

E Cassese®

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CS 996



Technical and User Manual

03 / 2000

EC CERTIFICATION

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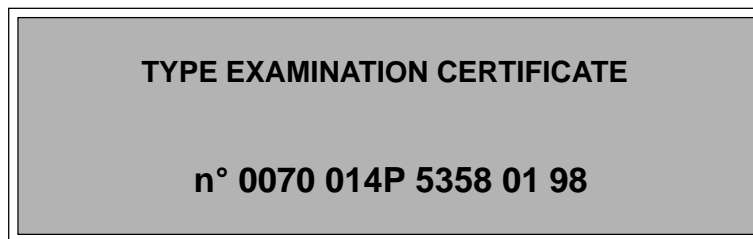
Authorised by decree of the Ministry of Labour, Employment and Vocational Training

on 11th August 1992,

Head Office
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Identified under number 0070

declares



for the following machine model:

- designation: dual mitred cutter
- manufacturer: SOCIETE CASSESE
- commercial brand: CASSESE
- type: CS 996
- applicant: CASSESE Zone Industrielle
F - 77390 VERNEUIL L'ETANG

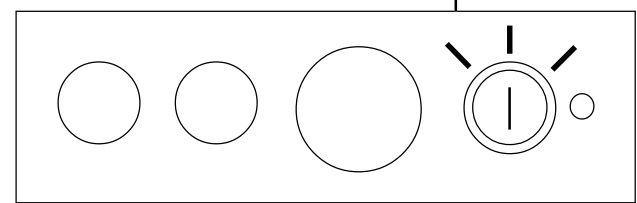
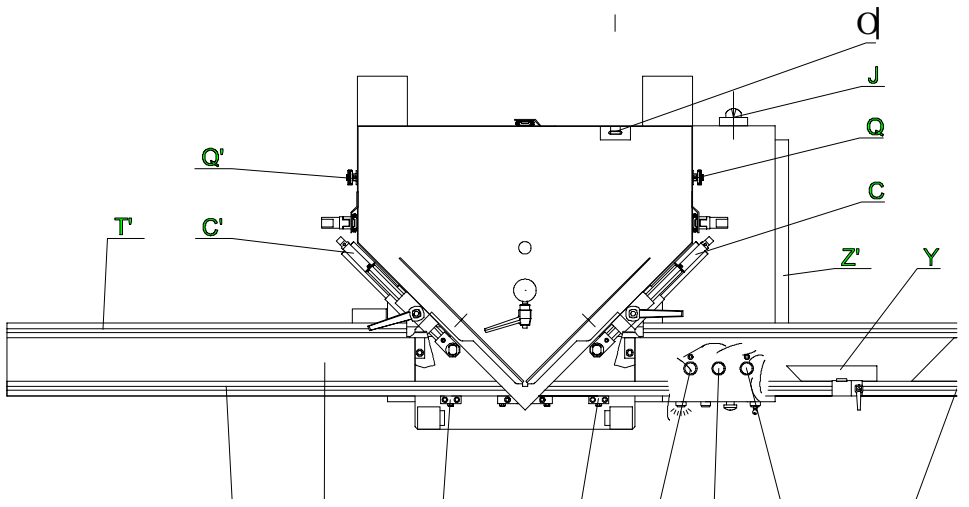
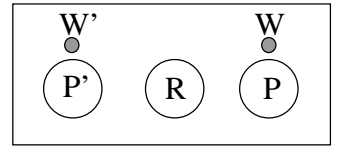
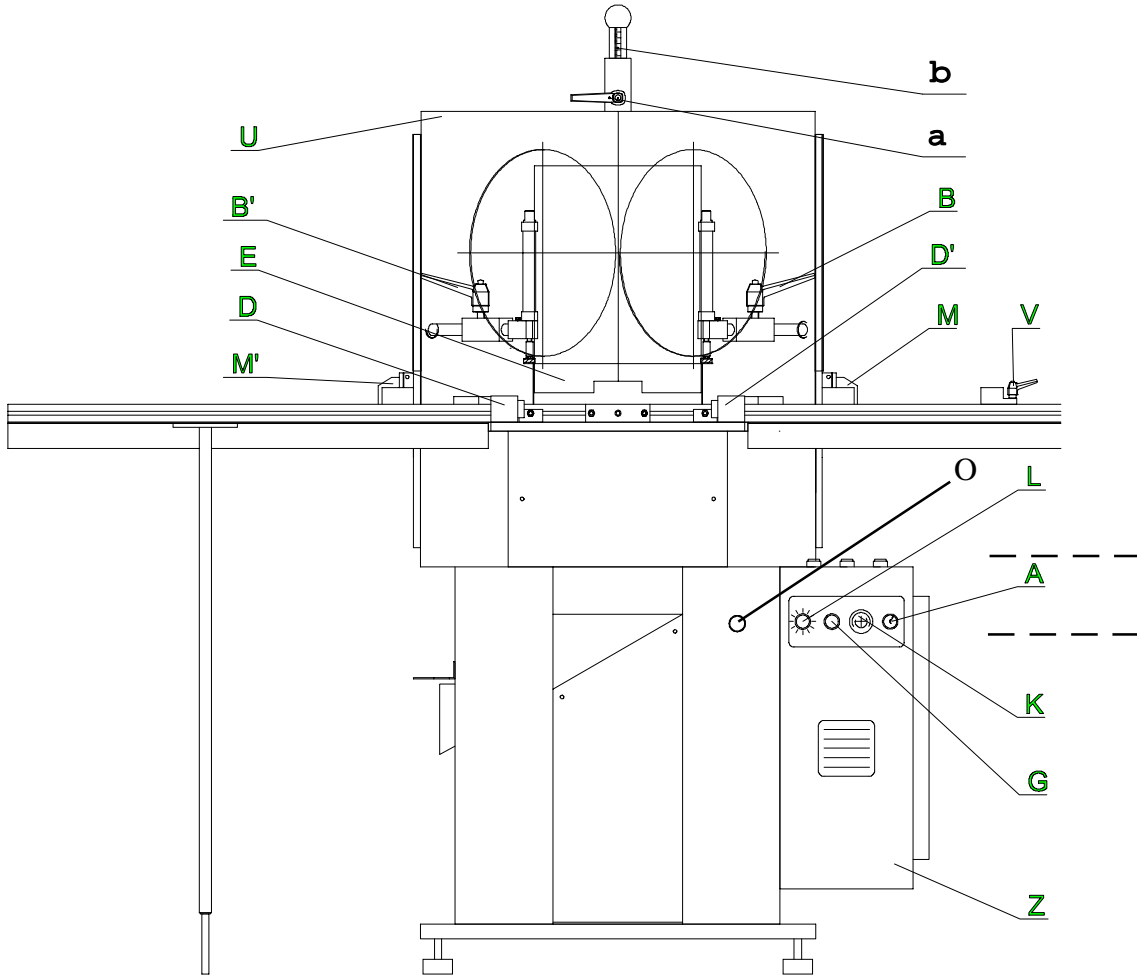
The description of the dual mitred cutter covered by this certificate, the references of the Essential Requirements for Health and Safety (verified under the EC type examination) and the regulatory markings affixed on this model are specified on pages 2/8 and 8/8 of this certificate.

DATE OF EFFECT: 23rd January 1998

23rd January 1998
Chairman and Chief Executive
Head of Department, Machinery and Protective Devices

A.M AYER

NOTE: Any modification made to the new equipment covered by this EC type examination certificate, as well as any modification to the information concerning the said equipment, such as a change in the manufacturer's trade name, modification of the equipment's characteristics and restrictions on its use or a change in the protective or operating arrangements of its working parts, must be brought to the attention of the authorising body.



CS 996

Figure N° 1

o L G K A A'

A :	Key selector	
	<ul style="list-style-type: none"> - Safety cover lock - Normal operation - Adjust blades 	
A'	Time delay indicator	
B	Right-hand vertical presser lever	B ' Left-hand vertical presser lever
C	Right-hand horizontal presser	C ' Left-hand horizontal presser
D , D'	Two-handed operation	
E	Blade protection screen	
F	Right-hand table fixing	F ' Left-hand table fixing
G	Blade start-up	
H	Pressure reducing valve	
I	Rebate depth measurement locking lever	
J	Isolating switch	
K	Emergency stop	
L	Power-on indicator	
M, M'	Blade cover opening handle	
N	Right-hand moulding support	
N'	Left-hand moulding support	
O	Blade descent speed regulator	
P	Right-hand presser release	
P'	Left-hand presser release	
Q	Right-hand bevel protractor	
Q'	Left-hand bevel protractor	
R	Reset	
T	Rebate depth measurement guide rail	
U	Main case	
V	Length stop lever	
W'	Left pressers cancellation indicator light (light on)	
	No or not enough air pressure (light blinks)	
W	Right pressers cancellation indicator light (on)	
	Blades cannot reach start position (blinks)	
X	Rebate depth measurement plate	
Y	Length stop	
Z	Electrical switch cabinet	
Z'	Electrical switch cabinet holder	
a	Blade height adjustment lever	
b	Moulding height indicator	
f	Cover safety unit	

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I- INTRODUCTION

The CS 996 saw is designed to make 45° mitred cuts of any mouldings based on wood, either solid or reconstituted, raw or coated (paint, varnish, plastic coating, paper, or sheet metal: gold, bronze, aluminium, etc.).

The following are excluded:

- Moulding sections which do not have a 90° heel of minimum height 5 mm,
- All metal sections,
- Sections made from thin extruded plastic:
(trim, decorative hardware, etc.)

Its two circular blades are driven by two electric motors.

The moulding is automatically held in place by vertical and horizontal pneumatic rams.

Two hands are required to operate the gripping and cutting, thus maintaining operator safety by keeping hands out of reach of the blades.

The electrical controls are located on the right of the machine inside a cabinet.

The pneumatic elements are fixed on the base of the machine outside the cabinet.

This machine has been built to meet health and safety requirements: modifying the electrical and pneumatic devices, removing the supplied protectors and modifying the machine's safety devices are all prohibited.

The CS 996 saw cannot be used by more than one operator at a time.

Residual risks

Hands must under no circumstances be placed inside the upper protective cover beyond the plastic screens, because of the presence of the holding rams and saw blades, which are rotating in their idle 'up' position.

II- TECHNICAL CHARACTERISTICS

DESIGNATION		CS 996
Year of manufacture		1997
Cutting capacity:	max width	83mm
	max. height	100mm
External blade dimensions		350mm
Bore		30mm
Rotational speed : 3770 rpm 2800 rpm (valid since machine serial # 1044)		
Maximum cutting length		1750 mm
Electrical power supply		220/380 three phase
Power supply cable standard Cross section 4 x 2.5		H07 RNF 4G1.5
2 power motors (complying with EN 60204)		1.5 kW
Suction inlet external diameter		2x100mm
Suction type complying with standards:		28 m ³ /s at 4 m for Ø 100
Compressed air supply		60
Max consumption	700 cuts/hour	60 NL / min at 6 bars
	maximum blade travel	
Rapid action hose coupling:		YES
1 Left extension with moulding guide		YES
1 Right extension with moulding guide		YES
Stop and measurement system + 1 additional flip stop		YES
Accessories: tool box		YES
Options:	rebate depth measurement extension*	(on request)
	Graduated measurement stop *	(on request)

* : Factory fitted

NOISE INFORMATION

MEASUREMENTS:	:	in accordance with ISO 7960
OPERATION	:	special convention

CUTTING	Equivalent continuous acoustic pressure level 70 dB(A)	Acoustic power level 85 dB(A)
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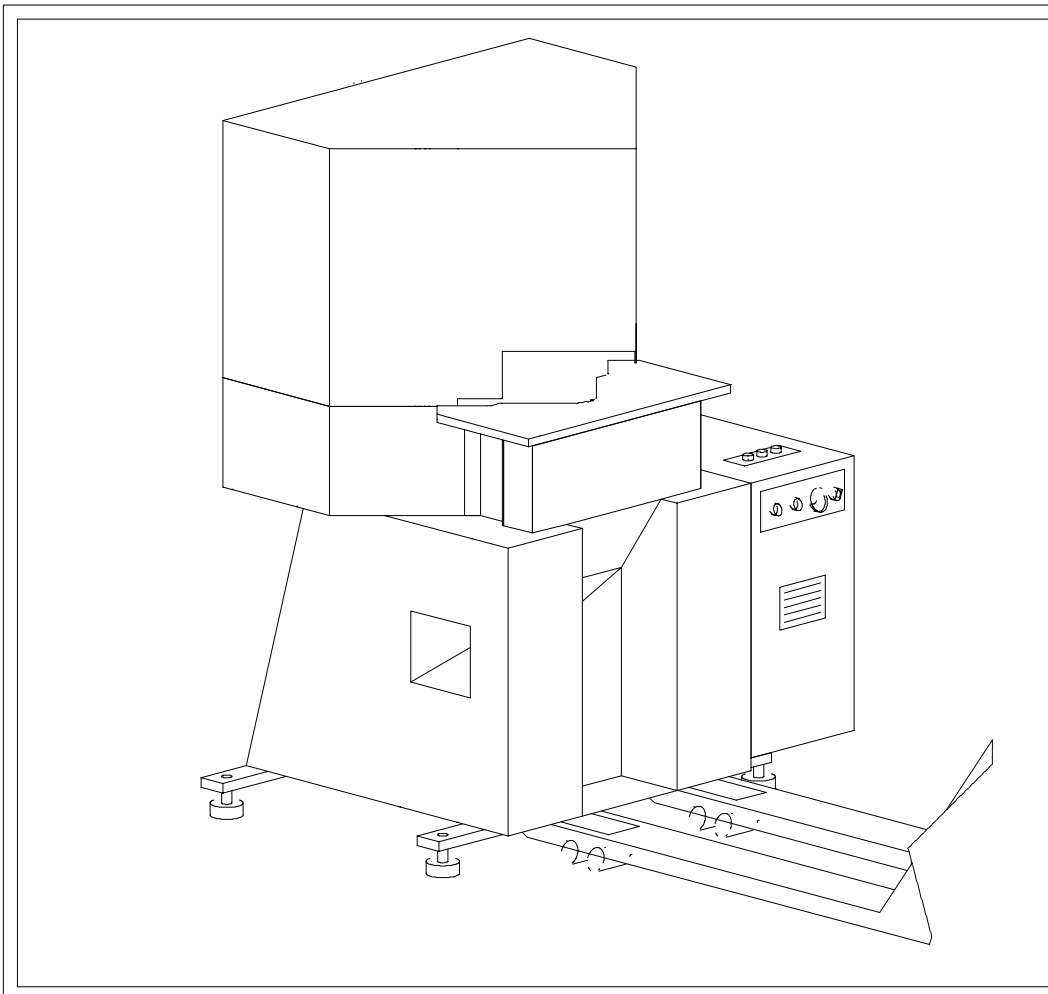
The peak acoustic pressure level is less than 130 dB

III - UNPACKING AND HANDLING

This machine is packaged in an open crate containing:

- right hand extension with stop & measurement system
- 1 left hand extension
- 1 length stop
- 1 box containing:
 - 1 no. 10 Allen key (for dismantling blades)
 - 1 no. 6 Allen key (for assembling tables)
 - 1 no. 3 Allen key
 - 1 access cover key
 - 1 rapid action hose coupling
- 1 blade holding bar
- Fuses: 1A, 2A, 6A, GG

For handling the machine, use a pallet truck equipped with forks at least 115 cm long. Gross machine weight = 300 kg



IV -INSTALLING THE MACHINE

Sufficient space should be allowed around the machine to allow for free movement and access for servicing. It should be placed on stable and more or less level ground.

Before connecting the electrical and pneumatic supplies, level the machine using the adjustable feet.

As the height of the work surface is 900 mm above ground level, it may be necessary to provide a grating for use by operators of short stature.

Fitting the right hand extension (figure 2)

Unscrew the table bracket bolt (VET)

Fit the rear groove of the section (N) on the bolts (1D), then tighten the nuts.

Position the foot (P) and fix the bracket 1 under the table (P) with the table (S) using the bolts (4).

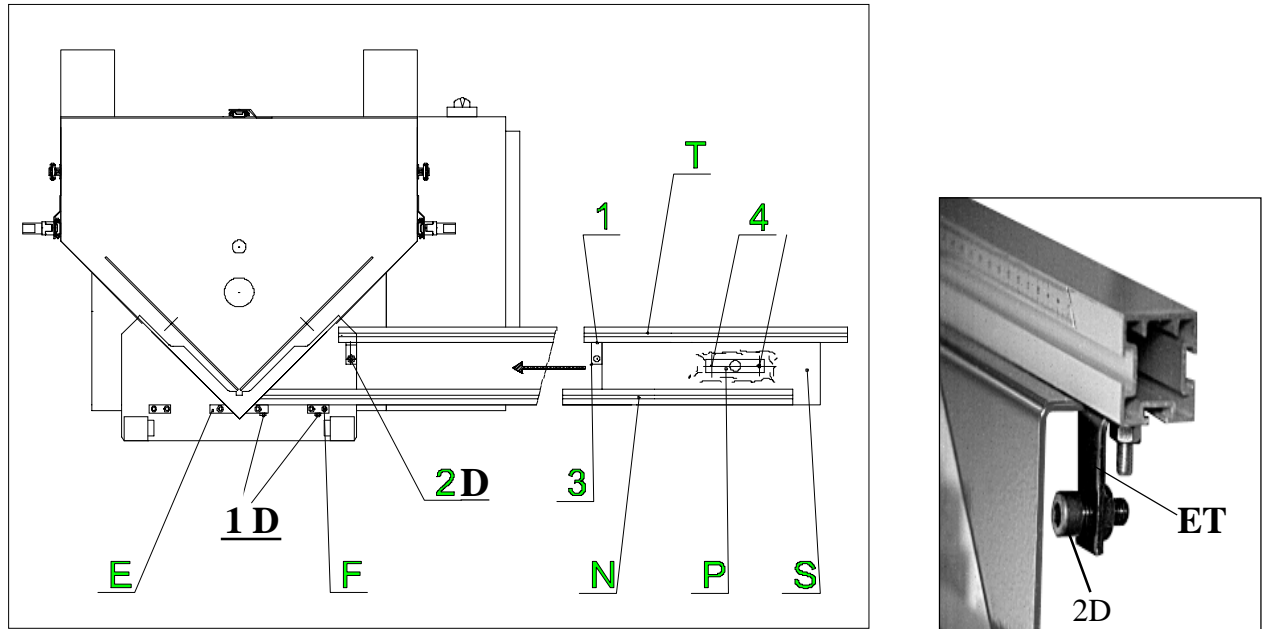
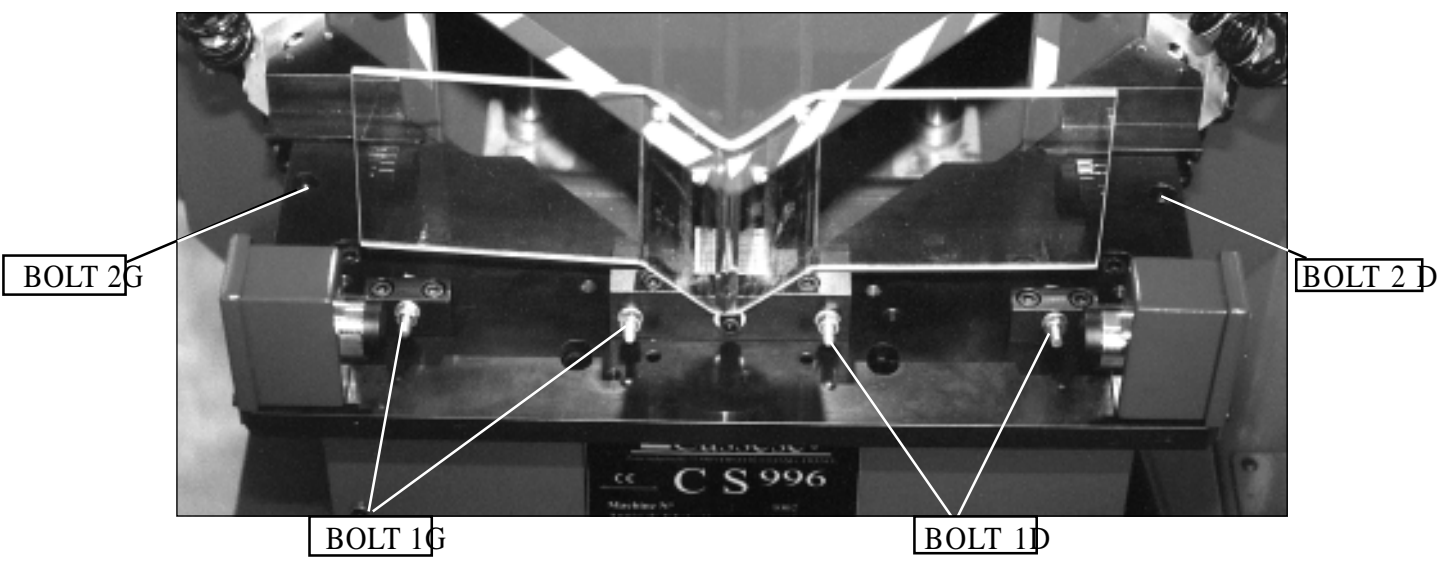


FIGURE 2

Table extension



Fitting the left hand extension (figure 3)

Fit the rear groove of the section (N) on the bolts (1G, see p4) then tighten the nuts. Place the foot (P') under the table (S') then fix it with the bolts (4).

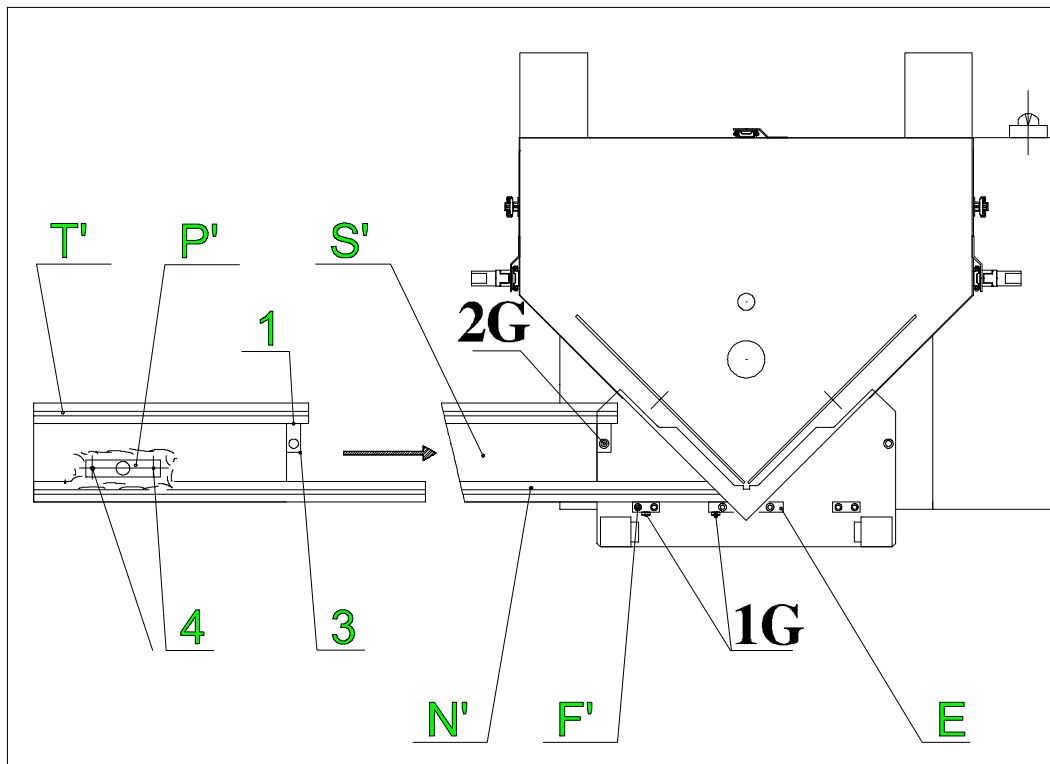


FIGURE 3

Electrical connections

The user should connect the power supply cable to a source that complies with current regulations and ensure that the machine is protected by fuses:

- 8 Amps AM for 380 V three phase
- 12 Amps AM for 220 V three phase

Pneumatic connections

Provide a supply hose (internal diameter 8 mm) capable of supporting the maximum supply pressure, which must be at least 6 bars.

Supply source characteristics: dry air, not lubricated

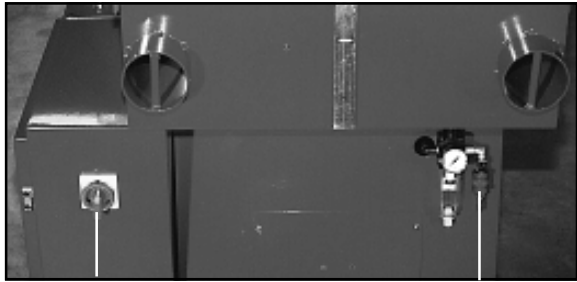
Machine connection: rapid action hose coupling (supplied)

Suction

To comply with health and safety regulations, the machine must be connected to a suction extractor capable of generating a minimum speed of 28 m/s over a diameter of 100 mm.

The circuit consists of two ducts, diameter 100 mm, on each side of the machine. This installation ensures effective suction and should never be either dismantled or modified.

V - COMMISSIONING



ISOLATING SWITCH PRESSURE REDUCING VALVE

- Open the compressed air source and operate the machine's pressure reducing valve to adjust the compressed air pressure to 6 bars
- Switch the machine on:
 (isolating switch J)(figure 1)
 The white indicator (L) comes on. This is only lit when the CS996 is switched on.

Press button G and check the direction of rotation of one of the two blades:

- clockwise for the left hand blade
- anticlockwise for the right hand blade

If the direction of rotation is not correct, disconnect the machine and reverse two phases on the power supply cable.

Cutting speed

The knurled button (O on figure 1) controls the speed at which the blades descend

(See page 9)

Unlock case

Normal operation

Adjust blade height

L

G

K

A

Note

The blade descent speed should be adjusted to suit the material being cut (hardness, cross-section, coating, etc.), the quality of the cut required and the characteristics of the blades used.

VI- CUTTING OPERATIONS

A- Adjusting the height of the blades

The case (U in figure 1) must be in the down position (working position)

Set the key selector A (see p6) to blade adjustment

Important: the user has to wait for the green indicator to come on (A on figure 1), corresponding to a time delay of about 1 minute, indicating that the blades have completely stopped.

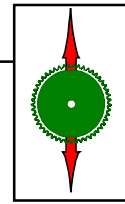
Press buttons D and D' to move the blades to the 'down' position.

Release the lever **a** located above the cover U and adjust the height of the blade using the setting rule **b** (see diagram at the foot of this page).

This indicates the maximum clearance height for the moulding. Lock the lever **a**.

Put the key selector A back to normal operation.

Note : the blade protection screen (E) is automatically adjusted with the blade height adjustment.



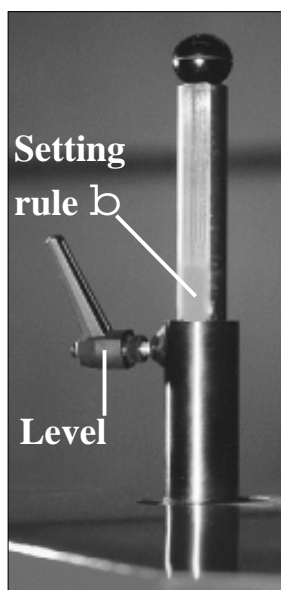
B- Adjusting the pressers and the cut

First adjust the position of the vertical pressers:

Place the beading on the working table, presenting it to the machine from the left (rebate side facing the saw blades), and use the levers (B, B') (figure 1) to position the vertical pressers relative to the section and moulding width, then activate (for example) the right-hand presser using button D (figure 1) and check that the tip of the presser does not topple the moulding. The back of the moulding should be up against on the stops (N & N', figure 1) and the underneath on the working table. To make sure a good cut quality is obtained in safe operating conditions, the moulding must be immobilised and stable.

Repeat the test under the same conditions for the left hand presser using the button D'

For the first cut on the left, release the right hand pressers (vertical and horizontal) by pressing button P (figure 1). After the first cut, these are once again active. If this precaution is not taken, the pressers could push the moulding against the blade instead of immobilising it (figure 10).



Blade height adjustment

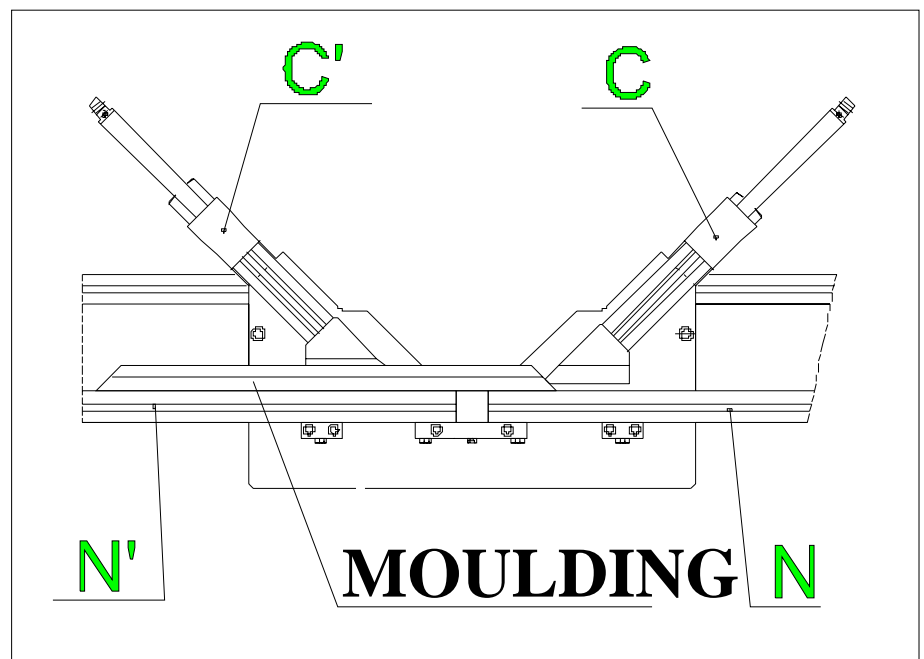


Fig. 10

C- Start up the blade motors using button G (figure 1) then use buttons D and D' (figure 1) to start the cutting by lowering of the blades. The first cut is then made.

Buttons D and D' (figure 1) are used for two-handed control with a pressing delay of 0.5 seconds, in order to avoid the cutting being started accidentally because one of the two buttons has become blocked. Releasing D or D' (figure 1) during cutting causes the blades to lift up immediately: the user has to release and press the buttons again in order to restart the cycle.

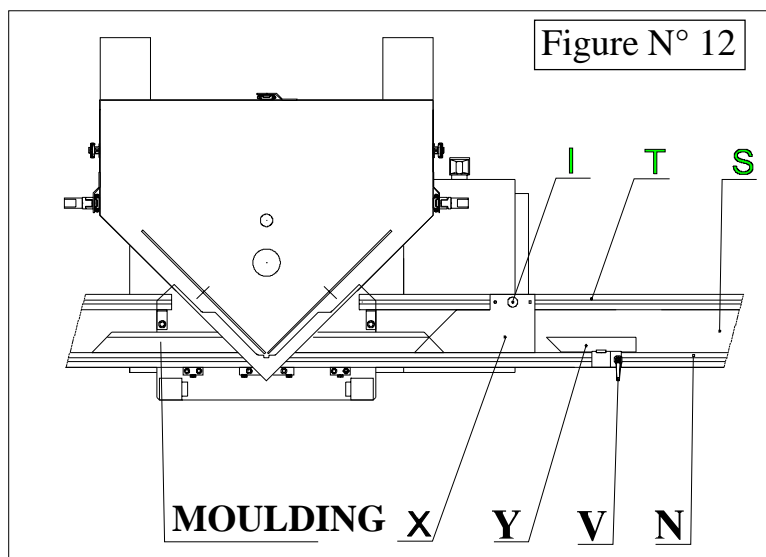
D- MEASURING AND CUTTING THE FIRST PIECE

Rebate depth measurement

Move the cursor (X, figure 12) located on the right hand tablet to the desired rebate depth dimension and lock the lever (I, figure 12); cursor left side measurement (X). Bring the left mitred moulding to the cursor (X) (figure 12). This measurement can only be made on a moulding cut at 45° on the left hand side so as to coincide the rebate depth with the oblique part of the cursor.

Next bring the stop Y (figure 12) into contact with the moulding and lock its lever (V) (fig.12).

Undo the lever (I, figure 12) and release the cursor (X, figure 12) underneath the moulding.



Cutting the first piece

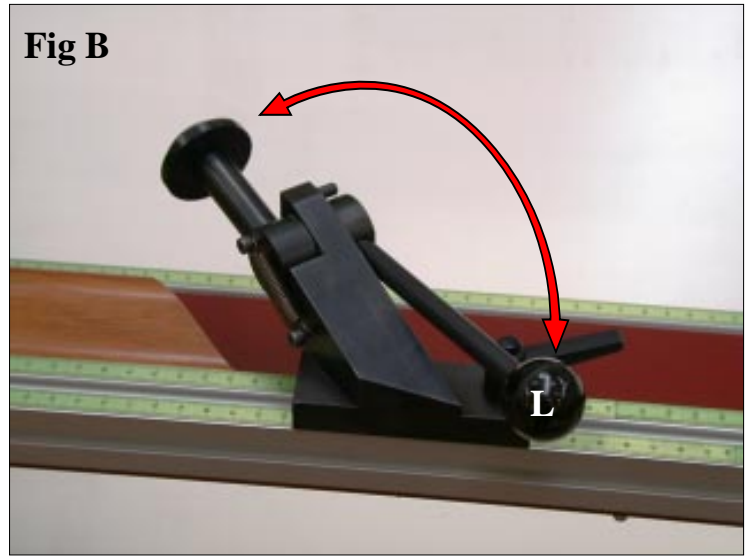
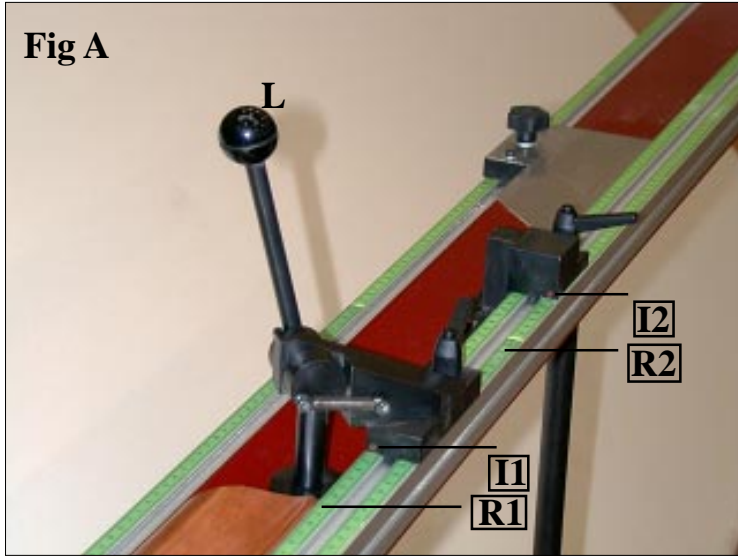
The moulding is in contact with the stop (Y) (figure 12)

Press buttons D and D' (fig. 1) to grip left and right followed by lowering of the blades.

CASSESE REMOVABLE (FLIP) STOP

Patent Pending

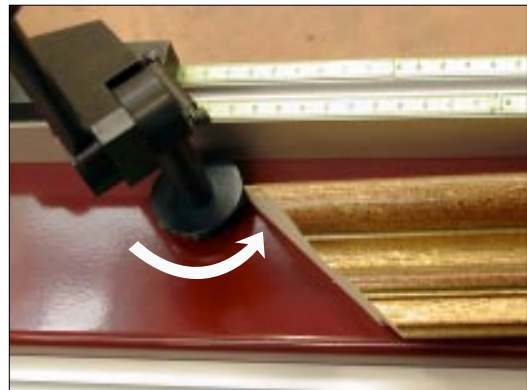
Allows the measuring and cutting of two dimensions of the frame, at any time.



The Cassese removable stop is a positive stop, easy to retract, by a simple action on lever L. It remains stable and without play both in engaged and retracted positions.

Measuring Scale

Each measuring stop is indexed (red mark I1 & I2) which indicate which one of the two scales (rules) is to be used with this stop. These scales are for direct read-off of **outside** measurements of the frame. Sliding Removable Stop: R1 with I1 // Sliding Fixed Stop: R2 with I2. Figure A.



The special design of the removable stop makes all mouldings to be placed in the best way against the measuring system of the machine, even if the moulding is twisted.



END OF MOULDING

The grip and cutting are visible, so the operator must check that the left hand horizontal presser is properly engaged in the moulding rebate and does not cause pressure on the end of the moulding (figure 13).

If it does, the operator must only proceed to right hand tightening by releasing the presser C' (fig. 13) using the P' key (figure 14).

Note: presser C' (fig. 13) will automatically be active again in the next cycle.

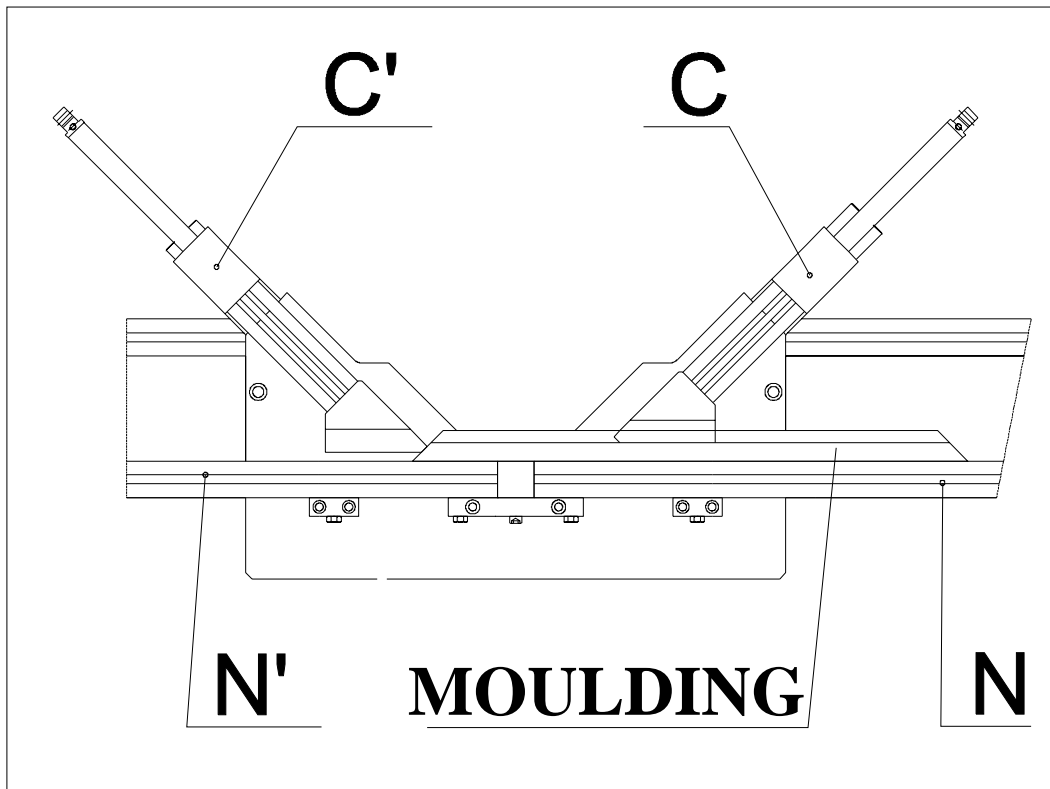


Figure N°13

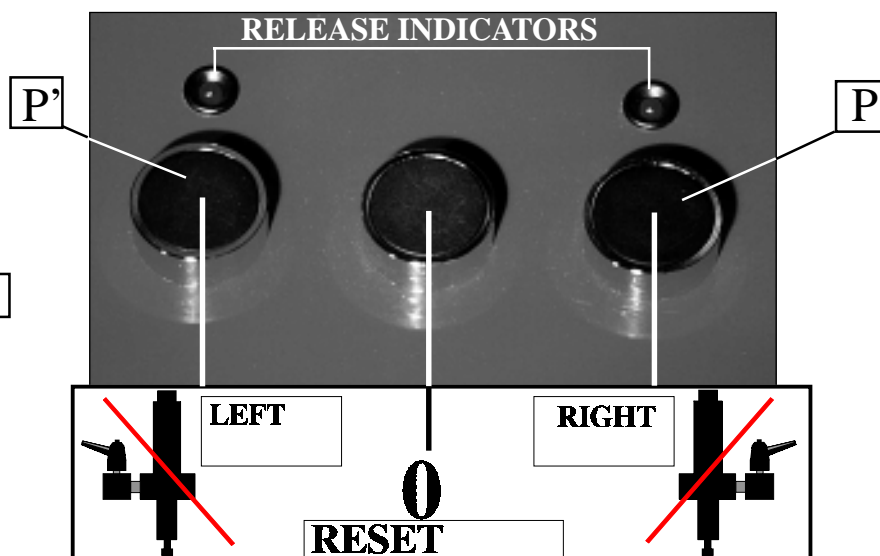


Figure N° 14

If, after a cut, the scrap or remaining moulding piece does not fall down under gravity and cannot be accessed from outside the cover, the scrap should be evacuated by pushing with the next moulding or using a baton.

Cutting several lengths of moulding at once by stacking them or placing one behind another is prohibited.

Under no circumstances should the operator place their hands inside the case.

While this machine is in use, the workstation should not be occupied by more than one person. This person is responsible for operating the controls alone.

Operating the cutting (lowering the blades) is only possible when the horizontal and vertical pneumatic pressers are engaged and the blades are rotating.

During the cutting, releasing one of the buttons causes the blades to be withdrawn, but the pressers remain engaged.

The cycle can be restarted by pressing buttons D and D' (figure 1), or the cycle can be reset using the reset button (R).

In the event of the electrical supply being accidentally interrupted, the blades are instantly withdrawn. When the supply is re-established, the motors will only restart when control button G is activated (figure 01).

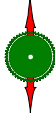

In the event of any incident, press the red emergency stop push-button immediately (K in figure 1), then use the isolating switch (J in figure 1) to switch off the power before doing anything else.

VII - MAINTENANCE & SERVICING

When the cover is open, the safety unit **f** prevents the motors from starting and the blades being lowered.

PROCEDURE PRIOR TO ACCESSING THE INTERIOR OF THE MACHINE

Opening the main case (U, figure 1)

Position the key selector A to .
Wait for the green indicator to come on (A' in figure 1): this involves a time delay of about 1 minute and indicates that the blades have completely stopped.
Then press buttons D and D' to put the blades in the down position.
Release lever **a** and position the setting rule **b** on the MAX dimension; re-engage lever **a**.
Position the key selector to .
Completely unscrew lever **a**.
Raise the bevel protractor locking levers Q and Q' and release the catches (figure 15).

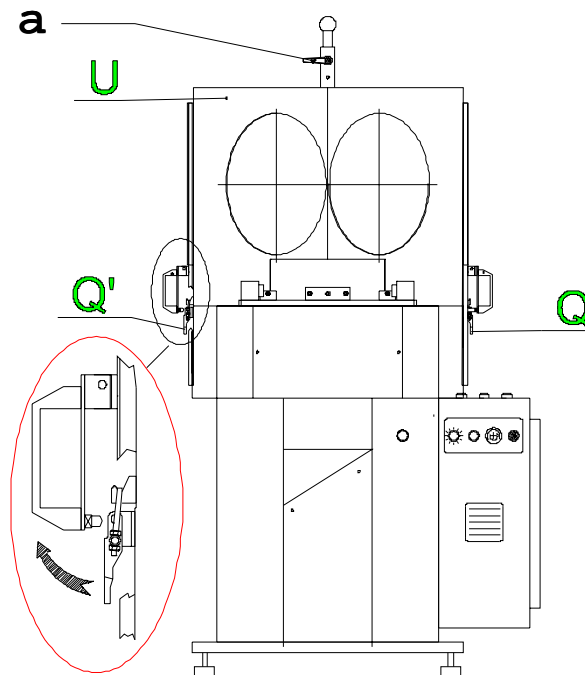
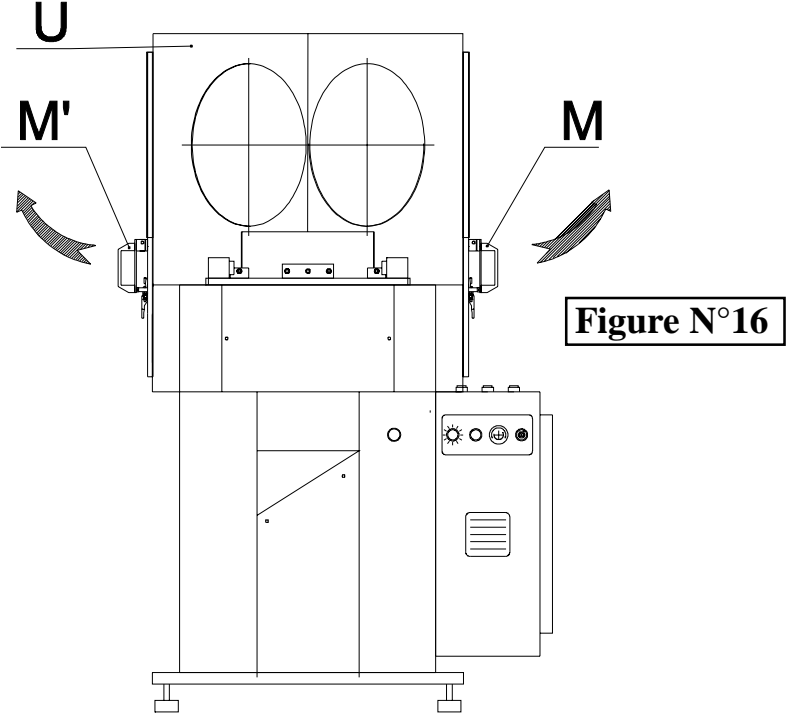


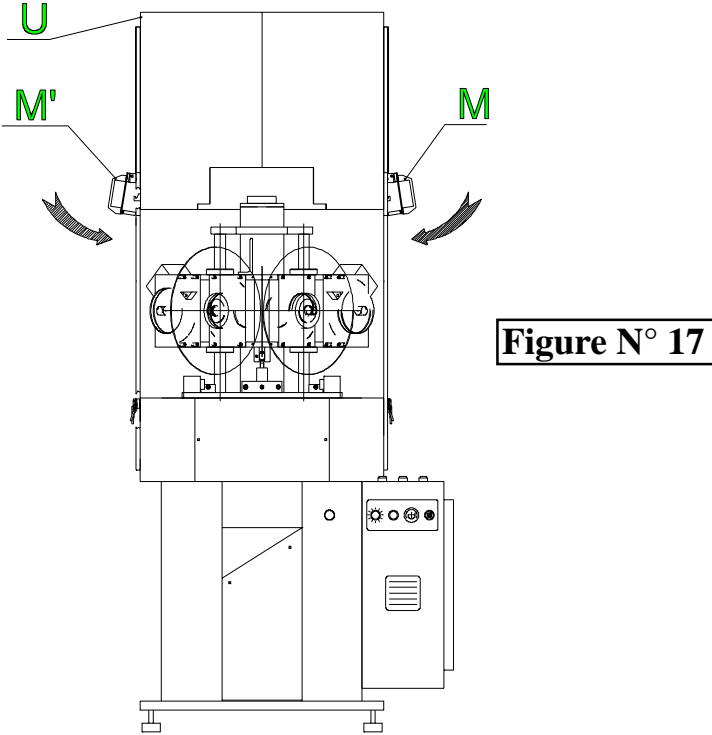
Figure N°15

For all maintenance, servicing and repair operations, switch off the machine's electrical and pneumatic circuits and padlock the isolating switch (J, figure 1).

Then, using handles M and M' (figure 16), raise the cover by rotating your hands outwards.



At the upper limit of travel, rotate your hands inwards to lock it in the 'up' position (figure 17).



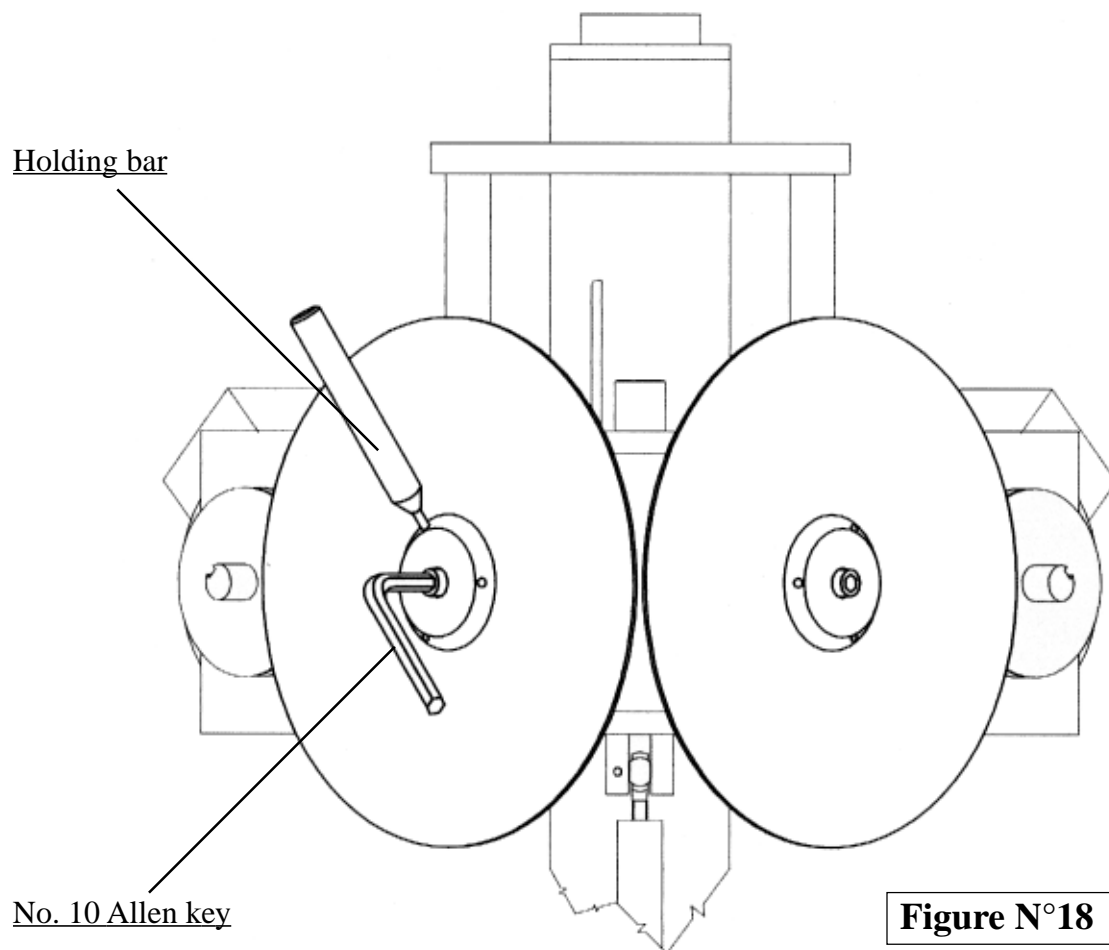
DISMANTLING THE BLADES

IMPORTANT

Switch off the machine using the isolating switch (J, figure 1) located on the right hand side of the machine and secure it in the off position by fitting a padlock through the lug.

During this operation, we recommend that you wear gloves for handling the blades and to avoid catching your hands on anything.

Using the holding bar supplied to immobilise the shaft (figure 18), unscrew the nut (in general, to release the blade holding nuts, always turn the spanner towards you), then withdraw the flange and the blade.



USING THE HOLDING BAR

REFITTING THE BLADES

Clean the flanges and blades.

Refit the blade (teeth in the direction of cutting). Note the cutting direction indicated on the mounting.

Refit the flange and the screw and tighten it while immobilising the axis using the holding bar.

To lower the main case (U in figure 1), grasp the handles and lift while rotating your hands outwards, then lower the case gently until it reaches its 'down' position. Engage the catches and lower the bevel protractor locking levers Q and Q' (figure 15), then re-engage the isolating switch (I, figure 1) and lock the cover using button A (figure 1) by setting it to the normal operating position:



normal operating
position

SERVICING

Service according to the frequency of use. Based on 8 hours/day:

cleaning: clean the Plexiglas screen using a soft cloth

Check belts every 3 months

Blade sharpening: achieving a good cut requires sharp blades. We recommend that you contact your vendor for this service.

Type of blade recommended for multipurpose cutting:

	teeth	number of teeth	body thickness
Diam. 350	LR positive 3°	108	2.7 mm

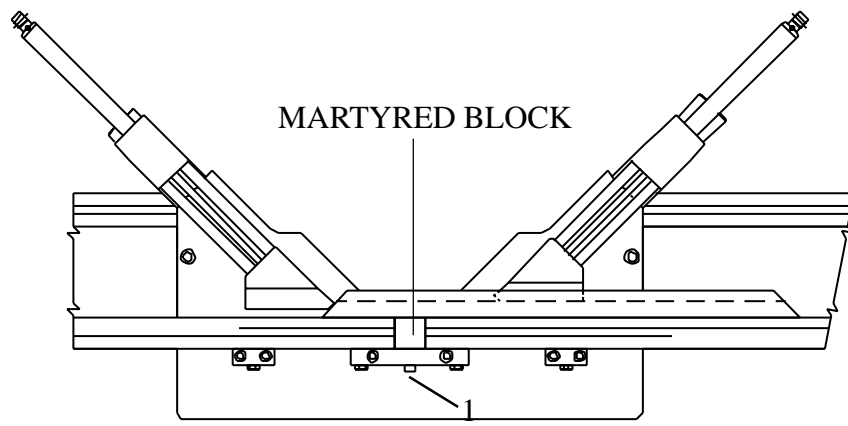


Figure N° 19

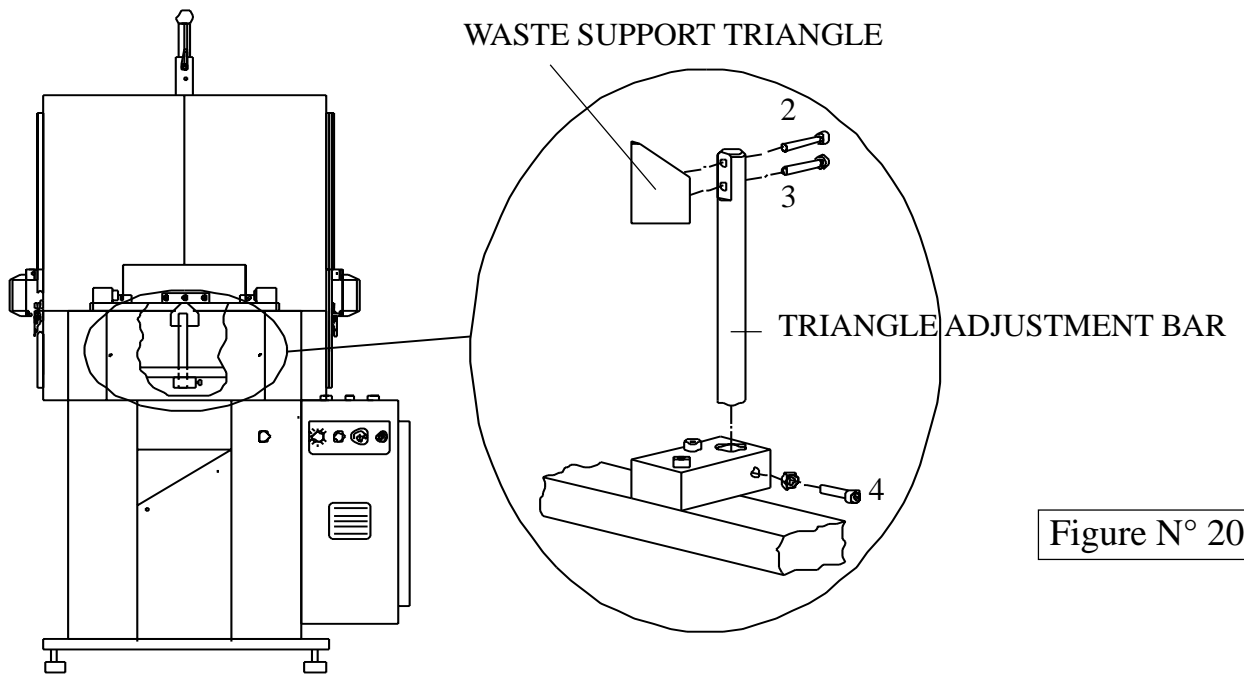


Figure N° 20

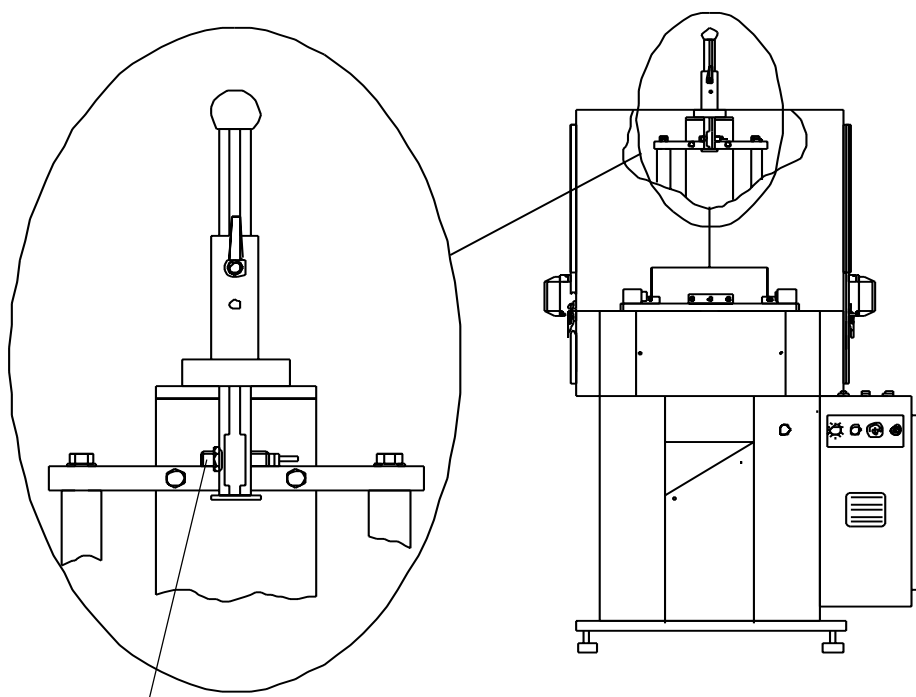


Figure N° 21

BLADES' START POSITION SWITCH

CHANGE OF MARTYRED BLOCK & WASTE SUPPORT TRIANGLE

Open the main case (cover) (see page 11).

Loosen the screw 1 on Fig.19 and remove the old martyred block. Loosen then the screw 4 on fig. 20 and remove the adjustment bar of the triangle.

With the screws 2 k 3 (fig.20) remove the old waste support triangle. Fix the new triangle on the adjustment bar with the two screws and place the assembly back on the machine but do not tighten its screw yet.

With a rule (or a moulding) that you put on the work bench of the machine, bring the waste support triangle assembly just underneath.

Make sure that the two sides of the triangle are parallel to the blades.

Now tighten the fixing screw 4 (Fig.20) of the assembly.

Fix the martyred block back with the same screw 1 (Fig.19) but with a clean (not martyred) side facing the blades.

Lower (close) back the main case (see procedure above).

Turn on the blades with button **G**(Fig. 1).

Slow down the descent speed of the blades with the regulator **O** (Fig. 1).

Press the two clamp cancellation buttons **P** & **P'** (Fig.1) at the same time; this will allow the cancellation of both right and left hand clamps for 3 seconds (the lights **W** & **W'** come on).

During these 3 seconds, push on buttons **D** & **D'**(Fig.1) at the same time. The blades come down and machine both the martyred block and the waste support triangle.

Releasing the buttons **D** & **D'** blades come up and the clamps cancellation lights **W** & **W'** turn off.

(If you don't push the buttons **D** & **D'** within 3 seconds, you will have to push the two clamp cancellation buttons at the same time once again, so to have a new period of 3 seconds to bring down the blades and to machine the new parts fixed on your saw.)

REPLACING THE TABLE EDGES

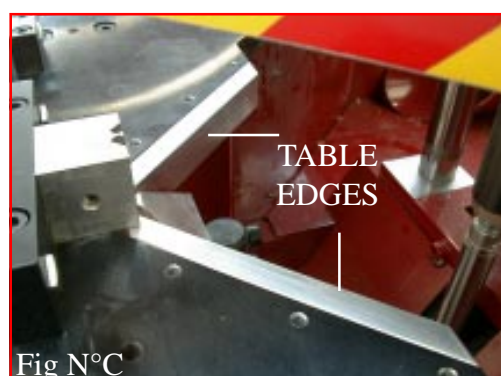
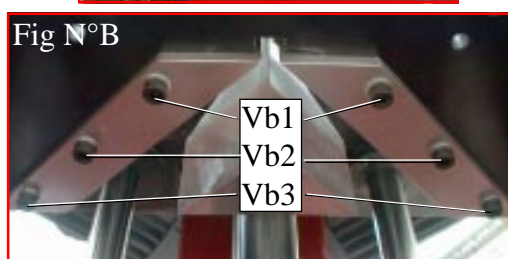
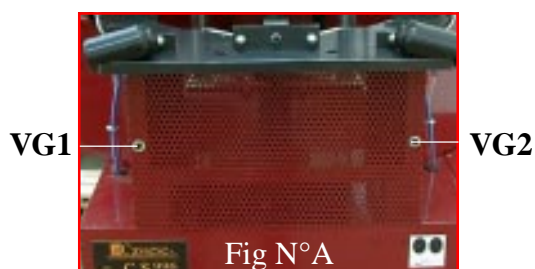
When the cut presents faults such as tearing of the paper layer (mouldings covered) or splitting of the base, the table edges should be replaced.

Switch the machine off at the main switch (J)(fig. 1) situated on the rear right side of the machine and lock it by fitting a padlock in its tongue.

Using a 4 mm allen key, remove screws VG1 and VG2 (fig. A) holding the front grid to obtain access under the cutting table.

Using a 4 mm allen key, remove screws Vb1, Vb2 and Vb3 from the worn edges (fig. B).

Fit the new table edges to the cutting table as shown in fig. C.



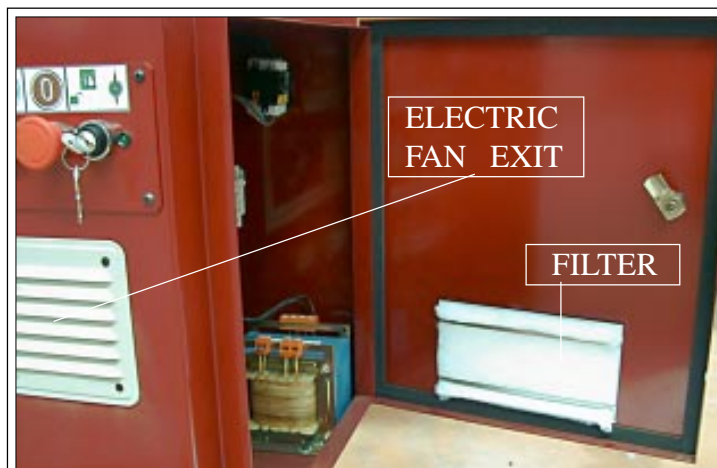
MACHINING THE TABLE EDGES

Press button G to start the blades (fig. No 1).

Reduce the blade descent speed with the knurled screw O (see fig. No 1).

Press the two buttons P and P' at the same time (cancel clamps)(fig. No 1). This makes the 2 cancellation indicator lamps W and W' light for 3 seconds. While they are alight, press buttons D and D' (fig. No 1) of the two-handed control. The rotating blades descend to their bottom position to machine the table edges. When the two-handed control (D) and (D') is released the blades move up again and the indicator lamps (W) and (W') go off.

REPLACEMENT OF ELECTRIC BOX FILTER



IMPORTANT

A good air ventilation inside of the electric box is needed for good function of the electronic parts and the programme controller PLC. The filter (part # Z.3642) that is fixed on the door of electric box should be replaced periodically.

TROUBLE SHOOTING

FAULTS	REMEDIES
Blades do not turn (Indicator light L is off)	Too low air pressure (minimum 6 bar) (If this is the cause, indicator light W' blinks W' is the left hand clamps cancellation light) Main switch J not engaged Fuses need changing Cover U not locked
The pressers (clamps) are working but the blades do not come down	The blades are not switched on A delay occurred between pressing D& D'
Poor cut	Incorrect engine sense of rotation Incorrect blade direction (of teeth) Blades need replacement or sharpening Moulding in an unstable position and moving during cutting. Blades' descent speed not suitable for the type of wood being cut.
Indicator light W' (Fig.1) is blinking	No or too low air pressure (minimum 6 bar)
Indicator light W (Fig. 1) is blinking (W is the R/H clamps cancellation light)	Blades cannot reach the start (up) position (a waste piece of wood may be stuck) The switch giving the blades' start position signal is defect (see page 14, Fig. 21)

**For any other problems, call your local supplier of Cassese products or
 Cassese factory (France)**
Service department for France or Belgium: Phone (+33.1) 64.06.24.51
From all other parts of the world, call Int'al sales department:
Phone (+33.1) 64.42.49.71
Fax (+33.1) 64.42.58.94 or (+33.1) 64.06.04.19

Electrical spare parts	:	see electrical parts list
Pneumatic spare parts	:	see parts list, page 31
Mechanical spare parts blade	:	drive belt : Ref. XPZ 737
(valid since machine serial #1044)	:	drive belt :Ref. XPZ 687