4-5) after the machine has been run empty for at least 15 minutes.

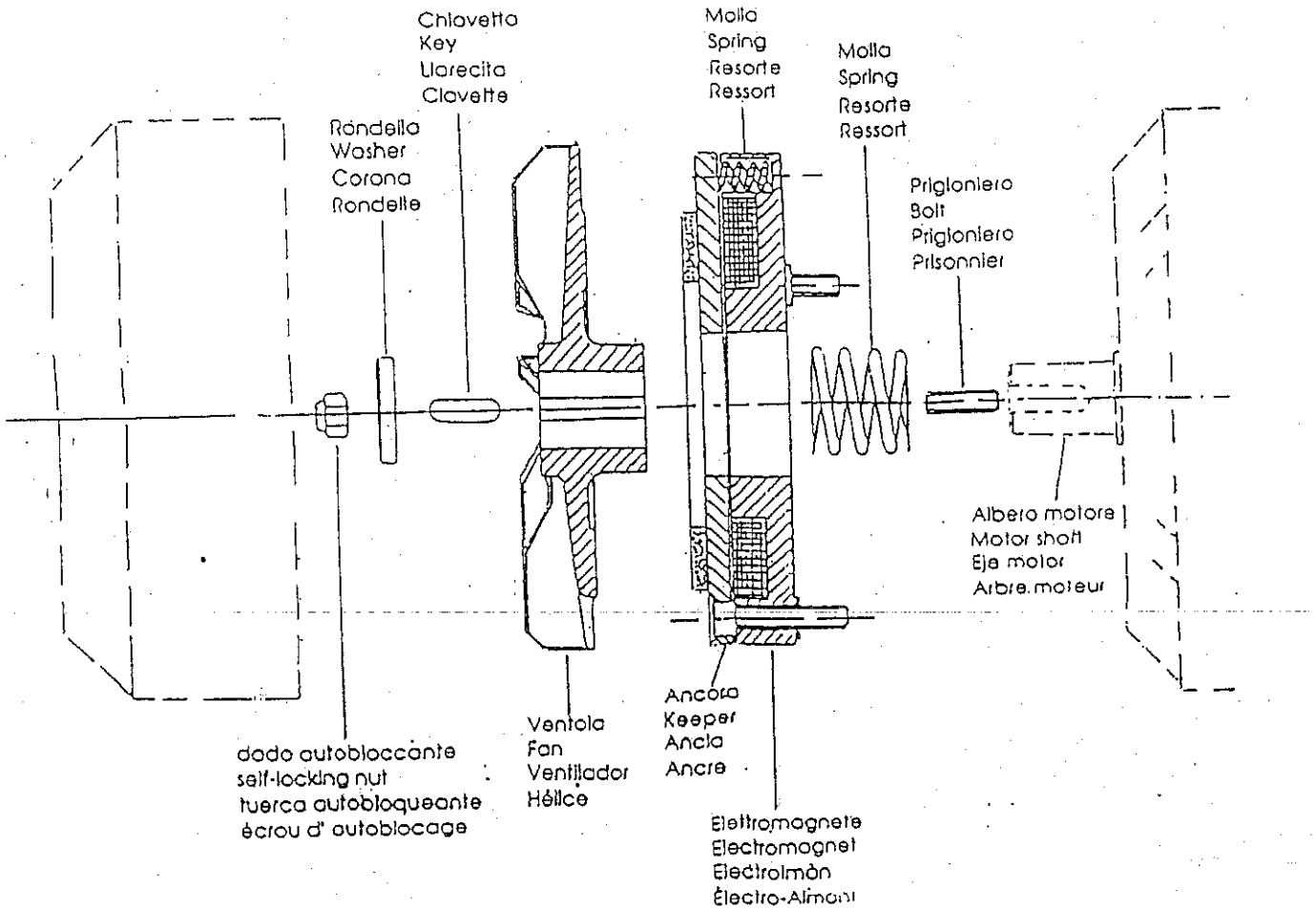
Brake release
a) Loosen the nut 31 by turning clockwise until the brake is locked
b) Loosen the same screws 31 by turning anticlockwise by ¼ turn.
From this position to ¾ turn, the brake can be regulated.
In any event, the distance between the electromagnet and the fan must not be more than 0.2 mm
If this distance is greater, the brake will not lock. If it is less, the brake remains locked.

Extraordinary maintenance

Replacing the brake lining
Remove the air conveyor 40 and unscrew nut 31. Remove the fan and braking rotor 34. Next, fit the new brake lining 35 and re-assemble by performing the same operations in the reverse sequence.

Replacing the brake
Remove the air conveyor 40 and unscrew nut 31. Remove the fan and braking rotor 34, the connection stays 24 and the spring 27. Isolate the diode rectifier by disconnecting the power leads (the diode could be located at point 44 or fitted in the terminal board at point 18).
Loosen the three screws 23, replace the brake and re-assemble by performing the same operations in the reverse sequence.





16. TROUBLESHOOTING

The motor does not start:

a) check that the flywheel covers are closed properly (safety switches)
b) check that the emergency stop engager device is released (on machines fitted with this device)
c) if the overload cutout device does not engage, check that the star-delta starter is correctly positioned on "0" (on machines fitted with this device).
d) check that the overload cutout has not been tripped by an overload; reset with the button provided
e) the motor is not receiving power; consult an electrician.

The motor efficiency is poor:

a) belts slack, adjust according to § 15
b) motor connection incorrect; consult an electrician.

The cut is not straight:

Sharpening and/or tooth setting not correct.

Cracks in the blade at the base of the teeth:

a) teeth not suitable for the process
b) incorrect tooth setting
c) blade thickness not suitable for flywheel diameter
d) blade not taut after use
e) blade incorrectly sharpened and is therefore overheating
f) flywheel seal worn or dirty
g) flywheels not aligned: call in a qualified engineer.

Cracks on back of blade:

a) board feed too fast during cutting
b) welding not perfectly aligned: eliminate the welded part and weld again, correctly.
c) rear roller of blade guide worn or always used in contact with blade (wrong adjustment)

Blade breaks close to the weld:

a) blade has overheated during welding; have it annealed or eliminate the brittle part and weld correctly,
b) cooling too rapid after welding: as above.

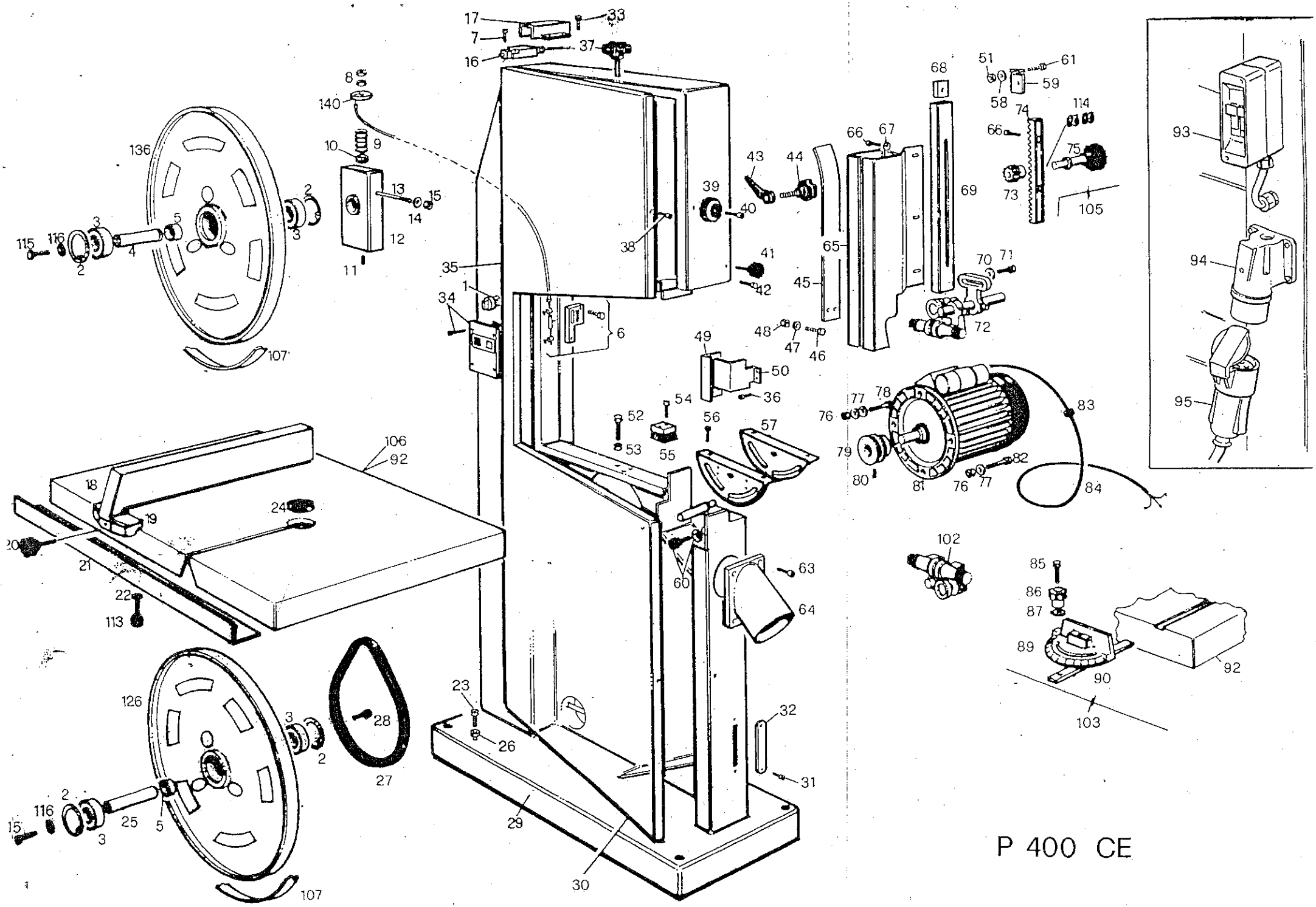
Blade stuck in workpiece
Stop machine immediately. Insert a wedge at the beginning of the cut to expand it and then remove the workpiece.
Check blade condition, tensioning and flywheel positioning.

Other cases:
a) blade moves backwards and forwards: weld not correctly aligned.
b) blade moves too far back at beginning of cut: the crowning of the flywheel seal is not correct and it must be replaced.

17. ORDERING SPARE PARTS

This manual includes a parts list. On the order indicate:

Type of machine	Serial number
Code of part required	Quantity
Shipment terms	Correct address


P 400 CE