Z15768

Cassese®

CS 960

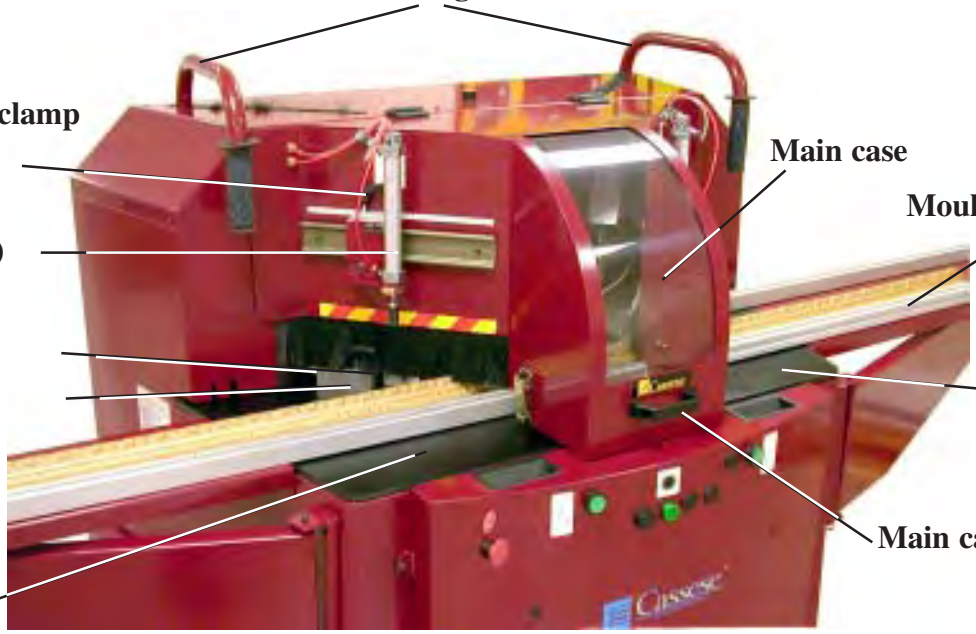
Manual Operated Double-Mitre Saw 45°

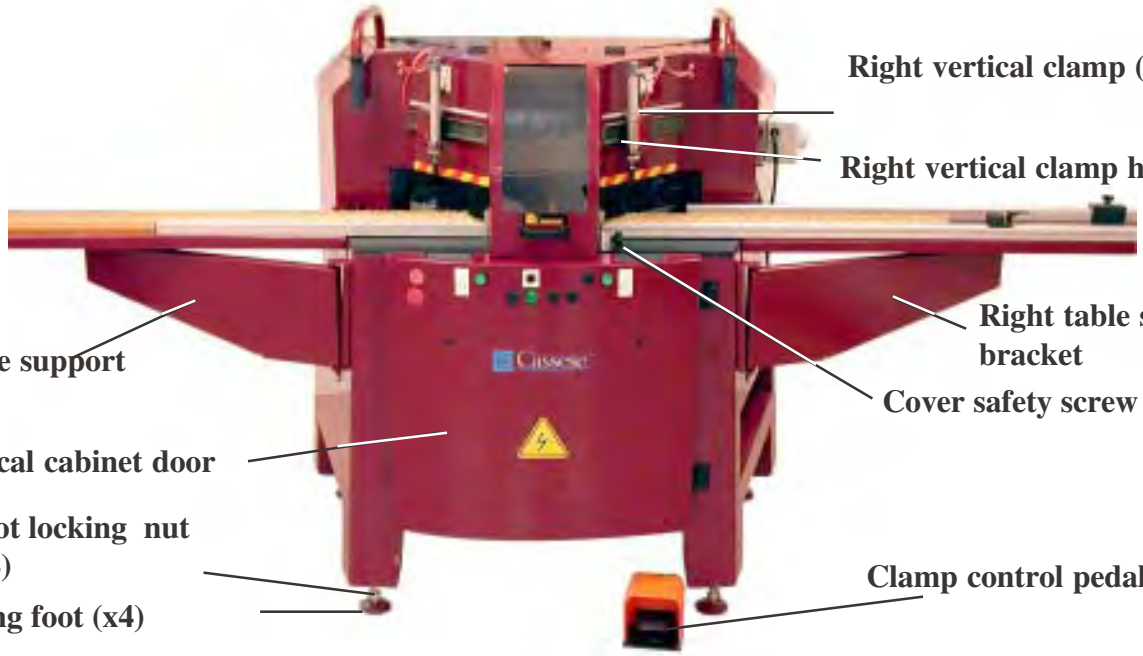
Instructions for Use & Technical Data

VERSION 2 - 09-2005

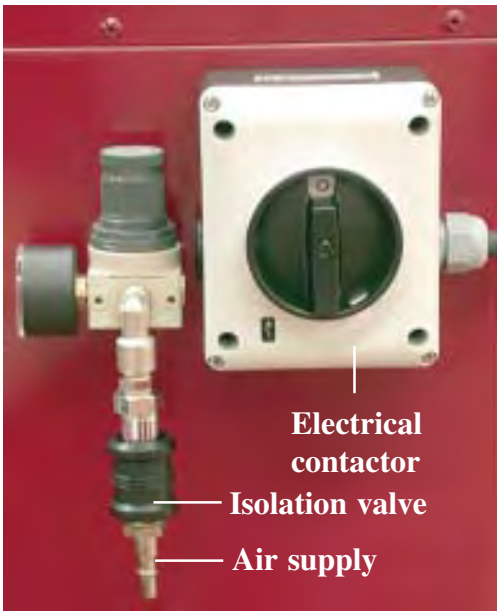
Cassese Communication

CS 960 DESCRIPTION

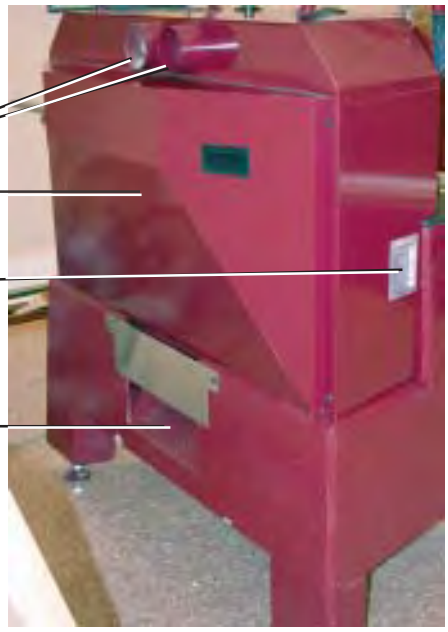




RIGHT SIDE OF MACHINE



LEFT SIDE OF MACHINE



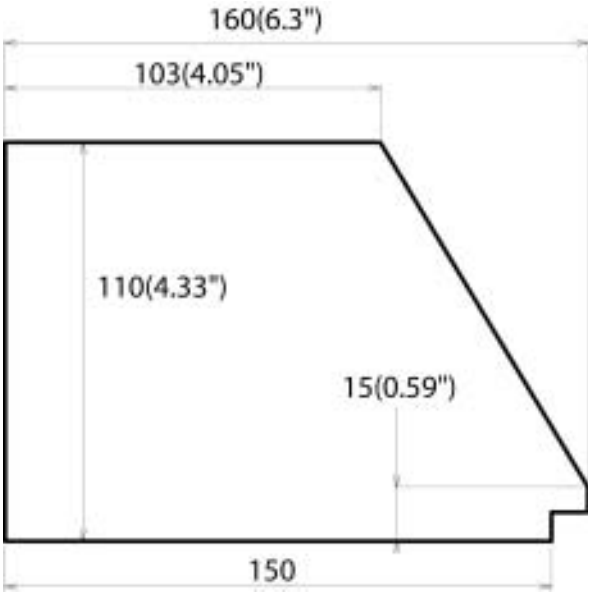
TECHNICAL DATA

PRODUCT NAME		**CS 960**
Year of creation		**2005**
Cutting capacity:		
maximum width		**160 mm**
maximum moulding height		**110 mm**
Blade dimensions		**Ø 350 mm**
Bore		**Ø 30 mm**
Maximium cutting length:		**1500 mm**
Rotation speed:	**2800 rpm (50-60Hz)**	**3400 rpm (60Hz)**
Electrical power supply	**230v Mono/ 30A**	**230vTRI/ 16A - 400vTRI/ 10A**
Power cable, standard, section	**3x 2.5 H07 RNF 3G2.5**	**4x 1.5 H07 RNF 4G1.5**
2 power motors (compliant with standard EN 60204)		**1.5 kW**
Extraction nozzle, ext. dia.		**2x120 mm**
Extraction compliant with standards:		**28 m3/s at 4 m for Ø 120**
Air supply:		**4 bar min. / 4 to 6 bar**
Max. consumption:		**2,3l / cycle**
Weight		**950 kg (# < 58) / 710 Kg (# > 57)**
Noise (compulsory ear protection)		**85 dB**

CUTTING CAPACITY (OVERALL)

for max. width = 160

Dimensions in mm

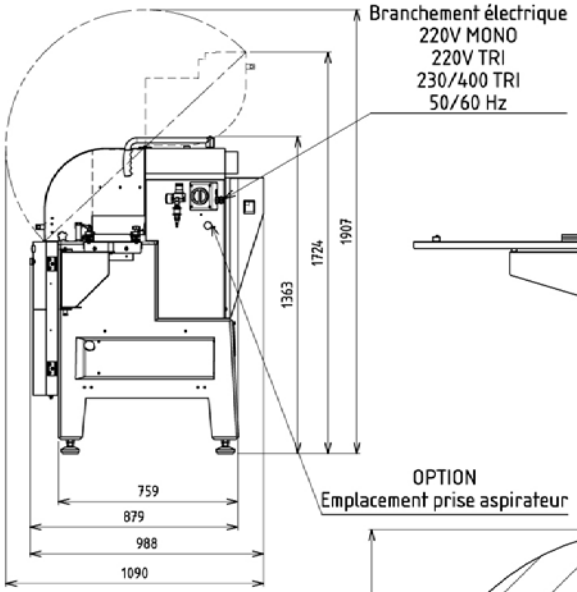


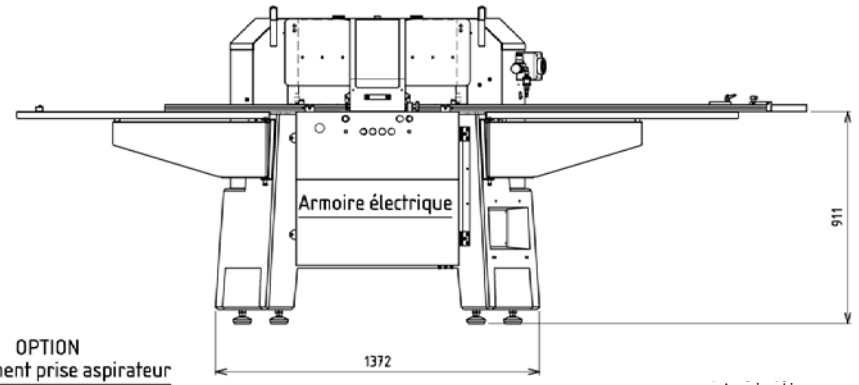
Options: **- Right extension arm:**

- Z15732 : 2 metres **- Z15731 : 1,00 metres**

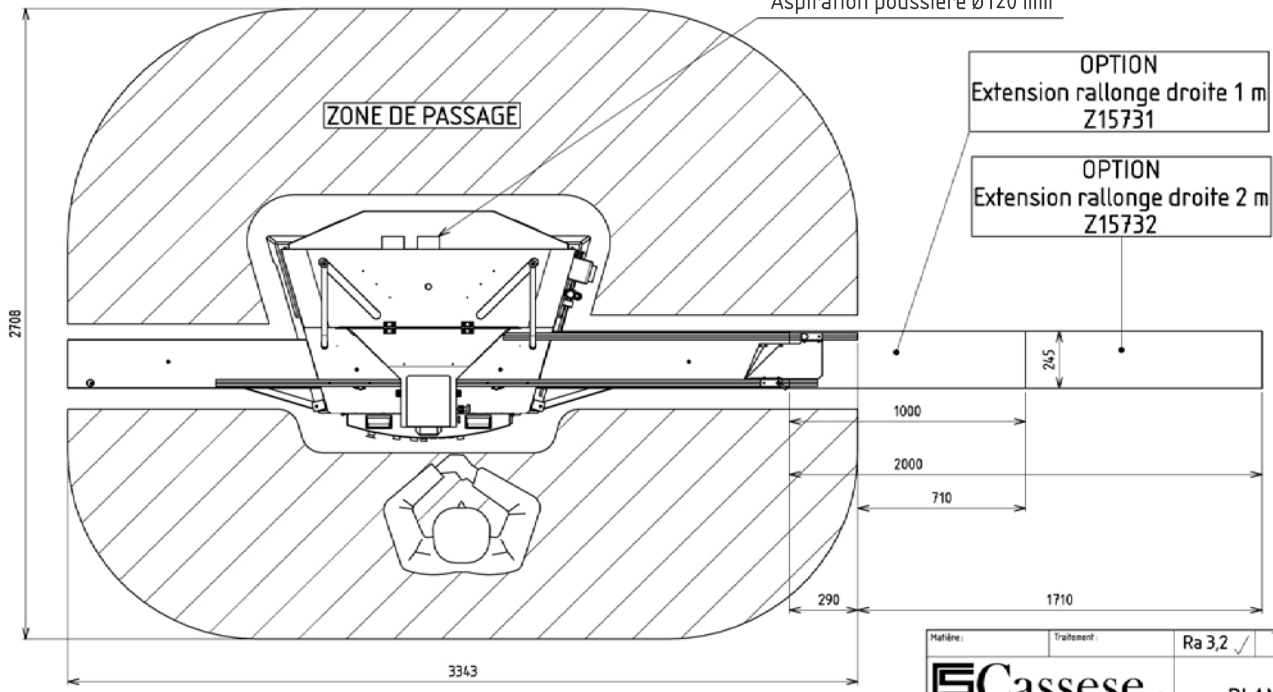
- Digital measuring stop* (on request / Factor Adaptation):

- Z15736 : Smart Stop **- Z15735 : Quick Stop**





OPTION
Emplacement prise aspirateur



Masse= 950 Kg (CS 960 N° < 58)
Masse= 710 Kg (CS 960 N° > 57)

Matière :	Traitement :	Ra 3,2	Tolérances générales : ISO 2768 - fH	Débit / Modèle :	Visa :

Cassese ®
Z.I. VERNEUIL L'ETANG 77390 VERNEUIL L'ETANG

PLAN D'IMPLANTATION CS 960

Ech :	Le :	Par :				
1:1	31/03/2005	Marlial CASTILLO	A2	N° Plan : Z16027	Ind : 02P

Contents

I- INTRODUCTION

The CS 960 saw is used to produce 45° mitre cuts on all mouldings made from solid or reconstituted wood, with or without coating (paint, varnish, plastic, paper, metal leaf such as gold, bronze, aluminium, etc.).
It cannot be used for:

- Moulding profiles that do not have a 90° heel at least 5 mm high,
- Any metal profiles,
- Thin extruded plastic profiles:
  (plastic cords, trimming, etc.).

Its two circular blades are driven by two electric motors .
The moulding is clamped automatically by vertical (option) and horizontal (standard) pneumatic cylinders.
A control, actuating the release of the blade carriage ensures operator safety by keeping hands out of range of the blades.
The electrical control equipment is installed in a cabinet at the front of the machine.
The pneumatic equipment is installed in the base and on the right-hand side of the machine.
This machine was built to meet safety and hygiene requirements. It is forbidden to modify the electrical and pneumatic equipment, remove protective equipment installed on delivery or modify the machine safety devices.
Saw CS 960 cannot be used by more than one operator at a time.

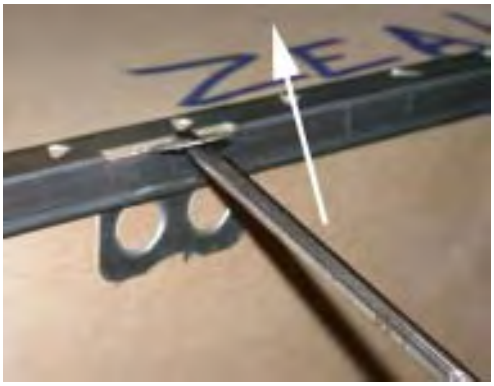
Residual Risks

Hands must never be inserted inside the main case as this contains the clamping cylinders and rotating saw blades in their rest position.
For any other work inside the machine:
See the «Maintenance» section of this manual (page 11).

II - UNPACKING AND HANDLING

This machine is packed in a crate containing:

· 1 right table extension with Slot base measuring system + Fixed stop
· 1 left table extension
· 1 box containing:
- 1 Allen key, 10 mm (blade removal) - 1 Allen key, 4 mm (table assembly)
- 1 Allen key, 2,5 mm + 1 Allen key, 5 mm + 1 Allen key, 6 mm
- 1 quick-fit connector (fitted on machine) / 1 barbed connector / 1 USA connector / 1 quick-fit coupling (see page 6) / 1 blade steadying handle



Using a screwdriver, open the crate fasteners then remove the lid and 4 sides.

<u>Leaving the protection in place</u> , remove :
1) the accessories box, the left and right blade carriage arms and the left table extension located below the machine,
2) the right table extension located behind the machine.
Leave the pedal in place on the cutting table as it is wired to the cabinet.
Using a cross-head screwdriver, remove the blocks from the 4 feet of the machine.

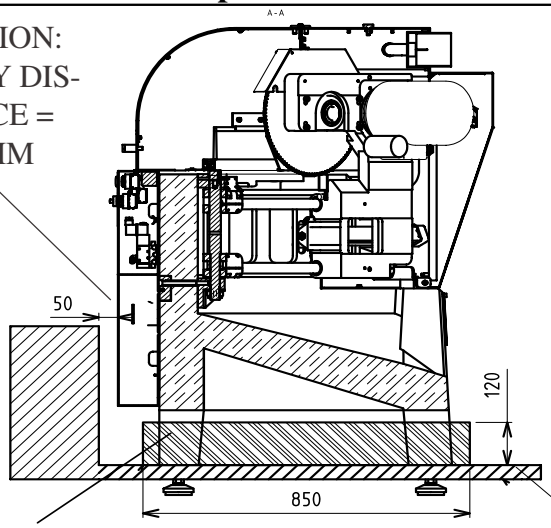
For handling, a lift truck with forks at least 115 cm long must be used. The forks must be positioned correctly below the frame: See below. Gross weight of the machine: 950 kg

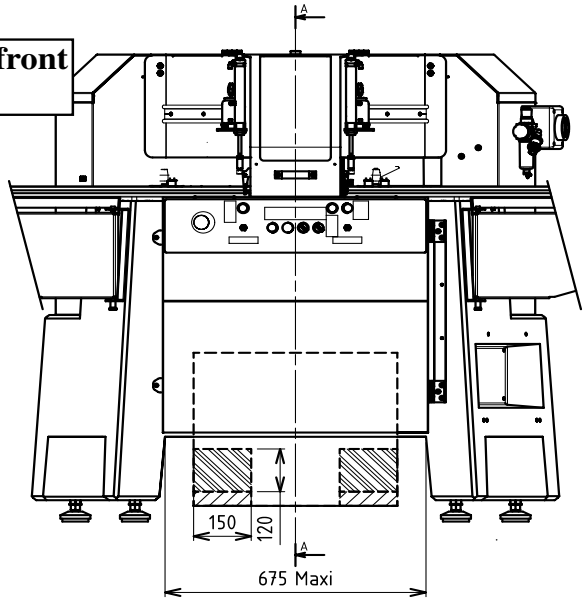
CAUTION: SETTING THE FORK SPACING

MOVING THE PALLET TO THE FLOOR: FRONT PANEL = 670 MM - SIDE: 530 MM
THEN SET THE FORK SPACING FOR THE REMAINING MOVEMENT (SEE DRAWING BELOW).
POSITION OF THE FORKS: EQUIDISTANT FROM THE FRAME AXIS.

Manutention par la face avant / Handling from the front
Manutención por la cara anterior

CAUTION: SAFETY DISTANCE = 50 MM

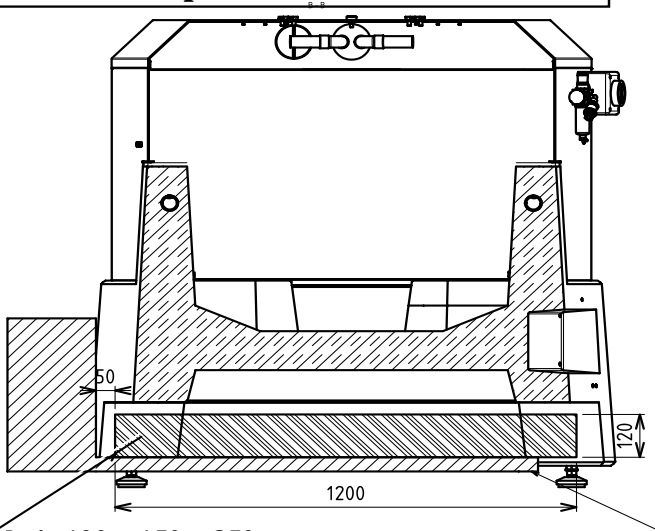


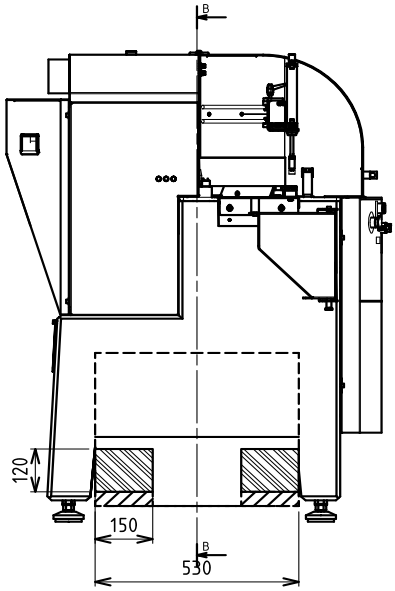


2 cales de bois 120 x 150 x 850
2 cuñas de madera 120 x 150 x 850
2 wooden blocks 120 x 150 x 850

Fourches du matériel de levage
Horquillas del equipo de elevación
Forks of the lifting equipment

Manutention par le côté / Handling from the side
Manutención por el costado





2 cales de bois 120 x 150 x 850
2 cuñas de madera 120 x 150 x 850
2 wooden blocks 120 x 150 x 850

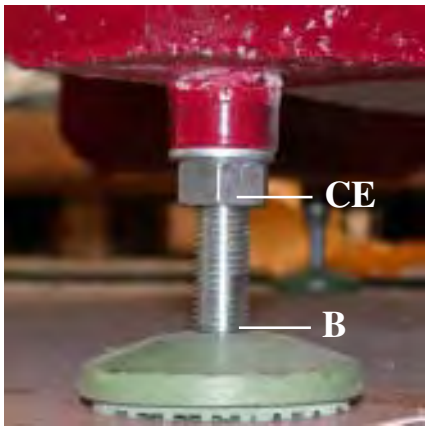
Fourches du matériel de levage
Horquillas del equipo de elevación
Forks of the lifting equipment

Once the machine is installed, removed the protection. Open the removable panel at the rear of the machine after removing the 4 screws (5-mm Allen key). Release the two pieces of wood blocking the blade carriages (safety measure during transport). Refit the removable panel and the 4 screws.

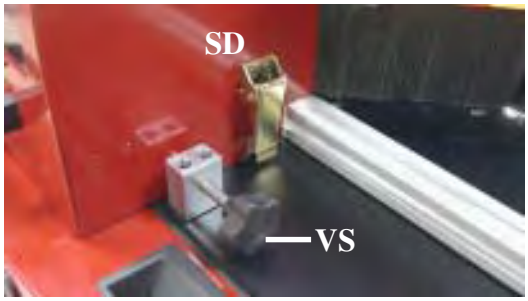
CAUTION: NEVER USE THE MACHINE WITHOUT REFITTING AND THE REAR PANEL AND ITS SCREWS.

III - SETTING UP THE MACHINE

There must be sufficient clearance around the machine to allow free movement and access for maintenance (see page C).
The CS 960 must be installed on a stable, flat floor capable of supporting its weight (950 kg). Before making any electrical and pneumatic connections, level the machine by means of the adjustable feet.
Use a 24-mm open-end spanner on lock nut CE and a 12-mm open-end spanner for base B. Tighten lock nut CE firmly after adjustment and levelling.
As the work surface is 900 mm from the floor it may be necessary to have a platform available for operator of short stature.

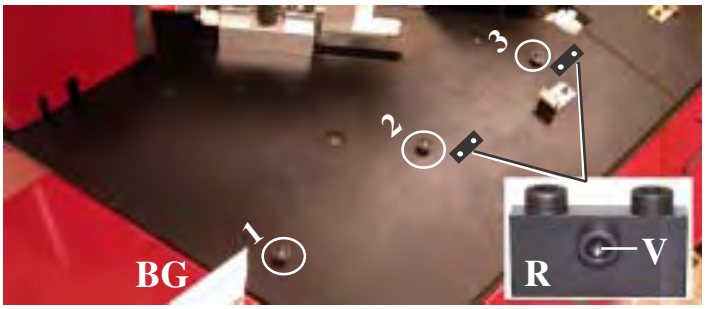


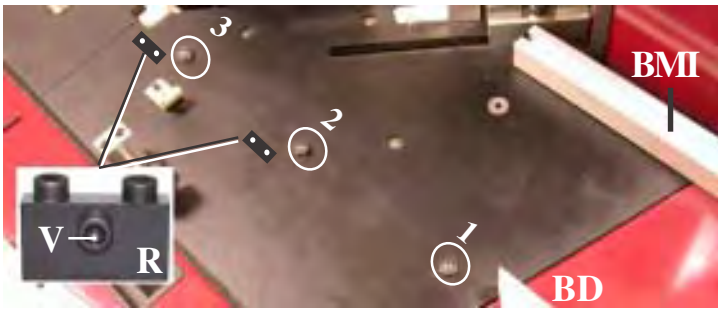
Assembling the left and right tables



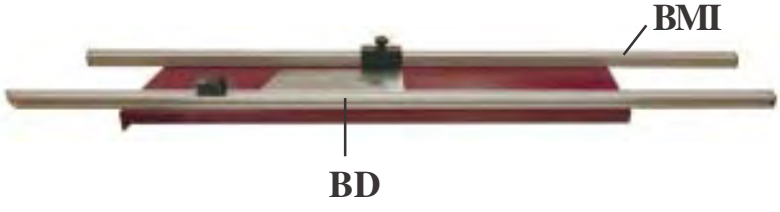
Open the main case by fully loosening safety screw VS and releasing left and right spring clips SG / SD.

Remove screws A, B and C, D (on the right and left sides of the machine frame) and screws E, F of the cylindrical suppports (on the extension support brackets) with a 5-mm Allen key.



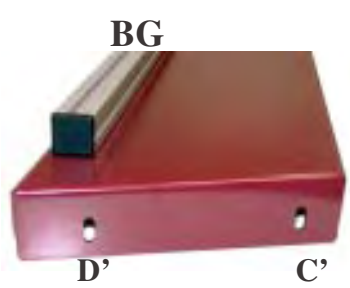


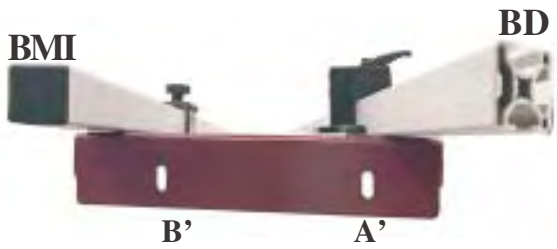
The cutting table has 2 series of 3 screws and 2 rule supports R, which secure the right and left stops BD and BG.



Using a 4-mm Allen key, slightly loosen the locking screws on stops BD and BG located beolw each table extension. This allows stops BD and BG to slide along them.

Do not loosen the screws of the internal measuring stop BMI (factory setting).

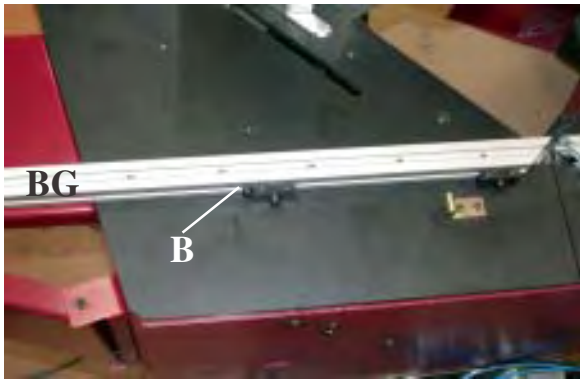




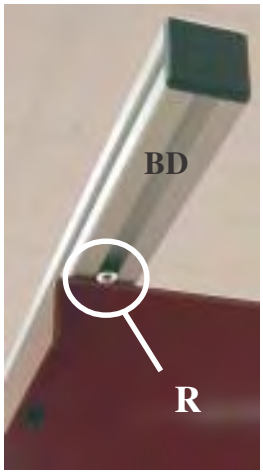
Position the left extension support bracket below the left table.
Slide stop BG of the left extension into screws 1-2-3 and the 2 rule supports R of the left table.
Screw the extension to the frame (at C' and D') using screws C and D. Secure the cylindrical support of the bracket using screw E.
Set the extension level with the cutting table.

Slide stop BG fully home through screws 1,2,3 and the screws of the 2 rule supports, until it is stopped by screw B.

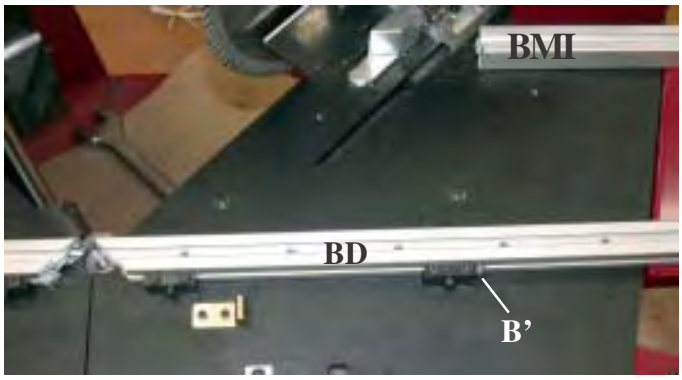
Using the 4-mm Allen key, tighten screws 1,2,3 and the screws of the 2 rule supports.



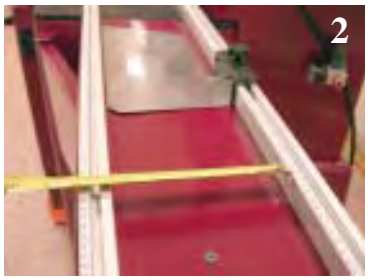
Retighten the locking screws below the table extension.

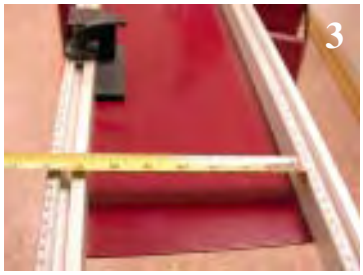


Position the right table support bracket below the right extension.
Slide right extension stop BD into screws 1-2-3 of the right table and the screws of the 2 rule supports until it is stopped by screws R and B'.
Screw the extension to the frame (at A' and B') using screws A and B. Secure the cylindrical support of the bracket using screw F.
Tighten screws 1,2,3 and the rule support screws. Set level.



Measure the distance (1) between stops BD and BMI and (2) set the same distance at the middle of the extension, by adjusting BD. Tighten the screw on the underside. (3) Repeat the operation at the end of BD.





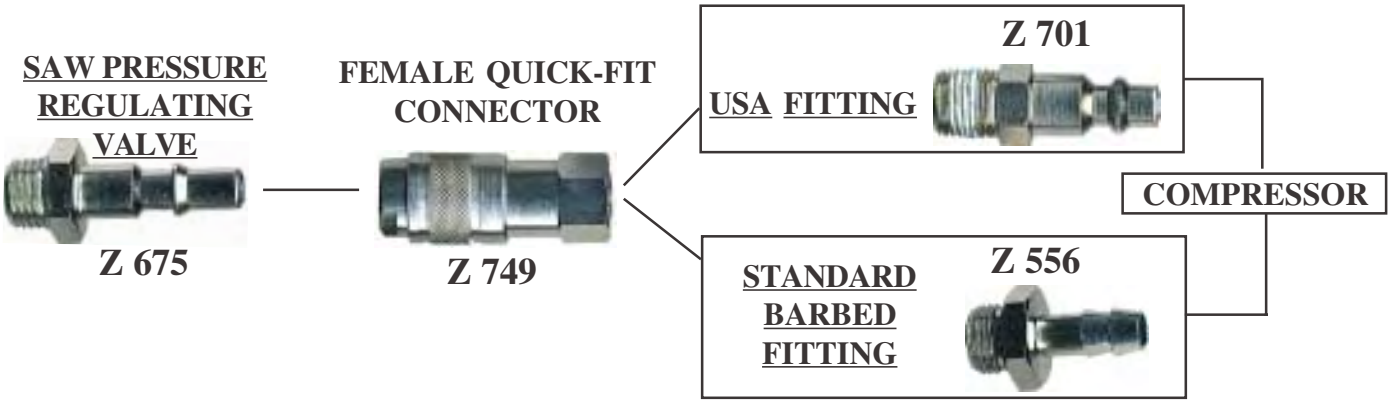
Once the stop spacing is set, retighten the remaining screws below the table.

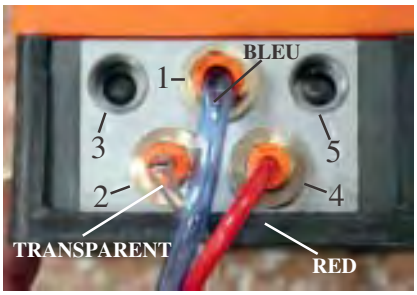
Electrical connection

The user must connect the power supply cable to a source complying with the regulations in force and protect the machine by fitting fuses: 25 Amp aM for 220 Volt single-phase and 16 Amp aM for 380/220 Volt 3-phase.

Pneumatic connection

Use a supply hose of inner dia. 8 mm withstanding the maximum pressure of the source, which must not be less than 4 bar. Source characteristics: dry, non lubricated air.





Pedal connection

Connect the pedal as follows:
- **BLUE TRANSPARENT** tube in position **1**
- **RED** tube in position **4**
- **BLUE** or **CLEAR TRANSPARENT** tube in position **2**

Dust extraction

To conform to hygiene standards, the machine must be connected to an extraction system producing a maximum flow rate of 28 m ^{3}/second over a diameter of 120 mm. The circuit comprises 2 nozzles 120 mm in diameter at the rear of the machine. This installation guarantees effective extraction and must never be dismantled or modified.

IV - STARTING UP

MAIN ISOLATING SWITCH

- Open the compressed air source (4 bar: factory setting).
- Switch on the machine: main isolating switch at top right of the machine (see CS 960 description page A).

Indicator lamp 3 (see Control panel, page 7) lights.
This indicator only lights when the CS 960 is energised.

Unlock button 5 then press button 4 (see Control panel, page 7).
Check the direction of rotation of the two blades, i.e.:

- clockwise for the left blade,
- anti-clockwise for the right blade.

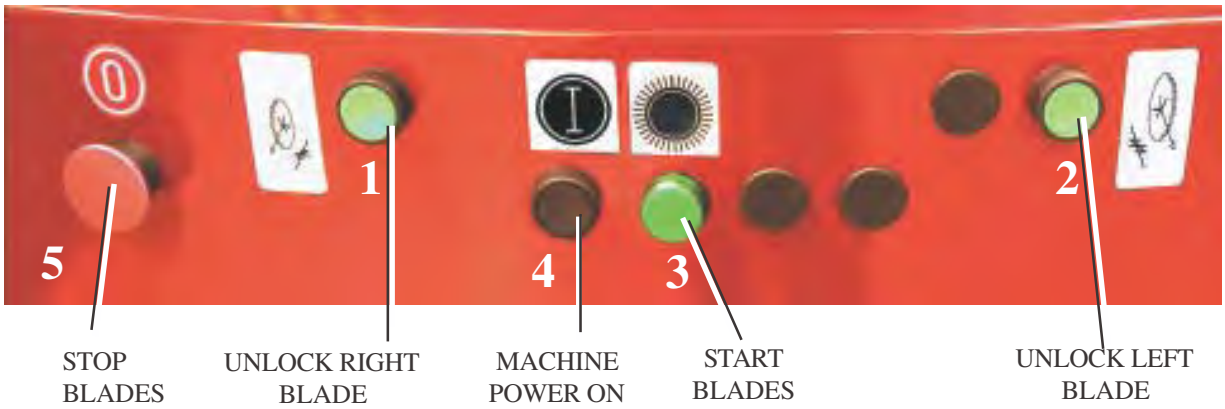
PRESSURE REGULATING VAVLE

If the direction is not correct, press button 5 (see Control panel, page 7), disconnect the machine and reverse the two phases of the power supply cable.

FITTING THE LEFT AND RIGHT ARMS OF THE CARRIAGE

Open the removable panel at the rear of the machine, after unscrewing the 4 screws (5-mm Allen key). Fix the left arm to the blade carriage using screws V1 and V2 (6-mm Allen key). Repeat the operation for the right arm. Close the rear panel (compulsory).

CONTROL PANEL

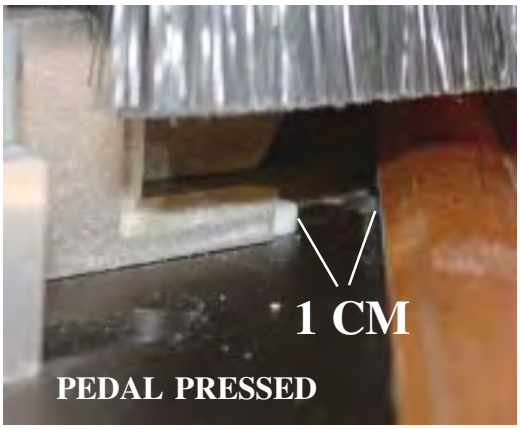


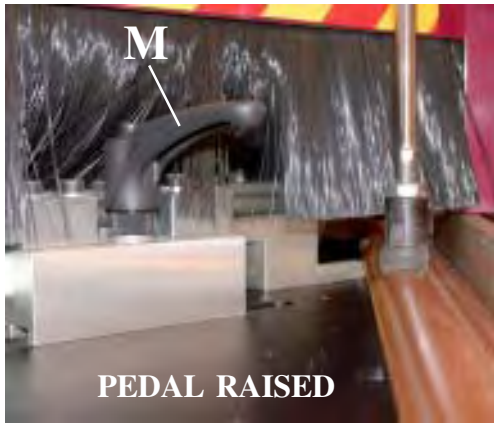
PEDAL FUNCTION

When the air supply is switched on, the clamps move to CLAMPING position. When the pedal is pressed the clamps are released.

V - SAWING

SETTING THE HORIZONTAL CLAMPS



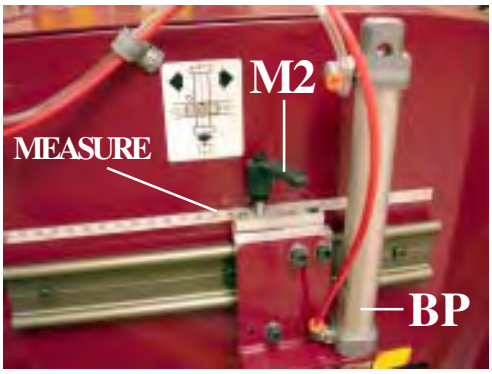


SWITCH ON THE MACHINE. Place the bead on the work table presenting it from the left of the machine (slot side facing the saw blades and pressing against stops BD - BG).
Press the pedal: the clamps move to **UNCLAMPING** position.

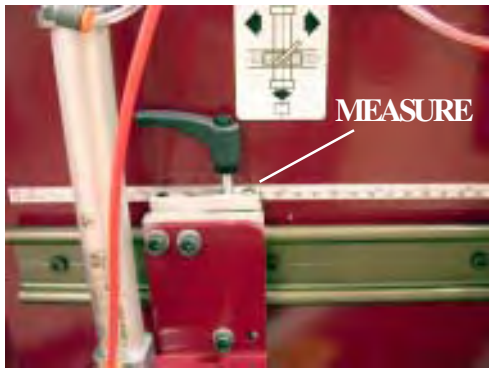
Keep the pedal pressed with your foot throughout setting.

Release the left clamp handle (M) and move the pressor to roughly 1 cm from the profile edge, then retighten handle M. Repeat the operation for the right horizontal pressor (for preparatory cut see next page 8 - 1st CUT).

SETTING THE VERTICAL CLAMPS
(OPTION)



LEFT VERTICAL CLAMP



RIGHT VERTICAL CLAMP

After releasing the handle (M2), position the vertical clamp positioning arms (BP) according to the profile and the width of the moulding.
Apply the clamps by lifting your foot from the pedal, checking that the clamp pressor does not tilt the moulding. The back of the moulding must be flat against the stops and its base on the work table. To guarantee high quality cutting and safe operating conditions the moulding must be immobilised throughout the operation.
Repeat the test under the same conditions for the right clamp. The measurement obtained after setting the left vertical clamp can be set on the rule of the right vertical clamp.

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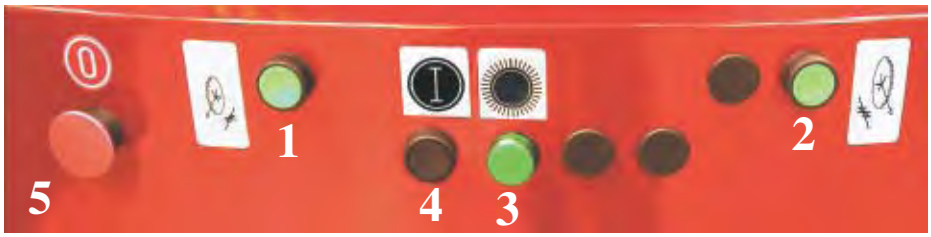
1 st CUT (preparing the moulding)

The moulding must have a fresh mitre cut before starting the measuring operations.

IMPORTANT: **When the cut is made, the right clamp must always be in contact with the bottom of the slot and never press against the cut part of the moulding. If the latter is the case, loosen the handle of the right horizontal clamp and move it back. Only the left horizontal clamp will be used for clamping.**

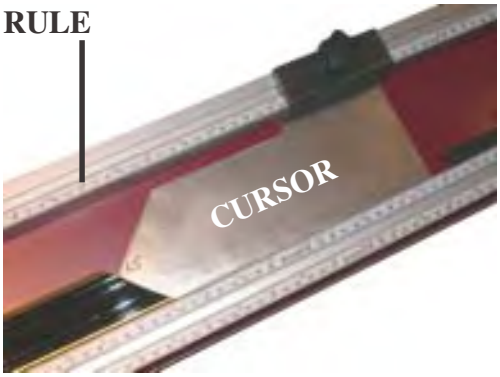
Once setting of the horizontal and vertical (option) clamps is complete:

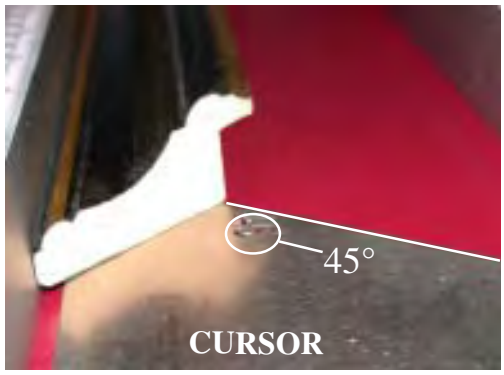
- Unlock button 5.
- Lift your foot from the pedal.
- Press button 4 on the control panel (to start the blades).
- Press button 2 continuously with a finger of your right hand. This releases the left blade.
- Grip the arm of the left blade carriage with your left hand and pull the blade slowly towards the clamped profile. Make the cut through to the front stop.
- Release button 2 and the blade carriage arm (which will return automatically to the back position).
- Press button 5 to stop the machine.
- Press the pedal: the clamps move to unclamped position.
- Slide the moulding, pushing it from the left table to the right table.



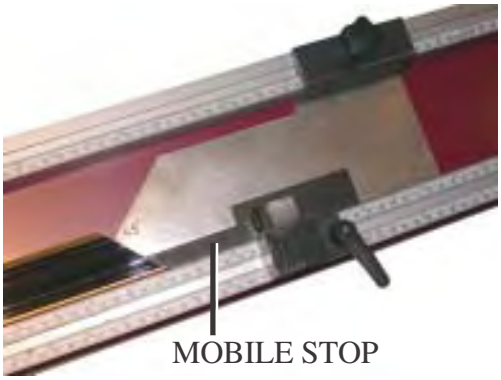
MEASURING THE FIRST PIECE (MOBILE STOP)

MEASURING THE SLOT BASE (INSIDE MEASUREMENT)

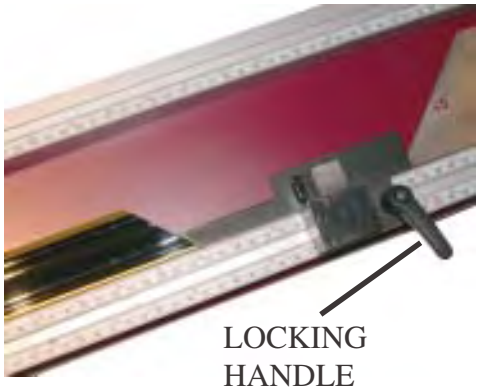




Slide the CURSOR along the rule and lock it at the required dimension by tightening its locking screw. Press the pedal to release the clamps. Move the moulding to the cursor aligning the edge of the slot base with the 45° angle.



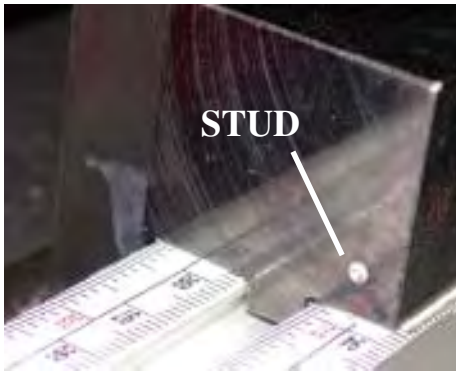
Lift your foot from the pedal to activate the clamps. Move the MOBILE STOP into contact with the moulding and lock it.
Remove the cursor from below the moulding.
Measurement of the moulding slot base is complete.



MEASURING THE OUTSIDE DIMENSION

Loosen the locking handle of the MOBILE STOP.

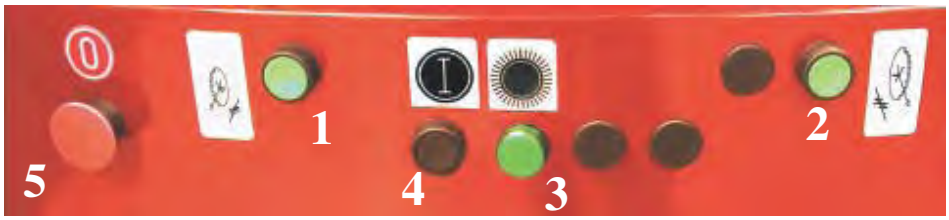
Slide the stop along the rule to the required measurement.
Be sure to use the outside rule for your measurement, with respect to the stud on the mobile stop block. Lock the stop.
The measurement has been set.



CUTTING THE FIRST PIECE

The moulding is in contact with the mobile stop.

- Unlock button 5.
- Lift your foot from the pedal (clamping position).
- Press button 4 on the control panel (to start the blade).
- Press button 1 continuously with a finger of the left hand. This releases the right blade.
- Grip the arm of the right blade carriage with your right hand and pull it slowly towards the clamped profile. Make the cut through to the front stop.
- Release button 1 and the blade carriage arm (the carriage returns automatically to back position).
- Press button 2 continuously with a finger of the right hand. This releases the left blade.
- Grip the arm of the left blade carriage with your left hand and pull it slowly towards the clamped profile. Make the cut through to the front stop.
- Release button 2 and the blade carriage arm (the carriage returns automatically to back position).
- Press button 5 to stop the machine.
- Press the pedal: the clamps move to unclamped position.
- Release the piece of cut moulding from the right-hand side.
- Slide the moulding, pushing it from the left table towards the right table.



END OF MOULDING

- Clamping and cutting are visible to the operator. He must therefore check that the horizontal clamp is correctly engaged in the moulding slot and does not create pressure on the end of the moulding.

If it does, the operator must only use right clamping and cancel the left clamp (**loosen the handle of the left horizontal clamp and release it towards the back).**

- After cutting, if the off-cut or remaining piece of moulding do not drop under gravity and cannot be retrieved outside the cover, it must be removed by pushing with the next moulding or a stick.

The operator must never put his hands inside the case

- It is strictly forbidden to cut several lengths of moulding at the same time by stacking them or placing them one in front of the other.
- When the machine is in use, the workstation must not be occupied by more than one person. This person is responsible for the controls.
- When cutting a moulding into thin sections, check that no off-cuts get jammed and prevent the saw from operating correctly.

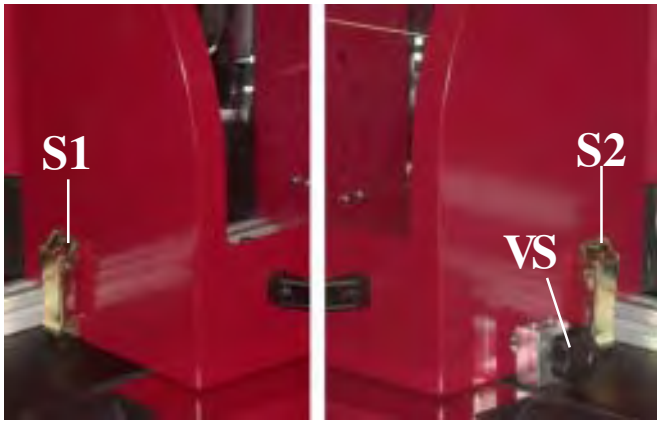
VI - MAINTENANCE

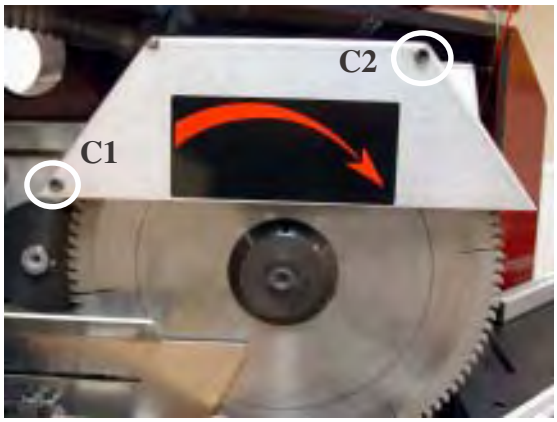
REMOVING THE BLADES

IMPORTANT

Disconnect the air supply.
Switch off the machine at the main isolating switch on the right of the machine and lock it by installing a padlock on the tab.

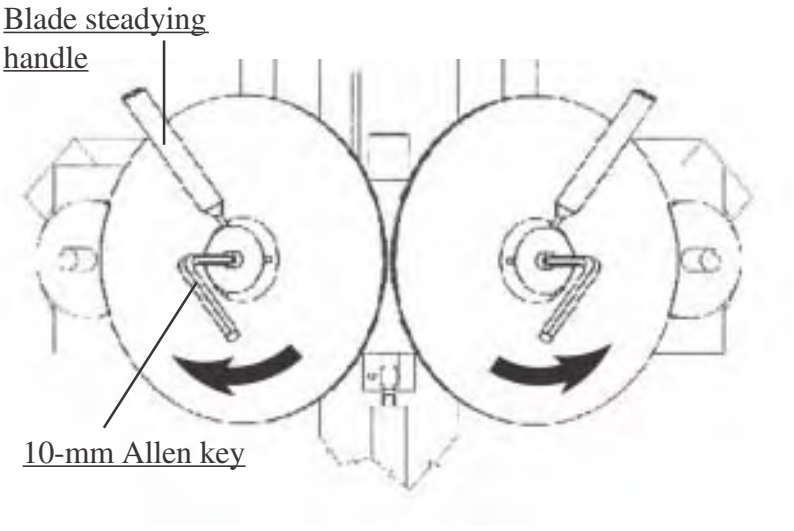
During this operation, gloves should be worn to handle the blades and avoid getting your hands caught.





<u>Opening the main case</u>: Fully loosen safety screw VS and open the 2 spring clips S1 and S2. Open the main case. Remove the blade protection case after unscrewing the two screws C1 and C2 with a 4-mm Allen key.

Use the blade steadying handle provided to immobilise the shaft, loosen the nut (as a general rule, to loosen the nuts securing the blade turn the Allen key in the blade rotation direction), then remove the flange and the blade.



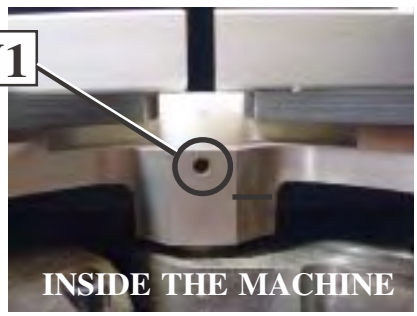
USING THE BLADE STEADYING HANDLE

REFITTING THE BLADES

Clean blades and flanges.
Install the blade (teeth in cutting direction). Check the rotation direction indicated on the support.
Refit the flange and screw, tightening it while immobilising the shaft with the steadying handle.
Close the main case. Hook up the 2 spring clips and close their levers, then switch on the main isolating switch.
Lock the main case by screwing the cover safety screw fully home.

REPLACING THE MARTYR CUBE

Open the main case (see page 11). Unscrew screw V1 using a 2-mm Allen key and remove the worn martyr block by pulling it upwards. Turn the martyr cube over through 180°, refit it in its housing and secure it by retightening screw V1.



Close the main case: Close the locking levers of the 2 spring clips and screw the cover safety screw fully home. Switch on the main isolating switch and open the air supply. Unlock button 5, then start up the blades by pressing button 4 on the control panel (Control panel, page 7). Make a right and left cut to wear in the martyr cube.

PREVENTIVE MAINTENANCE

According to frequency of use. On the basis of 8 working hours a day:

Cleaning : Clean the plexiglass screen with a soft cloth
Clean the offcut outlet hopper.

Belt inspection : Every 3 months

Blade sharpening : Cutting quality depends on the sharpness of the blade.
We recommend contacting your retailer for this service.

Type of blade recommended for multi-use cutting

	Teeth	Number of teeth	Body thickness	Standard
Dia. 350	3° positive LR	108	2.7 mm	EN 847-1: 1997

FAULT	POSSIBLE CAUSES
Indicator 3 of the control panel does not light.	- Check the electrical power supply. - Main isolating switch not engaged. - Fuses need to be changed.
Indicator 3 lights but the blades do not rotate.	- Unlock button 5 on the control panel (see Control pane, page 7) - Check the air pressure. - Main case not correctly closed (safety screw). - Thermal circuit breaker in OFF position. Open the door of the electrical cabinet (page a) . See Z7774 or Z10569 (Electrical panel) and reset.
Poor quality cutting.	- Blades rotating in wrong direction. - Blades need to be sharpened. - Moulding in unstable position and moves during the cut