



PNEUMATIC UNDERPINNERS

CS199MXL & CS299MXL2

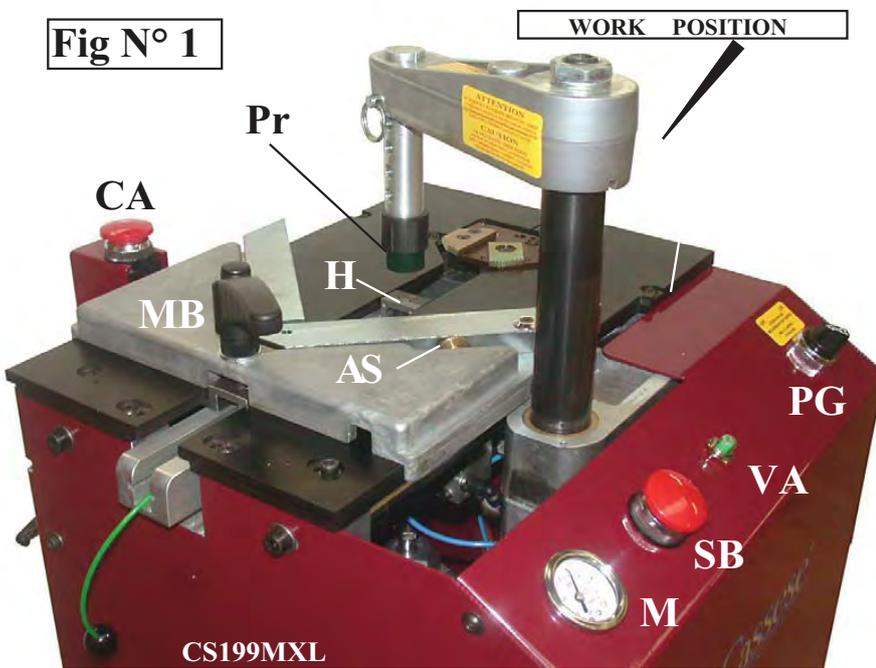


TECHNICAL & USER MANUAL

Version 3 05 / 2011

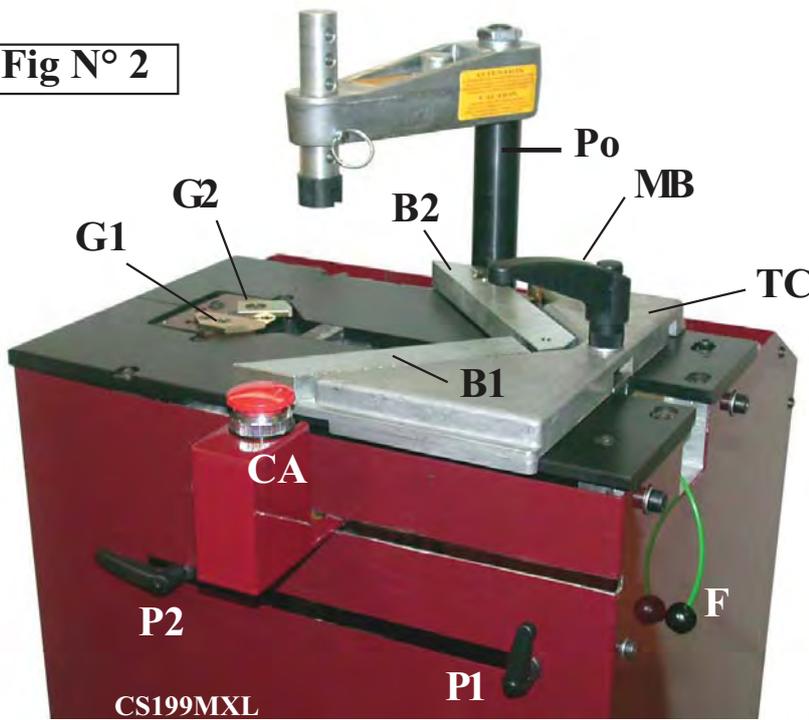
Cassese / Communication

Fig N° 1



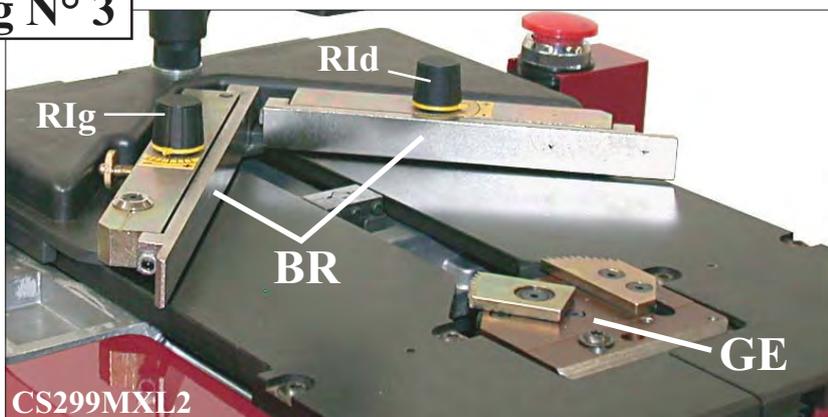
ANGLE ADJUSTMENT SCREW	AS
LEFT BACKFENCE	B2
RIGHT BACKFENCE	B1
STAPLING BUTTON	SB
LOCK BUTTON FOR STAPLING POSITION	CA
WIRE FOR WEDGE PUSHING SPRING	F
CLAMPS	G1 G2
WEDGE DISTRIBUTOR	H
SLIDING TABLE BLOCKING LEVER	MB
BLOCKING LEVER FOR STAPLING POSITION	P1
BLOCKING LEVER FOR 2 nd STAPLING POSITION	P2
CLAMP POSITION BUTTON	PG
TOP PRESSER BRACKET	Po
QUICK-CHANGE MAGNETIC TOP CLAMPS	Pr
ANGLE ADJUSTMENT	RI
SLIDING TABLE	TC

Fig N° 2



CS 199MXL & CS299MXL2 PNEUMATIC FRAME ASSEMBLING MACHINES

Fig N° 3



CS299MXL2	
REMOVABLE CLAMPS	GE
BACKFENCES	BR
LEFT ADJUSTMENT BUTTON FOR THE INCLINATION OF THE FENCES	RIg
RIGHT ADJUSTMENT BUTTON FOR THE INCLINATION OF THE FENCES	RIId



BUTTON TO ADJUST THE PRESSURE OF THE HORIZONTAL CLAMPS. Minimum allowed pressure is 2 bars. To be used when you replace regular clamps with soft rubber clamps or when you join very softwood moulding.

ACCESSORIES

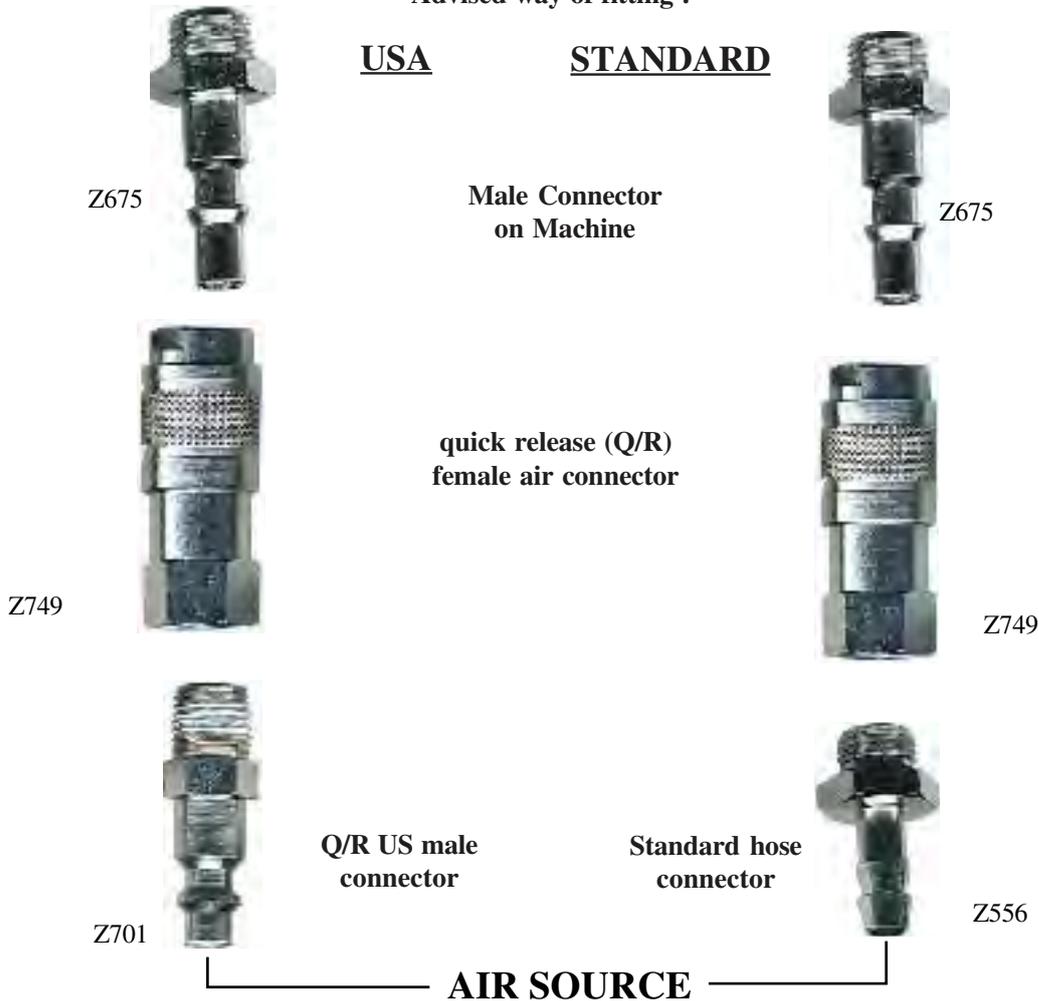
ACCESSORIES SUPPLIED WITH THE MACHINE CS199MXL

ACCESSORIES SUPPLIED WITH THE MACHINE CS299MXL

QTY	Code	Désignation	QTY	Code	Désignation
Z21510	1	S/E ACCESSORY BOX CS199MXL	Z21511	1	S/E ACCESSORY BOX CS299MXLP
Z1338	4	NUT HM 12	Z1338	4	NUT HM 12
Z1783	1	YELLOW RUBBER 30 MM 70 SHORESES	Z1783	1	YELLOW RUBBER 30 MM 70 SHORESES
Z1791	1	GREEN RUBBER 30 MM 90 SHORESES	Z1791	1	GREEN RUBBER 30 MM 90 SHORESES
Z18065	1	RUBBER SUPPORT	Z1800	1	YELLOW RUBBER 45 MM 70 SHORESES
Z1879	1	ALLEN KEY 2.5	Z1804	1	GREEN RUBBER 45 MM 90 SHORESES
Z1884	1	ALLEN KEY 4	Z18065	1	RUBBER SUPPORT
Z1885	1	ALLEN KEY 5	Z1879	1	ALLEN KEY 2.5
Z1896	1	TUBE OF GREASE	Z1884	1	ALLEN KEY 4
Z1993	1	CARTON 240 X 170 X 50	Z1885	1	ALLEN KEY 5
Z21500	1	ADJUSTABLE BUNG AXIS	Z1896	1	TUBE OF GREASE
Z3078	1	SPACER BARS	Z1993	1	CARTON 240 X 170 X 50
Z4857	4	D FOOT: 40 M12 X 50	Z21500	1	ADJUSTABLE BUNG AXIS
Z506	1	SHORT HAMMER	Z3078	1	SPACER BARS
Z535	1	TOOL	Z4857	4	D FOOT: 40 M12 X 50
Z556	1	STANDARD HOSE CONNECTOR M1/4 CYL	Z506	1	SHORT HAMMER
Z5897	1	PLASTIC SACHET GRIP 8 X 12	Z535	1	TOOL
Z6532	1	BALL LOCK D: 8 X 40	Z556	1	STANDARD HOSE CONNECTOR M1/4 CYL
Z701	1	USAGESES MALE FERRULE M 1/4 TEFLONE	Z5897	1	PLASTIC SACHET GRIP 8 X 12
Z749	1	QUICK RELEASE FEMALE CONNECTOR 1/4	Z6532	1	BALL LOCK D: 8 X 40
			Z701	1	QUICK RELEASE US M 1/4 TEFLONE
			Z749	1	QUICK RELEASE FEMALE CONNECTOR 1/4

AIR LINE FITTINGS

Advised way of fitting :



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INTRODUCTION

You have just bought a Cassese Pneumatic Joining Machine, so we congratulate on your sensible choice and thank you for your trust in Cassese products.

These machines benefit from the experience of the joining machines that brought Cassese a certain reputation. It makes it possible to join wooden mouldings of all profiles (patent n° 7522814).

The CS underpinners are designed to allow the operator to move all around the machine.

The joining operation is carried out by using metal wedges especially designed to perform a tight join. These wedges come in throw-away plastic cartridges, without glue, individually lubricated and rust-protected for the toughest challenges.

IMPORTANT : You should not use other wedge cartridges than those developed by Cassese (registered mark CS)

TECHNICAL SPECIFICATIONS OF CS199MXL & CS299MXL2

- Minimum moulding width : 5mm (3/16") - maximum width : 130 mm (5¼")
- Minimum moulding height : 7 mm (¼")- maximum height : 90 mm (3¾")
- Minimum dimensions of a frame : 85 mm x 85 mm visibly (3½" x 3½").
- Wedge sizes in cartridges of 275 pieces : 3, 5, 7, 10, 12 and 15 mm.
- Two wedge types : for soft and for hardwoods.
- Machine weight : 70 kg (155 lbs)
- Dimensions : W 450 mm x L 490 mm (without optional rotating table)x H 1100 mm
- Height of work table : from 900 to 930 mm (following adjustment of the feet)
- Pneumatic supply : compressed air 7 bar (100 psi),
- Average consumption : 5 litres per cycle.
- Air conditioning : air pressure reducing valve + manometer, connecting pipe, inside diameter 8 mm.

OPTIONS

- Independent rotating table, diameter 1300 mm (50¼") to make the handling of large frames easier (frame dimensions not exceeding table diameter).
- Set of furniture clamps to join mouldings without rebate and/or small frames.
- Angle inserts for 6-sided frames or 8-sided frames or other forms on request
- .

GUARANTEE

One year guarantee for parts and labour against manufacturing defects. Wear parts and those damaged as a result of non appliance with the instructions of the present manual are excluded from the guarantee.

PUTTING INTO OPERATION

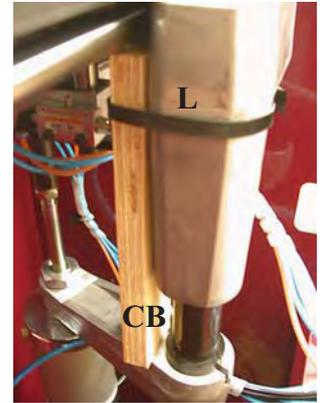
REASSEMBLY



Cut and remove the two ties on the case. Remove the ring from case. Clear the body of case while pulling it upwards. With a flat key of 19 mm, remove the two nuts (E1, E2) under the pallet.



Remove the screws (Vdr, Vg) from the removable front cover of the machine. with a key allen of 4 mm. Make topple the hood. Cut the L ring. While pushing on the arm of pressor, remove the wood piece CB . Loosen the arm of plunger mildly.



Reassemble the four feet of the machine supplied among accessories.

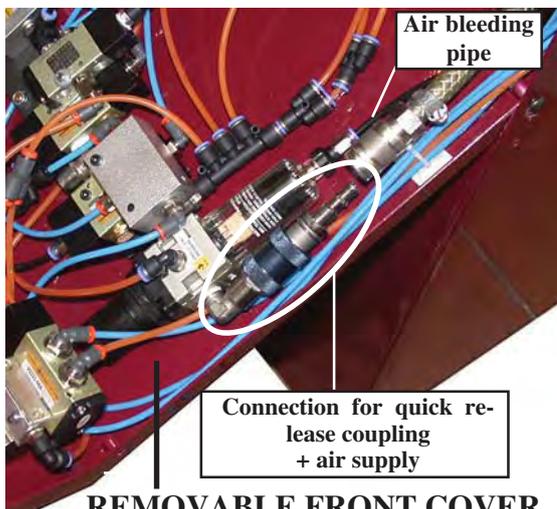
Raise the machine from the pallet (watching out for the pedal) and put it down on the floor.

Adjust the level of the machine to your floor so that the machine vibrates or moves as little as possible (which is one of the main cause of early wearing of the mechanical parts)



CONNECTING THE MACHINE TO AIR SUPPLY

- 1) Inside the machine (see below), connect the compressed air inlet pipe by using the quick release female connection supplied with the machine (see page B).
 - 2) Tie up the air bleeding pipe to the compressed air pipe, passing through the opening located on the side of the base cabinet, so that the air bleeding can be made outside the machine
 - 2) Plug the air compressor and position the air valve (right side of the machine) to **ON** .
- Make sure pressure in manometer is equal to 6 bars (85 psi).



REMOVABLE FRONT COVER



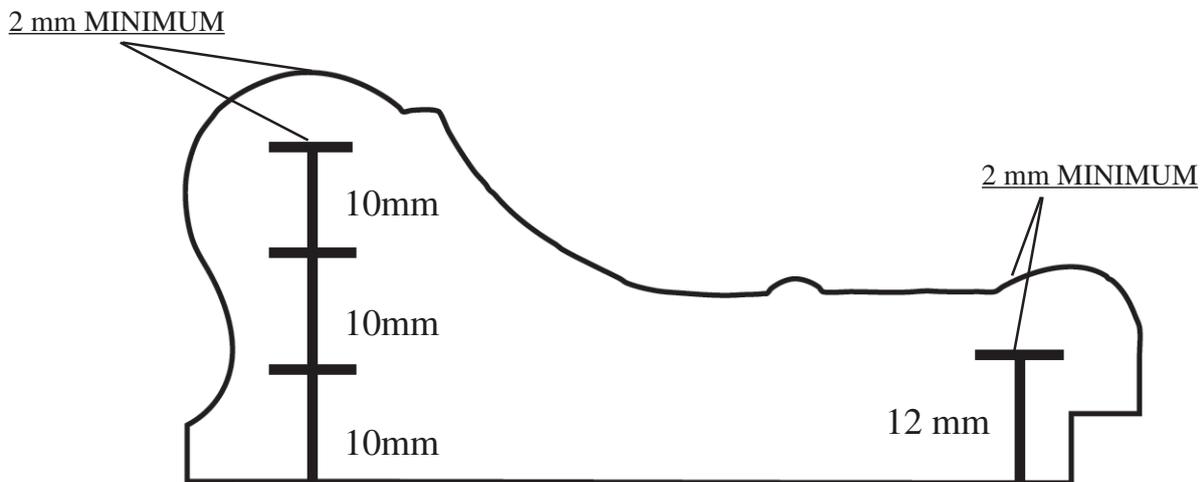
ADJUSTMENTS

ADJUSTMENT OF THE SLIDING TABLE (Fig.1, TC)

- 1) Turn to ON the clamp position button PG (fig1, pA) to make the clamps (G1 and G2) move forward.
- 2) Make sure the two inclination adjustment knobs RI of the backfences (fig 1 pA) are at zero.
- 3) Position a moulding against left hand fence B1 (for mouldings with a height smaller than the fence, use the spacer bars supplied with the fittings by slipping them between the fences and the small mouldings).
- 4) Move sliding table TC (fig2 pA) forward as far as the clamp G1 (fig1 pA) comes into contact with the moulding.
- 5) Tighten the sliding table blocking handle MB (fig1pA).
- 6) Turn to OFF the clamp position button PG (fig1, pA)

SELECTION OF STAPLING POSITIONS

The CS 199MXL & CS299MXL2 are designed to join mouldings in one or two places (positions) without limitation of the number of wedges in any of those places. The selection depends on the width and thickness of the moulding to join. If needed, additional positions can be inserted between these two positions using the “LOCK BUTTON FOR STAPLING POSITION” (Fig 1 p A).



As a general rule a MINIMUM 2 mm clearance (less than 1/8") above the wedges shall be respected.

Same sized wedges can be stacked in order to avoid to have to change the cartridge size when joining frames with different thickness.

AS A GENERAL RULE, THE JOINING MUST BE CARRIED OUT AS CLOSE TO THE THICKEST MOULDING PART(S) AS POSSIBLE .

SETTING AND STORING THE STAPLING POSITIONS

Unlock the stapling position lock handles P1, P2 (fig2 pA).

For the stapling position close to the outside of the frame :

Press the button CA to unlock and slide the top presser bracket **Po** (fig2 pA) with your right hand as far as the stapling position selected has been reached. The wedge distributor **H** (fig1 pA) moves at the same time underneath of the moulding and its wedge exit slot shows you exactly the position reached.

Holding the bracket in position with your right hand, slide with your left hand the handle **P1** forward in stop position and tighten it.

For the stapling position close to the inside of the frame :

Press the button CA again and slide the top presser bracket **Po** forward until it reaches the position chosen for the insertion of the wedge(s) inner frame side.

Release now the button CA to lock the position and slide the handle **P2** (fig3, p A) towards yourself until it reaches the stapling position chosen and tighten it.

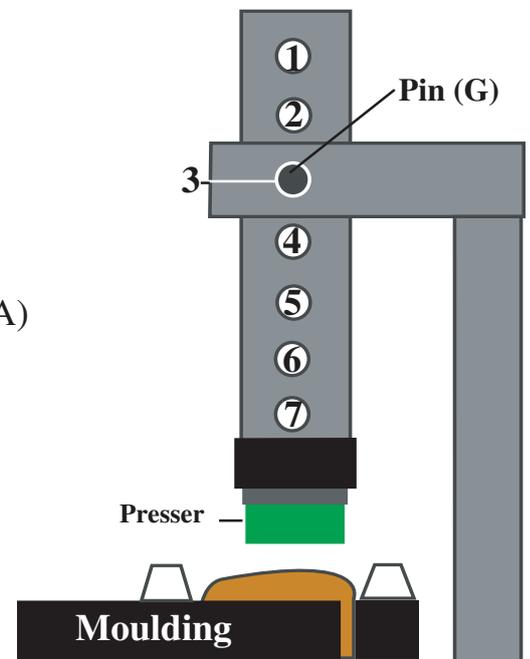
SELECTION OF A TOP PRESSER END

1 top presser comes now with your machine as a standard feature. It fits the plunger head thanks to the pin G and can be set up in 1 to 7 positions from the table.

Pay attention to position well the triangle : the sides of the triangle must be parallel to stops B1 and B2 (see fig1 page A)

BLACK TRIANGLE PRESSER	HARD WOOD	
WHITE TRIANGLE PRESSER	SOFT WOOD	
GREEN RUBBER TIPS	HARD WOOD	30 and 45 mm
YELLOW RUBBER TIPS	SOFT WOOD	30 and 45 mm

Triangle top pressers are good for flat mouldings or for mouldings presenting a flat or horizontal area to come down on. The round rubber ends are good for complicated forms (uphill, downhill or reverse mouldings).



LOCATING THE TRIANGLE / ROUND RUBBER TOP PRESSERS

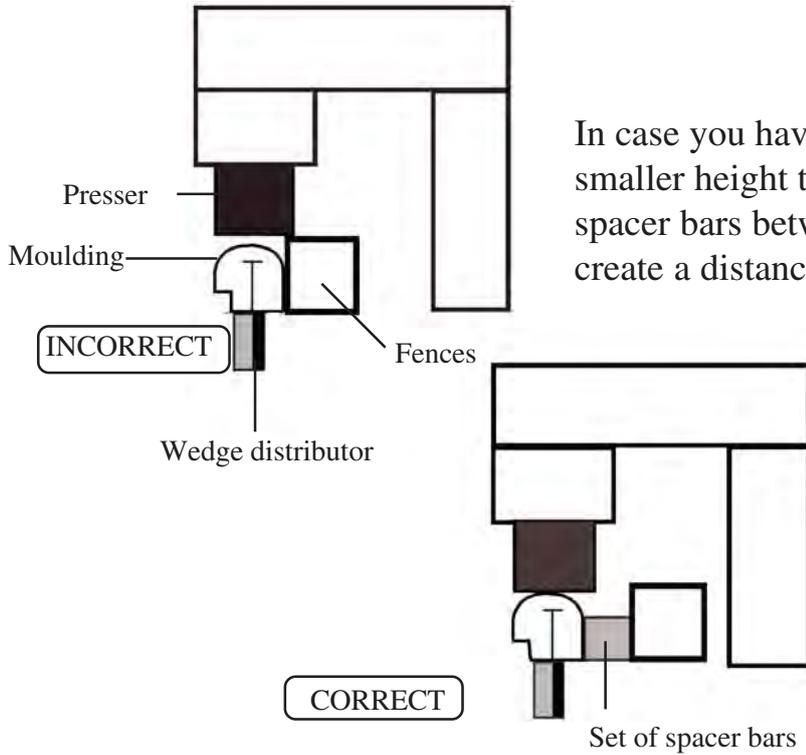
MAXIMUM HEIGHT FOR THE MOULDINGS

Position hole #	Rubber 30mm	Rubber 45mm	Triangle
1	13 mm	/	20 mm
2	27 mm	13 mm	35 mm
3	42 mm	27 mm	49 mm
4	57 mm	42 mm	63 mm
5	71 mm	57 mm	73 mm
6	85 mm	71 mm	92 mm
7	100 mm	85 mm	170 mm



Quick-change magnetic top clamps

USING THE SET OF SPACER BARS

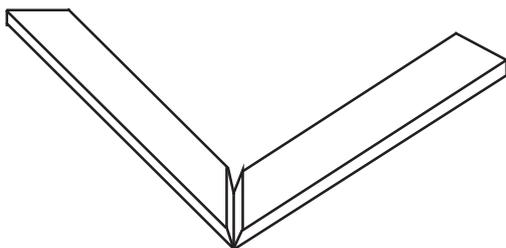
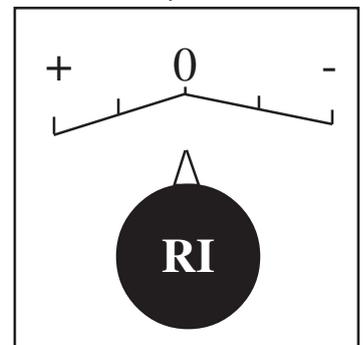


In case you have to join small mouldings with a smaller height than the fences, you must put the spacer bars between the mouldings and the fences to create a distance.

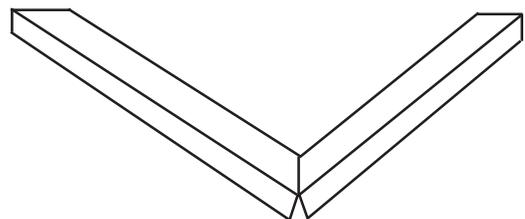
ADJUSTMENT OF THE INCLINATION OF THE FENCES

SETTING SCREW FOR THE ASSEMBLY ANGLE

ADJUSTMENT BUTTON FOR THE INCLINATION OF THE FENCES



If the corner has an opening on top, turn the two adjustment buttons (RI) an identical value to the MINUS (-) (fig 1 p A) until the opening disappears when mouldings are clamped.



If the corner has an opening **underneath**, turn the same two adjustment buttons (RI) an identical value to the PLUS (+) (fig 1 p A) until the opening disappears when mouldings are clamped.

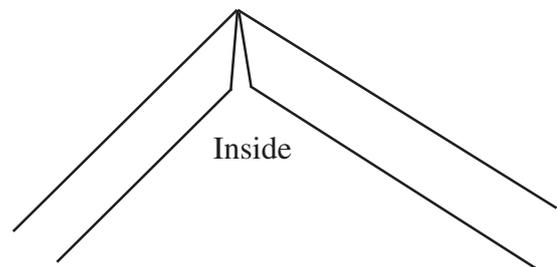
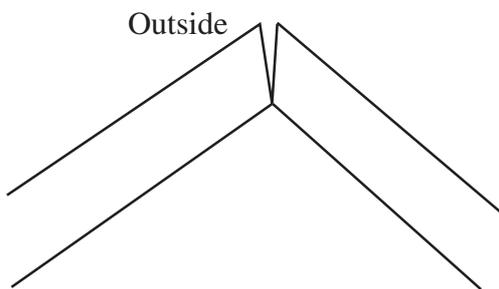
ADJUSTMENT OF THE ASSEMBLY ANGLE

If several cutting machines are being used in your production or if you receive your mouldings already cut by your suppliers (chop service), the angles of the mouldings will be slightly different from one cutting machine to the other.

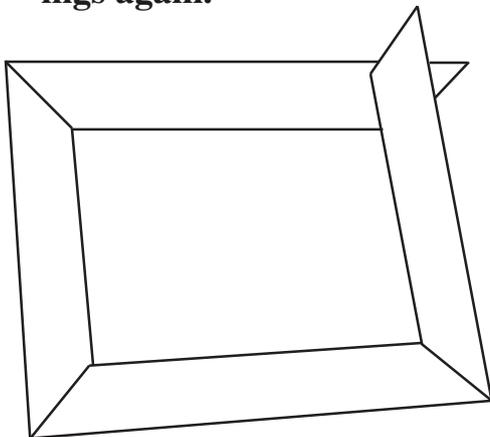
The joining angle of your machine can be adapted to find precisely the cutting angle of your cutting machine.



If the corner is open towards outside, screw in the adjustment screw (see photo page 6) for the assembly angle AS (fig 1 p A) to correct the fault and check the quality of the angle by clamping the corner again.



If the corner is open towards inside, unscrew the angle adjustment screw AS (fig 1 p A) to correct the fault and check the quality of the corner by clamping the mouldings again.



If you get this result, check your cutting angle, which is wrong in this case because it is less than 45° . Carry out the adjustment of the angle of your cutting machine.

IT IS IMPOSSIBLE TO MAKE A RECTANGLE FRAME WITH ANGLES SMALLER THAN 90° .

USE

MEANS OF ASSEMBLY



The joining is performed by using metal wedges, a Cassese invention, designed to ensure very tight corners. 7 sizes are available : 3, 5, 7, 10, 12 and 15 mm. They come in throw-away cartridges that are colour-coded per size for easy identification. Cartridge wedges exist in two versions : **NORMAL** for soft and normal timbers and **HW** for very hard timbers. These hardwood wedges are to be used only on hardwoods. Your CS199MXL and CS299MXL2 machines are designed to use all sizes of Cassese cartridges without having to change any parts on the machine or having to adjust anything. For the long term performance and reliability of your CS199MXL and CS299MXL2 use only genuine CASSESE cartridge wedges.

LOADING AND CHANGING THE WEDGE CARTRIDGE ON MACHINE

Pull the wire with ball of the wedge pusher spring **F** (fig.3, p A) fully out. If there is a cartridge on machine, holding the wire pulled out, remove it by simply sliding out the cartridge. Holding the wire pulled out, put a new cartridge on machine and pay attention that it is fully inserted in the wedge distributor's window. Release gently the wire with ball of the wedge pusher spring **F**.

JOINING THE FRAME

- 1- After adjusting the sliding table, selecting and setting the stapling positions, selecting the best suited top presser end, (see chapter : Selection of top presser end page 5)
- 2- Put the first moulding in front of the fence B1 and push it so that its mitre end reaches the other fence B2. Holding it so, put the second moulding chop against fence B2 and slide it until it reaches the first moulding.
- 3- Holding the mouldings in place, push the foot pedal to clamp the mouldings and to check visually the quality of your corner.
- 4- If needed, carry out the adjustment of the assembly angle and the inclination angle of the fences (see pages 6, 7) to reach the best quality corner, before inserting wedges.
- 5- If the corner is satisfactory, **maintain the foot pedal pressed during the whole work with this corner.**
- 6- Press (unlock) the Lock Button CA (fig1 pA) and slide the top presser bracket to one of the stapling positions chosen. Release (lock) the Lock Button CA and press the stapling button SB (fig.1 pA) to insert the first wedge.

Keep the stapling button pushed until the end of the cycle.

If a second wedge must be inserted and stacked in the same position, release the stapling button and push it once again. Keep the button pressed every time until the end of the cycle.

- 7- Slide the top presser bracket to the next stapling position and repeat point 4 above.

Nota: The removable clamps of the CS299MXL2 are in low position when the pedal is not used.

MAINTENANCE

**BEFORE ANY MAINTENANCE INTERVENTION,
CLOSE THE AIR VALVE OF THE MACHINE**

1) LUBRICATION

Periodically:

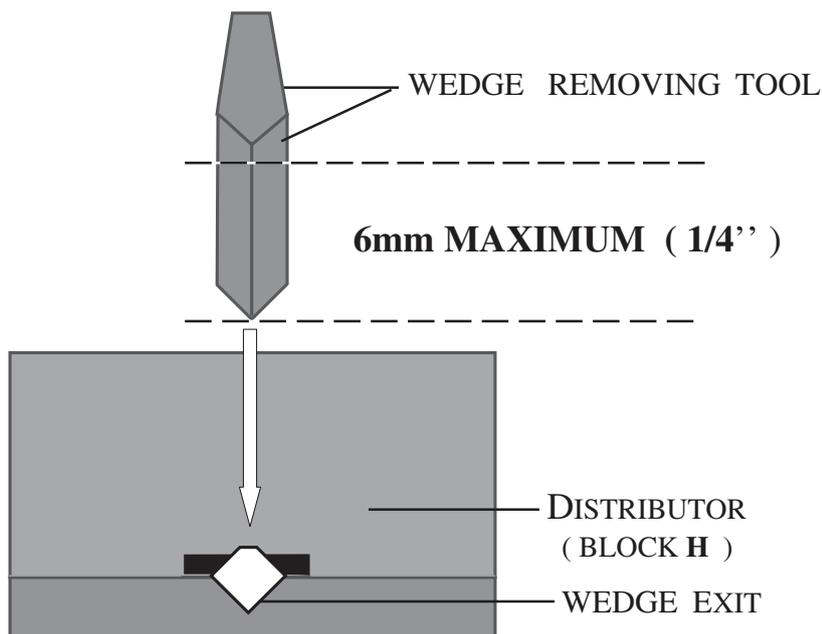
- Remove the cartridge that is on machine.
- Using the 3mm Allen key, loosen the locking screw of the wedge distributor Block **H** (page10).
- Remove it from the machine.
- Remove the four screws (**A, B, C, D**) and open the block **H**.
- Clean the wedge distributor

It is recommended to lubricate the hammer (driver blade) periodically. To do so, remove the wedge distributor (block **H**) and put a small quantity of grease (a tube of grease is with accessories of the machine) in the bottom hole of the wedge distributor. The hammer will be lubricated every time it crosses the wedge distributor.

2) CLEARING OF A WEDGE STUCK IN THE WEDGE DISTRIBUTOR

If you release the stapling button during the cycle or if you lift the top presser bracket accidentally, a wedge may be half engaged in the wedge distributor. In this case,

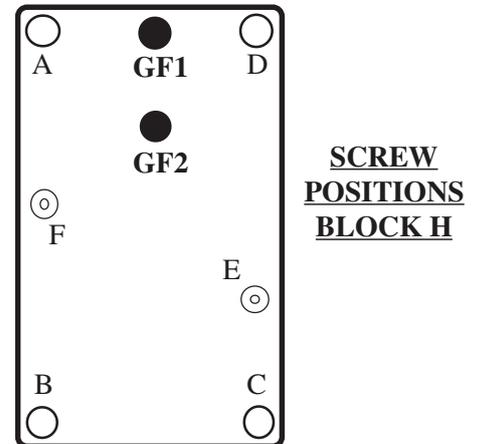
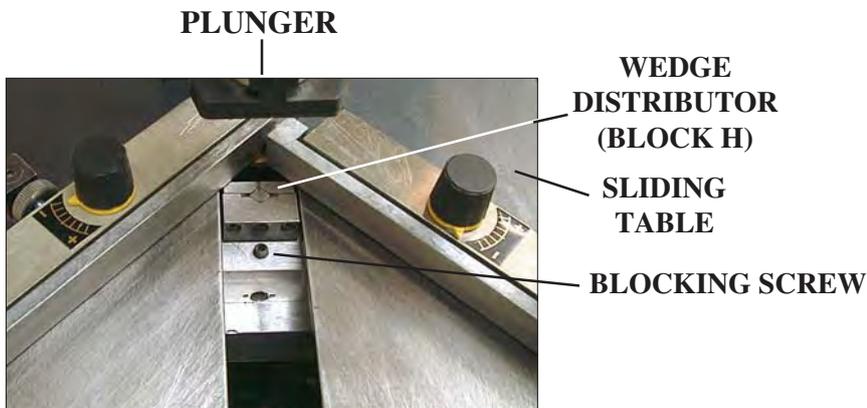
- Close the air valve.
- Try to remove the cartridge that is in position. If it resists, use the wedge removal tool to push down the wedge back in the cartridge.
- Pay attention not to make penetrate the tool more than 6mm (1/4") into the wedge distributor.
- In case of the hammer (driver blade) jamming with a wedge in the wedge distributor, see the following section (3).



MAINTENANCE

**BEFORE ANY INTERVENTION,
CLOSE THE AIR VALVE**

3) IN CASE OF HAMMER AND WEDGE JAMMING



- Remove the cartridge that is on machine.
- Using the 3mm Allen key, loosen the locking screw of the wedge distributor **H**.
- Remove it from the machine.
- The old hammer (wedge driver blade) is stuck in the wedge distributor : first try to remove it with a pair of pliers. If not possible, unscrew the two central screws (**GF1**, **GF2**) that hold the fixed (square) guide of Block **H** in place. Use for this the smaller (2.5mm) Allen key supplied with the machine. Remove the fixed guide completely to free the old hammer. If still not possible to get rid of the old hammer, remove the four screws (**A**, **B**, **C**, **D**) and open the block **H**.
- Remove the old hammer. Assemble the Block **H** back again.

PUTTING A NEW HAMMER (DRIVER BLADE) :

- Put a drop of grease (tube of grease supplied with the machine) in the bottom hole of the wedge distributor (block **H**).
- Insert a new hammer into block **H** with the hole of the hammer downwards.
- Re-position the wedge distributor in its housing on the machine with the window towards the cartridge.
- If the upper end of the hammer stays out of the block **H**, push it fully in with a piece of wood or moulding.
- Leave the moulding in place (on block **H**) and put any of the top presser ends on the machine paying attention that the distance between the moulding and the top presser does not exceed **50 mm (2")**.
- Turn on the air supply to the machine and without wedges make a simulation of assembly (press foot pedal and press the stapling button during the whole cycle.)
The new hammer must have taken its position in the mechanism automatically.
Turn off the air supply.
- Check with your finger that the block **H** does not stay out of the machine (higher than the work level) and tighten the locking screw of block **H**. No need to tighten too much.
- Turn on the air supply ; the machine is ready to work again.

4) DISMOUNTING THE SLIDING TABLE

If you need to dismount the sliding table to clean dust etc accumulated underneath, remove the blocking handle **MB** of the sliding table (fig 1 pA) and clear the table while catching it by the two adjustment buttons **RI** (fig1 p A) of the fences inclination.

GENERAL ADVICE

If the hammer jammings are too frequent, it may be because of the use of not genuine Cassese cartridges.

The use of other wedges than genuine Cassese cartridges causes frequent hammer jammings and too fast mechanical ageing of your frame joiner.

**For any other technical problems,
do not hesitate to contact
your favourite supplier of Cassese products or
Cassese Factory (France), Int'al Department
on Phone +33.1.64.42.49.71 or 72
Fax +33.1.64.42.58.94 or +33.1.64.06.04.19**

TROUBLE SHOOTING CHART CS199MXL & CS299MXL

IMPORTANT : BEFORE ANY MAINTENANCE INTERVENTION, CLOSE THE AIR VALVE OF THE MACHINE

DEFAULTS	POSSIBLE CAUSE	SOLUTION
NO WEDGE IS INSERTED INTO MOULDING	Cartridge is empty	Replace cartridge on machine
	Cartridge not engaged into wedge distributor's window	Insert cartridge into wedge distributor
	Dirt accumulated in wedge distributor	Clean the wedge distributor of machine
	Wedge pusher spring is too weak (loose) or broken.	Check and replace it if necessary. When machine not working, remove cartridge from it to let the spring "rest".
	Hammer (driver blade) is broken.	Replace hammer.
WEDGE DOES NOT PENETRATE FULLY IN MOULDING	Insufficient pressure (less than 6 bars (85 psi))	Increase pressure to 6-7 bars (85 to 100 psi)
	Distance moulding/ Pressor	Adjust the height of the pressor
	Use of a soft top presser rubber on a very hard timber	Use the correct top presser (see page 5)
	Mouldings are not put perfectly flat on machine	Put mouldings perfectly flat on machine
	The hammer is damaged	Replace hammer
	Foot-pedal is released too early	Don't release the foot pedal before a couple of seconds.
	Mouldings very small and lower than the back fences	Use the spacer bars (see page 6)
	End of travel stop out of adjustment	Check the adjustment of the limit stop
WEDGES BREAK (TEAR) IN WOOD	Too hard timber for the wedges used	Use special Cassese wedge cartridges for hardwood HW
BACK OF FRAME DIRTY	Too much grease on the hammer	Clean the hammer
FRAMES DIFFICULT TO HANDLE ON MACHINE	Rebate clamp is tight against the mouldings	Use the pre-clamping button PG for the adjustment of the sliding table. (See page 4)
MOULDINGS ARE SET OFF FROM EACH OTHER	The first (left) moulding has not been placed well against the backstop Bl.	See page 8: "Joining the frame"
THE CLAMP IS MOVING BUT NO STAPLING OCCURS WHEN THE STAPLING BUTTON IS DEPRESSED	The clamp safety is active	The moving table is badly set. Please use the button PG to perform a correct adjustment of that table (refer to page 4 for more instructions)

BAD ASSEMBLY - Corner open to inside or outside - Corner open on top or underneath	Cutting angle and assembly angle not the same.	See page 7: adjustment of the assembly angle
	Mouldings moving during assembly	See page 6 : adjustment of the backfences to prevent mouldings from rocking
Mouldings marked on top by presser the top presser	Use of a hard top rubber on	Use the correct top presser (see page 5)
THE TOP PRESSER DOESN'T RETURN UP TO ITS POSITION AUTOMATICALLY	Distance between top presser and mouldings more than 50 mm (2") ; therefore machine cannot finish the cycle.	(See page 5) Reduce distance to 50 mm (2") maximum using a longer top presser. <i>In this case often a wedge remains half-engaged in wedge distributor ; push it back into cartridge with the tool supplied in accessory box.</i>
	Release the foot-pedal and check that there is no wedge jammed in wedge	See page 9-10; section 2 and 3.

IF THE SOLUTIONS PROPOSED DO NOT SOLVE THE PROBLEM OR FOR AN OTHER TECHNICAL QUESTION, DO NOT HESITATE TO CONTACT THE AFTER SALE SERVICE OF YOUR SUPPLIER OF CASSESE PRODUCTS.